Gentran:Server® for iSeries® Communications Module

User Guide

Release 3.4

Sterling Commerce
An IBM Company

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Glossary

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Chapter

1 Overview

How is the Documentation Organized?

Information about the Gentran:Server for iSeries Communications Module is available through both online help and the user documentation (provided on CD-ROM). Online help contains reference material (panel definitions, field definitions, etc.). It gives you quick access to relevant documentation as you are using the Communications Module. The user documentation describes procedures ("how to. . .") and is intended to complement and enhance the online help.

In this Book

The *User Guide* is comprised of 17 chapters, two appendices, a glossary of communication terms, and an index. The Using Communications chapter is presented in tutorial format and is intended as an instructional procedural reference. The other chapters cover specific communications topics, such as one of the supported protocols or line pools, in greater detail. To get the most out of these chapters, we recommend that you start by reading the first chapter thoroughly to familiarize yourself with the basics of the Communications Module. The other chapters are intended for more referential use, and they will be more easily understood if you are familiar with the basic information presented in the Using Communications chapter.

NOTE

Due to the uniqueness of each implementation, the predefined Communication scripts are provided as examples only and are intended to assist you in getting stated. Please read the *User Guide* provided by your value-added network or communication partner to ensure that the setup correctly reflects their specific requirements.

What is in Each Chapter?

1. **Overview**

   This chapter provides information about how this guide is organized and a summary of the contents of each chapter.

2. **System Essentials**

   This chapter provides an overview of the Gentran:Server for iSeries Communications Module, including the online help feature. The chapter covers general techniques for using the system. It explains how to move from one panel to the next, how to use the function keys and options, and other important information. We recommend that everyone read this chapter.

3. **Environment Control**

   This chapter presents the procedures for setting up each user's work environment, including parameters for output destinations, batch job description, and data formats. The chapter also covers the procedures for defining security at the subsystem, function and data levels.

   The audience for this chapter is the System Administrator or Security Officer (QSECOFR), who should be solely responsible for these tasks.

4. **Using Communications**

   This chapter illustrates the use of the communications subsystem within Gentran:Server for iSeries. General information sections explain the capabilities of the software and the concepts on which the subsystem is based. The general information is supplemented by step-by-step examples, presented in a tutorial format, that detail how the communications subsystem is used. Information in this section is intended for all users of the communications subsystem.

5. **Using Scripts**

   This chapter contains detailed information about creating and using communications scripts, including extended script logic, remote command support, and dynamic scripting.

6. **Bisync Communications Support**

   This chapter covers specific information about using bisynchronous communications with the Gentran:Server communications subsystem.

7. **SNA Communications Support**

   This chapter covers specific information about using SNA/LU0 communications with the Gentran:Server communications subsystem.

8. **SNA LU6.2 Communications Support**

   This chapter covers specific information about using the optional add-on SNA LU6.2 module (purchased separately) with the Gentran:Server communications subsystem.

9. Asynchronous Communication Support

This chapter covers specific information about using the optional add-on asynchronous module (purchased separately) with the Gentran:Server communications subsystem.

10. XMODEM File Transfer Support

This chapter contains information about using XMODEM. You must also have the asynchronous add-on module to use XMODEM.

11. OFTP Communication Support

This chapter contains information about using the Odette File Transfer Protocol (OFTP). You must also have the asynchronous add-on module to use OFTP.

12. FTP Communication Support

This chapter covers specific information about using the optional add-on File Transfer Protocol (FTP) module (purchased separately) with the Gentran:Server communications subsystem.

13. Using Line Pools

This chapter covers specific information about using line pools with Gentran:Server communications. Line pools enable you to have a number of communications jobs active at one time, all sharing the same "pool" of up to five iSeries line resources.

14. MQSeries Interface

This chapter covers information about the Gentran:Server interface with MQSeries.

15. Gentran IFS Gateway

This chapter covers specific information about the Gentran IFS Gateway (GIFSGATE). GIFSGATE is an interface between the Gentran:Server for iSeries Communications Module and the Integrated File System (IFS).

16. Job Scheduler

This chapter covers the tasks associated with the Job Scheduler, which is a function that allows you to specify the dates, times, frequency, and other parameters for running jobs in an unattended mode.

The audience for this chapter is the System Administrator or Security Officer (QSECOFR), who is normally responsible for these tasks.

17. System Configuration File

This chapter provides the procedures to set the break year and date format for commands.

Appendix A. Modems: Configuration and Troubleshooting

This appendix contains a list of recommended modems for use with Gentran:Server and troubleshooting tips.

Appendix B. Translating between ASCII and EBCDIC

This appendix contains a translation table for EBCDIC to ASCII, and one for ASCII to EBCDIC translations.

Other Gentran:Server for iSeries Communications Module Guides

The Gentran:Server for iSeries Communications Module documentation set includes other guides and instructional materials. The following publications are available as part of the licensed system:

- **Gentran:Server for iSeries Communications Module Release 3.4 Release Notes and Impact Information**

  - The Release Notes describe system enhancements and new functionality that have been incorporated into this release. Please read the 3.4 Release Notes carefully prior to installing Gentran:Server.

  - The Impact Information gives users of previous releases information on structural changes, including any changes to commands, CLs, and database files. These may necessitate changes to your implementation of Gentran:Server for iSeries Communications Module. Please read the Impact section carefully prior to installation.

- **Gentran:Server for iSeries Communications Module Release 3.4 Installation Guide**

  The Installation Guide provides step-by-step product installation instructions and cumulative fix installation instructions. Please read all the instructions prior to beginning the installation.

Chapter

2 System Essentials

In this Chapter

Thank you for selecting the Gentran:Server for iSeries Communications Module (the Communications Module).

To take full advantage of this powerful system, it is important that you understand some basic concepts before you begin. “System Essentials” serves as an introductory chapter to help you become familiar with the system’s purpose, features, organization, and operation. This chapter covers the following topics:

- What is the Communications Module? 2-2
- Take a Closer Look at the Communications Module 2-3
- Gentran:Server Panels 2-5
  - The ‘Work With’ Concept 2-6
  - Understand the Panel Structure 2-6
  - The Components of a Gentran:Server Panel 2-8
- Shortcuts 2-18
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What is the Communications Module?

The Gentran:Server Communications Module enables you to send/receive data electronically with communication partners, while tracking and monitoring the entire process. The Communications Module enables you to perform these tasks:

- Create communication profiles for many different protocols
- Create scripts
- Monitor active communication sessions
- View the history log
- Manage the data sent and received
- Schedule jobs
- Perform traces
- Purge and retrieve data.

Take a Closer Look at the Communications Module

This section explains the organization of the Gentran:Server for iSeries Communications Module.

Gentran:Server acts as an interface between your in-house applications and your communication partners. The communications process can be fully automated. You can initiate communications processing through the menu interface or by scheduling it to run at a predefined time. Application processing jobs to add or extract data from the communication queues can also be scheduled.

Day-to-day user interaction is recommended to review the online Communications history log, communication queues, and job scheduler entries to monitor the flow of data.

How is the Communications Module Organized?

The Gentran:Server for iSeries Communications Module is comprised of several integrated program subsystems. The following table lists the subsystems and highlights their functionality.

Subsystem	Purpose
Communications	Set up the profiles and scripts for data transmissions between you and your partner(s).
Environment Control	Define environment parameters (such as libraries and print queues) and the security privileges for each Gentran:Server user. Security controls access at the subsystem and function levels as well as data update authority.
System Administration ■ Job Scheduler ■ System Configuration	Control system activities such as the Job Scheduler and System Configuration.

Find Subsystems and Functions within the Communications Module

Gentran:Server subsystems are used to group similar programs and commands into a category. Each subsystem is made up of a group of functions (commands and programs), each of which performs a specific activity such as setting up a communication partner. Typically, entries on the main menu identify a subsystem. In the Communications Module, however, the job scheduler and system configuration menu are both in the system administration subsystem, as shown in Figure 2.1.

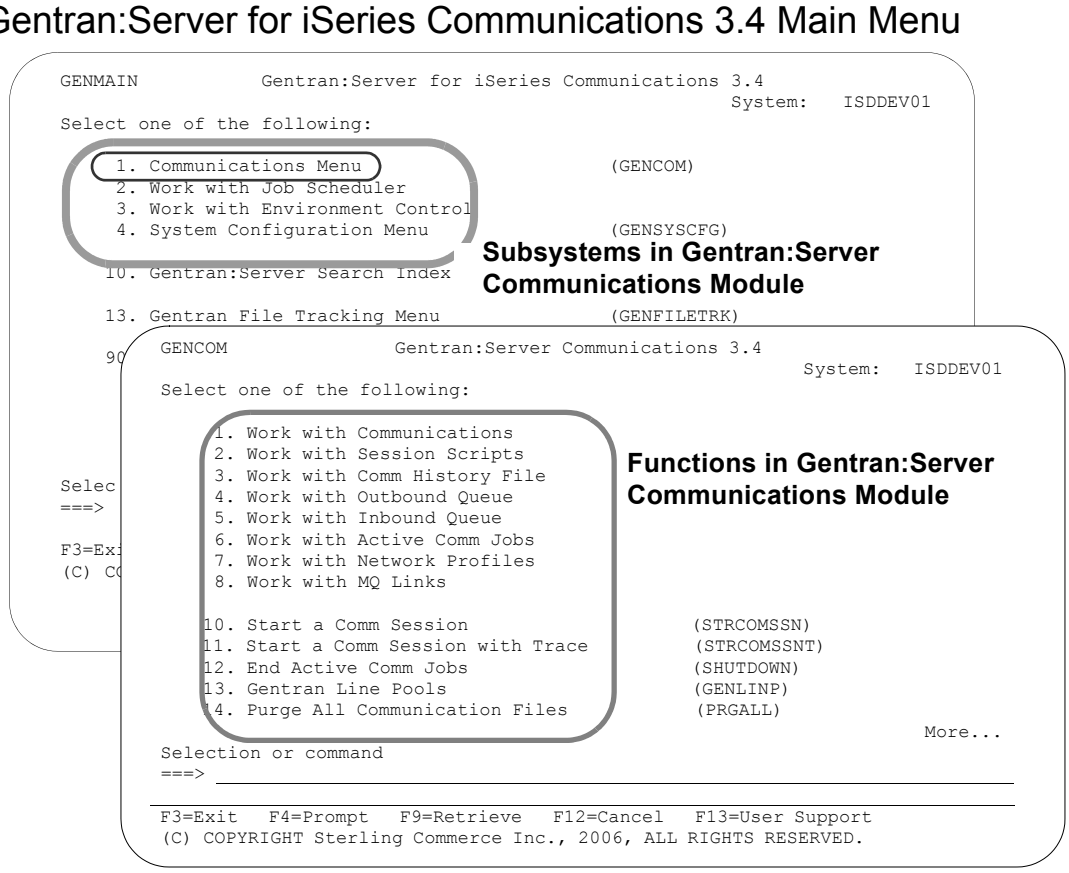

Figure 2.1 Subsystems and functions within Gentran:Server

Select option **1** on the GENMAIN menu and press **Enter**. The Communications menu is displayed.

As you use Gentran:Server, keep in mind that the functions within each subsystem are linked together like a network. Your path (the sequence of panels that appear) depends on the data that you enter on each panel. This flexible structure allows Gentran:Server to move quickly between the functions without multiple layers of menu trees.

NOTE

In addition to the subsystems, the main menu includes the Gentran:Server Search Index, which displays online help for glossary terms, field definitions, and other topical information available as hypertext. This index is comprehensive for the entire Gentran:Server product and is not limited to the Communications Module.

Gentran:Server Panels

This section presents basic instructions for using the Gentran:Server panels and commands. Although the many system features vary in complexity from “simple” to “expert” level, most of the system can be operated with just a few basic commands.

To use Gentran:Server, you must have a valid iSeries user profile. Gentran:Server uses your iSeries User ID to identify who you are, to control which subsystems and functions you can access, and to track the changes that you make in any files.

Your iSeries Security Officer can give you instructions for using the terminal hardware and operating system at your location. You should be familiar with basic iSeries concepts prior to using Gentran:Server.

Based on the configuration of your iSeries user profile and the conventions in place at your site, you might start up Gentran:Server in one of three ways.

- **As Part of Your Login Routine**

  Your iSeries user profile can be set up so that each time you log on to the iSeries, you automatically access the Gentran:Server main menu. If this is the case, you can immediately begin to use Gentran:Server menu options.

- **From a Menu**

  Many sites set up their own menu structure or customize third-party software so Gentran can be invoked from a menu.

- **From the iSeries Command Line**

  If Gentran:Server is not offered as a menu option at your site, you can invoke it by using the iSeries GO (go to menu) command. Type **`GO GENMAIN`** on the iSeries command line and press the **Enter** key. The Gentran:Server main menu appears, allowing you to begin accessing Gentran’s menu options.

  Two other Gentran:Server menus available from the command line are: the Communications menu (GO GENCOM) and the System Configuration menu (GO GENSYSCFG).

NOTE

Prior to accessing Gentran, you may have to add one or more Gentran:Server libraries to your library list. If you are unsure about this process, please contact your System Administrator for instructions on adding or modifying entries in your library list. The default libraries that are supplied with Gentran:Server are G33DTA and G33PGM. Make sure the library QTEMP is in your library list.

The 'Work With' Concept

Gentran:Server uses the iSeries 'Work With' concept. When you first access the Gentran:Server system, the main menu (GENMAIN) appears as shown in Figure 2.2. From GENMAIN, you can access any of the Gentran:Server subsystems by typing the associated option number on the command line and pressing the **Enter** key. For example, if you want to access Communications, type **1** on the command line and press **Enter**.

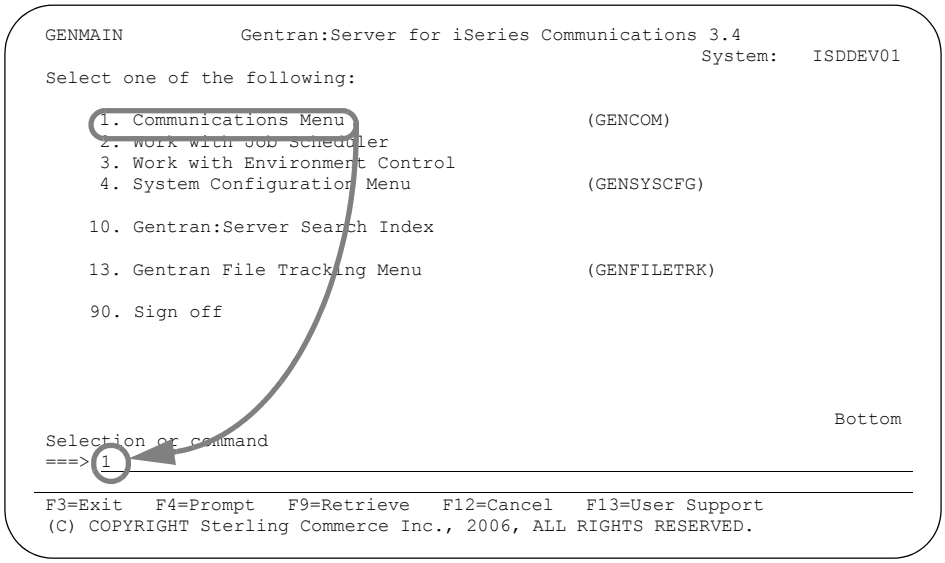

Figure 2.2 Enter the subsystem number on the command line.

Gentran:Server displays the Gentran:Server Communications (GENCOM) menu.

If Gentran:Server does *not* display a menu, the next panel to appear depends on the entries that you made on the previous panel. In a sense, Gentran:Server "protects" you from making mistakes or omissions. Based on the entries you make on various Gentran:Server panels, the system leads you through a series of related panels on which you need to fill in information before you can complete the task. This "captive" feature ensures that the profiles and scripts you create have all the information necessary to be processed successfully.

Understand the Panel Structure

The online screens Gentran:Server displays are called "panels". All Gentran:Server panels have the same "look and feel". That is, all panels have the same general appearance and respond to your input in a similar way. There are several components on a Gentran:Server panel. Some components are always present; other components occur only on certain types of panels.

These components appear on *all* Gentran:Server panels:

- Program and Format Name
- Panel Description
- User's Initials
- Message Line

- Function Keys
- Panel Fields
- System Date/Time

These components appear only on *some* Gentran:Server panels:

- Option Fields
- Option Codes
- Panel Continuation
- Command Line
- Key Entry Line

Figure 2.3 shows the components of a typical Gentran:Server panel.

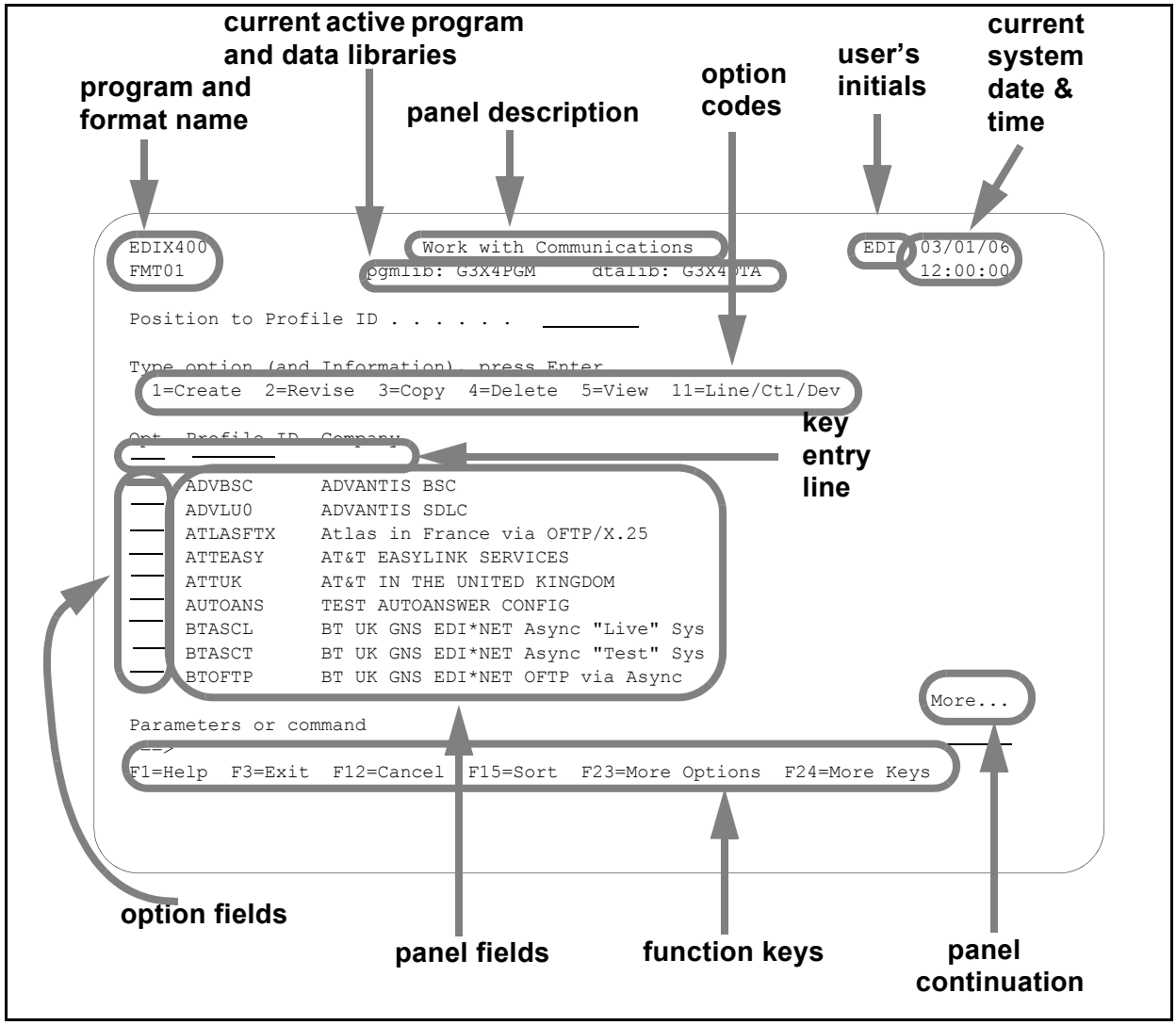

Figure 2.3 The components of a typical Gentran:Server panel

The Components of a Gentran:Server Panel

Program and Format Name

Most Gentran:Server panels have a unique program name and format name on the upper left corner of the panel. The program name remains the same for all panels in a multi-panel function. The format name will change for each panel in a multi-panel function.

Panel Description

This is a textual name for the panel. Since panel descriptions are not always unique, be careful when you refer to panels by name. Always check ***both*** the panel description ***and*** the program/format name.

NOTE

Using Captive Panels
Many Gentran:Server panels are "captive". This means that the panel *automatically* appears based on the values you entered on a previous panel. You can tell whether a new panel has appeared by checking the program name and format name, which are unique identifiers located on the upper left corner of the panel. (SEE the sections on options and function keys later in this chapter for more information about moving between panels.)

Program and Data Libraries

The current active program and data libraries are shown below the panel description. This information is retrieved from the data area GENLIB.

Option Codes

Option codes appear only on panels that display multiple records. **Option codes** are numbers that represent actions to be performed on one or more of the records. For example, in the previous figure, the panel displays multiple elements for a segment in a particular standards transaction. The **option codes** represent actions that can be performed on one or more of the elements. Additional option codes can be shown by pressing **F23** (More Options), where available.

Option Fields

To select an option, type the number in the Option field to the left of the appropriate line item(s) and press **Enter**. You can perform more than one option (i.e., View, Copy, Add, Change, Delete) associated with a field maintenance task at a time. Enter as many option codes in the option fields as you like, then press **Enter**. The system performs the options starting at the top of the panel and continuing down to the bottom of the page.

NOTE

With the exception of "Work with" panels, options can be carried forward from one page to the next.

Panel Fields

You will need to enter values in one or more fields on each panel. These fields describe the profiles and scripts you are creating and/or instruct Gentran:Server on what to do with the profiles you are creating. Depending on the types of information being entered, the panel fields appear on various areas of the panel. The field values that you type in are not entered into the system until you press a specific function key, usually the **Enter** or **F10** (Update) key. Pressing this key enters all the field values on the panel into the system at the same time. (SEE the "Function Keys" section later in this chapter for more information about entering data into the system).

User's Initials

Your initials are defined in the Environment Control subsystem. These always display in the upper right corner of the panel. (By the way, have you been introduced to Elizabeth D. Ingram? Liz was kind enough to supply all the tutorial materials for this manual and her initials (EDI) appear on every panel.)

System Date and Time

The current date and time are shown in the upper right corner of the panel. The date is displayed in a variety of date formats with various separators and can be customized for each user.

Key Entry Line

This is the blank line at the top of the subfile in which you enter the key fields necessary to advance to the next panel, as specified by the option code selected.

Message Line

In response to actions that you perform, the system displays messages just below the function keys. Always be sure to read the messages displayed in this area. For additional information, place the cursor on the message and press **F1** (Help). This is available for most messages.

Function Keys

The list of function keys appears at the bottom of the panel. Function keys perform many actions such as exiting from a panel, printing a report or sorting a file. Gentran:Server uses a wide variety of function keys. Each panel displays only those functions keys that are active for that particular panel. Consult your hardware manual for information about using multiple key strokes to access the higher numbered function keys. Additional function keys can be shown by pressing **F24** (More Keys).

Panel Continuation

Some panels contain more information than the screen can hold at one time. These panels appear as multiple "pages". Panels with multiple pages have the word "`More...`" at the bottom right corner of the panel. Use the **Page Up** (Roll Down) and **Page Down** (Roll Up) keys on your keyboard to move between the multiple pages of the panel.

Basic System Terms and Concepts

Before we can explain the options and function keys available in Gentran:Server, we must first define some basic terms that are used throughout this manual in discussing the panels.

Access Mode

This defines the type of activity you can perform on a panel. Typically, the mode is determined by the option you selected on the previous panel. For example, you could select option `1` (Create) on a panel so the next panel is accessed in "create mode", allowing you to add a new record.

Captive Panel

Captive panels refer to panels that are "tied" together and must be reviewed before "creates" are performed. This arrangement prevents you from inadvertently missing a panel that contains important information critical for processing.

In create mode, if **F10** (Update) is pressed from a panel that has associated captive panels, the system displays the next captive panel with a message indicating that you must review this panel before updating. Once all captive panels have been reviewed, press **F10** again to actually add the record and return to the calling panel.

To access captive panels in any mode, press **Enter** or **F8** (Next) to advance forward or press **F7** (Back) to advance backward. To confirm updates, press **F10**.

Key Entry Line

This is the blank line at the top of the list on a "Work with" panel in which you enter the key fields necessary to advance to the next panel, as specified by the option code selected.

Use the Function Keys

Active function keys appear at the bottom of each panel. Press **F24** (More Keys) repeatedly to display additional function keys. The following standard function keys are active on most panels:

F1=Help

Provides either additional information about the panel in general or about a specific field within the panel depending on the where the cursor is located on the panel when you press **F1**. When displaying help information for a field, you can press **F2** (Extended help) to get panel help. This help can be printed. (SEE "Getting Help" later in this chapter for more information about online help.)

F3=Exit

Ends the current function and returns you to the display from which the function was started.

F4=Prompt

Supplies a window containing valid field values or a selection list for the appropriate file. When you press **F4** on a menu or in a field on a "Work with" panel for which no values have been defined, the system displays the iSeries' Major Command Groups (MAJOR) panel. Press **F3** (Exit) or **F12** (Cancel) to return to the active panel.

F5=Refresh

Redisplays the panel with the most recent information and removes any outstanding selections or keyed data.

F7=Back

Displays the previous panel associated with a captive panel (associated with the same record).

F8=Next

Displays the next panel associated with a captive panel.

F9=Retrieve

Shows the last command entered on the command line along with any included parameters. Press this key once to retrieve the last command you ran. Press this key twice to retrieve the next to the last command you ran. Continue pressing this key until you have retrieved all commands entered.

If no commands were entered, or, you are not authorized to use the iSeries command line (as defined in your iSeries user profile), no command is retrieved and the panel redisplays.

F10=Update

Updates the record and returns to the calling program from which you invoked this panel.

F11=Delete

Confirms the delete operation and deletes all records associated with this ID. The system automatically returns to the calling program from which you invoked this panel.

F12=Cancel

Returns to the previous menu or display. When on a single record panel, outstanding updates (must apply using (Update)) are cancelled.

On a multi-record panel, updates applied by pressing **Enter** are *not* lost when **F12** (Cancel) is pressed.

F13=Services

Displays a pop-up window with available options for other functions that can be invoked. The system suspends actions for the current panel and branches to the selected function (if authorized). Upon completion, the system returns to the Services Window. You can select another option or cancel (**F12**) to the calling program from which you invoked the Services function. Typically, options are available for tasks related to the current panel.

F15=Sort

Displays a pop-up window with available sort criteria. The cursor is positioned next to the field currently controlling the Sort order for the display. Selecting different sorting options affects the Position-to field(s) shown at the top of the panel. The default sort order for each of the “Work With” panels is set in the System Configuration file (SEE the “System Configuration” chapter in this guide for more information about the System Configuration file.)

F16=Record-1(Rolling Update)

Displays the previous record in the file for the current panel. Edits are performed and, if successful, the data is updated prior to displaying the previous record.

If a record is protected, the rolling update is prohibited. If a record is not protected, the system performs a rolling update. In view mode, rolling is performed, but no data is updated.

F17=Record+1 (Rolling Update)

Displays the next record in the file for the current panel. Edits are performed and, if successful, the data is updated prior to displaying the next record.

If a record is protected, the rolling update is prohibited. If a record is not protected, the system performs a rolling update. In view mode, rolling is performed, but no data is updated.

F21=Print

Submits the appropriate Print Report job to be executed.

F22=Resequence

Redisplays this multi-record panel forcing any re-sequencing of records to occur. Typically, a sequence number is used as a key field. As new records are added, you can refresh the panel with **F22** (Resequence) to display all the records in their new order based on the sequence number used.

F23=More Options

Displays additional option codes available with this panel. You can scroll through all available option codes by pressing **F23** (More Options) repeatedly.

F24=More Keys

Displays additional function keys available with this panel. You can scroll through all available function keys by pressing **F24** (More Keys) repeatedly.

On Command panels, the following keys have different functions:

F9=All Parameters

Shows parameters that are normally displayed only when specific values are entered in other fields.

F10=Additional Parameters

Provides selections usually related to printing and job options.

Additional Function Keys that are used include:

Enter

Enter can be used for positioning into a display list or advancing to a function when using an option. **Enter** is also used to update information on panels. In this case, edits are performed and, if successful, the data is updated. On single record panels, **F10** (Update) ***must*** be pressed to confirm the update, otherwise changes are lost when **F12** (Cancel) is pressed.

Help

Provides additional information about using the panel or a specific field on the panel. Some keyboards have a specific **Help** key that can also be used to access the same Help information as **F1** (Help).

Home

When pressed on a Gentran panel, **Home** moves the cursor to the primary "Position-to" field at the top of the panel.

Page Down (Roll Up)

Pages down to the next set of items until the bottom of the file is reached. The indicator "Bottom" is displayed at the end of the file; "`More...`" is displayed if more items remain.

Page Up (Roll Down)

Pages up to the previous set of items until the top of the file is reached.

Print

Prints information currently displayed. The Print key does not print data from files. Use the separate options and function keys within Gentran to print data.

Tab Key

The **Tab** Key moves the cursor from one field to the next on the panel, left to right, top to bottom. To move the cursor in reverse (bottom to top, right to left), press the **Shift** and **Tab** keys simultaneously.

Use a mouse

If your computer hardware is configured with a mouse, you can position the mouse cursor on a panel field anywhere on the panel, click the mouse button and begin to enter values in the field. Additionally, to execute a menu option or function key, you can double click the mouse button on that menu option or function key. See your System Administrator to determine if you have the proper hardware and software to use your mouse with the iSeries.

Use the Option Codes

In Gentran:Server, option codes are grouped in categories for consistency as shown below (greater than 10 have special uses as shown).

- 1 – 10 standard option codes
- 11 – 29 vary according to the panel on which they appear
- 30 – 39 invoke Processing commands
- 40 – 49 invoke purge and retrieve commands
- 50 invokes ezEDI commands

Many panels include a list of available option codes you can use for navigation to advance to a desired panel or function. Available option codes appear in the top portion of the panel. Press **F23** (More Options) repeatedly to display additional option codes.

To use the options, type the option code in the Opt (Option) field next to the desired identifiers and press **Enter**. You can type option codes next to more than one entry at a time to perform more than one task, one after the other.

The key entry line must be used when creating a record. It can also be used for other options with entry of the specific parameters.

1=Create

To create a new record, type **1** in the option field, fill in the required identifier(s) on the key entry line and press **Enter**. The system advances you to a subsequent panel in create mode, where you can add the record by completing the required fields and pressing **F10** (Update).

2=Revise

To revise an existing record, type **2** in the option field next to the desired entry and press **Enter**. You can also type in the desired identifier(s) on the key entry line with option **2** and press **Enter**. The system advances you to a subsequent panel in revise mode where you can modify the record by updating the desired fields and pressing **F10** (Update).

3=Copy

The copy function can be performed at several levels. When selected on a "Work with" panel, the entire selected definition is copied to a new definition. For example, if the copy function was selected from the Work with Communications panel (EDIX400-FMT01), the entire profile is copied to a new profile (including all scripts).

On lower levels within a subsystem, the copy function, in many places, only copies a single record. For example, if the copy function was selected on the Communication Session Control panel (EDIX403), only a single record is copied.

When the copy function is invoked, a pop-up window displays to allow entry of the key fields necessary to create the new record(s). For more information, press **F1** (Help) while in the copy window.

4=Delete

The delete function can be performed at several levels. When using this function on a "Work with" panel, the entire selected definition is deleted. On lower levels within a subsystem, the delete function might only delete a single record. For example, if the delete function was selected on the Communications Session Control panel (EDIX403), only a single record is deleted.

When accessing a single record panel in delete mode such as the Communication Profile panel (EDIX401), **F11** (Delete) must be pressed to confirm the deletion, On multi-record panels, option **4** must be entered to indicate the records to be deleted. In this case, no confirmation is requested.

5=View

The view option is selected as an access mode for single record panels when no information should be changed. When using **F16** (Record-1) and **F17** (Record+1), records will be accessed in a rolling view mode instead of a rolling update mode.

Since you cannot specify a view-only mode on multi-record panels, you must ensure no changes are made. The data rights for a subsystem can be set to **3** to ensure a user can only view data throughout that entire subsystem. Alternately, the entire definition can be protected by setting the Update-Allowed flag to **N**. (SEE the "Environment Control" chapter for more information about the Update-Allowed flag.)

6=Print

The print option prompts the appropriate print report command for the user to submit. If selected beside an ID on a "Work with" panel, the identifier is pre-loaded into the command.

The print function is also available on many panels by using **F21** (Print). This function automatically submits the appropriate print report to batch for the currently displayed identifier.

Using the Prompt Key

When you are creating or editing existing entries, Gentran:Server requires you to enter specific information. These entries may be either a reference to a record that you created elsewhere in the system, or a value from a list of valid choices.

The **F4** (Prompt) key is very helpful in these situations, and may be pressed while on a field. This function key appears at the bottom of many Gentran:Server panels such as the one in the following figure.

On "Work with" panels, an option must be entered on the key entry line, with **F4** (Prompt) pressed on any field on the key entry line; if available, a list of valid values will be shown. If **F4** (Prompt) is pressed without an option specified or pressed outside the key entry line, the system displays the Major Command Groups (MAJOR) menu.

The following two examples illustrate using the **F4** (Prompt) feature from a file maintenance panel and a "Work with" panel.

Select a Value from a File Maintenance Panel

In Figure 2.4, the cursor is placed on the Protocol field. The system requires you to specify a Protocol. If you know the Protocol, you can type it in and press **Tab** to move the cursor to the next field. However, you could also move the cursor to the field and then press **F4** (Prompt). You would then see a pop-up window with a list of Protocols. At this point you could select an entry by typing **`1`** in the option field next to the Protocol and then pressing **Enter**.

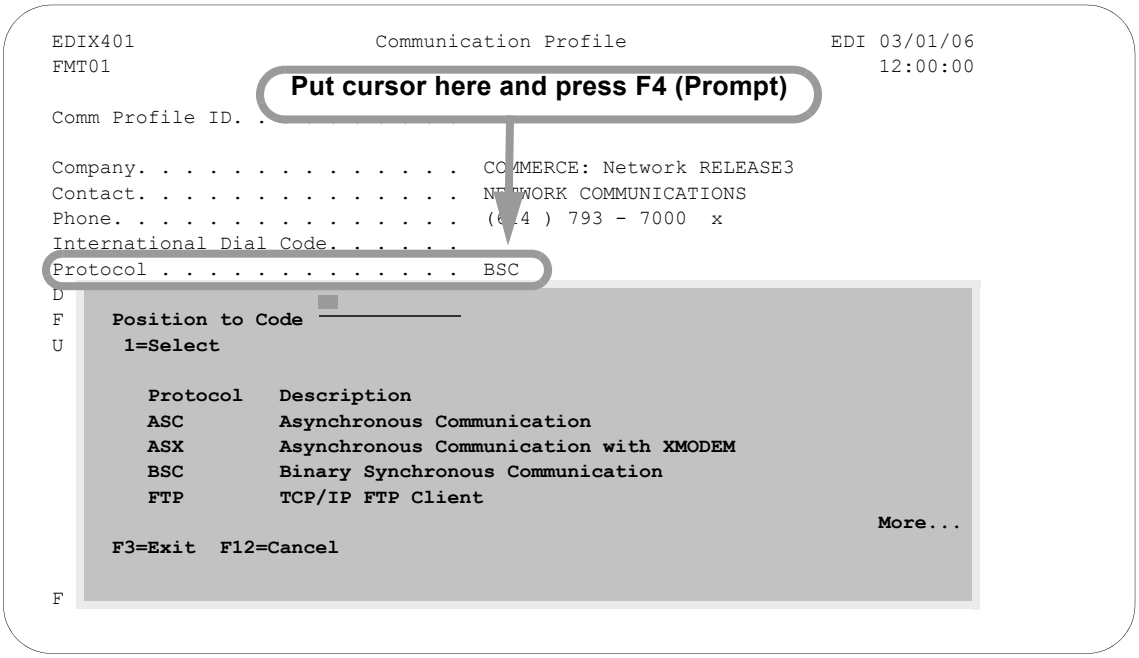

Figure 2.4 Use the F4 (Prompt) Function Key from a File Maintenance panel

NOTE

If an option is entered and the cursor is on a field for which there is no prompt information available when **F4** (Prompt) is pressed, the system displays the message `Prompt function not defined for (`*`fieldname`*`)`.

Use F4 on a "Work with" Panel

On "Work with" panels, an option must be entered on the key entry line before pressing **F4** (Prompt) to see a list of valid values. Figure 2.5 illustrates using the Work with Communications Session panel (EDIX402) to create a session script record of a comm profile ID. The option **1** (Create) has been entered on the key entry line. Pressing **F4** while the cursor is on the comm Profile ID field will bring up a window containing a list of available comm Profiles.

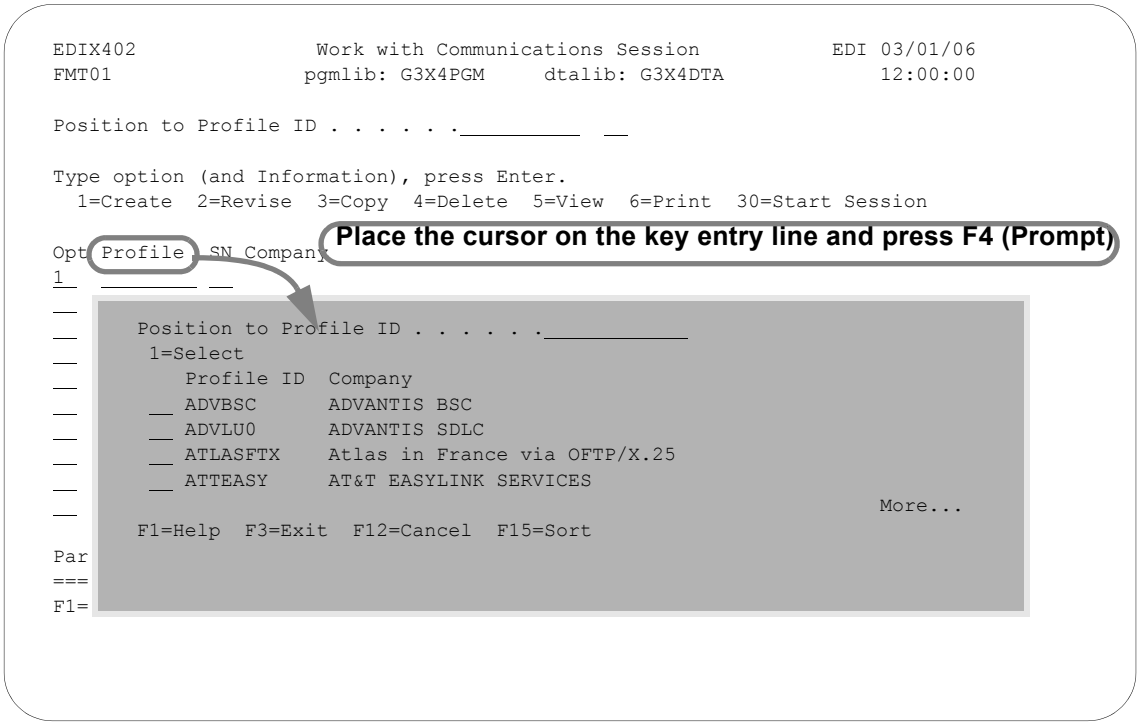

Figure 2.5 Use the **F4** (Prompt) Function Key on a "Work with" panel

NOTE

If an option is entered and the cursor is on a field for which there is no prompt information available when **F4** (Prompt) is pressed, the system displays the message "Prompt function not defined for (fieldname)".

Shortcuts

Gentran:Server provides many features to make your work quicker and easier. The following shortcuts can be used by novice as well as experienced Gentran:Server users.

Access Panels Directly from the Command Line

Sometimes you may prefer not to access panels through the "Work with" subsystems and the various functions below them. Gentran has a special feature that allows you to directly access most Gentran functions from the command line. **EXCPGM** is a specialized "call" command that is supplied with Gentran to give you direct access to most functions.

To directly access a Gentran function, type the following command on the command line and press **Enter**:

EXCPGM EDIXnnn Where **nnn** is the panel number.

This feature could be useful in many situations. Perhaps a co-worker asks you for information about EDI information in Gentran that is totally *unrelated* to the work that you are currently doing. If you know the program name of the function that contains this information, you can use the EXCPGM command to quickly display that function and then return to your work.

For example, in Figure 2.6, the Work with Outbound Queue panel (EDIX404) is accessed from the command line.

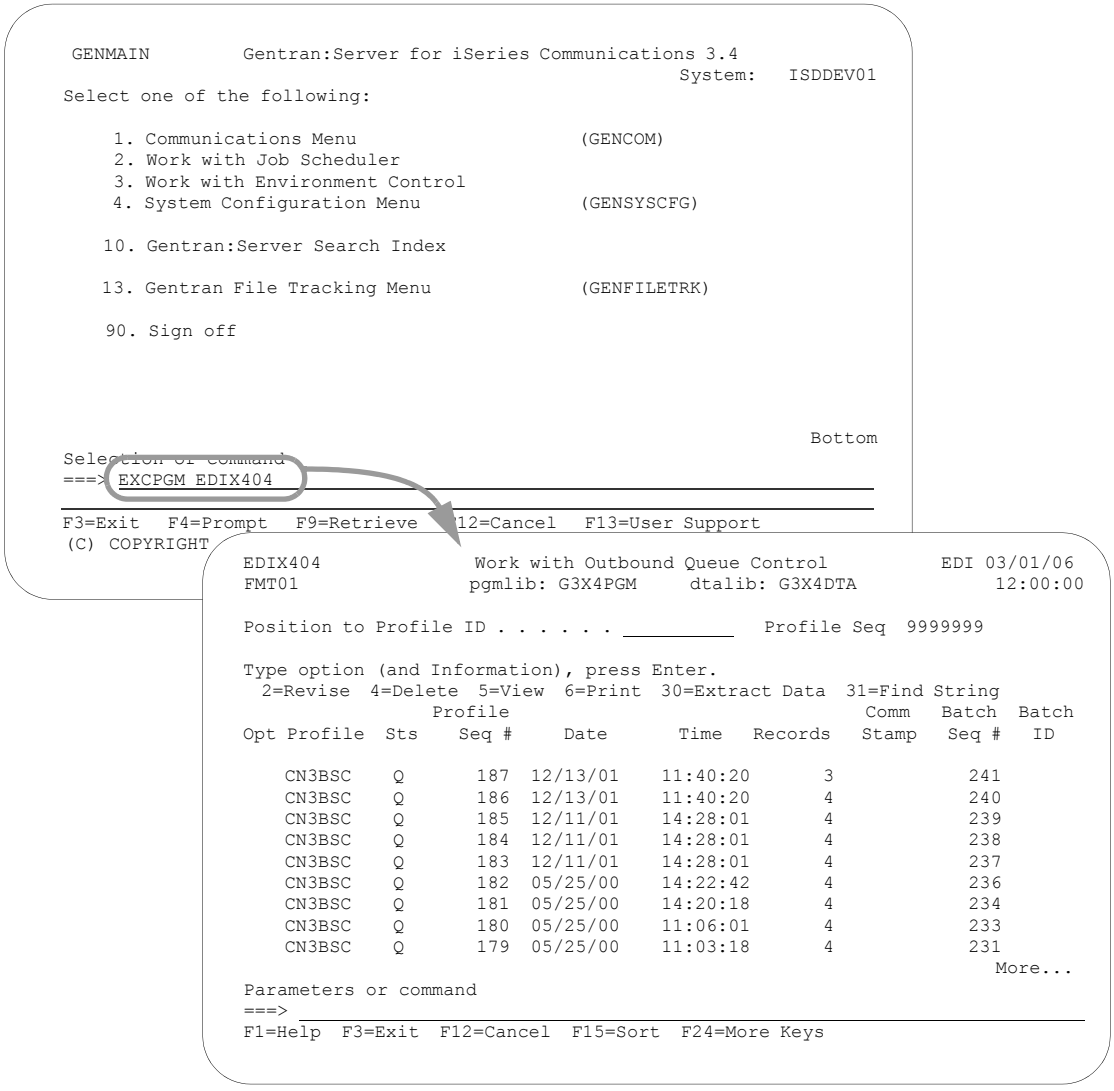

Figure 2.6 Use the EXCPGM feature to access a function directly from the command line

Access a Panel from a Service

There may be times when you want to access another *related* function without leaving the current panel. For example, you might be entering information on a certain panel and realize that you need some information from another function. Maybe you forgot an entry on another panel or you need to change an entry that relates to the information you are entering on the current panel. You want to enter the new information, but you don't want to use the **F12** (Cancel) key to leave your work on the current panel.

Gentran has another special "shortcut" feature to handle this situation. On some Gentran panels, you may notice the **F13** (Services) function key. Pressing this key displays a pop-up window with a list of menu options related to your current task.

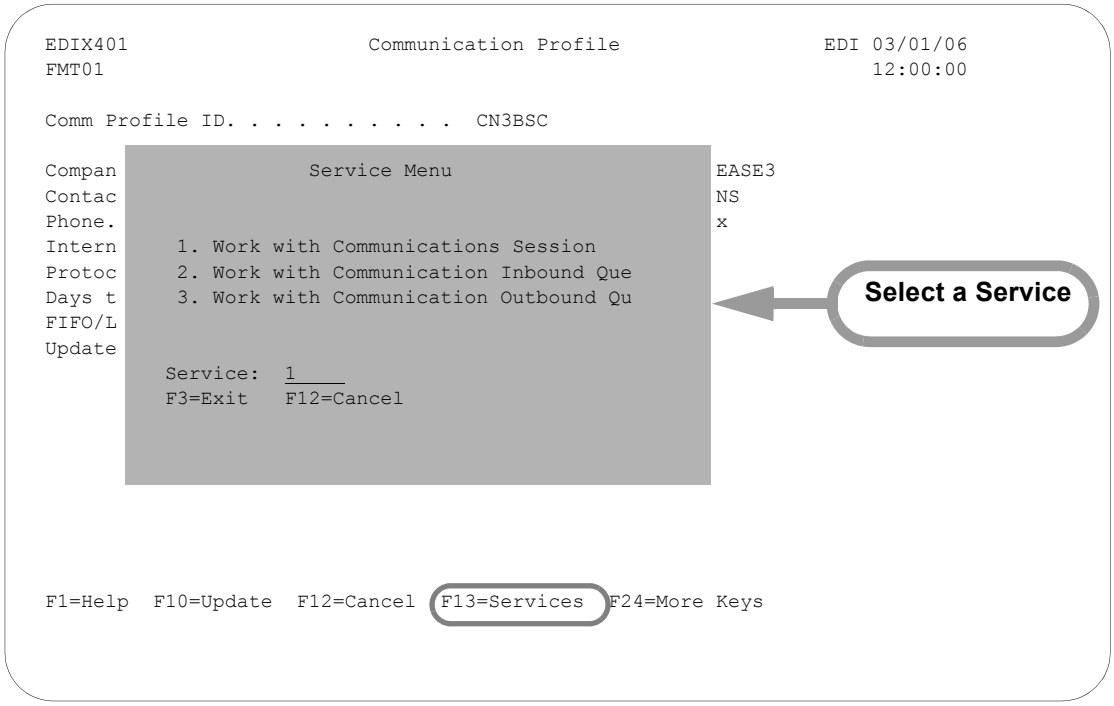

Figure 2.7 Shortcuts for Accessing Panels using Services

If, for example, you are entering values on the Communication Profile panel (EDIX401), pressing the **F13** (Services) function key displays a pop-up window as shown in Figure 2.7. In this example, option **1** advances you to the Work with Communications Session panel to work with any scripts defined for the profile.

At this point, you can select any one of the menu options, and Gentran:Server displays a new panel. Enter all the field values as you would normally do. When you are finished with the panel, press the appropriate key to exit. Gentran returns to the Service Menu again. At this point, you can select another menu option or press **F12** (Cancel) or **F3** (Exit) to return to the exact point at which you left the original panel.

Use the Command Line

Any iSeries, Gentran-specific, or user-specific command may be executed from the command line (Gentran supports iSeries security authorization). To use the command line, type the command, then press **F4** to prompt or **Enter** to execute. The following figure shows the STRCOMSSN command entered on the GENMAIN command line. Entering the command displays the Start Communications Session (STRCOMSSN) panel, where parameters can be entered and the job submitted.

NOTE

Command line usage is determined by your iSeries user profile. SEE your System Administrator for more information.

Figure 2.8 illustrates prompting the Start Communications Session (STRCOMSSN) command from the command line using **F4**.

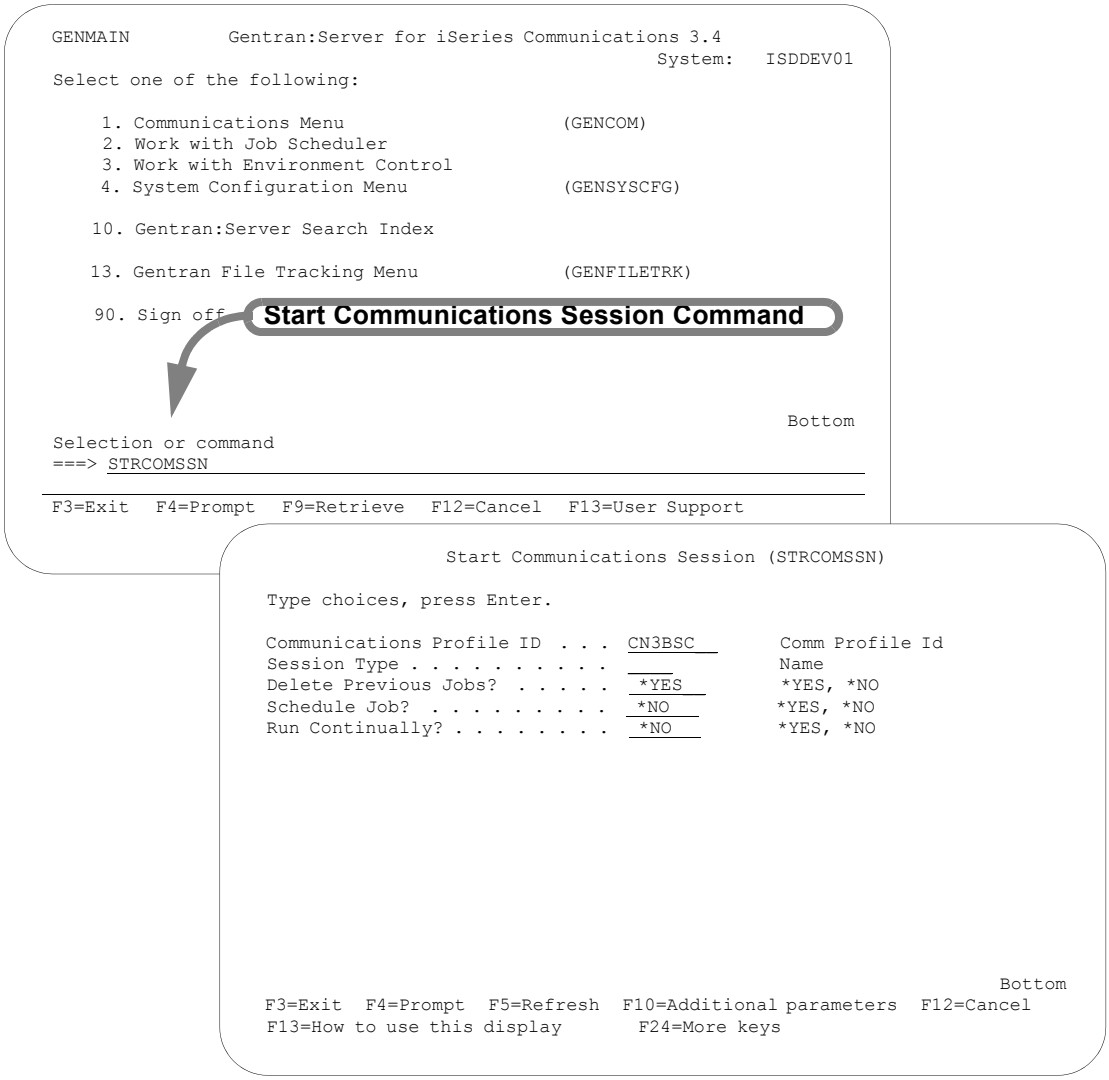

Figure 2.8 Using the STRCOMSSN command from the command line

NOTE

When you execute a Gentran-specific command from the command line, information is retrieved from your Gentran:Server environment profile to control the runtime environment. (SEE the "Environment Control" chapter for more information.)

Getting Help

Additional help for using Gentran:Server for iSeries Communications Module, beyond what you will find in the documentation set, is available in a variety of ways.

Use Online Help

One of the most exciting features in Gentran:Server for iSeries Communications Module Release 3.4 is the online help. Gentran:Server uses the iSeries User Interface Manager (UIM)© Search Index/Help feature. Through online help, you can access information such as field definitions and panel descriptions while you are working, *without interrupting any data entry activities*.

Gentran:Server for iSeries Communications Module's online help is "context-sensitive". This means that the information displayed is based on the current panel and the position of the cursor on the panel. This allows you to access either specific information about a field or general information about the whole panel.

Online help is accessed by first positioning the cursor in one of the context-sensitive areas of the panel, as shown in the following figure. Press the **F1** (Help) key (or the **HELP** key, depending on your keyboard) and a pop-up help window appears on top of the current panel so that the given field is still visible.

Figure 2.9 shows the areas on a panel for which Gentran:Server for iSeries Communications Module provides context-sensitive help.

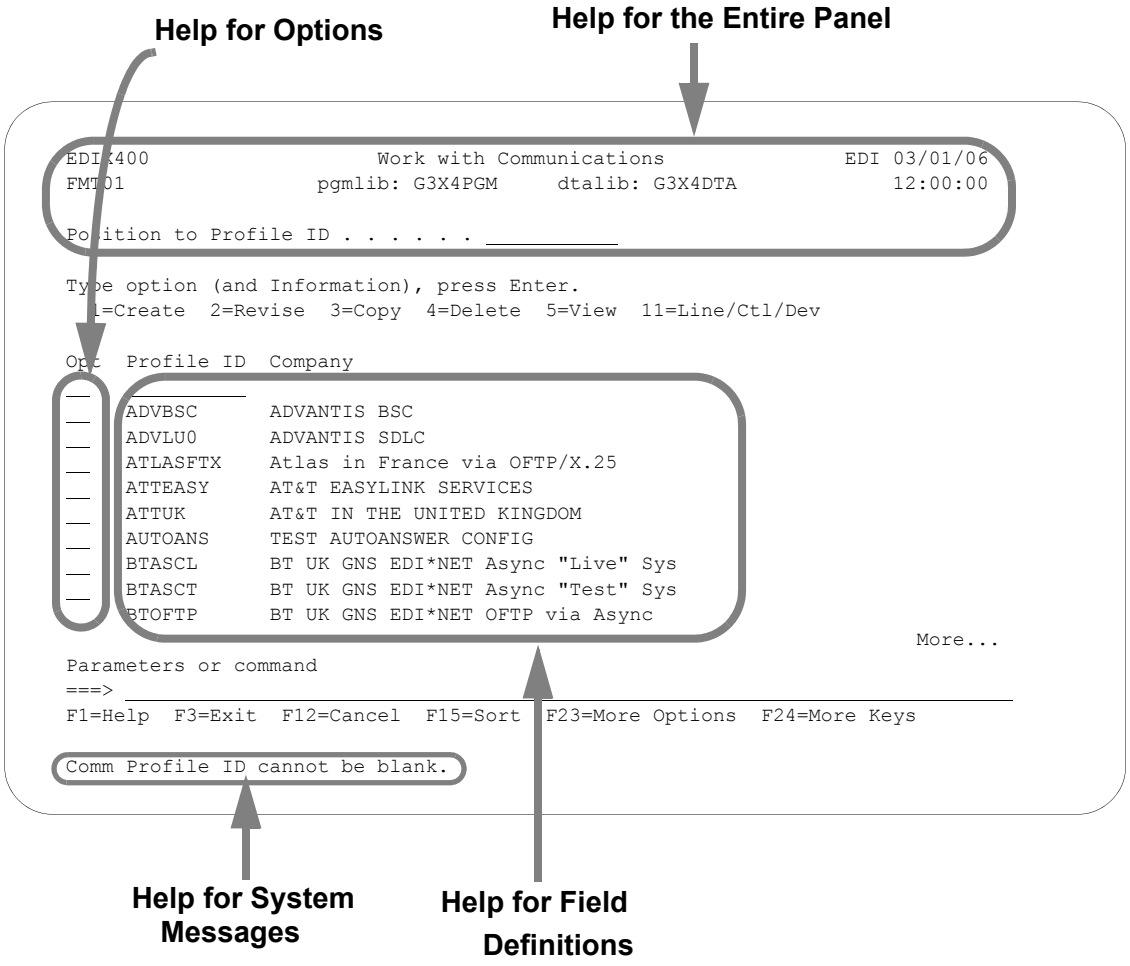

Figure 2.9 The context-sensitive online help areas of a typical panel

Pressing the **F1** (Help) key with the cursor in the System message area activates the iSeries help utility for system messages. All messages issued for the online panels have first level help. Many errors also have second level help that further explains that specific error, identifies its cause, or suggests a course of action to remedy the error. To display second level help, place the cursor on any message and press **F1** (Help).

Sometimes more than one message is issued. A plus sign (+) displays at the right side of the message line whenever additional messages exist. Move the cursor to the message line and press **Page Down** (Roll Up) or **Page Up** (Roll Down) to scroll through all error messages issued.

Messages are shown from the language-specific error message file, `GENERR`**xxx**, where **xxx** represents the language ID (i.e., GENERRENU is the English error message file).

Online Help for a Single Field Definition

Online help is also available for individual field definitions. Position the cursor anywhere on a field and press **F1** (Help), as shown in Figure 2.10. For field information specific to the current panel, refer to the online help for the whole panel and to the paper documentation.

NOTE

In most cases, the *generic* field definitions are not included in the paper documentation. As you read the manuals, you may find it convenient to have an active Gentran session in front of you so that you can access the field definitions and other online information.

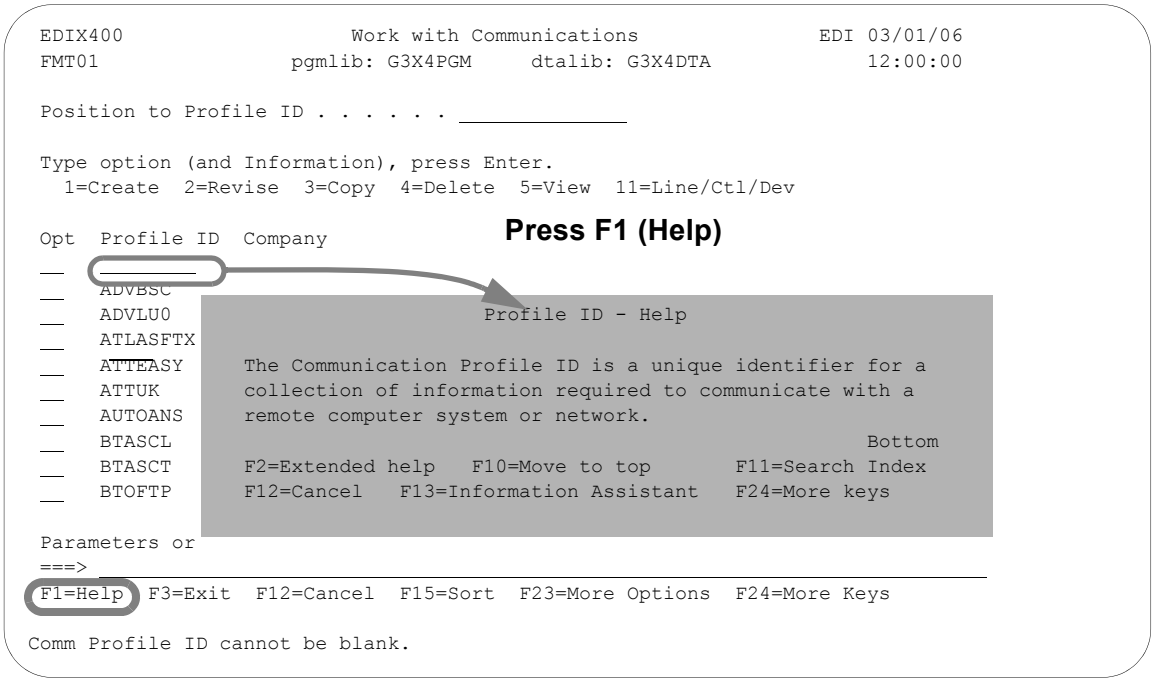

Figure 2.10 Access online help for a field definition

Online Help for a Whole Panel

To display online help for the entire panel, move the cursor anywhere outside a field and press **F1** (Help), as shown in Figure 2.11. Another method of accessing help for the whole panel is to press **F2** (Extended Help) while you are in help mode for a field.

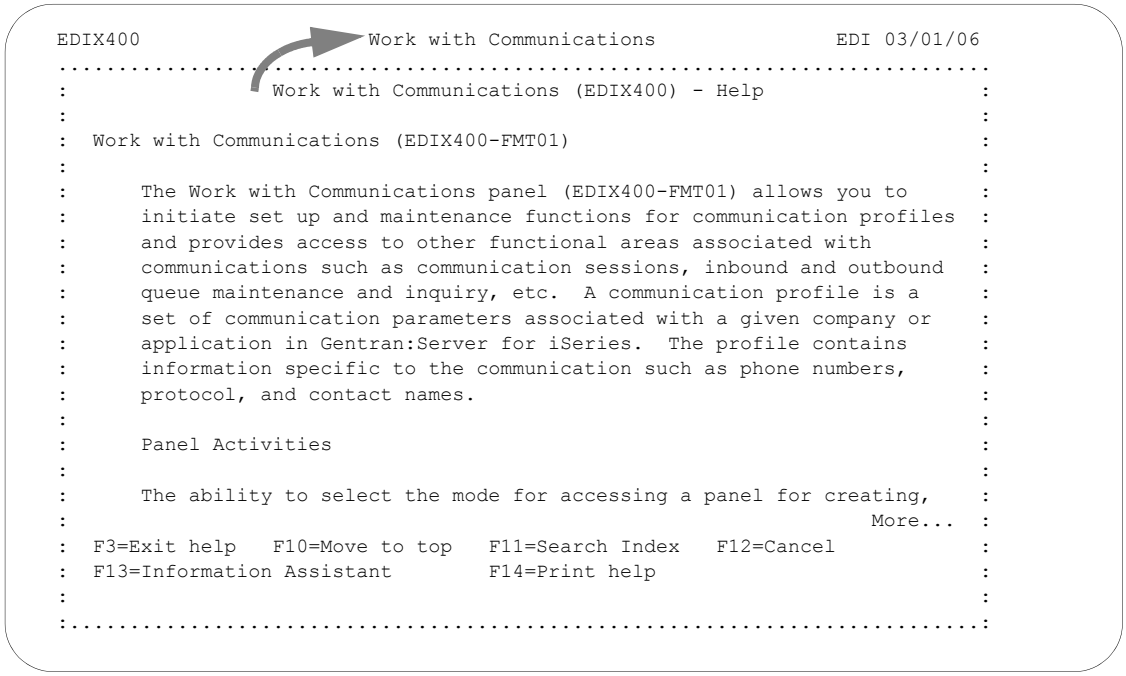

Figure 2.11 Access online help for a whole panel

While there is some variation in content for individual panel descriptions, *in general*, the help for the entire panel typically includes an Overview that describes the purpose of the panel; activities that can be performed from the panel; related topics; field definitions; and function key definitions.

Use Hypertext

On some online help panels, certain words or phrases are underlined and/or highlighted in high-intensity. This indicates that additional information (hypertext) is available for the highlighted text. To display the additional information, either move the mouse or press **Tab** until the cursor is positioned in the highlighted text. Press **Enter**.

NOTE

All of the definitions available through hypertext are also available through the Search Index. (SEE "Using the Search Index" section.)

Figure 2.12 shows words that have hypertext definitions available through Gentran online help.

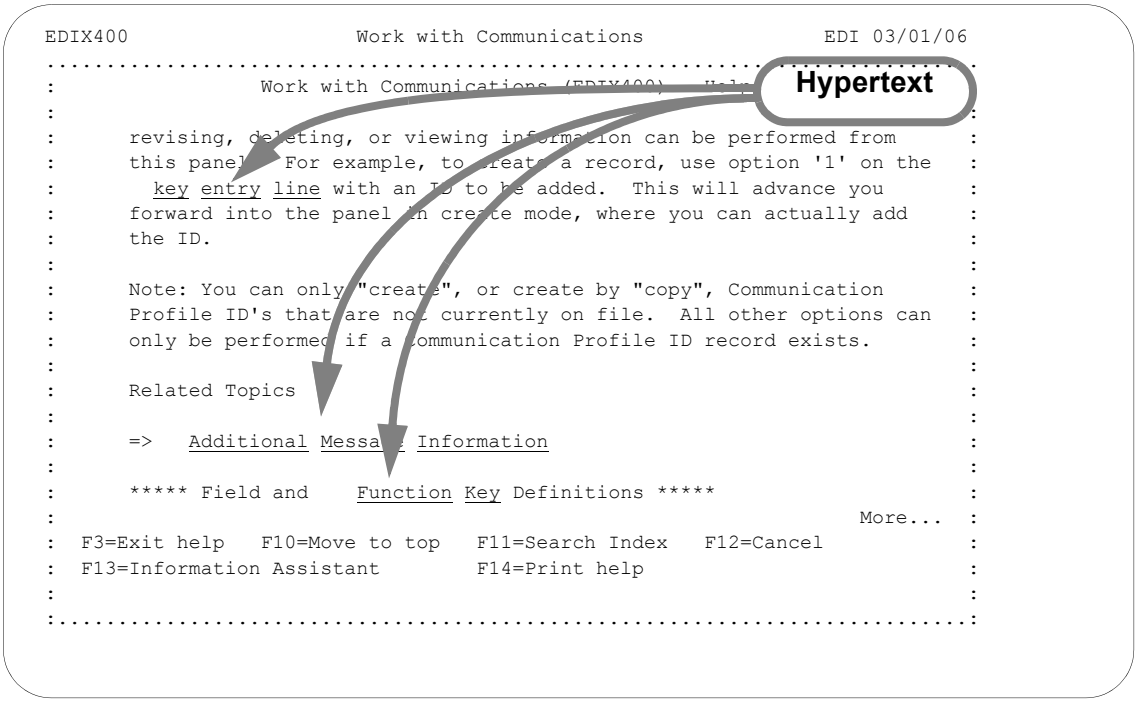

Figure 2.12 Access hypertext definitions by moving the cursor onto the word and pressing **Enter**

Use the Search Index

The Search Index is another way to obtain online help. Here are two ways that you can access the Search Index from Gentran:Server:

- **From any online help panel:** press **F11**
- **From the** Gentran:Server **main menu** (GENMAIN): select menu option **10** (Search Index)

NOTE

The Gentran:Server Search Index is called "GENSCHIDX" and is found in the Gentran:Server data library (G33DTA).

How to Select Topics in the Search Index

The Search Index contains an alphabetic list of all topics that are linked to hypertext throughout the Gentran documentation. It also contains other topical entries that are found only here. You can view topics in one of two ways:

- Using either the mouse or the **Tab** key, position the cursor in the option field next to the selection you would like to view or print. Type in **5** to view the topic; type **6** to print the topic. Multiple entries may be selected at one time.
- Type a key word or a portion of a key word or phrase on the command line and press the **Enter** key. The system searches an internal table of key words and synonyms and displays a list of topics that best match the words you entered. Type in **5** to view the topic; type **6** to print the topic.

Hints for Entering Search Words

The following tips can help you take full advantage of the Search Index.

- You can use either upper or lowercase letters – the search is not case sensitive.
- Make the topic you enter as complete and specific as possible. For example, if you enter only the word "job", the system will display a long list of topics about jobs. For a shorter list of more specific topics, you could enter "changing the position of a job queue".

(SEE the iSeries documentation for more information.)

Print Reports in Gentran:Server

Reports are integrated throughout the Gentran:Server system. Report options are found throughout the subsystems on panels wherever appropriate. Reports can also be run from the command line using one of the command prompts (see information earlier in this chapter).

There are two general types of reports in Gentran:Server; User-generated reports and System-generated reports, which are illustrated in the following figures.

User-generated reports

User-generated reports are optional reports that are initiated by a user request. This usually occurs when you select option **6** (Print) or you press the **F21** (Print) function key. Many of these reports can also be generated from the command line.

System-generated reports

System-generated reports occur automatically, regardless of requests by the user. These types of reports generally occur when activities such as purges and processing occur. At these times the system automatically creates a report documenting the task just performed.

System-generated reports are generated automatically as a result of executing a job. Figure 2.13 shows an example of this situation. When the Purge All Communication Files (PRGALL) command is executed, the system generates the Purge Communication reports (one for each group of files purged).

```
                        Purge All Comm Files (PRGALL)

Type choices, press Enter.

Date to Purge Before . . . . . .   *CURRENT      Date, *CURRENT, *DAYS, *ALL
Comm Profile Id  . . . . . . . .   *ALL          *ALL, Comm Profile Id
               + for more values
Status . . . . . . . . . . . . .   *ALL          *ALL, RN, RA, PI, SN, SA, QE,H
               + for more values
Schedule Job ? . . . . . . . . .   *NO           *YES, *NO
Purge Method?  . . . . . . . . .    *NONE         *TAPE, SAVF, *NONE, *CL

                                                                        Bottom
F3=Exit    F4=Prompt    F5=Refresh    F10=Additional parameters    F12=Cancel
F13=How to use this display         F24=More keys
```

Figure 2.13 Purge Comm reports are generated automatically

User-generated reports generally have a panel for entering report parameters similar to the one shown in Figure 2.14 for the Comm Profile script. This can be particularly useful for tailoring the report to exactly the kind of information that you need.

Each report has a unique identifier. The program name of the program that generated the report is always displayed in the top left corner of the report.

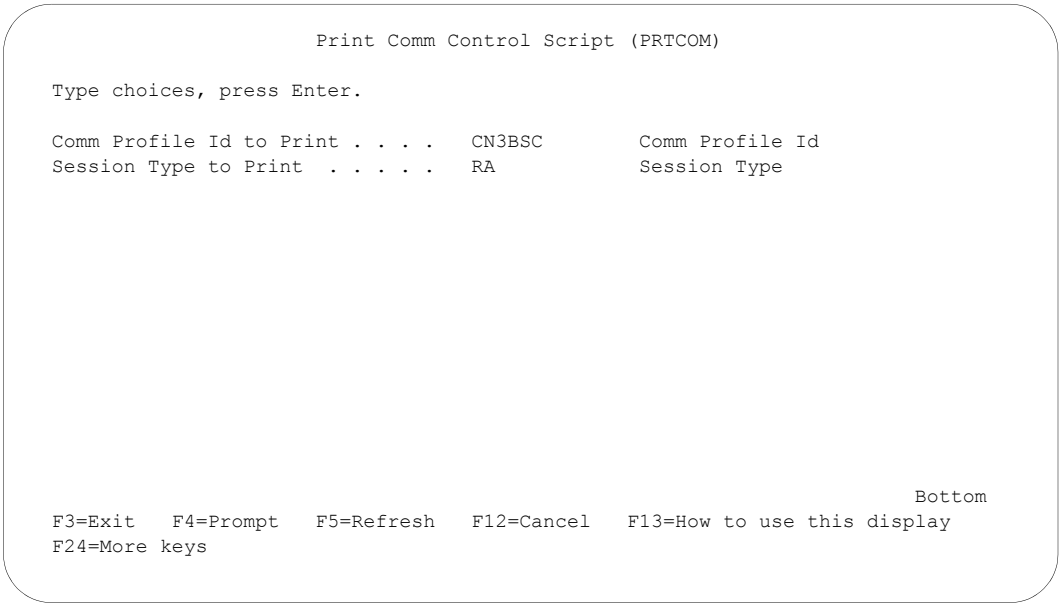

Figure 2.14 Enter parameters for the Comm Script report

By default, all reports go to the iSeries Output Queue defined for your user ID. (SEE the "Environment Control" chapter for more information on defining Output Queues in a user's Environment Profile.) If you like, you can also customize the print job.

Product Support and Remote Maintenance

Sterling Commerce Software Support (SSS)

General Information

Sterling Commerce Software Support (SSS) configures a temporary, dial-up connection between Sterling Commerce's Customer Service iSeries system and your system. This connection allows Sterling Commerce to directly assist you with the resolution of software problems.

The SSS connection uses display station pass-through and SNADS. This enables the support personnel to sign on to your system and diagnose the problem. If necessary, they can retrieve diagnostic data for further analysis or send you a program fix.

This allows Sterling Commerce to be responsive to critical situations that demand the ultimate in customer support.

The following commands are used to configure and control SSS:

- SSSCONFIG – Create objects and configuration entries needed for SSS
- SSSREMOVE – Delete SSS objects and configuration entries
- SSSON – Enable access to your system via SSS
- SSSOFF – Disable access to your system via SSS

SSS requires a number of objects and SNADS configuration entries. These are created when you issue the SSSCONFIG command. They will all be given names starting with SSSx, where x is the "User qualifier character" specified on the SSSCONFIG command. The user qualifier character you use will be determined by the support person with whom you are working.

System Requirements

These are the requirements for using SSS:

1. A user profile will be created by SSSCONFIG. The profile will be named SSSxUSER, where x is the user qualifier character. The SSSxUSER profile will be used by Sterling Commerce customer support to access your system.

2. A user profile with at least SECADM authority must be used to run SSSCONFIG. This is necessary to create the SSSxUSER profile and make the necessary SNADS distribution directory entries. Likewise, SECADM is required for SSSREMOVE.

3. Your system must have the subsystems QSNADS and QCMN active, and must have a communications entry for device *ALL and mode *ANY in the QCMN subsystem. You can see which subsystems are active by using the WRKSBS command. Both subsystems must appear on the Work with Subsystems display. Assuming QCMN appears, you can check for the communications entry by doing an option 5 (Display subsystem description) and then 8 (Communications entries). SSSCONFIG will not set up the subsystems or communications entry.

4. Your system must have a communications line and synchronous modem available. Your best bet is to use the line and modem that are used for IBM ECS (Electronic Customer Support). You will need to know the resource name (LINxxx) that the modem is attached to. Tell the support person working with you the phone number to dial to connect to that modem.

Sterling Commerce Software Support

Perform the following steps to configure and use Sterling Software Support:

1. Verify the availability of the system requirements listed previously. Tell the customer support person the phone number to dial to connect to your modem.

2. Use the SSSCONFIG command to configure your system to answer. Specify the user qualifier character given to you by customer support.

3. If the customer support person will need to access your Gentran:Server system, use the "Work with Environment Control" option from the GENMAIN menu to add the user id SSSxUSER that corresponds to the user profile created by SSSCONFIG.

> **NOTE**
> Replace the x in SSSxUSER with the user qualifier character from step 2.

4. Wait for the connection to be initiated by customer support.

5. When customer support has finished using the connection, use the SSSOFF command to make the SSS connection unavailable, and make your line and modem available for other uses.

6. If customer support needs to access your machine again, use the SSSON command to make the SSS connection available.

7. When the problem has been resolved to the point that customer support will no longer need to access your system, delete the SSS configuration by using the SSSREMOVE command. Specify the same user qualifier character that was used for SSSCONFIG.

Command Descriptions

SSSCONFIG

The SSSCONFIG command is used to configure your system to run Sterling Software Support. This includes creating line, controller, and device descriptions, creating the SSSxUSER profile, and adding the entries needed for SNADS. To make them easy to identify, all of the objects created will have names starting with SSSx, where x is the user qualifier character.

When prompted using **F4**, the SSSCONFIG command appears as (Figure 2.15):

```
                  Config Sterling Commerce Supt. (SSSCONFIG)

Type choices, press Enter.

User qualifier character . . . .                A-Z
Comm Line Resource Name  . . . .   CMN01         Name
Configure this system to . . . .   *ANS          *ANS, *DIAL

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 2.15 SSCONFIG Command

NOTE

The SSSCONFIG command requires at least SECADM authority to run. Since not everyone has SECADM authority, you may need to get the system administrator to run the SSSCONFIG command.

Once configured, the system can be enabled and disabled without any special authority, so the system administrator will not be needed again until you want to delete the SSS configuration.

Field Definitions

User Qualifier Character

This parameter specifies the character that will be used to qualify all names of objects used for the SSS connection. For example, if the user qualifier is A, the profile SSSAUSER will be created, and the session will use line SSSALN, controller SSSACT, and device SSSADV. The support person you are working with will tell you the user qualifier character to use.

Comm Line Resource Name

This parameter specifies the iSeries line name that is attached to the modem and phone line that you want to use. The field will initially be displayed with the default: CMN01.

Configure this System to

This parameter determines whether your system will be configured to dial or answer the call. The Sterling Commerce system will initiate the connection to your system, so you should always accept the default of *ANS.

Model Profile for SSSxUSER

The Model profile parameter specifies the user profile that will be copied to create SSSxUSER. The SSSxUSER profile does not have to have any special authority and can be modeled after any profile on your system.

RECOMMENDATION

Ideally, the SSSxUSER profile should be modeled after the profile used by the person working with customer support. That way, when customer support signs on as SSSxUSER, they will have the same library list, job description, authorities, and see the same displays and menus as the person with whom they are working.

SSSxUSER Profile Password

You may optionally specify the password that will be assigned to the SSSxUSER profile. If you do not specify one, it will default to *USRPRF, which will make the password the same as the user profile name. Obviously, the password you choose is a security consideration.

As the SSSCONFIG command configures your system, progress messages will be displayed. The command should complete in a minute or two. If it completes successfully, your system will be waiting to answer a call from Sterling Commerce's customer service system.

SSSREMOVE

The SSSREMOVE command allows you to "clean up" your system after Sterling Commerce customer support has finished using SSS. It will delete all the objects and SNADS entries that SSS created. It will not delete the SSS programs and commands, so SSS can be reconfigured any time you need it.

NOTE

This command must be run from a user profile with at least SECADM authority.

You must not be signed on as SSSxUSER when you issue the SSSREMOVE command, because it needs to delete the user profile.

The SSSREMOVE command requires one parameter, which is the user qualifier character. Specify the same user qualifier character that was used on the SSSCONFIG command.

SSSON

The SSSON command varies on the line (SSSxLN), controller (SSSxCT), and device (SSSxDV) used by SSS and verifies that they achieve the proper state for connection. If they do not, a warning message will be issued.

When the line, controller, and device are varied on, the communications line and modem are available for SSS, and are not available for other uses.

The line, controller, and device must be varied on before the modem will answer calls and allow a connection to be established.

The SSSON command accepts one optional parameter: the user qualifier character. You should not need to specify this parameter.

SSSOFF

The SSSOFF command varies off the line, controller, and device and verifies that they all achieve varied off status.

You should use the SSSOFF command after Sterling Commerce has finished using your machine. This stops your system from answering calls, and makes the SSS connection temporarily unavailable. If Sterling Commerce needs to access your system again, you can use the SSSON command to make the connection available.

Varying off the configuration makes the communications line and modem available for other uses, such as ECS. Therefore, you should always keep the configuration varied off when the SSS connection is not needed.

The SSSOFF command accepts one optional parameter: the user qualifier character. You should not need to specify this parameter.

Command Examples

Example 1: SSSCONFIG QUALIFIER(A)

This command will configure SSS to answer calls on the default, CMN01, and will create a user profile called SSSAUSER with password SSSAUSER. The SSSAUSER profile will be a copy of the profile that issues the SSSCONFIG command.

After completing the SSSCONFIG command, the SSS system will be varied on and waiting to answer a call.

NOTE

The user profile issuing the SSSCONFIG command must have at least SECADM authority. Therefore, the SSSAUSER profile in this example would be created with equivalent authority because the MODEL parameter was allowed to default to *CURRENT.

Example 2: SSSCONFIG QUALIFIER(B) LINE(LIN031) MODEL(JOE)

This command will configure SSS to answer calls on LIN031. It will create an SSSBUSER profile that is a copy of the user profile JOE, with password SSSBUSER.

After completing this command, the SSS system will be varied on and waiting to answer a call.

Example 3: SSSREMOVE QUALIFIER(A)

This command will delete all SSSA objects and SSSA SNADS configuration entries from your system.

Chapter

3 Environment Control

In this Chapter

- What is Environment Control? 3-1
- What Does the Environment Control Subsystem Do? 3-2
- Panel Quick Reference 3-2
- Environment Control Panels 3-3
- Define the Environment Profile 3-7
- Define the Security Profile 3-8
- Reports 3-14
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What is Environment Control?

Environment Control is an administration tool for creating and managing Gentran:Server user profiles for each user on the system. In this chapter, the term "user profile" refers to the combination of these two files:

1. **Environment profile** – parameters (such as the User ID, Name, Division, Output Queue, Language ID, Date Format, etc.) that affect the environment in which the user runs jobs

2. **Security profile** – authority codes that define which Gentran:Server subsystems and functions the user can access and whether the user has privilege to view data only or to update data

What Does the Environment Control Subsystem Do?

The Environment Control subsystem provides these capabilities:

- Add new users by creating a new user profile or copying an existing one.
- View, modify, or delete existing user profiles.
- Define environment options that control how the user's jobs run.
- Identify which subsystems and functions each user can access.
- Define each user's update privileges for the subsystems and/or functions to which they have access.

Panel Quick Reference

The following table gives the purpose and access methods for the primary Environment Control panels.

Panel Name	Purpose	Access Methods
EDIX200-FMT01 Work with Environment Control	Create, revise, copy, delete, or view a user profile.	■ Select option **3** on the GENMAIN Menu. ■ Enter **EXCPGM EDIX200** on the command line.
EDIX201-FMT01 Environ. Control	Define the user's environment profile.	■ Select an option and User ID on panel EDIX200-FMT01. ■ Enter **EXCPGM EDIX201** on the command line.
EDIX201-CTL02 Environ. Control	Define the user's security profile.	■ Press **Enter** or **F8** on panel EDIX201-FMT01. ■ Press **F10** in create mode on panel EDIX201-FMT01.
PRTENV Print Environment Control	Print an environmental control profile	■ Select option **6** (Print) on panel EDIX200-FMT01. ■ Press **F21** (Prt Env) on panel EDIX201-FMT01 or EDIX201-CTL02. ■ Enter **PRTENV** on the command line.

Environment Control Panels

Access the Subsystem

To access the Environment Control subsystem, select option **3** (Work with Environment Control) on the GENMAIN menu, as shown in Figure 3.1.

```
GENMAIN          Gentran:Server for iSeries Communications 3.4
                                                    System:   ISDDEV01
Select one of the following:

     1. Communications Menu                    (GENCOM)
     2. Work with Job Scheduler
     3. Work with Environment Control
     4. System Configuration Menu              (GENSYSCFG)

    10. Gentran:Server Search Index

    13. Gentran File Tracking Menu             (GENFILETRK)

    90. Sign off




                                                                  Bottom
Selection or command
===>
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Figure 3.1 Access the Environment Control subsystem from GENMAIN

Manage User Profiles

After you select the Environment Control subsystem on the GENMAIN menu, the next panel that appears is the Work with Environment Control panel (EDIX200-FMT01). This panel lists all User IDs currently defined on the Gentran:Server system.

NOTE

All Gentran:Server User IDs must be valid User IDs on the iSeries system. See your Security Officer (QSECOFR) for the iSeries User IDs for your site.

Figure 3.2 shows panel EDIX200-FMT01 and three ways to use it.

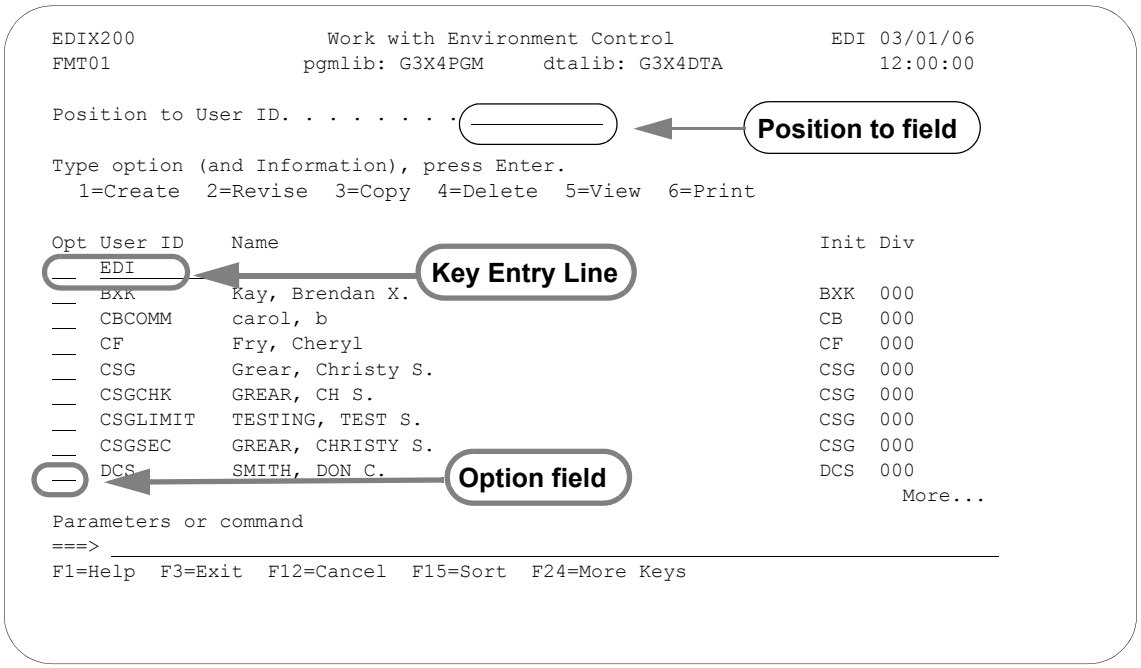

Figure 3.2 Work with Environment Control panel (EDIX200-FMT01)

Select an Option

The Work with Environment Control panel (EDIX200-FMT01) has five options:

- 1 = Create a new user profile
- 2 = Revise an existing user profile
- 3 = Copy an existing user profile to create a new user profile
- 4 = Delete an existing user profile
- 5 = View an existing user profile

To create a user profile, you must specify a valid iSeries user profile that is not yet defined in Gentran:Server. All other options (revise, copy, delete, and view) can be performed only after a User ID has been created in Gentran:Server.

Specify a User ID

There are three ways to specify a User ID on panel EDIX200-FMT01:

Use the option field

Move the cursor next to the User ID you want to select, type the appropriate option (**2**, **3**, **4**, or **5**) in the option field and press Enter.

Use the key entry line

Type the appropriate option (**1**, **2**, **3**, **4**, or **5**) and the User ID on the key entry line and press Enter. When creating a new User ID from scratch, the key entry line must be used.

Use the Position to field

Type a complete or partial User ID in the Position to User ID field and press Enter. The system displays the closest match at the top of the list of users. To select a User ID, you still have to use one of the methods above.

Create a User Profile

Use this option if you are creating a *new* User Profile. If you are adding a user who will have the same security profile as a current user on the system, it might be easier to use option **3** (Copy).

1. Type **1** and the new User ID on the key entry line and press **Enter**. (The value you enter for User ID must be a valid iSeries User ID.)

2. The system displays the Environment Control panel (EDIX201-FMT01), which defines the user's environment profile. (This panel is shown later in the chapter.) *Notice that the field entries are the environment parameters from the user's iSeries user profile.* Change the appropriate fields and press **Enter**, **F8** (Next), or **F10** (Update).

   When you create a new Gentran:Server User ID through the copy option, the system copies the specified environment profile as it currently exists. The copy option does not retrieve the parameters from the user's iSeries user profile.

3. The system advances to the Environment Control panel (EDIX201-CTL02), which defines the user's Security Profile. (This panel is also described later in the chapter.) Change the appropriate authority codes and press **F10** (Update).

4. The system adds the new Gentran:Server User ID and returns to the Work with Environment Control panel (EDIX200-FMT01).

Revise a User Profile

1. Type **2** in the option field next to the appropriate User ID and press **Enter**.

   —OR—

   Type **2** and the User ID on the key entry line and press **Enter**.

2. The system displays the Environment Control panel (EDIX201-FMT01), which defines the Environment Profile. (This panel is shown later in the chapter.) Type the new information in the appropriate fields and press **Enter** or **F8** (Next).

3. The system displays the Environment Control panel (EDIX201-CTL02), which defines the user's Security Profile. (This panel is also described later in the chapter.) Change the appropriate authority codes and press **F10** (Update).

Copy an Existing User Profile

1. Type **3** in the option field next to the appropriate User ID and press **Enter**.

   —OR—

   Type **3** and the existing User ID on the key entry line and press **Enter**.

2. A pop-up window appears with a single field "Copy To". Enter the User ID for the new User Profile in this field. (Remember that you must enter a valid iSeries User ID.) The system displays panel EDIX201-FMT01.

3. If you need to make changes to the new User Profile, follow Steps 2, 3, and 4 under "Creating a User Profile".

Delete a User Profile

1. Type **4** in the option field next to the appropriate User ID and press **Enter**.

   —OR —

   Type **4** and the User ID on the key entry line and press **Enter**.

2. Confirm that you want to delete the record by pressing **F11** (Delete). To cancel the Delete function, press **F12** (Cancel).

View an Existing User Profile

1. Type **5** in the option field next to the appropriate User ID and press **Enter**.

   —OR—

   Type **5** and the User ID on the key entry line and press **Enter**.

2. The system displays the Environment Control panel (EDIX201-FMT01), which defines the environment profile and is described later in the section.

3. To view the security profile, press **Enter** or **F8** (Next) and the system displays the Environment Control panel (EDIX201-CTL02), which is described later in the section.

Define the Environment Profile

The Environment Control panel (EDIX201-FMT01), as shown in Figure 3.3, defines a user's environment profile. The fields on this panel determine the controlling environment under which processing runs.

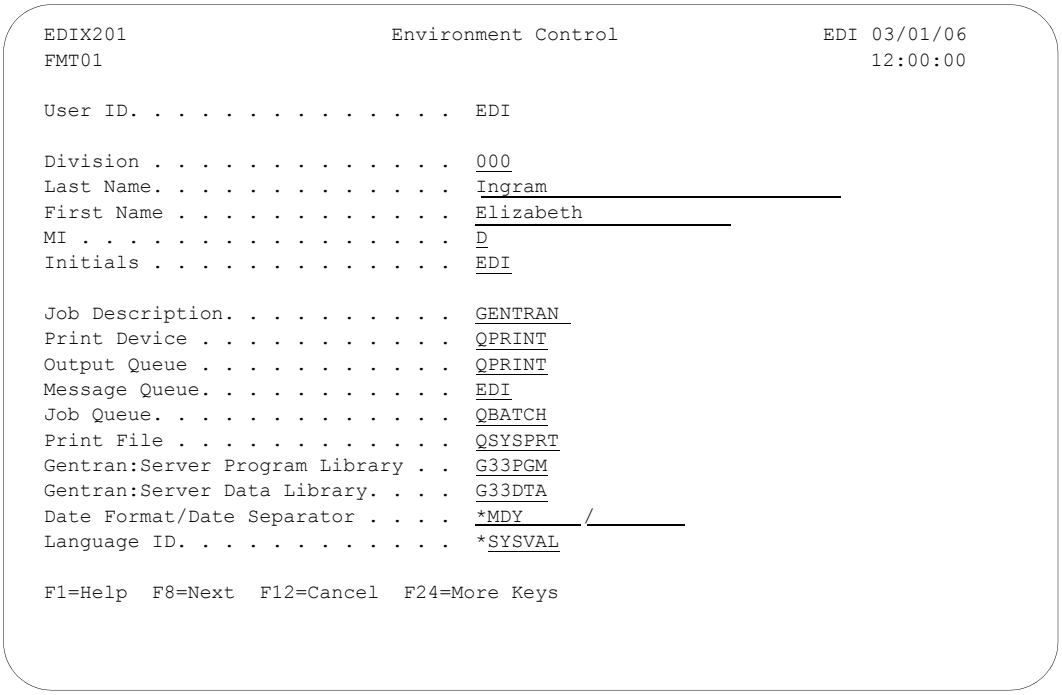

Figure 3.3 Environment Control panel (EDIX201-FMT01)

When you first access panel EDIX201-FMT01 to create a new user, the fields contain the run time parameters from the user's iSeries user profile. (SEE the iSeries documentation or your Security Officer (QSECOFR) for more information.) *Any values you change on this panel will override the user's iSeries options for Gentran jobs that are executed.*

Field Information

This section contains information about specific fields, and in some cases, recommendations for settings.

Output Queue Field

For the Output Queue field, we recommend you specify a queue that is ***not*** associated with an active writer. This allows both system-generated and user-generated reports to be spooled rather than printed immediately. At any time, you can print the spooled output by moving it to a queue associated with an active writer. (SEE the iSeries online help for more information about queues, devices, and printing.)

Date Format and Date Separator Fields

The default value in both the Date Format and Date Separator fields is `*SYSVAL`. When `*SYSVAL` is used, Gentran:Server retrieves the date format from the system value in QDATFMT and the date separator from the system value in QDATSEP. To see a list of valid options for the current field, press **F4** (Prompt). If new values are specified, the following dates are impacted by these settings.

- Date fields on panels (excluding commands, which are controlled through the system configuration file – see Note below)
- Report dates

NOTE

To apply these date settings to command panels, use **`*ENVCTL`** as the value in the 'Set Gentran Date Formats for Commands' option on the system configuration file. (SEE the "System Configuration" chapter in this guide for more information.)

Define the Security Profile

Gentran:Server uses a hierarchical security scheme based on authority codes that are defined at three levels: subsystem, function, and data. These authority codes determine both the user's system access and data update privileges.

The Environment Control panel (EDIX201-CTL02) defines a user's security profile. This panel allows the EDI Coordinator to control each user's access to whole subsystems and to individual functions within subsystems. Panel EDIX201-CTL02 also determines the data privileges (view only or update) for the subsystems and/or functions to which the user has access.

RECOMMENDATION

The EDI Coordinator (System Administrator) and iSeries Security Officer (QSECOFR) should be the only ones with update access to the Environment Control panel (EDIX201-CTL02). This is necessary to protect the integrity of the system.

Figure 3.4 shows the primary components on the Environment Control panel (EDIX201-CTL02).

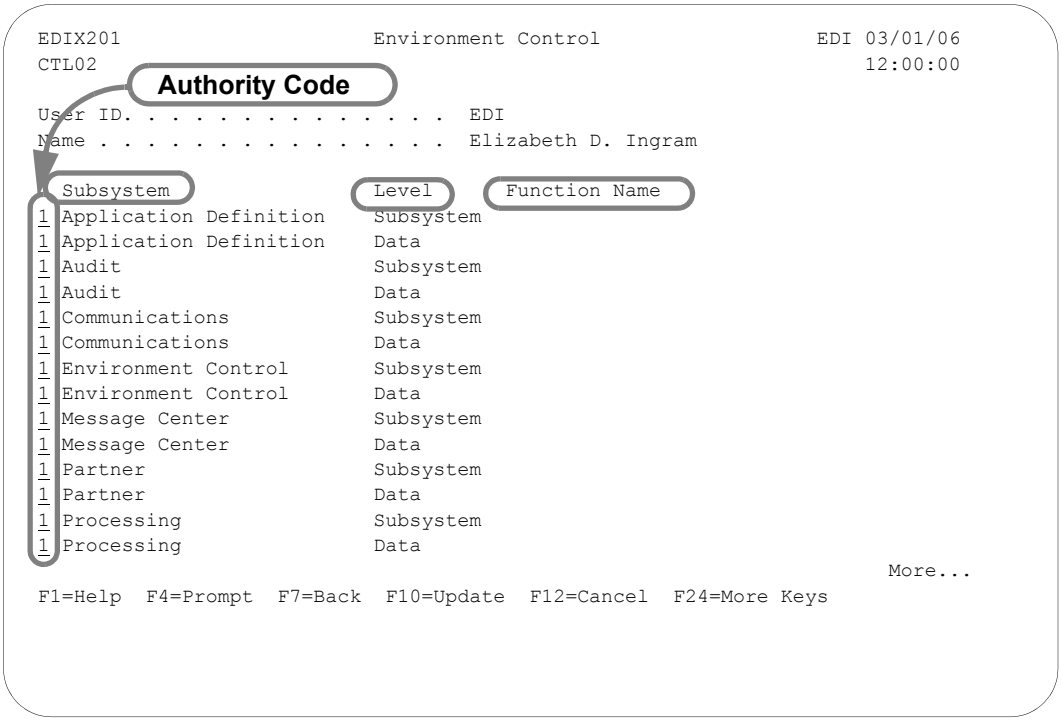

Figure 3.4 Environment Control panel (EDIX201-CTL02)

NOTE

All the subsystems in the Gentran:Server product are displayed even if you only have the Communications Module installed.

As you work with panel EDIX201-CTL02, keep in mind that you can use online help to display the valid authority codes (and their meanings) for each level. To do this, move the cursor to the authority code field and press **F1** (Help). To select a code, press **F4** (Prompt).

When you create a new user profile, all the authority codes are initially set to **1**. To change the authority codes, move the cursor and type over the existing value. When you finish making changes, press **Enter** or **F10** (Update). Press **Enter** to resequence information on the panel (the subsystem, function, and data level entries) based on the new authority codes you typed on the panel. Press **F10** (Update) to confirm the add of the new user profile and return to the Work with Environment Control panel (EDIX200-FMT01).

Define Authority Codes

To fully explain the authority codes, we must first define the other fields on the Environment Control panel (EDIX201-CTL02).

Subsystem

This field lists the subsystems (the asterisks indicate subsystems included in the Communications Module):

- Application Definition
- Audit
- Communications*
- Environment Control*
- Partner
- Gentran:Server Processing
- SAP Extension
- Standards
- Gentran:Server System Administration (*Job Scheduler and System Configuration)
- Transaction Mapping
- Viewpoint

NOTE

The Utilities subsystem also appears on the list of Gentran:Server subsystems on the Environment Control panel (EDIX201-CTL02). This subsystem is for *internal use only*. The authority code should be set to **1**.

Level

This field defines the scope of the authority code. Security can be defined for these three levels:

- **Subsystem** – The authority code applies to accessing the whole subsystem identified underneath "Subsystem" on the panel.
- **Function** – The authority code applies to accessing the *part* of the subsystem identified underneath "Function Name" on the panel. Function names are either panel names (like Work with Application Definition and Application Fields) or **F4** (Prompt) windows such as Application Definition Search. Function levels appear on the panel only if the Subsystem level authority code is **2** (partial access). The valid values for authority codes are explained under "Authority Codes".
- **Data** – The authority code applies to the data on the panels within the whole subsystem (if the Subsystem level authority code is **1**) or within a function (if the Subsystem level authority code is **2**). Data levels *do not* appear on the panel if the Subsystem level authority code is **3** (no access).

Function Name

When the Level field is set to Function, there is an entry in the Function Name field, otherwise this field is blank. The function name consists of the program or command name and a corresponding description.

Authority Codes

The authority codes vary in meaning based on whether the Level field (two columns to the right of the authority code) contains "Subsystem", "Function", or "Data".

Subsystem Level Authority Codes

Subsystem level can have an authority code of **1**, **2**, or **3**, as explained below.

1 ALL – The user has access to the entire subsystem. When the Subsystem level authority code is **1**, the panel does not display individual functions since the user has access to all functions in the subsystem. The panel displays the Data level authority code, which determines the user's data update privileges for the given subsystem. In the security profiles for the EDI coordinator and Security Officer (QSECOFR), every Subsystem level authority code should be **1**.

2 PARTIAL – The user's access to the subsystem is defined on a function-by-function basis. Access is determined by the authority code on each line that contains **Function** in the Level field. (SEE "Function" below for details.) When the Subsystem level authority code is **2**, the panel displays all the functions in the subsystem, with an authority code associated with each one. The panel also displays the Data level authority codes, which determines the user's data update privileges for the subsystem.

NOTE

The Subsystem level authority code must be set to **2** (PARTIAL) if you want to define access at the Function level (on a function-by-function basis).

3 NONE – The user *cannot* access the subsystem. (The subsystem still appears on the GENMAIN menu, but the user cannot access the subsystem panels.) When the Subsystem level authority code is **3**, the panel does not display Function level or Data level authority codes since they have no meaning in this case.

Function Level Authority Codes

Function level can have an authority code of **1** or **3**, as explained below.

1 ALL – The user can access the function listed under "Function Name".

3 NONE – The user *cannot* access the function listed under "Function Name".

Data Level Authority Codes

NOTE

The Data level authority code determines the user's data update privileges for the subsystem. *To define Data level privileges, the Subsystem level authority code must be set to* **1** *(ALL) or* **2** *(PARTIAL)*.

If the Subsystem level authority code is **1**, then the Data level code applies to the data on any panel within the whole subsystem.

If the Subsystem level authority code is **2**, then the Data level authority code applies to data on only those panels within the given function.

Data level can have an authority code of **1**, **2**, or **3**, as explained below.

1 ALL – The user can update the data if the Update Allowed field is set to **Y**. The user can change the Update Allowed field.

2 PARTIAL – The user can update the data if the Update Allowed field is **Y**. The user has display only rights if the Update Allowed field is **N**. The user *cannot* change the Update Allowed field.

3 NONE – The user can only display the data. The user *cannot* change the data or the Update Allowed field.

Quick Reference for Setting Authority Codes

The following table gives an overview of the security scheme. It shows the possible combinations of authority codes and their meanings.

Subsystem Level Authority Code:	**Function** Level Authority Code:	**Data** Level Authority Code:	User's Rights:
1	—	1	Access *all* functions within the subsystem. Can update data if the Update Allowed field is **`Y`**. Can change the Update Allowed field.
1	—	2	Access *all* functions within the subsystem. Can update data if the Update Allowed field is **`Y`**. *Cannot* change the Update Allowed field.
1	—	3	Access *all* functions within the subsystem with view only privileges.
2	1	1	Access the given function. Can update data if the Update Allowed field is **`Y`**. Can change the Update Allowed field.
2	1	2	Access the given function. Can update data if the Update Allowed field is **`Y`**. *Cannot* change the Update Allowed field.
2	1	3	Access the given function with view only privileges
2	3	—	*Cannot* access the function.
3	—	—	*Cannot* access the subsystem.

Reports

EBDI201—Environment Control Report

Contents of the Report

The Environment Control Report contains information about the user's profile and authority assigned to each subsystem.

How to Identify the Report

The identifier "EBDI201" displays in the upper left corner of the report. The report title "ENVIRONMENT CONTROL PROFILE REPORT" displays in the center at the top of the report. The identifier "EBDI201" also displays in the User Data field associated with the spooled report in the Output Queue.

How to Generate the Report

This is a user-generated report. It can be generated by selecting option '6' (Print) on the Work with Environment Control panel (EDIX200-FMT01) and entering the appropriate information on the Print Environment Control (PRTENV) panel. It can also be generated by pressing F21 (Prt Env) on the environment control panels.

Special Considerations

Like all other Gentran:Server reports, the Environment Control Profile Report automatically goes to the Output Queue defined for the user running the job.

Sample Report

```
EBDI201       RUN DATE 03-01-06              ENVIRONMENT CONTROL PROFILE REPORT              RUN TIME 16:40:06      PAGE    1
   USER ID. . . . . . . QSECOFR        JOB DESCRIPTION. . . GENTRAN        PRINT FILE. . . . . . . . . . . . . QSYSPRT
   DIVISION . . . . . . 000            PRINT DEVICE . . . . PRTHOLD        GENTRAN:SERVER PROGRAM LIBRARY. . . G3X4PGM
   LAST NAME. . . . . . Officer     OUTPUT QUEUE . . . . PRTHOLD        GENTRAN:SERVER DATA LIBRARY . . . . G3X4TSTDTA
   FIRST NAME . . . . . Security       MESSAGE QUEUE. . . . QSECOFR        DATE FORMAT/DATE SEPARATOR. . . . . *SYSVAL  *SYSVAL
   MIDDLE INITIAL . . .                JOB QUEUE. . . . . . QBATCH         LANGUAGE ID . . . . . . . . . . . . ENU
   INITIALS . . . . . . SEC
   SEC    SUBSYSTEM                       LEVEL            FUNCTION    NAME
-------------------------------------------------------------------------------------------------------------------------------
    1     Application Definition          Subsystem
    1     Application Definition          Function         APPCPY      Copy Application ID
    1     Application Definition          Function         APPRENBR    Application Renumber
    1     Application Definition          Function         APPSYNCH    Application Synchronization
    1     Application Definition          Function         EDIX550     Work with Application Definition
    1     Application Definition          Function         EDIX551     Application Definition Search
    1     Application Definition          Function         EDIX552     Application Definition
    1     Application Definition          Function         EDIX553     Application Records
    1     Application Definition          Function         EDIX554     Application Fields
    1     Application Definition          Function         EDIX556     Application Key Structure
    1     Application Definition          Function         EDIX556S    Application Field Key Prompt
    1     Application Definition          Function         EDIX559     Application Partner Reference
    1     Application Definition          Function         EDIX559S    Application Partner Reference Prompt
    1     Application Definition          Function         EDIX560     Application Envelope Definition
    1     Application Definition          Function         EZAPPDEF    ez Application Definition
    1     Application Definition          Function         EZAPPDEF2   ez Application Definition
    1     Application Definition          Function         PRTAPP      Print Application Definition
    1     Application Definition          Data
    1     Audit                           Subsystem
    1     Audit                           Function         AUDITPURGE  Purge Audit (AUDITPURGE)
    1     Audit                           Function         EBDIEDIT    Edit Extracted Edi Data for Requeue
    1     Audit                           Function         EDIX251     Work with Audit Interchange Status
    1     Audit                           Function         EDIX252     Work with Audit Group Status
    1     Audit                           Function         EDIX253     Work with Audit Transaction Status
    1     Audit                           Function         EDIX254     Audit Acknowledgements
    1     Audit                           Function         EDIX255     Audit Deletes
    1     Audit                           Function         EDIX256     Audit Interchange Search
    1     Audit                           Function         EDIX257     Audit Group Search
    1     Audit                           Function         EDIX259     Work with Selected Audit Records
    1     Audit                           Function         EDIX451     Audit Interchange Data Inquiry
    1     Audit                           Function         EDIX452     Audit Group Data Inquiry
    1     Audit                           Function         EDIX453     Audit Transaction Data Inquiry
    1     Audit                           Function         EDIX454     Segment Inquiry
    1     Audit                           Function         EDIX455     Data Element Definition
    1     Audit                           Function         GENAUD      Audit Menu
    1     Audit                           Function         PRGAUD      Purge Audit
    1     Audit                           Function         PRGNET      Purge Network Status File
    1     Audit                           Function         PRTAUD      Print Audit
    1     Audit                           Function         PRTNETSTS   Print Network Status Report
    1     Audit                           Function         REQUEUE     Requeue EDI Data from Audit
    1     Audit                           Function         RTVAUD      Retrieve Audit
    1     Audit                           Function         RTVNET      Retrieve Network Status File
    1     Audit                           Function         SLTAUD      Audit Search Utility
    1     Audit                           Data
    1     Communications                  Subsystem
    1     Communications                  Function         CHGDUP      Change Duplex
    1     Communications                  Function         CHGNRZI     Change NRZI Setting
    1     Communications                  Function         CHGPHNUM    Change Phone Number
                                                         Sterling Commerce
```

Fields on the Environment Control Profile Report (EBDI201)

Field Name	Description
Report Header	
User ID	Displays the user ID.
Job Description	Specifies the job description under which the Gentran server jobs are executed.
Print File	Displays the type of output for printed document.
Division	Displays the division.
Print Device	Displays the printer where the output is directed.
Gentran:Server Program Library	Name of the library where all Gentran:Server programs are stored.
Last Name	Displays the user's last name.
Output Queue	Specifies the name of the output queue to which the output files will be printed.
Gentran:Server Data Library	Specifies the name of the library where all Gentran:Server data files are stored.
First Name	Displays the user's first name.
Message Queue	Specifies the name of the queue where the messages are stored.
Date Format/ Date Separator	Specifies the format and separator used when displaying dates on screen and in printed reports.
Middle Initial	Displays the user's middle initial.
Job Queue	Specifies the name of the job queue to which the jobs are submitted.
Language ID	Identifies the language-specific message file for Gentran processing.
Initials	Displays the three-letter initials of the user.
Detail Section	
Sec(urity) Code	Identifies whether the user can access a subsystem or function.
Subsystem	Identifies the name of the subsystem.
Level	Displays the level of security.
Function	Displays the name of the program or command.
Name	Displays a description of the program or command.

Common Questions

What if I want two Gentran:Server User IDs?

If you are both the QSECOFR (or EDI Coordinator) and a Gentran:Server user, you may want two User IDs with different Security Profiles. Another reason for two User IDs is to define two different environment profiles (i.e. different job descriptions or division codes).

To have two Gentran:Server User IDs, you need two separate iSeries User IDs and then follow the steps in "Creating a User ID."

How can I create a uniform running environment for multiple users?

When multiple users are using Gentran:Server, it is typical for each user to have their own environment and security profile for testing. For production processing in this scenario, it is more appropriate to set up a unique user that will always have the same environment parameters. You may choose to create an iSeries user profile called "COM" and then create a Gentran:Server user profile for this User ID with specific environment parameters. This User ID could be used for scheduling jobs or submitting jobs manually for all production work.

The dates on command panels are showing in a different format from the dates on panels and reports – why are they different?

The format for dates displayed on panels (other than commands) is controlled through each user's Gentran:Server environment profile. The date format for command panels is controlled by the Gentran:Server System Configuration file. If you prefer to have each individual user's environment profile settings apply, however, make **`*ENVCTL`** the value in the 'Set Gentran Date Format' option in the system configuration file.

Previously, date parameters on commands were defined to use IBM's **`*DATE`** attribute to allow for automatic date validation, which required the date to be entered in the job-date format. With the Gentran:Server for iSeries Communications Module Release 3.1 and higher, you can decide which format to use when entering dates on commands.

NOTE

See "Define the Environment Profile" on page 7 in this chapter for more information about setting up environment profiles, and see the "System Configuration" chapter in this guide for more information about working with the system configuration file.

Chapter

4 Using Communications

In this Chapter

Gentran:Server for iSeries Communications Module allows you to configure, operate, and manage communications between your system and third-party networks or direct communication partners. This chapter includes specific information and exercises to help you set up and manage your communications. This chapter covers the following topics:

- What Is Communications? 4-2
- What Does the Communications Subsystem Do? 4-2
- Take a Closer Look at Communications 4-3
- Panel Quick Reference 4-5
- Access the Communications Subsystem 4-11
- Communications Setup 4-14
  - Communication Profiles 4-15
  - Communications Session Control Scripts 4-27
  - Network Scripts 4-37
- Copy Profiles and Scripts 4-57
- Operations and Management of Communications 4-63
  - Initiate Communication Sessions 4-64
  - Monitor Active Communication Sessions 4-70
  - View the Communications History Log 4-72
  - Manage the Outbound Queue 4-78
  - Manage the Inbound Queue 4-91
  - Purge the Communications Files 4-108
- Use the ezCOMM Command 4-117
- Reports 4-120
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What Is Communications?

Communications is the process by which you send/receive data to/from value-added networks (VANs) or direct communication partners. To do this, you must define communication profiles, write and/or copy scripts, and initiate communication sessions. Successful communications requires hardware information related to modems, dialers, and lines, as well as software related information such as options regarding record separators and blank suppression.

What Does the Communications Subsystem Do?

The Communications subsystem provides the following capabilities:

- Create, copy, and maintain Communication Profiles and scripts (predefined profiles and scripts are provided for major EDI networks).
- Initiate and terminate communication sessions.
- Monitor active communication sessions.
- Manage the data in the Inbound and Outbound Queues (repositories for the EDI data that is sent and received).
- View the Communication History log to see the results of communication sessions.
- Purge and retrieve the History log and the Inbound and Outbound Queues.
- Perform Dynamic Scripting and Remote Command Support.
- Continuously process communication sessions.
- Perform a Communications Trace for troubleshooting.

Take a Closer Look at Communications

The Communications feature can be divided into two major components: the communications setup (profiles and scripts) and the operations and management of communications.

Communications Setup

Gentran:Server provides predefined communication profiles (comm profiles) and scripts for the major EDI networks. When setting up for your communication sessions, you can modify one of these predefined profiles or create a new profile with the information about your configuration.

The profile contains information (i.e., protocol, manual or auto dial, the number to dial) necessary to establish and use the link to the remote system. The script defines the "conversation" that the two systems conduct over the communications line.

Gentran:Server provides a utility, the Network Profile feature, that can be used with most of the predefined profiles and scripts for quick "customizing." It recognizes the network values and replaces them with your identifiers supplied by the VAN, such as the Mailbox ID and the password. This utility can be used with any profile classified as a "network profile."

NOTE

Due to the uniqueness of each implementation, the predefined Communication scripts are provided as examples only and are intended to assist in getting you started. Please read the *User Guide* provided by your value-added network or communication partner to ensure that the setup correctly reflects their specific requirements.

Operations and Management of Communications

Operations refers to the initiation and monitoring of communication sessions. A "session" is when the actual transfer of data occurs. Each session is a planned connection between your system and a specific network or a particular direct communication partner. The Start Communications Session (STRCOMSSN) command can be run one of three ways:

- Scheduled to run in batch at a later time
- Submitted to run in batch immediately
- Executed interactively (immediately)

NOTE

SEE the "Job Scheduler" chapter in this guide for more information on scheduling communication sessions.

Active sessions can be monitored from within Gentran:Server allowing the user to perform all operational tasks on the session from a central location. Effective management of the communications data is an essential process in the day-to-day operation of your Communications system. This includes managing and controlling the actual data to queue, de-queue, view, purge, and retrieve. Details of all comm sessions can be viewed in the History log and later purged. Periodic purges help to maintain efficient throughput.

Figure 4.1 depicts the Communications subsystem.

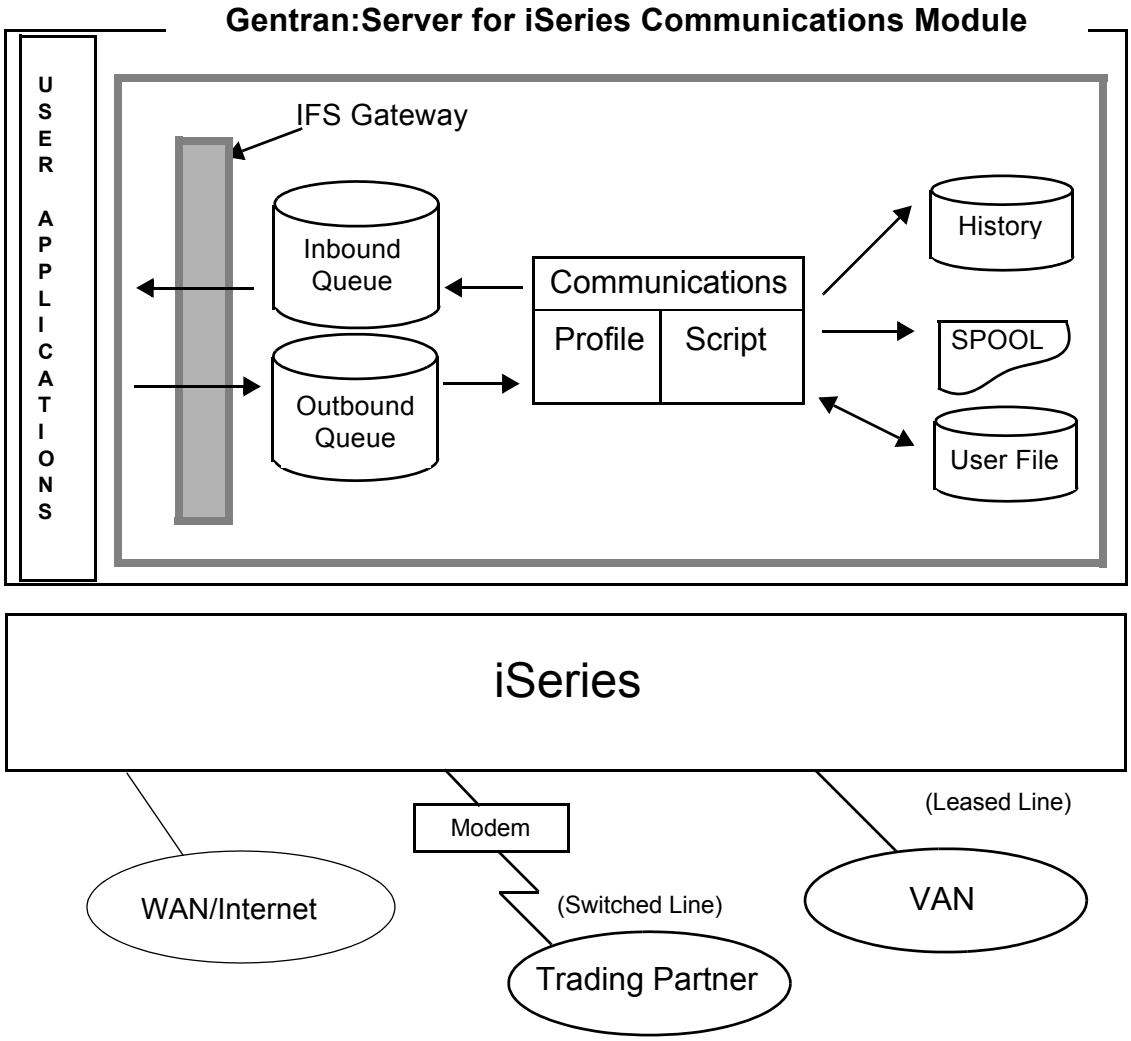


Figure 4.1 Communications Subsystem Diagram

Panel Quick Reference

The following table gives the purpose and access method for all of the Work with Communication panels in this chapter.

Panel Name	Purpose	Access Methods
Gentran:Server Communications Menu (GENCOM)	Access all communications functions.	■ Select option **1** on the GENMAIN menu. ■ Enter **GO GENCOM** on the command line.
EDIX400-FMT01 Work with Communications	Access all Communications functions.	■ Select option **1** on the GENCOM menu. ■ Enter **EXCPGM EDIX400** on the command line.
EDIX401-FMT01 Communication Profile — Part 1	Define the Protocol and FIFO/LIFO method.	■ Select an option (1-5) on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX401** on the command line.
EDIX401-FMTnn Communication Profile — Part 2 (where 'nn' is 02 – 09)	Define the configuration information for the profile. Formats will vary depending on the protocol.	■ Press **Enter** or **F8** (Next) on panel EDIX401-FMT01. ■ Press **F10** (Update) in add mode on panel EDIX401.
EDIX401-FMT20 Communication Profile — Part 3	Define the line, controller, and device description.	■ Press **Enter** or **F8** (Next) on Communications Profile Part 2 (EDIX401-FMT02 thru EDIX401-FMT09).
EDIX819-FMT01 Communication Line/Control/ Device	View or revise the line, control, and device description names.	■ Select option **11** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX819** on the command line.
EDIX402-FMT01 Work with Communications Session	Access session control scripts for comm profiles.	■ Select option **2** on the GENCOM menu. ■ Select option **12** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX402** on the command line.
EDIX403-CTL01 Communication Session Control	Define detailed instructions (action data) for a session script.	■ Select option **1** or **2** on panel EDIX402-FMT01. ■ Enter **EXCPGM EDIX403** on the command line.

Panel Name	Purpose	Access Methods
EDIX43B-FMT01 Communication Session Control Extended Parms	Define extended parameters for each script record or maintain the "command" in hex mode.	■ Select option **11** on panel EDIX403-FMT01. ■ Enter **EXCPGM EDIX43B** on the command line.
EDIX43C-FMT01 Communication Evoke	Define the Evoke record used for X62 and L62 protocols to start a comm session on a remote system.	■ Add a script record on panel EDIX403-CTL01 with Tran type **E**. ■ Press **F13** (Services) on panel EDIX403 or EDIX43B and select the option for 'Communication Evoke'. ■ Enter **EXCPGM EDIX43C** on the command line.
EDIX817-FMT01 Work with Communication Jobs	Monitor and control active comm jobs.	■ Select option **6** on the GENCOM menu. ■ Select option **13** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX817** on the command line.
EDIX406-FMT01 Work with Communications History Log	View the history information for previous communication sessions.	■ Select option **3** on the GENCOM menu. ■ Select option **14** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX406** on the command line.
EDIX404-FMT01 Work with Outbound Queue Control	Access Outbound data and change the status of batches.	■ Select option **4** on the GENCOM menu. ■ Select option **15** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX404** on the command line.
EDIX405 Outbound Queue Inquiry	View the actual data on a selected Outbound batch.	■ Select option **5** on panel EDIX404-FMT01. ■ Select option **11** on panel EDIX406-FMT01 for an Outbound session.
EDIX407-FMT01 Work with Inbound Queue Control	Access Inbound data and change the status of batches.	■ Select option **5** on the GENCOM menu. ■ Select option **16** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX407** on the command line.

Panel Name	Purpose	Access Methods
EDIX408 Inbound Queue Inquiry	View the actual data in a selected Inbound batch.	■ Select option **5** on panel EDIX407-FMT01. ■ Select option **11** on panel EDIX406-FMT01 for an Inbound session.
EDIX820-FMT01 Work with Network Profiles	Access network profiles that can be used by the automatic network update utility.	■ Select option **7** on the GENCOM menu. ■ Select option **17** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX820** on the command line.
EDIX821-FMT01 Network Profiles	Define the network identifiers for your company to be updated automatically in all the scripts for a given profile.	■ Select option **2** or **5** on panel EDIX820-FMT01. ■ Enter **EXCPGM EDIX821** on the command line.
EDIX460-FMT01 Work with MQ Links	Access all the queue information supported in the Gentran system.	■ Select option **8** on the GENCOM menu. ■ Select option **18** on panel EDIX400-FMT01. ■ Enter **EXCPGM EDIX460** on the command line. ■ Enter **J MQ** on the command line.
EDIX461-FMT01 MQ Link Configuration	Define the queues to be used in sending/receiving files within MQSeries.	■ Select an option (**1** – **5**) on panel EDIX460-FMT01. ■ Enter **EXCPGM EDIX461** on the command line.
STRCOMSSN Start Communications Session	Initiate a communication session for a specified comm profile and script name.	■ Select option **10** on the GENCOM menu. ■ Select option **30** on panel EDIX400-FMT01. ■ Prompt **STRCOMSSN** on the command line.
SHUTDOWN End active Comm Jobs	End active Communication Jobs.	■ Select option **12** on the GENCOM menu. ■ Select option **31** on panel EDIX400-FMT01. ■ Prompt **SHUTDOWN** on the command line.
GENLINP Gentran Line Pool	Create line pool description and identify modem lines to be used in pool for Gentran:Server communications.	■ Select option **13** on the GENCOM menu. ■ Select option **33** on panel EDIX400-FMT01. ■ Prompt **GENLINP** on the command line.

Panel Name	Purpose	Access Methods
PRGCHF Purge Comm History File	Purge the Communication History Log using selection criteria.	■ Select option **15** on the GENCOM menu. ■ Select option **40** on panel EDIX400-FMT01. ■ Prompt **PRGCHF** on the command line.
PRGOBQ Purge Outbound Queue	Purge the Outbound Queue (control and data files) using selection criteria.	■ Select option **17** on the GENCOM menu. ■ Select option **41** on panel EDIX400-FMT01. ■ Prompt **PRGOBQ** on the command line.
PRGIBQ Purge Inbound Queue	Purge the Inbound Queue (control and data files) using selection criteria.	■ Select option **16** on the GENCOM menu. ■ Select option **42** on panel EDIX400-FMT01. ■ Prompt **PRGIBQ** on the command line.
PRGALL Purge All Comm Files	Purge all Communication files (History Log, Outbound and Inbound Queue) using the same selection criteria.	■ Select option **14** on the GENCOM menu. ■ Select option **43** on panel EDIX400-FMT01. ■ Prompt **PRGALL** on the command line.
RTVCHF Retrieve Comm History File	Retrieve the Communication History Log using selection criteria.	■ Select option **19** on the GENCOM menu. ■ Select option **44** on panel EDIX400-FMT01. ■ Prompt **RTVCHF** on the command line.
RTVOBQ Retrieve Outbound Queue	Retrieve the Outbound Queue (control and data files) using selection criteria.	■ Select option **21** on the GENCOM menu. ■ Select option **45** on panel EDIX400-FMT01. ■ Prompt **RTVOBQ** on the command line.
RTVIBQ Retrieve Inbound Queue	Retrieve the Inbound Queue (control and data files) using selection criteria.	■ Select option **20** on the GENCOM menu. ■ Select option **46** on panel EDIX400-FMT01. ■ Prompt **RTVIBQ** on the command line.
RTVALL Retrieve All Comm Files	Retrieve all Comm files (History Log, Outbound and Inbound Queue) using the same selection criteria.	■ Select option **18** on the GENCOM menu. ■ Select option **47** on panel EDIX400-FMT01. ■ Prompt **RTVALL** on the command line.

Panel Name	Purpose	Access Methods
PRGALLA Purge all Comm Files	Purge all Comm files automatically at the end of each Comm session, if activated.	■ Enter a value in "Days to Purge" on panel EDIX401-FMT01 (***not*** 999) and the command will run at the end of a comm session.
PRTEDIDTA Print EDI Data	Print EDI data for a selected batch at the segment level. This data can be directed to the printer or an output file.	■ Press F21 on panel EDIX405 or EDIX408. ■ Select option **6** on panel EDIX404 or EDIX407. ■ Select option **37** on the GENCOM menu. ■ Prompt **PRTEDIDTA** on the command line.
PRTCOM Print Comm Control Script	Print the session control records for a specified comm profile and script name.	■ Select option **6** on panel EDIX402-FMT01. ■ Prompt **PRTCOM** on the command line.
PRTCOMHST Print Communications History	Print the Communications History records for the selected entries.	■ Select option **22** on the GENCOM menu. ■ Prompt **PRTCOMHST** on the command line. ■ Select ***YES** for the 'Print Comm Session Log' parameter on the STRCOMSSN command. ■ Select option **34** from the EDIX406 panel.
GENMQSND Send File to MQ Queue	Send a file to an MQSeries queue.	■ Select option **39** on the GENCOM menu. ■ Prompt **GENMQSND** on the command line. ■ Enter **J MQS** on the command line.
GENMQRCV Receive File from MQ Queue	Receive a file from an MQSeries queue.	■ Select option **38** on the GENCOM menu. ■ Prompt **GENMQRCV** on the command line. ■ Enter **J MQR** on the command line.
FNDSTRCOM Find String in Comm Queues	Locate a string of data in the inbound or outbound queues for any profile.	■ Select option **36** on the GENCOM menu. ■ Select option **31** on panel EDIX404. ■ Select option **31** on panel EDIX407. ■ Prompt **FNDSTRCOM** on the command line.
GIFSGATE Gentran IFS Gateway	Allow data to be moved back and forth from the Gentran Comm queues to the integrated file system	■ Select option **41** on the GENCOM menu. ■ Prompt **GIFSGATE** on the command line. ■ Select option **32** on panel EDIX404.

Panel Name	Purpose	Access Methods
GENIBQIFS Gentran IBQ to IFS Gateway	Allow batches from inbound communication queue to be copied to the IFS file system.	■ Select option **42** on t he GENCOM menu. ■ Select option **32** on panel EDIX407. ■ Prompt **GENIBQIFS** on the command line.
ADD Add Data to Queues	Add a batch of data to the inbound or outbound queue.	■ Select option **30** on the GENCOM menu. ■ Prompt **ADD** on the command line.
EXTRACT Extract Data from Queues	Extract (make a copy of the data) a batch of data from the inbound or outbound queue.	■ Select option **31** on the GENCOM menu. ■ Prompt **EXTRACT** on the command line.
STATFLG Change Status	Changes the status of a batch on the inbound or outbound queue.	■ Select option **32** on the GENCOM menu. ■ Prompt **EXTRACT** on the command line.
CHGDUP Change Duplex	Changes the Duplex switch for a comm profile between full and half duplex.	■ Select option **33** on the GENCOM menu. ■ Prompt **CHGDUP** on the command line.
CHGPHNUM Change Phone Number	Change the phone number for a comm profile.	■ Select option **34** on the GENCOM menu. ■ Prompt **CHGPHNUM** on the command line.
CHGNRZI Change NRZI	Change the NRZI setting for a comm profile.	■ Select option **35** on the GENCOM menu. ■ Prompt **CHGNRZI** on the command line.

Access the Communications Subsystem

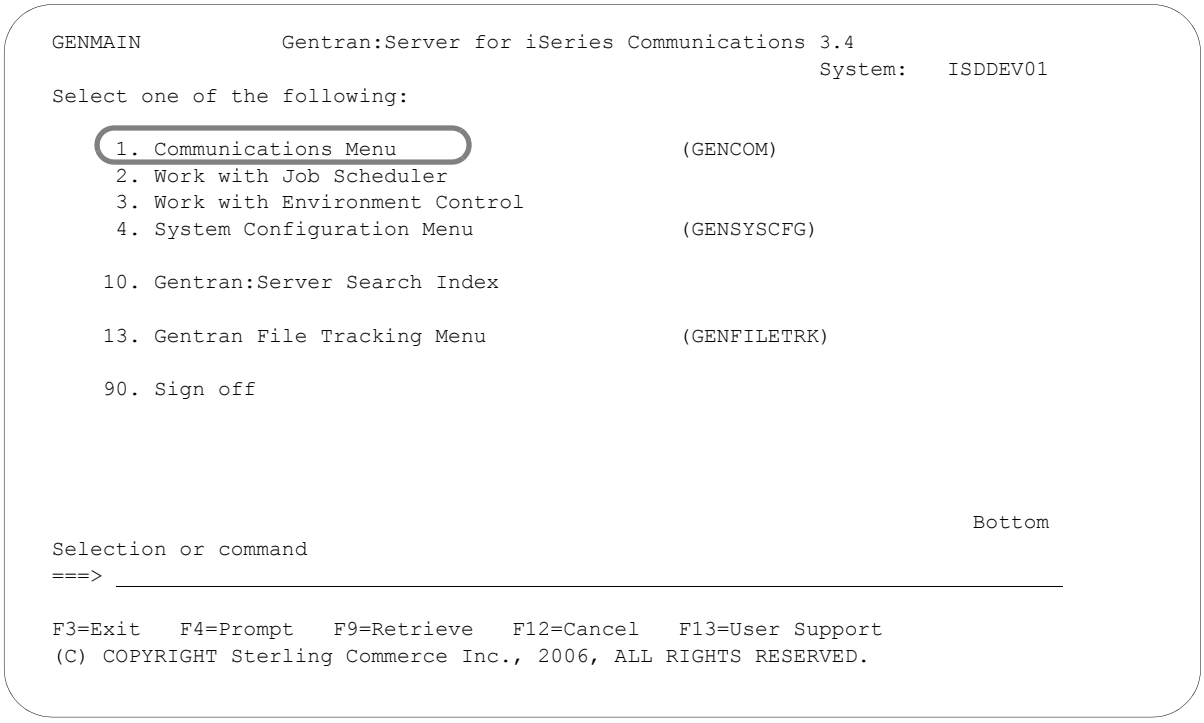


Figure 4.2 Gentran:Server Communications Main Menu (GENMAIN)

To access the Communications subsystem, select option **1** (Communications Menu) on the main menu (Figure 4.2) or type **GO GENCOM** on the command line and press **Enter**.

The Gentran:Server Communications menu (GENCOM) is displayed (Figure 4.3).

```
GENCOM               Gentran:Server Communications 3.4
                                                        System:   ISDDEV01
Select one of the following:

     1. Work with Communications
     2. Work with Session Scripts
     3. Work with Comm History File
     4. Work with Outbound Queue
     5. Work with Inbound Queue
     6. Work with Active Comm Jobs
     7. Work with Network Profiles
     8. Work with MQ Links

    10. Start a Comm Session                    (STRCOMSSN)
    11. Start a Comm Session with Trace         (STRCOMSSNT)
    12. End Active Comm Jobs                    (SHUTDOWN)
    13. Gentran Line Pools                      (GENLINP)
    14. Purge All Communication Files           (PRGALL)
                                                              More...
Selection or command
===> ____________________________________________________________________________

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
(C) COPYRIGHT Sterling Commerce Inc., 2006, ALL RIGHTS RESERVED.
```

Figure 4.3 Gentran:Server Communications menu (GENCOM)

Select option **1** (Work with Communications) on the GENCOM menu. The system displays the Work with Communications panel (EDIX400-FMT01), as shown in Figure 4.4. All tasks associated with communications are performed from either the GENCOM menu or the Work with Communications panel.

The Work with Communications panel (EDIX400-FMT01) contains a list of Communication Profile IDs from which all options can be accessed.

```
EDIX400                  Work with Communications              EDI 03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA             12:00:00

Position to Profile ID . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
___
___  ADVBSC      ADVANTIS BSC
___  ADVLU0      ADVANTIS SDLC
___  ATLASFTX    Atlas in France via OFTP/X.25
___  ATTEASY     AT&T EASYLINK SERVICES
___  ATTUK       AT&T IN THE UNITED KINGDOM
___  AUTOANS     TEST AUTOANSWER CONFIG
___  BTASCL      BT UK GNS EDI*NET Async "Live" Sys
     BTASCT      BT UK GNS EDI*NET Async "Test" Sys
     BTOFTP      BT UK GNS EDI*NET OFTP via Async
                                                                      More...
Parameters or command
===>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 4.4 Work with Communications Panel (EDIX400-FMT01)

The initial sort order for panel EDIX400-FMT01 is by the comm profile ID. An alternate sort option, accessed with **F15** (Sort), is available by Company (Profile Description). The Position To field may be used to access the desired Profile ID more quickly.

You can perform the following tasks from panel EDIX400-FMT01:

- Set up communications
  - Create or modify a Communications Profile
  - View the Line/Controller/Device description setup
  - Maintain communication session control scripts
  - Use the automatic Network script and profile update feature
- Operate and manage communications
  - Initiate a communication session
  - Monitor active communication sessions
  - Work with the Outbound Queue (outgoing EDI data)
  - Work with the Inbound Queue (EDI data received)
  - View the Communication History log
  - Purge communication data (History log and Inbound and Outbound Queues)

Communications Setup

The setup of Communications pertains to defining communications profiles and scripts necessary to establish a communications link with another party.

Create and manage a Communication Profile

Each third party network or direct communication partner with whom you wish to communicate must have a defined communication profile (comm profile). A typical comm profile contains hardware information such as modems, dialers, and lines, as well as software related information such as options regarding record separators and blank suppression.

Modify a Communication Session Control Script

Session Control records are the detailed instructions for conducting a communication session. One or more session control records may be combined to form a session control script. The script consists of the step-by-step instructions that control how the transmission and/or reception of data will take place. An example of a script type is ‘SR’ (send first, then receive).

NOTE

You must have *IOSYSCFG authority to add, create, and delete user profiles when working with any protocol other than FTP.

Communication Profiles

Each third party network or direct communication partner with whom you wish to communicate must have a defined communication profile (comm profile). A typical comm profile contains software and hardware information related to your configuration, such as modems, dialers, lines, record separators, and blank suppression. Gentran:Server supplies predefined profiles for the major EDI networks. If necessary, a new profile can be created for a unique communication partner.

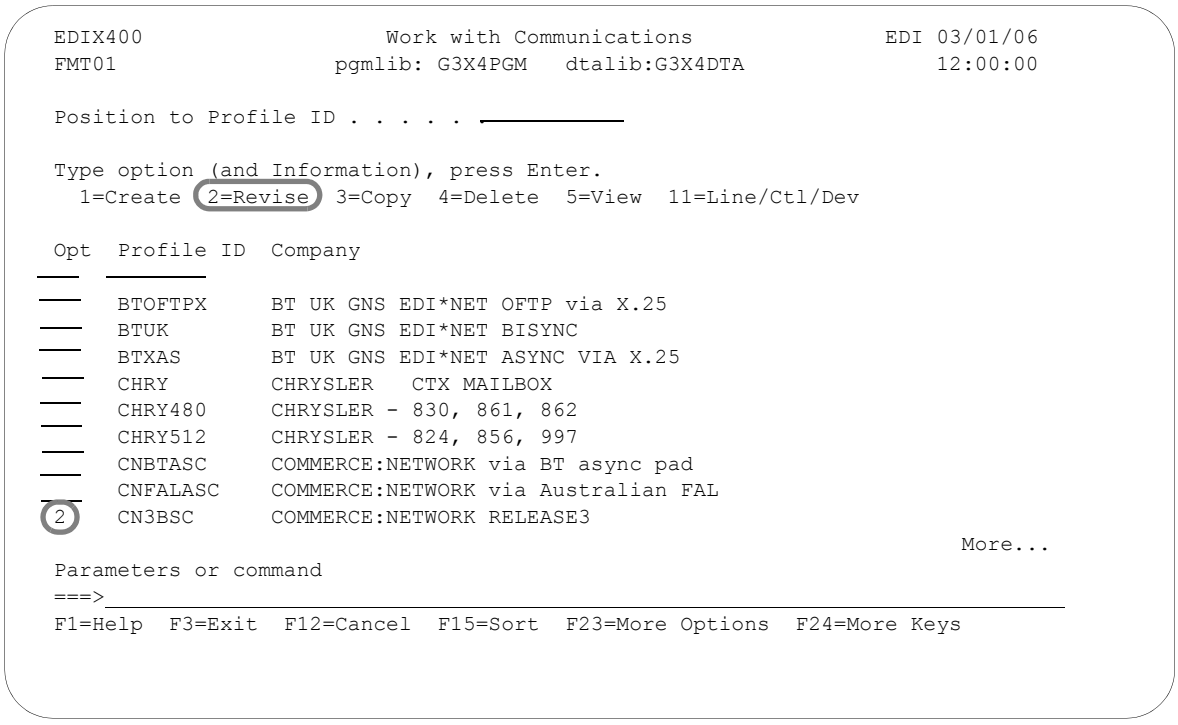


Figure 4.5 Work with Communications Panel (EDIX400-FMT01)

As shown in Figure 4.5, from the Work with Communications panel (EDIX400-FMT01), type **2** (Revise) in the option field next to the desired Profile ID and press **Enter**. If creating a new Profile ID, type **1** (Create) and a Profile ID on the key entry line and press **Enter**.

NOTE

Due to the uniqueness of each implementation, the predefined Communication scripts are provided as examples only and are intended to assist in getting you started. Please read the *User Guide* provided by your value-added network or communication partner to ensure that the setup correctly reflects their specific requirements.

Set Protocol-Independent Parameters for a Communication Profile

The Communication Profile panel (EDIX401-FMT01), as shown in Figure 4.6, is the first panel used to define the comm profile. The next panel that is shown for the comm profile ID will vary depending on the protocol specified, for example, BSC or SNA.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC

Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE3
Contact. . . . . . . . . . . . . .  NETWORK COMMUNICATIONS
Phone. . . . . . . . . . . . . . .  ( 614 ) 793 - 7000  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  BSC
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F10=Update  F12=Cancel  F13=Services  F24=More Keys
```

Figure 4.6 Communication Profile Panel (EDIX401-FMT01)

Enter or change the desired information and press **Enter** or **F8** (Next) to advance to the configuration panel (Protocol-Specific Parameters) for the corresponding protocol. Pressing **F10** (Update) in create mode also advances you to the configuration panel.

Field Definitions

Company

A 35-position alphanumeric field used to enter your direct communication partner's company name.

Contact

A 35-position alphanumeric field used to enter the name of a personal contact at your direct communication partner's company.

Phone

A 14-position alphanumeric field used to enter the contact's phone number. Format is nnn nnn-nnnn nnnn. You may enter the area code, phone number, and internal company extension.

International Dial Code

A 3-position alphanumeric field used to enter an international dial code with the telephone number. Format is nnn where nnn is the international access code.

Protocol

Valid values are: SNA, BSC, LU0, GMC, L62, X62, ASC, XAS, FTP, OFA, OFX, ASX.

NOTE

Please note that LU62 (for L62/X62), Async (for ASC, XAS, OFA, OFX, and ASX), and FTP are optional add-on modules that may be purchased separately.

The following table lists the valid protocols and their configurations.

Protocol Specified	Configuration Used
SNA	SNA LU1 profile will be used. The SNA specification should be used when communicating with Connect:Supertracs (SNA), Connect:Tracs for MVS (SNA), JES2, and JES3 using SNA LU1.
BSC	Bisync profile will be used
LU0	Should be used when communicating with Advantis CICS SNA LU0
GMC	Bisync profile with GM-specific header information will be used
L62	SNA LU6.2 SDLC/APPC profile will be used
X62	SNA LU6.2 SDLC/APPC profile running over an X.25 line will be used
ASC	Asynchronous profile will be used
XAS	Asynchronous profile running over an X.25 line will be used
FTP	FTP profile using customer's existing TCP/IP configuration will be used
OFA	OFTP profile using an async line will be used
OFX	OFTP profile using an X.25 line will be used
ASX	XMODEM profile using an async line will be used

The configuration panel that will be used will differ based on the specified protocol. SEE the Using Scripts chapter in this guide for sample profile definitions for well-known communication products.

Days to Purge

A 3-position numeric field used to indicate the number of days for automatic purge option. Use spaces or **999** or **000** to bypass the automatic purge function.

When auto purge is enabled, the following files will be purged of any data retained longer than the Days to Purge specified at the conclusion of a communication session for the comm profile ID:

Communication History
Inbound Queue Control File
Outbound Queue Control File
Inbound Queue Data File
Outbound Queue Data File

If the Days to Purge field contains a value other than **999**, **000**, or blanks, then the automatic Purge All Communication Files (communication PRGALLA) command is executed at the end of *every* communication session performed for the comm profile ID.

RECOMMENDATION

Set this value to **999** or **000** or leave it blank to deactivate the automatic purge procedure. Data can be purged during "off-hours" independent of the communication sessions, using the other purge commands available.

NOTE

Auto purge and continuous processing cannot be selected at the same time.

FIFO/LIFO (Mandatory)

A 1-position alphanumeric field that identifies the order in which batches are sent from the Outbound Queue during a Comm session – in either FIFO (first in, first out) or LIFO (Last in, first out) sequence.

RECOMMENDATION

Set this value to **F** (FIFO) to ensure the data is sent in the order in which it was processed. This maintains the sequence of Control numbers generated for the envelopes.

Update Allowed

A 1-position alphanumeric field defining whether or not the communication information for this Profile ID can be updated and maintained by users with a security level of "2." Valid values are **Y** – yes, and **N** – no.

Set Protocol-Specific Parameters for a Communication Profile

The configuration panel for the comm profile will vary depending on the protocol specified. The specific fields presented will be the parameters required by the protocol being used. For additional information on these fields, see the online help (**F1**). The following example depicts a BSC protocol. Some protocols support a novice setup panel to aid in "quick" changes to the configuration information. These panels are referred to as "basic" views. They provide a simplified configuration process requiring fewer parameters and providing more standard default values automatically, requiring you to do less input.

Each time a new BSC (or other protocol that supports basic views) profile is created, the basic view will be shown first. If the basic configuration values are not sufficient, you can toggle to an extended view by pressing **F2** (More/Less). The extended view enables you to change additional parameters.

NOTE

Hint: Your next session will begin in the mode from which you last exited. If you have been working in extended view, and prefer to begin sessions in basic view, toggle back to basic view by pressing **F2** (More/Less) before exiting from a session.

Both basic and extended view panels are shown in Figure 4.7.

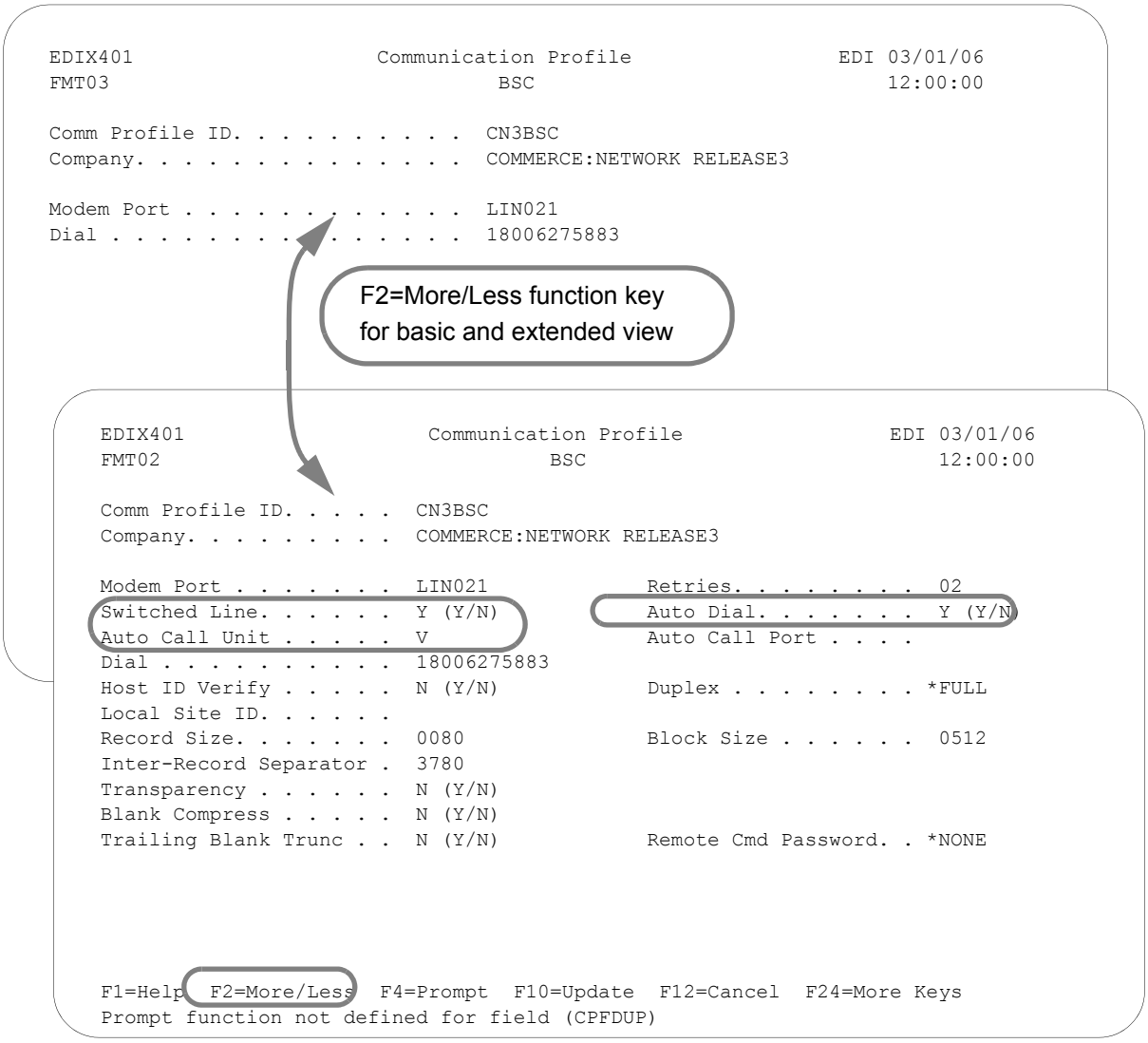


Figure 4.7 Basic and extended view of Communication Profile panel (EDIX401-FMT03 and EDIX401-FMT02)

Enter or change the desired information and press **Enter** or **F8** (Next) to advance to the Line/Control/Device panel. If you do not want to change any of the default settings that are shown in Figure 4.8, press **F10** (Update) to create the profile and return to the Work with Communications panel (EDIX400-FMT01).

Field Definitions (Basic View)

Comm Profile ID

An 8-position alphanumeric field used to enter the Profile ID.

Company (Protected)

Displays the direct communication partner's company name.

Modem Port

A 6-position alphanumeric field specifying the iSeries Resource Name associated with the communication port to be used with this profile. The port named by this field must be attached to communication hardware that is compatible with the rest of the entries made on this panel.

Dial

A 32-position alphanumeric field used to define the phone number to be passed to the autodialer or modem, or it may be displayed to the operator's console if manual dial is used. This field may also contain control characters.

NOTE

When manual dial is used, the number to be dialed must be present. Omitting the number will cause an assumed Auto answer configuration by the system and outgoing calls will fail.

Field Definitions (Extended View)

Retries

A 2-position numeric field used to define the number of dial retries you permit your system to attempt before it discontinues dialing the Remote ID. Valid values are **00** through **99**.

Switched Line

A 1-position alphabetic field used to designate whether or not a switched line will be used (as opposed to a dedicated line) for remote communication.

Auto Dial (Required for Auto Call)

A 1-position alphabetic field used to designate whether or not the auto dial feature will be used for remote communication. If "N," this indicates that you will be MANUALLY dialing or auto answering for sessions that use this communication profile ID. Auto Dial may be specified for self-dialing modems or separate modems/auto dial units.

Auto Call Unit

A 1-position alphabetic field used to designate whether or not an auto call device will be used for remote communication. If **Y** (use Auto Call Unit) is designated, an Auto Call Port must also be entered. If **N**, do not enter an Auto Call Port. A value of **N** must be selected when using a self-dialing modem (a modem with its own autodial capabilities). Valid values are:

- **Y** – 801 Auto Call Unit on a second port.
- **V** – V25BIS Autodialing Modem.
- **N** – UDS201C/D or UDS208B/D self-dialing Bisync modem (or compatible), or if auto dial also equals **N**, manual dial or Auto Answer is used.

Auto Call Port (Required for use with Auto Call)

A 6-position alphanumeric field used to define the auto call port of the auto call unit. If the Auto Call feature is selected, an auto call port must be designated. Format is "LINXX2" or "CMNX2", where XX is the communication Port ID, and 2 is a literal "2," representing the second line on that port. The Auto Call Port must be the second line on the same port that the modem is connected to. This field is not used for self-dialing modems.

To configure dialing or answering modes, set parameters accordingly in the Switched Line, Auto Call, and Auto Dial fields in Extended View mode. The following chart lists the values for each parameter and each dial setting.

	Dial Settings				
Field Names	**Two-Port Autodial**	**One-Port Non-V.25bis Autodial**	**Manual Dial**	**One-Port V.25bis Autodial**	**Auto Answer**
Switched Line	Y	Y	Y	Y	Y
Auto Dial	Y	Y	N	Y	N
Auto Call Unit	Y	N	N	V	N
Auto Call Port	Include an entry	Leave blank	Leave blank	Leave blank	Leave blank
Phone Number	Include an entry	Include an entry	Include an entry	Include an entry	Leave blank

Host ID Verify

A 1-position alphabetic field used to designate whether or not the Host ID Verify feature will be used for remote communication. This feature provides the capability to verify an Exchange ID function between your system and the remote site's system. The Host ID Verify is often referred to as the Exchange ID function or "handshake." If this field contains a **`Y`**, the Local Site ID field must contain the code value expected by the remote site.

Duplex (Required)

Determines the duplex setting that will be used on the line description that is created. The value may be either **`*FULL`** or **`*HALF`** and must correspond to the modem that is being used. The default response is **`*FULL`** and is appropriate for most v.25bis dial, autoanswer, and leased line configurations. Some older hardware may require **`*HALF`** duplex.

Local Site ID (Required for use with Host ID Verify)

A 15-position alphanumeric field used to define the name or identification code of the Local ID Verifier that you expect to send to the Remote Site location when initiating a communication session. This field is required if a value of **`Y`** exists in the "Host ID Verify" field.

Record Size

A 4-position numeric field used to indicate the maximum record size to be transmitted from or received to a user specified file or to the Gentran:Server for iSeries data queues. Data received to the print spool is excluded from the normal rules used to handle incoming data streams, and should not be used as a factor in calculating record or block sizes. Data sent from or received to Gentran:Server may use any record size between **1** and **4096**, as long as the record size is not greater than the block size.

Block Size

A 4-position numeric field used to define the maximum block size of data that your system may send to a remote network. Valid values are **80** through **4096**. Accepted industry standards are:

"400" for 2780
"512" for 3780

Block Size dictates the maximum block size to be transmitted or received during a communication session. When **none** is selected for the inter-record separator field on this panel, it is assumed that all data received will have a record size equal to the block size specified.

Inter-Record Separator

A 4-position numeric field used to define the inter-record separator number of a character used by the system to separate records.

Valid values are **3780**, **2780**, or **NONE**, where **3780** represents HEX 1E, and **2780** represents HEX 1F.

The selection of **NONE** for the Inter-Record Separator field on this panel has an effect on the way the records are handled during a communication session. When this option is selected, it will cause the record sizes to appear equal to the block size selected. When a record size of 80 has been selected, but the inter-record separator is set to **NONE** the block will be filled with as many full 80-byte records as can be placed into the block with no record separators. It will appear as though the actual record size is much larger than 80. When the records are placed into the block, one record is moved to the block, and the remaining space is calculated. When there is not enough space to fit another full record into the block, the end of the block will be marked and it will be transmitted. When the block size is evenly divisible by the record size, the block size and the record size will be the same. As an example, the record size is set to 80, the block size is set to 400, the inter-record separator is set to **NONE** – five 80-byte records will be placed into the block (5 X 80=400), and with no record separators. The block will be transmitted as a 400-byte block containing one 400-byte record. When the block size is not evenly divisible by the record size, the block size and the record size will be equal to the number of whole records that will fit into the block size, multiplied by the record size. As an example, the record size is set to 100, the block size is set to 512, and the inter-record separator is set to **NONE**. Five 100-byte records will be placed into the block (5 X 100=500). No more full records will fit into the block, so the end of the block is marked and the block is sent with both the record and the block size equal to 500.

If Inter-Record Separator: 2780 (Hex 1F) is selected, only Transparency is valid.

Transparency

A 1-position alphabetic field used to designate whether or not the Transparency feature will be used for remote communication. This feature enables you to transmit codes (i.e., control characters) without interfering with the communication. The codes remain "transparent" to the system. This option must be set to **Y** if the Remote System will be sending transparent data.

Blank Compress

A 1-position alphabetic field used to designate whether or not the Blank Compress feature may be used for remote communication. This feature automatically compresses blanks as they exist in the communicated raw data. This option must be set to **Y** if the Remote System will be sending compressed data.

Trailing Blank Trunc

A 1-position alphabetic field used to designate whether or not the Trailing Blank Truncation feature will be used for remote communication. This feature automatically truncates all blanks as they exist at the end of each record sent to the remote site.

NOTE

The options for Transparency, Blank compress, and Trailing Blank Truncation are mutually exclusive and only one of the options may be used at a time.

Remote Cmd Password

Defines the optional password that will be used to validate commands received from the remote system, while in Remote Command mode. The specified value must be received as the password parameter of the remote command. If the correct password is not received, the communication session will be terminated. The default ***NONE**, specifies that no password is required.

NOTE

An option called the Global Inactivity Timer, which is an option for setting a global inactivity timer for BSC (which operates like receive timer for SNA), is available by issuing the command **SETTIMER**. The data is numeric, 6 positions with an HHMMSS (Hours/Minutes/Seconds) format. Once the timer is set, it is used by *all* BSC profiles. This may be changed at any time. The default time is 5 minutes as shipped. The global receive timer is checked for all receive steps that do not contain a receive timer value on the script record.

Set Line/Controller/Device Descriptions for a Communication Profile

NOTE

The Line/Controller/Device panel (EDIX819-FMT01) can also be accessed later by selecting option **11** from the Work with Communications panel (EDIX400-FMT01).

By default, the system creates the line, controller, and device descriptions when you create or modify a comm profile. This is most helpful when the connection is through a dial-up line.

The Communication Line/Controller/Device panel (EDIX401-FMT20), as shown in Figure 4.8, allows you to override the default names for the line, controller, and device descriptions or to override the automatic creation of some of these objects if you have a protocol of SNA LU0, X62, XAS, or OFX.

```
EDIX819             Communication Line/Control/Device          EDI 03/01/06
FMT01                                                             12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE3

Create Line/Controller . . . . . .  Y
Line Name. . . . . . . . . . . . .  CN3BSCLN
Controller Name. . . . . . . . . .  CN3BSCCT
Device Name. . . . . . . . . . . .  CN3BSCDV
Remote Location. . . . . . . . . .  CN3BSC









F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.8 Communications Line/Controller/Device Panel (EDIX401-FMT20)

Modify the desired information and press **F10** (Update). When the profile is updated, the system creates the associated line, controller, and device descriptions on the iSeries. These objects are required to perform communication sessions. To exit without updating information, press **F12** (Cancel).

The names for the line, controller, and device descriptions are generated automatically by using the comm profile ID concatenated with a two-byte identifier for the line (**LN**), controller (**CT**), and device (**DV**).

When the connection is to be made over an existing leased line, a compatible line may already exist.

For SNA, LU0, and L62 protocols, you may want to prevent the line and controller descriptions from being created if you are using a leased line that may be shared with other devices. To do this, type **N** in the Create Line/Controller field. If **N** (No) is specified, only the device description is created.

For X62, XAS, and OFX protocols, you may want to prevent the line description from being created if you are making a connection over an existing X.25 line. To do this, type **N** (No) in the Create Line field. If **N** (No) is specified, only the controller and device descriptions are created.

After you have successfully created a communication profile, you must create a communication session control script.

Communications Session Control Scripts

The session control script defines the conversation two systems conduct over the communications line. Session Control records are the detailed instructions for conducting a communication session. One or more session control records may be combined to form a session control script. The script consists of the step-by-step instructions that control how the transmission and/or reception of data will take place. An example of a script name is **SR** (Send first, then receive).

The concept is much the same as a telephone conversation between two people. The most notable difference is that during a phone conversation, people have the ability to "sense" when another person has finished saying what is necessary. For example, when a friend calls and asks "How was your day?", the friend doesn't have to tell you that there's nothing more to say or that it's your turn to talk. Machines, unfortunately, are not that smart. When a machine sends a message to another machine, it must indicate that it has finished "speaking" by sending special protocol characters.

Figure 4.9 depicts a telephone conversation between two people and the relationship between two computers using the script.

People		Machines	
Cliff	**Marty**	**iSeries**	**Partner's Computer**
		Start Communications using STRCOMSSN	Software running awaiting call
Dials	Answers	Dials (per Profile) (begins script)	Answers
<-	Hello	<-	Partner's logon screen
Marty, it's Cliff.	->	Logon and password	->
<-	Hi, Cliff.	<-	Welcome to your Partner's Network
How about going to lunch today at 11:45?	->	Purchase Orders	->
<-	Sounds good. Meet me in the lobby.	<-	Acknowledgment report from your Partner's Network
OK Marty. See you later, bye.	->	Logoff command	->
Hangup	Hangup	Disconnect	Disconnect

Figure 4.9 Script Conversation Example

Gentran:Server provides the capability to create one or more scripts that are associated with each comm profile. Each script for a given profile is identified by a two-character Session Name and may contain up to 999 session control records. This Session Name is used in conjunction with the comm profile ID to execute a communication session.

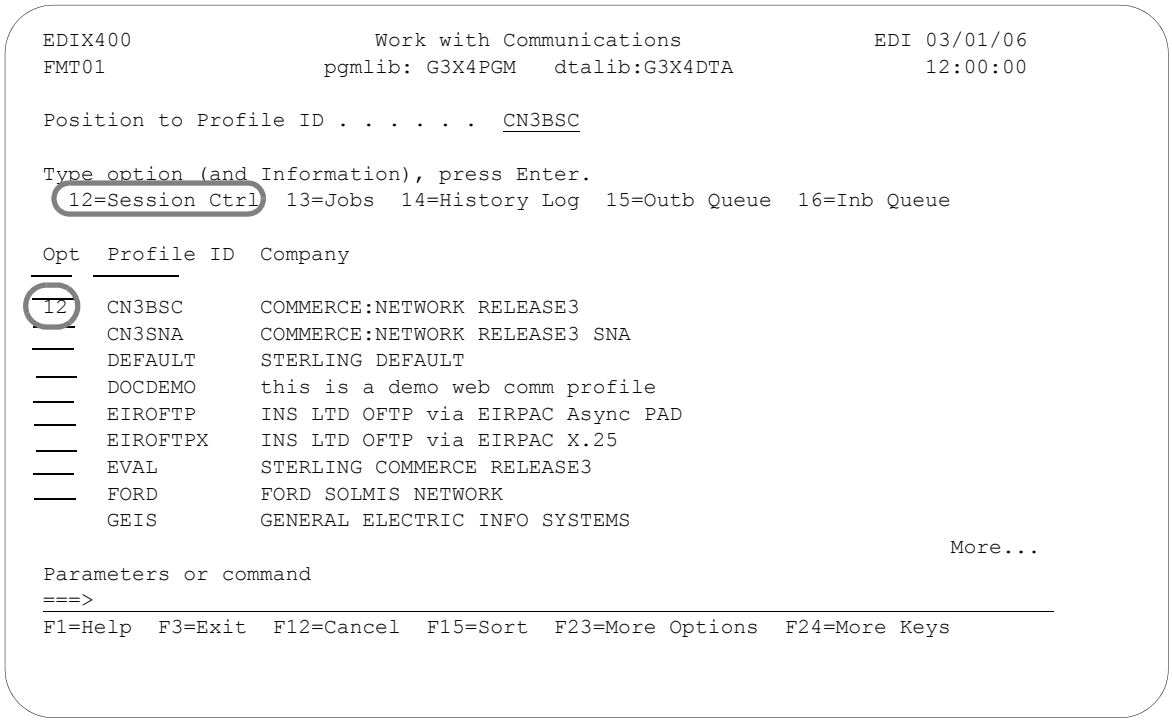


Figure 4.10 Work with Communications Panel (EDIX400-FMT01)

To access session control scripts, type **12** (Session Ctrl) in the option field next to the desired comm profile ID and press **Enter**, as shown in Figure 4.10. To access scripts for all profiles, type **12** on the key entry line and press **Enter**.

Work with Session Control Scripts

The Work with Communications Session panel (EDIX402-FMT01), shown in Figure 4.11, enables you to add, update, copy, delete, and view the session control scripts for a specified Communications Profile ID. The "script" contains action data that is used to control the sessions initiated for each profile.

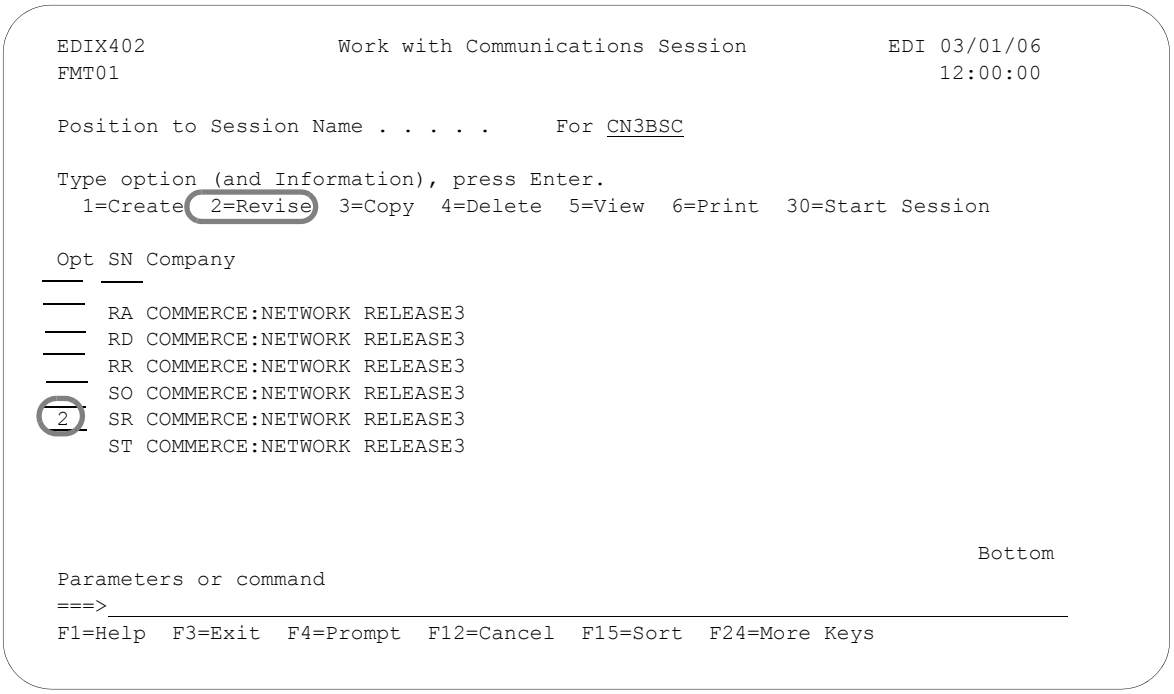


Figure 4.11 Work with Communications Sessions Panel (EDIX402-FMT01)

To select a session control script, type **2** in the option field next to the desired session name and press **Enter.** When creating a script, type **1** and a Session Name on the key entry line and press **Enter.**

NOTE

The first character of the session name *cannot* be numeric.

The Communication Session panel (EDIX403-CTL01) appears, as shown in Figure 4.12.

NOTE

Sometimes it is easier to copy an existing script than to build a new one. (SEE the section "Copying Communications Scripts" later in this chapter for more information.)

Session Control Maintenance

A record exists for each action (command) that occurs when communicating with a remote site. You can display these "command lines" for each session, or use the unfolded view to see the "control data lines" as well.

Press **F9** (Fold/Unfold) to toggle between the basic and extended views.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     20   C     __  __________  0  SEND REQUEST FOR REPORTS
__     30   C     __  __________  0  SEND REQUEST FOR X12 DATA
__     40   C     __  __________  0  SEND $$ADD RECORD
__     50   S     OQ  __________  2  SEND X12 DATA FROM OUTQUE
__     60   R     SP  __________  7  RECEIVE REPORTS TO SPOOL
__     70   R     IQ  __________  7  RECEIVE X12 DATA TO INQUE
__    ____  _     __  __________  _  ____________________________
__    ____  _     __  __________  _  ____________________________
__    ____  _     __  __________  _  ____________________________
                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     20   C     __  __________  0  SEND REQUEST FOR REPORTS
$$REQUEST ID=SX999R BATCHID='TEST'
__     30   C     __  __________  0  SEND REQUEST FOR X12 DATA
$$REQUEST ID=SX999D BATCHID='TEST'
__     40   C     __  __________  0  SEND $$ADD RECORD
$$ADD ID=SX999D BATCHID='TEST'
__     50   S     OQ  __________  2  SEND X12 DATA FROM OUTQUE

__     60   R     SP  __________  7  RECEIVE REPORTS TO SPOOL
***  ERROR  ***  NO BATCHES FOR TRANSMISSION
                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.12 Folded and Unfolded Views of the Communication Session Control Panel (EDIX403-CTL01)

The creation of script records is protocol-specific. However, many general characteristics are applicable to all protocols. The following information describes the general concepts. For specific information, see the chapter for the protocol you are using.

Field Definitions

Seq No

A 3-position numeric field used to define the sequence number assigned by the user to each protocol session record.

Leaving gaps between sequence number assignments may be useful for inserting additional control records at a later time.

Tran

A 1-position alphabetic field used to define the transaction type code identifying the type of record displayed. Valid values are:

C	Send the literal that is entered in the control data line. For example, this can be used for sending signon cards or other control data that is required by the remote.
S	Send data to the remote site followed by any special characters as instructed by the indicator field.
R	Receive data from the remote system.
D	Wait to receive a literal as specified on the control data line. This transaction type can be used for verification of incoming data or for trapping and discarding prompt messages.
E	Send an Evoke Record to the Remote System. This must be the first record of the script. This code is only used if your system starts the session and is valid only for the X62, L62, and XAS protocols. Use the **F16=Evoke Record Maint** key to access the Evoke Record Maintenance panel.
X	Invoke extended script logic functions.

File

A 2-position alphabetic field used to define the file type code that identifies the type of file that the transaction record is written to. Valid values are as follows:

OQ	Outbound Queue; only valid for Tran Type **S**.
OM	Outbound Multiple; only valid for type **S**. Sends the outbound data in such a way that individual batches can be separated as they are received by the remote. This function is complementary to **IM**, which is defined below.
OF	Outbound File; only valid for Tran Type **S**.
IQ	Inbound Queue; only valid for Tran Type **R**.

IM Inbound Multiple; only valid for type **R**.

Receive inbound data so that individual batches can be separated as they are received by your system. This function is complementary to **OM**, which is defined above.

IF Inbound File; only valid for Tran Type **R**.

"IF" (Inbound File) receive to an inbound user file and overwrite all existing data in the file.

IA Inbound Append; Append to existing data in user file.

ID Inbound Device; only valid for Tran Type **R** and BSC sessions. Received data is sorted to the inbound queue or to the spool file based on the device selection codes that precede the data during the receive process.

SP Spool File; only valid for Tran Type **R**.

JR JES Receive; only valid for Tran type **R** and SNA sessions. Print data will be sent to the spool and punch data will be stored on the Gentran:Server for iSeries inbound queue.

JQ JES Queue; only valid for Tran Type **R** and SNA sessions. All data received from JES is placed on the Gentran:Server for iSeries inbound queue.

File Name (Required for File Types OF**,** IF**, and** IA**)**

A 10-position alphanumeric field used to enter the name of the file where inbound and outbound data will be stored. The file must exist in a library, in the library list used by the Gentran:Server job because the file must be retrieved before the data can be sent or received from the remote network.

Ind

A 1-position numeric field used in conjunction with the transaction type to indicate what processing will be done. Refer to the tables at the end of this section to determine the allowed values for specific transactions. These values will differ based on the protocol used.

Description

A 30-position alphanumeric field used to document the session protocol record.

Comm Session Control — Extended Parameters

There are additional fields, collectively referred to as "extended parms," that provide complete flexibility and are available for each script record. These fields include Batch ID, Receive Timer, Timeout Continue flag, and Timeout Status flag.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    20   C      __ __________   0  SEND REQUEST FOR REPORTS
__    30   C      __ __________   0  SEND REQUEST FOR X12 DATA
11    40   C      __ __________   0  SEND $$ADD RECORD
__    50   S      OQ __________   2  SEND X12 DATA FROM OUTQUE
__    60   R      SP __________   7  RECEIVE REPORTS TO SPOOL
__    70   R      IQ __________   7  RECEIVE X12 DATA TO INQUE
__    ___  _      __ __________   _  ____________________________________
__    ___  _      __ __________   _  ____________________________________
__    ___  _      __ __________   _  ____________________________________
__    ___  _      __ __________   _  ____________________________________
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.13 Communications Session Control Panel (EDIX403-CTL01)

To access the extended parameters, type **11** (Extended Parms) next to the selected script records (from either folded or unfolded view) and press **Enter**, as shown in Figure 4.13.

The Communication Session Control panel (EDIX43B-FMT01) appears, as shown in Figure 4.14. It can be used to edit a session control record in hex, simplifying the construction of script records that require nondisplayable characters. Additional parameters may be used to control the script processing, such as Receive Timer and Timeout flags.

NOTE

Due to the uniqueness of each implementation, the predefined Communication scripts are provided as examples only and are intended to assist in getting you started. Please read the *User Guide* provided by your value-added network or communication partner to ensure that the setup correctly reflects their specific requirements.

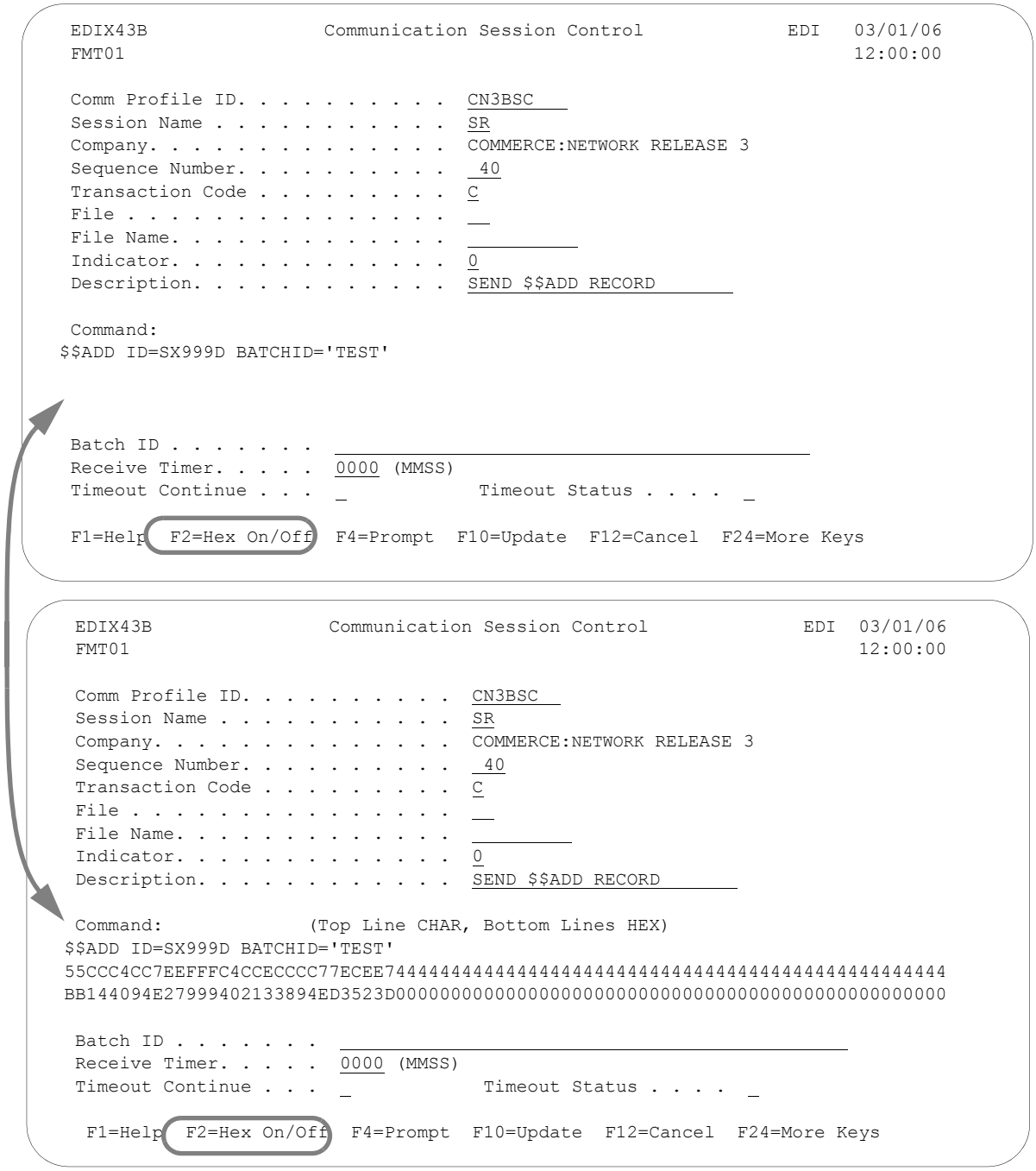


Figure 4.14 Comm Session Control – Extended Parms Panel with Character/Hex Views

To toggle between the character and hex display of the command, press **F2** (Hex On/Off). Make the desired changes and press **F10** (Update). The record is updated and you are returned to the Communication Session Control panel (EDIX403-FMT01).

Optionally, you can continue editing script records from the Extended Parms panel (EDIX43B-FMT01) by pressing **F16** (Record-1) or **F17** (Record+1), which advances you to the next session control record after updating the modified record.

Extended Parameter Field Definitions

NOTE

SEE the field definitions under "Session Control Maintenance" for descriptions of the basic parameter fields.

Command

This 80-position alphanumeric and/or hexadecimal field is used to edit and display session Command records. The command record is used for several purposes depending on the Transaction Type of the script record in which the Command record appears:

The Command field on the EDIX43B panel has a "hex mode" that can be toggled on and off by pressing the **F2=Hex On** key. When hex mode is off, the field allows entry of alphanumeric data, just like the Command fields on the unfolded view of the EDIM403 panel. When hex mode is on, the field also allows entry of hexadecimal data. The panel will initially be displayed with hex mode off. For more information, see Hex Mode Command Editing.

Batch ID

This 44-position alphanumeric field is used to specify the Batch ID of the data that is being sent or received. For send commands, Batch ID will be used to select the data that will be transmitted from the outbound queue. For receive commands, data that is received to the inbound queue will be assigned the Batch ID that has been specified. When Batch ID is left blank, the system interprets the value as meaning that no particular Batch ID has been assigned.

Receive Timer

This four-position numeric field is used in receive steps and data traps to specify the length of time that the system will wait for data to be received before considering it a timeout. This allows varying timeout periods to be specified for individual steps within a communication script. If this field is left blank or filled with zeros, then the receive timer value for this step will automatically be copied from one of two places; BSC profiles will take the value from the system-wide bisync timer (accessed via the **SETTIMER** command), and the SNA profiles will take the value from the Inactivity Timer field within the EDIM818 Communication Profile Maintenance panel. Valid values for this field are **0000** – **9999**. The default is **0000**. (The units are MMSS, minutes/seconds).

Timeout Continue

This one-position alphanumeric field specifies the action that the system is to take if a receive timeout occurs in this script step. If the Timeout Continue field is set to **Y**, then script execution will continue with the next step. This is the default. If the Timeout Continue field is set to **N**, then script execution will terminate.

Timeout Status

This one-position alphabetic field specifies the batch status that is to be assigned to the data that has been received to the inbound queue during this script step, in the event that a receive timeout occurs in this step. Valid values are **N** to mark the data Received Normal, or **A** to mark the data Received Abnormal. The default value is **N**.

Hex Mode Command Editing

The EDIM43B hex mode Command editor allows for the entry of nondisplayable data within the session Command field. This capability may be necessary for the construction of certain communication scripts, such as those for remotes that are not based on the EBCDIC character set. This can also be useful when constructing scripts for international communication, where differences in language, keyboards, and display devices could present barriers to the entry of valid Command data if a character-only input field was used.

The hex mode editor can be toggled on and off by pressing the **F2=Hex Mode** key. When hex mode is active, two additional lines of data will be displayed immediately below the Command field. These lines will contain the hexadecimal values that represent the character appearing above them in the top line of the Command input field. For example, the Command data **`LOGON SUCCESSFUL`** would appear as:

```
COMMAND:
LOGON SUCCESSFUL_____________________________________________________
DDCDD4EECCCEECED44444444444444444444444444444444444444444444444444
36765024335226430000000000000000000000000000000000000000000000000000
```

where the first character, **`L`**, is represented by the hexadecimal value **`D3`**, which is displayed directly below the character, with the high-order hex digit **`D`** on the second line, and the low-order hex digit **`3`** on the third line. Continuing, **`O`** is represented by hex **`D6`**, **`G`** is represented by hex **`C7`**, etc.

When the Command record contains nondisplayable characters (values below hex 40), the period character (“.”) will be displayed in the first line (character representation) of the Command field. For example, the Command data shown above is followed by the carriage return (hex 0D) and newline (hex 15) characters. The display would appear as:

```
COMMAND:
LOGON SUCCESSFUL..___________________________________________________
DDCDD4EECCCEECED01444444444444444444444444444444444444444444444444
367650243352264 3D5000000000000000000000000000000000000000000000000
```

To use the hex mode Command editor in an Add or Update operation, first use the **F2=Hex Mode** key to activate hex mode. Then enter session control data as necessary. In the Command field, enter character data on the first line, and/or hexadecimal data on the second and third lines. Press **ENTER** to redisplay or **F10** to add or update the current script record and display the updated record. Note that using **F16** or **F17** to move to previous or next record will also execute an update.

Both character data and hex data can be entered at the same time. However, if both the character and hex values are changed for the same byte within the Command record, the hex changes will take precedence. If invalid data (characters other than 0 – 9 and A – F) is entered in the hex portion of the input field, then the value from the character portion of the input field will be used.

NOTE

The use of the **INSERT** and **DELETE** keys may cause unexpected results when editing with hex mode **on**, or when editing records that contain nondisplayable characters with hex mode **off**. ***The use of these keys is not supported.***

Network Scripts

Gentran:Server supplies predefined session control scripts for the major EDI networks. These scripts need to be modified with your network identifiers, such as the Mailbox ID and password, before they can be used for a communication session.

There are two methods for updating the predefined scripts:

- Manually edit the necessary session control records in each script defined for the comm profile
- Automatically update all scripts for a designated comm profile ID (only network profiles can be updated automatically)

Manually Update Network Scripts

This section identifies the information that needs to be manually changed for each of the predefined scripts. Script examples are included for the comm profiles shown in the following table.

NOTE

Due to the uniqueness of each implementation, the predefined Communication scripts are provided as examples only and are intended to assist in getting you started. Please read the *User Guide* provided by your value-added network or communication partner to ensure that the setup correctly reflects their specific requirements.

Comm Profile ID	Network Name
ADVBSC	Advantis Network (BSC)
ADVLU0	Advantis Network (SNA/LU0)
ATTEASY	AT&T EasyLink Network
ATTUK	AT&T in the United Kingdom
BTASC	British Telecom United Kingdom (ASC)
BTUK	British Telecom United Kingdom (BSC)
BTXAS	British Telecom United Kingdom (XAS)
CN2BSC	Commerce:Network Release 2 Network (BSC)
CN3BSC	Commerce:Network Release 3 Network (BSC)
CN3SNA	Commerce:Network Release 3 (SNA)
GEIS	GE Information Services
KLEIN	Kleinschmidt Network
MCIBSC	MCI (BSC)
SEARS	Sears Information Services
TRANS	Transettlements
WSUN	Western Union

NOTE

If you wish to communicate with a public network *not* included in this list, contact Product Support. A technical support person can assist you in building and testing communication scripts for other networks. To establish custom scripts for communicating with specific partners, SEE the "Exercise: Creating a Direct Communication Partner" in this chapter.

In the following section, refer to the appropriate Network Profile example for your system's configuration.

Advantis BSC (Comm Profile ID: ADVBSC)

Session Names

Contact the Advantis Network to obtain User ID, password, and account information, and replace the values on the specified Record Sequences as follows:

- RA (Receive All)
  Replace **ACCT** with the Account Number on Record Seqs 015 and 025.
  Replace **USRID** with the User ID on Record Seqs 015 and 025.
  Replace **PSWD** with the Password on Record Seqs 015 and 025.

- SO (Send Only)
  Replace **ACCT** with the Account Number on Record Seqs 015 and 025.
  Replace **USRID** with the User ID on Record Seqs 015 and 025.
  Replace **PSWD** with the Password on Record Seqs 015 and 025.

- SR (Send Receive)
  Replace **ACCT** with the Account Number on Record Seqs 015 and 025.
  Replace **USRID** with the User ID on Record Seqs 015 and 025.
  Replace **PSWD** with the Password on Record Seqs 015 and 025.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  ADVBSC
Session Name . . . . . . . . . . .  RA
Company. . . . . . . . . . . . . .  IBM INFORMATION NETWORK

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__      5   C     __  __________  2  SEND EXCHANGE I.D.
RJE2
__     10   R     SP  __________  7  RECV IBM INFO NETWORK LOGO
__     15   C     __  __________  2  SEND IBM LOGON
/*L ACCT,USRID,PSWD/*S EDIRECT/*U BSCEDI
__     20   R     SP  __________  7  RECV WELCOME MESSAGE
__     25   C     __  __________  2  SEND INFO EXCHANGE LOGON
IELOGON ACCOUNT(ACCT) USERID(USRID) PASSWORD(PSWD);
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.15 Session Control for Comm Profile ID: Advantis (ADVBSC)

Advantis LU0 (Comm Profile ID: ADVLU0)

Session Names

Contact the Advantis Network to obtain User ID, password, and account information, and replace the values on the specified Record Sequences as follows:

- RA (Receive All)
  Replace **ACCT** with the Account Number on Record Seqs 010 and 050.
  Replace **USRID** with the User ID on Record Seqs 010 and 050.
  Replace **PSWD** with the Password on Record Seq 010.

- SO (Send Only)
  Replace **ACCT** with the Account Number on Record Seqs 020 and 050.
  Replace **USRID** with the User ID on Record Seqs 020 and 050.
  Replace **PSWD** with the Password on Record Seq 020.

- SR (Send Receive)
  Replace **ACCT** with the Account Number on Record Seqs 010 and 040.
  Replace **USRID** with the User ID on Record Seqs 010 and 040.
  Replace **PSWD** with the Password on Record Seq 010.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  ADVSNA
Session Name . . . . . . . . . . .  RA
Company. . . . . . . . . . . . . .  IBM INFORMATION NETWORK

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__      5   C     __  __________  2  SEND EXCHANGE I.D.
RJE2
__     10   R     SP  __________  7  RECV IBM INFO NETWORK LOGO

__     15   C     __  __________  2  SEND IBM LOGON
/*L ACCT,USRID,PSWD/*S EDIRECT/*U BSCEDI
__     20   R     SP  __________  7  RECV WELCOME MESSAGE

__     25   C     __  __________  2  SEND INFO EXCHANGE LOGON
IELOGON ACCOUNT(ACCT) USERID(USRID) PASSWORD(PSWD);
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.16 Session Control for Comm Profile ID: Advantis (ADVSNA)

AT&T EASYLINK SERVICES (Comm Profile ID: ATTEASY)

Session Names

Contact AT&T EasyLink Services to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- SR (Receive and Send)
  Replace **USRNM** with the User Name on the Record Seq 010.
  Replace **PSWD** with the Password on the Record Seq 010.

- RO (Receive Only)
  Replace **USRNM** with the User Name on the Record Seq 010.
  Replace **PSWD** with the Password on the Record Seq 010.

- SO (Send Only)
  Replace **USRNM** with the User Name on the Record Seq 010.
  Replace **PSWD** with the Password on the Record Seq 010.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  ATTEASY
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  AT&T EASYLINK SERVICES

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   C     __  __________  0  SEND THE SIGNON RECORD
+:SIGNON USERNAME=USRNM PASSWORD=PSWD
__     20   S     OQ  __________  2  SEND DATA THEN EOT
__     30   R     IM  __________  7  RECV MSG BUNDLES UNTIL EOT
__    ___   _     __  __________  _  ____________________________
__    ___   _     __  __________  _  ____________________________
                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.17 Session Control for Communication Profile ID: ATTEASY

AT&T in the UK (Comm Profile ID: ATTUK)

Session Names

Contact AT&T to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- SR (Receive and Send)
  Replace **USRNM** with the User Name on the Record Seq 010.
  Replace **PSWD** with the Password on the Record Seq 010.

- RO (Receive Only)
  Replace **USRNM** with the User Name on the Record Seq 010.
  Replace **PSWD** with the Password on the Record Seq 010.

- SO (Send Only)
  Replace **USRNM** with the User Name on the Record Seq 010.
  Replace **PSWD** with the Password on the Record Seq 010.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  ATTUK
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  AT&T IN THE UNITED KINGDOM

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   C     __ __________  0  SEND THE SIGNON RECORD
/*SIGNON USERNAME=USRNM PASSWORD=PSWD
__     30   S     OM __________  2  SEND FROM OUTQUE
__     40   R     IM __________  8  RECV EDI TO INQUE
NO DATA AVAILABLE
__     50   R     SP __________  8
__    ___   _     __ __________  _
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.18 Session Control for Communication Profile ID: ATTUK

*BT UK GNS EDI*NET in the UK Async (Comm Profile ID: BTASC)*

Session Names

Contact British Telecom to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- RS (Receive and Send)
  Replace **&MBX** with the Mailbox ID on the Record Seq 020.
  Replace **&PSW** with the Password on the Record Seq 020.

- RO (Receive Only)
  Replace **&MBX** with the Mailbox ID on the Record Seq 020.
  Replace **&PSW** with the Password on the Record Seq 020.

- SO (Send Only)
  Replace **&MBX** with the Mailbox ID on the Record Seq 020.
  Replace **&PSW** with the Password on the Record Seq 020.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  BTASC
Session Name . . . . . . . . . . .  RS
Company. . . . . . . . . . . . . .  BT UK GNS EDI*NET ASYNC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   D    __  __________  0  WAIT FOR WELCOME MESSAGE
and press RETURN: .
__     12   C    __  __________  0  SEND SYSTEM PASSWORD
BGLEFBOLLN..
__     14   D    __  __________  0  WAIT FOR X.25 CONNECT MSG
Connected to 23421231102001...
__     20   C    __  __________  0  SEND LOGON SEQUENCE
&MBX;&PSW;A120;..
__     40   D    __  __________  7  RECV LOGON MSG OR ABORT SCRIPT
WELCOME TO EDI*NET                    .
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.19 Session Control for Communication Profile ID: BTASC

*BT UK GNS EDI*NET in the UK Bisync (Comm Profile ID: BTUK)*

Session Names

Contact British Telecom to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- RS (Receive and Send)
  Replace **&MBX** with the Mailbox ID on the Record Seq 020.
  Replace **&PSW** with the Password on the Record Seq 020.

- RO (Receive Only)
  Replace **&MBX** with the Mailbox ID on the Record Seq 030.
  Replace **&PSW** with the Password on the Record Seq 030.

- SO (Send Only)
  Replace **&MBX** with the Mailbox ID on the Record Seq 030.
  Replace **&PSW** with the Password on the Record Seq 030.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  BTUK
Session Name . . . . . . . . . . .  RS
Company. . . . . . . . . . . . . .  BT UK GNS EDI*NET BISYNC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   C     __  __________  0  SEND LOGON COMMAND
/$NETCMD LOGON UKLBSX
__     20   C     __  __________  2  SEND LOGON SEQUENCE & EOT
&MBX;&PSW;A120;
__     30   D     __  __________  7  RECV GARBAGE RECORD
INTENTIONAL NO MATCH
__     40   D     __  __________  0  RECV LOGON MSG OR ABORT SCRIPT
WELCOME TO EDI*NET                ..................................
__     50   D     __  __________  7  RECV ETX/EOT AFTER LOGON MSG
INTENTIONAL NO MATCH
                                                                  More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.20 Session Control for Communication Profile ID: BTUK

*BT UK GNS EDI*NET in the UK XAS (Comm Profile ID: BTXAS)*

Session Names

Contact British Telecom to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- RS (Receive and Send)
  Replace **&MBX** with the Mailbox ID on the Record Seq 010.
  Replace **&PSW** with the Password on the Record Seq 010.

- RO (Receive Only)
  Replace **&MBX** with the Mailbox ID on the Record Seq 010.
  Replace **&PSW** with the Password on the Record Seq 010.

- SO (Send Only)
  Replace **&MBX** with the Mailbox ID on the Record Seq 010.
  Replace **&PSW** with the Password on the Record Seq 010.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  BTXAS
Session Name . . . . . . . . . . .  RS
Company. . . . . . . . . . . . . .  BT UK GNS EDI*NET ASYNC VIA X.25

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   C     __  __________  0  SEND LOGON SEQUENCE
&MBX;&PSW;A120;..
       20   D                     7  RECV LOGON MSG OR ABORT SCRIPT
WELCOME TO EDI*NET                      .
__     30   R     IQ  __________  7  RECV EDI DATA UNTIL EOT
NO DATA TO SEND FROM EDI*NET
__     40   S     OQ  __________  2  SEND EDI DATA AND EOT
NO DATA TO SEND FROM EDI*NET
__     50   R     SP  __________  7  RECV STATISTICS FILE UNTIL EOT

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.21 Session Control for Communication Profile ID: BTXAS

Commerce:Network – Release 2 BSC (Comm Profile ID: CN2BSC)

Session Names

Contact the Commerce:Network — Release 2 Network to obtain Mailbox ID and password information, and replace the values on the specified Record Sequences as follows:

- SR Send Receive
  Replace **X999** with the Mailbox ID on Record Seq 001.
  Replace **99999** with the Mailbox ID on Record Seq 010.
  Replace **PASSWRD** with the password on Record Seqs 001 and 020.
- SO Send Only
  Replace **X999** with the alpha Mailbox ID on Record Seq 001.
  Replace **99999** with the Mailbox ID on Record Seq 005.
  Replace **PASSWRD** with the password on Record Seqs 001 and 015.
- RR Receive Reports
  Replace **X999** with the alpha Mailbox ID.
  Replace **PASSWRD** with the password on Record Seq 001.
- RA Receive All
  Replace **X999** with the alpha Mailbox ID.
  Replace **PASSWRD** with the password on Record Seq 001.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN2BSC
Session Name . . . . . . . . . . .  SO
Company. . . . . . . . . . . . . .  STERLING COMMERCE COMMERCENET RELEASE2

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     1   C     __   _________  2  SEND SIGNON
/*SIGNON CN2BSC  MX999 A                PASSWRD
__     5   C     __   _________  0  SEND BATCH RECORD
$$BATCH    ONUC A A 999990101
__     10  C     __   _________  0  SEND NETWORK APPLICATION REC
*.NTAP 02001+
__     15  C     __   _________  0  SEND PASSWORD RECORD
*.PASS PASSWRD
__     20  S     OQ   _________  2  SEND UCS DATA

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.22 Session Control for Comm Profile ID: CN2BSC

Commerce:Network – Release 3 BSC (Comm Profile ID: CN3BSC)

Session Names

Contact the Commerce:Network — Release 3 Network to obtain Mailbox ID and Batch ID/password information, and replace the values on the specified Record Sequences as follows:

- SR (Send Receive)
  Replace **SX999R** with the Report Mailbox ID on Record Seq 020.
  Replace **SX999D** with Data Mailbox ID on Record Seqs 030 and 040.
  Replace **TEST** with the Batch ID/Password on Record Seqs 020, 030, and 040.
- SO (Send Only)
  Replace **SX999D** with the Data Mailbox ID on Record Seq 020.
  Replace **TEST** with the Batch/ID Password on Record Seq 020.
- RR (Receive Reports)
  Replace **SX999R** with the Report Mailbox ID on Record Seq 020.
  Replace **TEST** with the Batch ID/Password on Record Seq 020.
- RD (Receive Data)
  Replace **SX999D** with the Data Mailbox ID on Record Seq 020.
  Replace **TEST** with the Batch ID/Password on Record Seq 020.
- RA (Receive All)
  Replace **SX999R** with the Report Mailbox ID on Record Seq 020.
  Replace **SX999D** with Data Mailbox ID on Record Seq 030.
  Replace **TEST** with the Batch ID/Password on Record Seqs 020 and 030.
- ST (Receive Network Reports)

  Replace **SX999D** with the Data Mailbox ID and **TEST** with the Batch ID/Password on Record Seqs 020 and 030.

```
EDIX403               Communication Session Control            EDI   03/01/06
CTL01                                                                  12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  RA
Company. . . . . . . . . . . . . .  STERLING COMMERCE COMMERCENET RELEASE3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
       20   C                   0  SEND REQUEST FOR REPORTS
$$REQUEST ID=SX999R BATCHID='TEST'
       30   C                   2  SEND REQUEST FOR X12 DATA
$$REQUEST ID=SX999D BATCHID='TEST'
       40   R    SP             7  RECEIVE REPORT DATA TO SPOOL
***  ERROR  ***  NO BATCHES FOR TRANSMISSION
       50   R    IQ             7  RECV X12 DATA TO INQUE
***  ERROR  ***  NO BATCHES FOR TRANSMISSION

                                                                      More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.23 Session Control for Comm ID: CN3BSC

Commerce:Network – Release 3 SNA (Comm Profile ID: CN3SNA)

Session Names

Contact the Commerce:Network — Release 3 Network (SNA) to obtain Mailbox ID and Batch ID/password information, and replace the values on the specified Record Sequences as follows:

- RA (Receive All)
  Replace **SX999R** with the Report Mailbox ID on Record Seq 050.
  Replace **SX999D** with the Data Mailbox ID on Record Seq 030.
  Replace **TEST** with the Batch ID/Password on Record Seqs 030 and 050.
- RD (Receive Data)
  Replace **SX999D** with the Data Mailbox ID on Record 030.
  Replace **TEST** with the Batch ID/Password on Record Seq 030.
- RR (Receive Reports)
  Replace **SX999R** with the Report Mailbox ID on Record Seq 030.
  Replace **TEST** with the Batch ID/Password Record Seq 030.
- SO (Send Only)
  Replace **SX999D** with the Data Mailbox ID on Record Seq 030.
  Replace **TEST** with the Batch ID/Password on Record Seq 030.
- SR (Send Receive)
  Replace **SX999D** with the Data ID and **TEST** with the Batch ID/Password on Seq 030.
  Replace **SX999R** with the Report Mailbox ID on Record Seq number 030, 060, and 080.
- ST (Receive Network Reports)
  Replace **SX999D** with the Data ID and **TEST** with the Batch ID/Password on Seqs 030 and 040.

```
EDIX403               Communication Session Control            EDI    03/01/06
CTL01                                                                   12:00:00

Comm Profile ID. . . . . . . . . .  CN3SNA
Session Name . . . . . . . . . . .  SO
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
___    10     R   SP              7  TRAP SUPERTRACS READY MSG
SUCCESSFUL LOGON TO GENTRAN/SUPERTRACS
___    20     R   SP              7  TRAP SUPERTRACS READY MSG
*** SUPERTRACS READY FOR INPUT
___    30     C                   0  SEND ADD RECORD
$$ADD ID=SX999D BATCHID='TEST'
___    40     S   OQ              3  SEND FROM  OUTBOUND QUEUE

___    50     C                   0  SEND LOGOFF TO END SESSION
$$LOGOFF APPLID=APPLIDNAME RMT=LUNAME
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.24 Session Control for Comm Profile ID: CN3SNA

GE Information Services (Comm Profile ID: GEIS)

Session Names

Contact the GEIS Network to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- RA (Receive All)
  Replace **IDX** with the User ID in Record Seq 005 and 015.
  Replace **PASSW** with the password on Record Seq 005.
- SR (Send and Receive)
  Replace **IDX** with the User ID in Record Seqs 005, 015, 020, and 035.
  Replace **PASSW** with the password on Record Seq 005.
- RP (Receive Prior -repeats last received documents)
  Replace **IDX** with the User ID in Record Seqs 005 and 015.
  Replace **PASSW** with the password on Record Seq 005.
- RR (Receive Reports—receive status reports)
  Replace **IDX** with the User ID in Record Seqs 005, 015, and 038.
  Replace **PASSW** with the password on Record Seq 005.
- RM (Receive Mailbox — receive specific mailbox: trading partner)
  Replace **IDX** with the User ID in Record Seqs 005 and 015.
  Replace **PASSW** with the password on Record Seq 005.
  Replace **MAILNUM** with the selected mailbox number (up to 8) on Record Seq 037.
- RV (Receive Network Reports)
  Replace **IDX** with the User ID in Record Seqs 005, 020, 040,and 060.
  Replace **PASSW** with the password on Record Seq 005.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  GEIS
Session Name . . . . . . . . . . .  RA
Company. . . . . . . . . . . . . .  GENERAL ELECTRIC INFO SYSTEMS

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     _5   C    __  __________   0  SEND USER ID & PASSWORD
IDX,PASSW,MAILA
__     _10  C    __  __________   0  SEND MAILBOX/PUNCH RECORD
*LTID MAILBOXA,CPUNCH
__     _15  C    __  __________   0  SEND MODE INPUT RECORD
*MODE INPUT(OUTPUT(HISTIDXA),LIST),WAIT,TAB(HSSTABLE)
__     _37  C    __  __________   0  SEND RECEIVE REQUEST
/EDXRCV
__     _45  C    __  __________   2  SEND END OF SESSION RECORD
*EOS
                                                                      More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.25 Session Control for Comm Profile ID: GEIS

Kleinschmidt (Comm Profile ID: KLEIN)

Session Names

Contact the Kleinschmidt Network to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- RA (Receive ALL)
  Replace **USERID** with the User ID and **PASSWORD** with the Password on Record Seq 005.
- SO (Send Only)
  Replace **USERID** with the User ID and **PASSWORD** with the Password on Record Seq 005.
- SR (Send Receive)
  Replace **USERID** with the User ID and **PASSWORD** with the Password on Record Seq 005.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  KLEIN
Session Name . . . . . . . . . . .  RA
Company. . . . . . . . . . . . . .  KLEINSCHMIDT NETWORK

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__      5   C     __  __________  2  SEND SIGNON RECORD
#SIGNON USERID,PASSWORDX
__     10   C     __  __________  2  SEND REQUEST FOR OUTPUT
#SEND TSTDATA
__     15   R     IQ  __________  7  RECV X12 DATA TO INBOUND QUEUE
NO ACTIVITY SINCE LAST REQUEST
__     20   C     __  __________  2  SEND SIGNOFF
#SIGNOFF
__    ___   _     __  __________  _  ____________________________________
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.26 Session Control for Comm Profile ID: Klein

MCI Bisync (Comm Profile ID: MCIBSC)

Session Names

Contact MCI to obtain User ID and password information, and replace the values on the specified Record Sequences as follows:

- SR (Receive and Send)
  Replace **MAILBOXID** with the Mailbox ID on the Record Seq 012.
  Replace **PASSWD** with the Password on the Record Seq 012.

- RO (Receive Only)
  Replace **MAILBOXID** with the Mailbox ID on the Record Seq 012.
  Replace **PASSWD** with the Password on the Record Seq 012.

- SO (Send Only)
  Replace **MAILBOXID** with the Mailbox ID on the Record Seq 012.
  Replace **PASSWD** with the Password on the Record Seq 012.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  MCIBSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  MCI

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__      5   C      __ __________  0  SEND PROFILE & TYPE
/$NETCMD PROFILE TYPE2
__     10   C      __ __________  0  SEND SIGNON
/$NETCMD SIGNON EDIBSC01;BSC*EDI
__     12   C      __ __________  2  SEND HOST SIGNON & DIALOG
MAILBOXID;PASSWD;B135;
__     14   R     SP  __________  7  RECV WELCOME MSG

__     20   R     IQ  __________  7  RECV X12 EDI DATA
NO DATA TO SEND FROM EDI*NET
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.27 Session Control for Communication Profile ID: MCIBSC

SEARS Communication Network (Comm Profile ID: SEARS)

Session Names

Contact the Sears Network to obtain ID number and password information, and replace the values on the specified Record Sequences. The following three session names share the same replacement instructions.

- SR (Send Receive)
- RA (Receive All)
- SO (Send Only

  Replace **IDXXXXX** with the ID Number on Record Seq 005.
  Replace **PASSWORD** with the password on Record Seq 005.

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  SEARS
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  SEARS INFORMATION NETWORK

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     __5   C    __   __________  0  SEND SIGNON
.LOGON SEARSEDI,IDXXXXX,PASSWORD
__     __15  R    IQ   __________  7  RECV X12 FROM PARTNERS
__    ___   _    __   __________  _  ____________________________
__    ___   _    __   __________  _  ____________________________
__    ___   _    __   __________  _  ____________________________
__    ___   _    __   __________  _  ____________________________
                                                                  More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.28 Session Control for Comm Profile ID: Sears

Transettlements (Comm Profile ID:TRANS)

Session Names

Contact the Transettlements Network to obtain Account number and password information, and replace the values on the specified Record Sequences. The following three session names share the same replacement instructions.

- RA (Receive All)
- SO (Send Only)
- SR (Send Receive)

  Replace **ACCT** with the Account number on Record Seq 001.
  Replace **PASSWORD** with the password on Record Seq 001.

```
EDIX403                Communication Session Control             EDI  03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  TRANS
Session Name . . . . . . . . . . .  RA
Company. . . . . . . . . . . . . .  TRANSETTLEMENTS NETWORK

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     __1    C   __  __________   2  SEND ACCT. NO. & PASSWORD
LOG 2434,ACCT,PASSWORD
__     __2    D   __  __________   7  RECV PROMPT FOR SECUITY CODE
SECURITY CODE >
__     __3    C   __  __________   2  SEND SECURITY CODE
SECURITY
__     __6    D   __  __________   7  RECV PROMPT FOR NEXT COMMAND
COMMAND >
__     _40    C   __  __________   2  SEND A REQUEST TO RECEIVE DATA
RECEIVE
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.29 Session Control for Comm Profile ID:TRANS

Western Union (Comm Profile ID: WSUN)

Session Names

Contact the Western Union Network to obtain Account number and password information, and replace the values on the specified Record Sequences. The following three session names share the same replacement instructions.

- SR (Send Receive)
- SO (Send Only)
- RA (Receive All)

  Replace **ACCOUNT99** with the Account number on Record Seq 005.
  Replace **PASSW.PASSW** with the password on Record Seq 005.

```
EDIX403                Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  WSUN
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  WESTERN UNION

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     5   C    __  __________   0  SEND SIGNON
SIGNON ACCOUNT99 PASSW.PASSW
__    10   C    __  __________   0  SEND SEND-RECORD
#SENDEDI
__    15   S    OQ  __________   0  SEND X12 DATA

__    20   C    __  __________   2  SEND RECEIVE REQUEST RECORD
#RCVEDI
__    25   R    IQ  __________   8  RECEIVE X12 FROM PARTNERS

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.30 Session Control for Comm Profile ID:WSUN

Automatically Update Network Scripts

Gentran:Server offers a utility that can be used with network profiles to automatically update the predefined scripts with your identifiers provided by the network. The utility is referred to as the "Network Profile" feature.

This feature simplifies the customization of communication scripts for networks by automatically updating the network scripts with the unique values associated with that network user.

For example, rather than manually editing each of the scripts to insert your unique User ID and password where required, the User ID and password can be entered on the Network Profile panel (EDIX821-FMT01). The system then finds old network values and replaces them with new network values for all scripts for that network profile. Later, if your password changes, you can again update all the scripts for a specific network by typing a new password into the Password field on panel EDIX821-FMT01. Several major network profiles are included in the "Network Profile" section.

```
EDIX400                    Work with Communications               EDI  03/01/06
FMT01                 pgmlib: G3X4PGM   dtalib:G3X4DTA                12:00:00

Position to Profile ID . . . . . ____

Type option (and Information), press Enter.
  17=Network Prf  30=Start Session  31=End Session  32=Copy Comm  33=Line Pool

Opt  Profile ID  Company
17   ________
__   CN3BSC      COMMERCE:NETWORK RELEASE 3
__   CN3SNA      COMMERCE:NETWORK RELEASE 3
__   REDINET     CONTROL DATA / REDINET NETWORK
__   RMTDAA      Remote Dial Line/Answer/ASYNC
__   RMTDAL      Remote Dial Line/Answer/SDLC/APPC
__   RMTDAN      Remote Dial/Answer/No X25 Network
__   RMTLAL      Remote Leased-line/answer/SDLC/APPC
__   RMTLAN      Remote Lease Lin/Answer/No X25 Netw
__   RMTLAX      Remote Leased Line/Answer/X25 Netwk
                                                                      More...
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 4.31 Work with Communications Panel (EDIX400-FMT01)

To access the Network Profiles, type **17** (Network Prf) on the key entry line and press **Enter**, as shown in Figure 4.31

The Work with Network Profile panel (EDIX820-FMT01), shown in Figure 4.32, contains a list of comm profile IDs that have been classified as "Network Profiles." When this panel is accessed with option **17** (Network Prf) next to a specific Profile ID, the list is automatically positioned to the closest matching entry. Many EDI networks are supported by this automatic script update utility.

```
EDIX820                  Work with Network Profile              EDI  03/01/06
FMT01               pgmlib: G3X4PGM     dtalib: G3X4DTA             12:00:00

Position to Network ID . . . . . .  CN3BSC

Type option (and Information), press Enter.
 2=Revise  5=View

                                                        Last Update
Opt Network ID Network Name                            Date     User

 2  CN3BSC     COMMERCE:NETWORK RELEASE 3              12/27/01 EDI
    CN3SNA     COMMERCE:NETWORK RELEASE 3              05/12/97 DSH
    SEARS      SEARS INFORMATION NETWORK               07/21/97 COM
    TRANS      TRANSETTLEMENTS NETWORK                 03/29/97 XXX
    WSUN       WESTERN UNION                           08/13/97 JBS



                                                                    Bottom
Parameters or command
===>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Key
```

Figure 4.32 Work with Network Profile Panel (EDIX820-FMT01)

To perform the automatic script update procedure, type **2** in the option field next to the selected Network ID (Network comm profile ID) and press **Enter**.

The Network Profile panel (EDIX821-FMT01) appears, as shown in Figure 4.6.

```
EDIX821                      Network Profile                    EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Network Name . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Dial . . . . . . . . . . . . . . .  1800627588312
Data Mailbox ID. . . . . . . . . .  SX222D
Report Mailbox ID. . . . . . . . .  SX999R
Batch ID/Password. . . . . . . . .  TEST

F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.33 Network Profile Panel (EDIX821-FMT01)

After making any necessary changes, press **F10** (Update).

The system scans all scripts for this comm profile ID, looking for a match on the old identifiers. If found, they are replaced with the new identifiers. The system returns you to panel EDIX820-FMT01 with a message indicating the scripts were updated.

Additionally, the Dial number can be updated for the comm profile from this panel. If you change the Dial number, the system updates the profile, and then recreates the line, controller, and device descriptions.

NOTE

Users converting to Gentran:Server for iSeries Release 3.4 from a prior release may have an out-of-sync problem with their scripts that should be corrected before using this utility. (SEE the “Common Questions” section in this chapter for more information on how to convert the scripts in preparation for using the automatic script update utility.)

Copy Profiles and Scripts

When creating custom profiles, it may be easier to copy an existing profile and/or script and modify it to meet your requirements.

Copy Communication Profiles

The copy function for the profile copies the comm profile ID and all session scripts from the source Profile. If the scripts are not needed, you can delete them after copying.

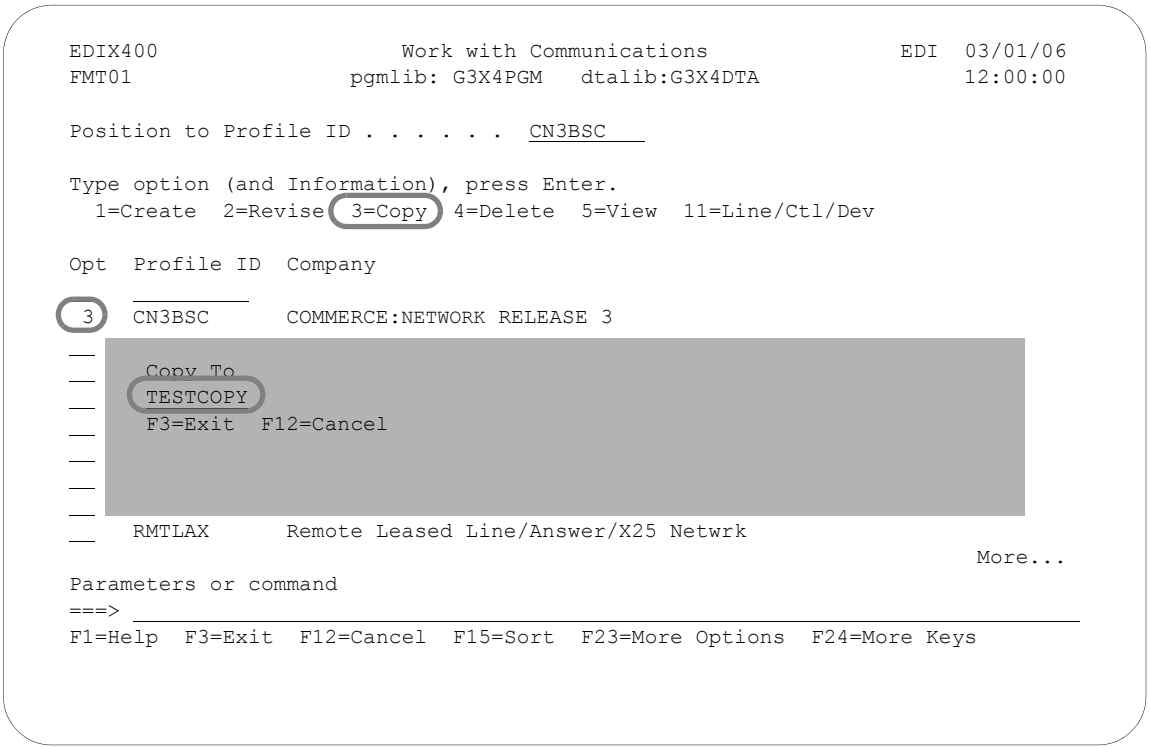


Figure 4.34 Work with Communications Panel (EDIX400-FMT01)

To copy a Profile ID, advance to the Work with Communications panel (EDIX400-FMT01), type **3** (Copy) in the option field next to the selected profile and press **Enter**, as shown in Figure 4.34. A pop-up window is shown to specify the new comm profile ID. Type the new ID and press **Enter**.

The system copies the necessary information and advances you to the comm profile ID panel (EDIX401-FMT01) to let you customize the profile and configuration information before the copy is performed.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  TESTCOPY

Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE3
Contact. . . . . . . . . . . . . .  NETWORK COMMUNICATIONS
Phone. . . . . . . . . . . . . . .  ( 614 ) 793 - 7000  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  BSC
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F10=Update  F12=Cancel  F13=Services  F24=More Keys
```

Figure 4.35 Communication Profile Panel (EDIX401-FMT01)

Make any necessary changes to the new comm profile and press **Enter**, as shown in Figure 4.35.

```
EDIX401                    Communication Profile                 EDI 03/01/06
FMT02                               BSC                              12:00:00

Comm Profile ID. . . . .  TESTCOPY
Company. . . . . . . . .  COMMERCE:NETWORK RELEASE3

Modem Port . . . . . . .  LIN021            Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)           Auto Dial. . . . . . .  Y (Y/N)
Auto Call Unit . . . . .  V                 Auto Call Port . . . .
Dial . . . . . . . . . .  18006275883
Host ID Verify . . . . .  N (Y/N)           Duplex . . . . . . . .  *FULL
Local Site ID. . . . . .
Record Size. . . . . . .  0080              Block Size . . . . . .  0512
Inter-Record Separator .  3780
Transparency . . . . . .  N (Y/N)
Blank Compress . . . . .  N (Y/N)
Trailing Blank Trunc . .  N (Y/N)           Remote Cmd Password. .  *NONE




F1=Help  F2=More/Less  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 4.36 Communication Line/Control/Device panel (EDIX401-FMT02)

Make necessary changes and press **F10** (Update), as shown in Figure 4.36.

The Profile ID is created and the system automatically creates the line, controller, and device descriptions.

NOTE

The system also copies all session scripts from the source Profile to the new Profile ID. Review each script.

Copying Communication Scripts

The copy function is also available to copy a session control script within a comm profile or between Profiles.

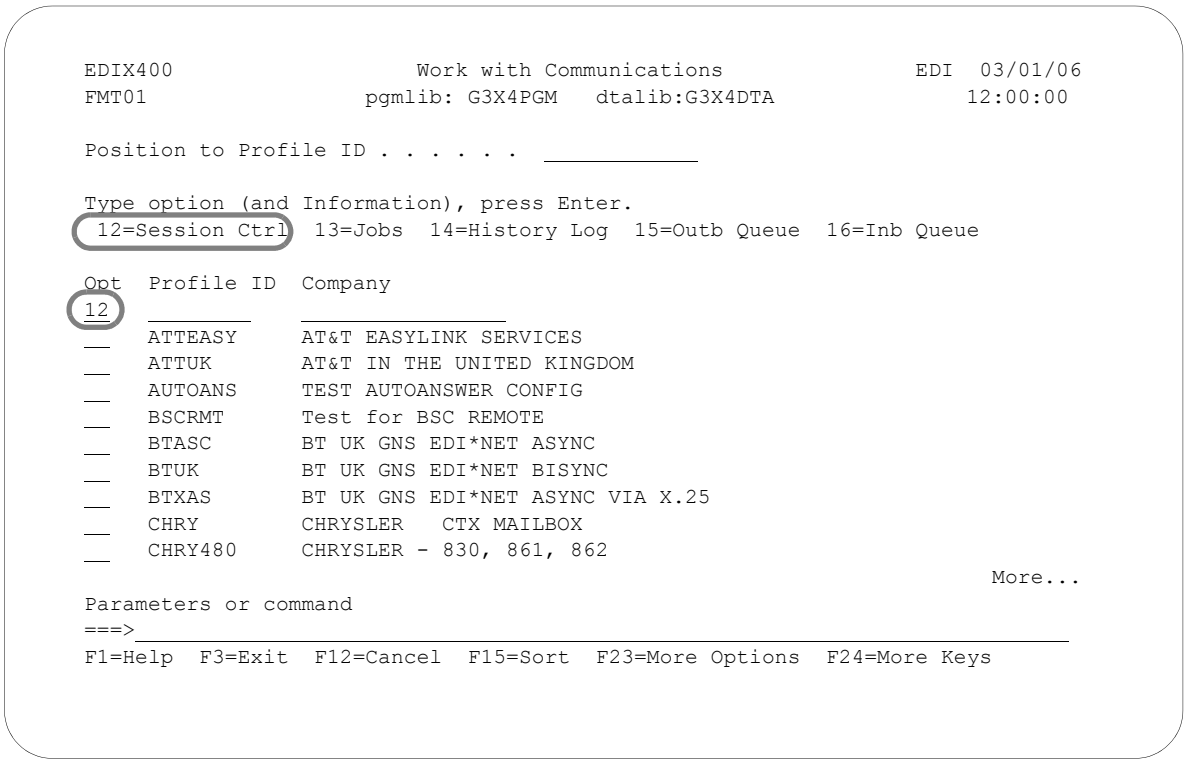


Figure 4.37 Work with Communications Panel (EDIX400-FMT01)

Copy Scripts between Profiles

On the Work with Communications panel (EDIX400-FMT01), shown in Figure 4.37, type **12** (Session Ctrl) in the option field on the key entry line and press **Enter.** All scripts for all profiles are shown.

Copy Scripts within a Profile

On the Work with Communications panel (EDIX400-FMT01), shown in Figure 4.37, type **12** (Session Ctrl) in the option field next to the selected Profile ID. All scripts for the selected profile are shown.

The Work with Communications Session panel (EDIX402-FMT01) is shown in Figure 4.38. This panel will appear slightly different when accessed for all profiles or for a single profile.

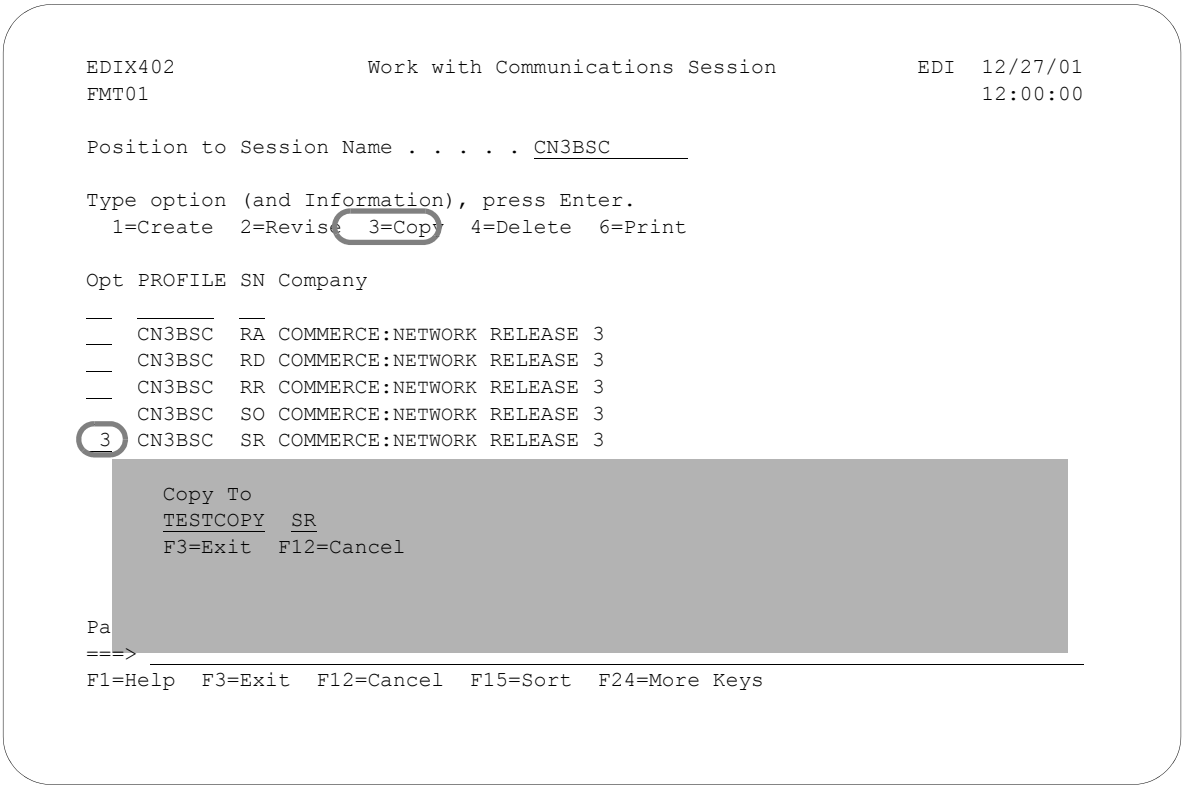


Figure 4.38 Work with Communications Session Panel (EDIX402-FMT01)

To copy the session script, type **3** (Copy) next to the selected profile and session name (or just session if the list was accessed for a specific profile) and press **Enter**. A pop-up window is shown to specify the new profile and session name. Type the target information and press **Enter**.

The system copies all session control records for the script and re-displays panel EDIX402-FMT01.

Copy Communication Script Records

The copy function is also available to copy a session control script record within a script or between profiles.

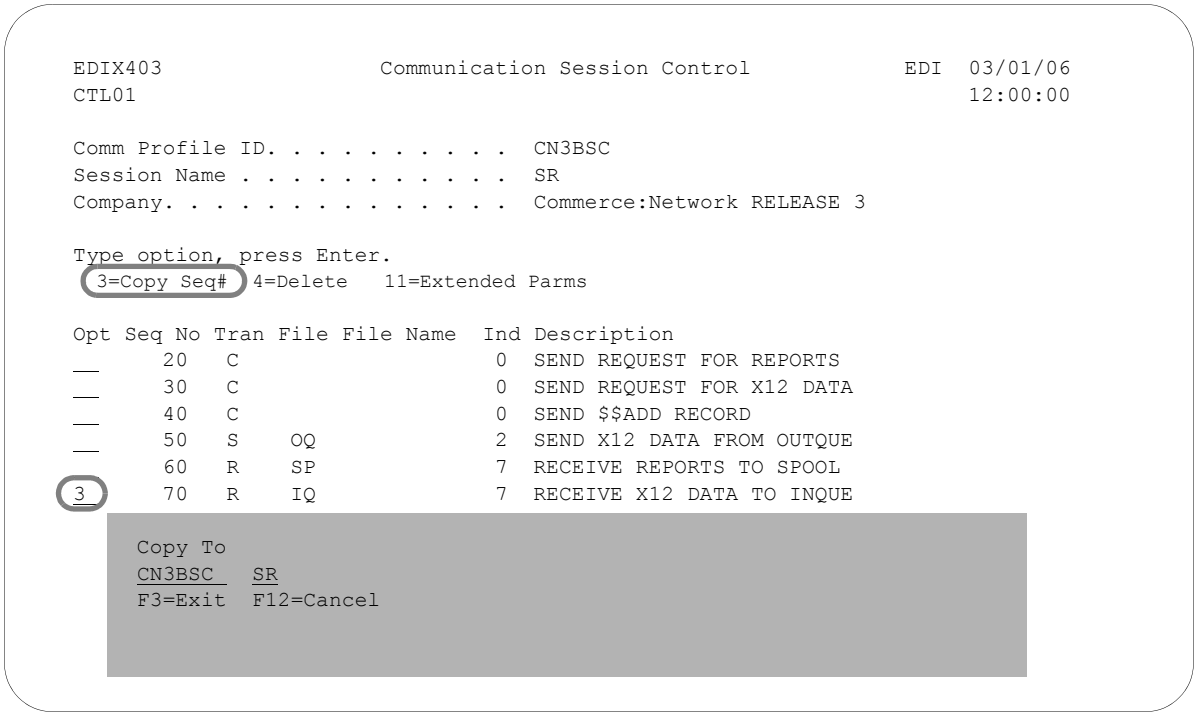


Figure 4.39 Work with Communication Session Control Panel (EDIX403-CTL01)

Copy Script Record between Profiles

On the Communication Session Control panel (EDIX403-CTL01), as shown in Figure 4.39, type **3** (Copy) in the option field next to the selected sequence number (and, optionally, type a new sequence number over the selected sequence number) and press **Enter**. A pop-up window is shown to specify the new profile and session name. Type the target information over the current profile or current session name and press **Enter**.

The system copies the sequence number and re-displays panel EDIX403-CTL01.

Copy Script Record within a Script

On the Communication Session Control panel (EDIX403-CTL01), as shown in Figure 4.39, type **3** (Copy) in the option field next to the selected sequence number and type the new sequence number desired over the selected sequence number and press **Enter**. A pop-up window is shown to (optionally) specify a new profile and session name. If the copy is within the current profile and session name, press **Enter** without changing the profile or session name.

The system copies the session control record to the new sequence number and re-displays panel EDIX403-CTL01.

Operations and Management of Communications

Operations and management allows the user to initiate (or schedule) specific communications sessions, work with active sessions, work with the data in the Inbound and Outbound Queues, view the history of previous transmissions, and perform routine file maintenance on the communications files.

Operations

Prior to initiating communication sessions, the setup of profiles and scripts must already be done. These profiles and scripts are the foundation of the comm session. Data needs to be added to the queue via the ADD command (will have a ready status of **Q**) before it can be transmitted.

Data remains in the Outbound Queue until you send it to a communication partner via a comm session. Typically, these jobs add data to the queue and initiate comm sessions that are scheduled to run on a routine basis (that is, every day at 10:00 and 2:00) in an unattended mode.

Data received during a comm session is placed in the Inbound Queue with a status of **RN** (Received Normal). The data remains in the Inbound Queue until you run an EXTRACT command to copy the data into a file and the status is updated to **PI** (processed inbound) These jobs are also typically scheduled to run at specific times in an unattended mode.

Management

From time to time, data may need to be retransmitted or reprocessed. This can be accomplished by resetting the status of the batch and executing the comm session (STRCOMSSN) or EXTRACT jobs again. History of previous transmissions can be accessed to ensure all sessions have completed successfully, and detailed information can be examined when troubleshooting. Another management function that should be performed on a routine basis is file clean up. Several purge jobs are available to purge individual or all communication files that meet the purge criteria. These purge jobs are commonly scheduled to be run on a routine basis during “off-hours” and can be optionally purged to tape or save file. If the data is purged to tape or save file, it can be restored using the various retrieve commands.

Initiate Communication Sessions

When you initiate a communication session, the system determines the type of session to be performed based on the parameters you set for the comm profile. These parameters may include Switched Line, Auto Dial, Auto Call Unit/Port, and Dial. The following types of sessions are performed by the system:

- Auto Dial
- Manual Dial
- Auto Answer

Auto dial sessions are the most common but require an auto-dial modem or a manual-dial modem with an auto call unit attached on a secondary line. (This enables the modem to become an auto-dial modem.) Your system initiates the call and can be set up to run unattended at scheduled times.

Manual dial sessions are also initiated by your system but require operator intervention. An operator needs to manually dial the number and respond once the connection is established.

Auto answer sessions are initiated by a remote system. Your system must be ready to receive. This type of session requires you to start the session and then wait for the remote to call you. You have the ability to place the system in a continuous "ready-to-receive" mode by setting the Run Continually parameter to **`Y`**.

NOTE

Only one active session per physical line can take place at any time.

Access the Work with Communications panel (EDIX400-FMT01) to initiate communications sessions by selecting option **1** from the GENMAIN menu and then selecting **1** from the GENCOM menu.

```
EDIX400                  Work with Communications             EDI    03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . .  CN3BSC

Type option (and Information), press Enter.
  17=Network Prf   30=Start Session  31=End Session  32=Copy Comm  33=Line Pool

Opt  Profile ID  Company

 30  CN3BSC      COMMERCE:NETWORK RELEASE 3
     CN3SNA      COMMERCE:NETWORK RELEASE 3
     REDINET     CONTROL DATA / REDINET NETWORK
     RMTDAA      Remote Dial Line/Answer/ASYNC
     RMTDAL      Remote Dial Line/Answer/SDLC/APPC
     RMTDAN      Remote Dial/Answer/No X25 Network
     RMTLAL      Remote Leased-line/answer/SDLC/APPC
     RMTLAN      Remote Lease Lin/Answer/No X25 Netw
     RMTLAX      Remote Leased Line/Answer/X25 Netwk
                                                                      More...
Parameters or command
===>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 4.40 Work with Communications Panel (EDIX400-FMT01)

To start a communication session, type **30** (Start Session) next to the desired comm profile ID and press **Enter**, as shown in Figure 4.40.

The Start Communication Session (STRCOMSSN) command panel is shown with the selected comm profile ID pre-loaded.

The Start Communications Session (STRCOMSSN) command panel, as shown in Figure 4.41, is used to initiate a communication session, whether auto dial, manual, or auto answer.

NOTE

Only one session per communication profile can be executed at the same time.

```
                  Start Communications Session (STRCOMSSN)

Type choices, press Enter.

Communications Profile ID  . . . > 'CN3BSC'      Comm Profile Id
Session Type . . . . . . . . . .                  Name
Delete Previous Jobs?  . . . . .   *YES          *YES, *NO
Schedule Job?  . . . . . . . . .   *NO           *YES, *NO
Run Continually? . . . . . . . .   *NO           *YES, *NO

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 4.41 Start Communications Session Panel (STRCOMSSN)

Comm Profile ID

The comm profile ID is passed into the command when selected from the Work with Communications panel with option **30** (Start Session). The session type must also be specified to indicate the script to be used. For example, **SR** indicates that the "Send and Receive" script should be used.

Press **F10** (Additional Parameters) to specify additional parameters. Press **F1** (Help) on any parameter to obtain help for the parameter or for the command in general.

Trace

The Trace parameter is extremely useful when resolving communication error problems, since it generates additional job log messages and trace files. The default is ***No** (do ***not*** trace the job). The Trace parameter is also an excellent tool to use when creating new scripts and profiles, or when running initial tests with a script or profile.

CAUTION

Setting the Trace parameter to ***YES** generates additional system overhead and should only be used for diagnostic purposes.
Trace cannot be run on more than one session at a time. If you run concurrent sessions with Trace on in both sessions, you will encounter failures.

NOTE

To gather additional diagnostic data, use the **STRCOMSSNT** command. This command is the same as the STRCOMSSN command, except that it also generates OS/400 ICF and OS/400 Communications traces.

Connect If No Data

The Connect If No Data parameter can be used to force the system to start a comm session even when there's no data to be sent. When set to ***YES**, the system connects without checking the Outbound Queue. A value of ***NO** makes the system check the Outbound Queue for data. It then decides to initiate a session if outbound data is present and if the script contains a send from the Outqueue command. The default value is set to ***YES**.

Reset Queues on Fail

If the Reset Queues on Fail parameter is set to ***YES**, Gentran:Server will interpret a failure that occurs at any point in a session to be a failure of the entire session, even if some data has already been transferred successfully. If **RESETQ(*YES)** is specified and the communication session ends with a failed completion status, Gentran:Server will set any inbound queue batches that were received during the session to status **RA** (Received Abnormally), so that they will not automatically be processed by Gentran:Server inbound processing. Gentran:Server will set any outbound queue batches that were transmitted during the session to status **SA** (Sent Abnormally), so that they will be transmitted again the next time an outbound communication session is run for the same communication profile. The default value is set to ***NO**.

Number of Restarts

The Number of Restarts parameter specifies the number of times the communication session should be retried if the first attempt completes with a failed status. Valid values range from **0** to **99**. The number entered does not include the initial communication session attempt. The default value is set to **0**.

When transmitting data from the Outbound Queue, a copy of the data is sent if the batch status is **Q** (Queued), **IP** (In Progress), or **SA** (Sent Abnormal). After data is transmitted, the system updates the status to **SN** or **SA**. Outbound batches can contain the following status codes:

- **Q** (Queued)
- **QE** (Queued with errors — rejected data)
- **SN** (Sent Normal)
- **SA** (Sent Abnormal)
- **IP** (In Progress)
- **H** (Held)

NOTE

Batches are sent in the order specified for the comm profile ID on panel EDIX400-FMT01. They are sent by either the FIFO (First in, first out) or LIFO (Last in, first out) method.

When receiving data to the Inbound Queue, the batches are given a status of **RN** (Received Normal) or **RA** (Received Abnormal). Only batches with a **RN** status are processed. After each batch is extracted inbound, the system updates the status to **PI**. Inbound batches can contain the following status codes:

- **RN** (Received Normal)
- **RA** (Received Abnormal)
- **CP** (Currently in Progress – temporary status assigned by the Inbound Editor during processing.
- **PI** (Processed Inbound)
- **H** (Held)

The STRCOMSSN command can be executed in one of three ways:

- Submitting it to run as a batch job immediately
- Scheduling it to run as a batch job at a later time
- Executing it interactively (immediately)

To submit the command to run the job as a batch job immediately, keep the default value ***No** in the Schedule Job and Run Interactively parameters. The job is submitted to batch as soon as you press **Enter**.

To schedule the command to run as a batch job (at a later time), type ***YES** in the Schedule Job parameter. The system displays the Schedule Job (SCHJOB) command panel, which contains the job run parameters.

To execute the command interactively (immediately), keep the default value ***NO** in the Schedule Job parameter and type ***YES** in the Run Interactively parameter. (Press **F10** [Additional Parameters] to modify.)

NOTE

Executing a command interactively locks up your terminal until the job is complete.

If you specify ***YES** in the Schedule Job field, the Schedule Job panel (SCHJOB) panel appears, as shown in Figure 4.42.

```
                            Schedule Job (SCHJOB)

 Type choices, press Enter.

 Command to Exec  . . . . . . . . . > STRCOMSSN PROFIL('CN3BSC') SSN(SR) DELETE('*
YES') SCHED(*NO) CONT('*NO') TRACE('*NO') INT(*YES) DOCONNECT('*YES') RESETQ('*N
O') RERUNCT('00') COMPRS('*NO') PROCNAME('STRCOMSSN') SESSLOG('*NO')

 Job Name . . . . . . . . . . . . . > CN3BSC        Name, *JOBD
 Date of First Run  . . . . . . .   *CURRENT      Date, *CURRENT
 Date of Last Run . . . . . . . .   *FSTRUN       Date, *NONE, *FSTRUN
 Time of Day to Start Run . . . .   *CURRENT      Time, *CURRENT
 Run Frequency  . . . . . . . . .   1             1-99, *NONE
 Run Occurrence . . . . . . . . .   *DAILY        *MINUTE, *HOURLY, *DAILY...
 Job Description  . . . . . . . . > GENTRAN       Name, *USRPRF
 User profile . . . . . . . . . .   *CURRENT      Name, *CURRENT
 MSGQ for completion message  . . > CBCOMM        Name, *USRPRF



                                                                       More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Figure 4.42 Schedule Job Panel (SCHJOB)

To schedule the session, press **Enter**. To cancel the scheduling of the command, press **F12** (Cancel).

Monitor Active Communication Sessions

While communication sessions are active, you may want to monitor and control the jobs from a central location.

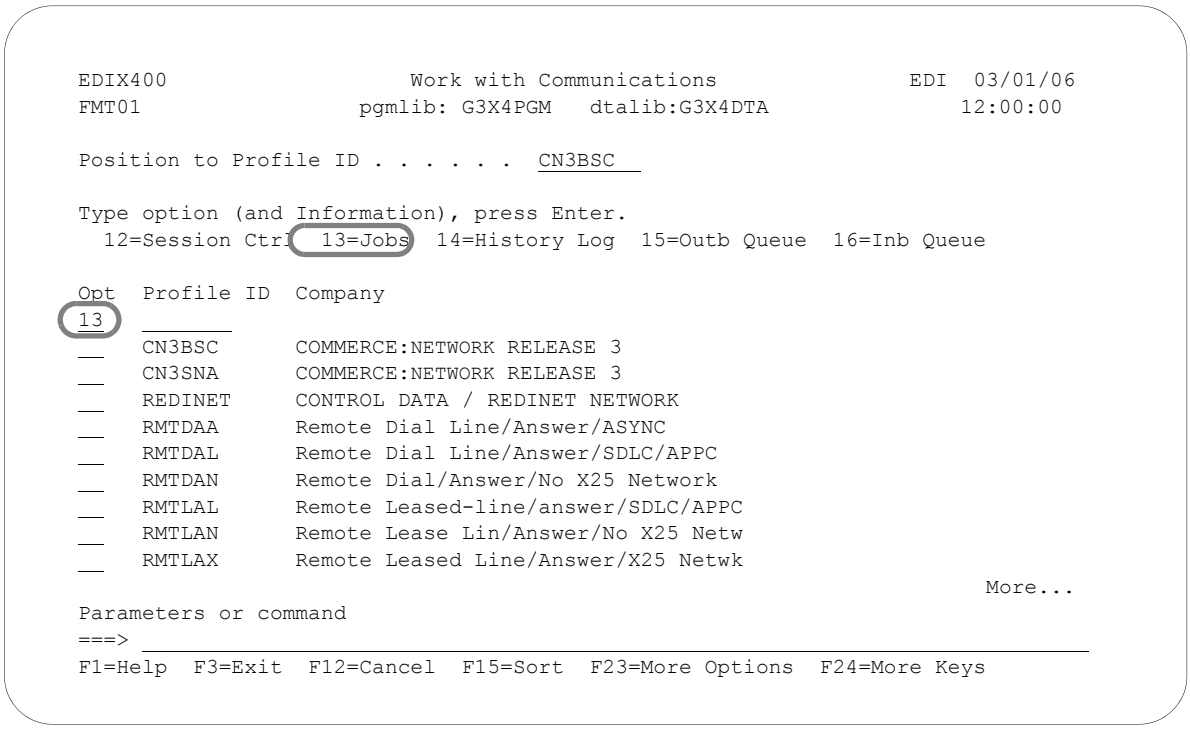


Figure 4.43 Work with Communications Panel (EDIX400-FMT01)

To access the Work with Communication Jobs panel (EDIX817-FMT01), type **13** (Jobs) in the option field on the key entry line and press **Enter**, as shown in Figure 4.43.

Work with Communication Jobs

The Work with Communication Jobs panel (EDIX817-FMT01), shown in Figure 4.44, enables you to display the communication job details for active communication jobs. All information related to the job can be accessed using the appropriate option codes.

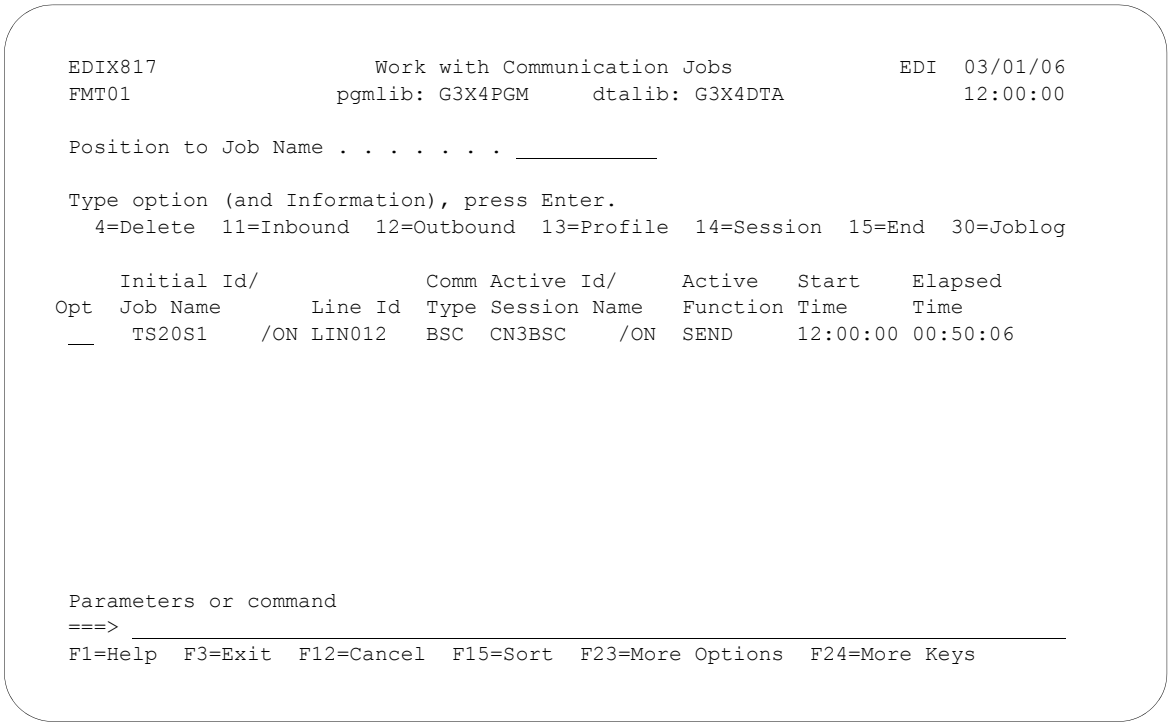


Figure 4.44 Communication Job Inquiry Panel (EDIX817-FMT01)

To work with active communications jobs, select the option code to access the desired information. From this panel, you can access the Inbound and Outbound Queues to work with batches of EDI data being sent of received, or you can cancel an active job and end it immediately. For complete flexibility in working with jobs, some iSeries commands can be accessed directly by using an option code. For example, option **30** (Joblog) executes the iSeries command DSPJOBLOG (Display Job Log) and option **34** (Workjob) executes the iSeries command WRKUSRJOB (Work with User Job).

NOTE

Ending jobs external to Gentran can cause entries for jobs to show up on the Work with Communications Jobs panel, even though the jobs may have actually ended. Use option **15** (End) or option **4** (Delete) to remove these false job entries.

View the Communications History Log

The Communications History log contains detailed history information for all communication sessions. These details can be viewed when troubleshooting problems in communications sessions.

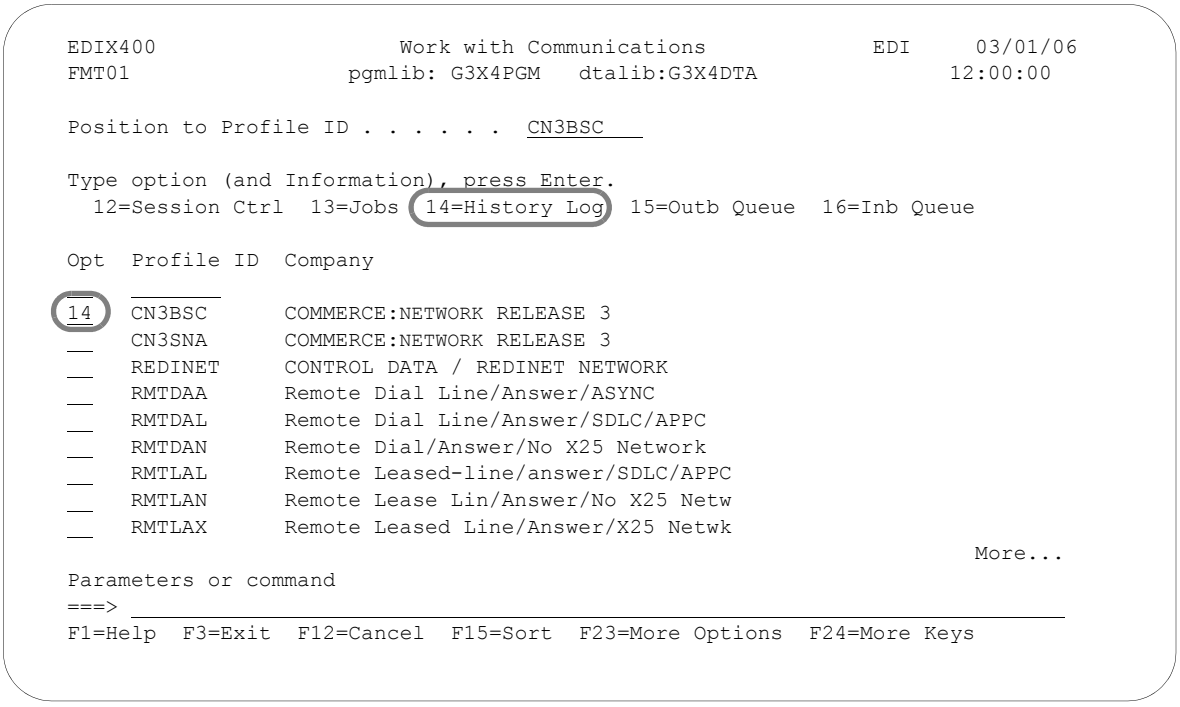


Figure 4.45 Work with Communications Panel (EDIX400-FMT01)

To access the History log for a specific comm profile ID, type **14** in the option field next to the selected ID and press **Enter**, as shown in Figure 4.45. Only entries for that comm profile ID will be shown. Type **14** on the key entry line and press **Enter** to see entries for all comm profile IDs.

The Work with Communications History Log panel (EDIX406-FMT01) appears as shown in Figure 4.46, and displays the results of all communication sessions. Once you determine exactly where and when the problems occur, you can make the necessary corrections and re-send or re-receive data. Each session is logged with statistical information including the start, end, and elapsed times.

```
EDIX406            Work with Communications History Log         EDI 03/01/06
FMT01                                                               12:00:00

Position to Comm Stamp . . . . . _____________ Seq _______    CN3BSC

Type option (and Information), press Enter.
  6=Print Session  11=Queue Inq  34=PRTCOMHST Cmd

Opt   Comm  Sess  Comm             Start      Start     End      Elapsed  F  T S
    Prof ID Name  Stamp     Seq    Date       Time      Time     Time     N  T T
__  CN3BSC   SR       6       1 03/01/06    15:05:55  15:05:55  00:00:00    B N
__  CN3BSC   SR       6      23 03/01/06    15:07:19  15:07:19  00:01:25    E N
__  CN3BSC   SR       1       1 03/01/06    14:57:54  14:57:54  00:00:00    B N
__  CN3BSC   SR       1      13 03/01/06    15:00:08  15:00:08  00:04:14    E N




                                                                       Bottom

Parameters or command
===> ____________________________________________________________________________
F1=Help  F2=More/Less  F6=Msg On/Off  F9=Retrieve  F12=Cancel  F24=More Keys
```

Figure 4.46 Work with Communications History Log (EDIX406-FMT01) basic view

If you chose a specific comm profile ID on the Work with Communications panel (EDIX400-FMT01), the information on the Work with Communications History Log panel will be sorted by Comm Stamp (in descending order), and Session Control Sequence Number (in ascending order).

If you selected to view batches for all comm profile IDs on the Work with Communications panel (EDIX400-FMT01), the information will appear sorted by the comm profile ID (in ascending order) and the History Record Sequence (in ascending order). When viewing batches for all Profile IDs, you can press **F15** (Sort) and select **`Start Date`** as an alternate sort option. The Position-To fields can also be used to selectively search for desired information.

Press **F1** (Help) on any field for additional information. Some History log fields are explained as follows:

- The Comm Stamp field number indicates steps that are part of the same communication session.
- The File Name (FN) field indicates where the data is sent or received (that is, **`OQ`** for Outbound Queue).
- The Transaction Code (TT) field displays the action taken, either **`B`** (Beginning) or **`E`** (Ending).
- The Status (ST) field indicates that the send or receive was **`N`** (Normal) or **`A`** (Abnormal).

To access the Inbound and Outbound Queues, type **11** in the option field next to the selected batch.

F2 (More/Less) toggles between a basic and extended view of the history information. Initially, the basic view is displayed with only the first and last session history records shown. This enables you to identify quickly the session control sequence numbers that ended abnormally, based on the Status (ST) field. The extended view displays *all* session control records performed during the comm session.

Figure 4.47 illustrates pressing **F2** (More/Less) to see the extended view.

```
EDIX406             Work with Communications History Log         EDI 03/01/06
FMT01                                                                12:00:00

Position to Comm Stamp . . . . . _____________ Seq _________   CN3BSC

Type option (and Information), press Enter.
  6=Print Session  11=Queue Inq  34=PRTCOMHST Cmd

Opt   Comm  Sess  Comm             Start      Start     End     Elapsed  F  T S
    Prof ID Name  Stamp     Seq    Date       Time      Time    Time     N  T T
__  CN3BSC   SR        6       1 03/01/06    15:05:55  15:05:55  00:00:00    B N
__  CN3BSC   SR        6       2 03/01/06    15:05:58  15:06:17  00:00:19    C N
__  CN3BSC   SR        6       3 03/01/06    15:06:17  15:06:17  00:00:00    C N
__  CN3BSC   SR        6       4 03/01/06    15:06:18  15:06:18  00:00:00    C N
__  CN3BSC   SR        6       5 03/01/06    15:06:19  15:06:19  00:00:00 OQ S N
__  CN3BSC   SR        6       6 03/01/06    15:06:19  15:06:21  00:00:02 OQ S N
__  CN3BSC   SR        6       7 03/01/06    15:06:21  15:06:22  00:00:01 OQ S N
__  CN3BSC   SR        6       8 03/01/06    15:06:22  15:06:23  00:00:01 OQ S N
                                                                      More...

Parameters or command
===> _____________________________________________________________________
F1=Help  F2=More/Less  F6=Msg On/Off  F9=Retrieve  F12=Cancel  F24=More Keys
```

Figure 4.47 Work with Communications History Log (EDIX406-FMT01) extended view

F6 (Msg On/Off) toggles between displaying and hiding history messages. The message identifies the action performed for the session control record, such as `COMMUNICATION START-UP`, and the success or failure of that step.

Figure 4.48 illustrates the combination of pressing **F2** (More/Less) and **F6** (Msg On/Off).

```
EDIX406             Work with Communications History Log         EDI 03/01/06
FMT01                                                                12:00:00

Position to Comm Stamp . . . . . _____________ Seq __________ CN3BSC

Type option (and Information), press Enter.
  6=Print Session  11=Queue Inq  34=PRTCOMHST Cmd

Opt   Comm  Sess  Comm              Start      Start     End     Elapsed  F  T S
    Prof ID Name  Stamp     Seq    Date       Time      Time    Time     N  T T
__  CN3BSC   SR       6       1 03/01/06    15:05:55  15:05:55  00:00:00    B N
    COMMUNICATIONS START-UP                                      Rtn Code: STRT
__  CN3BSC   SR       6      23 03/01/06    15:07:19  15:07:19  00:01:25    E N
    COMMUNICATIONS COMPLETED SUCCESSFULLY                        Rtn Code: GOOD
__  CN3BSC   SR       1       1 03/01/06    14:57:54  14:57:54  00:00:00    B N
    COMMUNICATIONS START-UP                                      Rtn Code: STRT
__  CN3BSC   SR       1      13 03/01/06    15:00:08  15:00:08  00:04:14    E N
    COMMUNICATIONS COMPLETED SUCCESSFULLY                        Rtn Code: GOOD
                                                                        Bottom

Parameters or command
===> ____________________________________________________________________________
F1=Help  F2=More/Less  F6=Msg On/Off  F9=Retrieve  F12=Cancel  F24=More Keys
```

```
EDIX406             Work with Communications History Log         EDI 03/01/06
FMT01                                                                12:00:00

Position to Comm Stamp . . . . . _____________ Seq ________   CN3BSC

Type option (and Information), press Enter.
  6=Print Session  11=Queue Inq  34=PRTCOMHST Cmd

Opt   Comm  Sess  Comm              Start      Start     End     Elapsed  F  T S
    Prof ID Name  Stamp     Seq    Date       Time      Time    Time     N  T T
__  CN3BSC   SR       6       1 03/01/06    15:05:55  15:05:55  00:00:00    B N
    COMMUNICATIONS START-UP                                      Rtn Code: STRT
__  CN3BSC   SR       6       2 03/01/06    15:05:58  15:06:17  00:00:19    C N
    CNTL RECORD SEND COMPLETED                    Rcds:       1 Rtn Code: 0000
__  CN3BSC   SR       6       3 03/01/06    15:06:17  15:06:17  00:00:00    C N
    CNTL RECORD SEND COMPLETED                    Rcds:       1 Rtn Code: 0000
__  CN3BSC   SR       6       4 03/01/06    15:06:18  15:06:18  00:00:00    C N
    CNTL RECORD SEND COMPLETED                    Rcds:       1 Rtn Code: 0000
                                                                       More...

Parameters or command
===> ____________________________________________________________________________
F1=Help  F2=More/Less  F6=Msg On/Off  F9=Retrieve  F12=Cancel  F24=More Keys
```

Figure 4.48 Basic and Extended View of the History Log with Messages

Field Definitions

Comm Prof ID (Protected)
Displays the Profile ID for which the communication session occurred.

Session Name (Protected)
Displays the session script name.

Comm Stamp
A 6-position numeric field used to specify a communication stamp from which to begin viewing communication sessions.

Comm Stamp (Protected)
A 6-position numeric field displaying a communication "stamp" (sequential number) assigned for each communication session you have initiated, to date.

Seq (Protected)
A 7-position numeric field displaying the specific communication record sequence number (script step) within the session.

Start Date (Protected)
An 8-position numeric field displaying the date on which the communication session began for this record.

Start Time (Protected)
An 8-position numeric field displaying the time that this script step began (the format is HH:MM:SS).

End Time (Protected)
An 8-position numeric field displaying the time that this script step finished (the format is HH:MM:SS).

Elapsed Time (Protected)
An 8-position numeric field displaying the total length of time required during the communication session to perform this functional step.

F N (File name) (Protected)
A 2-position alphanumeric field used to define the file type code that identifies the type of file that the transaction record is written to. Valid values are as follows:

- **OQ** Outbound Queue; only valid for Tran Type **S**
- **OM** Outbound Multiple; only valid for Tran Type **S**
- **OF** Outbound File; only valid for Tran Type **S**
- **IQ** Inbound Queue; only valid for Tran Type **R**
- **IM** Inbound Multiple; only valid for Tran Type **R**
- **IF** Inbound File; only valid for Tran Type **R**
- **IA** Inbound Append; only valid for Tran Type **R**
- **SP** Spool File; only valid for Tran Type **R**

TT (Protected)

A 1-position alphanumeric field displaying the transaction type code identifying the type of record displayed. You will see all codes at "Low Level" viewing, but only "Beginning" (**B**) and Ending (**E**) codes at "High Level" viewing. Valid values are:

- **C** Control record
- **S** Send record
- **R** Receive record
- **D** Data trap record
- **A** Autodial status for self-dialing modem
- **B** Beginning of session record
- **T** Total records sent/received
- **E** End of session record
- **K** Invalid key error
- **V** Evoke record

ST (Protected)

A 1-position alphabetic field displaying the record's Status Code. The Status Code defines the communication status for each record in a session. Valid values are:

- **N** Normal completion
- **A** Abnormal completion

Manage the Outbound Queue

All data that you process from your applications using the ADD command appears on the Outbound Queue. This queue is a collection of "mailboxes," and the address for each mailbox is the comm profile ID.

When you initiate a "send" communication session for a specific EDI network or an individual direct communication partner, you transmit a copy of all data in the mailbox FOR the corresponding comm profile. Data with a batch status of one of the following is sent:

- **Q** (Queued)
- **IP** (In Progress)
- **SA** (Sent Abnormal)

When the communication session is completed the status is changed to either of the following:

- **SN** (Sent Normal)
- **SA** (Sent Abnormal)

NOTE

It is important to remember that you are sending a *copy* of the data on the queue. The actual data remains on the queue until the queue is purged. However, if you change batch status to **H** (Hold), the data is placed on Hold and is not transmitted.

If a failure occurs during the send process, the batch status is changed to **SA**. When you start another session for the same comm profile, the send begins with batches marked **SA** so that you do not have to manually reset the status of the batch back to **Q**.

When researching problems, you can review the Communication History Log panel (EDIX406-FMT01) to determine where they occur; use the Work with the Outbound Queue control to change the batch status to **Q**; and re-initiate a session for the comm profile. For example, a common problem relating to the communication process is the dropping of a communication line before the send action is complete. If this happens, you can look at the History log for a system message.

Access the Outbound Queue

You can access the Outbound Queue from the Work with Communications panel (EDIX400-FMT01), as shown in Figure 4.49.

```
EDIX400                    Work with Communications              EDI     03/01/06
FMT01                 pgmlib: G3X4PGM   dtalib:G3X4DTA                12:00:00

Position to Profile ID . . . . . .  CN3BSC

Type option (and Information), press Enter.
  12=Session Ctrl  13=Jobs  14=History Log  15=Outb Queue  16=Inb Queue

Opt  Profile ID  Company
     _______
15   CN3BSC      COMMERCE:NETWORK RELEASE 3
__   CN3SNA      COMMERCE:NETWORK RELEASE 3
__   REDINET     CONTROL DATA / REDINET NETWORK
__   RMTDAA      Remote Dial Line/Answer/ASYNC
__   RMTDAL      Remote Dial Line/Answer/SDLC/APPC
__   RMTDAN      Remote Dial/Answer/No X25 Network
__   RMTLAL      Remote Leased-line/answer/SDLC/APPC
__   RMTLAN      Remote Lease Lin/Answer/No X25 Netw
__   RMTLAX      Remote Leased Line/Answer/X25 Netwk
                                                                        More...
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 4.49 Work with Communications Panel (EDIX400-FMT01)

To see data batches for a specific comm profile ID, type **15** (Outb Queue) in the option field next to the selected ID and press **Enter**. Only batches for that comm profile ID will be shown. Type **15** (Outb Queue) on the key entry line and press **Enter** to see batches for all comm profile IDs.

Work with Outbound Queue Control

The Work with Outbound Queue Control panel (EDIX404-CTL01), as shown in Figure 4.50, displays all data batches sent and batches ready to be sent via a communication session. The Outbound Queue consists of two files: the control file (OUTCTL), which identifies the batch number and status, and the data file (OUTDTA), which contains the actual data to be sent.

```
EDIX404              Work with Outbound Queue Control          EDI 03/01/06
FMT01                                                              12:00:00

Position to Profile Seq_____________                  For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                  Profile                                    Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time    Records    Stamp   Seq #   ID

 5  CN3BSC    Q       187  03/01/06    11:40:20       3              241
    CN3BSC    Q       186  03/01/06    11:40:20       4              240
    CN3BSC    Q       185  03/01/06    14:28:01       4              239
    CN3BSC    Q       184  03/01/06    14:28:01       4              238
    CN3BSC    Q       183  03/01/06    14:28:01       4              237
    CN3BSC    Q       182  03/01/06    14:22:42       4              236
    CN3BSC    Q       181  03/01/06    14:20:18       4              234
    CN3BSC    Q       180  03/01/06    11:06:01       4              233
    CN3BSC    Q       179  03/01/06    11:03:18       4              231
                                                                    More...
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
```

Figure 4.50 Work with the Outbound Queue Control Panel (EDIX404-CTL01)

If you chose a specific comm profile ID on the Work with Communications panel (EDIX400-FMT01), the information on the Outbound Queue Control panel will be sorted by Profile Sequence in descending order.

If you selected to view batches for all comm profile IDs on the Work with Communications panel (EDIX400-FMT01), the information will appear sorted by the comm profile ID (in ascending order) and the Profile Sequence (in descending order). When viewing batches for all Profile IDs, you can press **F15** (Sort) and select **`Status Code`** as an alternate sort option. The Position-To fields can also be used to selectively search for desired information.

To view the actual data received, type **`5`** in the option field next to the selected batch and press **Enter**. The Outbound Queue Inquiry panel (EDIX405) is shown.

Outbound Queue Inquiry (Character Display)

The Outbound Queue Inquiry panel (EDIX405), as shown in Figure 4.51, displays the actual data contained in the selected batch.

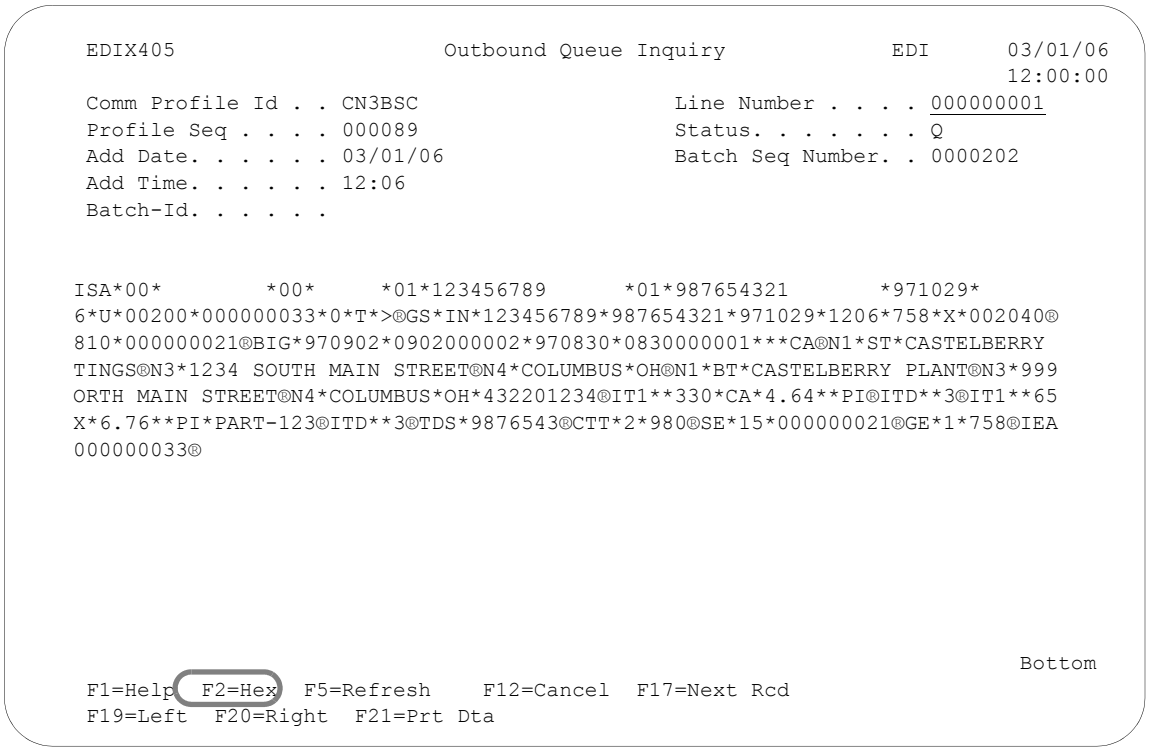


Figure 4.51 Character Display Mode of the Outbound Queue Inquiry panel (EDIX405)

To see the remaining data for each line number, press **F19** (Left) and **F20** (Right) to window left and right when the data is displayed in character mode.

The display will automatically display the first record in the batch. To position to a specific line number or batch record, type the new line number in the Line Number field and press **Enter**.

Press **F2** (Hex) to toggle between character and hexadecimal mode. Figure 4.52 illustrates the hexadecimal display.

Outbound Queue Inquiry (Hexadecimal Display)

Figure 4.52 illustrates the Outbound Queue Inquiry panel (EDIX405) in hexadecimal mode.

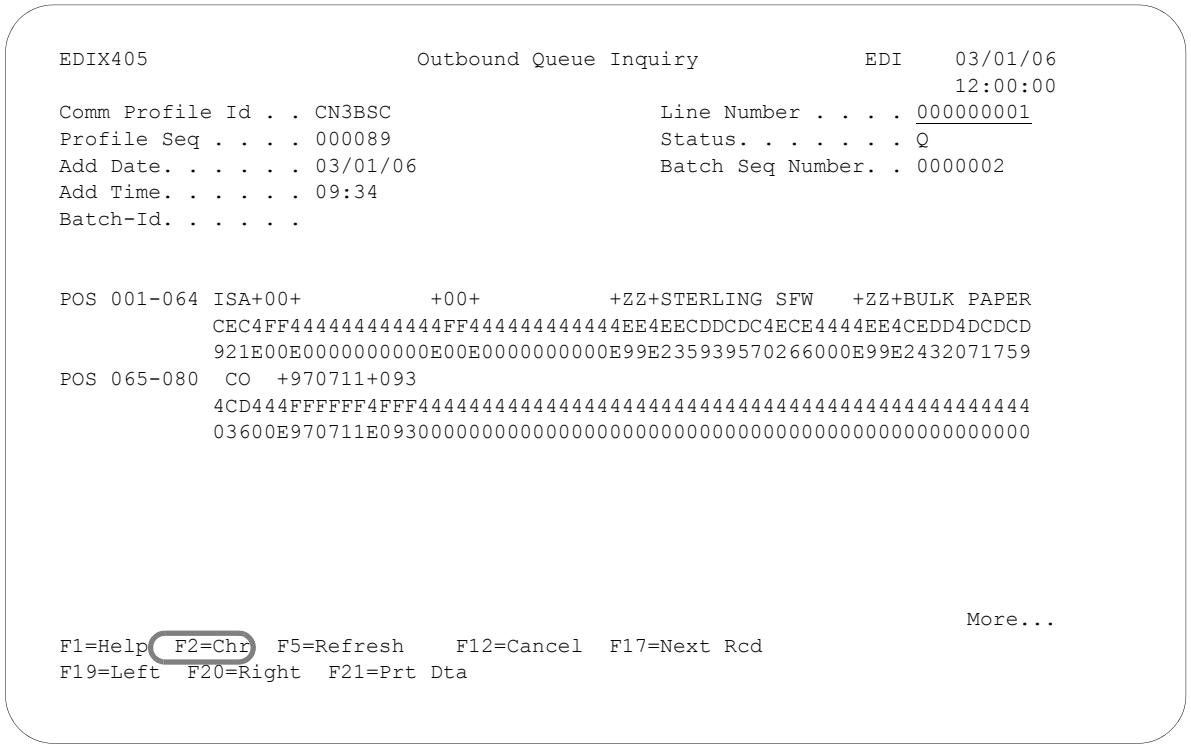


Figure 4.52 Hexadecimal Mode of the Outbound Queue Inquiry panel (EDIX405)

Press **F2** (Chr) to toggle between hexadecimal and character displays.

In hexadecimal mode, only one line number is shown at a time. In this mode, **F19** (Left) and **F20** (Right) are not necessary, since the full line of data can be viewed at one time. Press **Page Up**/**Page Down** to scroll through the entire batch of data.

To advance to a specific line number, type the desired line number at the top of the panel and press **Enter**.

Press **F12** (Cancel) to return to the Work with Outbound Queue Control panel.

View Additional Fields from the Work with Outbound Queue Control Panel

Press **F6** (More/Less) from the Work with Outbound Queue Control panel to view the subfile with an additional row of information, as shown in Figure 4.53.

```
EDIX404              Work with Outbound Queue Control          EDI  03/01/06
FMT01                                                               12:00:00

Position to Profile Seq  ________                    For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                 Profile                                    Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time   Records    Stamp   Seq #   ID

__  _______      _______
__  CN3BSC    Q       205  03/01/06    12:00:00      18              259
      Last Update User        Date              Time  00:00:00
__  CN3BSC    Q       204  03/01/06    12:00:00      21              258
      Last Update User        Date              Time  00:00:00
__  CN3BSC    Q       203  03/01/06    12:00:00      18              257
      Last Update User        Date              Time  00:00:00
__  CN3BSC    Q       202  03/01/06    12:00:00      22              256
      Last Update User        Date              Time  00:00:00
                                                                    More...

Parameters or command
===> ____________________________________________________________________
F1=Help  F6=More/Less  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 4.53 Work with Outbound Queue Control with an additional row of information

Revise the Batch Status on the Outbound Queue

There may be times when it is necessary to retransmit Outbound EDI data or to hold a batch to prevent it from being sent. To transmit a copy of the batch data during a communication session, the status must be **Q** (Queued). Batches that have been transmitted are updated with a status of **SN** (Sent Normal) or **SA** (Sent Abnormal).

NOTE

Batches with a status of **SA** and **IP** will automatically be retransmitted when a comm session for the Profile ID is initiated. These statuses do not have to be changed to a **Q** status.

```
EDIX404              Work with Outbound Queue Control          EDI 03/01/06
FMT01                                                              12:00:00

Position to Profile Seq _____________________         For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                  Profile                                   Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time    Records    Stamp   Seq #   ID

2_  CN3BSC    Q       187  03/01/06    11:40:20       3             241
__
__  Change Status to
__  RN
__  F3=Exit  F12=Cancel
__
__
__
__  CN3BSC    Q       179  03/01/06    11:03:18       4             231
                                                                    More...
Parameters or command
===> ____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
```

Figure 4.54 Work with Outbound Queue Control (EDIX404-FMT01)

To revise a status, type **2** (Revise) next to the selected batch or batches of data and press **Enter**. A pop-up window appears and allows you to specify the new status code, as shown in Figure 4.54. Press **F4** (Prompt) to see a list of all status codes for outbound batches.

NOTE

The status code can only be changed to **Q** for retransmitting or **H** to put the batch on hold.

Delete Batches from the Outbound Queue

You can delete any batch from the Outbound Queue file at any time if you have the proper authority. Care should be taken whenever the delete option is used.

To delete an entry from any Outbound Queue panel:

Type **4** in the option field next to the entry that you want to delete and press **Enter**.

Figure 4.55 shows the deletion of a batch from the outbound queue.

```
EDIX404              Work with Outbound Queue Control          EDI 03/01/06
FMT01                                                              12:00:00

Position to Profile Seq _____________                For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                  Profile                                    Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time    Records    Stamp   Seq #   ID

__  _______       ______
__  CN3BSC    Q       187  03/01/06    11:40:20       3              241
__  CN3BSC    Q       186  03/01/06    11:40:20       4              240
    CN3BSC    Q       185  03/01/06    14:28:01       4              239
4   CN3BSC    Q       184  03/01/06    14:28:01       4              238
__  CN3BSC    Q       183  03/01/06    14:28:01       4              237
__  CN3BSC    Q       182  03/01/06    14:22:42       4              236
__  CN3BSC    Q       181  03/01/06    14:20:18       4              234
__  CN3BSC    Q       180  03/01/06    11:06:01       4              233
__  CN3BSC    Q       179  03/01/06    11:03:18       4              231
                                                                     More...
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
```

Figure 4.55 Work with Outbound Queue panel (EDIX404 - FMT01)

A confirmation panel will be displayed, showing the entry or entries to be deleted, as shown in Figure 4.56.

```
EDIX404              Work with Outbound Queue Control          EDI  03/01/06
CTL02                                                               12:00:00

Press Enter to confirm your choices for Delete.
Press F12=Cancel to return to change your choices.


               Profile                                    Comm   Batch  Batch
  Profile  Sts    Seq #     Date       Time    Records   Stamp   Seq #   ID

  CN3BSC    Q       184  03/01/06    14:28:01       4             238


                                                                    Bottom


F12=Cancel
```

Figure 4.56 Work with Outbound Queue Control panel (EDIX404-CTL02)

Print Outbound Queue Data

There may be many times when it is necessary to print or place Outbound EDI data in a work file. This option will print the data or place it in an output file breaking at the segment level.

NOTE

If the data being printed is non-EDI data, you will receive a message that states:
`Starting record number passed does not begin with an Interchange record. No valid interchange found. Printing data as is.`
If this situation occurs, the data will be printed as it sits on the Comm queue.

```
                        Print EDI Data (PRTEDIDTA)

Type choices, press Enter.

Comm Profile Id to Print . . . . > CN3BSC        Comm Profile Id
                                 >
Output . . . . . . . . . . . . . > *PRINT        *PRINT, *OUTFILE
File to receive output . . . . . > ' '           NAME
Library  . . . . . . . . . . . . > *LIBL         Name, *LIBL, *CURLIB
Output Member Options:
  Member to receive output . . . > ' '           Name, *FILE
  Replace or add records . . . .   *REPLACE      *REPLACE *ADD
Create File? . . . . . . . . . . > *YES          *NO, *YES

                           Additional Parameters

Inbound/Outbound . . . . . . . . > *O            *I, *O
Start Record Sequence Number . . > 1             Number
End Record Sequence Number . . . > 999999        Number
Start Batch Sequence Number  . . > 241           Number
                                                                    More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.57 Print EDI Data (PRTEDIDTA) Command

To print an entry, type **6** (Print) next to the selected batch or batches of data and press **Enter**. The `PRTEDIDTA` command will be displayed allowing the user to modify the print level, output type, and starting and ending record sequence number, as shown in Figure 4.57.

Extract Data from Outbound Queue

The Extract Data from Outbound Queue function executes the EXTRACT command. This command allows you to copy data residing in the outbound queue and place the data in a user-defined file on the iSeries.

```
EDIX404              Work with Outbound Queue Control          EDI 03/01/06
FMT01                                                             12:00:00

Position to Profile Seq _________                      For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                  Profile                                    Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time    Records    Stamp   Seq #   ID
___ _________   _______
30  CN3BSC    Q       187  03/01/06    11:40:20       3              241
___ CN3BSC    Q       186  03/01/06    11:40:20       4              240
___ CN3BSC    Q       185  03/01/06    14:28:01       4              239
___ CN3BSC    Q       184  03/01/06    14:28:01       4              238
___ CN3BSC    Q       183  03/01/06    14:28:01       4              237
___ CN3BSC    Q       182  03/01/06    14:22:42       4              236
___ CN3BSC    Q       181  03/01/06    14:20:18       4              234
___ CN3BSC    Q       180  03/01/06    11:06:01       4              233
___ CN3BSC    Q       179  03/01/06    11:03:18       4              231
                                                                    More...
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
```

```
                        Extract Data From Queues (EXTRACT)

Type choices, press Enter.

Comm Profile Id to DeQueue . . . > CN3BSC       Profile Id, *ALL
Batchid to Dequeue . . . . . .   *ALL

Extract Inqueue or Outqueue  . . > *OUT         *IN, *OUT
Start Profile Sequence Number  . > 187          Number
End Profile Sequence Number  . . > 187          Number
File Name  . . . . . . . . . . .   __________   Character value
Library Name . . . . . . . . . .   __________   Library Name, Blanks
Member Name  . . . . . . . . . .   __________   Member Name, Blanks
Create File ?  . . . . . . . . .   *NO          *YES, *NO
Record Length  . . . . . . . . .                Number
Run Interactively? . . . . . . . > *YES         *YES, *NO

                             Additional Parameters

Update Status Flag?  . . . . . . > *NO          *YES, *NO
                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 4.58 Extract Data from Outbound Queue

To extract the data, type **30** (Extract Data) next to the selected batch of data and press **Enter**. The EXTRACT command panel will be displayed, allowing the user to modify other parameters. Both screens are shown in Figure 4.58.

Find String in the Outbound Queue

This command allows you to search for a selected string of data in the comm queues (inbound or outbound).

```
                    Find String in Comm Queues (FNDSTRCOM)

Type choices, press Enter.

Comm Profile ID  . . . . . . . . > CN3BSC        *ALL, Character
Direction  . . . . . . . . . . . > *OUT          *IN, *OUT
Batch Sequence Number  . . . . . > 000241        Number, *ALL
String to find . . . . . . . . .
Beginning Date . . . . . . . . .   *BEGIN        Date, *CURRENT, *BEGIN
Ending Date  . . . . . . . . . .   *END          Date, *CURRENT, *END
Beginning Time . . . . . . . . .   *AVAIL        Time, *CURRENT, *AVAIL
Ending Time  . . . . . . . . . .   *AVAIL        Time, *CURRENT, *AVAIL
Number of Matches  . . . . . . .   *ALL          Number, *ALL









                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 4.59 Find String in Comm Queues (FNDSTRCOM) Command

To print an entry, type **31** (Find String) next to the selected batch or batches of data and press **Enter**. The FNDSTRCOM command will be displayed allowing the user to select from the available parameters to narrow the scope of the search, as shown in Figure 4.59. The output is a generated report identifying where the match was found, and including the profile, batch sequence, and unwrapped record number. The unwrapped record that corresponds to the match is printed.

Gentran IFS Gateway

Gentran:Server enables you to transfer data in the outbound queue and place the data in the integrated file system (IFS) by executing the `GIFSGATE` command from the Work with Outbound Queue Control panel (EDIX404-FMT01).

```
EDIX404            Work with Outbound Queue Control         XX  03/01/06
FMT01                                                           12:00:00

Position to Profile ID . . . . . .__________    Profile Seq  9999999

Type option (and Information), press Enter.
  32=GIFSGATE
                 Profile                                  Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date      Time   Records   Stamp   Seq #   ID
__  ________      ________
32  CN3BSC    Q       205  03/01/06   12:00:00     18            259
__  CN3BSC    Q       204  03/01/06   12:00:00     21            258
```

```
                         Gentran IFS Gateway (GIFSGATE)

   Type choices, press Enter.

   Communication profile id . . . . > CN3BSC        Name
                  + for more values   ________
   Data direction . . . . . . . . . > *OUT          *IN, *OUT, *BOTH
   Outbound IFS directory . . . . .   ____________________________________________
  ______
   Outbound IFS file  . . . . . . .   ____________________________________________
  ______
   Outbound End of Line . . . . . .   *FIXED        *CRLF, *CR, *LF, *LFCR...
   Append Data? . . . . . . . . . .   *NO           *YES, *NO
   Periodic polling . . . . . . . .   ____          *NO, *YES

                             Additional Parameters

   Process Name . . . . . . . . . .   GIFSGATE_________
   Start Profile Sequence Number  . > 200           Number
   End Profile Sequence Number  . . > 200           Number
   Run interactively  . . . . . . . > *YES          *YES, *NO
                                                                        More...
   F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
   F24=More keys
```

Figure 4.60 Perform Gentran IFS Gateway Command (GIFSGATE)

To perform Gentran IFS Gateway, type **32** (GIFSGATE) next to the selected batch of data and press **Enter**. The GIFSGATE command displays, as shown in Figure 4.60, enabling you to modify other parameters. (SEE Chapter 12 for more information about the GIFSGATE command and field descriptions.)

Manage the Inbound Queue

The Inbound Queue is the repository for data received from networks or direct communication partners. After a communications session is completed, any data received for the Inbound Queue is placed on the queue with a status of:

- **RN** (Received Normal)
- **RA** (Received Abnormal)

Once the data has been extracted, the system changes the status to **PI** (Processed Inbound).

Data extracted from the Inbound queue will remain on the queue until the queue is purged by the System Administrator or by the automatic purge function specified with the "Days to Purge" on the Communication Profile panel (EDIX401-FMT01). If you experience problems in processing, you may change the status from **PI** to **RN**, and extract the data contained in the batches again.

Access the Inbound Queue

You can access the Inbound Queue from the Work with Communications panel (EDIX400-FMT01).

```
EDIX400                    Work with Communications              EDI    03/01/06
FMT01                  pgmlib: G3X4PGM   dtalib:G3X4DTA                12:00:00

Position to Profile ID . . . . . .  CN3BSC__

Type option (and Information), press Enter.
  12=Session Ctrl  13=Jobs  14=History Log  15=Outb Queue  16=Inb Queue

Opt  Profile ID  Company
     _______
 16  CN3BSC      COMMERCE:NETWORK RELEASE 3
 __  CN3SNA      COMMERCE:NETWORK RELEASE 3
 __  REDINET     CONTROL DATA / REDINET NETWORK
 __  RMTDAA      Remote Dial Line/Answer/ASYNC
 __  RMTDAL      Remote Dial Line/Answer/SDLC/APPC
 __  RMTDAN      Remote Dial/Answer/No X25 Network
 __  RMTLAL      Remote Leased-line/answer/SDLC/APPC
 __  RMTLAN      Remote Lease Lin/Answer/No X25 Netw
 __  RMTLAX      Remote Leased Line/Answer/X25 Netwk
                                                                      More...
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 4.61 Work with Communications Panel (EDIX400-FMT01)

To see data batches for a specific comm profile ID, type **16** (Inb Queue) in the option field next to the selected ID and press **Enter**, as shown in Figure 4.61. Only batches for that comm profile ID will be shown. Type **16** (Inb Queue) on the key entry line and press **Enter** to see batches for all comm profile IDs.

Work with Inbound Queue Control

The Work with Inbound Queue Control panel (EDIX407-CTL01), as shown in Figure 4.62, displays all data batches received during communication sessions. The Inbound Queue consists of two files: the control file (INBCTL), which identifies the batch number and status, and the data file (INBDTA), which contains the actual data received.

```
EDIX407              Work with Inbound Queue Control            EDI 03/01/06
FMT01                                                               12:00:00

Position to Profile Seq_____________________            For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                  Profile                                    Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time    Records    Stamp   Seq #   ID

___ _______
    CN3BSC    PI        5  03/01/06    11:09:17      12       9      10 POINB
___ CN3BSC    PI        3  03/01/06    14:13:34       7       2       3 Edifact
 5  CN3BSC    PI        2  03/01/06    17:35:37       6       2       2 SEMPOAP
___ CN3BSC    PI        1  03/01/06    17:36:16      16       3       1 INVFILE

                                                                      Bottom
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
```

Figure 4.62 Work with the Inbound Queue Control Panel (EDIX407-CTL01)

If you chose a specific comm profile ID on the Work with Communications panel (EDIX400-FMT01), the information on the Inbound Queue Control panel will be sorted by Profile Sequence in descending order.

If you selected to view batches for all comm profile IDs on the Work with Communications panel (EDIX400-FMT01), the information will appear sorted by the comm profile ID (in ascending order) and the Profile Sequence (in descending order). When viewing batches for all Profile IDs, you can press **F15** (Sort) and select **`Status Code`** as an alternate sort option. The Position-To fields can also be used to selectively search for desired information.

To view the actual data received, type **`5`** in the option field next to the selected batch and press **Enter**. The Inbound Queue Inquiry panel (EDIX408) is shown.

Inbound Queue Inquiry (Character Display)

The Inbound Queue Inquiry panel (EDIX408), shown in Figure 4.63, displays the actual data contained in the selected batch.

```
EDIX408                     Inbound Queue Inquiry          EDI    03/01/06
                                                                  12:00:00
Comm Profile Id . . CN3BSC                  Line Number . . . . 000000001
Profile Seq . . . . 000005                  Status. . . . . . . PI
Date Received . . . 03/01/06                Batch Seq Number. . 0008735
Time Received . . . 11:29
Batch-Id. . . . . . SEMPOAPPL



ISA*00*          *00*          *01*987654321      *01*123456789      *971012*
1*U*00200*000000001*0*T*#?GS*PO*987654321 *123456789 *971012*1500*000000001*X
2040?ST*850*000001?BEG*00*NE*01120001**971012?N1*SF***100?PO1**10*EA*5.12**PI
RT-123?PO1**30*DA*10.0**PI*PART-456?PO1**5*CA*8.25**PI*PART-789?CTT*3?SE*8*00
ST*850*0002?BEG*00*NE*01120030**971017?N1*SF**3*200?PO1**20*BX*9.5**PI*PART-1
PO1**500*CA*22.79**PI*PART-456?CTT*2?SE*7*0002?GE*2*000000001?IEA*1*000000001




                                                                      Bottom
F1=Help   F2=Hex   F5=Refresh  F12=Cancel  F17=Next Rcd
F19=Left  F20=Right  F21=Prt Dta
Bottom of data records
```

Figure 4.63 Character Display Mode of the Inbound Queue Inquiry Panel (EDIX408)

To see the remaining data for each line number, Press **F19** (Left) and **F20** (Right) to window left and right when the data is displayed in character mode.

F2 (Hex) can be pressed to toggle between character and hexadecimal mode. Figure 4.64 illustrates the hexadecimal display.

Inbound Queue Inquiry (Hexadecimal Display)

Figure 4.64 illustrates the Inbound Queue Inquiry panel (EDIX408) in hexadecimal mode.

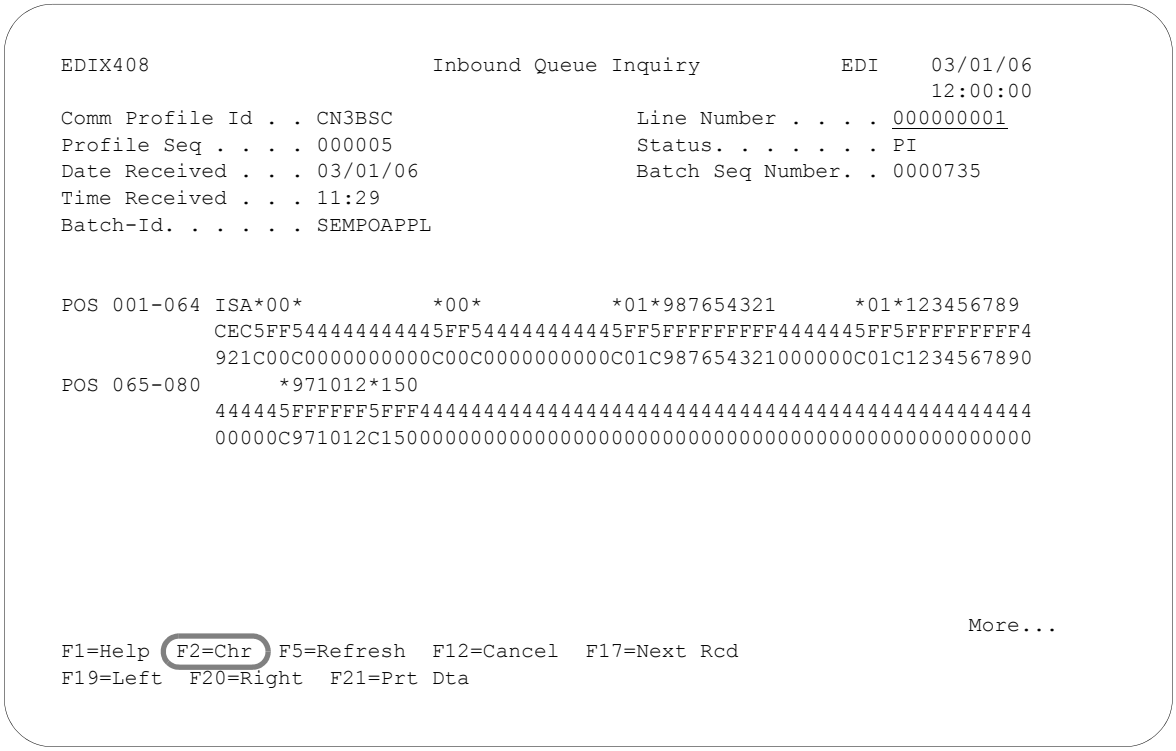


Figure 4.64 Hexadecimal Mode of the Inbound Queue Inquiry Panel (EDIX408)

Press **F2** (Chr) to toggle between hexadecimal and character displays.

In hexadecimal mode, only one line number is shown at a time. In this mode, **F19** (Left) and **F20** (Right) are not necessary, since the full line of data can be viewed at one time. **Page Up**/**Page Down** may be pressed to scroll through the entire batch of data

To advance to a specific line number, type the desired line number at the top of the panel and press **Enter**.

Press **F12** (Cancel) to return to the Work with Inbound Queue Control panel.

View Additional Fields from the Work with Inbound Queue Control Panel

Press **F6** (More/Less) from the Work with Inbound Queue Control panel to view the subfile with an additional row of information, as shown in Figure 4.65.

```
EDIX407              Work with Inbound Queue Control           EDI  03/01/06
FMT01                                                               12:00:00

Position to Profile Seq  ________                    For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                  Profile                                    Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time   Records    Stamp   Seq #   ID
__  _______      _______
__  CN3BSC    PI         6  03/01/06    12:00:00       7      10      11 EDIFACT
      Last Update User        Date 03/01/06     Time  12:00:00
__  CN3BSC    PI         5  03/01/06    12:00:00      12       9      10 POINB
      Last Update User        Date              Time  00:00:00
__  CN3BSC    H          3  03/01/06    12:00:00       7       2       3 Edifact
      Last Update User        Date              Time  00:00:00
__  CN3BSC    PI         2  03/01/06    12:00:00       6       2       2 SEMPOAP
      Last Update User        Date              Time  00:00:00
                                                                      More...

Parameters or command
===> ____________________________________________________________________________
F1=Help  F6=More/Less  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
Unable to Page Down from this point.
```

Figure 4.65 Inbound Queue Inquiry Panel (EDIX408) Additional Fields

Revise the Batch Status on the Inbound Queue

There may be times when it is necessary to reprocess inbound EDI data. To pass a copy of the batch data to the Inbound processing job, the status must be **RN** (Received Normal). Batches that have been processed are updated with a status of **PI** (Processed Inbound).

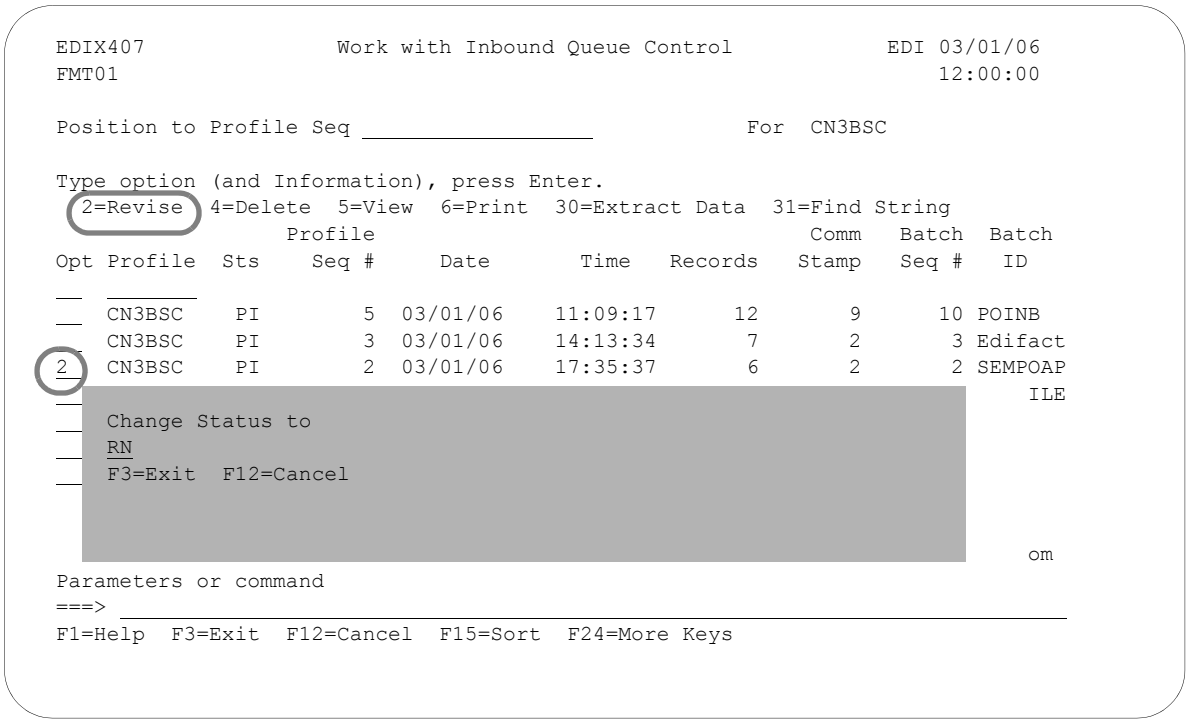


Figure 4.66 Work with Inbound Queue Control panel (EDIX407)

To revise a status, type **2** (Revise) next to the selected batch or batches of data and press **Enter**. A pop-up window appears and allows you to specify the new status code, as shown in Figure 4.66. Press **F4** (Prompt) to see a list of all status codes for inbound batches.

NOTE

The status code can only be changed to **RN** for reprocessing or **H** to put the batch on hold.

Delete Batches from the Inbound Queue

You can delete any batch from the Inbound Queue file at any time if you have the proper authority. Care should be taken whenever the delete option is used.

To delete an entry from any Inbound Queue panel:

Type **4** in the option field next to the entry that you want to delete and press **Enter**.

Figure 4.67 shows the deletion of a batch from the inbound queue.

```
EDIX407              Work with Inbound Queue Control            EDI 03/01/06
FMT01                                                               12:00:00

Position to Profile Seq _____________                For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                Profile                                      Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time    Records    Stamp   Seq #   ID
__  ________     ______
__  CN3BSC    PI        5  03/01/06    11:09:17      12       9      10 POINB
__  CN3BSC    PI        3  03/01/06    14:13:34       7       2       3 Edifact
4_  CN3BSC    RN        2  03/01/06    17:35:37       6       2       2 SEMPOAP
__  CN3BSC    RN        1  03/01/06    17:36:16      16       3       1 INVFILE

                                                                      Bottom
Parameters or command
===>_____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
```

Figure 4.67 Delete batch from Inbound Queue

A confirmation panel will be displayed, showing the entry or entries to be deleted.

```
EDIX407              Work with Inbound Queue Control           EDI  03/01/06
CTL02                                                               12:00:00

Press Enter to confirm your choices for Delete.
Press F12=Cancel to return to change your choices.


               Profile                                    Comm   Batch  Batch
  Profile  Sts    Seq #     Date       Time    Records   Stamp   Seq #   ID

  CN3BSC    RN        2  03/01/06    17:35:37       6       2       2 SEMPOAP









                                                                    Bottom

F12=Cancel
```

Figure 4.68 Work with Inbound Queue Control panel (EDIX407 - CTL02)

Press **Enter** to confirm the deletion for all selected entries.

Print Inbound Queue Data

There may by many times when it is necessary to print or place Inbound EDI data in a work file. This option will print the data or place it in an output file breaking at the segment level.

NOTE

If the data being printed is non-EDI data, you will receive a message that states:
`Starting record number passed does not begin with an interchange record. No valid interchange found. Printing data as is.`
If this situation occurs, the data will be printed as it sits on the Comm queue.

```
                        Print EDI Data (PRTEDIDTA)

Type choices, press Enter.

Comm Profile Id to Print . . . . > CN3BSC        Comm Profile Id
                                 >
Output . . . . . . . . . . . . . > *PRINT        *PRINT, *OUTFILE
File to receive output . . . . . > ' '           NAME
Library  . . . . . . . . . . . . > *LIBL         Name, *LIBL, *CURLIB
Output Member Options:
  Member to receive output . . . > ' '           Name, *FILE
  Replace or add records . . . .   *REPLACE      *REPLACE *ADD
Create File? . . . . . . . . . . > *YES          *NO, *YES

                          Additional Parameters

Inbound/Outbound . . . . . . . . > *I            *I, *O
Start Record Sequence Number . . > 1             Number
End Record Sequence Number . . . > 999999        Number
Start Batch Sequence Number  . . > 2             Number
                                                                    More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.69 Print EDI Data (PRTEDIDTA) Command

To print an entry, type **6** (Print) next to the selected batch or batches of data and press **Enter**. The PRTEDIDTA command will be displayed allowing the user to modify the print level, output type, and starting and ending record sequence number.

Extract Data from Inbound Queue

The Extract Data from Inbound Queue function executes the EXTRACT command. This command allows you to copy data residing in the inbound queue and place the data in a user-defined file on the iSeries.

```
EDIX407              Work with Inbound Queue Control            EDI 03/01/06
FMT01                                                               12:00:00

Position to Profile Seq _____________                  For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  30=Extract Data  31=Find String
                  Profile                                    Comm   Batch  Batch
Opt Profile  Sts    Seq #     Date       Time    Records    Stamp   Seq #   ID

 30 CN3BSC    PI         5  03/01/06    11:09:17      12       9      10 POINB
 __ CN3BSC    PI         3  03/01/06    14:13:34       7       2       3 Edifact
 __ CN3BSC    RN         2  03/01/06    17:35:37       6       2       2 SEMPOAP
 __ CN3BSC    RN         1  03/01/06    17:36:16      16       3       1 INVFILE
```

```
                        Extract Data From Queues (EXTRACT)

Type choices, press Enter.

Comm Profile Id to DeQueue . . . > CN3BSC       Profile Id, *ALL
Batchid to Dequeue . . . . . .   *ALL

Extract Inqueue or Outqueue  . . > *IN          *IN, *OUT
Start Profile Sequence Number  . > 5            Number
End Profile Sequence Number  . . > 5            Number
File Name  . . . . . . . . . . .                Character value
Library Name . . . . . . . . . .                Library Name, Blanks
Member Name  . . . . . . . . . .                Member Name, Blanks
Create File ?  . . . . . . . . .   *NO          *YES, *NO
Record Length  . . . . . . . . .                Number
Run Interactively? . . . . . . . > *YES         *YES, *NO

                             Additional Parameters

Update Status Flag?  . . . . . . > *NO          *YES, *NO
                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 4.70 Extract data from Inbound Queue

To extract data, type **30** (Extract Data) next to the selected batch of data and press **Enter**. The EXTRACT command will be displayed, allowing the user to modify other parameters.

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Find String in the Inbound Queue

This command allows you to search for a selected string of data in the comm queues (inbound or outbound).

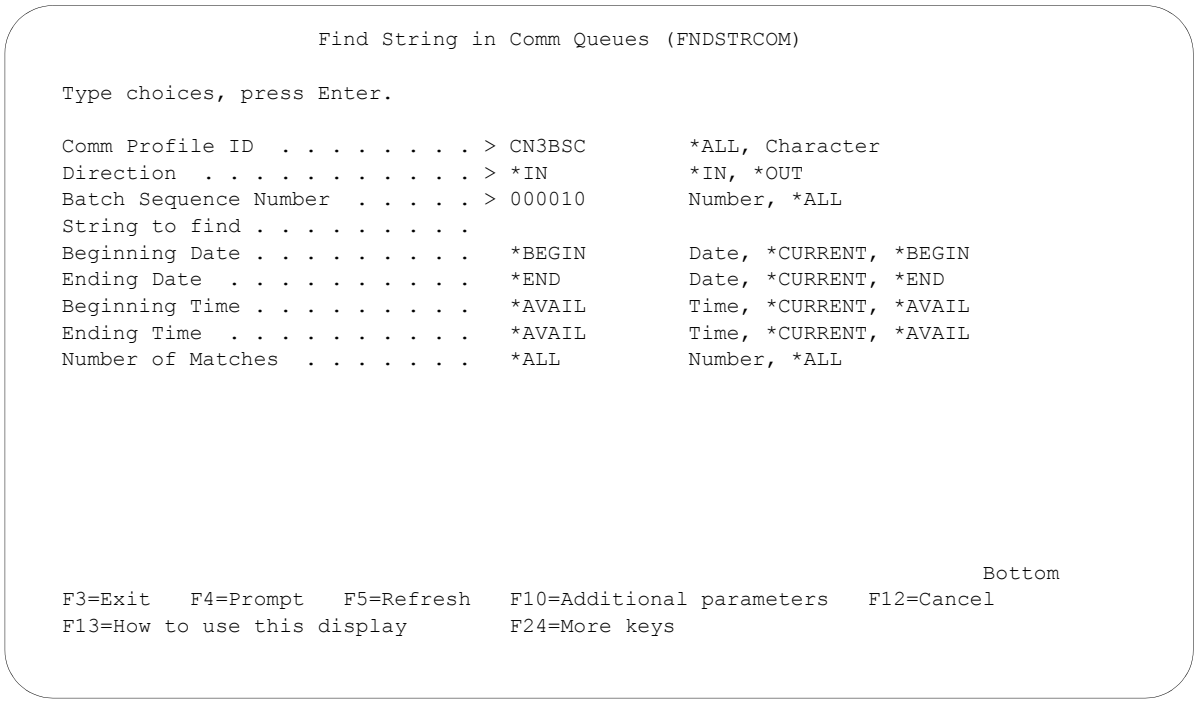


Figure 4.71 Find String in Comm Queues (FNDSTRCOM) Command

To print an entry, type **31** (Find String) next to the selected batch or batches of data and press Enter. The FNDSTRCOM command will be displayed allowing the user to select from the available parameters to narrow the scope of the search. The output is a generated report identifying where the match was found, and including the profile, batch sequence, and unwrapped record number. The unwrapped record that corresponds to the match is printed.

Gentran IBQ to IFS Gateway

The Gentran IBQ to IFS Gateway function executes the GENIBQIFS command. This command enables you to transfer data in the inbound queue to the integrated file system (IFS).

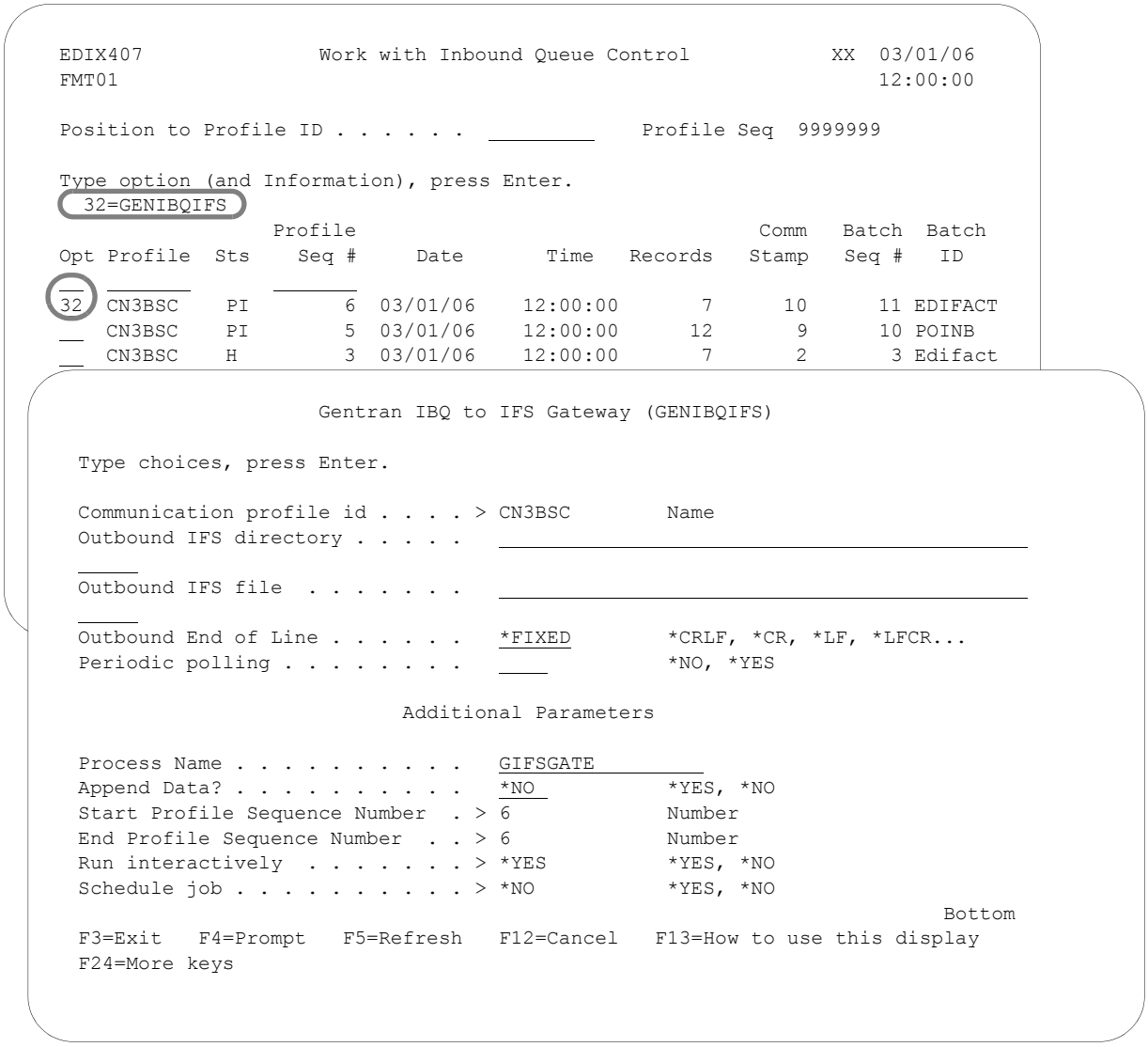


Figure 4.72 Perform Gentran IBQ to IFS Gateway Command (GENIBQIFS)

To perform Gentran IBQ to IFS Gateway, type **32** (GENIBQIFS) next to the selected batch of data and press **Enter**. The GENIBQIFS command displays, enabling you to modify other parameters. (SEE Chapter 12 for more information about this command, and field descriptions.)

Add Data to Queues

The Add Data to Queues function runs the ADD command. This command allows you to add data to the inbound or outbound queue from a user-defined file, or from an MQSeries queue. Here are two examples of how to use the command:

1. You can use the ADD command to add data to the outbound queue. This allows non-EDI data or a file that is generated outside of EDI to be added to the outbound queue for transmission.

2. You can use the ADD command to add data to the inbound queue that was not received through a Gentran:Server communication session. (This situation might occur when you receive data on a tape or diskette. It could also be received from an MQSeries queue.)

When you select option **3** (Add Data to Queues) on the GENPRC menu, the system displays the Add Data to Queues panel (ADD). This is actually the same command prompt panel that the system displays if you type **ADD** on the command line and press **F4** (Prompt). *The minimum information you need to provide on this panel is 'Add Data to In or Out Queue' and 'File Name to Queue.'* For a description of these or any other parameters, move the cursor to the parameter and press **F1** (Help) to display online help.

As you use this panel, keep in mind the following points:

- When data is added to the outbound queue, the system sets the status of the batch to **Q** (Queued). When data is added to the inbound queue, the system sets the status of the batch to **RN** (Received Normally).
- The maximum record length of the file being added can be no longer than 32,000 bytes.
- If you do not specify a library (by leaving the Library Name parameter blank), the system uses the first file found in your library list that matches the value you entered in the File Name to Queue parameter.
- If you leave the Comm Profile ID to Queue parameter blank, the system uses the Comm Profile ID from the $$ADD records that you provided in the data file. ($$ADD records are instruction cards that precede the data and identify which Comm Profile ID the system should place the data under in the inbound or outbound queue file.) The file may contain multiple $$ADD cards to direct the batches of data to different Comm Profile IDs.

CAUTION

Do not delete the Comm Profile ID **DEFAULT**. If you do not specify a Comm Profile ID and the file has no $$ADD records, the system adds the data under the Comm Profile ID **DEFAULT**.

NOTE

The MQ Link and File Name parameters are mutually exclusive; only one parameter can be specified. If the data to be added is in a database file, specify the file name. If the data to be added resides on an MQSeries queue, specify the MQ Link name.

Figure 4.73 shows the Add Data to Queues (ADD) panel.

```
                          Add Data to Queues (ADD)

Type choices, press Enter.

Comm Profile Id to Queue . . . .   ________      Comm Profile Id
Batchid to Queue . . . . . . . .   ____________________________________

Add Data to In or Out Queue  . .   *OUT          *IN, *OUT
File Name to Queue . . . . . . .   ___________   File Name
Library Name . . . . . . . . . .   ___________   Library Name, Blanks
Member Name  . . . . . . . . . .   ___________   Member, *All, Blanks
Run Interactively ?  . . . . . .   *NO           *YES, *NO

                          Additional Parameters

Process Name . . . . . . . . . .   ADD
Keep Add Records?  . . . . . . .   *NO           *YES, *NO
MQ Link  . . . . . . . . . . . .   ___________   Name
Text File  . . . . . . . . . . .   *NO           *NO, *YES
Record Length  . . . . . . . . .   *FILE         1-32000, *FILE
                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.73 Add Data to Queues (ADD) panel

Additional Parameters for ADD

When you press **F10** (Additional parameters), the system displays the Process Name, Keep Add Records, MQ Link, and the Schedule Job parameters. For a description of these or any other parameters, move the cursor to the parameter and press **F1** (Help) to display online help.

Keep Add Records

The default value for the Keep Add Records parameter is ***NO**. You can retain or discard the $$ADD record to simplify sending data to another site. The $$ADD retention option enables the user to separate data into batches based on the $$ADD, but leaves the $$ADD as the first record of the batch. This allows the $$ADD records added under a global profile ID to be sent as individual $$ADD IDs to a remote site. Batches added using the $$ADD records and then retaining the $$ADD records would be used to add multiple IDs during a single ADD run. This scenario would send batches with $$ADD records in separate Gentran:Server sessions or to separate sites.

Text File

This field determines whether text record separators (Carriage Return, Line Feed) will be added to the data when it is added to the queue. ***YES** indicates that CRLF will be added at the interval determined by the Record Length parameter. ***NO** indicates that CRLF will not be added.

Record Length

This field specifies the interval at which text record separators will be added to the data when the Text File parameter is ***YES**. Specify any fixed interval from **1** to **32000**. Specify ***FILE** to use the record length of the input file.

Extract Data from Queues

The EXTRACT Data from Queues function runs the EXTRACT command. This command allows you to copy data received from the inbound or outbound queue and place the data in a user-defined file on the iSeries, or send it to an MQSeries queue. Here are two situations in which this command is useful:

1. For the outbound queue, you can use the EXTRACT command to pull translated EDI data that you do not want to transmit through a Gentran:Server communication session. (This situation might occur when you are sending out data on a tape or a diskette.)

2. For the inbound queue, you can use the EXTRACT command when you are using a Gentran:Server communication session to receive data that you do not want to translate. (This situation occurs when you are receiving non-EDI data or a file that needs to be passed on to another division.)

When you select option **4** (Extract Data from Queues) on the GENPRC menu, the system displays the Extract Data from Queues (EXTRACT) panel. This is the same command prompt panel that the system displays if you type **EXTRACT** on the command line and press **F4** (Prompt). *The minimum information you need to provide on this panel is Extract Inqueue or Outqueue, File Name or MQ Link name, and either Comm Profile ID to Dequeue or Batchid to Dequeue.* (SEE the parameters on the EXTRACT panel in Figure 1.16.) For a description of these or any other parameters, move the cursor to the parameter and press **F1** (Help) to display online help.

As you use this panel, keep in mind the following points:

- When the Extract Inqueue or Outqueue parameter is set to ***IN**, the system extracts the data with a status of **RN** (Received Normally) from the inbound queue. When Extract Inqueue or Outqueue is set to ***OUT**, the system extracts the data with a status of **Q** (Queued) from the outbound queue. The parameters Start Profile Sequence Number and End Profile Sequence Number allow you to specify the batch numbers on which extract Processing should begin and end.
- If the file you specify for the File Name parameter does not exist, be sure to set the Create File parameter to ***YES** and specify a value for the Record Length parameter. We recommend that you also specify the library in which the new file will reside. If no library is specified, the file is created in the library specified in the user's environment control profile.
- The maximum record length for the file receiving the extracted data can be no longer than 32,000 bytes.
- If the Batchid to Dequeue parameter is set to ***ALL**, the system extracts all batches with the specified Comm Profile ID to Dequeue from the queue, regardless of their Batch ID. When you specify a value for Batchid to Dequeue, the system extracts only batches containing that Batch ID. If you enter ***BLANKS**, it will only extract batches that have a blank batch ID.

NOTE

The MQLink and File Name parameters are mutually exclusive; only one parameter can be specified. If the data is to be extracted to a database file, specify the file name. If the data to be extracted is to be sent to an MQSeries queue, specify the MQ Link name.

Figure 4.74 shows the Extract Data From Queues (EXTRACT) panels.

```
                    Extract Data From Queues (EXTRACT)

Type choices, press Enter.

Comm Profile Id to DeQueue . . .   CN3BSC      Profile Id, *ALL
Batchid to Dequeue . . . . . . .   *ALL

Extract Inqueue or Outqueue  . .   *IN         *IN, *OUT
Start Profile Sequence Number  .   0           Number
End Profile Sequence Number  . .   999999      Number
File Name  . . . . . . . . . . .   NONEDIFILE  Character value
Library Name . . . . . . . . . .   QGPL        Library Name, Blanks
Member Name  . . . . . . . . . .   ________    Member Name, Blanks
Create File ?  . . . . . . . . .   *NO         *YES, *NO
Record Length  . . . . . . . . .   ________    Number
Run Interactively? . . . . . . .   *NO         *YES, *NO

                         Additional Parameters

Process Name . . . . . . . . . .   EXTRACT
                                                                More..
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

```
                    Extract Data From Queues (EXTRACT)

Type choices, press Enter.

Update Status Flag?  . . . . . .   *YES        *YES, *NO
Fifo or Lifo Method  . . . . . .   *FIFO       *FIFO, *LIFO
Append to Existing Data? . . . .   *NO         *YES, *NO
MQ Link  . . . . . . . . . . . .   ___________  Name
Text File  . . . . . . . . . . .   *NO         *NO, *YES
Lock the File? . . . . . . . . .   *NO         *YES, *NO
Schedule Job?  . . . . . . . . .   *NO         *YES, *NO

                                                                Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.74 Extract Data From Queues (panels 1 and 2)

Additional Parameters for EXTRACT

When you press **F10** (Additional parameters), the system displays the remaining parameters for the command. Press **Page Down/Page Up** to access the parameters.

Process Name

This parameter is used to label the command for the Message Center. The default for this prompt is the command name, but it can be changed to any 15-byte field to help further identify this process. The process name appears on the first panel of the Work with Message Center screen (EDIX600) and can be sorted and reported on using this name.

Update Status Flag

The Update Status Flag parameter allows you to specify whether or not the system updates the status flag when you extract a batch of data.

FIFO or LIFO Method

This field indicates the order in which the data should be extracted. The default is ***FIFO**, first in, first out processing. ***LIFO** is used for last in, first out processing.

Append to Existing Data

This field indicates whether the existing data in the file should be appended to a specified file or overwritten. The default is ***NO** (the file member will be cleared first).

MQ Link

If data should be extracted to a MQ Queue, specify the MQ Link that represents the MQ Queue.

Text File

This field determines whether text record separators (Carriage Return, Line Feed, Newline) will be removed from the data and cause a break to a new record when the data is extracted from the queue. ***YES** indicates that the text record separators will be processed and removed. ***NO** indicates that they will be ignored and left in the data. When ***YES** is specified, any trailing spaces on the last queue record will be considered pad characters and will not be copied to the output file.

Lock the File?

This field determines whether the file that the data is being copied to is to be locked. The default is *NO.

Schedule Job

Indicates whether the job should be scheduled to run at a later time or immediately.

Purge the Communications Files

An important task of managing communications is purging the communications files on a routine basis. All batches of data received during communications sessions remain in the Inbound Queue until purged (including data that has been extracted). Likewise, all batches of data added outbound remain in the Outbound Queue until purged (including data that has been transmitted or extracted). The Communications History log contains detailed history information for all communication sessions. This file also needs to be purged.

The purge commands should be used to perform routine housekeeping to limit the size of the queues. These commands can also be used for ad-hoc purges of specific data, if necessary. Data can optionally be purged to tape or save file and later retrieved.

As with the Start Communication Session (`STRCOMSSN`) command, the various purge commands can be executed one of three ways:

- Submitted to run in batch immediately
- Scheduled to run in batch at a later time
- Executed interactively immediately

The communications files that need to be purged are the Outbound Queue (control and data files) and the Inbound Queue (control and data files), and the Communications History log. The commands that are available to purge and retrieve the data can be accessed from any one of the following:

- the Work with Communications panel (EDIX400-FMT01)
- the GENCOM menu
- prompted from the command line

The options and commands are described in this table.

GENCOM Menu Options	EDIX400 Option Codes	Commands	Description
15	40	PRGCHF	Purge the Communication History file
17	41	PRGOBQ	Purge the Outbound Queue
16	42	PRGIBQ	Purge the Inbound Queue
14	43	PRGALL	Purge all Communication files
19	44	RTVCHF	Retrieve the Communications History file
21	45	RTVOBQ	Retrieve the Outbound Queue
20	46	RTVIBQ	Retrieve the Inbound Queue
18	47	RVTALL	Retrieve all Communication files

Another way data can be routinely purged is by using the automatic purge process. At the end of every communications session, a purge command can be optionally executed to perform routine housekeeping on all communications files. The indicator that triggers the execution of the Purge All Comm Files (PRGALLA) command is the coding of a value in the Days to Purge field on the comm profile ID panel (EDIX401-FMT01). If the field is not blank and does *not* contain **999**, the system executes the PRGALLA command.

In this case, the command only purges data for the specific comm profile ID and only if the data is older than the number of days specified in the Days to Purge field. No selection can be made on the batch status when this command is invoked.

☞ **RECOMMENDATION**

Define a schedule to purge the communications files on a routine basis during non-peak hours such as nights and weekends.

Purge the Communications History Log (PRGCHF)

To access the PRGCHF command, select option **15** on the GENCOM menu or select option **40** (Purge History) on the Work with Communications panel (EDIX400-FMT01) or prompt **PRGCHF** on the command line. The command panel appears as shown in Figure 4.75.

```
                    Purge Comm History File (PRGCHF)

Type choices, press Enter.

Date to Purge Before . . . . . *DAYS       Date, *CURRENT, *DAYS, *ALL
Comm Profile Id  . . . . . > *ALL          *ALL, Comm Profile Id
             + for more values
Schedule Job ? . . . . . *NO              *YES, *NO
Purge Method?  . . . . . *NONE            *TAPE, *SAVF, *NONE, *CL
OR Days to Retain on File  . . . 0        Number

                         Additional Parameters

Run Interactively? . . . . . *NO          *YES, *NO
Reorganize Files?  . . . . . *YES         *YES, *NO
Process Name . . . . . PRGCHF

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.75 Purge Comm History File (PRGCHF) panel

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Purge the Outbound Queue (PRGOBQ)

To access the PRGOBQ command, select option **17** on the GENCOM menu or select option **41** (Purge Outbound) on the Work with Communications panel (EDIX400-FMT01) or prompt **PRGOBQ** on the command line. The command panel appears as shown in Figure 4.76.

```
                        Purge Outbound Queue (PRGOBQ)

Type choices, press Enter.

Date to Purge Before . . . . . .   *CURRENT      Date, *CURRENT, *DAYS, *ALL
Comm Profile Id  . . . . . . . .   *ALL          *ALL, Comm Profile Id
               + for more values
Batch-Id to Purge  . . . . . . .   *ALL

Status . . . . . . . . . . . . .   *ALL          *ALL, SN, SA, Q, IP, H
               + for more values
Schedule Job ? . . . . . . . . .   *NO           *YES, *NO
Purge Method?  . . . . . . . . .   *NONE         *TAPE, *SAVF, *NONE, *CL

                           Additional Parameters

Run Interactively? . . . . . . .   *NO           *YES, *NO
Reorganize Files?  . . . . . . .   *YES          *YES, *NO
Process Name . . . . . . . . . .   PRGOBQ

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.76 Purge Outbound Queue (PRGOBQ) panel

The comm profile ID is passed into the command when selected from the Work with Communications panel next to a Profile ID.

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Purge the Inbound Queue (PRGIBQ)

To access the PRGIBQ command, select option **16** on the GENCOM menu or select option **42** (Purge Inbound) on the Work with Communications panel (EDIX400-FMT01) or prompt **PRGIBQ** on the command line. The command panel appears as shown in Figure 4.77.

```
                        Purge Inbound Queue (PRGIBQ)

 Type choices, press Enter.

 Date to Purge Before . . . . . .   *CURRENT     Date, *CURRENT, *DAYS, *ALL
 Comm Profile Id  . . . . . . . . > *ALL         *ALL, Comm Profile Id
               + for more values    _____
 Batch-Id to Purge  . . . . . . .   *ALL

 Status . . . . . . . . . . . . .   *ALL         *ALL, RN, RA, PI, H
               + for more values    _____
 Schedule Job ? . . . . . . . . .   *NO          *YES, *NO
 Purge Method?  . . . . . . . . .   *NONE        *TAPE, *SAVF, *NONE, *CL

                           Additional Parameters

Run Interactively?. . . . . . . .   *NO           *YES, *NO
Reorganize Files? . . . . . . . .   *YES          *YES, *NO
PROCESS NAME  . . . . . . . . . .   PRGIBQ

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.77 Purge Inbound Queue (PRGIBQ) panel

The comm profile ID is passed into the command when selected from the Work with Communications panel next to a Profile ID.

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Purge All Communications Files (PRGALL)

To access the PRGALL command, select option **14** on the GENCOM menu or select option **43** (Purge All) on the Work with Communications panel (EDIX400-FMT01) or prompt **PRGALL** on the command line. The command panel appears as shown in Figure 4.78.

```
                        Purge All Comm Files (PRGALL)

Type choices, press Enter.

Date to Purge Before . . . . . .   *CURRENT      Date, *CURRENT, *DAYS, *ALL
Comm Profile Id  . . . . . . . . > 'CN3BSC'      *ALL, Comm Profile Id
               + for more values
Status . . . . . . . . . . . . .   *ALL          *ALL, RN, RA, PI, SN, SA, QE,H
               + for more values
Schedule Job ? . . . . . . . . .   *NO           *YES, *NO
Purge Method?  . . . . . . . . .   *NONE         *TAPE, SAVF, *NONE, *CL

                           Additional Parameters

Run Interactively? . . . . . . .   *NO           *YES, *NO
Reorganize Files?  . . . . . . .   *YES          *YES, *NO
Process Name . . . . . . . . . .   PRGALL




                                                                       Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.78 Purge All Comm Files (PRGALL) panel

The comm profile ID is passed into the command when selected from the Work with Communications panel next to a Profile ID.

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Retrieve the Communications History Log (RTVCHF)

To access the RTVCHF command, select option **19** on the GENCOM menu or select option **44** (Retrieve History) on the Work with Communications panel (EDIX400-FMT01) or prompt **RTVCHF** on the command line. The command panel appears as shown in Figure 4.79.

```
                    Retrieve Comm Hst from Tape (RTVCHF)

Type choices, press Enter.

Communication History File . . .   COMHST      Character value
Library  . . . . . . . . . . . .   G3X4DTA     Character value
Retrieve Method  . . . . . . . .   _____       *TAPE, *SAVF

                           Additional Parameters

Run Interactively? . . . . . . .   *NO         *YES, *NO

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel F13=How to use this display
F24=More keys
```

Figure 4.79 Retrieve Comm History File (RTVCHF) panel

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Retrieve the Outbound Queue (RTVOBQ)

To access the RTVOBQ command, select option **21** on the GENCOM menu or select option **45** (Retv Outbound) on the Work with Communications panel (EDIX400-FMT01) or prompt **RTVOBQ** on the command line. The command panel appears as shown in Figure 4.80.

```
                  Retrieve Outbnd Que from Tape (RTVOBQ)

Type choices, press Enter.

Outbound Control File  . . . . .   OUTCTL       Character value
Outbound Data File . . . . . . .   OUTDTA       Character value
Library  . . . . . . . . . . . .   G3X4DTA      Character value
Retrieve Method  . . . . . . . .   ____         *TAPE, *SAVF

                           Additional Parameters
Run Interactively? . . . . . . .   *NO          *YES, *NO

                                                                  Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.80 Retrieve Outbound Queue (RTVOBQ) panel

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Retrieve the Inbound Queue (RTVIBQ)

To access the RTVIBQ command, select option **20** on the GENCOM menu or select option **46** (Retrieve Inbound) on the Work with Communications panel (EDIX400-FMT01) or prompt **RTVIBQ** on the command line. The command panel appears as shown in Figure 4.81.

```
                  Retrieve Inbound Que from Tape (RTVIBQ)

Type choices, press Enter.

Inbound Control File . . . . . .   INBCTL      Character value
Inbound Data File  . . . . . . .   INBDTA      Character value
Library  . . . . . . . . . . . .   G3X4DTA     Character value
Retrieve Method  . . . . . . . .   _____       *TAPE, *SAVF

                           Additional Parameters

Run Interactively? . . . . . . .   *NO          *YES, *NO

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 4.81 Retrieve Inbound Queue (RTVIBQ) panel

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Retrieve All Communications Files (RTVALL)

To access the RTVALL command, select option **18** on the GENCOM menu or select option **47** (Retrieve All) on the Work with Communications panel (EDIX400-FMT01) or prompt **RTVALL** on the command line. The command panel appears as shown in Figure 4.82.

```
                    Retrieve ALL info from Tape (RTVALL)

Type choices, press Enter.

Inbound Control File . . . . . .   INBCTL        Character value
Inbound Data File  . . . . . . .   INBDTA        Character value
Outbound Control File  . . . . .   OUTCTL        Character value
Outbound Data File . . . . . . .   OUTDTA        Character value
Communication History File . . .   COMHST        Character value
Library  . . . . . . . . . . . .   G3X4DTA       Character value
Retrieve Method  . . . . . . . .   ____          *TAPE, *SAVF

                           Additional Parameters

Run Interactively  . . . . . . .   *NO           *YES, *NO




                                                                  Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel    F13=How to use this display
F24=More keys
```

Figure 4.82 Retrieve All Comm Files (RTVALL) panel

Press **F1** (Help) on any parameter for additional information. Press **Enter** to submit, or press **F12** (Cancel) to cancel the command.

Use the ezCOMM Command

The ezCOMM command is a tool that helps you customize the communication profile (CN3BSC for BSC or CN3SNA for SNA) supplied with the software to communicate with Commerce:Network (the value-added network for Sterling Commerce). The communication profile contains information necessary for the system to create a line, controller, and device description, which is used in the actual communication session. It is necessary to modify the default parameters to work with your modem and choice of protocol (that is, line speed and manual or auto-dial) and specific phone number to be dialed.

The ezCOMM command steps you through the panels essential for customizing the CN3BSC or CN3SNA profile. This includes the Profile maintenance panels and the Network Profile panel, which is used to define your mailbox ID and password to access Commerce:Network.

The ezCOMM command is accessed from the Work with Communications panel (EDIX400-FMT01).

```
EDIX400                    Work with Communications                EDI  03/01/06
FMT01                 pgmlib: G3X4PGM   dtalib:G3X4DTA                12:00:00

Position to Profile ID . . . . . .  __________

Type option (and Information), press Enter.
  44=Retv History  45=Retv Outbound  46=Retv Inbound  47=Retv All  50=ezCOMM

Opt  Profile ID  Company
50   _________
__   ATTEASY     AT&T EASYLINK SERVICES
__   ATTUK       AT&T IN THE UNITED KINGDOM
__   AUTOANS     TEST AUTOANSWER CONFIG
__   BSCRMT      Test for BSC REMOTE
__   BTASC       BT UK GNS EDI*NET ASYNC
__   BTUK        BT UK GNS EDI*NET BISYNC
__   BTXAS       BT UK GNS EDI*NET ASYNC VIA X.25
__   CHRY        CHRYSLER   CTX MAILBOX
__   CHRY480     CHRYSLER - 830, 861, 862
                                                                      More...
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 4.83 Work with Communication

Type option **50** (ezCOMM) on the key entry line and press **Enter**. Optionally, you can type the command **ezCOMM** on the command line and press **Enter**.

The easy Communications panel (ezCOMM-FMT02), as shown in Figure 4.84, introduces the `ezCOMM` command. This command can be used to customize the pre-defined profiles for Commerce:Network (Sterling Commerce's VAN).

```
ezCOMM                    Communications (ezCOMM)                   03/01/06
FMT02                                                               12:00:00

 The ezCOMM command is a tool that helps you customize the communication
 profile (CN3BSC for BSC or CN3SNA for SNA) supplied with the software to
 communicate with COMMERCE:Network (the Value Added Network for Sterling
 Software).  The communication profile contains information necessary for the
 system to create a line, controller, and device description, which is used
 in the actual communication session.  It is necessary to modify the default
 parameters to work with your modem and choice of protocol (ie., line speed
 and manual or auto-dial) and specific phone number to be dialed.

 The ezCOMM command steps you through the panels essential for customizing
 the CN3BSC or CN3SNA profile.  This includes the Profile maintenance panels
 and the Network Profile panel, which is used to define your mailbox ID and
 password to access COMMERCE:Network.

Enter (B) for Binary Synchronous Communication (BSC)
Enter (S) for Systems Network Architecture (SNA)
BSC or SNA? . . . . . . . . . . . . . . B

F3=Exit                  Press ENTER to continue.
```

Figure 4.84 Communications (ezCOMM) panel

After reviewing this panel, type **`B`** for BSC or **`S`** for SNA protocol and press **Enter**. If left blank, the system defaults to **`B`** (BSC).

CAUTION

The ezCOMM command proceeds FORWARD ONLY through all associated panels.

The `ezCOMM` command steps you through a series of panels to define the Communication profile and scripts necessary to establish communications with Commerce:Network. These panels are documented earlier in this chapter.

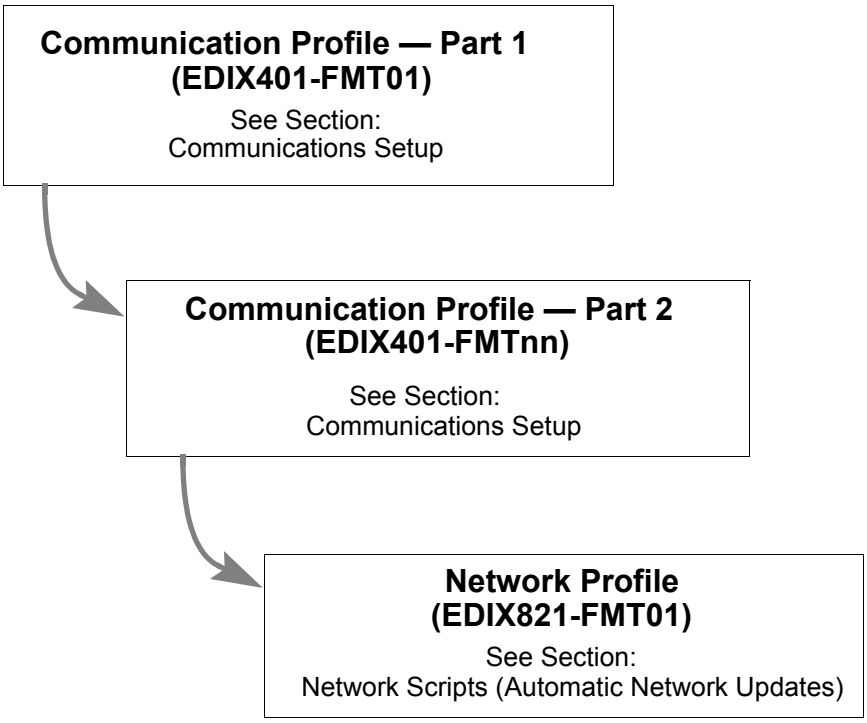


Figure 4.85 The ezCOMM Panels

Reports

EBDI078 — Gentran EDI Data Print Report

Contents of the Report

This report contains control information and data contained on the Inbound and Outbound Queues.

How to Identify the Report

The name of the Gentran:Server program that generates this report (EBDI078) appears in the upper left-hand corner of the actual report. The report title, `GENTRAN EDI PRINT REPORT`, is centered at the top of the page.

How to Generate the Report

This report is generated when you press **F21** (Prt Dta) while on the Outbound Queue Inquiry panel (EDIX405) or the Inbound Queue Inquiry panel (EDIX408), or by typing **`6`** next to a batch of data while on the Work with Outbound Queue Control panel (EDIX404), or the Work with Inbound Queue Control panel (EDIX407). The Print EDI Data (PRTEDIDTA) command is shown with the selection criteria pre-loaded for the batch of data chosen when you select one of the options mentioned above. The start or end sequence numbers can be altered if the entire batch is not required to print.

This function can also place the EDI data into an output file specified by the user if desired. To place the EDI data into an output file, change the OUTPUT option to **`*OUTFILE`** and enter the related file information. This will direct the output to the file instead of the printer.

```
EBDI078    RUN DATE 03/01/06          GENTRAN EDI PRINT REPORT          TIME 12:00:00     PAGE  1

COMM PROFILE: EDICOMM          INBOUND          BATCH NUMBER   1306  THRU   1306     SEQ. NUMBER     1 THRU 999999

          BATCH SEQUENCE:  1306

ISA*  *          *00*          *ZZ*EDIISAPART     *ZZ*EDIINBOUND     *970212*165
2*U*00300*000002824*0*T**?
GS*PO*EDIISAPART*EDIINBOUND*971010*1652*987*X*003060?
ST*850*000987001?
BEG*00*NE*14**971101?
NTE*ALL*####                PURCHASE ORDER INSTRUCTIONS?
NTE*GEN*#### ALL ITEMS MUST BE SENT BY REQUESTED SHIP DATE OR   ####?
NTE*GEN*#### ENTIRE ORDER IS SUBJECT TO CANCELLATION          ####?
NTE*GEN*##########                                            ####?
NTE*GEN*#### NO SUBSTITUTION OF ITEMS W/O PRIOR BUYER APPROVAL  ###?
NTE*GEN*                     ####?
NTE*GEN*##########################################?
ITD*3***07*******  60?
DTM*010*970405?
DTM*001*970405?
DTM*002*970405?
N1*BT*MILLER & HARTMAN*92*1159001?
REF*DP*124?
NTE*GEN*JUST ONE MORE NOTE?
PO1*1*-48*BA*25*SK*-15?
PO4*12?
ITA*A***ZZ****30?
NTE*GEN*T1?
NTE*GEN*T2?
SLN*XX**A*20.5*AA?
PID*F*02*AA*TEST?
NTE*GEN*FTERPID?
CTT*1*48?
SE*27*000987001?
GE*1*987?
IEA*1*000002824?
```

Figure 4.86 EDI Print Report (EBDI078)

Fields on the EDI Print Report (EBDI078)

The fields on the report are defined as follows:

Field Names	Description
Comm Profile	Displays the comm profile for the batch of data that is printing.
Batch Number	Displays the batch number range that is printing on the report.
Seq. Number	Displays the Sequence number range that is printing on the report.
Batch Sequence	Displays the batch number of data that follows.

Common Questions

How can I implement security in auto answer sessions to guard against unauthorized access?

The script for an Auto Answer session can have a control record with a Transaction code of **D** (Data-trap) and an indicator of **0** (receive) as its first step for security measures.

This security measure allows the system to verify that it is in communication with the correct network or direct communication partner. If the first control record received does not match the control record of the data trap, the session is terminated. If this first step is omitted, any remote can connect and communicate with no security.

A more in-depth view of an Auto Answer session is as follows:

1. Initiate the session from the STRCOMSSN panel.
2. Your partner's system then calls your system.
3. Your partner sends "Hello, this is Dr. Bob" as an identifying control record.
4. Your system verifies the "Hello, this is Dr. Bob" against the literal on the command line for the data trap step, and if it matches, continues with the remainder of the script.

How can I initiate process Inbound data immediately at the end of a communication session?

At the end of every communication session, the supplied user-exit, EDCLUSER is executed. Currently, this is a skeleton CL program that simply receives parameters from the comm session and sends program messages to display the parameters.

The CL can be modified or a new CL can be written. The name of the CL must be EDCLUSER and the object must reside in the Gentran:Server program library (G20PGM).

The following parameters are passed to EDCLUSER:

Parameter	Length	Type	Values
Profile (Profile ID)	8	*CHAR	any
SSN (Session Name)	2	*CHAR	any
DELETE (Delete Flag)	4	*CHAR	*Yes/*No
CONT (Continuous Processing Flag)	4	*CHAR	*Yes/*No
TRACE (Trace Flag)	4	*CHAR	*Yes/*No
DOCONNECT (Connect if no data to send)	4	*CHAR	*Yes/*No
STATUS (Status Flag)	1	*CHAR	S/F
MSGQ (Message Queue)	10	*CHAR	Msg Queue Name
SNDTOT (Send Total)	6	*DEC	0-999999
RCVTOT (Receive Total)	6	*DEC	0-999999
COMLOG	6	*DEC	0-999999
COMPRS	4	*CHAR	*Yes/*No
PRCNAM	15	*CHAR	any
MCSEQ	9	*DEC	0-not used

The user needs to decide what steps need to be taken by interrogating the Status flag. A status of **S** indicates the Communication session ended successfully. A status of **F** indicates the session failed. Many batches of data may have been received normally before a failure occurred.

When the status is **F**, the user may want to be notified so the History log could be reviewed for problem resolution.

When the status is **S**, the user may want to automatically extract the data and process using their applications.

How can I control the inactivity timer used during communication sessions?

Gentran:Server is flexible in providing varying levels of control over the amount of "inactive time" allowed during a receive step in a communication session. There may be times when you want to increase the wait time while communicating with partners or networks that respond a little slower. At other times, you may demand a quicker response (for example, within 30 seconds or the session should be cancelled) to better control your own resources. Gentran:Server provides global or default options that are used if the inactivity option is not used on the individual session control records within a given script. Some of these options are discussed below.

BSC

For BSC profiles, there is a global inactivity timer that is used as a default when a receive step is executed that does not contain a receive timer value. The value of the global inactivity timer is five minutes and is stored in the EDIATIMER data area in the Gentran:Server data library (G20DTA). This means that Gentran:Server waits for five minutes for a response from the remote system after a receive step has been executed before it bypasses that step and advances to the next script record. To change this value, type the command **`SETTIMER`** on the command line and press **F4** (Prompt). The current delay time is shown in HHMMSS (hours, minutes, seconds) format. To change, type in the new delay time and press **Enter**. For example, to change the value to eight minutes, type the value **`000800`** and press **Enter**.

NOTE

In some cases, increasing the timeout value still may not prevent a timeout. This can occur if the remote system is too busy to process your request immediately. In this situation, the remote system may begin to send you TTD (Temporary Text Delay) sequences. The TTDs are the other system's way of saying "Please be patient, I will start sending your data as soon as possible." However, there is a limit to the number of TTDs that can be received before an error is reported. This limit is set by the RCVRTY parameter in the line description. This parameter has a default value of 60 and can be changed if necessary.

SNA

For SNA profiles, a value can be defined for each profile on the comm profile ID maintenance panel (EDIX401-FMT04) that defines the amount of time in seconds that Gentran:Server waits for a response after a receive step is executed. This field is called the inactivity timer and is only used when a receive step that does not contain a receive timer value is executed. If the amount of inactive time is exceeded, the receive step ends and the next script record is read and processed.

All Protocols Except FTP

For complete flexibility, a receive timer value can be defined for each receive step on the script record by using the Communications Session Control (Extended Parms) panel (EDIX43B-FMT01). By using this method, you can make decisions on whether the session should be terminated immediately when the delay time has been exceeded or the step should just be skipped and continue with the next script record. Additionally, if data was received prior to exceeding the delay time, you can define whether the batch of data received to the Inbound Queue (only valid if the file type is **`IQ`** or **`IM`**) is given a normal (RN) or abnormal (RA) status. The fields used to control this functionality on EDIX43B-FMT01 are: Receive Timer, Timeout Continue, and Timeout status.

How can the Network Scripts be converted to use the Automatic Network Update feature?

NOTE

This conversion process applies to software upgrades only, not new installations.

The network profiles provided with Gentran:Server can be used with the automatic Network update feature. The scripts are scanned for the old identifiers and then replaced with the new identifiers provided by the network to uniquely identify your company.

If you converted from a prior release of Gentran:Server and you were manually updating network scripts, you may encounter an out-of-sync situation when attempting to use the automatic update feature. Being “out-of-sync” means the identifiers provided with the network profile don’t match the identifiers in the scripts, which have been manually updated. The conversion process gets these files back “in-sync” so the system knows what to search for the next time a change is made. Once the files are converted, you can use the automatic network update feature to execute the find-and-replace process.

If you try to use the automatic update feature without first executing the conversion process, the system won’t know what values to find and replace.

If the conversion process is not executed, you must continue manually updating the scripts if the identifiers change.

The update process consists of manually transferring the necessary network values from your existing network scripts to the Network Profile panel (EDIX821-FMT01), and then using the update function to synchronize the Communication Profile file with the network scripts.

The conversion process is divided into two steps:

- Recording network values from existing scripts
- Updating the Communication Profile

Step 1: Record Network Values from Existing Scripts

For each Network Profile that needs to be updated, access the unfolded view of the Communication Session Control panel (EDIX403-CTL01) and record the necessary network values on the work sheets provided after this question. (SEE the "Communication Session Control Scripts" section of this chapter for instructions on how to access this panel.)

Step 2: Update the Communication Profile

Enter these values on the Network Profile panel (EDIX821-FMT01). (SEE the steps for accessing this panel in the "Automatic Network Updates" part of this section.)

To access panel EDIX821-FMT01, follow the steps detailed in the section "Automatic Network Updates."

For each Network Profile:

1. Enter the Network Profile ID in the Comm Profile ID field.
2. Replace the values that are displayed with the values from your script file. (These were recorded in Step 1 of this process.)
3. Press **F10** (Update) to update the Network Profile.

After the profile is updated, the system displays the message: "Profile Updated but no changes were made in network scripts." This means that the find-and-replace operation did not find the "old" values in the script records that it scanned. However, this is understandable because the scripts are not "in-sync" with the Communication Profile, and that is the reason you have executed the conversion process. At this point, the files are then synchronized, and future updates result in the display of the message: "Network scripts updated."

Use the worksheets on the following pages to record the necessary network values from your existing communication scripts.

NOTE

In this step, the Communication Profile file is updated with the values that currently exist in your network scripts. Therefore, in the future, the software has the correct information to use for the find-and-replace operations.

Network Profile Worksheets

This section contains worksheets with specific examples for each of the supported networks. For each network, examine the records in your communication scripts that correspond to the samples shown, and record the actual values that appear in your scripts.

The example script records, in most cases, contain the values for which you are looking. In some cases, you need to look at more than one record to obtain all the necessary values. Use other records if you have modified your scripts to the extent that they do not match the examples.

NOTE

This process assumes that all of the existing scripts for a given Network Profile are fully customized. For example, if your Account ID for IBM is "IBM1," all of the scripts for the IBM Profile are changed to "IBM1" every place the Account ID is needed. The same is true for passwords or other necessary fields.

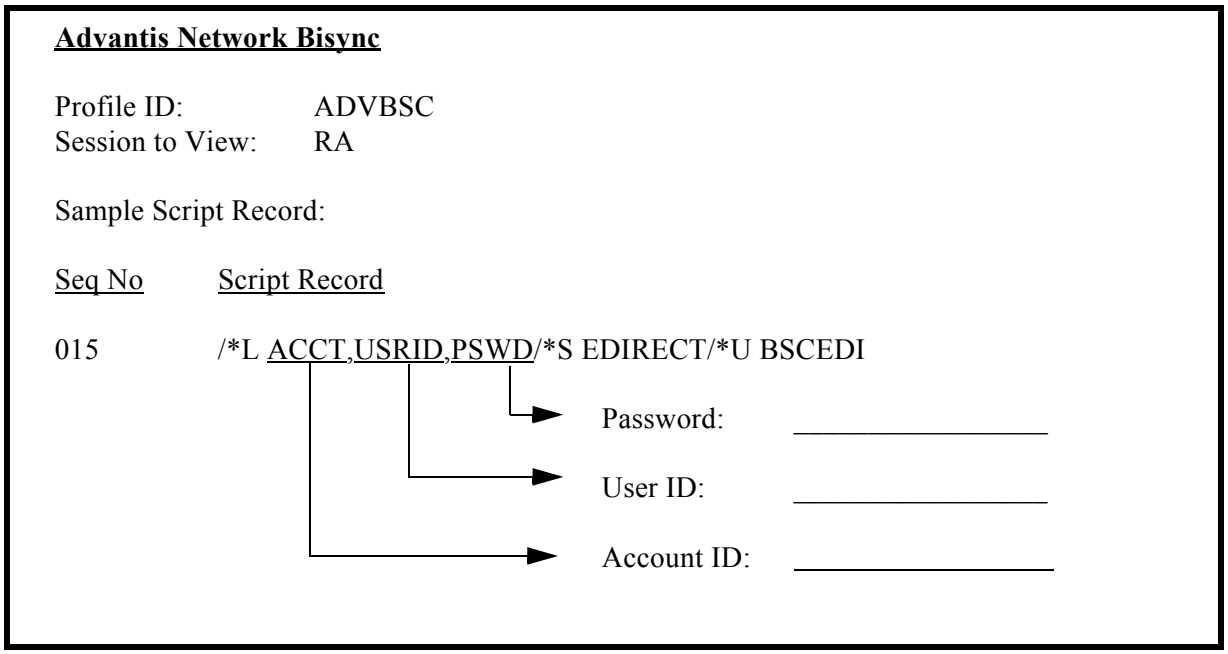


Figure 4.87 Advantis Network Conversion Worksheet

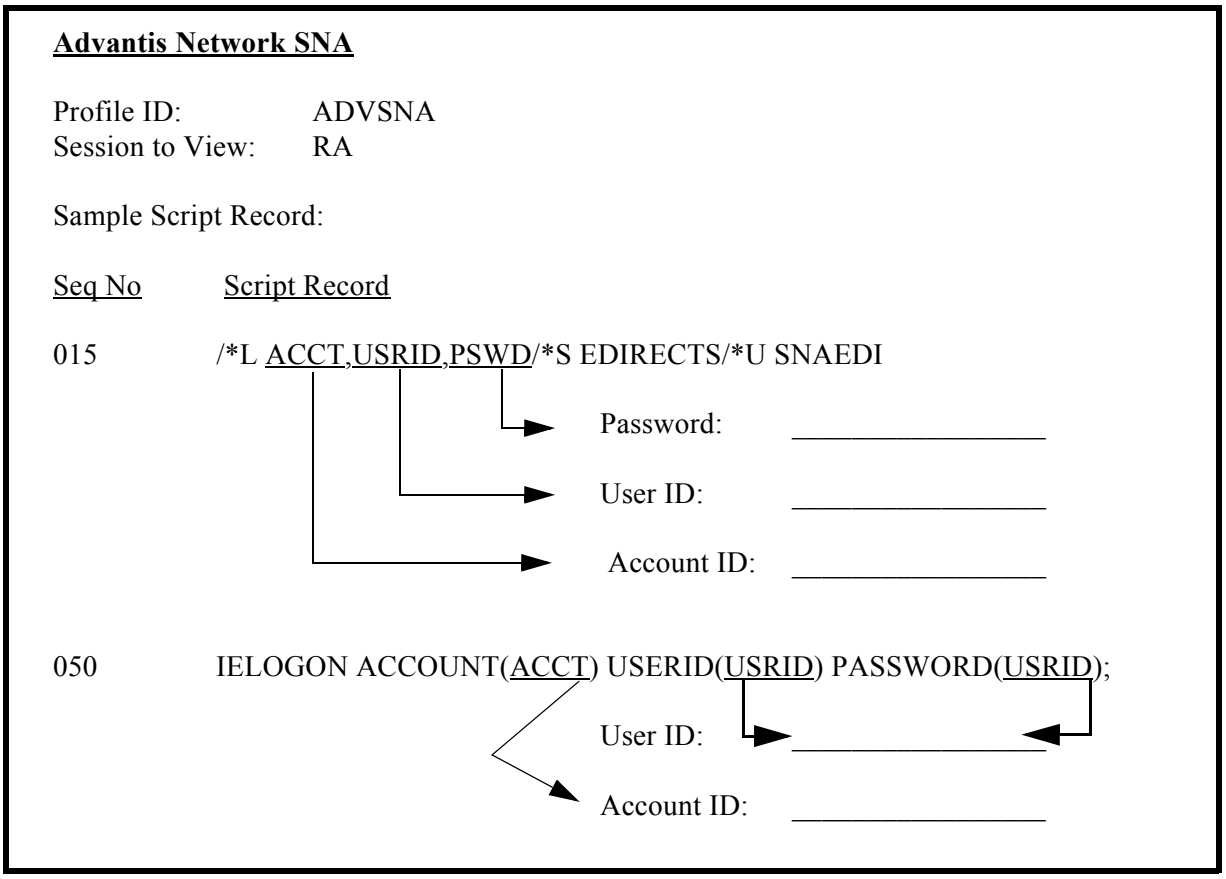


Figure 4.88 Advantis Network Conversion Worksheet

AT&T Easylink Services

Profile ID: ATTEASY
Session to View: SR

Sample Script Record:

Seq No	Script Record
010	+:SIGNON USERNAME=USRNM PASSWORD=PSWD

Password: _____

User ID: _____

Figure 4.89 AT&T Easy Network Conversion Worksheet

AT&T in the U.K

Profile ID: ATTUK
Session to View: SR

Sample Script Record:

Seq No	Script Record
010	/*SIGNON USERNAME=USRNM PASSWORD=PSWD

Password: _____

User ID: _____

Figure 4.90 AT&T in the U.K. Network Conversion Worksheet

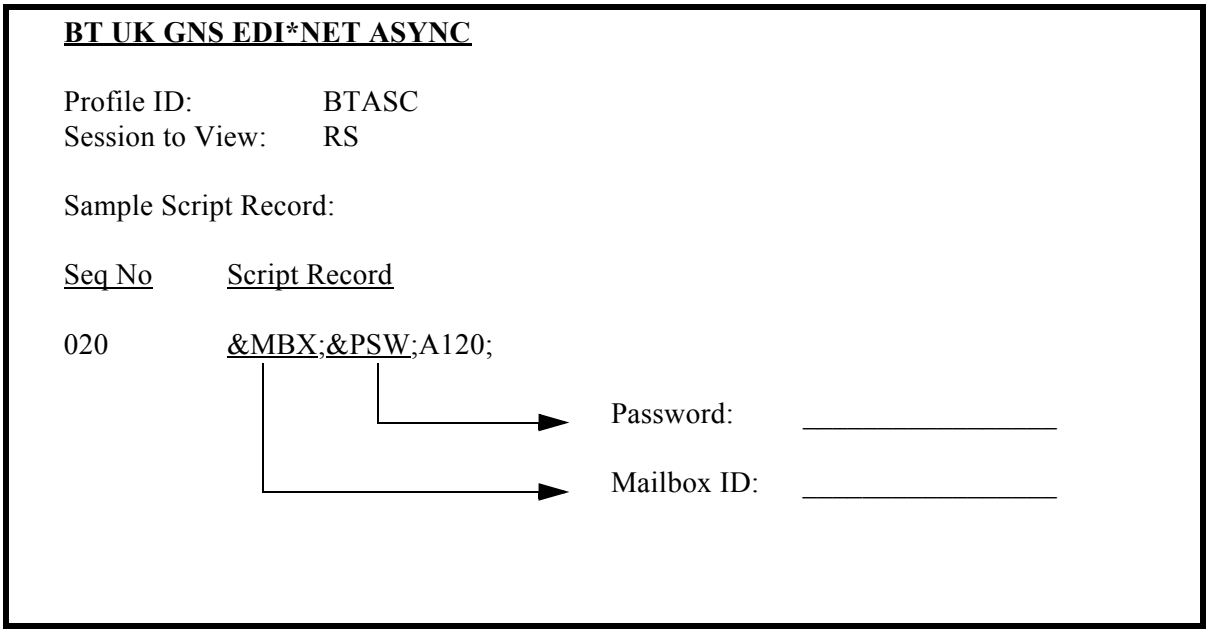


Figure 4.91 BTASC Network Conversion Worksheet

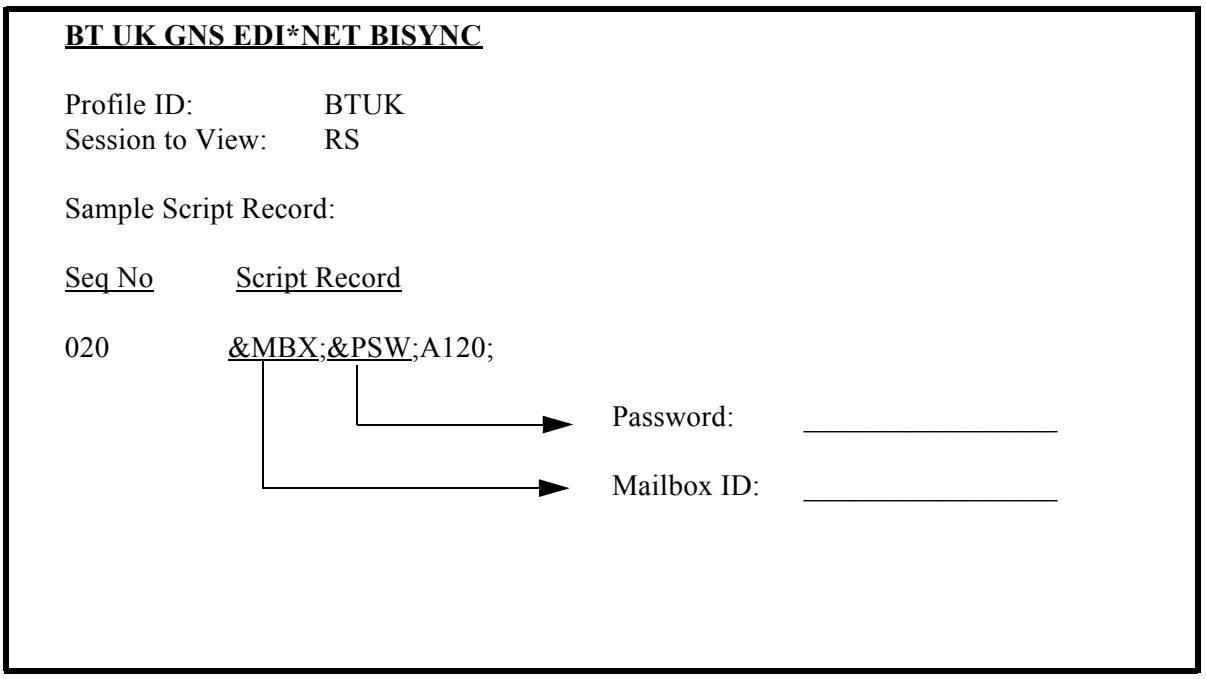


Figure 4.92 BTUK Network Conversion Worksheet

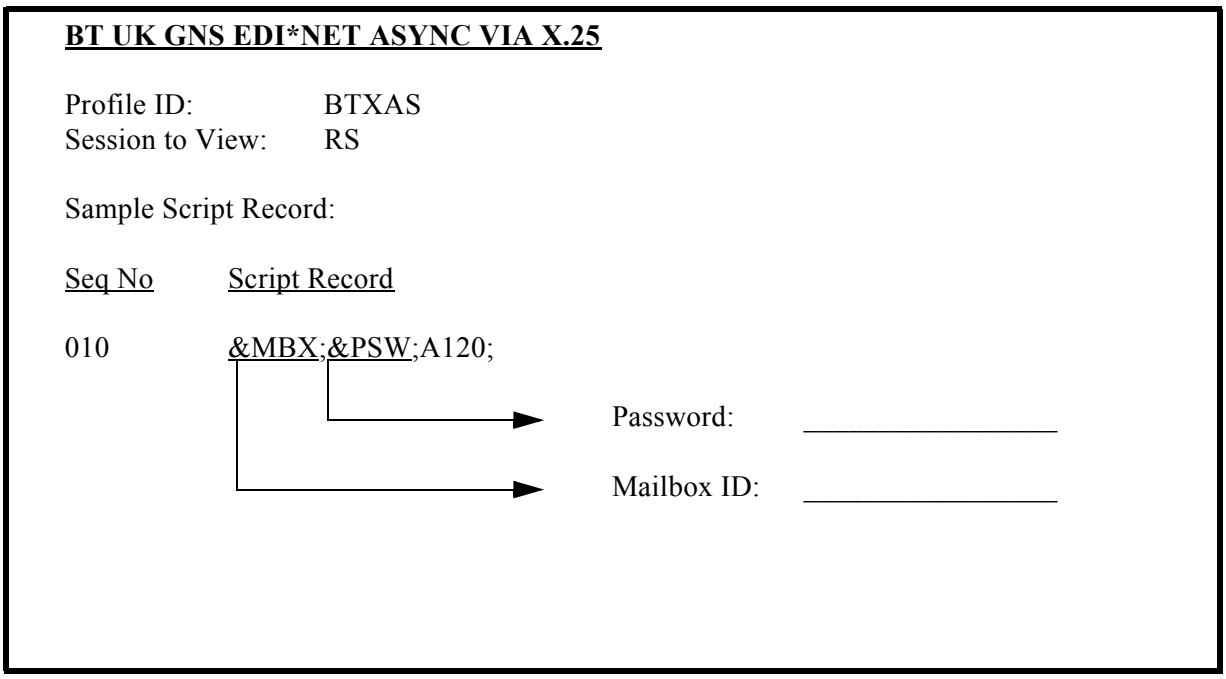


Figure 4.93 BTXAS Network Conversion Worksheet

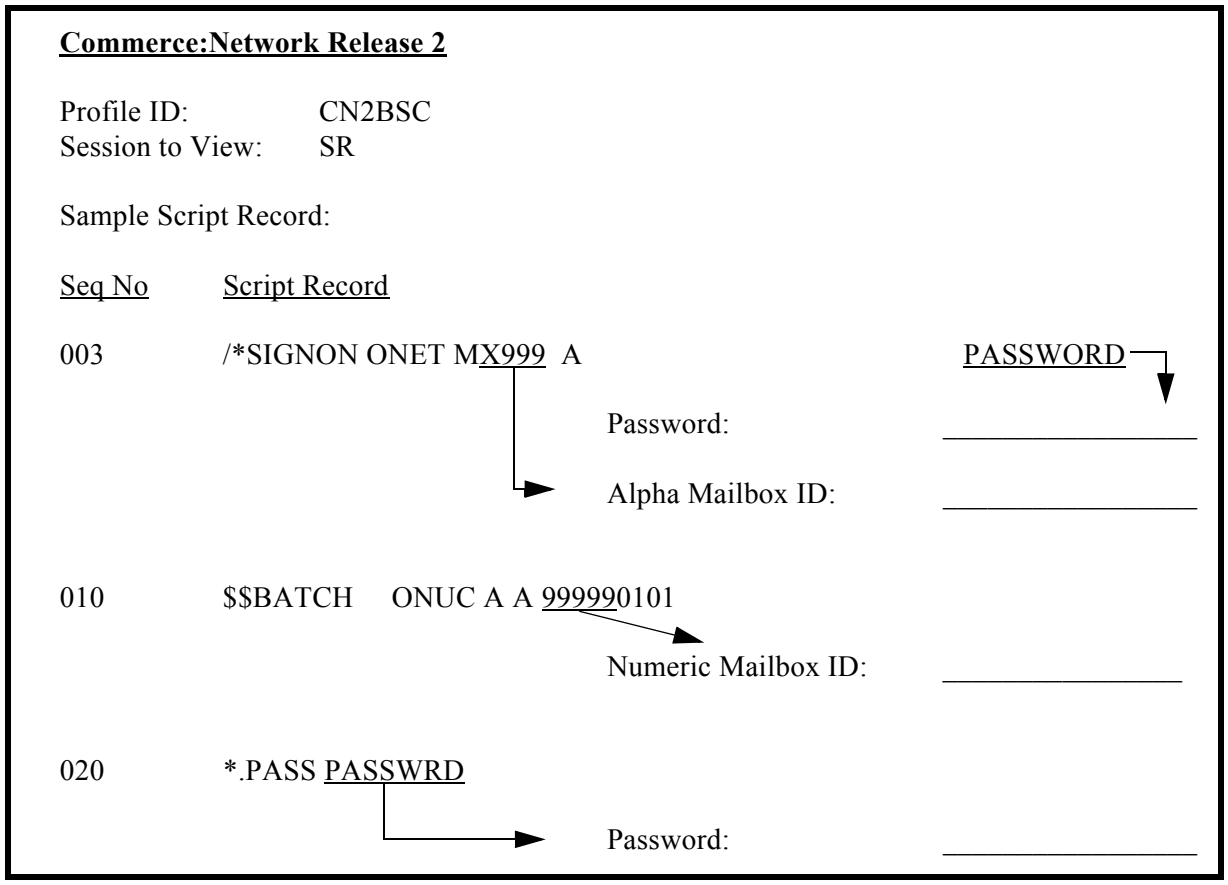


Figure 4.94 Commerce:Network Release 2 Conversion Worksheet

Commerce:Network Release 3

Profile ID: CN3BSC
Session to View: SR

Sample Script Record:

Seq No	Script Record
020	$$REQUEST SX999R BATCHID='TEST'
	Batch ID/Password: _____
	Report Mailbox ID: _____
030	$$REQUEST SX999D BATCHID='TEST'
	Batch ID/Password: _____
	Data Mailbox ID: _____
040	$ADD ID=SX999D BATCHID='TEST'
	Batch ID/Password: _____
	Data Mailbox ID: _____

Figure 4.95 Commerce:Network Release 3 Conversion Worksheet

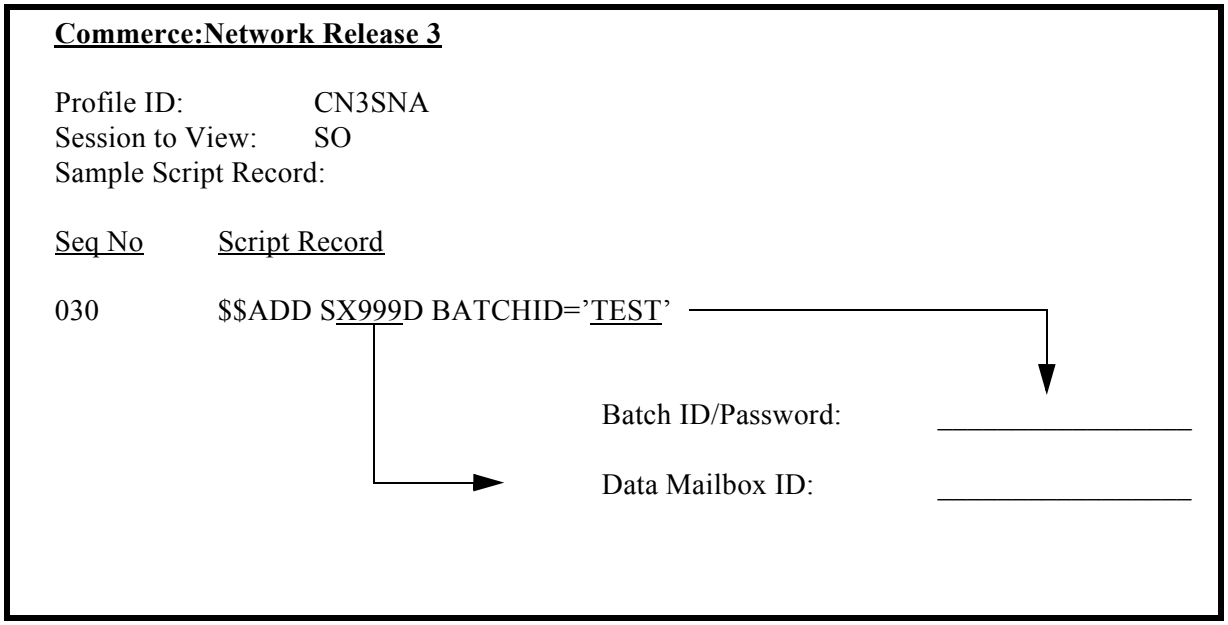


Figure 4.96 Commerce:Network Release 3 Conversion Worksheet

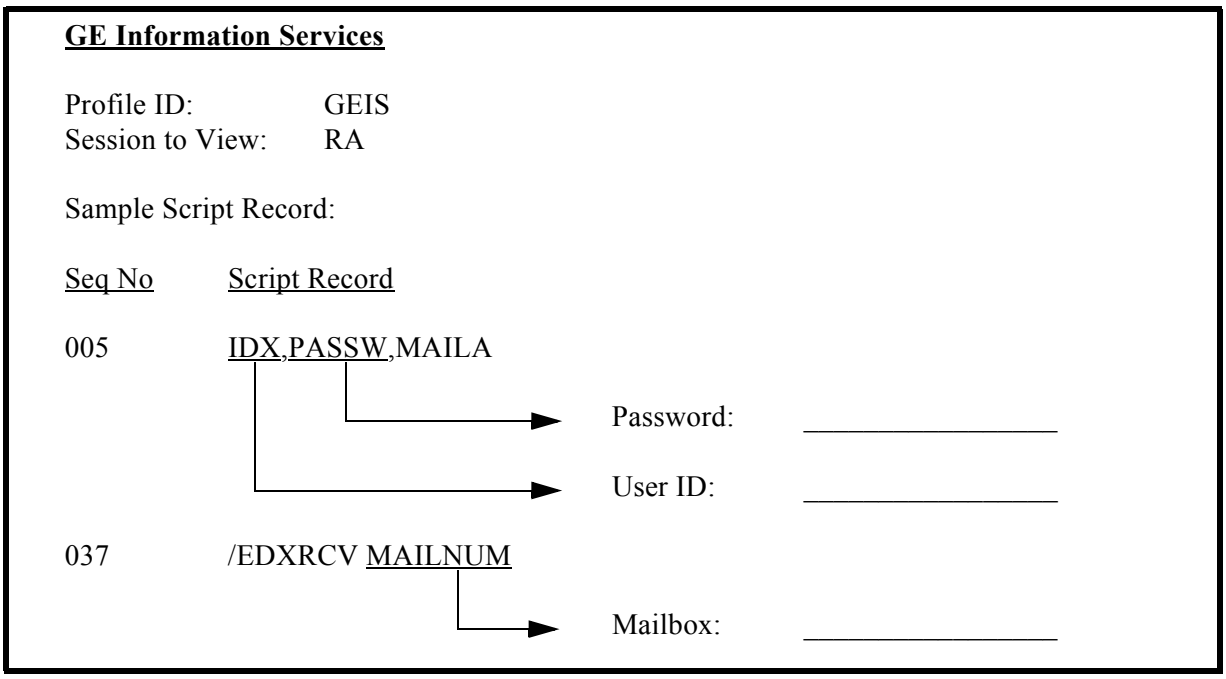


Figure 4.97 General Electric Network Conversion Worksheet

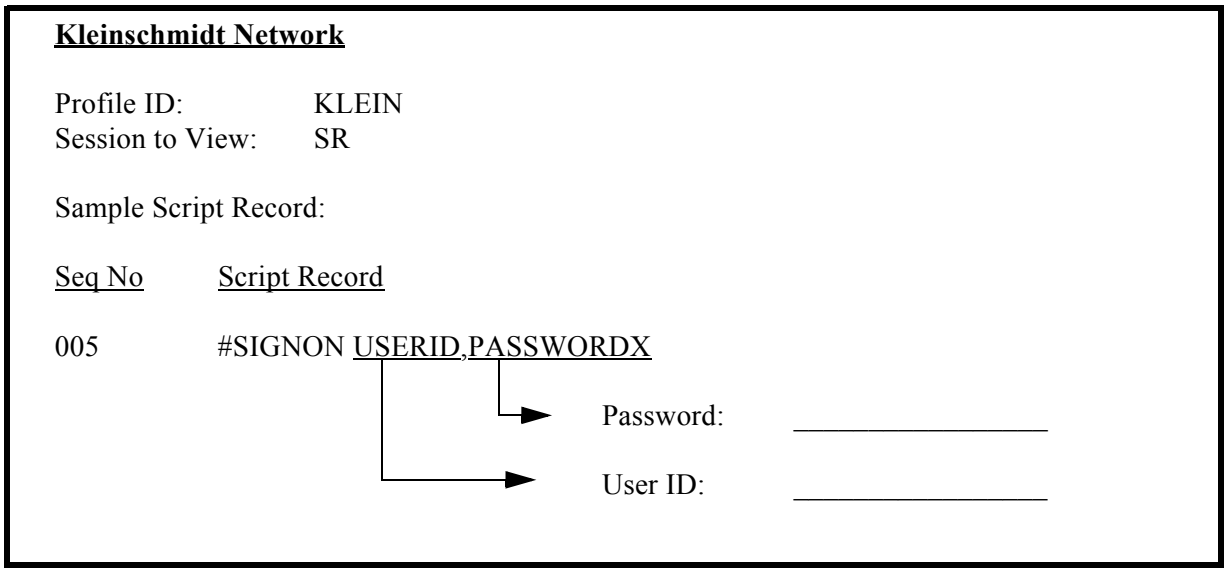


Figure 4.98 Kleinschmidt Network Conversion Worksheet

MCI Bisync

Profile ID: MCI
Session to View: SR

Sample Script Record:

Seq No	Script Record
012	MAILBOXID;PASSWD;B135;

Password: _____

Mailbox ID: _____

Figure 4.99 MCI Bisync Network Conversion Worksheet

Sears Communication Network

Profile ID: SEARS
Session to View: SR

Sample Script Record:

Seq No	Script Record
005	+LOGON SEARSEDI,IDXXXXX,PASSWORD

Password: _____

ID Number: _____

Figure 4.100 Sears Communication Network Conversion Worksheet

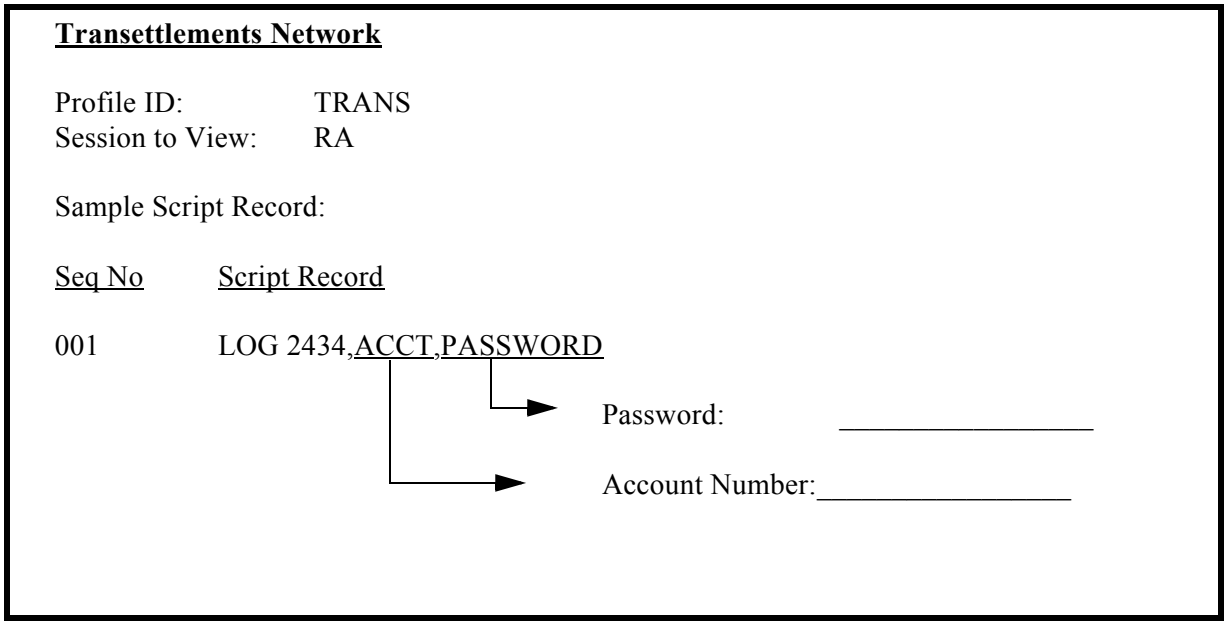


Figure 4.101 Transettlements Network Conversion Worksheet

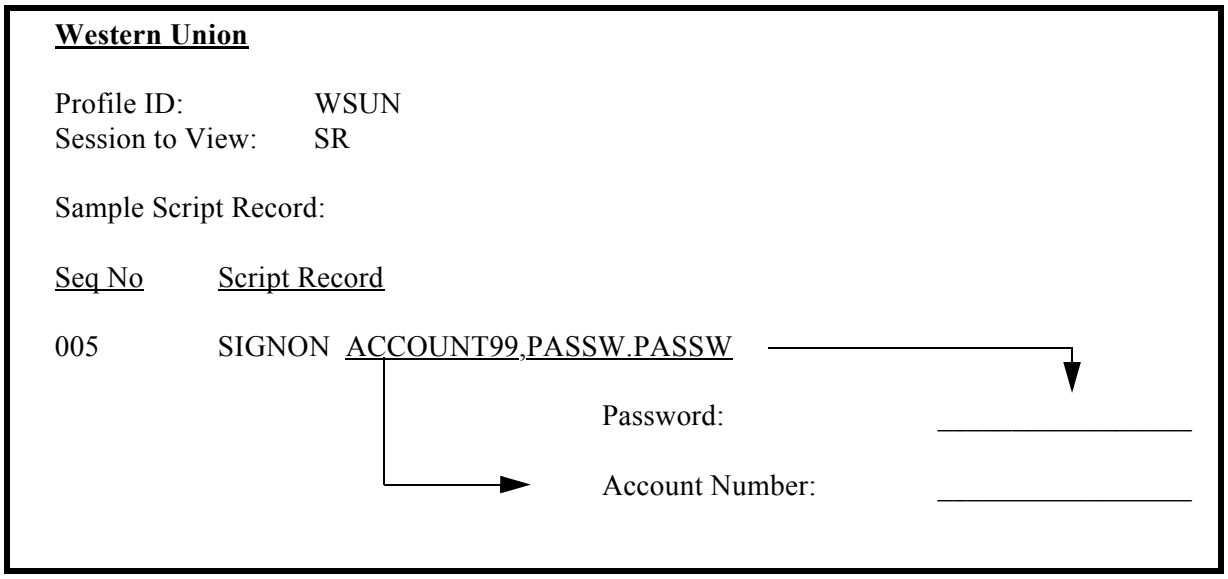


Figure 4.102 Western Union Conversion Worksheet

Chapter

5 Using Scripts

Work with Session Control Scripts

The Work with Communications Session panel (EDIX402-FMT01) enables you to add, update, copy, and delete the session control scripts for a specified Communications Profile ID. The "script" contains action data that is used to control the sessions initiated for each profile.

```
EDIX402              Work with Communications Session           EDI 03/01/06
FMT01               pgmlib: G3X4PGM     dtalib: G3X4DTA             12:00:00

Position to Session Name . . . . .     For CN3BSC

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  6=Print  30=Start Session

Opt SN Company

__  RA COMMERCE:NETWORK RELEASE3
__  RD COMMERCE:NETWORK RELEASE3
__  RR COMMERCE:NETWORK RELEASE3
__  SO COMMERCE:NETWORK RELEASE3
2_  SR COMMERCE:NETWORK RELEASE3
__  ST COMMERCE:NETWORK RELEASE3



                                                                      Bottom
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F4=Prompt  F12=Cancel  F15=Sort  F24=More Keys
```

Figure 5.1 Work with Communications Sessions Panel (EDIX402-FMT01)

To select a session control script, type **2** in the Option field next to the desired session name to edit (or **5** in the Option field to view) and press **Enter**, as shown in Figure 5.1. To create a script, type **1** and a Session Name on the key entry line and press **Enter**.

NOTE

The first character of the session name *cannot* be numeric.

The Communication Session panel (EDIX403-CTL01) appears, as shown in Figure 5.2.

NOTE

Sometimes it is easier to copy an existing script than to build a new one. (SEE the section "Copying Communications Scripts" later in this chapter for more information.)

Session Control Maintenance

A record exists for each action (command) that occurs when communicating with a remote site. You can display these "command lines" for each session, or use the unfolded view to see the "control data lines" as well.

Press **F9** (Fold/Unfold) to toggle between the basic and extended views, as shown in Figure 5.2.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    20   C    __  __________  0  SEND REQUEST FOR REPORTS
__    30   C    __  __________  0  SEND REQUEST FOR X12 DATA
__    40   C    __  __________  0  SEND $$ADD RECORD
__    50   S    OQ  __________  2  SEND X12 DATA FROM OUTQUE
__    60   R    SP  __________  7  RECEIVE REPORTS TO SPOOL
__    70   R    IQ  __________  7  RECEIEVE X12 DATA TO INQUE
__    ___  _    __  __________  _  ____________________________
__    ___  _    __  __________  _  ____________________________
__    ___  _    __  __________  _  ____________________________
                                                            More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    20   C    __  __________  0  SEND REQUEST FOR REPORTS
$$REQUEST ID=SX999R BATCHID='TEST'
__    30   C    __  __________  0  SEND REQUEST FOR X12 DATA
$$REQUEST ID=SX999D BATCHID='TEST'
__    40   C    __  __________  0  SEND $$ADD RECORD
$$ADD ID=SX999D BATCHID='TEST'
__    50   S    OQ  __________  2  SEND X12 DATA FROM OUTQUE

__    60   R    SP  __________  7  RECEIVE REPORTS TO SPOOL
***  ERROR  ***  NO BATCHES FOR TRANSMISSION
                                                            More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 5.2 Folded and Unfolded Views of the Communication Session Control Panel (EDIX403-CTL01)

NOTE

The creation of script records is protocol-specific. However, many general characteristics are applicable to all protocols. The following information describes the general concepts. For specific information, see the chapter for the protocol you are using.

Field Definitions

Seq No

A 3-position numeric field used to define the sequence number assigned by the user to each protocol session record.

Leaving gaps between sequence number assignments may be useful for inserting additional control records at a later time.

Tran

A 1-position alphabetic field used to define the transaction type code identifying the type of record displayed. Valid values are:

C	Send the literal that is entered in the control data line. For example, this can be used for sending signon cards or other control data that is required by the remote.
S	Send data to the remote site followed by any special characters as instructed by the indicator field.
R	Receive data from the remote system.
D	Wait to receive a literal as specified on the control data line. This transaction type can be used as a signon or verification of incoming data or for trapping and discarding prompt messages.
E	Send an Evoke Record to the Remote System. This must be the first record of the script. This code is only used if your system starts the session and is valid only for the X62, L62, and XAS protocols. Use the **F16=Evoke Record Maint** key to access the Evoke Record Maintenance panel.
X	Invoke extended script logic functions.

File

A 2-position alphabetic field used to define the file type code that identifies the type of file that the transaction record is written to. Valid values are as follows:

OQ	Outbound Queue; only valid for Tran Type **S**
OM	Outbound Multiple; only valid for type **S** Sends the outbound data in such a way that individual batches can be separated as they are received by the remote. This function is complementary to **IM**, which is defined below.

OF Outbound File; only valid for Tran Type **S**

IQ Inbound Queue; only valid for Tran Type **R**

IM Inbound Multiple; only valid for type **R**

Receive inbound data so that individual batches can be separated as they are received by your system. This function is complementary to **OM**, which is defined above.

IF Inbound File; only valid for Tran Type **R**

IF (Inbound File) receive to an inbound user file and overwrite all existing data in the file.

IA Inbound Append; Append to existing data in user file.

ID Inbound Device; only valid for Tran Type **R** and BSC sessions. Received data is sorted to the inbound queue or to the spool file based on the device selection codes that precede the data during the receive process.

SP Spool File; only valid for Tran Type **R**

JR JES Receive; only valid for Tran type **R** and SNA sessions. Print data will be sent to the spool and punch data will be stored on the Gentran:Server for iSeries inbound queue.

JQ JES Queue; only valid for Tran Type **R** and SNA sessions. All data received from JES is placed on the Gentran:Server for iSeries inbound queue.

File Name: (Required for File Types OF, IF and IA)

A 10-position alphanumeric field used to enter the name of the file where inbound and outbound data will be stored. The file name must exist in a library in the library list where the Gentran:Server libraries are for each session because the file must be retrieved before the data can be sent or received from the remote network.

Ind

A 1-position numeric field used in conjunction with the transaction type to indicate what processing will be done. Refer to the tables at the end of this section to determine the allowed values for specific transactions. These values will differ based on the protocol used.

Description

A 30-position alphanumeric field used to document the session protocol record.

Comm Session Control — Copying Script Sequence Numbers

You can copy an existing communication script sequence number to a different sequence number within the same script.

The following figure shows how to copy a script sequence number.

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
7     10   C    __  __________  1  ________________________
__
__   Copy To
__   20
__   F3=Exit  F12=Cancel
__
__
__    ___   _    __  __________  _  ________________________
__    ___   _    __  __________  _  ________________________
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

To copy a sequence number:

1. From the Communication Session Control panel (EDIX403-CTL01), type **7** (Copy Seq#) in the Option field next to the selected sequence number you want to copy and press **Enter**.

2. The Copy To will display as shown above. Type the sequence number of the new record and press **Enter**.

Comm Session Control — Extended Parameters

There are additional fields, collectively referred to as “extended parms,” which provide complete flexibility and are available for each script record. These fields include Batch ID, Receive Timer, Timeout Continue flag, and Timeout Status flag.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    20   C     __  __________   0  SEND REQUEST FOR REPORTS
__    30   C     __  __________   0  SEND REQUEST FOR X12 DATA
11    40   C     __  __________   0  SEND $$ADD RECORD
__    50   S     OQ  __________   2  SEND X12 DATA FROM OUTQUE
__    60   R     SP  __________   7  RECEIVE REPORTS TO SPOOL
__    70   R     IQ  __________   7  RECEIEVE X12 DATA TO INQUE
__    ____ _     __  __________   _  ____________________________________
__    ____ _     __  __________   _  ____________________________________
__    ____ _     __  __________   _  ____________________________________
__    ____ _     __  __________   _  ____________________________________
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 5.3 Communications Session Control Panel (EDIX403-CTL01)

To access the extended parameters, type **11** (Extended Parms) next to the selected script records (from either folded or unfolded view) and press **Enter**, as shown in Figure 5.3.

The Communication Session Control panel (EDIX43B-FMT01) appears, as shown in Figure 5.4. It can be used to edit a session control record in hex, simplifying the construction of script records that require non-displayable characters. Additional parameters may be used to control the script processing, such as Receive Timer and Timeout flags.

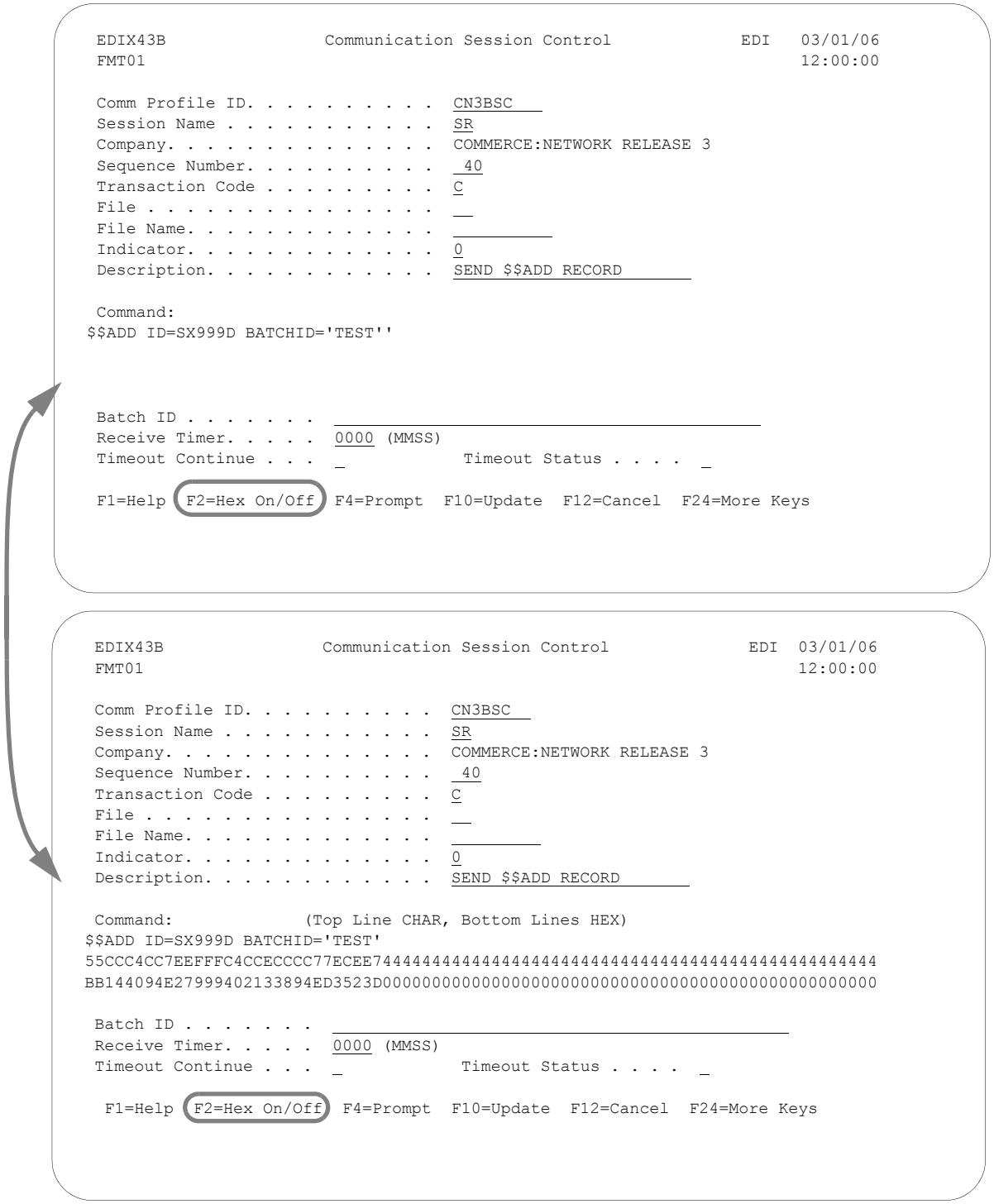


Figure 5.4 Comm Session Control – Extended Parms Panel with Character/Hex Views (EDIX43B-FMT01)

To toggle between the character and hex display of the command, press **F2** (Hex On/Off). Make the desired changes and press **F10** (Update). The record is updated and you are returned to the Communication Session Control panel (EDIX403-FMT01).

Optionally, you can continue editing script records from the Extended Parms panel (EDIX43B-FMT01) by pressing **F16** (Record-1) or **F17** (Record+1), which advances you to the next session control record after updating the modified record.

Extended Parameter Field Definitions

NOTE

SEE the field definitions under "Session Control Maintenance" for descriptions of the basic parameter fields.

Command

This 80-position alphanumeric and/or hexadecimal field is used to edit and display session Command records. The command record is used for several purposes depending on the Transaction Type of the script record in which the Command record appears:

The Command field on the EDIX43B panel has a "hex mode" that can be toggled on and off by pressing the **F2=Hex On** key. When hex mode is off, the field allows entry of alphanumeric data, just like the Command fields on the EDIM43A panel. When hex mode is on, the field also allows entry of hexadecimal data. The panel will initially be displayed with hex mode off. For more information, see Hex Mode Command Editing.

Batch ID

This 44-position alphanumeric field is used to specify the Batch ID of the data that is being sent or received. For send commands, Batch ID will be used to select the data that will be transmitted from the outbound queue. For receive commands, data that is received to the inbound queue will be assigned the Batch ID that has been specified. When Batch ID is left blank, the system interprets the value as meaning that no particular Batch ID has been assigned.

Receive Timer

This four-position numeric field is used in receive steps and data traps to specify the length of time that the system will wait for data to be received before considering it a timeout. This allows varying timeout periods to be specified for individual steps within a communication script. If this field is left blank or filled with zeros, then the receive timer value for this step will automatically be copied from one of two places; BSC profiles will take the value from the system-wide bisync timer (accessed via the SETTIMER command), and the SNA profiles will take the value from the Inactivity Timer field within the EDIM818 Communication Profile Maintenance panel. Valid values for this field are `0000` – `9999`. The default is `0000`. (The units are MMSS, minutes/seconds).

Timeout Continue

This one-position alphanumeric field specifies the action that the system is to take if a receive timeout occurs in this script step. If the Timeout Continue field is set to **Y**, then script execution will continue with the next step. This is the default. If the Timeout Continue field is set to **N**, then script execution will terminate.

Timeout Status

This one-position alphabetic field specifies the batch status that is to be assigned to the data that has been received to the inbound queue during this script step, in the event that a receive timeout occurs in this step. Valid values are **N** to mark the data "Received Normal," or **A** to mark the data "Received Abnormal." The default value is **N**.

Hex Mode Command Editing

The EDIM43B hex mode Command editor allows for the entry of non-displayable data within the session Command field. This capability may be necessary for the construction of certain communication scripts, such as those for remotes that are not based on the EBCDIC character set. This can also be useful when constructing scripts for international communication, where differences in language, keyboards, and display devices could present barriers to the entry of valid Command data if a character-only input field was used.

The hex mode editor can be toggled on and off by pressing the **F2=Hex Mode** key. When hex mode is active, two additional lines of data will be displayed immediately below the Command field. These lines will contain the hexadecimal values that represent the character appearing above them in the top line of the Command input field. For example, the Command data `LOGON SUCCESSFUL` would appear as:

```
COMMAND:
LOGON SUCCESSFUL_____________________________________________________
DDCDD4EECCCEECED4444444444444444444444444444444444444444444444444444
3676502433522643000000000000000000000000000000000000000000000000000000
```

where the first character, **L**, is represented by the hexadecimal value **D3**, which is displayed directly below the character, with the high-order hex digit **D** on the second line, and the low-order hex digit **3** on the third line. Continuing, **O** is represented by hex **D6**, **G** is represented by hex **C7**, etc.

When the Command record contains non-displayable characters (values below hex 40), the period character (".") will be displayed in the first line (character representation) of the Command field. For example, the Command data shown above is followed by the carriage return (hex 0D) and newline (hex 15) characters. The display would appear as:

```
COMMAND:
LOGON SUCCESSFUL.. ___________________________________________________
DDCDD4EECCCEECED0144444444444444444444444444444444444444444444444444
367650243352264 3D5000000000000000000000000000000000000000000000000000
```

To use the hex mode Command editor in an Add or Update operation, first use the **F2=Hex Mode** key to activate hex mode. Then enter the Add (**2**) or Update (**3**) Action code and other session

control data as necessary. In the Command field, enter character data on the first line, and/or hexadecimal data on the second and third lines. Press **ENTER** to add or update the current script record and display the updated record.

Both character data and hex data can be entered at the same time. However, if both the character and hex values are changed for the same byte within the Command record, the hex changes will take precedence. If invalid data (characters other than 0 – 9 and A – F) is entered in the hex portion of the input field, then the value from the character portion of the input field will be used.

NOTE

The use of the **INSERT** and **DELETE** keys may cause unexpected results when editing with hex mode **on** or when editing records that contain non-displayable characters with hex mode **off**. ***The use of these keys is not supported.***

Script Decision Tables

The following section contains script decision tables used for creating scripts that communicate with BSC, SNA, X62, and async devices/software. Tables included in this section are as follows:

- BSC tables
  - — BSC transaction codes/actions
  - — BSC send indicators
  - — BSC receive indicators
- SNA/LU0/LU1 tables
  - — SNA/LU0/LU1transaction codes/actions
  - — SNA/LU0/LU1 send indicators
  - — SNA/LU0/LU1 receive indicators
- X62/L62 tables
  - — X62/L62 transaction codes/actions
  - — X62/L62 send indicators
  - — X62/L62 receive indicators
- Async tables (ASC, XAS, ASX, OFA, OFX)
  - — Async send/receive indicators
  - — Async transaction code/actions
  - — Async send indicators
  - — Async receive indicators

BSC Tables

This section contains the following tables:

- Table 5.1: BSC Transaction Codes/Actions
- Table 5.2: BSC Send Indicators
- Table 5.3: BSC Receive Indicators

Table 5.1: BSC Transaction Codes/Actions

Tran Codes	Descriptions	Actions	Valid Indicators
C	Send Control Record	Send Literal from Command Line.	0, 1, 2, 3
D	Receive Control Record	Attempt to match the command line record with a record received from the remote system.	0, 6, 7, 8, 9 or 1 – 5
S	Send Data	■ OQ – Send from Outbound Queue ■ OM – Send from Outbound Queue as Multiples ■ OF – Send from Outbound File	0, 1, 2, 3
R	Receive Data	■ IQ – Receive data to Inbound Queue ■ IM – Receive data to Inbound Queue as Multiples ■ IF – Receive data to Inbound File ■ IA – Receive data and append to an Inbound File ■ SP – Receive data to Spool Printer File	0, 6, 7, 8, 9 or 1 – 5
X	Special Extended Logic	Not used.	Not used.

Table 5.2: BSC Send Indicators

Desired Actions	Definitions	Indicators
Continue to next step in the script	No termination character is sent at end-of-file or at the end of a control record.	0
Send End-of-Text character at the end of the current script step	An End-of-Text character (ETX) is sent at end-of-file or at the end of a control record.	1
Send End-of-Transmission character at end of the current script step	An End-of-Transmission character (EOT) is sent at End-of-File or at the end of a control record.	2
End transmission	A remote disconnect sequence (DLE/EOT) is sent at end-of-file or at the end of a control record.	3

Table 5.3: BSC Receive Indicators

Desired Actions	Definitions	Indicators
Verify that the command line literal matches the incoming control record	No termination character is expected at the end of the file. Forced timer wait.	0
Indicate the end of the receive using an ETX	An End-of-Text character (ETX) is expected to indicate the end of the file (receive complete).	6
Indicate the end of the receive using an EOT	An End-of-Transmission character (EOT) is expected at the end of the file (receive complete).	7
End transmission	A remote disconnect sequence (DLE/EOT) is expected at the end of the file (receive complete).	8
Indicate the end of the receive when the device selection code changes	A change in device selection codes (print to punch/punch to print) indicates End-of-File (receive complete).	9
Indicate the end of the receive using multiple EOTs. This is used to hold the line open long enough for the communication partner to respond. (This is normally used when receiving data from a Shared DASD JES host.)	Indicators 1 to 5 will specify the number of times that 5 consecutive End-of-Transmission characters or physical data must be received before the receive step is complete (i.e., 3 says that 15 EOTs or physical data must be received).	1 – 5

NOTE

When using a Data-trap (D) command and a zero (0) indicator, the Command Line record compares only the first record received. If a match occurs, the step completes. If the first record received does not match, the data-trap fails, and the session aborts.

SNA/LU0 Tables

This section contains the following tables:

- Table 5.4: SNA/LU0 Transaction Codes/Actions
- Table 5.5: SNA/LU0 Send Indicators
- Table 5.6: SNA/LU0 Receive Indicators

Table 5.4: SNA/LU0 Transaction Codes/Actions

Tran Codes	Descriptions	Actions	Valid Indicators
C	Send Control Record	Send Literal from Command Line.	0, 1, 2, 3
D	Receive Control Record	Attempt to match the command line record with a record received from the remote system.	0, 5, 6, 7, 8
S	Send Data	■ OQ – Send from Outbound Queue ■ OM – Send from Outbound Queue as Multiples ■ OF – Send from Outbound File	0, 1, 2, 3
R	Receive Data	■ IQ – Receive data to Inbound Queue ■ IM – Receive data to Inbound Queue as Multiples ■ IF – Receive data to Inbound File ■ IA – Receive data and append to an Inbound File ■ SP – Receive data to Spool Printer File ■ JR – JES Receive to Spool and Inqueue ■ JQ – Receive all data to Inqueue	0, 5, 6, 7, 8, 9

Table 5.5: SNA/LU0 Send Indicators

Desired Actions	Definitions	Indicators
Send then continue to next step in the script.	No termination character is sent at end-of-file or at the end of a control record.	0
Send End-of-Chain character at the end of the current script step.	An End-of-Chain (EC) indicator is sent at End-of-File (EOF) or at the end of a control record.	1
Send End-of-Chain followed by a change direction at End-of-File or control record.	An End-of-Chain (EC) followed by a change direction (CD) is sent at the End-of-File (EOF) or control record.	2
Send End-of-Chain followed by End Bracket at the end of the current script step.	An End-of-Chain (EC) followed by an End Bracket (EB) is sent at End-of-File (EOF) or at the end of a control record.	3

Table 5.6: SNA/LU0 Receive Indicators

Desired Actions	Definitions	Indicators
Verify that the command line literal matches the incoming control record.	No termination character is expected at the end of the file.	0
Receive until inactivity timer expires, as specified in Profile Maintenance panel #2.	Receive all data into the designated output file until the inactivity timer expires, with no data received for the length of the timer.	5
Indicate the end of the receive using an End-of-Chain.	An End-of-Chain (EOC) is expected to indicate the end of the file (receive complete).	6
Indicate the end of the receive using a Change Direction Indicator.	A Change Direction (CD) is expected at the end of the file (receive complete).	7
End transmission.	An End Bracket (EB) is expected at the End of File (EOF) (receive complete).	8

NOTE

When using a Data-trap (D) command and a zero (0) indicator, the Command Line record compares only the first record received. If a match occurs, the step completes. If the first record received does not match, the data-trap fails, and the session aborts.

If the indicator is 6, 7, or 8 on a data-trap, then all records received drop until a match occurs, or (6, 7, 8) End Chain, Change Direction, or End Bracket is received.

X62/L62 Tables

The section contains the following tables:

- Table 5.7: X62/L62 Transaction Codes/Actions
- Table 5.8: X62/L62 Send Indicators
- Table 5.9: X62/L62 Receive Indicators

Table 5.7: X62/L62 Transaction Codes/Actions

Tran Codes	Descriptions	Actions	Valid Indicators
C	Send Control Record	Send Literal from Command Line.	0, 1, 2
D	Receive Control Record	Attempt to match the command line record with a record received from the remote system.	0, 6, 7, 8
E	Send Evoke Record	Send the Evoke Record to start a session on the remote system.	0, 1, 2
S	Send Data	■ OQ – Send from Outbound Queue ■ OM – Send from Outbound Queue as Multiples ■ OF – Send from Outbound File	0, 1, 2
R	Receive Data	■ IQ – Receive data to Inbound Queue ■ IM – Receive data to Inbound Queue as Multiples ■ IF – Receive data to Inbound File ■ IA – Receive data and append to an Inbound File ■ SP – Receive data to Spool Printer File	0,6,7,8

The following table lists the valid Send indicators for use with protocol type L62 (APPC using SDLC) and X62 (APPC using an X.25 line). This table is common to both protocols.

Table 5.8: X62/L62 Send Indicators

Desired Actions	Definitions	Indicators
Send then continue to next step in the script.	Send the record or file with no terminator, read the next script command and continue.	0
Send Followed by confirm request.	Send the record or file followed by a confirm request. This demands that the remote system confirm receipt of the data sent. When a positive confirmation is received from the remote, the next script step is executed. When a negative confirmation is received from the remote, the session will end with an error.	1
Send Followed by a confirm request and a change direction.	Send the record or file followed by a confirm request and a change direction. This demands that the remote system confirm receipt of the data sent, and indicates that you have finished sending and are ready to receive data. When a positive confirmation is received from the remote, the next script step is executed. When a negative confirmation is received from the remote, the session will end with an error.	2

The following table lists the valid Receive indicators for use with protocol type L62 (APPC using SDLC) and X62 (APPC using an X.25 line). This table is common to both protocols.

Table 5.9: X62/L62 Receive Indicators

Desired Actions	Definitions	Indicators
Used to receive with a data trap.	If the first record received matches the data trap record, the trap ends successfully. If the first record received does not match the data trap record, then the data trap fails.	0
Used to force a receive until time expires condition.	A null receive indicator means receive until inactivity time-out occurs.	5
Demands that your system confirm receipt of the data just received.	Receive data until the remote system sends a confirmation request.	6
Change direction.	Receive data until the remote system send change direction indicating they have finished sending and can receive.	7
Normally used as the last step of a script while waiting for the remote system to disconnect.	Receive data until an End-of-Session is received.	8

NOTE

When using a Data-trap (D) command and a zero (0) indicator, the Command Line record compares only the first record received. If a match occurs, the step completes. If the first record received does not match, the data-trap fails, and the session aborts.

NOTE

The iSeries operating system places certain restrictions on the flow of data between 2 machines when using APPC. When a file or record is sent to the remote system, and the send step uses an indicator type “2” (change direction), the user is unable to specify another send step without executing a receive step first. The remote system must send a Change Direction to your system before any additional data can be sent by your system.

ASYNC Tables

This section contains the following tables:

- Table 5.10: ASYNC Send / Receive Indicators
- Table 5.11: ASYNC Transaction Codes/ Actions
- Table 5.12: ASYNC Send Indicators
- Table 5.13: ASYNC Receive Indicators

Table 5.10: ASYNC Send / Receive Indicators

Indicator	Indicator Represents
0	No control character
1, 6	ETX character as defined in Comm Profile
2, 7	EOT character as defined in Comm Profile
X	XMODEM file transfer protocol will be used

Table 5.11: ASYNC Transaction Codes/ Actions

Trans. Codes	Descriptions	Actions	Valid Indicators
C	Send Control Record	Send Literal from Command Line	0, 1, 2
D	Receive Control Record (Data Trap)	Wait for data in Command line to be received from the remote system	0, 6, 7
E	Evoke Remote Program	Send Evoke record to the remote system and wait to receive evoke confirmation message	0, 1, 2
S	Send Data	■ OQ – Send from Outbound Queue ■ OM – Send from Outbound Queue separating multiple batches ■ OF – Send from Outbound File	0, 1, 2
R	Receive Data	■ IQ – Receive to Inbound Queue ■ IM – Receive to Inbound Queue separating multiple batches ■ IF – Receive to Inbound File ■ IA – Receive and Append to Inbound File ■ SP – Receive data to SPOOL (print file)	0, 6, 7
X	Extended Script Logic	Invoke extended script logic functions	(space)

Table 5.12: ASYNC Send Indicators

Desired Actions	Definitions	Indicator
Send Data or Command line alone, without any additional control characters	No control character is sent at the end of the outbound data or Command line image	0
Send an End of Text (ETX) character at the end of the current script step	An ETX character, as defined in the Comm Profile, is sent following the data for this step	1
Send an End of Transmission (EOT) character at the end of the current script step	An EOT character, as defined in the Comm Profile, is sent following the data for this step	2
Send data using XMODEM	XMODEM protocol will be used	X

Table 5.13: ASYNC Receive Indicators

Desired Actions	Definitions	Indicators
Recognize the Command line data alone, without any additional control character	The Command line data is used for a Data Trap or to indicate the end of the receive, without expecting it to be followed by any control character	0
Receive until an ETX character has been received	An ETX character is expected at the end of the inbound data or Command line data	6
Receive until an EOT character has been received	An EOT character is expected at the end of the inbound data or Command line data	7
Receive data using XMODEM	XMODEM protocol will be used	X

Extended Script Logic

Introduction

Extended script logic extends the basic communications scripting language to include operations that cannot be coded using the conventional fixed-format script records.

Some of the services provided by extended script logic are:

- Conditional logic
- Branching and looping
- Specialized functions to support additional protocols and networks

In general, extended script logic allows you to create more powerful scripts. This enables you to communicate with more types of remote systems and networks.

Extended script logic uses session control records with Transaction Type **x**. To include extended logic in a script, simply create a script record with Transaction Type **x** and type the appropriate extended logic keywords in the Command field. The other session control fields will be ignored.

Extended Logic Keywords

Many extended logic keywords are available. The Communications Module interprets the keywords that are applicable to it. Table 5.14 shows the protocols to which each of the keywords apply.

Table 5.14: Extended Logic Keywords

Extended Logic Keyword	Profile Protocol Type											
	BSC	GMC	SNA	LU0	L62	X62	ASC	XAS	OFA	OFX	ASX	FTP
INDICATOR	x	x	x	x	x	x						
LOOP-START	x	x	x	x	x	x						
LOOP-END	x	x	x	x	x	x						
GOTO	x	x	x	x	x	x	x	x	x	x	x	
MATCH	x	x	x	x	x	x	x	x	x	x	x	
CLEARBUF							x	x	x	x	x	
IF							x	x	x	x	x	
NOT							x	x	x	x	x	
OQDATA							x	x	x	x	x	
CONTAINS							x	x	x	x	x	
SENDOK											x	
SENDFAIL											x	
SESSABORT							x	x	x	x	x	
SESSEND							x	x	x	x	x	
SESSFAIL							x	x	x	x	x	
CMLOGON							x					
SET							x					
APPEND									x	x		
AUTOEERP									x	x		
CREDITS									x			
INFILE									x	x		
LOCID									x	x		

Table 5.14: Extended Logic Keywords

Extended Logic Keyword	Profile Protocol Type											
	BSC	GMC	SNA	LU0	L62	X62	ASC	XAS	OFA	OFX	ASX	FTP
LOCPW									x	x		
NOCOMPRESS									x	x		
OUTFILE									x	x		
OUTFMT									x	x		
OUTLRECL									x	x		
RECVONLY									x	x		
RESPOND									x	x		
REVERSEEERP									x	x		
RMTID									x	x		
RMTPW									x	x		
SENDONLY									x	x		
SFIDDATE									x	x		
SFIDDEST									x	x		
SFIDFMT									x	x		
SFIDLRECL									x	x		
SFIDDSN									x	x		
SFIDORIG									x	x		
SFIDTIME									x	x		
SFIDUSER									x	x		
SPECIAL									x	x		
SSIDUSER									x	x		
STARTOFTP									x	x		
TIMEOUT									x	x		
TRANSPARENT									x	x		

Table 5.14: Extended Logic Keywords

Extended Logic Keyword	Profile Protocol Type											
	BSC	GMC	SNA	LU0	L62	X62	ASC	XAS	OFA	OFX	ASX	FTP
VERIFY									x	x		
XBUFSIZE									x	x		
FTP Subcommand												x
AEXLATE												x
CHGRECSEPI												x
CHGRECSEPO												x
EAXLATE												x
RECSEPI												x
RECSEPO												x
RECSIZE												x
SKIPBLANKEOF												x
XLATEI												x
XLATEO												x
AUTODELETE												x
FTPCCSID												x
FTPTBLOUT												x
FTPTBLIN												x
SETSEQ												x
SAVSEQ												x
RTVSEQ												x
TIMEFMT												x

All of the extended logic keywords can be entered into any communications script. However, they will only function properly with the protocol for which they were designed.

For example, `SENDFAIL` and `SENDOK` are only applicable to ASX (XMODEM) sessions. If you coded them in a BSC script, an error would occur during execution of the script because the bisync communications module would not understand those keywords. Likewise, if you were to use the

STARTOFTP keyword to invoke OFTP support during an XMODEM session, it would not function properly. The chapters that discuss each individual protocol discuss the extended script logic that corresponds specifically to that protocol.

All extended script logic keywords must be entered in upper case, as shown, or they will not be recognized.

Only the first keyword on a script line will be processed. The exceptions to this are when coding an "IF" statement and when using the OFTP keywords. In these cases, multiple extended logic keywords may appear on the same script line.

SEE the following sections for more information on extended script logic:

- "Sync Extended Script Logic" for BSC, SNA, L62, X62
- "Async Extended Script Logic" for ASC, ASX, XAS, OFA, OFX in the Async Communications Support chapter
- "Creating an OFTP Script" in the OFTP Communications Support chapter
- "FTP Script Transactions" in the FTP Communications Support chapter

Remote Command Support

The following section describes the Remote Command Support feature.

Included in this section is a description of the feature, which is supported by ASC, BSC, and SNA LU0/LU1/LU6.2 communication.

Remote Command Support Session Control Script Values

The Remote Command Support feature, activated from within a session control script, allows the remote system to control temporarily the communication session by sending command records. Thus, with this feature, the remote system dictates which files, Profile IDs, Batch IDs, and file types are used for sending and receiving data. To enable the Remote Command Support feature within your Gentran:Server, you must create a session control script record with the following values:

- Set Transaction Type to **`C`**.
- Set Indicator code to **`1`**.
- Set Control Record field to **`SET MODE=RMT`**.

The Communication Session Control panel (EDIX403-CTL01), shown in Figure 5.5, displays correct session control script record values.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . . CN3BSC
Session Name . . . . . . . . . . . SR
Company. . . . . . . . . . . . . . COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
       20   C     __   ________   1  ENTER RMT COMMAND MODE
SET MODE=RMT
__   ___    _    __   ________   _  ________________________________
_____________________________________________________________________
__   ___    _    __   ________   _  ________________________________
_____________________________________________________________________
__   ___    _    __   ________   _  ________________________________
_____________________________________________________________________
__   ___    _    __   ________   _  ________________________________
_____________________________________________________________________
                                                                 More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 5.5 Communication Session Control panel (EDIX403-CTL01)

This control record may appear anywhere within a given script and may have other commands preceding and following it. If you fail to create the correct control record image within a session control script, Remote Command Support does *not* activate.

All commands executed prior to your Gentran:Server entering Remote Command mode are executed normally. All commands following are executed normally *only* if the remote system sends a $$CMD END command record, which ends Remote Command Support and allows Gentran:Server to return to its normal script processing mode. While in Remote Command mode, receipt of a $$LOGOFF control record causes Gentran:Server to terminate the session, regardless of any script steps remaining.

Remote Commands

Gentran:Server supports the use of five unique remote commands. These commands, received from the remote system and processed by Gentran:Server, are as follows:

- **$$ADD command record** is sent as the first record of a group by the remote system to add data your Gentran:Server Inbound Queue, an Inbound user file, or a Spool file.
- **$$REQUEST command record** is sent by the remote system to request transmission of data from the Outbound Queue (or a user file) on your system to the remote system.
- **$$DIR command record** is sent by the remote system to request a list of the batches of data currently in the Gentran communications queues for the specified profile. This command is only available when using asynchronous communications.
- **$$CMD END command record** is sent by the remote system to instruct your Gentran:Server to end Remote Command Support, stop reading remote commands from the communication line, and return to reading and executing commands from the session control script that was specified at the beginning of the communication session.
- **$$LOGOFF command record** is sent by the remote system to instruct your Gentran:Server to end the communication session.

The following sections discuss commands, syntax, and details of the system's capabilities.

$$ADD Remote Command

The $$ADD command is the first record of a group sent by the remote system. It indicates that data following the $$ADD command is added to the Inbound Queue, a user file, or a Spool file on your system.

Conditions for Using the $$ADD Command

Once the initial $$ADD is sent, additional $$ADD commands can appear anywhere within a file to indicate the beginning of a new batch of data that is added to your Gentran:Server.

Keyword Parameters

You create the $$ADD command by placing the appropriate keywords and their parameters into a record beginning with the characters $$ADD. Keywords must fit the following parameters:

- May appear in any order
- Must be separated by one or more spaces
- May be of any length not exceeding the maximum length

Keyword Values and Definitions

The following chart illustrates keyword parameters. Definitions of the keywords used in this example appear after the example.

Table 6:

Keyword	Meaning	Type	Max. Length
FT=XX	File Type	Alphanumeric	2
FN=XXXXXXXXXX	File Name	Alphanumeric	10
ID=XXXXXXXX	Profile ID	Alphanumeric	8
BID=XXXXXXXX	Batch ID	Alphanumeric	44
PASSWORD=XXXXX	Password	Alphanumeric	10

- **FT**= keyword uses a 2-character parameter to indicate both the placement of the data added by the remote system and the type of add. *This is a mandatory keyword for all $$ADDs*. The following chart displays valid parameter values for the FT= keyword:

Table 7:

FT= Keyword Values	Descriptions
IQ	Places all data sent by the remote on your Inbound Queue as a single batch
IM	Places all data sent by the remote on your Inbound Queue multiple batches when the remote sends and correctly delimits multiple batches
IF	Places all data sent by the remote into the Inbound user file named in the 'FN=XXXXXXXX' keyword, and overwrites any existing data in the file
IA	Places all data sent by the remote into the Inbound user file named in the 'FN=XXXXXXXX' keyword, and appends the data to any existing data in the file
SP	Places all data sent by the remote into separate Spool files

- **FN**= keyword uses a 10-character parameter to specify the name of an inbound user file in your library list to which data from the remote system is written. The specified file must exist on your system or an error occurs. When data is added to the Inbound Queue or Spool file, do *not* use this keyword as *no* file name is applicable.
- **ID**= keyword uses a 8-character parameter to specify the Profile ID that the data will be assigned when added to the Inbound Queue on your system. Gentran:Server verifies the Profile ID, and if not defined on your system, changes it to a value of **`DEFAULT`**. When you add data to an Inbound user file or Spool file, do *not* use this keyword, since *no* Profile ID corresponds with the user or Spool files.

- **BID=** keyword uses a 44-character parameter to specify the Batch ID that the data contains when added to the Inbound Queue on your system. When data is added to an Inbound user file or Spool file, this keyword is not used, since no Batch ID is associated with user or Spool files. This parm is optional.
- **PASSWORD=** keyword specifies a character value that will be compared to the Remote Command Password value specified in the communications profile named by the `ID=` parameter. If the passwords are equal, the remote command will be processed. Otherwise, the communication session will be terminated. Password checking is only performed for `$$ADD` and `$$REQUEST` commands with File Type **`IQ`** or **`OQ`**. If the communication profile specifies password **`*NONE`**, then the `PASSWORD=` keyword need not be used. `PASSWORD=` may also be abbreviated `PSWD=`, `PWD=`, or `PSW=`.

NOTE

If multiple remote commands are combined and transferred as a single file, it is possible that some commands will be processed and some will not, even though the entire file was received successfully. If a remote command containing an invalid password is encountered, the session will be considered a failure and any remaining commands and data will be discarded.

Uses for $$ADD

The following list details some of the uses of the `$$ADD` command:

- Add data to your Gentran:Server Inbound Queue, an Inbound user file, or a Spool file on your system
- Add data to the Inbound Queue by using multiple `$$ADD` commands and a Profile ID different than the Profile ID that is used when the communication session starts
- Add multiple files or batches, all using different Profile IDs, Batch IDs, and file types in a single session.
- Add data to multiple user files on your system by using multiple `$$ADD` command records ahead of each file or batch sent.
- Send multiple `$$ADD` commands and data from a single file, multiple files each containing a `$$ADD` command and data, or multiple files containing multiple `$$ADD` commands and data batches.

NOTE

If `$$ADD` commands are used, all `$$ADD` commands and associated data must be sent by the remote *first*, before any other command records. Once a non-add command is sent, another `$$ADD` may only be used if it is the first record of a separate and new file from the remote system, and all `$$REQUEST` commands sent by the remote in a previous send step have already been serviced by your Gentran:Server for iSeries.

Protocol Specific Considerations for $$ADD

The following sections detail certain protocol considerations for the $$ADD command.

SNA Considerations

All $$ADD commands used during SNA communication for adding data to Inbound user files on your system acquires their record length from the user file as the data is added. In the event that the record length used by the remote system does not match the actual record length of the file, Gentran:Server converts the records received to the actual record length of the file.

BSC Considerations

All $$ADD commands used during BSC communication for adding data to Inbound user files on your system cause the system to read data directly from the communication line and write directly to the user file. Gentran:Server assumes data sent has the correct record length and makes no effort to convert the records. Records received from the remote system with a length less than the length of the user files are “blank-padded”. Records received from the remote system with a length greater than the length of the user file are truncated.

ASC Considerations

Gentran:Server only supports $$ADD commands during asynchronous communications with Connect:Mailbox Client for Windows. Client for Windows sends the $$ADD command in ASCII text mode before entering ZMODEM mode to perform the file transfer. Gentran:Server interprets the $$ADD command and then enters ZMODEM protocol to receive the file. To enable this to happen, you must include the extended logic command **SET PROTOCOL=ZMODEM** in your script before the command to enter remote command mode.

After the ZMODEM transfer, Gentran:Server issues a command prompt and waits for the next remote command. Gentran:Server does not support $$ADD commands within the ZMODEM protocol (embedded within the data file). Client for Windows may include parameters on the $$ADD command that are not supported by Gentran:Server for iSeries. These parameters are ignored. If no file type is specified on the $$ADD command, the default is to add data to the inbound queue.

$$ADD Command Examples

1. This example shows the remote system adding one batch to the Inbound Queue of your Gentran:Server. The data file received appears on the Inbound Queue with the Profile ID of **REMOTEID** and a Batch ID of **TEST FILE NUMBER ONE**.

```
$$ADD FT=IQ ID=REMOTEID BID=TEST FILE NUMBER ONE
DATA RECORD #1
DATA RECORD #2
.
.
.
LAST DATA RECORD OF FILE
```

2. This next example shows the remote system adding one file with two batches to the Inbound Queue of your Gentran:Server. The system receives the first batch and places it on the Inbound Queue with a Profile ID **SENDER01**, and a Batch ID of **SENDER01 INVOICE FILE**. The system receives the second batch and places it in the Inbound Queue with a Profile ID of **SENDER02** and a Batch ID of **SENDER02 PURCHASE ORDERS**. Note that the remote can send the same data in two separate files, one with SENDER01 data, and the other with SENDER02 data. Both conditions ensure that the same data appears on your Inbound Queue in the same way.

```
$$ADD FT=IQ ID=SENDER01 BID=SENDER01 INVOICE FILE
DATA RECORD #1
DATA RECORD #2
.
.
.
LAST DATA RECORD OF SENDER01 INVOICE FILE
$$ADD FT=IQ ID=SENDER02 BID=SENDER02 PURCHASE ORDERS
DATA RECORD #1
DATA RECORD #2
.
.
.
LAST DATA RECORD OF SENDER02 PURCHASE ORDERS
```

3. The following example shows the remote system sending one file with one batch to an Inbound user file on your system. The data received is placed into the file **RMTDATA01**.

```
$$ADD FT=IF FN=RMTDATA01
DATA RECORD #1
DATA RECORD #2
.
.
.
.
LAST DATA RECORD TO LOAD IN FILE RMTDATA01
```

4. This next example shows the remote system sending one file with two batches to two unique Inbound user files on your system. The first batch received is placed into the file **RMTDATA01** and overwrites any existing data in the file. The second batch appended to existing data in the file called **RMTAPPEND**. Note that the remote system can send two batches from two separate files, each containing the $$ADD command and its associated data. The end result on your system is still the same.

```
$$ADD FT=IF FN=RMTDATA01
DATA RECORD #1
DATA RECORD #2
.
.
.
.
LAST DATA RECORD TO LOAD IN FILE RMTDATA01
$$ADD FT=IA FN=RMTAPPEND
DATA RECORD #1
DATA RECORD #2
.
.
.
.
LAST DATA RECORD TO APPEND TO FILE RMTAPPEND
```

$$REQUEST Remote Command

The `$$REQUEST` command allows the remote system to "request" output from your system. The remote can request data from your Outbound Queue or from an Outbound user file.

Options for Using the $$Request Command

`$$REQUEST` commands can be sent two ways. The option you should use is generally dictated by the capabilities of the remote system.

- **Multiple Command Transmission**: `$$REQUEST` commands are sent one after another from a single file by the remote system, with a limit of 50 `$$REQUEST` commands before the remote system *must* stop sending, go into receive mode, and await output from Gentran:Server. When using this method of sending multiple `$$REQUEST` commands in a single send step, once all commands are received, your Gentran:Server system will begin servicing the requests and sending output to the remote system. These commands may request output for multiple Profile IDs, Batch IDs, Outbound user files, and file types.

NOTE

Multiple Command Transmission only supported for SNA profiles.

- **Single Command Transmission**: the remote system sends only one `$$REQUEST`, goes into receive mode, and has your Gentran:Server service that request, and then sends the next `$$REQUEST` for servicing.

NOTE

An `$$ADD` command may *not* be sent in the same send step by the remote system unless it is placed *before* the `$$REQUEST` commands. Once all `$$REQUEST` commands are sent, the remote system must stop sending and wait for servicing of all requests to finish before sending another `$$ADD` command.

Keyword Parameters

The `$$REQUEST` command is created by placing the appropriate keywords and their parameters into a record beginning with the characters **`$$REQUEST`**. Keywords must fit the following parameters:

- May appear in any order
- Must be separated by one or more spaces
- May be of any length not exceeding the maximum length

Keyword Values and Definitions

The following example illustrates the use of keywords. Definitions of keywords used in this example appear after the example.

Table 8:

Keyword	Meaning	Type	Max. Length
FT=XX	File Type	Alphanumeric	2
FN=XXXXXXXXXX	File Name	Alphanumeric	10
ID=XXXXXXXX	Profile ID	Alphanumeric	8
BID=XXXXXXXX	Batch ID	Alphanumeric	44
PASSWORD=XXXXXX	Password	Alphanumeric	10

- **FT**= keyword uses a 2-character parameter to indicate both the location of the data requested by the remote system and the type of request to be performed. *This is a mandatory keyword for all $$REQUESTs*. The remote system can request data from your Outbound Queue or an Outbound user file on your system. The valid parameter values for this keyword are displayed in the following chart:

Table 9:

FT=Keyword	Descriptions
OQ	Sends all data from your Outbound Queue with the correct Profile ID and Batch ID to the remote as a single batch
OM	Sends all data from your Outbound Queue with the correct Profile ID and Batch ID to the remote as separate batches
OF	Sends an Outbound user file to the remote

- **FN**= keyword uses a 10-character parameter to specify the name of an outbound user file from which data will be transmitted to the remote system. The specified file must exist in the library list of communications jobs or an error occurs.
- **ID**= and **Batch ID**= in a `$$REQUEST` command dictate what Profile ID and Batch ID are used by Gentran:Server to decide which batches on your Outbound Queue are transmitted to the remote system. In the event that an ID is specified, but the Batch ID is left blank, all batches for the specified ID are sent to the remote system.

NOTE

Profile ID in a `$$REQUEST` command causes Gentran:Server to retrieve the record length of the specific profile on your system and use that length when sending data from the Outbound Queue. A remote system issuing a `$$REQUEST`, however, may receive a record length it does not expect, depending upon the Profile ID specified in the `$$REQUEST` command and the record length specified in that profile on your system.

- **PASSWORD=** keyword specifies a character value that will be compared to the Remote Command Password value specified in the communications profile named by the `ID=` parameter. If the passwords are equal, the remote command will be processed. Otherwise, the communication session will be terminated. Password checking is only performed for `$$ADD` and `$$REQUEST` commands with File Type IQ or OQ. If the communication profile specifies password **`*NONE`**, then the `PASSWORD=` keyword need not be used. `PASSWORD=` may also be abbreviated `PSWD=`, `PWD=`, or `PSW=`.

NOTE

If multiple remote commands are combined and transferred as a single file, it is possible that some commands will be processed and some will not, even though the entire file was received successfully. If a remote command containing an invalid password is encountered, the session will be considered a failure and any remaining commands and data will be discarded.

Protocol Specific Considerations for $$REQUEST

The following sections detail certain protocol considerations for the `$$REQUEST` command.

ASC Considerations

Gentran:Server only supports `$$REQUEST` commands during asynchronous communications with Connect:Mailbox Client for Windows. `$$REQUEST` may be abbreviated `$$REQ`. Client for Windows sends a `$$REQ` command in ASCII text mode before entering `ZMODEM` mode to perform the file transfer. Gentran:Server interprets the `$$REQ` command and then enters `ZMODEM` protocol to send the file. To enable this to happen, you must include the extended logic command **`SET PROTOCOL=ZMODEM`** in your script before the command to enter remote command mode.

After the `ZMODEM` transfer, Gentran:Server issues a command prompt and waits for the next remote command. Client for Windows may include parameters on the `$$ADD` command that are not supported by Gentran:Server for iSeries. These parameters are ignored. If no file type is specified on the `$$REQ` command, the default is to transmit data from the outbound queue.

$$REQUEST Command Examples

1. This example shows the remote system requesting all batches from your system with a Profile ID of **`REMOTEID`** and a Batch ID of **`INVOICES`** sent as one batch to their system.

   ```
   $$REQUEST FT=OQ ID=REMOTEID BID=INVOICES
   ```

2. This example shows the remote system requesting all batches from your system with a Profile ID of **`DALLAS`** and a Batch ID of **`DALLAS FILES FROM DIVISION #6`** sent as multiple batches to their system.

   ```
   $$REQUEST FT=OM ID=DALLAS BID=DALLAS FILES FROM DIVISION #6
   ```

3. This example shows the remote system requesting an Outbound user file titled **`PAYROLL`** sent from your system to theirs.

   ```
   $$REQUEST FT=OF FN=PAYROLL
   ```

$$DIR Remote Command

The `$$DIR` remote command allows the remote system to request a listing of the batches in the inbound and outbound queues of the specified profile. `$$DIR` commands are only supported during asynchronous communications with Client for Windows. Client for Windows sends a `$$DIR` command in ASCII text mode followed by a carriage return. Gentran:Server processes the `$$DIR` command and outputs the listing to allow the remote user to select batches to be requested.

The format of the `$$DIR` command is:

```
$$DIR ID=profileid
```

$$CMD END Remote Command

The `$$CMD END` command is issued by the remote system to end Remote Command Support and instruct your Gentran:Server to continue reading commands from the session control script specified at the beginning of the session. In the event that there are no commands remaining in the session control script, the session ends normally.

The ability to exit from Remote Command Support and return to "local" processing is useful for performing certain tasks after the remote system completes its processing. It's possible, for instance, for the remote to complete the steps it wants to perform in Remote Command Support mode; then have the remote send a `$$CMD END` command. At this time, your local session control script may contain a send user file command that you wish to transmit to all users who access this line.

The format of the `$$CMD END` command has no parameters and is as follows:

```
$$CMD END
```

$$LOGOFF Remote Command

The `$$LOGOFF` command is used by the remote system to indicate that it wishes to end the communication session. Upon receiving the `$$LOGOFF` command, Gentran:Server ignores any commands that are waiting in the "local" session control script and immediately ends the connection. When a return to local session control processing is *not* desired by your location, the remote system is instructed to *always* send a `$$LOGOFF` command for proper session termination.

The format of the `$$LOGOFF` command has no parameters and is as follows:

```
$$LOGOFF
```

What is Dynamic Scripting?

Dynamic Scripting

Dynamic scripting is a feature that enables the remote system you are communicating with to determine what communications session script your system should follow.

The dynamic scripting feature is most useful in an auto-answer mode, in which multiple companies send your system data at unknown times, and for which you might need to use different processing for each incoming call.

For example, one remote system might need to retrieve data from your outbound queue. Another remote system might need to send data to your inbound queue. A third might need to do both. One way you could accommodate all three remote systems is to create a profile and a script for each remote system, and dedicate a phone line and a modem to each of them, so that they could call whenever they were ready. If you had only one phone line or modem to use, you could force the remotes to call at specific times. Then, you could schedule a fixed sequence of communications jobs so that you always would have the appropriate job running for the remote that was scheduled to call. However, if the needs of any of the remotes varied from day to day, this technique would not work.

Dynamic scripting gives your system the flexibility to accommodate the above scenario (three remote systems) easily, using a single phone line and communications job.

How to Use Dynamic Scripting

Dynamic scripting is invoked by specifying the special value "$$" for the session name when you start a communications session. The communications session can be started through any of the standard Gentran:Server facilities, including the `STRCOMSSN` or `START` command, or by using the job scheduler.

NOTE

The communications session script named "$$" does not actually exist—"$$" is simply the special value that triggers the dynamic scripting logic in Gentran:Server.

When you start communications using session name "$$," the Communications Module first establishes a connection to the remote system according to the information in the communications profile. Usually, this involves waiting for a call from the remote system.

After the connection is established, your system enters into a receive state and waits for the remote system to transmit a `$$SCRIPT` record. This record tells your system what communications session script to execute. The format of the record must be the following:

```
$$SCRIPT ID=profilename SESSION=scriptname
```

Where *profilename* is a communications profile ID and *scriptname* is a session name that has been created for that profile.

NOTE

If the remote user sends a *profilename* of fewer than eight characters, he or she must fill the name with spaces to attain a total length of eight, or the $$SCRIPT command is considered invalid and the session is terminated.

After receiving a valid `$$SCRIPT` record, your system conducts the rest of the communications session according to the instructions in the script identified by the `$$SCRIPT` record.

Protocol-Specific Considerations for Dynamic Scripting

For all bisynchronous (BSC and GMC) profiles:

- The first record received from the remote system must be the `$$SCRIPT` record. If the first record received is not the `$$SCRIPT` record, then the communications session ends with a failed status.
- The length of the `$$SCRIPT` record must be equal to or less than the block size defined in the communications profile. The unused portion of the record should be filled with spaces.
- The remote system must send an End of Transmission (EOT) following the `$$SCRIPT` record.

For all asynchronous (ASC, ASX, XAS, OFA, and OFX) profiles:

- The remote system must transmit the `$$SCRIPT` record as an 80-byte record image. The unused portion of the record should be filled with spaces.
- No termination character should be transmitted after the `$$SCRIPT` record. The system simply expects to receive 80 bytes, starting with **`$$SCRIPT`**.
- Any data received preceding **`$$SCRIPT`** is discarded.
- After connecting, the remote system must transmit the `$$SCRIPT` record within 90 seconds or the communications session will end with a failed status. The 90-second time limit cannot be changed.

For all SNA LU1 (SNA) profiles:

- The first record received from the remote system must be the `$$SCRIPT` record. If the first record received is not the `$$SCRIPT` record, then the communications session ends with a failed status.
- The remote system must send End-Chain, End-Bracket, Change-Direction following the `$$SCRIPT` record.

For all SNA LU0 (LU0) profiles:

- The LU0 protocol as implemented in the Communications Module is specifically designed to communicate with the IBM CICS host, so the dynamic scripting feature is not applicable to LU0 profiles.

For all SNA LU6.2 (L62, X62) profiles:

- The ability to start a specific profile and session is inherent in the LU6.2 evoke, so the dynamic scripting feature is not applicable to LU6.2 profiles.

Typical Implementation

Dynamic scripting usually is used with an auto-answer profile. By starting session "$$" for this profile, you enable the remote system to request execution of an appropriate session control script for what the remote system needs to do. Specifying ***YES** in the Run Continually field on the Start Communications Session (STRCOMSSN) panel when you start the session causes your communications job to loop, so that it can accept call after call.

If you need to have multiple lines available to accept calls, you can create multiple profiles (one per line). If you specify **Continuous Processing = Y** and **Script = $$** on the profile screen, you can use the START and SHUTDOWN commands to more easily control these jobs.

NOTE

To schedule either the START or SHUTDOWN command, you must enter them into the scheduler manually.

START Command

When the START command is issued, the Communications Module searches all existing communications profiles to find those that have **Continuous Processing = Y**. For each of these profiles, a communications job is submitted to batch. This job executes the session specified by the Script field on the profile screen. The job is run in continuous process mode to allow it to accept multiple calls.

This command is beneficial for jobs that must be started every day.

SHUTDOWN Command

The SHUTDOWN command will terminate *all* active Gentran:Server communications jobs. This command usually is used during end-of-day processing to stop all the jobs that were started with the START command.

Sync Extended Script Logic

This section describes the Extended Logic keywords that are applicable to scripting for all variations of synchronous protocols (bisync and SNA) as shown in the Extended Logic keywords table in figure 2.5.

The **X** type session record is used to execute special extended logic processing within a script. The following functions can be performed with extended logic records:

- Set up loops within a script.
- Specify **GOTO** commands that alter the order in which steps are executed.
- Change the logic flow of a script based on certain data-match or received-indicator conditions.

The extended logic records use a transaction type of **X**, an indicator of 0 – 9, and keywords that are specified on the control data line.

Create Extended Logic Records

To create extended logic records, access the Communication Session Control panel (EDIX403-CTL01), as shown in Figure 5.6.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . . CN3BSC
Session Name . . . . . . . . . . . SR
Company. . . . . . . . . . . . . . COMMERCE:NETWORK RELEASE 3

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    20    C     __   ________    1  ENTER RMT COMMAND MODE
SET MODE=RMT
__   ____    _    __   ________    _  ____________________________
__   ____    _    __   ________    _  ____________________________
__   ____    _    __   ________    _  ____________________________
__   ____    _    __   ________    _  ____________________________
__   ____    _    __   ________    _  ____________________________
                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 5.6 Communication Session Control panel (EDIX403-CTL01)

Transaction Type "X" (only valid value)

File Type (Not used)

Filename (Not used)

Indicator (All valid)

Description (Any value)

Control Data (Keywords detailed below)

LOOP-START

Specifies the beginning of a loop.

LOOP-END MATCH

Specifies end the loop when the prior script step ended with a control data match. The data received on the communications line must exactly match the data specified on the prior records control data field for the match to be considered complete. The next step of the script will be executed when a match condition occurs. When this script record is read and the prior script record did not end with a match condition, execution of the script will jump to the LOOP-START record.

LOOP-END MATCH GOTO 999

Specifies end the loop when the prior script step ended with a control data match. The data received on the communications line must exactly match the data specified on the prior records control data field. Execution of the script will continue at script sequence number 999 when a match occurs. When this script record is read and the prior script record did not end with a match condition, execution of the script will jump to the LOOP-START record.

LOOP-END INDICATOR 0-9

Specifies end the loop when this script step is executed and there is an indicator match with the indicator specified on this record. The indicator specified on this record may be same, or a different indicator than used by the prior script step. Execution of the script will continue at the next script step when an indicator match occurs. When this script record is read and there is not an indicator match condition, execution of the script will jump to the LOOP-START record.

LOOP-END INDICATOR 0-9 GOTO 999

Specifies end the loop when this script step is executed and there is an indicator match. Execution of the script will continue at script sequence number 999 when an indicator match occurs. The indicator specified on this record may be the same, or a different indicator than used by the prior script step. When this script record is read and there is not an indicator match condition, execution of the script will jump to the LOOP-START record.

MATCH GOTO 999

Specifies that when the prior script step ended with a control data match condition, execution of the script will continue at script sequence number 999. The data received on the communications line must exactly match the data specified on the prior records control data field. When this script record is read and the prior script record did not end with a match condition, execution of the script will continue at the next script record. No loop is needed to use this extended logic record.

INDICATOR 1-9 GOTO 999

Specifies when this script step is executed and there is an indicator match, execution of the script will continue at script sequence number 999. The indicator specified on this record may be same, or a different indicator than used by the prior script step. Execution of the script will continue at the next script step when no indicator match occurs. No loop is needed to use this extended logic record.

GOTO 999

Specifies an unconditional GOTO script sequence number. Execution of the script will continue at script sequence number 999. No loop is needed to use this extended logic record.

NOTE

Loops may not be nested.

NOTE

A `GOTO` must not specify the script sequence number of another **`X`** type extended logic record.

NOTE

Any indicator may be used on any of the extended logic records. Only when the keyword **`INDICATOR`** is used will the indicator actually be used in any decision process.

The TELEBOX/400 network used by European customers calls for specific logic to be used during a receive operation when receiving data files for processing. The following example outlines one method for performing this receive operation. The actual keywords used on the control records must adhere to the network specifications.

```
10   C  __  ____________  2  SEND THE SIGNON REC
SIGNON USERID PASSWORD RECEIVE
20   C  __  ____________  2  SEND REQUEST FOR FILENAME
RECEIVE_FILENAME
30   R  __  ____________  7  RECV FILENAME OR END CMD
END
40   X  __  ____________  0  GOTO SIGNOFF IF END RECVD
MATCH GOTO 80
50   C  __  ____________  2  SEND REQUEST FOR DATA
RECEIVE_FILE_DATA
60   R  IQ  ____________  7  RECV DATA TO INQUE
70   X  __  ____________  0  GOTO TOP OF LOOP
GOTO 20
80   C  __  ____________  2  SEND THE SIGNOFF REC
SIGNOFF
```

Chapter

6 Bisync Communications Support

Introduction

The Communications Module supports binary synchronous communications (Bisync) as defined by the IBM 2780 and 3780 component description. Strengths of bisync include:

- Implemented on many platforms, very reliable
- It is supported by the vast majority of communications networks
- Ease of configuration

In addition to providing basic bisync file transfers, the Communications Module includes features that provide additional capabilities and enable you to use a single line on your system to communicate with multiple remote systems with different requirements. These features include:

- Dynamic scripting, which allows the remote system to choose among sessions that you define, without requiring significant sophistication from the remote system
- Remote command support, which allows the remote system to direct the events in the session according to its needs

Operation is supported using both leased and switched lines. Your system can be configured to dial or answer, and use various types of autodialing.

Bisync Configuration

Like the other communication protocols within the Communications Module, configuring for bisync communications consists of two parts:

1. Create a communication profile.

2. Create a communication session control script.

RECOMMENDATION

You may want to copy and customize one of the sample bisync scripts shipped with your copy of Gentran:Server for iSeries Communications Module, rather than creating the profile and script.

The specifics of creating profiles and scripts for bisync are discussed in the following sections.

Create a Bisync (BSC) Profile

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC

Company. . . . . . . . . . . . . .  COMMERCE:Network RELEASE 3
Contact. . . . . . . . . . . . . .  NETWORK COMMUNICATIONS
Phone. . . . . . . . . . . . . . .  ( 614 ) 793 - 7000  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  BSC
Days to Purge. . . . . . . . . . .  999
```

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT03                              BSC                                12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Company. . . . . . . . . . . . . .  COMMERCE:Network RELEASE 3

Modem Port . . . . . . . . . . . .  LIN021
Dial . . . . . . . . . . . . . . .  1800627588312
```

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT02                              BSC                                12:00:00

Comm Profile ID. . . . .  CN3BSC
Company. . . . . . . . .  COMMERCE:Network RELEASE3

Modem Port . . . . . . .  LIN021            Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)           Auto Dial. . . . . . .  Y (Y/N)
Dial . . . . . . . . . .  18006275883
Host ID Verify . . . . .  N (Y/N)           Duplex . . . . . . . .  *FULL
Local Site ID. . . . . .
Record Size. . . . . . .  0080              Block Size . . . . . .  0512
Inter-Record Separator .  3780
Transparency . . . . . .  N (Y/N)
Blank Compress . . . . .  N (Y/N)
Trailing Blank Trunc . .  N (Y/N)           Remote Cmd Password. .  *NONE




F1=Help  F2=More/Less  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 6.1 Set up a BSC Communication Profile

Complete the panels necessary to configure for BSC communications, as shown in Figure 6.1. For information on any specific field, press **F1** (Help) while the cursor is positioned in the field. (SEE the "Using Communications" chapter for basic information on creating profiles.)

On EDIX401-FMT01, specify **BSC** as Protocol.

On EDIX401-FMT03, press **F2** (More/Less).

On EDIX401-FMT02, complete the following fields:

- Dial settings: Switched line, Auto-dial, Auto call unit, Auto call port, Phone number

	Dial Settings				
Field Names	**Two-Port Autodial**	**One-Port Non-V.25bis Autodial**	**Manual Dial**	**One-Port V.25bis Autodial**	**Auto Answer**
Switched Line	Y	Y	Y	Y	Y
Auto Dial	Y	Y	N	Y	N
Auto Call Unit	Y	N	N	V	N
Auto Call Port	Include an entry	Leave blank	Leave blank	Leave blank	Leave blank
Phone Number	Include an entry	Include an entry	Include an entry	Include an entry	Leave blank

- Inter-record separator

A 4-position numeric field used to define the inter-record separator number of a character used by the system to separate records.

Valid values are **3780**, **2780**, and **NONE**, where **3780** represents HEX 1E, and **2780** represents HEX 1F.

The selection of **NONE** for the Inter-Record Separator field on this panel affects on the way the records are handled during a particular communication session. When this option is selected, it will cause the record sizes to appear equal to the block size selected. When a record size of 80 has been selected, but the inter-record separator is set to **NONE** the block will be filled with as many full 80-byte records as can be placed into the block with no record separators. It will appear as though the actual record size is much larger than 80.

When the records are placed into the block, one record is moved to the block, and the remaining space is calculated. When there is not enough space to fit another full record into the block, the end of the block will be marked and it will be transmitted.

When the block size is evenly divisible by the record size, the block size and the record size will be the same. As an example, the record size is set to 80, the block size is set to 400, the inter-record separator is set to **NONE** – five 80-byte records will be placed into the block (5 X 80=400), and with no record separators. The block will be transmitted as a 400-byte block containing one 400-byte record.

When the block size is not evenly divisible by the record size, the block size and the record size will be equal to the number of whole records that will fit into the block size, multiplied by the record size. As an example, the record size is set to 100, the block size is set to 512, and the inter-record separator is set to **NONE**. Five 100-byte records will be

placed into the block (5 X 100=500). No more full records will fit into the block, so the end of the block is marked and the block is sent with both the record and the block size equal to 500.

NOTE

If Inter-Record Separator: **2780** (Hex 1F) is selected, only Transparency is valid.

NOTE

The options for Blank compress, Transparency, and Trailing Blank Truncation are mutually exclusive and only one of the options may be used at a time.

NOTE

An option called the Global Inactivity Timer (for setting a global inactivity timer for BSC, which operates like receive timer for SNA) is available by issuing the command **SETTIMER**. The data is numeric, six positions in HHMMSS (Hours/Minutes/Seconds) format. Once the timer is set, it is used by *all* BSC profiles. This may be changed at any time. The default time is **5** minutes as shipped. The global receive timer is checked for all receive steps that do not contain a receive timer value on the script record.

Once you have completed panel EDIX041-FMT02, press **F10** (Update) to create the Profile using the default line/controller/device names, or press **Enter** or **F8** (Next) to advance to the Line/Controller/Device panel (EDIX401-FMT20), which is shown in Figure 6.2, to specify your own line/controller/device names.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT02                               BSC                             12:00:00

Comm Profile ID. . . . .  CN3BSC
Company. . . . . . . . .  COMMERCE:Network RELEASE3

Modem Port . . . . . . .  LIN021            Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)           Auto Dial. . . . . . .  Y (Y/N)
Auto Call Unit . . . . .  V                 Auto Call Port . . . .
Dial . . . . . . . . . .  18006275883
Host ID Verify . . . . .  N (Y/N)           Duplex . . . . . . . .  *FULL
Local Site ID. . . . . .
Record Size. . . . . . .  0080              Block Size . . . . . .  0512
Inter-Record Separator .  3780
Transparency . . . . . .  N (Y/N)
Blank Compress . . . . .  N (Y/N)
Trailing Blank Trunc . .  N (Y/N)           Remote Cmd Password. .  *NONE
```

```
EDIX401                   Communication Profile                EDI 03/01/06
FMT20                      Lin/Ctl/Dev Options                     12:00:00

Comm Profile ID. . . . . . . . . .  CN3BSC
Company. . . . . . . . . . . . . .  COMMERCE:Network RELEASE3

Create Line/Controller . . . . . .  Y
Line Name. . . . . . . . . . . . .  CN3BSCLN
Controller Name. . . . . . . . . .  CN3BSCCT
Device Name. . . . . . . . . . . .  CN3BSCDV
Remote Location. . . . . . . . . .  CN3BSC









F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 6.2 Line/Controller/Device panel (EDIX401-FMT20) shown during profile setup

You can accept the default names provided for the Line, Controller, Device, and Remote Location name, or specify your own names for these fields. Once you have completed your entries, press **F10** (Update) to create the Profile.

BSC Communication Session Control Scripts

After creating a BSC communication profile, you must provide an appropriate communication session control script. The script will contain any commands necessary to prepare the remote system for file transfer, as well as the steps that transfer the files. The exact contents of the script will be determined by the remote system's requirements and capabilities, and by the work that must be accomplished by the script.

Create a BSC Script

BSC scripts are created and edited using the same facilities as the other communication types within the Communications Module. (SEE the "Using Communications" chapter for basic information on scripting.)

A BSC script is coded similarly to scripts for the other protocols supported by the Communications Module. The following list contains all the valid transaction types that are supported by BSC profiles.

Trans	Description	Use
C	Control Record	Used to send a literal from the control data field to the remote system.
R	Receive	Used to receive a file from the remote system to your system
S	Send	Used to send a file from your system to the remote system
D	Data Trap	Used to compare data received to the literal on the control data field
X	Extended Logic	Used to execute an extended logic command

NOTE

The exact action performed by any script step is determined by the combination of Transaction type, the File type, and the Indicator selected. (SEE the "BSC Tables" section later in this chapter for detailed information on valid combinations.)

BSC Script Transactions

C – Control Record

Used to send the literal coded in the Command field to the remote system as an 80-byte record image, followed by the action specified in the Indicator field. A typical use for this transaction type would be sending a fixed signon record to the remote system, followed by an 'End-of-Transmission' character (indicator **2**).

R – Receive

Used to receive a file from the remote system to your system. By specifying a file type of **IQ**, **IM**, **IF**, **IA**, or **SP**, you can direct the inbound data to the inbound queue, a

user-provided file, append to a user-provided file, or write the data to a spool file. The Receive will normally be terminated when the action specified by the Indicator field occurs.

BSC Receive transactions may be combined with File options as follows:

- **R/IQ** Receive to Gentran:Server inbound queue as a single batch.
- **R/IM** Receive to Gentran:Server inbound queue, separating multiple batches.
- **R/ID** Receive to Gentran:Server inbound queue or spool file based on device selection codes.
- **R/IF** Receive to inbound file provided by user.
- **R/IA** Receive and append to inbound file provided by user.
- **R/SP** Receive to spool file.

For **R/IQ**, all data received will be placed on the Gentran:Server inbound queue as a single batch.

For **R/IM**, multiple files received will be placed on the Gentran:Server inbound queue. Unlike **R/IQ**, which creates a singe inbound queue batch, `R/IM` indicates that each time a logical file separator of `ETX` (end-of-text) is received, the current batch will be marked received normal and closed, and a new inbound queue batch will be opened. `R/IM` will create a single inbound queue batch only if the remote sends a single file, or does not support the separating of logical files by use of the `ETX` character.

For **R/ID**, multiple files will be received and separated in the same fashion as in the `R/IM` transaction above. In addition, by examining the device selection characters received ahead of each file, all files preceded by a “punch” device selection code will be written to the Gentran:Server inbound queue, and all files preceded by a “print” device selection code will be written to a spool file.

For **R/IF** and **R/IA**, data will be received into the file named by the File Name field in the Receive step of the script. This file must exist (be pre-allocated) on your iSeries before the communication session is started, and must be accessible via the library list of the job used to conduct the session.

For **R/SP**, all data will be received to a spool file. This file may contain carriage control characters. These characters will be interpreted as described in the Print Control table at the end of this section. If the remote system sends multiple logical files separated by the `ETX` (end-of-text) character, each occurrence of the `ETX` character will close the current spool file, and open a new spool for receiving, as with the `R/IM` transaction.

When receiving data with any **R** transaction, the command line performs special functions, depending on the Indicator specified.

- When a non-zero Indicator is used, the first record received is compared against the literal. When a match occurs, the Receive step will end with a "no data to be received" condition, and execution will continue with the next script step. This is useful if the remote system is capable of sending a message that indicates there is no data to send. This option allows the "no data" message to be received without having it written to an output file.
- When a zero Indicator is used, all records received are compared against the literal. When a match occurs, the Receive step will end , and execution will continue with the next script step. This is useful if the remote system is sending an "end-of-data" record that must be recognized . The "end-of-data' record will be discarded.

S – Send

Used to send a file from your system to the remote system. By specifying File Type **OQ**, **OM**, or **OF**, you can transmit data from the outbound queue or a user-provided file.

BSC Send transactions may be combined with File options as follows:

- **S/OQ** Send from Gentran:Server outbound queue.
- **S/OM** Send from Gentran:Server outbound queue, separating multiple batches.
- **S/OF** Send from outbound file provided by user.

For **S/OQ**, all eligible data batches on the outbound queue will be transmitted to the remote system as a single file, followed by the action specified in the Indicator field. When a literal is entered in the Command line field, the literal will be sent to the remote system as an 80-byte image if there are no eligible batches on the outbound queue to send. The literal will be followed by the action specified by the Indicator field. If no literal is entered in the Command line, then no data will be sent, no action will occur regardless of the Indicator, and execution will continue with the next script step.

For **S/OM**, each eligible batch on the outbound queue will be transmitted to the remote system followed by an ETX (end-of-text) character as a file separator. The final outbound queue batch will be followed by the action specified in the Indicator field. If there are no eligible batches to send from the outbound queue, a default message in the form of an 80-byte record will be sent to the remote system followed by the action specified in the Indicator field. The format of the message is:

```
***  ERROR  *** NO BATCHES FOR TRANSMISSION.
```

When a literal is entered in the Command line field, the literal will be sent as an 80-byte record image to the remote system as a file "header" ahead of each batch sent from the outbound queue.

For **S/OF**, the iSeries physical file named by the File Name field in the Send step of the script will be transmitted to the remote system, followed by the action specified in the Indicator field. This file must exist on your iSeries and must be accessible via the library list of the job used to execute the communication session.

D – Data Trap

Used to wait for the literal that is specified in the Command line field of the script step. This can be useful in "trapping" prompts, messages, or commands from the remote system. The data received using this transaction is discarded, and *not* written to an output file. This transaction is also useful for ensuring a certain message is received as expected, and if not, can abort the communications session depending upon the indicator used. Data trap transactions/Indicator combinations are:

- **D with Indicator zero**. This transaction will compare only the first record received against the Command line literal. If a match occurs, the data trap ends, and execution continues with the next script step. When the first record received does not match the Command line literal, the session will end with a "no-match" error.

NOTE

If the data trap completes with a successful match condition, and the data received is followed by additional control characters or data, then the data trap *must* be followed by another Receive type transaction to process the additional data.

- **D with Indicator other than zero**. This transaction will compare all records received against the Command line literal. If either a match, or the specified Indicator condition occurs, the data trap ends and execution continues with the next script step. All records received until the data trap ends are discarded. When a non-zero Indicator is specified, the data trap may end with a "no-match" condition, but will *not* end the session with an error.

NOTE

If the data trap completes with a successful match condition, and the data received is followed by additional control characters or data, then the data trap **must** be followed by another Receive type transaction to process the additional data.

X – Extended Script Logic

Used to execute extended script logic commands. The following extended logic keywords are valid for BSC communication scripts.

- LOOP START
- LOOP END
- MATCH
- INDICATOR
- GOTO

SEE the "SYNC Extended Script Logic" section in the "Using Scripts" chapter for detailed information on using Extended Script Logic commands.

BSC Script Example

Figure 6.3 is an example of how a BSC script could be used to send and receive files.

```
EDIX403               Communication Session Control           EDI    03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  SAMPPROF
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  Sample profile

Type option, press Enter.
   3=Copy Seq#  4=Delete   11=Extended Parms

 Opt Seq No Tran File File Name  Ind Description
  __     _10   C    __ __________  2  Send the Signon record & EOT_______
/*SIGNON_USERID_PASSWORD_____________________________________________________
  __     _20   D    __ __________  0  Data_Trap_Successful_msg_or_quit___
SIGNON SUCCESSFUL___________________________________________________________
  __     _30   R    SP            7  Get_EOT_following_SUCCESSFUL_msg___
____________________________________________________________________________
  __     _40   R    IQ __________  7  Receive EDI to Inque till EOT______
NO_DATA_TO_SEND_____________________________________________________________
  __     _50   S    OQ __________  2  Send_outbound_queue_data & EOT_____
NO_DATA_TO_SEND_____________________________________________________________
  __     _60   C    __ __________  2  Send the Signoff record & EOT______
/*SIGNOFF____________________________________________________________________


F1=Help F4=Prompt F9=Fold/Unfold F10=Update F12=Cancel F24=More Keys
```

Figure 6.3 Example BSC Session Control Script

The above session script example performs the following actions:

- Sequence #10 – Send the signon literal as entered on the Command line to the remote system as an 80-byte record, followed by an `EOT` (end-of-transmission) character.
- Sequence #20 – DATA TRAP – Wait to receive the literal as entered in the Command line. If the literal specified on the Command line is *not* the first record received, then end the session with an error. Only continue to the next script step after the remote signals the signon was successful.
- Sequence #30 – Wait to receive the `EOT` (end-of-transmission) character that follows the `SIGNON SUCCESSFUL` message. This script step will only be executed if the Command line literal message was received during the Data Trap transaction in script sequence #20 shown above. The Receive to Spool (`R/SP`) was used to perform this function, but because only the `EOT` will be received – not "real" data – no data will be written to a spool file.

NOTE

The same result can be achieved by using a data trap transaction with any literal on the command line. The command line literal would not matter, since no actual data would be received, only the `EOT` character.

- Sequence #40 – Receive EDI data from the remote system to the Gentran:Server inbound queue until an `EOT` (end-of-transmission) character is received. If the remote system has no EDI data to send, it will send the literal `NO DATA TO SEND`. If this literal is the first record received, the Receive step will wait for the `EOT` character, post a `No data to be received from remote` message to the communications history file, and end. No data will be written to the Gentran:Server inbound queue if the literal is received.
- Sequence #50 – Send all eligible batches from the Gentran:Server outbound queue to the remote system as a single file, and follow it with an `EOT` (end-of-transmission) character. In the event there are no eligible batches to send from the outbound queue, send the Command line literal `NO DATA TO SEND` as an 80-byte record, followed by the `EOT` character.
- Sequence #60 – Send the signoff literal as entered in the Command line to the remote system as an 80-byte record, followed by the `EOT` (end-of-transmission) character.

Start a BSC Communication Session

After creating an appropriate communication profile and script, a BSC communication session can be started by using option **`30`** from the EDIX400-FMT01 panel, the `STRCOMSSN` command, or the job scheduler. (SEE the “Initiating Communication Sessions” section in the “Using Communications” chapter for more information.)

BSC Tables

This section contains the following tables:

- Table 6.1: BSC Transaction Codes/Actions
- Table 6.2: BSC Send Indicators
- Table 6.3: BSC Receive Indicators

Table 6.1: BSC Transaction Codes/Actions

Tran Codes	Descriptions	Actions	Valid Indicators
C	Send Control Record	Send Literal from Command Line.	0, 1, 2, 3
D	Receive Control Record	Attempt to match the command line record with a record received from the remote system.	0, 6, 7, 8, 9 or 1 – 5
S	Send Data	■ OQ – Send from Outbound Queue ■ OM – Send from Outbound Queue as Multiples ■ OF – Send from Outbound File	0, 1, 2, 3
R	Receive Data	■ IQ – Receive data to Inbound Queue ■ IM – Receive data to Inbound Queue as Multiples ■ IF – Receive data to Inbound File ■ IA – Receive data and append to an Inbound File ■ SP – Receive data to Spool Printer File	0, 6, 7, 8, 9 or 1 – 5
X	Special Extended Logic	Not used.	Not used.

Table 6.2: BSC Send Indicators

Desired Actions	Definitions	Indicators
Continue to next step in the script	No termination character is sent at end-of-file or at the end of a control record.	0
Send End-of-Text character at the end of the current script step	An End-of-Text character (ETX) is sent at end-of-file or at the end of a control record.	1
Send End-of-Transmission character at end of the current script step	An End-of-Transmission character (EOT) is sent at End-of-File or at the end of a control record.	2
End transmission	A remote disconnect sequence (DLE/EOT) is sent at end-of-file or at the end of a control record.	3

Table 6.3: BSC Receive Indicators

Desired Actions	Definitions	Indicators
Verify that the command line literal matches the incoming control record	No termination character is expected at the end of the file. Forced timer wait.	0
Indicate the end of the receive using an ETX	An End-of-Text character (ETX) is expected to indicate the end of the file (receive complete).	6
Indicate the end of the receive using an EOT	An End-of-Transmission character (EOT) is expected at the end of the file (receive complete).	7
End transmission	A remote disconnect sequence (DLE/EOT) is expected at the end of the file (receive complete).	8
Indicate the end of the receive when the device selection code changes	A change in device selection codes (print to punch/punch to print) indicates End-of-File (receive complete).	9
Indicate the end of the receive using multiple EOTs. This is used to hold the line open long enough for the communication partner to respond. (This is normally used when receiving data from a Shared DASD JES host.)	Indicators 1 to 5 will specify the number of times that 5 consecutive End-of-Transmission characters or physical data must be received before the receive step is complete (i.e., 3 says that 15 EOTs or physical data must be received).	1 – 5

NOTE

When using a Data-trap (D) command and a zero (0) indicator, the Command Line record compares only the first record received. If a match occurs, the step completes. If the first record received does not match, the data-trap fails, and the session aborts.

BSC Print Carriage Control Conversion

This section contains a table detailing Print Carriage Control conversions. The table is divided into data received, conversion characters, and subsequent actions.

Received 3780 Print Carriage Control	Converted to Character (hex)	Action Performed
ESC M (X'27D4')	+ (x'4E')	Suppress space
ESC / (X'2761')	(blank) (x'40')	Space 1 line
ESC S (X'27E2')	0 (x'F0')	Space 2 lines
ESC T (X'27E3')	- (x'60')	Space 3 lines
ESC A (X'27C1')	1 (x'F1')	Skip to Channel 1
ESC B (X'27C2')	2 (x'F2')	Skip to Channel 2
ESC C (X'27C3')	3 (x'F3')	Skip to Channel 3
ESC D (X'27C4')	4 (x'F4')	Skip to Channel 4
ESC E (X'27C5')	5 (x'F5')	Skip to Channel 5
ESC F (X'27C6')	6 (x'F6')	Skip to Channel 6
ESC G (X'27C7')	7 (x'F7')	Skip to Channel 7
ESC H (X'27C8')	8 (x'F8')	Skip to Channel 8
ESC I (X'27C9')	9 (x'F9')	Skip to Channel 9
ESC J (X'27D1')	A (x'C1')	Skip to Channel 10
ESC K (X'27D2')	B (x'C2')	Skip to Channel 11
ESC L (X'27D3')	C (x'C3')	Skip to Channel 12

Requirements Checklist

Obtain the following information from the BSC remote site communication person:

- ✓ _____ Will host ID verification be required? ____
  This is indicated in the Host ID Verify field of the Communication Profile panel (EDIX401-FMT02).
- ✓ _____ Will blank compression be required? ____
  This is indicated in the Blank Compress field of the Communication Profile panel (EDIX401-FMT02).
- ✓ _____ Will transparency be required? ____
  This is indicated in the Transparency field of the Communication Profile panel (EDIX401-FMT02).
- ✓ _____ What block size will be used? ____
  This is indicated in the Block Size field of the Communication Profile panel (EDIX401-FMT02).
- ✓ _____ What record separation technique will be used? _____
  (3780 uses hex 1E; 2780 uses hex 1F; or none. 3780 is the most common.) This is indicated in the Inter-Record Separator field of the Communication Profile panel (EDIX401-FMT02).

Chapter

7 SNA Communications Support

Introduction

The Communications Module supports SNA communications as a *secondary* logical unit type zero (LU0) or type one (LU1). Strengths of SNA include:

- Implemented on many platforms, very reliable
- Supported by many communications networks
- Extended multiple device type support
- Concurrent sharing of a single communications line with other applications
- Improved security
- Transparent and non-transparent data transport in a single session

In addition to providing basic SNA file transfers, the Communications Module includes features that provide additional capabilities and enable you to use a single line on your system to communicate with multiple remote systems with different requirements. These features include:

- Dynamic scripting, which allows the remote system to choose among sessions that you define, without requiring significant sophistication from the remote system.
- Remote command support, which allows the remote system to direct the events in the session according to its needs.
- Remote Program Start Request (RPSR) which is needed to allow a primary logical unit (usually MVS) to start a connection to the iSeries when a leased line is being used. (SEE the "Remote Program Start Request" section later in this chapter for detailed information).

NOTE

RPSR is not needed when a switched line is in use.

Operation is supported using both leased and switched lines. Your system can be configured to dial or answer and to use various types of autodialing.

SNA/LU0 Configuration

Protocol type SNA creates an LU1 configuration. Use this configuration when communicating with MVS JES2/JES3, Connect:Mailbox, Connect:Tracs, and other mainframe applications.

Protocol type LU0 is specifically for communicating with the Advantis (formally IBM) network. The differences between SNA (LU1) and LU0 configurations are minimal, but an LU0 configuration should ONLY be used when communicating the Advantis network.

Throughout this chapter, SNA and LU0 are presented as "SNA/LU0", with no distinction between the two configurations.

Like the other communication protocols within the Communications Module, configuring for SNA/ LU0 communications consists of two parts:

1. Create a communication profile.

2. Create a communication session control script.

☞ **RECOMMENDATION**

You may want to copy and customize one of the sample SNA/LU0 scripts shipped with your copy of Gentran:Server for iSeries Communications Module, rather than creating the profile and script.

SEE the "Using Communications" chapter for basic information on creating profiles.

The specifics of creating profiles and scripts for SNA/LU0 are discussed in the following sections.

Creating an SNA/LU0 profile

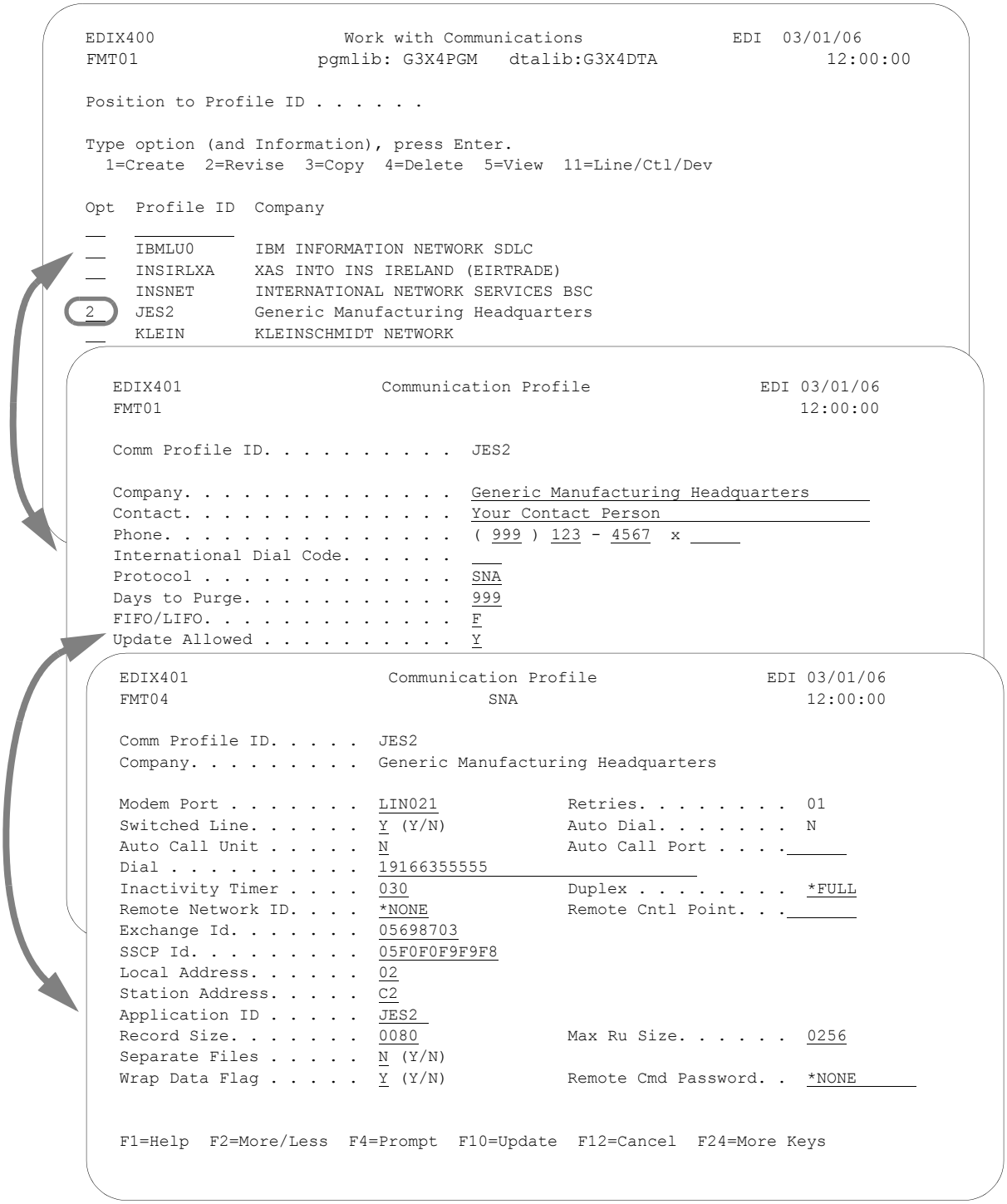


Figure 7.1 SNA Communication Profile Panels

Complete the panels necessary to configure for SNA/LU0 communications, as shown in Figure 7.1. For information on any specific field, press **F1** (Help) while the cursor is positioned in the field. (SEE the "Using Communications" chapter for basic information on creating profiles.)

On EDIX401-FMT01, specify **SNA** or **LU0** as the Protocol.

On EDIX401-FMT05, press **F2** (More/Less).

On EDIX401-FMT04, complete the following fields:

- Dial settings: Switched line, Auto-dial, Auto call unit, Auto call port, Phone number

	Dial Settings				
Field Names	**Two-Port Autodial**	**One-Port Non-V.25bis Autodial**	**Manual Dial**	**One-Port V.25bis Autodial**	**Auto Answer**
Switched Line	Y	Y	Y	Y	Y
Auto Dial	Y	Y	N	Y	N
Auto Call Unit	Y	N	N	V	N
Auto Call Port	Include an entry	Leave blank	Leave blank	Leave blank	Leave blank
Phone Number	Include an entry	Include an entry	Include an entry	Include an entry	Leave blank

- Exchange ID
- SSCP ID
- Remote Network ID
- Remote Control Point Name
- Application ID
- Station Address
- Local Address

All the preceding parameters, with the exception of Dial settings, are normally provided by the MVS communications/systems programmer at the host location. (SEE the "Requirements Checklist" at the end of this chapter, which is provided for your assistance.)

By default, the Communications Module automatically creates the iSeries line, controller, and device descriptions needed, using default names. (SEE the "Using Communications" chapter for information about running communications on an existing line and controller, or changing the names.)

SNA/LU0 Communication Session Control Scripts

After creating an SNA/LU0 communication profile, you must provide an appropriate communication session control script. The script will contain any commands necessary to prepare the remote system for file transfer, as well as the steps that transfer the files. The exact content of the script will be determined by the remote system's requirements and capabilities, and by the work that must be accomplished by the script.

Create an SNA/LU0 Script

SNA/LU0 scripts are created and edited using the same facilities as the other communication types within Gentran:Server for iSeries Communications Module. (SEE the "Using Communications" chapter for basic information on scripting.)

An SNA/LU0 script is coded similarly to scripts for the other protocols supported by the Communications Module. The following list contains all the valid transaction types supported by SNA/LU0 profiles.

Trans	Description	Use
C	Control Record	Used to send a literal from the control data field to the remote system
R	Receive	Used to receive a file from the remote system to your system
S	Send	Used to send a file from your system to the remote system
D	Data Trap	Used to compare data received to the literal on the control data field
X	Extended Logic	Used to execute an extended logic command

NOTE

The exact action performed by any script step is determined by the combination of Transaction type, File type, and Indicator selected. SEE the "SNA/LU0 Tables" section later in this chapter for detailed information on valid combinations.

SNA/LU0 Script Transactions

C – Control Record

Used to send the literal coded in the Command field to the remote system as an 80-byte record image, followed by the action specified in the Indicator field.

A typical use for this transaction type would be sending a fixed signon record to the remote system followed by a "change-direction" indicator.

R – Receive

Used to receive a file from the remote system to your system. By specifying a file type of **IQ**, **IM**, **IF**, **IA**, or **SP**, you can direct the inbound data to the inbound queue, a user-provided file, append to a user-provided file, or write the data to a spool file. The Receive will normally be terminated when the action specified by the Indicator field occurs.

SNA/LU0 Receive transactions can be combined with File options as follows:

- **R/IQ** Receive to Gentran:Server inbound queue as a single batch
- **R/IM** Receive to Gentran:Server inbound queue, separate multiple batches
- **R/JR** Receive to Gentran:Server inbound queue or spool file by recognizing punch/print device selection codes
- **R/IF** Receive to inbound file provided by user
- **R/IA** Receive and append to inbound file provided by user
- **R/SP** Receive to spool file

For **R/IQ**, all data received will be placed on the Gentran:Server inbound queue as a single batch.

For **R/IM**, multiple files received will be placed on the Gentran:Server inbound queue. Unlike `R/IQ`, which creates a single inbound queue batch, `R/IM` indicates each time a logical file separator of "end-chain" is received, the current batch will be marked received normal and closed, and a new inbound queue batch will be opened. `R/IM` will create a single inbound queue batch only if the remote sends a single file or does not support the separating of logical files by use of the "end-chain".

For **R/JR**, multiple files will be received and separated in the same fashion as in the preceding `R/IM` transaction. In addition, by examining the device selection characters received ahead of each file, all files preceded by a "punch" device selection code will be written to the Gentran:Server inbound queue, and all files preceded by a "print" device selection code will be written to a spool file.

For **R/IF** and **R/IA**, data will be received into the file named by the File Name field in the Receive step of the script. This file must exist (be pre-allocated) on your iSeries before the communication session is started, and must be accessible via the library list of the job used to conduct the session.

For **R/SP**, all data will be received to a spool file. This file may contain carriage control characters. If the remote system sends multiple logical files separated by the "end-chain" indicator, each occurrence of the "end-chain" indicator will close the current spool file and open a new spool for receiving, as with the R/IM transaction.

When receiving data with any **R** transaction, the Command Line field has a special function. When a literal is entered on the Command Line, the first record received is compared against the literal. When a match occurs, the Receive step will end with a "no data to be received" condition, and execution will continue with the next script step. This is useful if the remote system is capable of sending a message that indicates it has no data to send. This option allows the "no data" message to be received without having it written to an output file.

S – Send

Used to send a file from your system to the remote system. By specifying File Type **OQ**, **OM**, or **OF**, you can transmit data from the outbound queue or a user-provided file.

SNA/LU0 Send transactions may be combined with File options as follows:

- **S/OQ** Send from Gentran:Server outbound queue
- **S/OM** Send from Gentran:Server outbound queue, separating multiple batches
- **S/OF** Send from outbound file provided by user

For **S/OQ**, all eligible data batches on the outbound queue will be transmitted to the remote system as a single file, followed by the action specified in the Indicator field. When a literal is entered in the Command Line field, the literal will be sent to the remote system when there are no eligible batches on the outbound queue to send. The literal will be followed by the action specified in the Indicator field. If no literal is entered on the Command Line, then no data will be sent, no action will occur regardless of the Indicator, and execution will continue with the next script step.

For **S/OM**, each eligible batch on the outbound queue will be transmitted to the remote system followed by an "end-chain" indicator as a file separator. The final outbound queue batch will be followed by the action specified in the Indicator field. If there are no eligible batches to send from the outbound queue, a default message in the form of an 80-byte record will be sent to the remote system, followed by the action specified in the Indicator field. The format of the message is:

```
***  ERROR  *** NO BATCHES FOR TRANSMISSION.
```

When a literal is entered in the Command Line field, the literal will be sent as an 80-byte record image to the remote system as a file "header" ahead of each batch sent from the outbound queue.

For **S/OF**, the iSeries physical file named by the File Name field in the Send step of the script will be transmitted to the remote system, and followed by the action specified in the Indicator field. This file must exist on your iSeries and must be accessible via the library list of the job used to execute the communication session.

D – Data Trap

Used to wait for the literal that is specified in the Command Line field of the script step. This can be useful in "trapping" prompts, messages, or commands from the remote system. The data received using this transaction is discarded and *not* written to an output file. This transaction is also useful for ensuring a certain message is received as expected, and if not, can abort the communications session depending upon the indicator used. Data trap transactions/ Indicator combinations are:

- **D with Indicator zero**. This transaction will compare only the first record received against the Command Line literal. If a match occurs, the data trap ends, and execution continues with the next script step. When the first record received does not match the Command Line literal, the session will ended with a "no-match" error.

NOTE

If the data trap completes with a successful match condition and the data received is followed by additional control characters or data, then the data trap *must* be followed by another Receive type transaction to process the additional data.

- **D with Indicator other than zero**. This transaction will compare all records received against the Command Line literal. If either a match, or the specified indicator condition occurs, the data trap ends and execution continues with the next script step. All records received until the data trap ends are discarded. When a non-zero Indicator is specified, the data trap may end with a "no-match" condition, but will *not* end the session with an error.

NOTE

If the data trap completes with a successful match condition and the data received is followed by additional control characters or data, then the data trap *must* be followed by another Receive type transaction to process the additional data.

X – Extended Script Logic

Used to execute extended script logic commands. The following extended logic keywords are valid for SNA/LU0 communication scripts.

- **`LOOP START`**
- **`LOOP END`**
- **`MATCH`**
- **`INDICATOR`**
- **`GOTO`**

SEE the "SYNC Extended Script Logic" section in the "Using Scripts" chapter for detailed information on using Extended Script Logic commands.

SNA/LU0 Script Example

Figure 7.2 is an example of how an SNA/LU0 script could be used to send and receive files.

```
EDIX403               Communication Session Control           EDI   03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  SAMPPROF
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  Sample profile

Type option, press Enter.
   3=Copy Seq#  4=Delete   11=Extended Parms

 Opt Seq No Tran File File Name  Ind Description
  __     _10   C     __  __________  2  Send_the_Signon_record_&_Change-dir________
/*SIGNON_USERID_PASSWORD_____________________________________________________
  __     _20   D     __  __________  0  Data_Trap_Successful_msg_or_quit___________
SIGNON_SUCCESSFUL___________________________________________________________
  __     _30   R     SP  __________  7  Receive Change-dir_following_successful_msg
____________________________________________________________________________
  __     _40   R     IQ  __________  7  Receive_EDI_to_Inque_till_Change-dir_______
NO_DATA_TO_SEND_____________________________________________________________
  __     _50   S     OQ  __________  2  Send_outbound_queue_data & Change-dir_____
NO_DATA_TO_SEND_____________________________________________________________
  __     _60   C     __  __________  2  Send_the_Signoff_record_&_Change-dir_______
/*SIGNOFF_____________________________________________________________________
                                                                        More...
 F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 7.2 Example SNA/LU0 Session Control Script

The session script example in the preceding figure performs the following actions:

- Sequence #10 – Send the signon literal as entered on the Command Line to the remote system as an 80-byte record, followed by a “change-direction” indicator.
- Sequence #20 – DATA TRAP, wait to receive the literal as entered on the Command Line. If the literal specified on the Command Line is *not* the first record received, then end the session with an error. Only continue to the next script step after the remote system signals that the signon was successful.
- Sequence #30 – Receive to spool until a “change-direction” indicator is received. This transaction is used to receive no “real” data, but to receive the control characters that follow the `SIGNON SUCCESSFUL` message in sequence #20 above. This script step will only be executed if the Command Line literal message was received during the Data Trap transaction in script sequence #20 shown above.

NOTE

The same result can be achieved using a Data Trap transaction with any literal on the Command Line. The Command Line literal would not matter, since no actual data would be received, only the “change-direction” character.

- Sequence #40 – Receive EDI data from the remote system to the Gentran:Server inbound queue until a "change-direction" indicator is received. If the remote system has no EDI data to send, it will send the literal `NO DATA TO SEND`. If this literal is the first record received, the Receive step will wait for the "change-direction" indicator, post a `No data to be received from remote` message to the communications history file, and end. No data will be written to the Gentran:Server inbound queue when the literal is received.
- Sequence #50 – Send all eligible batches from the Gentran:Server outbound queue to the remote system as a single file and follow it with a "change-direction" indicator. If there are no eligible batches to send from the outbound queue, send the Command Line literal `NO DATA TO SEND` as an 80-byte record, followed by the "change-direction" indicator.
- Sequence #60 – Send the signoff literal as entered on the Command Line to the remote system as an 80-byte record, followed by the "change-direction" indicator.

Start an SNA/LU0 Communication Session

After creating an appropriate communication profile and script, an SNA/LU0 communication session can be started by using option **30** from the Work with Communications panel (EDIX400-FMT01), the `STRCOMSSN` command, or the job scheduler. (SEE the "Initiating Communication Sessions" section in the "Using Communications" chapter for more information.)

SNA/LU0 Tables

This section contains the following tables:

- Table 7.1: SNA/LU0 Transaction Codes/Actions
- Table 7.2: SNA/LU0 Send Indicators
- Table 7.3: SNA/LU0 Receive Indicators

Table 7.1: SNA/LU0 Transaction Codes/Actions

Tran Codes	Descriptions	Actions	Valid Indicators
C	Send Control Record	Send Literal from Command Line.	0, 1, 2, 3
D	Receive Control Record	Attempt to match the command line record with a record received from the remote system.	0, 5, 6, 7, 8
S	Send Data	■ OQ – Send from Outbound Queue ■ OM – Send from Outbound Queue as Multiples ■ OF – Send from Outbound File	0, 1, 2, 3
R	Receive Data	■ IQ – Receive data to Inbound Queue ■ IM – Receive data to Inbound Queue as Multiples ■ IF – Receive data to Inbound File ■ IA – Receive data and append to an Inbound File ■ SP – Receive data to Spool Printer File ■ JR – JES Receive to Spool and Inqueue ■ JQ – Receive all data to Inqueue	0, 5, 6, 7, 8, 9

Table 7.2: SNA/LU0 Send Indicators

Desired Actions	Definitions	Indicators
Send then continue to next step in the script.	No termination character is sent at end-of-file or at the end of a control record.	0
Send End-of-Chain character at the end of the current script step.	An End-of-Chain (EC) indicator is sent at End-of-File (EOF) or at the end of a control record.	1
Send End-of-Chain followed by a change direction at End-of-File or control record.	An End-of-Chain (EC) followed by a change direction (CD) is sent at the End-of-File (EOF) or control record.	2
Send End-of-Chain followed by End Bracket at the end of the current script step.	An End-of-Chain (EC) followed by an End Bracket (EB) is sent at End-of-File (EOF) or at the end of a control record.	3

Table 7.3: SNA/LU0 Receive Indicators

Desired Actions	Definitions	Indicators
Verify that the command line literal matches the incoming control record.	No termination character is expected at the end of the file.	0
Receive until inactivity timer expires, as specified in Profile Maintenance panel #2.	Receive all data into the designated output file until the inactivity timer expires, with no data received for the length of the timer.	5
Indicate the end of the receive using an End-of-Chain.	An End-of-Chain (EOC) is expected to indicate the end of the file (receive complete).	6
Indicate the end of the receive using a Change Direction Indicator.	A Change Direction (CD) is expected at the end of the file (receive complete).	7
End transmission.	An End Bracket (EB) is expected at the End of File (EOF) (receive complete).	8

NOTE

When using a Data-trap (D) command and a zero (0) indicator, the Command Line record compares only the first record received. If a match occurs, the step completes. If the first record received does not match, the data-trap fails, and the session aborts.

If the indicator is 6, 7, or 8 on a data-trap, then all records received are dropped until a match occurs, or (6,7,8) End Chain, Change Direction, or End Bracket is received.

Remote Program Start Request

NOTE

Remote Program Start Request (RPSR) is only needed when a leased line is in use.

The following section describes the Remote Program Start Request Feature.

Included in this section is a sample implementation of a session initiated by a host system (PLU) with the Communications Module in a dedicated-line environment.

Configuration Information

Please note that the Remote Program Start Request, an extension of "Dynamic Scripting" capability, is available for SNA LU1 *only*. It acts as a "wake-up call" to tell the Communications Module that the host system wants to start a communication session. The "wake-up call" is needed to overcome a basic shortcoming in iSeries communication support. The base function communication support allows the iSeries to receive only a single file. It does not send any data to the host when a program is started by a connection from the host. The host system initiates the connection with the Communications Module and sends a single record with Profile ID and session name. The ID and name adhere to the following format:

```
$$SCRIPT ID=XXXXXXXX SESSION=XX
```

Parameters are positional, and an ID of less than eight characters must be blank filled to achieve a total length of eight characters.

Profile ID Information

Configure specific Profile ID information as follows:

- The Profile IDs currently supported for this function are named `RPSR01` through `RPSR05` (Remote Program Start Request 1 – 5).
- The Dial field (phone number) must contain the entry **`REMOTE`** as the first six characters and be blank filled to the end.
- Be certain that the information used in all fields on the Communication screens is correct. Once information is entered, the system may require that you vary off the line and controller before allowing any changes or updates.

Subsystem Information

You must add a communication entry to the subsystem QCMN.

- The QCMN subsystem must be ended prior to making the communication entry. This should be coordinated with your system or operations manager.
- The subsystem must contain an entry for each device used (`RPSR01DV` through `RPSR05DV`).
- The entry specifies a user profile under which the jobs started by the remote system run. Be certain the user profile specified contains the Gentran:Server libraries in its library list, and the user profile has been defined within Environment Control, and is authorized to use the Communications subsystem.

Enable the Remote Device

Once all configurations are complete, you enable the remote device to accept a connection from the host system. The Start Remote Program Start Request (`STRRPSR`) command followed by **F4** (Prompt) allows you to enable one or all devices by specifying the Profile ID name or `*ALL`.

Configure the Host System

The host system must have two VTAM LU definitions using unique addresses. These are mandatory because the iSeries prevents a device used to receive a remote start request from initiating a session from the iSeries to the host.

- The first VTAM LU definition is reserved for connections started by the host (using the address from the RPSRxx profile).
- The second VTAM LU definition is reserved for connections started by Gentran:Server (using the address specified by a Profile ID appearing in the Script Start record).

NOTE

When the PLU is a Connect:Supertracs or Connect:Mailbox (SNA) mainframe product, the remote used to initiate the connection to Gentran:Server is configured with the keyword **`FMH=NO`** in the Remote section.

Access the Communication Profile panel (EDIX401-FMT04)

To access the Communication Profile panel (EDIX401-FMT04), perform the following procedure:

1. From the Work with Communication panel (EDIX400-FMT01), type **2** in the Opt (Option) field next to the RPSR01 Profile ID.

2. Press **Enter** to see the extended view of this panel. The Communication Profile panel (EDIX401-FMT04), as shown in Figure 7.3, appears.

3. Press **F12** (Cancel) to exit this panel.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT04                               SNA                             12:00:00

Comm Profile ID. . . . .  RPSR01
Company. . . . . . . . .  REMOTE PGM START REQUEST 01 DEVICE

Modem Port . . . . . . .  LIN061            Retries. . . . . . . .  00
Switched Line. . . . . .  N (Y/N)           Auto Dial. . . . . . .  N
Auto Call Unit . . . . .  N                 Auto Call Port . . . .
Dial . . . . . . . . . .  REMOTE
Inactivity Timer . . . .  090               Duplex . . . . . . . .  *FULL
Remote Network ID. . . .  SSNET             Remote Cntl Point. . .  SSHOST
Exchange Id. . . . . . .  05628403
SSCP Id. . . . . . . . .  05F0F0F9F9F8
Local Address. . . . . .  21
Station Address. . . . .  C1
Application ID . . . . .  ORDERNET
Record Size. . . . . . .  0080              Max Ru Size. . . . . .  0256
Separate Files . . . . .  Y (Y/N)
Wrap Data Flag . . . . .  N (Y/N)           Remote Cmd Password. .  *NONE


F1=Help  F2=More/Less  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 7.3 Extended View of the Communication Profile panel (EDIX401-FMT04)

Access the Add Communication Entry panel (ADDCMNE)

Use the Add Communication Entry panel (ADDCMNE) to add the communication entry to the QCMN subsystem.

1. On any panel, type **ADDCMNE** on the command line. The Add Communication Entry panel (ADDCMNE) appears as shown in Figure 7.4.

2. Press **F12** (Cancel) to exit the panel.

```
                    Add Communications Entry (ADDCMNE)

Type choices, press Enter.

Subsystem description  . . . . .  __________   Name
  Library  . . . . . . . . . . .  *LIBL       Name, *LIBL, *CURLIB
Device . . . . . . . . . . . . .  __________   Name, generic*, *ALL...
Remote location  . . . . . . . .  _________    Name
Job description  . . . . . . . .  *USRPRF     Name, *USRPRF, *SBSD
  Library  . . . . . . . . . . .  __________   Name, *LIBL, *CURLIB
Default user profile . . . . . .  *NONE       Name, *NONE, *SYS
Mode . . . . . . . . . . . . . .  *ANY        Name, *ANY
Maximum active jobs  . . . . . .  *NOMAX      0-1000, *NOMAX




                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 7.4 Add Communications Entry (ADDCMNE)

Gentran:Server Requirements for Host Initiated Communication on a Dedicated Line to Connect:Supertracs for MVS

The following section contains these requirements:

- Running Gentran:Server through two lines to two other Gentran:Server for iSeries locations
- Connect:Supertracs (SNA) Option Definition File Entries

Gentran:Server Requirements for two Dedicated Lines to two iSeries Locations Running Gentran:Server

VTAM Definitions:

```
DAL   PU   ISTATUS=ACTIVE,MODETAB=MODETB...
LU001 LU   LOCADDR=001,DLOGMOD=STC400
LU002 LU   LOCADDR=002,DLOGMOD=STC400,USSTAB=DALLAS
HOU   PU   ISTATUS=ACTIVE,MODETAB=MODETB...
LU011 LU   LOCADDR=011,DLOGMOD=STC400
LU012 LU   LOCADDR=012,DLOGMOD=STC400,USSTAB=HOUSTON


DALLAS USSTAB
LOGON USSCMD CMD=LOGON,REP=LOGON,FORMAT=PL1
USSPARM PARM=APPLID,DEFAULT=SUPTRACS
USSPARM PARM=DATA,DEFAULT=DALLAS
USSMSG MSG=10,SUPP=ALWAYS


HOUSTON USSTAB
LOGON USSCMD CMD=LOGON,REP=LOGON,FORMAT=PL1
USSPARM PARM=APPLID,DEFAULT=SUPTRACS
USSPARM PARM=DATA,DEFAULT=HOUSTON
USSMSG MSG=10,SUPP=ALWAYS


STCS400 MODEENT LOGMODE=STC400,
FMPROF=X'03',TSPROF=X'03',
PRIROT=X'B1',SECROT=X'A3',COMPROT=X'7080',
RUSIZES=X'8585',
PSERVIC=X'0110200F100E00000010040'
```

Connect:Supertracs (SNA) Option Definition File Entries

```
*OPTIONS
            APPLID=SUPTRACS
            CONSLOG=YES
            LOG=YES
            VTAM=YES
*CONNECT
            LISTNAME=DALLAS
            TYPE=LU1RJE
            DISCINTV=30
                   DALCTL
            LISTNAME=HOUSTON
            TYPE=LU1RJE
            DISCINTV=30
                   HOUSCTL
*REMOTES
            NAME=DALCTL
            TYPE=LU1RJE
            LUNAME=LU001
            CONSOLE=NO
            COMPRESS=NO
            MEDIA=PU
                   FMH=NO
            NAME=DALLAS
            TYPE=LU1RJE
            LUNAME=LU002
            CONSOLE=YES
            COMPRESS=NO
            MEDIA=CN
            DISCINTV=60
            BLKSIZE=256
            NAME=HOUSCTL
            TYPE=LU1RJE
            LUNAME=LU011
            CONSOLE=NO
            COMPRESS=NO
            MEDIA=PU
                   FMH=NO
            NAME=HOUSTON
            TYPE=LU1RJE
            LUNAME=LU012
            CONSOLE=YES
            COMPRESS=NO
            MEDIA=CN
            DISCINTV=60
            BLKSIZE=256
```

Prepare Connect:Supertracs for MVS (SNA)

To prepare Connect:Supertracs for MVS (SNA) to send the required `$$SCRIPT` command to the iSeries, execute the following steps:

1. Execute the `STOUTL ADD` utility to add the following record to the DALCTL Remote ID:

   `$$SCRIPT ID=XXXXXXXX SESSION=YY`

2. Execute the `STOUTL ADD` utility to add the following record to the HOUSCTL Remote ID:

   `$$SCRIPT ID=`*`XXXXXXXX`* `SESSION=`*`YY`*

XXXXXXXX gives the name of the Gentran:Server for iSeries Comm Profile ID, and *YY* gives the script name within the profile to execute.

Connect:Supertracs (SNA) will transmit these `$$REQUEST` cards to the two iSeries after the `$$CON` command is issued, as described in the following example.

Example

The following example is for DALLAS.

Connect:Supertracs (SNA)	Gentran:Server for iSeries
1. Operator enters: **`F SUPTRACS,$$CON L=DALCTL`** **2.** Connect:Supertracs sends (VIA LU001): `$$SCRIPT ID=DAL4001 SESSION=SR`	**3.** Receives script record and ends session. Gentran:Server for iSeries starts a profile named DAL4001 with script SR. The profile will log on as DALLAS (VIA LU002). The script (SR) should be constructed to send to Connect:Supertracs a `$$REQ ID=DALLAS` control record to instruct Connect:Supertracs to return all batches in the DALLAS queue.

4. Connect:Supertracs receives the:
`$$REQ ID=DALLAS`
and sends all batches that were queued for:
`ID=DALLAS`	

NOTE

The equivalent process would also be executed for the HOUSTON ISERIES, using the command: F SUPTRACS,$$CON L=HOUSCTL

Connect:Mailbox/Supertracs

Overview

This section is divided into three topics:

- Connect:Mailbox/Supertracs (SNA)
- Connect:Mailbox/Supertracs (SNA – Leased)
- Connect:Mailbox/Supertracs (BSC)

These will assist you in setting up and using Mailbox/Supertracs.

Communicate with Connect:Mailbox/Supertracs (SNA)

For Gentran:Server for iSeries to communicate correctly with Connect:Mailbox/Supertracs (SNA) on the mainframe using an SNA protocol, these definitions must be correct:

- Host VTAM and NCP Definitions
- Connect:Mailbox/Supertracs (SNA) Remote Definition on the Host

Requirements Checklist

✓ _____ Ensure that Connect:Mailbox/Supertracs (SNA) Version 3 Release 01 or above is installed on the mainframe. Lower versions result in a sense code 0801 and show `INVALID SESSION PARMS` in a SNAP dump.

✓ _____ FAX the Connect:Mailbox/Supertracs (SNA) to Gentran:Server Requirements and the VTAM/NCP Definition Requirements to the host system programmer responsible for Connect:Mailbox/Supertracs (SNA) implementation.

✓ _____ Ensure that Gentran:Server is defined as a remote to Connect:Mailbox/Supertracs (SNA) using Connect:Mailbox/Supertracs (SNA) to Gentran:Server Requirements as a guideline and the VTAM/NCP Definition Requirements.

Obtain the following information from the mainframe systems programmer responsible for VTAM definitions:

✓ _____ The LU local address in hex is _____.
This is used in the Local Address field of the Communication Profile panel (EDIX401-FMT04). This field uniquely identifies the Gentran:Server session and cannot be in use by any other iSeries communication product (like RJE).

✓ _____ The Mainframe Exchange ID is _____.
This is used in the Exchange ID field of the Communication Profile panel (EDIX401-FMT04) only if a *new* communication line or a dial line is used. If an existing leased communication line is used, put **`05600000`**.

✓ _____ The Mainframe SSCP ID is _____.
This is used in the SSCP ID field of the Communication Profile panel (EDIX401-FMT04) only if a *new* communication line or a dial line is used. If an existing leased communication line is used, put **050000000000**.

✓ _____ The Station address in hex is _____.
This is used in the Station Address field of the Communication Profile panel (EDIX401-FMT04).

✓ _____ The maximum RU size is _____.
This is used in the Max RU Size field of the Communication Profile panel (EDIX401-FMT04). This value is either **256**, **512**, **1024**, or **2048**.

VTAM Mode Table Entry to Support a Gentran:Server Session with the Mainframe

```
STCS400     MODEENT LOGMODE=STCS400,                          *
            FMPROF=X'03',TSPROF=X'03',         *
            PRIPROT=X'B1',SECPROT=X'A3',COMPROT=X'7080',     *
            RUSIZES=X'8585',                                  *
            PSERVIC=X'01102000F100E00000010040'
MODEEND
```

The RUSIZE must be compatible with the BLKSIZE parameter in the Connect:Mailbox/Supertracs (SNA) options definition:

RUSIZE	BLKSIZE
8585	256
8686	512
8989	4096

VTAM USS Table Entry to Support a Gentran:Server Session with Connect:Mailbox/Supertracs (SNA) on the Mainframe

Gentran:Server for iSeries sends the following logon command:

```
LOGON APPLID(applid)
```

applid is supplied within the OS/400 device description. Because logon data accompanies the logon to Connect:Mailbox/Supertracs (SNA) on the mainframe, you must also create USS table entry in VTAM. The following is a sample USS table entry to logon to Connect:Mailbox/Supertracs (SNA) on the mainframe as *remote name*.

```
LOGON       USSCMD    CMD=LOGON,REP=LOGON,FORMAT=PL1
            USSPARM   PARM=APPLID,DEFAULT=SUPTRACS
            USSPARM   PARM=DATA,DEFAULT=remote name
            USSMSG    MSG=10,SUPP=ALWAYS
```

NOTE

The "*remote name*" ***must*** match a valid Connect:Mailbox/Supertracs (SNA) remote name as defined in the Connect:Mailbox/Supertracs (SNA) Option Definition File.

Sample NCP LU Definition

Add an LU definition for each concurrent session required with Gentran:Server.

```
luname      LU      LOCADDR=localaddr,          *
            DLOGMOD=STCS400                     *
            USSTAB=usstable
```

Gentran:Server Remote Definition

Gentran:Server can be defined to Connect:Mailbox/Supertracs (SNA) as an SNA LU1RJE remote. The following sample definition illustrates in bold-faced type those parameters that are mandatory and constant for correct communication.

```
*OPTIONS
            APPLID=SUPTRACS
            VTAM=YES
            .
            .
            .
            .
*******************************************
** Define the remote
*******************************************
*REMOTE
            .
            .

NAME=rmtname1     Installation Defined Remote Name
            CONSOLE=YES
            COMPRESS=NO
            MEDIA=CN
            DISCINTV=60
            BLKSIZE=256

            .
            .
            .
*******************************************
** Sample connect
*******************************************

*CONNECT
            .
            .

LISTNAME=listname
            TYPE=LU1RJE
            ACSESS#=1
            DISCINTV=30
            RETRY=2
            MAXRMT#=1

                   rmtname1 MEDIA=CN
            .
            .
            .
```

Communicate with Connect:Mailbox/Supertracs (SNA) (Leased)

This section describes Gentran:Server and its requirements for communication with Connect:Mailbox/Supertracs (SNA) over a leased line, VTAM, and NCP, including a sample implementation of a session between Connect:Mailbox/Supertracs (SNA) and Gentran:Server. Step-by-step instructions are provided in an easy to follow script.

Requirements Checklist

- ✓ _____ Ensure that Connect:Mailbox/Supertracs (SNA) Version 3 Release 01 or above is installed on the mainframe. Lower versions result in a sense code 0801 and shows INVALID SESSION PARMS in a SNAP dump.

- ✓ _____ FAX the Connect:Mailbox/Supertracs (SNA) to Gentran:Server Requirements and the VTAM/NCP Definition Requirements to the host systems programmer responsible for Connect:Mailbox/Supertracs (SNA) implementation.

- ✓ _____ Ensure that Gentran:Server is defined as a remote to Connect:Mailbox/Supertracs (SNA) using the Connect:Mailbox/Supertracs (SNA) to Gentran:Server Requirements as a guideline and the VTAM/NCP Definition Requirements.

Obtain the following from the mainframe systems programmer responsible for VTAM definitions:

- ✓ _____ The LU local address in hex is _____.
  This is used in the Gentran:Server Local Address field of the Communication Profile panel (EDIX401-FMT04). This field uniquely identifies the Gentran:Server session and cannot be in use by any other iSeries communication product (like RJE).

- ✓ _____ The Connect:Mailbox/Supertracs (SNA) application ID is _____.
  This is used in the Application ID field of the Communication Profile panel EDIX401-FMT04.

- ✓ _____ The Mainframe Exchange ID is _____.
  This is used in the Exchange ID field of the Communication Profile panel (EDIX401-FMT04) only if a *new* communication line or a dial line is used. If an existing leased communication line is used, put **05600000**.

- ✓ _____ The Mainframe SSCP ID is _____.
  This is used in the SSCP ID field of the Communication Profile panel (EDIX401-FMT04) only if a *new* communication line or a dial line is used. If an existing leased communication line is used, put **050000000000**.

- ✓ _____ The Station address in hex is _____.
  This is used in the Station Address field of the Communication Profile panel (EDIX401-FMT04).

- ✓ _____ The maximum RU size is _____.
  This is used in the Max RU Size field of the Communication Profile panel (EDIX401-FMT04). This value is either **256**, **512**, **1024**, or **2048**.This value should also match the BLKSIZE parameter in the Connect:Mailbox/Supertracs (SNA) Options Definition.

VTAM Mode Table Entry to Support a Gentran:Server Session with Connect:Mailbox/Supertracs (SNA) on the Mainframe

```
STCS400     MODEENT LOGMODE=STCS400,                          *
            FMPROF=X'03',TSPROF=X'03',                        *
            PRIPROT=X'B1',SECPROT=X'A3',COMPROT=X'7080',      *
            RUSIZES=X'8686',                                  *
            PSERVIC=X'01102000F100E00000010040'
MODEEND
```

The RUSIZE is compatible with the BLKSIZE parameter in the Connect:Mailbox/Supertracs (SNA) options definition:

RUSIZE	BLKSIZE
8585	256
8686	512
8989	4096

This example requires 512 byte BLKSIZE, thus a RUSIZE of 8686.

VTAM USS Table Entry to Support a Gentran:Server Session with Connect:Mailbox/Supertracs (SNA) on the Mainframe

Gentran:Server for iSeries sends the following logon command:

```
LOGON APPLID(applid)
```

applid is supplied within the OS/400 device description. Because logon data accompanies the logon to Connect:Mailbox/Supertracs (SNA) on the mainframe, a USS table entry in VTAM is created. The following is a sample USS table entry to logon to Connect:Mailbox/Supertracs (SNA) on the mainframe as *remote name*.

```
LOGON       USSCMD    CMD=LOGON,REP=LOGON,FORMAT=PL1
USSPARM     PARM=APPLID,DEFAULT=SUPTRACS
USSPARM     PARM=DATA,DEFAULT=remote name
USSMSG      MSG=10,SUPP=ALWAYS
```

The *remote name* matches a valid Connect:Mailbox/Supertracs (SNA) remote name as defined in the Connect:Mailbox/Supertracs (SNA) Option Definition File.

Sample NCP LU Definition

Add an LU definition for each concurrent session required with Gentran:Server.

```
luname      LU   LOCADDR=localaddr,            *
            DLOGMOD=STCS400,                   *
            USSTAB=usstable
```

Gentran:Server Remote Definition

Gentran:Server is defined to Connect:Mailbox/Supertracs (SNA) as an SNA LU1RJE remote.

```
*OPTIONS
            APPLID=SUPTRACS
            VTAM=YES
            .
            .
            .
            .
*******************************************************
** Define the remotes
*******************************************************
*REMOTES
            .
            .
            NAME=rmtname1                       Installation Defined Remote Name
                   CONSOLE=YES
                   COMPRESS=NO
                   MEDIA=CN
                   DISCINTV=60
                   BLKSIZE=512
            .
            .
            .
*******************************************************
** Sample connect
*******************************************************
*CONNECT
            .
            .
            LISTNAME=listname
                   TYPE=LU1RJE
                   ACSESS#=1
                   DISCINTV=30
                   RETRY=2
                   MAXRMT#=1
                                               rmtname1 MEDIA=CN
            .
            .
            .
```

Customize the Line/Controller/Device Settings

1. From the Work with Communications panel (EDIX400-FMT01), type **11** in the Option field next to the SNDPO Profile ID. The Communication Line/Controller/Device panel (EDIX819-FMT01) appears as shown in Figure 7.5.

   In that description names are created by the system, you do not want a new line and controller, since an existing leased line in place. However, you need to make some changes on this screen before continuing.

   Panel EDIX819-FMT01 shows the line, controller, and device description names that are used. These are overridden, and for this test (because you are using an existing leased line), you want to change three items before updating the definitions.

2. Change the Create Line/Controller field from Y to **N**.

3. Change the Line Name field to the name of the existing SNA line that you intend to use.

4. Change the Controller Name field name to the name of the existing controller that you intend to use for Gentran:Server sessions.

5. Press **F10** (Update) to update the definitions.

   If for some reason, an error occurs, look at the job log to determine the specific information or reasons. A common error, for example, might be creating a new device description with a LOCADDR that is already in use by an existing device. The iSeries does *not* allow duplicate LOCADDRs on a single controller.

```
EDIX819              Communication Line/Control/Device           EDI  03/01/06
FMT01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  SNDPO
Company. . . . . . . . . . . . . .  Send PO Data to Headquarters

Create Line/Controller . . . . . .  Y
Line Name. . . . . . . . . . . . .  SNDPOLN
Controller Name. . . . . . . . . .  SNDPOCT
Device Name. . . . . . . . . . . .  SNDPODV
Remote Location. . . . . . . . . .  SNDPO




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 7.5 Communication Line/Controller/Device panel (EDIX819-FMT01)

Communicate with JES2 SNA

The following section describes JES2 communicating with Gentran:Server for iSeries when using an SNA LU1 protocol.

Included in this section is a sample implementation of a session between JES2 SNA and Gentran:Server. Step-by-step instructions are provided in an easy to follow script.

Requirements Checklist

✓ _____ FAX the JES2 and the VTAM/NCP Definition Requirements to the host systems programmer responsible for JES2 implementation.

✓ _____ Ensure that Gentran:Server is defined as a remote to JES2 using the JES2 Definition Requirements guidelines and the VTAM/NCP Definition Requirements.

Obtain the following information from the mainframe systems programmer responsible for VTAM definitions:

✓ _____ The LU local address in hex is _____.
This is used in the Local Address field of the Communication Profile panel (EDIX401-FMT04). This field uniquely identifies the Gentran:Server session and cannot be in use by any other iSeries communication product (like RJE).

✓ _____ The JES2 application ID is _____.
This is used in the Application ID field of the Communication Profile panel (EDIX401-FMT04).

✓ _____ The Mainframe Exchange ID is _____.
This is used in the Exchange ID field of the Communication Profile panel (EDIX401-FMT04) only if a *new* communication line or a dial line is used. If an existing leased communication line is used, put **`05600000`**.

✓ _____ The Mainframe SSCP ID is _____.
This is used in the SSCP ID field of the Communication Profile panel (EDIX401-FMT04) only if a *new* communication line or a dial line is used. If an existing leased communication line is used, put **`050000000000`**.

✓ _____ The Station address in hex is _____.
This is used in the Station Address field of the Communication Profile panel (EDIX401-FMT04).

✓ _____ Maximum RU size _____.
This is used in the Max RU Size field of the Communication Profile panel (EDIX401-FMT04). This value is either **`256`**, **`512`**, **`1024`**, or **`2048`**.

VTAM/NCP Definition Requirements

The following section contains information pertaining to VTAM mode table entry, VTAM USS table entry, NCP LU definition, and JES2 definition requirements.

VTAM Mode Table Entry

```
STCS400     MODEENT LOGMODE=STCS400,                          *
            FMPROF=X'03',TSPROF=X'03',                        *
            PRIPROT=X'B1',                                    *
            SECPROT=X'A3',                                    *
            COMPROT=X'7080',                                  *
            RUSIZES=X'8585',                                  *
            PSERVIC=X'01102000F100E00000010040'
MODEEND
```

VTAM USS Table Entry

The Gentran:Server product sends the following logon command:

```
LOGON APPLID(applid)
```

applid is supplied within the Gentran:Server profile description. Because logon data accompanies the logon to JES2 on the mainframe, a USS table entry in VTAM is created. The following is the required USS table entry to logon to JES2 on the mainframe as *remote name*:

```
LOGON   USSCMD   CMD=LOGON,REP=LOGON,FORMAT=PL1
        USSPARM  PARM=APPLID,DEFAULT=JES2
        USSPARM  PARM=DATA,DEFAULT=remote name
        USSMSG   MSG=10,SUPP=ALWAYS
```

The *remote name* MUST match a valid JES2 remote name as defined in the JES2 start-up parameters.

NCP LU Definition

Add an LU definition for each concurrent session required with Gentran:Server.

```
luname      LU     LOCADDR=localaddr,                    *
            DLOGMOD=STCS400,                             *
            USSTAB=usstable
```

JES2 Definition Requirements

For Gentran:Server to communicate correctly with JES2 on the mainframe using an SNA LU0/LU1 protocol, the remote definition must be correct.

Gentran:Server is defined to JES2 as an "SNA RJE remote". In the following sample definition, those parameters that are mandatory and constant for correct communication are shown in bold-faced type. Those values not in bold are recommended but not required. The value *nnnn* represents the installation defined remote number.

```
*****************************************************
*           Remote definition for Gentran:Server
*****************************************************
RMTnnnn     LUTYPE1,
            NOCMPCT,
            NOCOMP,
            NOCON,
            SETUPMSG,
            SETUPINF,
            NUMRD=1,
            NUMPU=1,
            NUMPR=1,
            BUFSIZE=256,
            DISCINTV=64
Rnnnn.PR1   NOSEP,NOSUSPND,
            PRWIDTH=133,
            WS=(W,R,Q,PMD,LIM,F/P)
Rnnnn.RD1   CLASS=job class
Rnnnn.PU1   NOSEP,NOSUSPND
```

Gentran:Server Profile Sample

When defining a Profile ID for JES2 SNA within Gentran:Server, use the following procedure to create a manual dial-up definition.

1. From the Work with Communication panel (EDIX400-FMT01), type **2** in the Option field next to the JES2 Profile ID and press **Enter**.

2. When the panel EDIX401-FMT01 appears, press **Enter**. The basic view, panel EDIX401-FMT05 or extended view, panel EDIX401-FMT04 of the Communication Profile panel appears.

3. Press F2 (More/Less) to see the extended view of panel EDIX401-FMT04 as shown in Figure 7.6.

```
EDIX401                    Communication Profile                 EDI 03/01/06
FMT04                               SNA                            12:00:00

Comm Profile ID. . . . .  JES2
Company. . . . . . . . .  Generic Manufacturing Headquarters

Modem Port . . . . . . .  LIN021            Retries. . . . . . . .  01
Switched Line. . . . . .  Y (Y/N)           Auto Dial. . . . . . .  N
Auto Call Unit . . . . .  N                 Auto Call Port . . . .
Dial . . . . . . . . . .  19166355555
Inactivity Timer . . . .  030               Duplex . . . . . . . .  *FULL
Remote Network ID. . . .  *NONE             Remote Cntl Point. . .
Exchange Id. . . . . . .  05698703
SSCP Id. . . . . . . . .  05F0F0F9F9F8
Local Address. . . . . .  02
Station Address. . . . .  C2
Application ID . . . . .  JES2
Record Size. . . . . . .  0080              Max Ru Size. . . . . .  0256
Separate Files . . . . .  N (Y/N)
Wrap Data Flag . . . . .  Y (Y/N)           Remote Cmd Password. .  *NONE


F1=Help  F2=More/Less  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 7.6 Extended View of Communication Profile panel (EDIX401-FMT04)

Gentran:Server Script Sample

When defining a communication session control script for JES2 SNA within Gentran:Server, use the following procedures to create a basic script as outlined in Examples 1, 2, and 3.

Example 1

This first example shows how to receive an unknown number of files and separate print and punch data. Punch data is placed on the Inbound Queue and print data is sent to the spool.

To access the Communication Session Control panel (EDIX403-CTL01), execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the JES2 Profile ID and press **Enter**. The Work with Communication Session panel (EDIX402-FMT01) panel appears.

2. On panel EDIX402-FMT01, type **2** in the Option field next to RA and press **Enter**. The Communication Session Control panel (EDIX403-CTL01) appears as shown in Figure 7.7.

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  JES2
Session Name . . . . . . . . . . .  RA
Company. . . . . . . . . . . . . .  Generic Manufacturing Headquarters

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind  Description
__    10    C    JR  _________    2   SEND JES SIGNON RECORD
/*SIGNON    RMTXXXX        PASSWRD
__    50    R    JR  _________    8   RECV DATA TO SPOOL/INQUE
__    60    C    __  _________    2   SEND JES2 SIGNOFF RECORD
/*SIGNOFF
__   ___    _    __  _________    _   ____________________________________
__   ___    _    __  _________    _   ____________________________________
                                                                      More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 7.7 Communication Session Control panel (EDIX403-CTL01)

Example 2

This example shows how to send data from the Outbound Queue along with the JCL necessary to process data on the host.

To access the Communication Session Control panel (EDIX403-CTL01), execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the JES2 Profile ID. The Work with Communication Session panel (EDIX402-FMT01) appears.

2. On panel EDIX402-FMT01, type **2** in the Option field next to SO. The Communication Session Control panel (EDIX403-CTL01) appears as shown in Figure 7.8.

```
EDIX403                Communication Session Control             EDI  03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  JES2
Session Name . . . . . . . . . . .  SO
Company. . . . . . . . . . . . . .  Generic Manufacturing Headquarters

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10    C    __ __________   2  SEND JES2 SIGNON RECORD
/*SIGNON               RMTXXXX      PASSWRD
__     20    S    OF  JES2JCL     0  SEND JCL TO RUN JOB FROM QUEUE
__     30    S    __  OQ          0  SEND DATA FROM OUTQUEUE
__     40    C    __ __________   1  SEND ENDING JCL REC
//
__     60    C    __ __________   2  SEND JES2 SIGNOFF RECORD
/*SIGNOFF
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 7.8 Communication Session Control panel (EDIX403-CTL01)

Example 3

This third example shows how to combine send and receive steps, in cases where a sequence of receive and send activity is known.

To access the Communication Session Control panel (EDIX403-CTL01), execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the JES2 Profile ID. The Work with Communication Session panel (EDIX402-FMT01) panel appears.

2. On panel EDIX402-FMT01, type **2** in the Option field next to SR. The Communication Session Control panel (EDIX403-CTL01) appears as shown in Figure 7.9.

3. Press **F9** (Fold/Unfold) to view more information.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00
Comm Profile ID. . . . . . . . . .  JES2
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  Generic Manufacturing Headquarters

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   C     __  __________   2  SEND JES2 SIGNON RECORD
/*SIGNON        RMTXXXX       PASSWRD
__     20   S     OF  JES2JCL      0  SEND JCL TO RUN JOB FROM FILE
__     30   S     OQ  __________   0  SEND DATA FROM OUTQUE
__     40   C     __  __________   2  SEND ENDING JCL REC
//
__     50   R     JR  __________   8  RECV DATA TO SPOOL/INQUE

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 7.9 Communication Session Control panel (EDIX403-CTL01)

Chapter

8 SNA LU6.2 Communications Support

NOTE

This feature is an optional add-on product that may be purchased separately.

Introduction

The Communications Module supports SNA LU6.2 APPC communications. Strengths of SNA LU6.2 include:

- Implemented on many platforms, very stable
- Concurrent sharing of a single communications line with other applications
- Improved security
- Transparent and non-transparent data transport in a single session
- Ability to start jobs on a remote system

In addition to providing basic LU6.2 file transfers, the Communications Module includes features that provide additional capabilities and allow you to use a single line on your system to communicate with multiple remote systems. These features include:

- Dynamic scripting is not supported in L62/X62. However, the Evoke function described later in this chapter enables the local system to start communications on the remote system and specify which script will be used by the remote system.
- Remote command support, which allows the remote system to direct the events in the session according to its needs

Operation is supported using both leased and switched lines. Your system can be configured to dial or answer, and use various types of autodialing.

The current L62/X62 Profile types are used for communicating between two iSeries that are both using Gentran:Server. While it is possible that an L62/X62 configuration might communicate with another product or machine type, it is neither implied nor expressed that this is supported.

LU6.2 Configuration

Like the other communication protocols within Gentran:Server, configuring for LU6.2 communications consists of two parts:

1. Create a communication profile.
2. Create a communication session control script.

RECOMMENDATION

It may be easier to copy and customize one of the sample LU6.2 scripts shipped with your copy of Gentran:Server for iSeries Communications Module, rather than creating the profile and script.

NOTE

SEE the “Using Communications” chapter for basic information on creating profiles.

The specifics of creating profiles and scripts for LU6.2 are discussed in the following sections.

Create an L62/X62 profile

The L62/X62 type configurations both use the same programs. The difference between the two is that L62 uses an SDLC line configuration, while X62 uses an X.25 line configuration. With the exception of some configuration parameters, the two profile types require the same setup. The remainder of this document will show no distinction between the two.

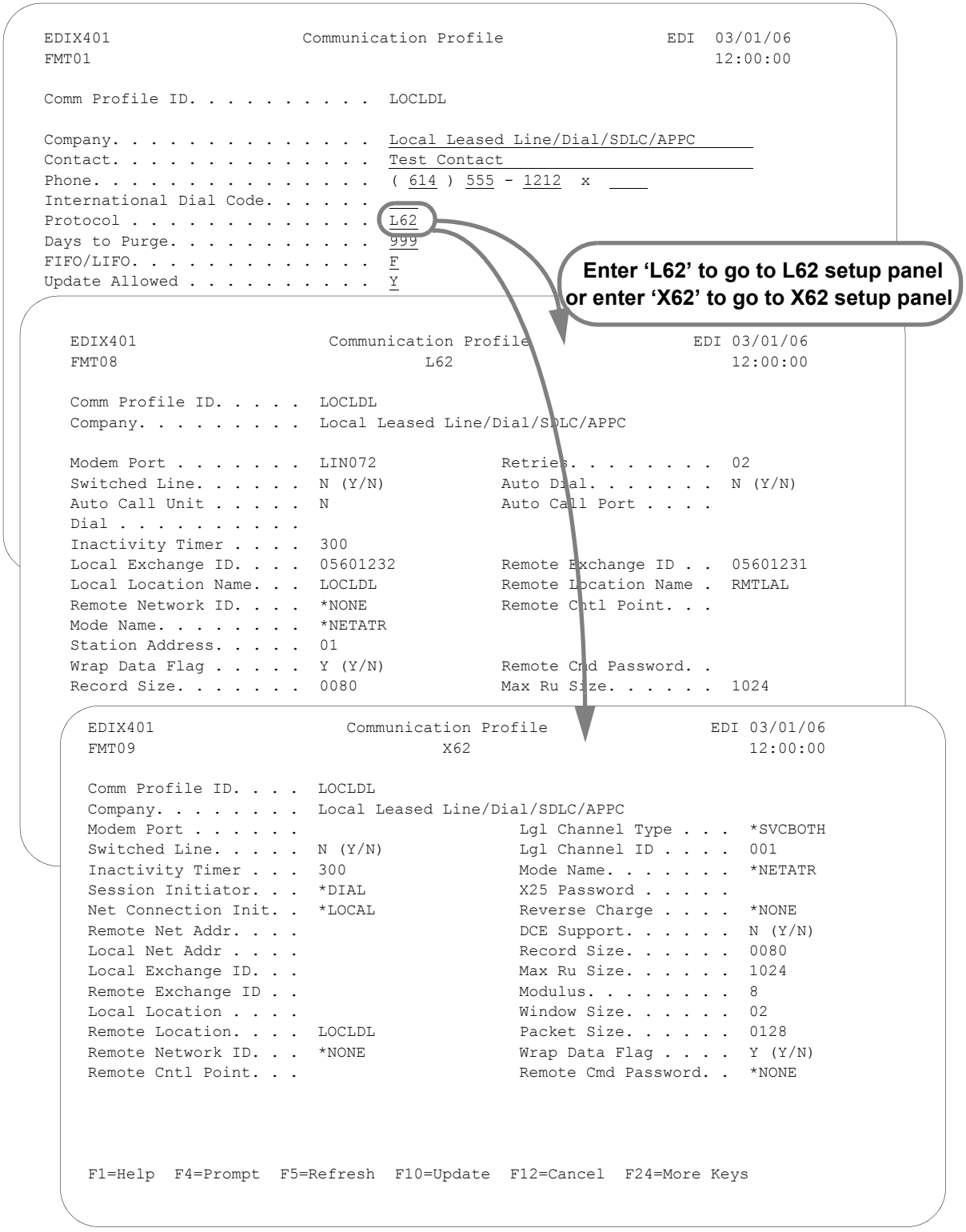


Figure 8.1 LU62 Communication Profile Panels

Complete the panels necessary to configure for L62/X62 communications, as shown in Figure 8.1. For information on any specific field, press **F1** (Help) while the cursor is positioned in the field. (SEE the "Using Communications" chapter for basic information on creating profiles.)

On EDXI401-FMT01, specify **`L62`** or **`X62`** as the Protocol.

For L62, on EDXI401-FMT08, complete the following fields:

- Dial settings: Switched line, Auto-dial, Auto call unit, Auto call port, Phone number

	Dial Settings				
Field Names	**Two-Port Autodial**	**One-Port Non-V.25bis Autodial**	**Manual Dial**	**One-Port V.25bis Autodial**	**Auto Answer**
Switched Line	Y	Y	Y	Y	Y
Auto Dial	Y	Y	N	Y	N
Auto Call Unit	Y	N	N	V	N
Auto Call Port	Include an entry	Leave blank	Leave blank	Leave blank	Leave blank
Phone Number	Include an entry	Include an entry	Include an entry	Include an entry	Leave blank

- Local and Remote Exchange ID
- Local and Remote Location Names
- Mode Name
- Station Address

For X62, complete the following fields on EDXI401-FMT09:

- Dial settings: Switched line, Auto-dial, Auto call unit, Auto call port, Phone number

	Dial Settings				
Field Names	**Two-Port Autodial**	**One-Port Non-V.25bis Autodial**	**Manual Dial**	**One-Port V.25bis Autodial**	**Auto Answer**
Switched Line	Y	Y	Y	Y	Y
Auto Dial	Y	Y	N	Y	N
Auto Call Unit	Y	N	N	V	N
Auto Call Port	Include an entry	Leave blank	Leave blank	Leave blank	Leave blank
Phone Number	Include an entry	Include an entry	Include an entry	Include an entry	Leave blank

- Session Initiator
- Network Connection Initiation
- Window Size
- Packet Size
- Local Network Address
- Remote Network Address
- Local and Remote Exchange ID
- Mode Name

By default, the Communications Module automatically creates the iSeries line, controller, and device descriptions needed using default names. (SEE the “Using Communications” chapter for information about using communications on an existing line and controller, or changing the line, controller, and device names.)

L62/X62 Communication Session Control Scripts

After creating an L62/X62 communication profile, you must provide an appropriate communication session control script. The script will contain any commands necessary to prepare the remote system for file transfer, as well as the steps that transfer the files. The exact contents of the script will be determined by the remote system's requirements and capabilities, and by what you want accomplished using the script.

Create an L62/X62 Script

L62/X62 scripts are created and edited using the same facilities as the other communication types within Gentran:Server for iSeries Communications Module. (SEE the "Using Communications" chapter for basic information about creating scripts.)

An L62/X62 script is coded similarly to scripts for the other protocols supported by the Communications Module. The following list contains all the valid transaction types that are supported by an L62/X62 profile.

Trans	Description	Use
C	Control Record	Used to send a literal from the control data field to the remote system.
R	Receive	Used to receive a file from the remote system to your system
S	Send	Used to send a file from your system to the remote system
D	Data Trap	Used to compare data received to the literal on the control data field
X	Extended Logic	Used to execute an extended logic command
E	Evoke Record	Used to send the Evoke command and parameters to the remote system

NOTE

The exact action performed by any script step is determined by the combination of Transaction type, File type, and Indicator selected. (SEE the "L62/X62 Tables" section later in this chapter for detailed information on valid combinations.)

L62/X62 Script Transactions

C – Control Record

Used to send the literal coded in the Command field to the remote system as an 80-byte record image, followed by the action specified in the Indicator field.

A typical use for this transaction type would be to send a fixed signon record to the remote system, followed by a "change-direction" character.

R – Receive

Used to receive a file from the remote system to your system. By specifying a file type of **IQ**, **IM**, **IF**, **IA**, or **SP**, you can direct the inbound data to the inbound queue, a user-provided file, append to a user-provided file, or write the data to a spool file. The Receive will normally be terminated when the action specified by the Indicator field occurs.

L62/X62 Receive transactions may be combined with File options as follows:

- **R/IQ** Receive to Gentran:Server inbound queue as a single batch
- **R/IM** Receive to Gentran:Server inbound queue, separate multiple batches
- **R/IF** Receive to inbound file provided by user
- **R/IA** Receive and append to inbound file provided by user
- **R/SP** Receive to spool file

For **R/IQ**, all data received will be placed on the Gentran:Server inbound queue as a single batch.

For **R/IM**, multiple files received will be placed on the Gentran:Server inbound queue. Unlike **R/IQ** that creates a single inbound queue batch, `R/IM` indicates that each time a logical file separator of "confirm" is received, the current batch will be marked received normal and closed, and a new inbound queue batch will be opened. `R/IM` will create a single inbound queue batch only if the remote sends a single file, or does not support the separating of logical files by use of the "confirm" indicator as a file separator.

For **R/IF** and **R/IA**, data will be received into the file named by the File field in the Receive step of the script. This file must exist (be pre-allocated) on your iSeries before the communication session is started, and must be accessible via the library list of the job used to conduct the session.

For **R/SP**, all data will be received to a spool file. This file may contain carriage control characters. These characters will be interpreted as described in the Print Control table at the end of this section. If the remote system sends multiple logical files separated by the "confirm" indicator, then as with the `R/IM` transaction, each occurrence of the "confirm" indicator will close the current spool file, and open a new spool for receiving.

When receiving data with any `R` transaction, the command line has a special function. When a literal is entered on the command line, the first record received is compared against the literal. When a match occurs, the Receive step will end with a `no data to be received` condition and execution will continue with the next script step.This is useful if the remote system is capable of sending a message that indicates there is no data to send. This option allows the "no data" message to be received, without having it written to an output file.

S – Send

Used to send a file from your system to the remote system. By specifying File Type **`OQ`**, **`OM`**, or **`OF`**, you can transmit data from the outbound queue or a user-provided file.

SNA/LU0 Send transactions may be combined with File options as follows:

- **`S/OQ`** Send from Gentran:Server outbound queue
- **`S/OM`** Send from Gentran:Server outbound queue, separating multiple batches
- **`S/OF`** Send from outbound file provided by user

For **`S/OQ`**, all eligible data batches on the outbound queue will be transmitted to the remote system as a single file, followed by the action specified in the Indicator field. When a literal is entered in the Command line field, the literal will be sent to the remote system when there are no eligible batches on the outbound queue to send. If no literal is entered in the Command line, then no data will be sent, no action will occur regardless of the Indicator, and execution will continue with the next script step.

For **`S/OM`**, each eligible batch on the outbound queue will be transmitted to the remote system followed by a "confirm" indicator as a file separator. The final outbound queue batch will be followed by the action specified in the Indicator field. If there are no eligible batches to send from the outbound queue, a default message in the form of an 80-byte record will be sent to the remote system followed by the action specified by the Indicator field. The format of the message is:

```
***  ERROR  *** NO BATCHES FOR TRANSMISSION.
```

When a literal is entered in the Command line field, the literal will be sent as an 80-byte record image to the remote system as a file "header" ahead of each batch sent from the outbound queue.

For **`S/OF`**, the iSeries physical file named by the File Name field in the Send step of the script will be transmitted to the remote system, and followed by the action specified in the Indicator field. This file must exist on your iSeries and must be accessible via the library list of the job used to execute the communication session.

D – Data Trap

Used to wait for the literal that is specified in the Command line field of the script step. This can be useful in "trapping" prompts, messages, or commands from the remote system. The data received using this transaction is *not* written to an output file, but is discarded. This can be useful if you wish to discard prompts or messages from the remote system. This transaction is also useful for ensuring a certain message is received as expected, and if not, can abort the communications session depending upon the indicator used. Data trap transactions/Indicator combinations are:

- **D with Indicator zero**. This transaction will compare only the first record received against the Command line literal. If a match occurs, the data trap ends and execution continues with the next script step. When the first record received does not match the Command line literal, the session will ended with a "no-match" error.

NOTE

If the data trap completes with a successful match condition and the data received is followed by additional control characters or data, then the data trap *must* be followed by another Receive type command to process the additional data.

- **D with Indicator other than zero**. This transaction will compare all records received against the Command line literal. If either a match or the specified indicator condition occurs, the data trap ends and execution will continue with the next script step. All records received until the data trap ends are discarded. When a non-zero Indicator is specified, the data trap may end with a "no-match" condition, but will *not* end the session with an error.

NOTE

If the data trap completes with a successful match condition and the data received is followed by additional control characters or data, then the data trap *must* be followed by another Receive type transaction to process the additional data.

X – Extended Script Logic

Used to execute extended script logic commands. The following extended logic keywords are valid for SNA/LU0 communication scripts.

- **`LOOP START`**
- **`LOOP END`**
- **`MATCH`**
- **`INDICATOR`**
- **`GOTO`**

SEE the "Extended Script Logic" section in the "Using Scripts" chapter for detailed information on using Extended Script Logic commands.

E – Evoke Command

Indicates an Evoke record and associated parameters will be sent to the remote system. The transmitting of the Evoke record will start a communications job on the remote system. The Evoke record must be the first record of any session control script that is created. The Evoke record is created by entering panel EDIX43C-FMT01 and providing parameters to indicate the program, its location, and how it is to run on the remote system. (SEE the section "L62/X62 Examples" later in this chapter for detailed information on creating Profiles and session control scripts.)

Start an L62/X62 Communication Session

After creating an appropriate communication profile and script, an SNA/LU0 communication session can be started by using option **30** from the EDIX400-FMT01 panel, the `STRCOMSSN` command, or the job scheduler. (SEE the "Initiating Communication Sessions" section in the "Using Communications" chapter for more information about starting communications sessions.)

X62/L62 Tables

The section contains the following tables:

- Table 8.1: X62/L62 Transaction Codes/Actions
- Table 8.2: X62/L62 Send Indicators
- Table 8.3: X62/L62 Receive Indicators

Table 8.1: X62/L62 Transaction Codes/Actions

Tran Codes	Descriptions	Actions	Valid Indicators
C	Send Control Record	Send Literal from Command Line.	0, 1, 2
D	Receive Control Record	Attempt to match the command line record with a record received from the remote system.	0, 6, 7, 8
E	Send Evoke Record	Send the Evoke Record to start a session on the remote system.	0, 1, 2
S	Send Data	■ OQ – Send from Outbound Queue ■ OM – Send from Outbound Queue as Multiples ■ OF – Send from Outbound File	0, 1, 2
R	Receive Data	■ IQ – Receive data to Inbound Queue ■ IM – Receive data to Inbound Queue as Multiples ■ IF – Receive data to Inbound File ■ IA – Receive data and append to an Inbound File ■ SP – Receive data to Spool Printer File	0, 6, 7, 8

The following table lists the valid Send indicators for use with protocol type L62 (APPC using SDLC) and X62 (APPC using an X.25 line). This table is common to both protocols.

Table 8.2: X62/L62 Send Indicators

Desired Actions	Definitions	Indicators
Send then continue to next step in the script.	Send the record or file with no terminator, read the next script command and continue.	0
Send Followed by confirm request.	Send the record or file followed by a confirm request. This demands that the remote system confirm receipt of the data sent. When a positive confirmation is received from the remote, the next script step is executed. When a negative confirmation is received from the remote, the session will end with an error.	1
Send Followed by a confirm request and a change direction.	Send the record or file followed by a confirm request and a change direction. This demands that the remote system confirm receipt of the data sent, and indicates that you have finished sending and are ready to receive data. When a positive confirmation is received from the remote, the next script step is executed. When a negative confirmation is received from the remote, the session will end with an error.	2

The following table lists the valid Receive indicators for use with protocol type L62 (APPC using SDLC) and X62 (APPC using an X.25 line). This table is common to both protocols.

Table 8.3: X62/L62 Receive Indicators

Desired Actions	Definitions	Indicators
Used to receive with a data trap.	If the first record received matches the data trap record, the trap ends successfully. If the first record received does not match the data trap record, then the data trap fails.	0
Used to force a receive until time expires condition.	A null receive indicator means receive until inactivity time-out occurs.	5
Demands that your system confirm receipt of the data just received.	Receive data until the remote system sends a confirmation request.	6
Change direction.	Receive data until the remote system send change direction indicating they have finished sending and can receive.	7
Normally used as the last step of a script while waiting for the remote system to disconnect.	Receive data until an End-of-Session is received.	8

NOTE

When using a Data-trap (D) command and a zero (0) indicator, the Command Line record compares only the first record received. If a match occurs, the step completes. If the first record received does not match, the data-trap fails, and the session aborts.

NOTE

The iSeries operating system places certain restrictions on the flow of data between 2 machines when using APPC. When a file or record is sent to the remote system, and the send step uses an indicator type **2** (change direction), the user is unable to specify another send step without executing a receive step first. The remote system must send a Change Direction to your system before any additional data can be sent by your system.

LU6.2 via SDLC Examples

NOTE

This feature is an optional add-on product that may be purchased separately.

The following section describes the configuration and execution of L62 protocol support when communicating with Gentran:Server over dial and leased line connections.

Included in this section are examples detailing the specifics of L62 communications.

Overview of Naming Conventions

The L62 communication support provides an SDLC APPC connection to the remote system using an SDLC line configuration. It is assumed that the remote system with which you are communicating is an iSeries system using a Sterling Commerce communication product that supports this connection type.

The following examples, for both dial-up and leased line connections, use a standard naming convention to help illustrate the configuration type in use. The naming convention includes the following:

- System type (local or remote)
- Physical line type (dial-up or leased)
- Session initiation type (dial or answer)
- Protocol type

Naming Convention Parameters

Naming convention adhere to the following rules:

- The first three characters of each Profile ID indicate the system type. A local system definition represents your machine and uses `LOC` as the first three characters in each example, while the remote system definitions use `RMT`.
- The fourth character of each Profile ID represents the type of physical line connection in use. A dial-up line type is represented by the character `D` while a leased line is represented by the character `L`.
- The fifth character of each Profile ID represents the session initiation type. The character `D` indicates that you are the “dialer” and are initiating the session. The character `A` indicates that you “answer” (wait for the Remote System to initiate the session with your system).
- The sixth character of each Profile ID represents the protocol type of LU62 (L).

Configuration Examples

The examples include all parameters used in building the Profile ID, the Session Scripts, and the Evoke record. Each example has been tested to ensure accuracy.

There are currently two pairs of configuration examples. These are the most common L62 configurations, and should be useful for most environments.

Each example contains a configuration defining the local system parameters and a configuration defining the remote system parameters.

Example 1

- **LOCLDL —** Local system configured for leased line, initiate the connection (dial), SDLC APPC protocol in use
- **RMTLAL —** Remote system configured for leased line, answer incoming calls initiated by another system, SDLC APPC protocol in use

Example 2

- **LOCDDL —** Local system configured for dial-up, initiate the connection, SDLC/APPC
- **RMTDAL —** Remote system configured for dial-up line, answer incoming calls initiated by another system, SDLC/APPC

LU6.2 via SDLC, Example 1

Example 1: Create a Profile for the Local System

This example uses the following profiles:

- **LOCLDL** — Local system configured for leased line, initiate the connection (dial), SDLC APPC protocol in use
- **RMTLAL** —Remote system configured for leased line, answer incoming calls initiated by another system, SDLC APPC protocol in use

To create the profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.2.
3. Because you are creating a new profile, type **LOCLDL** in the Profile ID field.
4. Type **1** in the Option field next to the LOCLDL Profile ID, then press **Enter**.

```
EDIX400                  Work with Communications              EDI  03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   LOCLDL
__   ATTEASY     AT&T EASYLINK SERVICES
__   ATTUK       AT&T IN THE UNITED KINGDOM
__   AUTOANS     TEST AUTOANSWER CONFIG
__   BSCRMT      Test for BSC REMOTE
__   BTASC       BT UK GNS EDI*NET ASYNC
__   BTUK        BT UK GNS EDI*NET BISYNC
__   BTXAS       BT UK GNS EDI*NET ASYNC VIA X.25
__   CHRY        CHRYSLER   CTX MAILBOX
__   CHRY480     CHRYSLER - 830, 861, 862
                                                                      More...
Parameters or command
===>_____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.2 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, as shown in Figure 8.3, and it displays Local Leased Line/Dial/SDLC/ APPC information

5. Fill in the necessary information and press **Enter** to see the next panel.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                               12:00:00
Comm Profile ID. . . . . . . . . .  LOCLDL

Company. . . . . . . . . . . . . .  Local Leased Line/Dial/SDLC/APPC
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  L62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.3 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) appears.

6. Enter the data into appropriate fields, as shown in Figure 8.4, and press **F10** (Update) to update the protocol information for this profile. The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT08                              L62                              12:00:00

Comm Profile ID. . . . .  LOCLDL
Company. . . . . . . . .  Local Leased Line/Dial/SDLC/APPC

Modem Port . . . . . . .  LIN072              Retries. . . . . . . .  02
Switched Line. . . . . .  N (Y/N)             Auto Dial. . . . . . .  N (Y/N)
Auto Call Unit . . . . .  N                   Auto Call Port . . . .
Dial . . . . . . . . . .
Inactivity Timer . . . .  300
Local Exchange ID. . . .  05601232            Remote Exchange ID . .  05601231
Local Location Name. . .  LOCLDL              Remote Location Name .  RMTLAL
Remote Network ID. . . .  *NONE               Remote Cntl Point. . .
Mode Name. . . . . . . .  *NETATR
Station Address. . . . .  01
Wrap Data Flag . . . . .  Y (Y/N)             Remote Cmd Password. .  *NONE
Record Size. . . . . . .  0080                Max Ru Size. . . . . .  1024



F1=Help  F12=Cancel  F13=Services  F24=More Keys
```

Figure 8.4 Communication Profile panel (EDIX401-FMT08)

Example 1: Create the Session Script for the Local System

At this point, you have created an LOCLDL L62 profile with the correct communication characteristics, but you still need to define how the conversation between the remote system and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the "LOCLDL" Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.5.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDL
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/SDLC/APPC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   E     __  __________  0  SEND EVOKE RECORD TO RMT SYSTM
_____________________________________________________________________________
__     20   C     __  __________  2  SEND AWAITING READY MSG
AWAITING READY STATUS
_____________________________________________________________________________
__     30   R     SP  __________  7  RECV EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
_____________________________________________________________________________
__     40   S     OQ  __________  1  SEND DATA FROM OUTQUEUE
_____________________________________________________________________________
__     60   C     __  __________  0  END THE SESSION
$$EOS
_____________________________________________________________________________

                                                                       More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.5 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)

4. Complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Please note the `$$EOS` (end-of-session) literal in the last script record on panel EDIX403-CTL01. This is the syntax used to end the session if the session is initiated by your local system. The remote system is aware that you end the session. If both systems attempt to use the `$$EOS` command, an error occurs.

If the script contains an Evoke (E type) record when the record is added, you are automatically taken to the Communication Evoke panel (EDIX43C-FMT01), as shown in Figure 8.6, to complete the creation of the evoke record.

6. After completing the Evoke record, press **F10** (Update). Once the Evoke record is properly created on panel EDIX43C-FMT01, you only need to update it when revisions are necessary.

CAUTION

You ***must*** press **F10** before leaving panel EDIX43C-FMT01 or the system will not save your work and the Evoke record and the script you created will not be usable.

```
EDIX43C                    Communication Evoke                  EDI 03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDL
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/SDLC/APPC

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RECV62
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *NO
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR









F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 8.6 Communication Evoke panel (EDIX43C-FMT01)

You now have a Profile ID LOCLDL and a session script named `T1` that you can use to begin communications. You want the send all data for the LOCLDL profile to the remote system. When the system executes a communication job using this profile and script name, Gentran:Server initiates a LU6.2 session with the remote system and sends its data from the Outbound Queue. After completing the script, the communication job ends.

Revise the Evoke Record

If you need to revise an existing Evoke record, execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the LOCLDL Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **2** in the Option field next to T1 in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F13** (Services), and a Service Menu window appears.
4. In the Service field, type **1** for Communication Evoke and press **Enter**.

   The Communication Evoke panel (EDIX43C-FMT01) appears and displays the current contents of the Evoke record. You may now make any necessary changes.

Example 1: Create a Profile for the Remote System

To create the remote profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.7.
3. Because you are creating a new profile, type **RMTLAL** in the Profile ID field.
4. Type **1** in the Option field next to the RMTLAL Profile ID and press **Enter**.

```
EDIX400                    Work with Communications              EDI  03/01/06
FMT01                 pgmlib: G3X4PGM   dtalib:G3X4DTA                12:00:00

Position to Profile ID . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   RMTLAL
     CNBTASC     COMMERCE:Network via BT Async Pad
     CN2BSC      COMMERCE:Network RELEASE 2
     CN3BSC      COMMERCE:Network RELEASE 3
     CN3SNA      COMMERCE:Network RELEASE 3
     REDINET     CONTROL DATA / REDINET NETWORK
     RMTDAA      Remote Dial Line/Answer/ASYNC
     RMTDAL      Remote Dial Line/Answer/SDLC/APPC
     RMTDAN      Remote Dial/Answer/No X25 Network

                                                                      More...
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.7 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Remote Leased-line/answer/SDLC/ APPC information.

5. Fill in the panel with the data displayed in Figure 8.8 and press **Enter.**

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  RMTLAL

Company. . . . . . . . . . . . . .  Remote Leased-line/answer/SDLC/APPC
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  L62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.8 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) appears.

6. Enter the data, as shown in Figure 8.9, into appropriate fields.
7. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile.

   The system returns you to panel EDIX400-FMT01, and the message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT08                               L62                             12:00:00

Comm Profile ID. . . . .  RMTLAL
Company. . . . . . . . .  Remote Leased-line/answer/SDLC/APPC

Modem Port . . . . . . .  LIN031            Retries. . . . . . . .  02
Switched Line. . . . . .  N (Y/N)           Auto Dial. . . . . . .  N (Y/N)
Auto Call Unit . . . . .  N                 Auto Call Port . . . .  _______
Dial . . . . . . . . . .  ____________________________________
Inactivity Timer . . . .  300
Local Exchange ID. . . .  05601231          Remote Exchange ID . .  05601232
Local Location Name. . .  RMTLAL            Remote Location Name .  LOCLDL
Remote Network ID. . . .  *NONE             Remote Cntl Point. . .  _______
Mode Name. . . . . . . .  *NETATR
Station Address. . . . .  01
Wrap Data Flag . . . . .  Y (Y/N)           Remote Cmd Password. .  *NONE
Record Size. . . . . . .  0080              Max Ru Size. . . . . .  1024



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.9 Communication Profile panel (EDIX401-FMT08)

Example 1: Create the Session Script for the Remote System

At this point, you have created an RMTLAL L62 profile with the correct communication characteristics, but you still need to define how the conversation between LU62, via SDLC, and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the RMTLAL Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.10.

```
EDIX403                Communication Session Control             EDI  03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  RMTLAL
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Remote Leased-line/answer/SDLC/APPC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    10   R    SP  __________  7  RECV AWAITING READY MSG
AWAITING READY STATUS
__    20   C    __  __________  2  SEND EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
__    30   R    IQ  __________  7  RECV TEST DATA TO INB QUEUE
__    40   R    SP  __________  8  RECV TILL END-OF-SESSION, QUIT
__    ___  _    __  __________  _  ____________________________________

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.10 Unfolded View of Communication Session Control panel (EDIX403-CTL01)

4. Complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Please note that the local system initiates the session to the remote system, and the remote system requires *no evoke record creation*. Also note that the local and remote location names and exchange IDs appear in the opposite order (local vs. remote) between the two systems.

You now have a Profile ID RMTLAL and a session script named T1 that you can use to begin communications. You want the RMTLAL profile to receive all data to the Inbound Queue. When the system executes a communication job using this profile and script name, Gentran:Server waits for a session to be initiated with the remote system using LU6.2 via SDLC and receives its data to the Inbound Queue.

LU6.2 via SDLC, Example 2

Example 2: Create a Profile for the Local System

This example uses the following profiles:

- **LOCDDL –** Local system configured for dial-up, initiate the connection, SDLC/APPC
- **RMTDAL –** Remote system configured for dial-up line, answer incoming calls initiated by another system, SDLC/APPC

To create the profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.11.
3. Because you are creating a new profile, type **LOCDDL** in the Profile ID field.
4. Type **1** in the Option field next to the LOCDDL Profile ID; then press **Enter**.

```
EDIX400                  Work with Communications              EDI  03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   LOCDDL
 __  IBMLU0      IBM INFORMATION NETWORK SDLC
 __  IBMSNA      IBM INFORMATION NETWORK SDLC
 __  INS         INTERNATIONAL NETWORK SERVICES
 __  INSNTEL     TEST X.25 N. TELECOM (IRL) TO INS
 __  JES2        Generic Manufacturing Headquarters
 __  KLEIN       KLEINSCHMIDT NETWORK
 __  LOCDAA      Test ASC Answer with AT commands
 __  LOCDDA      Local Dial Line/Dial/ASYNC

                                                                    More...
Parameters or command
===> ____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.11 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Local Dial Line/Dial/SDLC/ APPC information

5. Fill in the panel with the data displayed in Figure 8.12 and press **Enter**.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00
Comm Profile ID. . . . . . . . . .  LOCDDL

Company. . . . . . . . . . . . . .  Local Dial Line/Dial/SDLC/APPC
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  L62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.12 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) appears.

6. Enter the data, as shown in Figure 8.13, into the appropriate fields.
7. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile.

   The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                 EDI 03/01/06
FMT08                               L62                             12:00:00

Comm Profile ID. . . . .  LOCDDL
Company. . . . . . . . .  Local Dial Line/Dial/SDLC/APPC

Modem Port . . . . . . .  LIN072              Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)            Auto Dial. . . . . . .  Y (Y/N)
Auto Call Unit . . . . .  V                  Auto Call Port . . . .
Dial . . . . . . . . . .  5551212
Inactivity Timer . . . .  300
Local Exchange ID. . . .  05601232           Remote Exchange ID . .  05601231
Local Location Name. . .  LOCDDL             Remote Location Name .  RMTDAL
Remote Network ID. . . .  *NONE              Remote Cntl Point. . .
Mode Name. . . . . . . .  *NETATR
Station Address. . . . .  01
Wrap Data Flag . . . . .  Y (Y/N)            Remote Cmd Password. .  *NONE
Record Size. . . . . . .  0080               Max Ru Size. . . . . .  1024



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.13 Communication Profile panel (EDIX401-FMT08)

Example 2: Create the Session Script for the Local System

At this point, you have created an LOCDDL L62 profile with the correct communication characteristics, but you still need to define how the conversation between the remote system and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the LOCDDL Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.14.

```
EDIX403                Communication Session Control             EDI  03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . . LOCDDL
Session Name . . . . . . . . . . . T1
Company. . . . . . . . . . . . . . Local Dial Line/Dial/SDLC/APPC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   E     __  __________  0  SEND EVOKE RECORD TO RMT SYSTM
_____________________________________________________________________________
__     20   C     __  __________  2  SEND AWAITING READY MSG
AWAITING READY STATUS
_____________________________________________________________________________
__     30   R     SP  __________  7  RECV EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
_____________________________________________________________________________
__     40   S     OF  SNDFIL.X12  1  SEND A TEST FILE
_____________________________________________________________________________
__     60   C     __  __________  0  END THE SESSION
$$EOS
_____________________________________________________________________________

                                                                       More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.14 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)

4. Complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Please note the $$EOS (end-of-session) literal in the last script record on panel EDIX403-CTL01. This is the syntax used to end the session if the session is initiated by your local system. The remote system is aware that you end the session. If both systems attempt to use the $$EOS command, an error occurs.

If the script contains an Evoke (E type) record when the record is added, you are automatically taken to the Communication Evoke panel (EDIX43C-FMT01), as shown in Figure 8.15, to complete the creation of the evoke record.

6. After completing the Evoke record, press **F10** (Update). Once the Evoke record is properly created on panel EDIX43C-FMT01, you only need to update it when revisions are necessary.

CAUTION

You ***must*** press **F10** before leaving panel EDIX43C-FMT01 or the system will not save your work and the Evoke record and the script you created will not be usable.

```
EDIX43C                        Communication Evoke                EDI 03/01/06
FMT01                                                                 12:00:00

Comm Profile ID . . . LOCDDL
Session Name  . . . . T1
Company . . . . . . . Local Dial Line/Dial/SDLC/APPC

Library Name . . . . . . . . . G7X0PGM
Program Name . . . . . . . . . STRCOM62
Profile to Evoke . . . . . . . RMTDAL
Session to Evoke . . . . . . . T1
Trace *YES or *NO. . . . . . . *YES
User ID. . . . . . . . . . . . QPGMR
Password . . . . . . . . . . . QPGMR









F1=Help  F4=Prompt  F5=Refresh  F10=Update   F12=Cancel
```

Figure 8.15 Communication Evoke panel (EDIX43C-FMT01)

You now have a Profile ID LOCDDL and a session script named `T1` that you can use to begin communications. You want the LOCDDL profile to send all data to the remote system. When the system executes a communication job using this profile and script name, Gentran:Server initiates a session with LU6.2 via SDLC and sends its data from the Outbound Queue. After completing the script, and in this case after sending the data, the communication job stops.

Revise the Evoke Record

If you need to revise an existing Evoke record, execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the LOCDDL Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **2** in the Option field next to T1 in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F13** (Services), and a Service Menu window appears.
4. In the Service field, type **1** for Communication Evoke and press **Enter**. The Communication Evoke panel (EDIX43C-FMT01) appears and displays the current contents of the Evoke record. You may now make any necessary changes.

Example 2: Create a Profile for the Remote System

To create the remote profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.16.
3. Because you are creating a new profile, type **RMTDAL** in the Profile ID field.
4. Type **1** in the Option field next to the RMTDAL Profile ID and press **Enter**.

```
EDIX400                   Work with Communications              EDI  03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1    RMTDAL
 __   CNBTASC     COMMERCE:Network via BT Async Pad
 __   CN2BSC      COMMERCE:Network RELEASE 3
 __   CN3BSC      COMMERCE:Network RELEASE 3
 __   CN3SNA      COMMERCE:Network RELEASE 3
 __   REDINET     CONTROL DATA / REDINET NETWORK
 __   RMTDAA      Remote Dial Line/Answer/ASYNC
 __   RMTDAN      Remote Dial/Answer/No X25 Network
 __   RMTLAL      Remote Leased-line/answer/SDLC/APPC
                                                                    More...
Parameters or command
===> ____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.16 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Remote Dial Line/Answer/SDLC/APPC information

5. Fill in the panel with the data displayed in Figure 8.17 and press **Enter**.

```
EDIX401                  Communication Profile                EDI  03/01/06
FMT01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  RMTDAL

Company. . . . . . . . . . . . . .  Remote Dial Line/Answer/SDLC/APPC
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  L62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y




F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.17 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) appears.

6. Enter the data, shown in Figure 8.18, into appropriate fields.
7. Once the field are filled, press **F10** (Update) to update the protocol information for this profile. The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                   Communication Profile                EDI 03/01/06
FMT08                              L62                            12:00:00

Comm Profile ID. . . . .  RMTDAL
Company. . . . . . . . .  Remote Dial Line/Answer/SDLC/APPC

Modem Port . . . . . . .  LIN031            Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)           Auto Dial. . . . . . .  N (Y/N)
Auto Call Unit . . . . .  N                 Auto Call Port . . . .  _______
Dial . . . . . . . . . .  ____________________________________
Inactivity Timer . . . .  300
Local Exchange ID. . . .  05601231          Remote Exchange ID . .  05601232
Local Location Name. . .  RMTDAL            Remote Location Name .  LOCDDL
Remote Network ID. . . .  *NONE             Remote Cntl Point. . .  _______
Mode Name. . . . . . . .  *NETATR
Station Address. . . . .  01
Wrap Data Flag . . . . .  Y (Y/N)           Remote Cmd Password. .  *NONE
Record Size. . . . . . .  0080              Max Ru Size. . . . . .  1024




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
F3 not valid at this time.
```

Figure 8.18 Communication Profile panel (EDIX401-FMT08)

Example 2: Create the Session Script for the Remote System

At this point, you have created an RMTDAL L62 profile with the correct communication characteristics, but you still need to define how the conversation between the remote system and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the RMTDAL Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.19.

   F9 allows you to enter additional literal data associated with the script transaction. You do not want to embed the command in the data, so incorporate the command as part of the script. When you press **F9**, the panel displays an additional command line for each script line.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00
Comm Profile ID. . . . . . . . . .  RMTDAL
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Remote Dial line/answer/SDLC/APPC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   R    SP  __________  7  RECV AWAITING READY MSG
AWAITING READY STATUS
__     20   C    __  __________  2  SEND EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
__     30   R    IQ  __________  7  RECV TEST DATA TO INB QUEUE
__     40   R    SP  __________  8  RECV TILL END-OF-SESSION, QUIT
__    ___   _    __  __________  _  ____________________________________

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.19 Unfolded View of Communication Session Control panel (EDIX403-CTL01)

4. Complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script. If you press **Enter**, the changes are made and you need to press **F12** (Cancel) to leave the panel. If you press **F10,** changes are made and you exit automatically. If you make a mistake, simply overtype the appropriate lines and press **Enter**.

NOTE

Please note that the local system initiates the session to the remote system, and the remote system requires *no evoke record creation*. Also note that the local and remote location names and exchange IDs appear in the opposite order (local vs. remote) between the two systems.

You now have a Profile ID RMTDAL and a session script named `T1` that you can use to begin communications. You want the RMTDAL profile to receive all data to the Inbound Queue. When the system executes a communication job using this profile and script name, Gentran:Server waits for a session to be initiated with the remote system and receives its data to the Inbound Queue. After completing the script, the communication job ends.

LU6.2 via X.25 Examples

NOTE

This feature is an optional add-on product that may be purchased separately.

The following section describes the configuration and execution of LU6.2 via X.25 protocol support when communicating with Gentran:Server over leased lines and dial-up line connections.

Included in this section are examples detailing the specifics of LU6.2 via X.25 communications.

Overview of Naming Conventions

The X6.2 communication support provides an SDLC APPC connection to the remote system using an X.25 line configuration. It is assumed that the remote system with which you are communicating is an iSeries system using a Sterling Commerce communication product that supports this connection type.

The following examples, for both dial-up and leased line connections, use a standard naming convention to help illustrate the configuration type in use. The naming convention includes the following:

- System type (local or remote)
- Physical line type (dial-up or leased)
- Session initiation type (dial or answer)
- X.25 usage type (X.25 or no X.25)

Naming Convention Parameters

Naming convention adhere to the following rules:

- The first three characters of each Profile ID indicate the system type. A local system definition represents your machine and uses `LOC` as the first three characters in each example, while the remote system definitions use `RMT`.
- The fourth character of each Profile ID represents the type of physical line connection in use. A dial-up line type is represented by the character `D` while a leased line is represented by the character `L`.
- The fifth character of each Profile ID represents the session initiation type. The character `D` indicates that you are the “dialer” and are initiating the session. The character `A` indicates that you “answer” (wait for the Remote System to initiate the session with your system).
- The sixth character of each Profile ID represents whether an X.25 packet switched network is in use. The character `X` indicates that the X.25 network is in use. The character `N` indicates no X.25 network is in use, and the connection is direct between the iSeries systems.

Configuration Examples

The examples include all parameters used in building the Profile ID, the Session Scripts, and the Evoke record. Each example is tested to ensure accuracy.

There are currently three pairs of configuration examples. These are the most common X.25 configurations, and should be useful for most environments.

Each example contains a configuration defining the local system parameters and a configuration defining the remote system parameters.

Example 1

- **LOCLDX –** Local system configured for leased line, initiate the connection, X.25 switched packet in use
- **RMTLAX –** Remote system configured for leased line, answer incoming calls initiated by another system, X.25 switched packet in use

Example 2

- **LOCLDN –** Local system configured for leased line, initiate the connection, X.25 switched packet not in use
- **RMTLAN –** Remote system configured for leased line, answer incoming calls initiated by another system, X.25 switched packet not in use

Example 3

- **LOCDDN –** Local system configured for dial-up line, initiate the connection, X.25 switched packet not in use
- **RMTDAN –** Remote system configured for dial-up line, answer incoming calls initiated by another system, X.25 switched packet not in use

LU6.2 via X.25, Example 1

Example 1: Create a Profile for the Local System

This example uses the following profiles:

- **LOCLDX —** Local system configured for leased line, initiate the connection, X.25 switched packet in use
- **RMTLAX —** Remote system configured for leased line, answer incoming calls initiated by another system, X.25 switched packet in use. To create the profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.20.
3. Because you are creating a new profile, type **LOCLDX** in the Profile ID field.
4. Type **1** in the Option field next to the LOCLDX Profile ID and press **Enter**.

```
EDIX400                   Work with Communications              EDI  03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . .  ____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   LOCLDX
__   LOCDDN      Local Dial-Line/Dial/No X25 Network
__   LOCLDL      Local Leased Line/Dial/SDLC/APPC
__   LOCLDN      Local Leased Line/Dial/No X25 Netwk
__   LXADDVN     Dial Line/Dial/V25 CMDS/No Network
__   LXADDVX     Dial Line/Dial/V25 CMDS/X25 Netwk
__   LXALDNN     Leased Line/Dial/No CMDS/No Network
__   LXALDNX     Local Leased/Dial/No CMDS/X25 Netwk
__   MCDONELL    MCDONNELL DOUGLAS/BRITISH TELECOM

                                                                    More...
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.20 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Local Leased Line/Dial/X25 Network information.

5. Fill in the panel with the data displayed in Figure 8.21 and press **Enter**.

```
EDIX401                   Communication Profile                EDI  03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDX

Company. . . . . . . . . . . . . .  Local Leased Line/Dial/X25 Network
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  (614) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  X62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.21 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) appears.

6. Enter the data, as shown in Figure 8.22, into the appropriate fields.
7. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile. The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT09                              X62                            12:00:00

Comm Profile ID. . . .  LOCLDX
Company. . . . . . . .  Local Leased Line/Dial/X25 Network
Modem Port . . . . . .  LIN032               Lgl Channel Type . . .  *SVCBOTH
Switched Line. . . . .  N (Y/N)              Lgl Channel ID . . . .  001
Inactivity Timer . . .  300                  Mode Name. . . . . . .  *NETATR
Session Initiator. . .  *DIAL                X25 Password . . . . .  X62TEST
Net Connection Init. .  *WAIT                Reverse Charge . . . .  *NONE
Remote Net Addr. . . .  311012345677         DCE Support. . . . . .  N (Y/N)
Local Net Addr . . . .  311012345678         Record Size. . . . . .  0080
Local Exchange ID. . .  05600007             Max Ru Size. . . . . .  1024
Remote Exchange ID . .  05600006             Modulus. . . . . . . .  8
Local Location . . . .  ORDERNET              Window Size. . . . . .  02
Remote Location. . . .  AS400A                Packet Size. . . . . .  0128
Remote Network ID. . .  *NONE                Wrap Data Flag . . . .  Y (Y/N)
Remote Cntl Point. . .  ________              Remote Cmd Password. .  *NONE



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.22 Communication Profile panel (EDIX401-FMT09)

Example 1: Create the Session Script for the Local System

At this point, you have created an LOCLDX profile with the correct communication characteristics, but you still need to define how the conversation between the remote system and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the LOCLDX Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.23 and Figure 8.24.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00
Comm Profile ID. . . . . . . . . .  LOCLDX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/X25 Network

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   E     __   _________   0  SEND EVOKE RECORD TO RMT SYS
__     20   C     __   _________   2  SEND AWAITING READY MSG
AWAITING READY STATUS
__     30   R     SP   _________   7  RECV EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
__     40   S     OQ   _________   2  DATA FROM OUTBQUEUE
__     50   R     SP   _________   7  RECV A TEST FILE
                                                                  More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.23 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/X25 Network

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     60   C    __   ________   2  END THE SESSION
$$EOS
__    ____  _    __   ________   _  ____________________________
__    ____  _    __   ________   _  ____________________________
__    ____  _    __   ________   _  ____________________________
__    ____  _    __   ________   _  ____________________________
__    ____  _    __   ________   _  ____________________________
                                                              More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.24 Unfolded View of Communication Session Control panel (EDIX403-CTL01) (Cont'd)

4. **Page Down** and complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Note that the indicator (Ind) field in the script describes what Gentran:Server waits to see before continuing to the next script step.

If the script contains an Evoke (E type) record, when the record is added, you are automatically taken to the Communication Evoke panel (EDIX43C-FMT01), as shown in Figure 8.25, to complete the creation of the evoke record.

6. After completing the Evoke record, press **F10** (Update). Once the Evoke record is properly created on panel EDIX43C-FMT01, you only need to update it when revisions are necessary.

CAUTION

You ***must*** press **F10** before leaving panel EDIX43C-FMT01 or the system will not save your work and the Evoke record and the script you created will not be usable.

```
EDIX43C                    Communication Evoke                  EDI 03/01/06
FMT01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/X25 Network

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RMTLAX
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *NO
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 8.25 Communication Evoke panel (EDIX43C-FMT01)

You now have a Profile ID LOCLDX and a session script named `T1` that you can use to begin communications. You want the LOCLDX profile to send all data to the remote system. When the system executes a communication job using this profile and script name, Gentran:Server initiates a session with the remote system and sends its data from the Outbound Queue. It then receives data to a spool file. After completing the script, the communication job ends.

Revise the Evoke Record

If you need to revise an existing Evoke record, execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **`12`** in the Option field next to the `LOCLDX` Profile ID. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **`2`** in the Option field next to `T1` in the SN field and press **Enter**.The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F13** (Services), and a Service Menu window appears.
4. In the Service field, type **`1`** for Communication Evoke. The Communication Evoke panel (EDIX43C-FMT01) appears and displays the current contents of the Evoke record. You may now make any necessary changes.

Example 1: Create a Profile for the Remote System

To create the remote profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed as shown in Figure 8.26.
3. Since you are creating a new profile, type **RMTLAX** in the Profile ID field.
4. Type **1** in the Option field next to the RMTLAX Profile ID and press **Enter**.

```
EDIX400                  Work with Communications              EDI  03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   RMTLAX
__   CNBTASC     COMMERCE:Network via BT Async Pad
__   CN2BSC      COMMERCE:Network RELEASE 2
__   CN3BSC      COMMERCE:Network RELEASE 3
__   CN3SNA      COMMERCE:Network RELEASE 3
__   REDINET     CONTROL DATA / REDINET NETWORK
__   RMTDAA      Remote Dial Line/Answer/ASYNC
__   RMTDAL      Remote Dial Line/Answer/SDLC/APPC
__   RMTDAN      Remote Dial/Answer/No X25 Network

                                                                    More...
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.26 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Remote Leased Line/Answer/X25 Netwk information.

5. Fill in the panel with the data displayed in Figure 8.27.
6. Once the fields are filled, press **Enter.**

```
EDIX401                   Communication Profile                EDI  03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  RMTLAX

Company. . . . . . . . . . . . . .  Remote Leased Line/Answer/X25 Netwk
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  X62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y




F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.27 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) appears.

7. Enter the data, as shown in Figure 8.28, into the appropriate fields.
8. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile.

   The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT09                              X62                            12:00:00

Comm Profile ID. . . .  RMTLAX
Company. . . . . . . .  Remote Leased Line/Answer/X25 Netwk
Modem Port . . . . . .  LIN011              Lgl Channel Type . . .  *SVCBOTH
Switched Line. . . . .  N (Y/N)             Lgl Channel ID . . . .  001
Inactivity Timer . . .  300                 Mode Name. . . . . . .  *NETATR
Session Initiator. . .  *ANS                X25 Password . . . . .  X62TEST
Net Connection Init. .  *WAIT               Reverse Charge . . . .  *NONE
Remote Net Addr. . . .  311012345678        DCE Support. . . . . .  N (Y/N)
Local Net Addr . . . .  311012345677        Record Size. . . . . .  0080
Local Exchange ID. . .  05600006            Max Ru Size. . . . . .  1024
Remote Exchange ID . .  05600007            Modulus. . . . . . . .  8
Local Location . . . .  AS400A              Window Size. . . . . .  2
Remote Location. . . .  ORDERNET            Packet Size. . . . . .  0128
Remote Network ID. . .  *NONE               Wrap Data Flag . . . .  Y (Y/N)
Remote Cntl Point. . .  ________            Remote Cmd Password. .  *NONE



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.28 Communication Profile panel (EDIX401-FMT09)

Example 1: Create the Session Script for the Remote System

At this point, you have created an RMTLAX X62 profile with the correct communication characteristics, but you still need to define how the conversation between the remote system and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the RMTLAX Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.29.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  RMTLAX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Remote Leased-line/Answer/X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind  Description
__     10   R    SP   _________  7   RECV AWAITING READY MSG
AWAITING READY STATUS
__     20   C    __   _________  2   SEND EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
__     30   R    IQ   _________  7   RECV TEST DATA TO INB QUEUE
__     40   S    OQ   _________  2   SEND DATA FROM OUTQUEUE
__     50   R    SP   _________  8   RECV TILL END-OF-SESSION
                                                                  More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.29 Unfolded View of Communication Session Control panel (EDIX403-CTL01)

4. Complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Please note that the local system initiates the session to the remote system, and the remote system requires *no evoke record creation*. Also note that the local and remote location names and exchange IDs appear in the opposite order (local vs. remote) between the two systems.

NOTE

Note that the indicator (Ind) field in the script describes what Gentran:Server waits to see before continuing to the next script step.

You now have a Profile ID RMTLAX and a session script named `T1` that you can use to begin communications. You want the RMTLAX profile to send all data to the remote system. When the system executes a communication job using this profile and script name, Gentran:Server waits for the session to be initiated with the remote system and receives its data to the Inbound Queue. It then transmits its data from the Outbound Queue. After completing the script, the communication job ends.

LU6.2 via X.25, Example 2

Example 2: Create a Profile for the Local System

This example uses the following profiles:

- **LOCLDN** — Local system configured for leased line, initiate the connection, X.25 switched packet not in use
- **RMTLAN** — Remote system configured for leased line, answer incoming calls initiated by another system, X.25 switched packet not in use

To create the profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) appears, as shown in Figure 8.30.
3. Because you are creating a new profile, type **LOCLDN** in the Profile ID field.
4. Type **1** in the Option field next to the LOCLDN Profile ID; then press **Enter**.

```
EDIX400                    Work with Communications              EDI  03/01/06
FMT01                 pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
_1   LOCLDN___
__   LOCDDN      Local Dial-Line/Dial/No X25 Network
__   LOCLDL      Local Leased Line/Dial/SDLC/APPC
__   LXADDVN     Dial Line/Dial/V25 CMDS/No Network
__   LXADDVX     Dial Line/Dial/V25 CMDS/X25 Netwk
__   LXALDNN     Leased Line/Dial/No CMDS/No Network
__   LXALDNX     Local Leased/Dial/No CMDS/X25 Netwk
__   MCDONELL    MCDONNELL DOUGLAS/BRITISH TELECOM


                                                                      More...
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.30 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Local Leased Line/Dial/No X.25 Netwk information.

5. Fill in the panel with the data displayed in Figure 8.31 and press **Enter**.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . . LOCLDN

Company. . . . . . . . . . . . . . Local Leased Line/Dial/No X25 Netwk
Contact. . . . . . . . . . . . . . Test Contact
Phone. . . . . . . . . . . . . . . (614) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . . X62
Days to Purge. . . . . . . . . . . 999
FIFO/LIFO. . . . . . . . . . . . . F
Update Allowed . . . . . . . . . . Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.31 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) appears.

6. Enter the data, as shown in Figure 8.32, into the appropriate fields.
7. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile.

   The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT09                              X62                            12:00:00

Comm Profile ID. . . .  LOCLDN
Company. . . . . . . .  Local Leased Line/Dial/No X25 Netwk
Modem Port . . . . . .  LIN032               Lgl Channel Type . . .  *SVCBOTH
Switched Line. . . . .  N (Y/N)              Lgl Channel ID . . . .  001
Inactivity Timer . . .  300                  Mode Name. . . . . . .  *NETATR
Session Initiator. . .  *DIAL                X25 Password . . . . .  X62TEST
Net Connection Init. .  *LOCAL               Reverse Charge . . . .  *NONE
Remote Net Addr. . . .  311012345677         DCE Support. . . . . .  Y (Y/N)
Local Net Addr . . . .  311012345678         Record Size. . . . . .  0080
Local Exchange ID. . .  05600007             Max Ru Size. . . . . .  1024
Remote Exchange ID . .  05600006             Modulus. . . . . . . .  8
Local Location . . . .  ORDERNET              Window Size. . . . . .  2
Remote Location. . . .  AS400A               Packet Size. . . . . .  0128
Remote Network ID. . .  *NONE                Wrap Data Flag . . . .  Y (Y/N)
Remote Cntl Point. . .  ________             Remote Cmd Password. .  *NONE



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.32 Communication Profile panel (EDIX401-FMT09)

Example 2: Create the Session Script for the Local System

At this point, you have created an LOCLDN profile with the correct communication characteristics, but you still need to define how the conversation between the remote system and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the LOCLDN Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.33 and Figure 8.34.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/No X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    10   E    __  _________    0  SEND EVOKE RECORD TO RMT SYS
_____________________________________________________________________________
__    20   C    __  _________    2  SEND AWAITING READY MSG
AWAITING READY STATUS
_____________________________________________________________________________
__    30   R    SP  _________    7  RECV EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
_____________________________________________________________________________
__    40   S    OQ  _________    2  DATA FROM THE OUTQUEUE
_____________________________________________________________________________
__    50   R    SP  _________    7  RECV A TEST FILE
_____________________________________________________________________________
                                                                       More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.33 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)

```
EDIX403                Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/No X25 Network

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     60   C     __   _________   2  END THE SESSION
$$EOS
__    ___   _    __   _________   _  ____________________________
__    ___   _    __   _________   _  ____________________________
__    ___   _    __   _________   _  ____________________________
__    ___   _    __   _________   _  ____________________________
__    ___   _    __   _________   _  ____________________________
                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.34 Unfolded View of Communication Session Control panel (EDIX403-CTL01) (Cont'd)

4. **Page Down** and complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Note that the indicator (Ind) field in the script describes what Gentran:Server waits to see before continuing to the next script step.

If the script contains an Evoke (E type) record when the record is added, you are automatically taken to the Communication Evoke panel (EDIX43C-FMT01), as shown in Figure 8.35 to complete the creation of the evoke record.

6. After completing the Evoke record, press **F10** (Update). Once the Evoke record is properly created on panel EDIX43C-FMT01, you only need to update it when revisions are necessary.

CAUTION

You ***must*** press **F10** before leaving panel EDIX43C-FMT01 or the system will not save your work and the Evoke record and the script you created will not be usable.

```
EDIX43C                    Communication Evoke                  EDI 03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LOCLDN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased Line/Dial/No X25 Netwk

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RMTLAN
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *NO
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR









F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 8.35 Communication Evoke panel (EDIX43C-FMT01)

You now have a Profile ID LOCLDN and a session script named `T1` that you can use to begin communications. You want the LOCLDN profile to send all data to the remote system. When the system executes a communication job using this profile and script name, Gentran:Server initiates a session with the remote system and sends its data from the Outbound Queue. It then receives data to a spool file. After completing the script, the communication job ends.

Revise the Evoke Record

If you need to revise the existing Evoke record, execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the LOCLDN Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **2** in the Option field next to T1 in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F13** (Services), and a Service Menu window appears.
4. In the Service field, type **1** for Communication Evoke.

   The Communication Evoke panel (EDIX43C-FMT01) appears and displays the current contents of the Evoke record. You may now make any necessary changes.

Example 2: Create a Profile for the Remote System

To create the remote profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.36.
3. Because you are creating a new profile, type **RMTLAN** in the Profile ID field.
4. Type **1** in the Option field next to the RMTLAN Profile ID, then press **Enter**.

```
EDIX400                    Work with Communications                EDI  03/01/06
FMT01                 pgmlib: G3X4PGM   dtalib:G3X4DTA                 12:00:00

Position to Profile ID . . . . . . __________

Type option (and Information), press Enter.
1=Create  2=Revise  3=Copy  4=Delete  5=View   11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   RMTLAN___
__   CNBTASC     COMMERCE:Network via BT Async Pad
__   CN2BSC      COMMERCE:Network RELEASE 2
__   CN3BSC      COMMERCE:Network RELEASE 3
__   CN3SNA      COMMERCE:Network RELEASE 3
__   REDINET     CONTROL DATA / REDINET NETWORK
__   RMTDAA      Remote Dial Line/Answer/ASYNC
__   RMTDAL      Remote Dial Line/Answer/SDLC/APPC
__   RMTDAN      Remote Dial/Answer/No X25 Network

                                                                      More...
Parameters or command
===>_____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.36 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Remote Leased Line/Answer/No X25 Netwk information.

5. Fill in the panel with the data displayed in Figure 8.37.
6. Once the fields are filled, press **Enter.**

```
EDIX401                    Communication Profile              EDI    03/01/06
FMT01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  RMTLAN

Company. . . . . . . . . . . . . .  Remote Leased Lin/Answer/No X25 Netw
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  X62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.37 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) appears.

7. Enter the data, as shown in Figure 8.38, into the appropriate fields.
8. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile. The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT09                              X62                            12:00:00

Comm Profile ID. . . .  RMTLAN
Company. . . . . . . .  Remote Lease Lin/Answer/No X25 Netw
Modem Port . . . . . .  LIN011               Lgl Channel Type . . .  *SVCBOTH
Switched Line. . . . .  N (Y/N)              Lgl Channel ID . . . .  001
Inactivity Timer . . .  300                  Mode Name. . . . . . .  *NETATR
Session Initiator. . .  *ANS                 X25 Password . . . . .  X62TEST
Net Connection Init. .  *REMOTE              Reverse Charge . . . .  *NONE
Remote Net Addr. . . .  311012345678         DCE Support. . . . . .  N (Y/N)
Local Net Addr . . . .  311012345677         Record Size. . . . . .  0080
Local Exchange ID. . .  05600006             Max Ru Size. . . . . .  1024
Remote Exchange ID . .  05600007             Modulus. . . . . . . .  8
Local Location . . . .  AS400A               Window Size. . . . . .  2
Remote Location. . . .  ORDERNET             Packet Size. . . . . .  0128
Remote Network ID. . .  *NONE                Wrap Data Flag . . . .  Y (Y/N)
Remote Cntl Point. . .  ________             Remote Cmd Password. .  *NONE



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.38 Communication Profile panel (EDIX401-FMT09)

Example 2: Create the Session Script for the Remote System

At this point, you have created an RMTLAN X62 profile with the correct communication characteristics, but you still need to define how the conversation between LU6.2, without X.25, and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the RMTLAN Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.39.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  RMTLAN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Remote Leased-line/Answer/X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   R    SP   _________   7  RECV AWAITING READY MSG
AWAITING READY STATUS
__     20   C    __   _________   2  SEND EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
__     30   R    IQ   _________   7  RECV TEST DATA TO INB QUEUE
__     40   S    OQ   _________   2  SEND FROM OUTQUE
__     50   R    SP   _________   8  RECV TILL END-OF-SESSION
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.39 Unfolded View of Communication Session Control panel (EDIX403-CTL01)

4. Complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Please note that the local system initiates the session to the remote system, and the remote system requires *no evoke record creation*. Also note that the local and remote location names and exchange IDs appear in the opposite order (local vs. remote) between the two systems.

You now have a Profile ID RMTLAN and a session script named T1 that you can use to begin communications. You want the RMTLAN profile to receive all data to Inbound Queue. When the system executes a communication job using this profile and script name, Gentran:Server waits for a session to be initiated with the remote system and receives its data from the Inbound Queue. It then transmits its data from the Outbound Queue. After completing the script, the communication job ends.

LU6.2 via X.25, Example 3

Example 3: Create a Profile for the Local System

This example uses the following profiles:

- **LOCDDN** — Local system configured for dial-up line, initiate the connection, X.25 switched packet not in use
- **RMTDAN** — Remote system configured for dial-up line, answer incoming calls initiated by another system, X.25 switched packet not in use

To create the profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.40.
3. Because you are creating a new profile, type **LOCDDN** in the Profile ID field.
4. Type **1** in the Option field next to the LOCDDN Profile ID and press **Enter**.

```
EDIX400                  Work with Communications              EDI  03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . . ___________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   LOCDDN
__   LOCLDL      Local Leased Line/Dial/SDLC/APPC
__   LOCLDN      Local Leased Line/Dial/No X25 Netwk
__   LXADDVN     Dial Line/Dial/V25 CMDS/No Network
__   LXADDVX     Dial Line/Dial/V25 CMDS/X25 Netwk
__   LXALDNN     Leased Line/Dial/No CMDS/No Network
__   LXALDNX     Local Leased/Dial/No CMDS/X25 Netwk
__   MCDONELL    MCDONNELL DOUGLAS/BRITISH TELECOM
                                                                    More...


Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.40 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Local Dial-Line/Dial/No X.25 Network information.

5. Fill in the panel with the data displayed in Figure 8.41 and press **Enter**.

```
EDIX401                   Communication Profile                EDI  03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LOCDDN

Company. . . . . . . . . . . . . .  Local Dial-Line/Dial/No X25 Netwk
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  (614) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  X62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.41 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) appears.

6. Enter the data, as shown in Figure 8.42, into the appropriate fields.
7. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile.

   The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT09                              X62                            12:00:00

Comm Profile ID. . . .  LOCDDN
Company. . . . . . . .  Local Dial-Line/Dial/No X25 Network
Modem Port . . . . . .  LIN032               Lgl Channel Type . . .  *SVCBOTH
Switched Line. . . . .  Y (Y/N)              Lgl Channel ID . . . .  001
Inactivity Timer . . .  300                  Mode Name. . . . . . .  BLANK
Session Initiator. . .  *DIAL                X25 Password . . . . .  X62TEST
Net Connection Init. .  *LOCAL               Reverse Charge . . . .  *NONE
Remote Net Addr. . . .  311012345677         DCE Support. . . . . .  Y (Y/N)
Local Net Addr . . . .  311012345678         Record Size. . . . . .  0080
Local Exchange ID. . .  05600007             Max Ru Size. . . . . .  1024
Remote Exchange ID . .  05600006             Modulus. . . . . . . .  8
Local Location . . . .  ORDERNET              Window Size. . . . . .  2
Remote Location. . . .  AS400A                Packet Size. . . . . .  0128
Remote Network ID. . .  *NONE                Wrap Data Flag . . . .  Y (Y/N)
Remote Cntl Point. . .  ______               Remote Cmd Password. .  *NONE

Retries. . . . . . . .  02                    Auto Dial. . . . . . .  Y (Y/N)
Auto Call Unit . . . .  V                    Auto Call Port . . . .  ___
Dial . . . . . . . . .  5551212
F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.42 Communication Profile panel (EDIX401-FMT09)

Example 3: Create the Session Script for the Local System

At this point, you have created an LOCDDN profile with the correct communication characteristics, but you still need to define how the conversation between the remote system and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the LOCDDN Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.43 and Figure 8.44.

```
EDIX403                Communication Session Control             EDI  03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  LOCDDN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Dial-Line/Dial/No X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    10   E    __  __________   0  SEND EVOKE RECORD TO RMT SYS
__    20   C    __  __________   2  SEND AWAITING READY MSG
AWAITING READY STATUS
__    30   R    SP  __________   7  RECV EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
__    40   S    OQ  __________   2  SEND FROM OUTQUE
__    50   R    SP  __________   7  RECV A TEST FILE
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.43 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LOCDDN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Dial-Line/Dial/No X25 Network

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     60   C    __   _________   2  END THE SESSION
$$EOS
__    ___   _    __   _________   _  ______________________________
__    ___   _    __   _________   _  ______________________________
__    ___   _    __   _________   _  ______________________________
__    ___   _    __   _________   _  ______________________________
__    ___   _    __   _________   _  ______________________________
__    ___   _    __   _________   _  ______________________________
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.44 Unfolded View of Communication Session Control panel (EDIX403-CTL01)(Cont'd)

4. **Page Down** and complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

   If the script contains an Evoke (E type) record when the record is added, you are automatically taken to the Communication Evoke panel (EDIX43C-FMT01), as shown in Figure 8.45, to complete the creation of the evoke record.

6. After completing the Evoke record, press **F10** (Update). Once the Evoke record is properly created on panel EDIX43C-FMT01, you only need to update it when revisions are necessary.

STOP **CAUTION**

You ***must*** press **F10** before leaving panel EDIX43C-FMT01 or the system will not save your work and the Evoke record and the script you created will not be usable.

```
EDIX43C                    Communication Evoke                  EDI 03/01/06
FMT01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  LOCDDN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Dial-Line/Dial/No X25 Network

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RMTDAN
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *YES
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 8.45 Communication Evoke panel (EDIX43C-FMT01)

You now have a Profile ID LOCDDN and a session script named `T1` that you can use to begin communications. You want the LOCDDN profile to send all data to the remote system. When the system executes a communication job using this profile and script name, Gentran:Server initiates a session with the remote system and sends its data from the Outbound Queue then receives data to a spool file. After completing the script, the communication job ends.

Revise the Evoke Record

If you need to revise the Evoke record, execute the following steps:

1. On the Work with Communication panel (EDIX400-FMT01), type **`12`** in the Option field next to the `LOCDDN` Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **`2`** in the Option field next to `T1` in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F13** (Services), and a Service Menu window appears.
4. In the Service field, type **`1`** for Communication Evoke. The Communication Evoke panel (EDIX43C-FMT01) appears and displays the current contents of the Evoke record. You may now make any necessary changes.

Example 3: Create a Profile for the Remote System

To create the remote profile, execute the following steps:

1. From the GENMAIN menu, type **1** on the command line and press **Enter**. The Gentran:Server Communications menu is displayed.
2. Type **1** on the command line and press **Enter**. The Work with Communication panel (EDIX400-FMT01) is displayed, as shown in Figure 8.46.
3. Because you are creating a new profile, type **RMTDAN** in the Profile ID field.
4. Type **1** in the Option field next to the RMTDAN Profile ID, then press **Enter**.

```
EDIX400                  Work with Communications              EDI  03/01/06
FMT01                pgmlib: G3X4PGM   dtalib:G3X4DTA               12:00:00

Position to Profile ID . . . . . .  ___________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   RMTDAN
__   CNBTASC     COMMERCE:Network via BT Async Pad
__   CN2BSC      COMMERCE:Network RELEASE 2
__   CN3BSC      COMMERCE:Network RELEASE 3
__   CN3SNA      COMMERCE:Network RELEASE 3
__   REDINET     CONTROL DATA / REDINET NETWORK
__   RMTDAA      Remote Dial Line/Answer/ASYNC
__   RMTDAL      Remote Dial Line/Answer/SDLC/APPC


                                                                    More...
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 8.46 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) appears, displaying the Remote Dial Line/Answer/No X25 Netwk information

5. Fill in the panel with the data displayed in Figure 8.47.
6. Once the fields are filled, press **Enter.**

```
EDIX401                    Communication Profile              EDI     03/01/06
FMT01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  RMTDAN

Company. . . . . . . . . . . . . .  Remote Dial Line/Answer/No X25 Netwk
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  X62
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.47 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) appears.

7. Enter the data, as shown in Figure 8.48, into the appropriate fields.
8. Once the fields are filled, press **F10** (Update) to update the protocol information for this profile.

   The system returns you to panel EDIX400-FMT01. The message at the bottom of the panel, `Create Operation Successful`, indicates that the profile is created.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT09                              X62                            12:00:00

Comm Profile ID. . . .  RMTDAN
Company. . . . . . . .  Remote Dial/Answer/No X25 Network
Modem Port . . . . . .  LIN011               Lgl Channel Type . . .  *SVCBOTH
Switched Line. . . . .  N (Y/N)              Lgl Channel ID . . . .  001
Inactivity Timer . . .  300                  Mode Name. . . . . . .  *NETATR
Session Initiator. . .  *ANS                 X25 Password . . . . .  X62TEST
Net Connection Init. .  *REMOTE              Reverse Charge . . . .  *NONE
Remote Net Addr. . . .  311012345678         DCE Support. . . . . .  N (Y/N)
Local Net Addr . . . .  311012345677         Record Size. . . . . .  0080
Local Exchange ID. . .  05600006             Max Ru Size. . . . . .  1024
Remote Exchange ID . .  05600007             Modulus. . . . . . . .  8
Local Location . . . .  AS400A               Window Size. . . . . .  2
Remote Location. . . .  ORDERNET             Packet Size. . . . . .  0128
Remote Network ID. . .  *NONE                Wrap Data Flag . . . .  Y (Y/N)
Remote Cntl Point. . .  ________             Remote Cmd Password. .  *NONE



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.48 Communication Profile panel (EDIX401-FMT09)

Example 3: Create the Session Script for the Remote System

At this point, you have created an RMTDAN X62 profile with the correct communication characteristics, but you still need to define how the conversation between LU6.2 without X.25 and Gentran:Server proceeds.

1. On the Work with Communication panel (EDIX400-FMT01), type **12** in the Option field next to the RMTDAN Profile ID and press **Enter**. The Work with Communications Session panel (EDIX402-FMT01) appears.
2. On panel EDIX402-FMT01, type **1** in the Option field and **T1** in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) appears.
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 appears, as shown in Figure 8.49.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  RMTDAN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Remote Dial Line/Answer/No X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   R    SP   ________    7  RECV AWAITING READY MSG
AWAITING READY STATUS
__     20   C         ________    2  SEND EVOKE COMPLETE MSG
EVOKE COMPLETE, SYSTEM READY
__     30   R    IQ   ________    7  RECV TEST DATA TO INB QUEUE

__     40   S    OQ   ________    2  SEND FROM QUE

__     50   R    SP   ________    8  RECV TILL END-OF-SESSION

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 8.49 Unfolded View of Communication Session Control panel (EDIX403-CTL01)

4. Complete the fields shown on panel EDIX403-CTL01.
5. Press **F10** (Update) or **Enter** to add the lines to the script.

NOTE

Please note that the local system initiates the session to the remote system, and the remote system requires *no evoke record creation*. Also note that the local and remote location names and exchange IDs appear in the opposite order (local vs. remote) between the two systems.

You now have a Profile ID RMTDAN and a session script named T1 that you can use to begin communications. You want the RMTDAN profile to send all data to the remote system. When the system executes a communication job using this profile and script name, Gentran:Server initiates a session with the remote system and receives data to the Inbound Queue. It then sends data from the Outbound Queue and waits for the other system to end the session. After completing the script, the communication job ends.

Chapter

9 Asynchronous Communication Support

NOTE

This feature is an optional add-on product that may be purchased separately.

The following section discusses various aspects of the asynchronous communication support and considerations for its use.

Overview of Asynchronous Data Transmission

"Asynchronous data transmission" means that characters are transmitted at no particular interval. Asynchronous lines are often referred to as "start/stop" lines because of this unsteady transmission of characters. This makes asynchronous communication ideal for communicating with TTY type devices, which may receive input from a human operator at a keyboard. However, because these devices are generally not "intelligent," there is no inherent protocol to provide functions such as error detection and correction. Although there are many file transfer protocols that can operate over asynchronous connections, they are not standardized. Therefore, many asynchronous hosts simply transmit and receive streams of characters without using any higher level protocol. This enables communication with even the simplest of devices, but it places the burden of error detection and correction on the hardware or application software.

Asynchronous Protocols

Asynchronous communication support within this product is invoked by executing a communication session for a communication profile that specifies protocol type ASC, ASX, OFA, OFX, or XAS.

- Protocol type ASC supports communication with asynchronous devices that require plain ASCII text (TTY) and/or ZMODEM file transfer protocol.
- **Prot**ocol type ASX supports communication with standard asynchronous devices that implement the XMODEM file transfer protocol.

- **Protocol type OF**A supports communication with asynchronous devices that implement the ODETTE file transfer protocol (OFTP).
- **Protocol type** OFX supports communication with asynchronous devices that implement the ODETTE file transfer protocol (OFTP) over an X.25 connection.
- **Protocol type** XAS supports asynchronous communication via X.25 connections.

Typically, ASC is used for communications using an asynchronous modem, However communication with other serially attached asynchronous devices can potentially be accomplished. An asynchronous modem can be used to communicate with any other asynchronous system, such as an X.25 network PAD (X.28), or a personal computer.

XAS supports a connection that is typically a leased line to an X.25 network. However, dial-up X.25 (X.32) is also supported, as well as direct X.25 connection to another iSeries without using an X.25 network.

NOTE
SEE the "XMODEM Support" and "OFTP Support" chapters for more information on ASX, OFA, and OFX.

Modem Considerations

There are several factors that must be considered when configuring your modems for use with this software. These considerations generally apply to a switched-line environment. They are explained in the following paragraphs. This software was tested for operation over switched lines using the following modems:

Profile Type	Dialing Command	Operating Mode	Modems Tested
ASC, ASX, OFA	AT commands	Asynchronous	UDS V.3225, UDS V.3229, IBM 7855-10
ASC, ASX, OFA	V.25bis async	Asynchronous	IBM 7855-10
XAS, OFX	V.25bis sync	Synchronous	UDS V.3225, UDS V.3229

Any modem-specific information in the following discussions should only be considered applicable to the modems that were tested.

NOTE
Other modems can be used in addition to the ones listed, but it is the customer's responsibility to configure them.

Error Detection and Correction

CAUTION

Use of this software without error correcting communication hardware is strongly discouraged.

When using an asynchronous profile, always use error correcting modems. To ensure the integrity of the data that is transmitted and received, both your modem and the remote modem must support error correction (MNP, LAPM or V.42), and they must establish an error correcting connection. To guarantee that an error correcting connection is established, you should configure your modem to disconnect if an error correcting connection cannot be established. If the two modems are allowed to connect without some type of error control, the integrity of your data can be seriously jeopardized.

Because MNP negotiation occurs after the modems have connected, communication session control scripts for connections that are to use MNP error control should allow some time for the modems to perform the MNP negotiation. This can be achieved by coding your script as follows:

- Make the first script step a Data Trap (D-type) record.
- Set the Command field to **`INTENTIONAL NO MATCH`**.
- Set the Receive Timer value to **`10`** seconds.
- Set the Timeout Continue flag to **`Y`**.

Error correction is not an issue for X.25 connections (XAS profiles). When using an XAS profile over a switched line, synchronous HDLC protocol is used, and this ensures reliable data transfer to the next network node.

Clear To Send

In order for the iSeries to send initialization and dial commands to the modem, the modem must present the Clear To Send (CTS) signal on the serial interface to the iSeries. Most asynchronous modems (or sync/async modems operating in async mode) hold CTS high by default. Make sure that this is the default for the modem that you intend to use. If it is not the default, you must configure the modem to present CTS at all times.

AT or V.25bis Command Set

There are no command set options for XAS profiles. XAS profiles require the modem to be configured for synchronous operation, and this disables their asynchronous command capability. Switched XAS profiles configured for autodial only work with V.25bis SDLC dialing modems.

ASC profiles offer a choice of which asynchronous command set should be used to control the modem. The Command Set field in the profile may be set to the following values:

- **A** (AT command set)
- **V** (V.25bis async command set)
- **N** (no command set)

The AT command set option should support most typical AT command capable modems, although testing of this software was performed using the UDS V.3225, UDS V.3229, and IBM 7855-10. The V.25bis option is for use with modems that support the V.25bis asynchronous command set as implemented on the IBM 7855-10 modem.

NOTE

Use of AT command capable modems and the AT command set is recommended for ASC profiles.

- **N** — When `N` is selected, the modem is expected to be configured with AT commands disabled. No initialization or dial commands are sent to the modem. The modem should be configured to dial on DTR or have a manual dial performed by the operator. No result messages are expected from the modem.
- **A** — When `A` is selected, the modem is expected to respond to the AT command set with the result messages defined in the Modem OK Message and Modem Connect Message fields in the profile. Before any dial commands are sent to the modem, an attention command consisting of `AT`<CR> (<CR> = Carriage Return) is sent.
- **V** — When `V` is selected, the modem is expected to respond to the asynchronous V.25bis command set, as implemented by the IBM 7855-10 modem. The modem is expected to respond with the result messages defined in the Modem OK Message and Modem Connect Message fields in the profile. Before any dial commands are sent to the modem, an attention command consisting of `CNL`<CR> is sent.

After the attention command is sent to the modem, the modem is expected to respond with the string defined in the Modem OK Message field in the profile. If this response is not received, a break sequence, consisting of a series of three of the characters defined in the Modem Break Character field, is sent. If the Modem OK Message is not received after the break sequence is sent, the session terminates with a message in the joblog indicating that the `Modem failed to respond to the Attn/Break sequence`.

Default Modem Strings in the Profile

ASC communication profiles operating over switched lines and configured for Command Set A or V control the local modem using commands and response messages that are defined in the communication profile. When an ASC profile is created, the modem Command Set defaults to A for AT commands. Likewise, modem commands and responses suitable for AT command capable modems are assigned. These defaults are as follows:

Profile Field	Default Value
Modem Auto-Answer Command	ATS0=1
Modem Init. Command	ATQ0V1X4
Modem OK Message	OK<CR><LF>
Modem Connect Message	CONNECT<?><CR><LF>

If you are configuring a communication profile for use with a modem requiring the V.25bis command set as implemented by the IBM 7855-10, you must change the modem strings accordingly. The equivalent values for the V.25bis command set are as follows:

Profile Field	Default Value
Modem Auto-Answer Command	CNLS0=1
Modem Init. Command	CNLQ0V1X4
Modem OK Message	VAL<CR><LF>
Modem Connect Message	CNX<CR><LF>

The defaults shown in the previous charts should work with many modems. However they may not address all of the configuration needs for your particular application. This is because the AT command set is not a true standard. While the V.25bis async command set is a standard, it does not include a full set of modem configuration commands, and must, therefore, adopt portions of the nonstandard AT command set to perform modem configuration. For information on the commands and result strings used by your particular modem, consult the documentation provided by the modem manufacturer.

Modem Initialization Commands

Initialization commands are not sent to the modem for XAS profiles, since XAS profiles require the modem to be configured for synchronous operation, which disables their asynchronous command capability.

ASC profiles transmit an initialization command to the modem if the Command Set option in the profile is set to A or V. This command can be used to set configuration options on the modem, such as enabling extended verbose result codes and disabling protocol fallback to guarantee an error correcting connection.

The initialization command is sent at the beginning of every communication session, and after it is sent, the software expects to receive the response defined in the Modem OK Message field in the profile. If the response is not received, it is considered a modem initialization failure, and the communication session terminates.

The specific initialization command that is sent is taken from the Modem Init. Command field in the communication profile. A Carriage Return character (hex 0D) automatically is appended to the Modem Init. Command string by the software.

In general, you should configure your modem as follows:

- Quiet mode disabled (**Q0**)
- Verbal responses (**V1**)
- Extended result codes enabled (**X4**)

This combination provides the most easily interpreted feedback to the system during connection establishment.

Modem Dialing Commands

There are a variety of options for sending dialing commands to the modem. The profile is configured for autodial when the communication profile indicates the following values:

- Switched Line = **`Y`**
- Auto Dial = **`Y`**
- Dial field contains an entry

For XAS and OFX profiles, the only type of autodial supported is V.25bis dialing. Therefore, any time an XAS or OFX profile has the Auto Dial option set to 'Y,' V.25bis dial commands are sent to the modem. This dialing is controlled by the iSeries rather than by the Gentran:Server Communications Module software. To autodial with an XAS or OFX profile, the modem must be configured for V.25bis SDLC dialing.

- **For ASC/OFA/ASX profiles with Command Set = 'A'**
  The dial command sent to the modem consists of 'ATDT' + phone number from Dial field + Carriage Return.
- **For ASC/OFA/ASX profiles with Command Set = 'V'**
  The dial command sent to the modem consists of 'CRNT' + phone number from Dial field + Carriage Return.

After issuing the dial command, the system waits for the modem to respond with the string defined by the Modem Connect Message field in the communication profile. Any other response is discarded. If the connect message is not received within 90 seconds, or if the modem raises and drops the Carrier Detect (CD/RLSD) signal to the iSeries, then the dial attempt is considered a failure. The system may attempt a redial if the number of Retries specified in the communication profile is greater than 0.

NOTE

This software defaults to the use of touch-tone dialing with both AT and V.25bis dial commands. If your telephone circuit requires rotary (pulse) dialing, specify 'P' as the first character in the Dial (telephone number) field in the communication profile.

Receive Calls

This discussion applies to communication profiles configured to receive incoming calls on a switched line. This means that the profile is configured:

- Auto Dial = 'N'
- No entry in the Dial field.

Explanations for the various profiles are as follows:

- **For XAS/OFX profiles and ASC/OFA/ASX profiles with Command Set = 'N'**
  The software detects an incoming call when the modem presents the Carrier Detect signal on the serial interface to the iSeries. XAS and OFX profiles then expect to begin a link level connection via a SABM/UA sequence, and a packet level connection via receipt of an acceptable an "Incoming Call" packet.
- **For ASC/OFA/ASX profiles using AT or V.25bis commands**
  The software first initializes the modem, as described previously. Then the Modem Auto-Answer Command defined in the communication profile is transmitted followed by a Carriage Return. If the modem responds with the Modem OK Message, then the modem is assumed to have been placed appropriately into auto-answer mode by the Modem Auto-Answer Command. The software then waits to receive the string defined by the Modem Connect Message field in the communication profile. Any other responses received from the modem is discarded.

Flow Control

Flow Control is a mechanism used to avoid the potential data overrun that could occur when devices with varying throughput capabilities attempt to communicate. Flow control must be used when some parts of the communication link may not be able to receive data as fast as the adjacent parts that transmit data to them. For example, you may configure your ASC profile for a Line Speed of 9600bps because that is the fastest connection you can achieve with your modem. However, the same profile may have to allow connections with 2400bps modems. The iSeries would then be sending data to the modem faster (9600bps) than the modem could transmit the data to the remote (2400bps). Some method of flow control must be used to limit the data transmitted from the iSeries to the modem, to an amount that the modem can handle.

There are two standard methods of flow control:

- Hardware (RTS/CTS) flow control
- Software (XON/XOFF) flow control

Hardware flow control, also called RTS/CTS flow control, is generally better and is the preferred method. However, only later versions of the OS/400 and iSeries hardware support hardware flow control on asynchronous lines. If your system cannot support hardware flow control, you will receive configuration errors when you attempt to create or update a communications profile using it. In this case, you must consider using software flow control.

NOTE

Use of XON/XOFF flow control prohibits transmission of data containing the XON (hex ‘11’) and XOFF (hex ‘13’) characters.

Configuring for software XON/XOFF flow control requires proper settings on both your software and modem:

- The software is configured by setting the Flow Control field in the communication profile to ‘Y.’ This causes the iSeries line description to be created with FLOWCNTL=*YES.
- Set the Line Speed value to at least the highest rate of throughput that must be supported by this profile.
- Configure your modem such that there is a constant data rate between the modem (DCE) and iSeries (DTE). This must be the same speed used for the Line Speed value in the communication profile.
- The modem flow control options must be configured such that XON/XOFF flow control (rather than RTS/CTS) is used between the modem (DCE) and iSeries (DTE). This means the modem must generate an XOFF when its buffer approaches overflow, and an XON when it is ready to accept more data. This accommodates differences between the iSeries line speed and the modem connect speed. The modem should also be configured to disable the pass-through of XON/XOFF characters to the remote system. This setting is dependent on the modem also being configured to guarantee a flow controlled link (MNP or LAPM).

Translation

Translation of inbound and outbound asynchronous data occurs at two levels:

- System Level
- Application Level

System Level Translation

System Level Translation is performed by iSeries asynchronous communication support and is concerned with translating between the ASCII and EBCDIC character sets. This translation is performed because the iSeries uses IBM's EBCDIC character set, while most devices that are communicated with asynchronously use the ASCII (International Alphabet #5) character set.

All inbound data is translated according to an ASCII to EBCDIC translation table. All outbound data is translated according to an EBCDIC to ASCII translation table. (SEE the "EBCDIC-to-ASCII and ASCII-to-EBCDIC" section of this chapter for specific information.)

Because System Level Translation is performed by the operating system, outside the control of the communication application, the application always operates on inbound data after it has been translated and outbound data before it has been translated. Therefore, any values you enter to configure communication, including the communication profile and communication session control scripts, should always be coded using the EBCDIC character set.

For example, if you are coding the Command field in a communication session control script Data Trap step (inbound data), and you want to include a linefeed character (hex 'OA' ASCII) in the record, you actually code an EBCDIC newline character (hex '15'), because the ASCII to EBCDIC translation table indicates that an ASCII hex 'OA' is translated to an EBCDIC hex '15.' The value you are coding for inbound data represents the data after ASCII to EBCDIC translation. If you were instead coding the Command field for a Control Record send (outbound data), and you wanted to send a linefeed (hex 'OA' ASCII) to the remote system, you would actually code an EBCDIC newline character (hex '15') because the EBCDIC to ASCII translation table indicates that an EBCDIC hex '15' is translated to an ASCII hex 'OA.' The value you are coding for outbound data represents the data before EBCDIC to ASCII translation. In both cases, the value you code refers to the EBCDIC representation of the data.

NOTE

System Level Translation does not occur during ZMODEM file transfers. Instead, the ZMODEM engine performs the translation.

Application Level Translation

In addition to the system level translation performed by the iSeries, the communication application includes a translation feature. The application level translation feature is designed to accommodate needs that may arise when exchanging data with asynchronous devices such as personal computers. An example of this is removing carriage return/linefeed combinations from the data.

The Translation fields allow you to define a sequence of characters that is to be translated to a different sequence of characters by the asynchronous communicator as data is exchanged with the remote system. These character sequences can be zero, one, or two characters in length, and may consist of any characters you define. Inbound and outbound translation sequences may differ.

Inbound translation only affects data that is being received to the inbound queue or to a user file. Data received to SPOOL or during a Data Trap script step is not translated. Likewise, outbound translation only effects data that is being transmitted from the Outbound Queue or from a user file. Data transmitted as the result of a Control Record script step is not translated. Data transmitted as the batch header in a Send Outbound Multiple step or as the result of a “no data” condition is not translated.

The asynchronous communication profile panels (EDIX401-FMT06 and EDIX401-FMT07) contain four fields that control inbound translation and four fields that control outbound translation. For both inbound and outbound, two fields define the characters that are to be translated “from,” and two fields define the characters that they are to be translated “to”. Each individual field consists of two hexadecimal digits that represent one EBCDIC character.

The translation fields on the panels EDIX401-FMT06 and EDIX401-FMT07 appear as follows:

```
Translation:
Inbound (from) . __ __ (01 - FF)
Inbound (to) . . __ __ (01 - FF)
Outbound (from). __ __ (01 - FF)
Outbound (to). . __ __ (01 - FF)
```

NOTE

The translation settings are ignored for ZMODEM file transfers.

Translation Examples

The following four examples illustrate the use of the application level translation fields.

1. Remove all carriage return/linefeed combinations from the inbound data

```
Translation:
Inbound (from) . 0D 15 (01 - FF)
Inbound (to) . . __ __ (01 - FF)
Outbound (from). __ __ (01 - FF)
Outbound (to). . __ __ (01 - FF)
```

2. Add carriage return/linefeeds to the end of outbound data records

```
Translation:
Inbound (from) . __ __ (01 - FF)
Inbound (to) . . __ __ (01 - FF)
Outbound (from). __ __ (01 - FF)
Outbound (to). . 0D 15 (01 - FF)
```

3. Remove all carriage return/linefeed combinations from the inbound data and add carriage return/linefeeds to the end of outbound data records

```
Translation:
Inbound (from) . 0D 15 (01 - FF)
Inbound (to) . . __ __ (01 - FF)
Outbound (from). __ __ (01 - FF)
Outbound (to). . 0D 15 (01 - FF)
```

4. Remove linefeed following carriage return from the inbound data and add linefeeds after carriage returns in outbound data records

```
Translation:
Inbound (from) . 0D 15 (01 - FF)
Inbound (to) . . 0D __ (01 - FF)
Outbound (from). 0D __ (01 - FF)
Outbound (to). . 0D 15 (01 - FF)
```

In all the preceding examples, the linefeed (hex ‘0A’ ASCII) is represented by a hex ‘15’ (EBCDIC newline). This is because the values entered in the profile screen represent data that has already undergone system level translation, as described in the discussion of system level translation.

Scripting Considerations

Scripting considerations include the following:

- Basic scripting concepts
- Supported script transaction types and actions
- Use of ETX, EOT, and End-of Cmd characters

Basic Scripting Concepts

The communication scripting capability within this product is one of its most powerful features. It enables you to program your system to communicate with a multitude of different remote systems, each of which may require a unique conversation. Each communication session control script describes the conversation necessary to perform a specific function (or functions) with a specific type of remote.

The following information is used when creating asynchronous communication session control scripts. Although some of the general concepts may also apply to the other communication protocols supported by this product, the details should only be considered applicable to scripts for asynchronous profiles. This is because there are differences in the way the scripts are interpreted to accommodate the unique characteristics of the communication protocol being used.

Before creating a script, you must first create a communication profile to describe the remote system with which you communicate. This is done by using the Communication Profile Maintenance panels. Communication session control scripts for that profile can then be created using the EDIX403 and EDIX43B, communication session control panels.

A communication session control script consists of a series of records that define the steps of the conversation that is to be conducted. The fields in each script record include:

Sequence Number
The “Seq No” field controls the placement of this script step relative to the other steps within the script. Any unique number from 001 to 999 can be assigned. The script steps are executed in ascending sequence based on this field.

Transaction
Determines what general action is to be performed in this step (for example, Send or Receive).

File
Determines the source or the destination for data that is to be sent or received.

File Name
Identifies the file that is used for Sends/Receives from/to user files.

Indicator
The “Ind” field represents a control character that is sent or received at the end of a script step. The Indicator field is described in the “Explanation of Script Indicators” section.

Description

Free form text description of the script step.

Command

Defines a string of up to 80 bytes that is used for various purposes depending on the type of script record in which it is used. The uses of the Command field are described in "Use of the Command Field" later in this section.

Batch ID

Allows Sends and Receives using the queues to refer to specific user-defined categories of data.

Receive Timer

Defines a time limit after which Receive and Data Trap steps terminate with a "timed out" status.

Timeout Continue

Determines whether the script should continue executing if a receive timeout occurs during a Receive or Data Trap step.

Timeout Status

If a receive timeout occurs while receiving data to the inbound queue, this field determines whether the data batch being received when the timeout occurred is marked as received "Normal" or "Abnormal".

NOTE

Batch ID, Receive Timer, Timeout Continue, and Timeout Status fields are only accessible from the EDIX43B extended mode communication session control maintenance panel.

Supported Script Transaction Types and Actions

The supported script Transaction types and their actions are as follows:

C (Control Record)

Transmits the data in the Command field, followed by the control character identified by the Indicator field.

D (Data Trap)

Waits for the data in the Command field to be received, followed by the control character identified by the Indicator field. All data received up to and including the Command record image and control character is discarded. If the matching data has not been received within the time limit specified by the Receive Timer value for this step, the Data Trap terminates abnormally, and subsequent script steps may or may not be executed, depending on the Timeout Continue value for this step.

R (Receive)

Receives data to the inbound queue, a user file, or to Spool depending on the contents of the File and File Name fields.

S (Send)

Sends data from the Outbound Queue or a user file, depending on the contents of the File and File Name fields.

E (Evoke)

Attempts to start a program to communicate with on the remote system. Refer to the "Evoke Considerations" section for more information.

The File and File Name fields are used to specify the source or destination of data that is transmitted and received by Send/Receive steps in the script. The supported File values and their meanings are:

X (Extended Script Logic)

Enables the session control script to use conditional logic and branching. SEE the "Asynchronous Extended Script Logic" section later in this chapter for more information.

OQ (Outbound Queue)

All Outbound Queue data associated with this Profile ID is to be sent to the remote system. If more than one batch is queued, all eligible batches are sent as a continuous stream, with no characters inserted to separate the individual batches. If there is no data on the Outbound Queue that is eligible for transmission, the "no data" message defined by the Command field is sent. If the Command field is blank, nothing is sent as a "no data" indication. At the end of the step, if anything was sent during the step, the control character identified by the Indicator field is sent.

OM (Outbound Multiple)

All Outbound Queue data associated with this profile ID is to be sent to the remote system. If more than one batch is queued, all eligible batches are sent, and the control character defined as the ETX character in the profile is sent between the individual batches to allow the remote system to separate the batches. If the Command field is nonblank, then the Command field image is transmitted at the beginning of every outbound batch. If there is no data on the Outbound Queue that is eligible for transmission, the default "no data" message "*** ERROR *** NO BATCHES FOR TRANSMISSION" is sent. At the end of the step, the control character identified by the Indicator field is sent.

OF (Outbound File)

Data is to be transmitted from the file identified by the File Name field. The file must exist or the send step terminates abnormally. The library list is searched to locate the file. If the outbound file contains no records and the Command field is nonblank, then the "no data" message defined in the Command field is sent. If the outbound file contains no records and the Command field is blank, then the default "no data" message "*** ERROR *** NO BATCHES FOR TRANSMISSION" is sent. At the end of the step, the control character identified by the Indicator field is sent.

IQ (Inbound Queue)

All received data is to be written to the inbound queue as a single batch. Several conditions can cause the receive step to end, as follows. The receive step ends when the control character identified by the Indicator field is received. If the Command field is nonblank, the receive step ends when the record image from the Command field followed by the control character identified by the Indicator field is received. If the Command field is blank, the receive step ends when the default message "*** ERROR *** NO BATCHES FOR TRANSMISSION" followed by the control character identified by the Indicator field is received. The receive step ends if the default message "*** SUPERTRACS READY FOR INPUT<CR><EOT>" is received. The receive step ends as a timeout if no data is received during the period of time specified by the Receive Timer field. If a timeout occurs, subsequent processing is determined by the values in the Timeout Continue and Timeout Status fields.

IM (Inbound Multiple)

All received data is to be written to the inbound queue. If the character defined as the ETX character in the profile is received in the inbound data stream, it is interpreted as marking the end of a data batch, and data received following the ETX is written to the queue as a separate batch. Several conditions can cause the receive step to end, as follows. The receive step ends when the EOT character defined in the profile is received. If the Command field is nonblank, the receive step ends when the record image from the Command field followed by the control character identified by the Indicator field is received. If the Command field is blank, the receive step ends when the default message "*** ERROR *** NO BATCHES FOR TRANSMISSION" followed by the control character identified by the Indicator field is received. The receive step ends if the default message "*** SUPERTRACS READY FOR INPUT<CR><EOT>" is received. The receive step ends as a timeout if no data is received during the period of time specified by the Receive Timer field. If a timeout occurs, subsequent processing is determined by the values in the Timeout Continue and Timeout Status fields.

IF (Inbound File)

All received data is to be written to the file identified by the File Name field. The file must already exist on the receiving system, and must be a physical file containing a single member comprised of fixed-length records. The library list is searched to locate the file. The receive step ends under the same conditions that were described for IQ (Inbound Queue).

IA (Inbound Append)

Same as IF (Inbound File), except the received data is appended to the existing file.

SP (SPOOL)

All received data is written to the SPOOL (output queue). The output is written using the name “EDIPRINT”. The receive step ends under the same conditions that were described for IQ (Inbound Queue). For more information about receiving to SPOOL, refer to the section titled “Print Control”.

Use of ETX, EOT, and End-of-Cmd Characters

The asynchronous communication profile panels (EDIX401-FMT06 and EDIX401-FMT07) allow you to define certain characters that are used for interpreting communication session control scripts. These include ETX, EOT, and End-of-Command characters. Each field consists of two hexadecimal digits for entering the EBCDIC representation of the character you want to use. Remember, the values you enter must represent the characters in EBCDIC, but the actual characters transmitted or received over the communication line are the equivalent characters represented in ASCII.

The ETX character that you define is sent whenever a send step (transaction type ‘S’ or ‘C’) uses an indicator 1. It is expected to be received whenever a receive step (transaction type ‘R’ or ‘D’) uses an indicator 6. This character can also be used as the batch separator character during Send Outbound Multiple and Receive Inbound Multiple script steps.

The EOT character that you define is sent whenever a send step uses an indicator 2. It is expected to be received whenever a receive step uses an indicator 7.

The End-of-Cmd character that you define can be used to mark the explicit end-of-data in the Command field of communication session control scripts. By default, any data entered in the Command field of a script is interpreted as an 80-byte record, filling the entire 80-byte input field. By inserting the End-of-Cmd character into the Command field, you can mark its length at 0-79 bytes. This provides the ability to send and receive messages that are less than 80 bytes in length. If the End-of-Cmd character is defined to be a non-printable character, such as the default value of ‘00,’ then it can be entered into the script using the extended view EDIX43B communication session control maintenance panel.

Use of the Command Field

The Command field is used by most communication session control transactions. The Command field can be accessed from the EDIX403 and EDIX43B communication session control maintenance panels.

Although the field is simply titled “Command”, it is actually used for several different purposes depending on the transaction type of the communication session control record in which it appears. This section summarizes the various uses of the Command field when used in asynchronous communication session control scripts.

Trans. Type	Use of Command field
C	Defines record image that is transmitted to remote system.
D	Defines record image to wait for.
S	Defines the “No Data” message that is transmitted to the remote if there is no data to send. For Send Outbound Multiple steps, defines a record to be transmitted before every batch.
R	Defines an End of Data message that triggers the end of the receive step if it is received from the remote system.
E	Transmit an Evoke record to remote system
X	Invoke extended script logic

Explanation of Script Indicators

The “Ind” (Indicator) field in a communication session control record represents a control character that is sent or received to mark the end of the associated script step. The actual character values for the ETX and EOT characters are defined in the communications profile.

Async Send /Receive Indicators

Indicator	Indicator Represents
0	No control character
1, 6	ETX character as defined in communication profile
2, 7	EOT character as defined in communication profile
X	XMODEM file transfer protocol will be used

NOTE

Indicators for ZMODEM transfers have special meanings. Please refer to the ZMODEM Send Indicator Table and ZMODEM Receive Indicator Table later in this section.

Async Transaction Code/Action Table

Trans. Code	Description	Action	Valid Indicators
C	Send Control Record	Send Literal from Command Line	0, 1, 2
D	Receive Control Record (Data Trap)	Wait for data in Command line to be received from the remote system	0, 6, 7
E	Evoke Remote Program	Send Evoke record to the remote system and wait to receive evoke confirmation message	0, 1, 2
S	Send Data	■ OQ – Send from Outbound Queue OM – Send from Outbound Queue separating multiple batches ■ OF – Send from Outbound File	0, 1, 2

Trans. Code	Description	Action	Valid Indicators
R	Receive Data	■ IQ – Receive to Inbound Queue IM – Receive to Inbound Queue separating multiple batches ■ IF – Receive to Inbound File ■ IA – Receive and Append to Inbound File ■ SP – Receive data to SPOOL (print file)	0, 6, 7
X	Extended Script Logic	Invoke extended script logic functions	(space)

Async Send Indicator Table

Desired Action	Definition	Indicator
Send Data or Command line alone, without any additional control characters	No control character is sent at the end of the outbound data or Command line image	0
Send an End of Text (ETX) character at the end of the current script step	An ETX character, as defined in the communication profile, is sent following the data for this step	1
Send an End of Transmission (EOT) character at the end of the current script step	An EOT character, as defined in the communication profile, is sent following the data for this step	2
Send data using XMODEM	XMODEM protocol will be used	X

NOTE

Indicators for ZMODEM transfers have special meanings. Please refer to the ZMODEM Send Indicator Table and ZMODEM Receive Indicator Table later in this section.

Async Receive Indicator Table

Desired Action	Definition	Indicator
Recognize the Command line data alone, without any additional control character	The Command line data is used for a Data Trap or to indicate the end of the receive, without expecting it to be followed by any control character	0
Receive until an ETX character has been received	An ETX character is expected at the end of the inbound data or Command line data	6
Receive until an EOT character has been received	An EOT character is expected at the end of the inbound data or Command line data	7
Receive data using XMODEM	XMODEM protocol will be used	X

NOTE

Indicators for ZMODEM transfers have special meanings. Please refer to the ZMODEM Send Indicator Table and ZMODEM Receive Indicator Table later in this section.

ZMODEM Send Indicator Table

Desired Action	Definition	Indicator
Send all batches as one file	This action sends the data for the current script step without sending a ZEOF at the end of the transfer. This causes the data from this batch and the next batch to be seen by the remote system as one file.	0
Send each batch as a separate file.	This action sends the data for the current script step and sends a ZEOF at the end of the transfer. This causes the remote system to close the file it is processing, causing each batch to be treated as a separate file.	1
End session after this batch	This action sends the data for the current script step and sends a ZEOF followed by a ZFIN at the end of the transfer. This causes the remote system to close the file it is processing and terminate the session. This indicator must only be used on the last step of a script.	2

ZMODEM Receive Indicator Table

Desired Action	Definition	Indicator
Receive all files into one batch	This action receives all data into one batch or file. The ZEOF from the remote system is ignored and the data from the next remote file is appended onto this batch or file.	5
Receive each file as a separate batch or file	This action receives each file as a separate file. The ZEOF from the remote system is processed, the batch is closed, and the session continues with the next script step.	6
End session after this batch	This action works much like script indicator 6 except that ZFIN is expected after the file and the session is ended. This indicator must only be used as the last step of a script.	7

Asynchronous Extended Script Logic

Introduction

In the asynchronous communication module, extended script logic is used to allow a communication session control script to use conditional logic and branching, and to support ODETTE File Transfer Protocol (OFTP) and XMODEM.

(SEE the Scripting Considerations topic in the "Asynchronous Communication Support" section in this chapter for general information on scripting. SEE the "Extended Script Logic" section in this chapter for general information on extended script logic.)

Asynchronous Extended Script Logic Keywords

The asynchronous communications module recognizes the following extended script logic keywords:

- CLEARBUF
- GOTO line#
- IF [NOT] condition action
- SENDFAIL
- SENDOK
- SESSABORT
- SESSEND
- SESSFAIL
- CMLOGON
- SET
- OFTP Keywords

The following paragraphs describe the asynchronous extended script logic keywords in more detail, except the OFTP keywords, which are discussed in the "OFTP Communication Support" section in this chapter.

CLEARBUF

The CLEARBUF keyword causes all data that has already been received from ICF but has not yet been processed (by a data trap or receive step) to be discarded.

GOTO line#

Causes script execution to unconditionally branch to the specified script line number (Seq No). If the specified line does not exist, execution will continue with the script record following the invalid GOTO.

Without the GOTO keyword, the lines of an asynchronous communication session control script will be executed in ascending sequence according to the Seq No field.

When used as the action clause in an IF statement, the keyword GOTO is optional (the line# can be coded by itself).

SENDOK and SENDFAIL

These keywords are only applicable to XMODEM (ASX) session control scripts.

In Gentran:Server communications other than XMODEM, an outbound queue batch will be marked "Sent Normal" as soon as the entire batch has been transmitted to the remote system. This may not be appropriate for some networks, such as the GEIS asynchronous XMODEM interface, EDI*EXPRESS MARK III. This interface requires that the file transfer step be followed by additional network commands before the transfer can be considered complete.

The SENDOK and SENDFAIL keywords address this situation by allowing the session control script to explicitly cause transmitted batches to be marked "Sent Normal" or "Sent Abnormal".

When Gentran:Server XMODEM begins sending a batch from the outbound queue, the batch's status is marked "In Progress." If an error occurs while transmitting the batch, the status is changed to "Sent Abnormal". If transmission of the batch completes, the batch's unique identifier is added to an internal list.

When a SENDOK or SENDFAIL keyword is encountered in the script, the status of all batches in the internal list is changed to "Sent Normal" or "Sent Abnormal," respectively, and the batches are removed from the list.

This allows the script to perform one or more XMODEM sends, each of which may transmit one or more batches, then perform additional processing as necessary, and finally set the batch status by using SENDOK or SENDFAIL.

NOTE

Use of the SENDOK and SENDFAIL keywords to explicitly set the outbound batch status is not mandatory. If the script does not use these keywords, then the status will be updated automatically at the end of the communication session. If the session completes successfully, the batches will be marked "Sent Normal." If the communication session fails, the batches will be marked "Sent Abnormal."

SESSFAIL

Sets the session completion status to "Failed."

When the communication session begins, the session status is initialized to "Successful." If a communication error occurs, the status is changed to "Failed." SESSFAIL allows a script to explicitly set the status to "Failed" due to some condition other than those that would ordinarily be considered a session failure.

SESSFAIL does not terminate the session, it only changes the session completion status.

SESSEND

Causes the session to terminate immediately.

This keyword does not alter the session completion status. It simply ends the session with the current session completion status, as determined by prior events in the session.

SESSABORT

Causes the communications session to terminate immediately with a “Failed” status.

This keyword is equivalent to SESSFAIL followed by SESSEND.

CMLOGON

Used to authenticate the remote user or computer system by requiring transmission of a userid and password. The Gentran:Server system will prompt the remote user for the login id and then the password. The remote user will be given three attempts to send the correct values, terminated by carriage returns. If the correct values are supplied, script execution continues with the step following the CMLOGON command. If not, the session will be terminated.

```
CMLOGON ID=userid PWD=password
```

ID may be up to 8 alphanumeric characters, not containing spaces.

PWD may be up to 8 alphanumeric characters, not containing spaces.

Validation of the logon strings are performed case-insensitive.

SET

Sets various options related to asynchronous file transfers.

SET PROTOCOL=ASCII|ZMODEM
Determines what file transfer protocol will be used for any subsequent Send and Receive steps, including commands received in remote command mode.

`SET PROTOCOL=ZMODEM` specifies that ZMODEM protocol will be used for file transfers.

`SET PROTOCOL=ASCII` specifies that plain ASCII text transfers with no protocol will be used for file transfers. If a Send or Receive step is encountered before any `SET PROTOCOL` record, the transfer protocol will default to ASCII.

SET XFER_MODE=TEXT|BINARY
TEXT specifies that the data being transferred is a text file. `BINARY` specifies that it is not. This setting only affects ZMODEM transfers.

SET XLATE=YES|NO
Specifies whether data should be translated between ASCII and EBCDIC. This setting only affects ZMODEM transfers.

IF condition action

Allows an action to be taken depending on the outcome of the evaluation of a condition. If the specified condition evaluates “True”, the specified action will be taken. If the condition evaluates “False,” the action will be ignored.

The IF keyword must be combined with additional keywords to form a complete IF statement. The additional keywords are used to specify the condition to be tested and the resulting action. The keywords that may be used as conditions and actions are discussed in the following paragraphs.

Condition Keywords (Only valid following an IF keyword)

NOT

Causes the result of the next condition keyword to be reversed before determining whether to execute the action. This keyword is not valid by itself. It can only be specified preceding one of the other valid condition keywords.

MATCH

Tests the result of the last data trap step that was executed. Evaluates “True” if the data trap found a match. Evaluates “False” if the data trap ended without a match.

OQDATA

Tests the availability of data on the outbound queue. Evaluates “True” if one or more batches for this profile are eligible for transmission (batch status Q, IP, or SA). Evaluates “False” if no eligible batches are available for this profile.

CONTAINS “string”

Tests whether the specified character string was received during the last data trap step.

Regardless of the text that was specified in the Command field of the data trap step, all data that was received during that step was stored in a buffer (see note). This keyword causes the buffer to be searched for the specified string. The condition evaluates “True” if the string is found, or “False” if it is not found.

NOTE

The buffer is 4096 bytes in length. If the data received by the last data trap step exceeds this length, only the last 4096 bytes received will be available in the buffer.

The search argument (“string”) must be delimited by quotes. Either double (“ “) or single (‘’) quotes may be used, but the closing delimiter must be the same as the opening delimiter. The quote that is used as the delimiter cannot appear within the string. This allows you to search for a string containing quotes of either style, but not both.

The hex mode of the EDIX43C panel can be used to include non-character (binary) data in the search string if necessary, however the null character (hex ‘00’) should not be used. (SEE the section “Work with Communications Control Scripts” in the “Work with Communications” chapter for more information.)

Action Keywords (see preceding paragraphs for explanations of each keyword)

- CLEARBUF
- [GOTO] line#
- SENDOK
- SENDFAIL
- SESSFAIL
- SESSEND
- SESSABORT

Asynchronous Extended Script Logic Example

The example script in Figure 9.1 shows how some of the extended script logic keywords discussed previously might be used to set up a machine to transmit batches from the outbound queue to someone dialing in using an asynchronous PC communication product.

```
 Opt Seq No Tran File File Name  Ind Description

 __    _10   C    __  __________  2  Send_connect_confirmation_____
.Welcome_to_the_machine@_____________________________________________

 __    _20   X    __  __________  _  Check_for_outbound_data_______
IF_NOT_OQDATA_GOTO_200_______________________________________________

 __    _30   C    __  __________  2  Data_is_available_____________
.Data_is_available_for_you,_if_you_want_to_receive,_enter_YES_now@_____

 __    _40   D    __  __________  7  Wait_for_YES_response_________
YES@_________________________________________________________________

 __    _50   X    __  __________  _  If_response_not_YES,_goto_end_
IF_NOT_MATCH_210_____________________________________________________

 __    _60   C    __  __________  2  Send_ready_msg_______________
.Please_start_your_XMODEM_receive_process_now@_______________________

 __    _70   S    OM  __________  X  Send_next_batch_using_XMODEM__
this_Command_field_does_not_get_used_in_XMODEM_sends_and_receives_____

 __    _80   C    __  __________  2  Send_completion_msg/prompt____
.Send_complete,_enter_YES_if_the_file_was_received_successfully@_______

 __    _90   D    __  __________  7  Wait_for_response_until_CR____
@_____________________________________________________________________

 __    100   X    __  __________  _  Test_response_______________
IF_NOT_CONTAINS_"YES"_SESSABORT_____________________________________

 __    110   X    __  __________  _  Batch_transmitted_successfully
SENDOK_______________________________________________________________

 __    120   X    __  __________  _  Go_check_for_more_data________
GOTO_20______________________________________________________________

 __    200   C    __  __________  2  Send_end_of_session_msg_______
.No_data_is_available_for_you@_______________________________________

 __    210   C    __  __________  2  Send_end_of_session_msg_______
.Thank_you_for_using_SuperNet,_Goodbye@______________________________
```

Figure 9.1 Asynchronous Extended Script Logic Example

Notes About Example

The example makes the following assumptions about the communication profile being used:

- It is an ASX profile, so we can use asynchronous extended script logic and XMODEM protocol.
- The EOT character is defined as carriage return (hex “0D”). This means that all control record steps using indicator 2 will append a carriage return to the data being transmitted. All data trap steps using indicator 7 will expect to receive a carriage return in addition to the data being trapped.
- The End-of-Cmd character is defined as “@” (hex “7C”). This means that “@” can be used in the Command field to limit its length to less than the full 80 byte capacity of the field.

The notes in the following table explain each line of the script in more detail.

Seq No	Explanation
10	Sends a message to the remote operator, confirming a connection to your system. The message text is coded in the Command field. Notice that the End-of-Cmd character (“@”) has been used to limit the length of the message. Notice the period at the beginning of the message. This represents a non-displayable character, which in this case is a line feed. Non-displayable characters can be manipulated using the hex mode of the EDIX43C communication session control panel. Because indicator 2 has been specified, a carriage return will be transmitted following the message.
20	Checks to see if the profile that is executing this script has any data batches on the outbound queue that are eligible for transmission. If no batches are available, control is transferred to the end of session processing.
30	Since the GOTO in step 20 was not executed, a message is transmitted indicating that there is data available, and asking the remote operator if they want to receive it. The remote operator is prompted to enter YES to receive the file.
40	Waits to receive “YES”. Note that the “@” End-of-Cmd character has been used to limit the data being waited for to the three characters Y E S. This step will end when YES has been received or the receive timer expires. The time limit can be accessed by using the EDIX43C communication session control panel.
50	Tests whether the last data trap step (Seq No 40) ended with a match condition or not. If not, the script transfers control to the end of session logic. Otherwise, execution continues with the send logic portion of the script. Notice that the word GOTO has not been used, which is optional in the action clause of an IF statement. Compare the syntax of this script line with Seq No 20.
60	Instructs the remote operator to prepare to receive a file using XMODEM protocol.

Seq No	Explanation
70	Sends data from the outbound queue to the remote system using XMODEM protocol. Because File “OM” (Outbound Multiple) was specified, only one batch will be transmitted. If “OQ” had been specified, all eligible batches would have been transmitted in succession as a single XMODEM file. Note that when using XMODEM, the contents of the Command field are not used.
80	Sends a completion message to the remote operator indicating that the file transfer has completed, and prompting them to confirm that the file was received successfully.
90	Waits for confirmation from the remote operator. Note that this step combines an indicator 7 with an End-of-Cmd character in the first position of the Command field. This causes the system to wait to receive a carriage return. The example assumes that the remote operator will transmit some kind of message ending with carriage return, in response to the prompt issued by the previous step.
100	Tests the data that was received during the previous data trap step to determine if the response received from the remote operator indicates a successful file transfer. If not, the SESSABORT keyword will cause the transmitted batch to be marked “Sent Abnormal”, the session completion status will be set to failed, and the session will terminate immediately.
110	Since the session was not terminated by the previous step, we know the file reached the remote system, so the transmitted batch is now marked “Sent Normal” by the SENDOK keyword.
120	Unconditionally transfers control back to the beginning of the “send loop” (Seq No 20).
200	Transmits a message to the remote operator indicating that no more data needs to be transferred.
210	Transmits a message indicating that the session is ending. After this, the end of the script is encountered and the system ends the session and terminates the connection to the remote system.

"Create Your Own" Protocol

When constructing communication session control scripts for asynchronous remotes, it is important to keep in mind that no "handshaking" is performed at the line protocol level, as there is in most synchronous communication. Among other things, this means that the conversation occurring between two systems can not be kept synchronized by adherence to rules of protocol. Since this synchronization (who is sending and who is receiving) is not enforced by asynchronous communication, it should be made part of the asynchronous conversation by including handshaking steps in the communication session control script. This can be done easily using Data Trap (D) Transaction and Control Record Send (C) Transaction script steps.

For example, if you are setting up two systems where one system transmits Outbound Queue data to the other, you could simply code a Send step on one system and a Receive step on the other:

- Example script on Receiving system:

```
Seq No Tran File File Name Ind Description
 010    R    IQ  __________ 2  RECEIVE TO INQUEUE
*** ERROR *** NO BATCHES FOR TRANSMISSION
```

- Example script on Sending system:

```
Seq No Tran File File Name Ind Description
 010    S    OQ  __________ 2  SEND FROM OUTQUEUE
*** ERROR *** NO BATCHES FOR TRANSMISSION
```

The scripts above might work fine most of the time. However, to improve the reliability of the communication conversation, you should include additional script steps to perform some basic handshaking between the two systems:

- Example script on Receiving system:

```
Seq No Tran File File Name Ind Description
 010    C    __  __________ 0  SEND READY MESSAGE
READY TO RECEIVE
 020    R    IQ  __________ 7  RECEIVE TO INQUEUE
*** ERROR *** NO BATCHES FOR TRANSMISSION
 030    C    __  __________ 0  SEND COMPLETION MESSAGE
RECEIVE COMPLETED
```

- Example script on Sending system:

```
Seq No Tran File  File Name Ind  Description
 010   D    __   _______     0   WAIT FOR READY MESSAGE
READY TO RECEIVE
 020   S    OQ   ______      2   SEND FROM OUTQUEUE
*** ERROR *** NO BATCHES FOR TRANSMISSION
 030   D    __               0   WAIT FOR COMPLETION MESSAGE
RECEIVE COMPLETED
```

At the beginning of the script for the receiving system, a “READY TO RECEIVE” message is transmitted to the sending system. The sending system waits for the message before beginning to send. After the data has been received, the receiving system transmits a “RECEIVE COMPLETE” message to the sending system, indicating that the receive step has ended. The sending system waits for this message before ending its script and disconnecting the line. This avoids potential data loss that could occur if the sender was to disconnect before the receiver had finished receiving and writing the data to the inbound queue. These additional script steps ensure that the two systems remain synchronized.

In many cases, the script you create is dictated by the operation of an existing network or remote system you need to communicate with. You will not necessarily be able to include your own special messages as described above. However, the handshaking concepts can still be applied in many cases, and should be whenever possible. For example, if you are transmitting data into a network, you should wait for any message the network may provide as your completion message. The network may transmit a message such as “READY FOR NEXT COMMAND,” which can serve the same purpose as the “RECEIVE COMPLETE” message in the example above. If the network provides a logoff procedure, you should always include script logic to perform the logoff steps and wait for any messages that are returned from the network, to keep the conversation synchronized and ensure that both systems reach what they consider to be a successful end of session.

Print Control

When receiving data destined for SPOOL, this product performs as follows with regard to printer control. A receive to SPOOL is requested by specifying communication session control Transaction Type ‘R’ and File ‘SP’ in a communication session control script.

- Carriage returns always cause a carriage return and linefeed.
- The linefeed following a carriage return is ignored.
- If the “maximum print width” characters are received without receiving a carriage return, a carriage return and linefeed is generated automatically. The maximum print width is defined by the Print Record Size field in the communication profile.
- Form feed characters advance the printer to the first print line of the next page.
- If 60 lines are received without receiving a form feed, a form feed is generated automatically.
- The printer output from each Receive to SPOOL step generates a separate SPOOL file named EDIPRINT.

Dynamic Scripting

Dynamic scripting, as implemented in the bisynchronous and SNA communicators in this software, is also supported by the asynchronous communicator for both ASC and XAS profiles.

Dynamic scripting allows a communication session to be started without specifying a specific session type. Rather, when the connection to the remote system has been established, the remote system transmits a record that indicates which communication session control script is to be executed.

To use Dynamic Scripting, start a communication session and specify a session name of '$$.' The profile that is started may initiate the connection (dial) or wait for the remote system to initiate (answer).

After the connection has been established, the remote system must transmit an 80 byte record with the following format:

```
$$SCRIPT ID=pppppppp SSN=ss

or

$$SCRIPT  PROFILEID=pppppppp SESSION=ss

where:  pppppppp      specifies the communication profile
                      name that is to be executed
           ss         specifies the communication session
                      control script that is to be executed
```

After the $$SCRIPT record has been received, the system attempts to execute the specified communication session control script.

Remote Command Support

Remote command support is described in Chapter 5. Chapter 5 includes additional information specific to async remote commands under the “Protocol Specific” topics describing the individual remote commands.

All asynchronous remote commands can be variable length and must be terminated by a carriage return.

Gentran asynchronous remote command support is specifically designed to enable communications with the Connect:Mailbox Client for Windows product (as shown in Figure 9.2), but with proper consideration and testing, could also be used with other remote software such as Procomm (as shown in Figure 9.3).

```
EDIX403               Communication Session Control            EDI 03/01/06
CTL01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  ASCMBXW
Session Name . . . . . . . . . . .  RC
Company. . . . . . . . . . . . . .  Test Mailbox Client for Windows

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__   ___10   X     __  __________  _  Prompt user to login
CMLOGON ID=userid PWD=password
__   ___20   C     __  __________  0  Mbx Client expects this
PROTOCOL
__   ___30   X     __  __________  _  Set Xfer protocol
SET PROTOCOL=ZMODEM
__   ___40   C     __  __________  1  Enter Remote Cmd Mode
SET MODE=RMT
__   _____   _     __  __________  _  ____________________________________

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.2 Sample script for Connect:Mailbox Client for Windows

```
EDIX403               Communication Session Control            EDI 03/01/06
CTL01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  ASCMBXW
Session Name . . . . . . . . . . .  RC
Company. . . . . . . . . . . . . .  Test Mailbox Client for Windows

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    10   X    __  __________  _  Prompt user to login
CMLOGON ID=userid PWD=password
__    20   X    __  __________  _  Set Xfer protocol
SET PROTOCOL=ZMODEM
__    30   X    __  __________  1  Enter Remote COmmand Mode
SET MODE=RMT
__  _____  _    __  __________  _  ____________________________________

__  _____  _    __  __________  _  ____________________________________

                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.3 Sample Script for Procomm

NOTE

For more information on the Control Record (C) transactions in the examples, see the“Remote Command Support” topic in Chapter 5, Using Scripts. For more information on the Extended Logic (X) transactions, see the topic, “Asynchronous Extended Script Logic” on page 9-24 in this chapter.

Transparent Data

Transmission of transparent (binary) data is not supported by the base asynchronous communicator in this software, but is supported when using the OFTP, XMODEM, and ZMODEM extensions.

Evoke Considerations

Evoke support provides a method for one system to initiate a connection to another iSeries and start a program to communicate with, rather than having a program already running, waiting to answer the call. The Evoke capability must also be used for receiving multiple concurrent incoming call requests for asynchronous conversations over the same X.25 line (XAS and OFX communication profiles).

The Evoke feature is only supported between two iSeries that are both running this software.

To make your system evoke a program on the remote system, include an Evoke (E-type) record as the first record of your communication session control script. The Evoke record is only valid as the first record. Each time you add an Evoke record in a script, the system presents the Communication Evoke panel (EDIX43C-FMT01). This panel, shown in Figure 9.4, allows you to specify the information necessary for evoking the asynchronous communicator on the remote system.

```
EDIX43C                    Communication Evoke                EDI   03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . .  LOCLDX
Session Name . . . . . .  T1
Company. . . . . .  Local Leased Line/Dial/X25 Network
                            ____________________________________

Library Name . . . . . .  G7X0PGM
Program Name . . . . . .  STRCOM62
Profile to Evoke . . . . . .  RMTLAX
Session to Evoke . . . . . .  T1
Trace *YES or *NO. . . . . .  *NO
User ID. . . . . .  QPGMR
Password . . . . . .  QPGMR




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 9.4 Communication Evoke panel (EDIX43C-FMT01)

The User ID and Password must name a valid user ID and password on the remote system. The user profile for this User ID must use a Job Description that specifies a library list that includes this product's libraries.

The Profile to Evoke and Session to Evoke fields must name a communication profile and session control script that exist on the remote system and correspond to the script being executed on the local system.

The remote system must have appropriate line, controller, and device descriptions created and they must have a status of "Varied On" or "Vary On Pending".

This product automatically exchanges the Evoke record and an evoke confirmation, so you do not have to include any additional logic for that purpose in your session control scripts. When the local system encounters an E-type (Evoke) record in a script, it transmits an Evoke record to the remote system to attempt to start the “target” program on the remote system. It then waits for a confirmation message from the target program indicating that the evoke was successful. If the target is evoked successfully, it sends the confirmation message and starts executing at the first step of the script named in the Evoke record on the local system. After receiving the confirmation message, the local system resumes script execution at the second script step (immediately following the Evoke step).

Asynchronous (ASC) Communication Examples

NOTE

This feature is an optional add-on product that may be purchased separately.

This section provides examples for configuring and executing communication using the ASC (asynchronous) protocol. The ASC communication support provides an asynchronous connection to the remote system. Two examples are shown. The first shows the local iSeries communicating with another iSeries that is using this product. The second shows the local iSeries communicating with a personal computer. Both examples use dial-up (switched line) connections.

The examples use a standard naming convention to help illustrate the configuration type being used. The naming convention includes the system type (local or remote), the physical line type (dial-up), the session initiation type (dial or answer), and the protocol type. The naming convention adheres to the following rules:

- The first three characters of each Profile ID indicate the system type. A local system definition represents your machine and uses “LOC” as the first three characters in each example, while the remote system definitions use “RMT.”
- The fourth character of each Profile ID represents the type of physical line connection being used. A dial-up (switched) line type is represented by the character “D.” It is assumed that all asynchronous connections will be using a dial-up line.
- The fifth character of each Profile ID represents the session initiation type. The character “D” (dialer) indicates that you will be starting the session with the remote system, while the character “A” (answerer) indicates that you will be waiting for the remote system to contact you.
- The sixth character of each Profile ID represents the protocol type of ASC (A). The examples include all parameters used in building the Profile ID and the Session Scripts.

The examples use typical asynchronous configurations, and should be applicable to many environments.

The examples show the communication profile and communication session control scripts for both the local and remote iSeries systems. The PC example shows a sample communication script for a PC using the PROCOMM PLUS product by DATASTORM TECHNOLOGIES, INC.

The example communication profile names and the configurations they represent are:

Example 1

- **LOCDDA –** Local system configured for dial line, initiate the connection (dial), ASC protocol in use.
- **RMTDAA –** Remote system configured for dial line, answer incoming calls initiated by another system, ASC protocol in use.

Example 2

- **LOCDAA –** Local system configured for dial line, answer incoming calls initiated by another system, ASC protocol in use.
- **Remote PC** – Communication profile not shown (not applicable to PROCOMM PLUS). Example script initiates a dial-up connection to LOCDAA and performs file transfers.

Figure 9.5 shows the Communication Profile for a local system, dial line, initiate call, ASC in use configuration.

```
EDIX401                    Communication Profile               EDI   03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LOCDDA

Company. . . . . . . . . . . . . .  Local Dial Line/Dial/ASYNC
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  ASC
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.5 Communication Profile panel (EDIX401-FMT01)

Figure 9.6 shows the extended view of the previous Communication panel.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT06                              ASC                              12:00:00

Comm Profile ID. . . . .  LOCDDA
Company. . . . . . . . .  Local Dial Line/Dial/ASYNC
Modem Port . . . . . . .  LIN061             Retries. . . . . . . .  02
Switched Line. . . . . .  Y                  Auto Dial. . . . . . .  Y (Y/N)
Dial . . . . . . . . . .  5551212
Remote Location. . . . .  LOCDDA            Job Termination Delay.  N
Line Speed . . . . . . .  09600            End-of-Cmd Character .  00
Print Record Size. . . .  132              EOT Character. . . . .  3F
Outbound Block Size. . .  1024             ETX Character. . . . .  03
Command Set. . . . . . .  A                Translation:
Flow Control . . . . . .  N (Y/N/H)        Inbound (from) . . . .  __ __
Remote Cmd Password. . .  *NONE            Inbound (to) . . . . .  __ __
                          ____             Outbound (from). . . .  __ __
Modem Break Character. .  +                Outbound (to). . . . .  __ __
Modem Auto-Answer Command ATS0=1
Modem Init. Command. . .  ATQ0V1X4
Modem OK Message . . . .  OK<CR><LF>
Modem Connect Message. .  CONNECT<?><CR><LF>

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.6 Extended View of Communication panel (EDIX401-FMT06)

Figure 9.7 shows the Communication Session Control panel (EDIX403-CTL01) for the local system, dial line, initiate call, ASC in use configuration.

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LOCDDA
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Dial Line/Dial/ASYNC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind  Description
__     10   S   OF   TESTSND.01  2   SEND A TEST FILE FROM RMT
__     20   R   IF   TESTRCV.01  7   RECV TEST FILE FROM RMT
__     30   S   OQ   __________  2   SEND FROM OUT QUEUE
***  ERROR  *** NO BATCHES FOR TRANSMISSION
__     40   R   IQ   __________  7   RECV FROM RMT TO INB QUEUE
__     ___  _   __   __________  _   ____________________________

F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.7 Communication Session Control panel (EDIX403-CTL01)

This example script shows the following steps:

1. The local system sends a test file called “TESTSND.01” to the remote system. Indicator 2 specifies that an EOT character should be sent following the file. The EDIX401-FMT06 configuration panel defines EOT as x'3F' (EBCDIC SUB), so the equivalent ASCII SUB (x'1A') will be transmitted to mark the end of file.
2. The remote system sends data that will be received by the local system into a file called “TESTRCV.01”. Indicator 7 specifies that the remote will mark the end of file with an EOT character. The EDIX401-FMT06 configuration panel defines EOT as x'3F' (EBCDIC SUB), so the receive step will end when the equivalent ASCII SUB (x'1A') is received from the remote.
3. The local system sends all data with the Profile ID “LOCDDA” from the Outbound Queue to the remote system. In the event that there is no data on the Outbound Queue to send to the remote system, the message “*** ERROR *** NO BATCHES FOR TRANSMISSION” will be sent. The EOT character will be transmitted after all batches have been transmitted.
4. The remote system sends data that will be received by the local system to the inbound queue under Profile ID “LOCDDA”. The receive step will end when an EOT character is received from the remote. Although it is not apparent looking at the script above (because it is a default), the message “*** ERROR *** NO BATCHES FOR TRANSMISSION”, followed by an EOT character would also indicate the end of the receive step.

This concludes the configuration for local system, dial line, dial, ASC protocol (LOCDDA) example. The configuration for the remote system (RMTDAA) begins on the next page.

This begins the definitions for the remote system in dial line, answer (wait for the other system to contact you), ASC (asynchronous) configuration. This configuration is used by the remote system to communicate with the local system that uses the LOCDDA configuration.

Figure 9.8 shows the Communication Profile for a remote system, dial line, answer, ASC in use configuration.

```
EDIX401                   Communication Profile               EDI   03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  RMTDAA

Company. . . . . . . . . . . . . .  Remote Dial Line/Answer/ASYNC
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  ASC
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.8 Communication Profile panel (EDIX401-FMT01)

Figure 9.9 shows the extended view of the previous panel.

```
EDIX401                   Communication Profile                EDI 03/01/06
FMT06                              ASC                             12:00:00

Comm Profile ID. . . . .  RMTDAA
Company. . . . . . . . .  Remote Dial Line/Answer/ASYNC
Modem Port . . . . . . .  LIN032             Retries. . . . . . . .  02
Switched Line. . . . . .  Y                  Auto Dial. . . . . . .  N (Y/N)
Dial . . . . . . . . . .
Remote Location. . . . .  RMTDAA            Job Termination Delay.  N
Line Speed . . . . . . .  09600            End-of-Cmd Character .  00
Print Record Size. . . .  132              EOT Character. . . . .  3F
Outbound Block Size. . .  1024             ETX Character. . . . .  03
Command Set. . . . . . .  A                Translation:
Flow Control . . . . . .  Y (Y/N/H)        Inbound (from) . . . .  __ __
Remote Cmd Password. . .  *NONE            Inbound (to) . . . . .  __ __
                          ____             Outbound (from). . . .  __ __
Modem Break Character. .  +                Outbound (to). . . . .  __ __
Modem Auto-Answer Command ATS0=1
Modem Init. Command. . .  ATQ0V1X4
Modem OK Message . . . .  OK<CR><LF>
Modem Connect Message. .  CONNECT<?><CR><LF>

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.9 Extended View of Communication Profile (EDIX401-FMT06)

Figure 9.10 shows the Communication Session Control panel (EDIX403-CTL01) for a remote system, dial line, answer, ASC in use configuration.

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  RMTDAA
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Remote Dial Line/Answer/ASYNC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   R    IF  INFILE     7  RECV TEST FILE FROM RMT
__     20   S    OF  OUTFILE    2  SEND TEST FILE TO RMT
__     30   R    IQ  ________   7  RECV FROM RMT TO INB QUEUE
__     40   S    OQ  ________   2  SEND FROM OUT QUEUE TO RMT
***  ERROR  *** NO BATCHES FOR TRANSMISSION
__     ___  _    __  ________   _  ____________________________
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.10 Communication Session Control panel (EDIX403-CTL01)

This example script shows the following steps:

1. The local system sends data that will be received by the remote system into a file called “INFILE”. Indicator 7 specifies that the receive step is to end when an EOT character is received. Since the EDIX401-FMT06 profile panel defines EOT as x'3F' (EBCDIC SUB), the receive will end when the equivalent ASCII SUB (x'1A') is received.
2. The remote system sends a test file called “OUTFILE” to the local system. Indicator 2 specified that an EOT character be sent following the file. Since the EDIX401-FMT06 profile panel defines EOT as x'3F' (EBCDIC SUB), the system will transmit the equivalent ASCII SUB (x'1A') at the end of the file.
3. The local system sends data that will be received by the remote system to the Inbound Queue under Profile ID “RMTDAA.” The receive step will end when an EOT character is received. Although it is not apparent looking at the script above (because it is a default), the message “*** ERROR *** NO BATCHES FOR TRANSMISSION”, followed by an EOT character would also indicate the end of the receive step.
4. The remote system sends all data with the Profile ID “RMTDAA” from the outbound queue to the local system. In the event that there is no data on the outbound queue to send, the message “*** ERROR *** NO BATCHES FOR TRANSMISSION” will be sent.

This concludes the example for the remote system, dial line, answer, ASC configuration.

This begins the definitions for the local system in dial line, answer (wait for the other system to contact you), ASC (asynchronous) configuration. This configuration is used on the local system to answer a call from a remote PC.

Figure 9.11 shows the Communication Profile panel (EDIX401-FMT01) for the local system, dial line, answer, ASC in use configuration.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LOCDAA

Company. . . . . . . . . . . . . .  Test ASC Answer with AT commands
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  ASC
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y




F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.11 Communication Profile panel (EDIX401-FMT01)

Figure 9.12 shows the expanded view of the previous panel.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT06                              ASC                              12:00:00

Comm Profile ID. . . . .  LOCDAA
Company. . . . . . . . .  Test ASC Answer with AT commands
Modem Port . . . . . . .  LIN061              Retries. . . . . . .  02
Switched Line. . . . . .  Y                   Auto Dial. . . . . .  N (Y/N)
Dial . . . . . . . . . .  5551212
Remote Location. . . . .  LOCDAA             Job Termination Delay.  N
Line Speed . . . . . . .  09600              End-of-Cmd Character .  00
Print Record Size. . . .  132                EOT Character. . . .  3F
Outbound Block Size. . .  1024               ETX Character. . . .  03
Command Set. . . . . . .  A                  Translation:
Flow Control . . . . . .  N (Y/N/H)          Inbound (from) . . .  __ __
Remote Cmd Password. . .  *NONE              Inbound (to) . . . .  __ __
                          ____               Outbound (from). . .  __ __
Modem Break Character. .  +                  Outbound (to). . . .  0D 15
Modem Auto-Answer Command ATS0=1
Modem Init. Command. . .  ATQ0V1X4
Modem OK Message . . . .  OK<CR><LF>
Modem Connect Message. .  CONNECT<?><CR><LF>

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.12 Expanded View of Communication Profile panel (EDIX401-FMT06)

Figure 9.13 shows the Communication Session Control panel (EDIX403-CTL01) for the local system, dial line, answer, ASC in use configuration.

```
EDIX403               Communication Session Control           EDI   03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  LOCDAA
Session Name . . . . . . . . . . .  PC
Company. . . . . . . . . . . . . .  Test ASC Answer with AT commands

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10   D     __  __________  0  WAIT FOR READY MESSAGE
PC READY TO RECEIVE.
__     20   S     OF  SNDFIL80    2  SEND OUTBOUND DATA
NO DATA AVAILABLE ON iSeries.
__     30   D     __  __________  0  WAIT FOR RCV CONFIRMATION
PC RECEIVE COMPLETE.
__     40   C     __  __________  0  SEND READY MESSAGE
iSeries READY TO RECEIVE.
__     50   R     IQ  __________  7  RECEIVE TO INB QUEUE
NO DATA AVAILABLE ON PC.
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.13 Communication Session Control panel (EDIX403-CTL01)

Figure 9.14 shows the continuation of the Communication Session Control panel (EDIX403-CTL01) for the local system, dial line, answer with AT commands.

```
EDIX403               Communication Session Control           EDI  03/01/06
CTL01                                                                 12:00:00

Comm Profile ID. . . . . . . . . .  LOCDAA
Session Name . . . . . . . . . . .  PC
Company. . . . . . . . . . . . . .  Test ASC Answer with AT commands

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    60     C     __  __________   0  SEND CONFIRMATION MESSAGE
iSeries RECEIVE COMPLETE.
__   __      _     __  __________   _  ____________________________
__   __      _     __  __________   _  ____________________________
__   __      _     __  __________   _  ____________________________
__   __      _     __  __________   _  ____________________________
__   __      _     __  __________   _  ____________________________
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.14 Communication Session Control panel (EDIX403-CTL01)

The communication session control script shown above waits for a ready message from the PC, sends an outbound file, and waits for a confirmation of the receive. After confirmation is received, it transmits a ready message to the PC, and then receives data to the Inbound Queue until an EOT character is received. After the receive completes, a confirmation message is sent to the PC.

Please note that the "." (period) characters at the end of the Command lines in the communication session control scripts above actually represent the non-displayable End of Record character, which was defined to be `00` in the communication profile. The End of Record character would have to be entered for each script record by using the hex mode of the EDIX43B panel for the last script record (Seq No 060).

Figure 9.15 shows the extended view of the communication session control record sequence #60 accessed by using Option 11 on panel EDIX403-CTL01.

```
EDIX43B               Communication Session Control             EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LOCDAA
Session Name . . . . . . . . . . .  PC
Company. . . . . . . . . . . . . .  Test ASC Answer with AT commands
Sequence Number. . . . . . . . . .   60
Transaction Code . . . . . . . . .  C
File . . . . . . . . . . . . . . .
File Name. . . . . . . . . . . . .
Indicator. . . . . . . . . . . . .  0
Description. . . . . . . . . . . .  SEND CONFIRMATION MESSAGE

Command:             (Top Line CHAR, Bottom Lines HEX)
iSeries RECEIVE COMPLETE.
CE6FFF4DCCCCEC4CDDDDCEC04444444444444444444444444444444444444444444444444444444444444
12140009535955036473535000000000000000000000000000000000000000000000000000000000000000

Batch ID . . . . . . . ____________________
Receive Timer. . . . . _____ (MMSS)
Timeout Continue . . . ___________          Timeout Status . . . . ___

F1=Help  F2=Hex On/Off  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.15 Communication Session Control panel (EDIX43B-FMT01)

This concludes the example of local system, dial line, answer call, ASC protocol (LOCDAA). The corresponding example communication script for the remote PC begins on the next page.

This example of a PC communication script could be used to communicate with the preceding iSeries configuration, LOCDAA. The script shown uses the Aspect script language supported by PROCOMM PLUS, a product of DATASTORM TECHNOLOGIES, INC.

NOTE

The example script in Figure 9.16 illustrates only basic send/receive functionality. It does not contain the logic for error handling or no-data conditions, and is not intended for use in a production environment.

```
;
; SAMPLE PROCOMM PLUS 2.X ASPECT SCRIPT FILE FOR COMMUNICATING
; WITH Gentran:Server FOR THE iSeries
;
proc main                                       ; DECLARE MAIN PROCEDURE

            set softflow on                     ; ENABLE XON/XOFF FLOW CONTROL
            set ascii charpace 0                ; NO CHARACTER PACING NEEDED
            set ascii linepace 0                ; NO LINE PACING NEEDED
            set ascii up_cr strip               ; STRIP OUTBOUND CR/LF
            set ascii dn_to 30                  ; SET RCV TIMEOUT FOR 30 SECS

            mdial "5551212"                     ; INITIATE CALL TO iSeries
            waitfor "CONNECT"                   ; WAIT FOR CONNECTION
            waitquiet 5                         ; WAIT FOR QUIET LINE
            rflush                              ; CLEAR RECEIVE BUFFER

            transmit "PC READY TO RECEIVE"      ; SEND READY MESSAGE
            getfile ascii "\RECEIVED.DAT"       ; RECEIVE DATA FROM iSeries
            transmit "PC RECEIVE COMPLETE"      ; SEND CONFIRMATION MESSAGE

            waitfor "iSeries READY TO RECEIVE" ; WAIT FOR READY MESSAGE
            sendfile ascii "\RECEIVED.DAT"      ; SEND SAME DATA RECEIVED
            transmit "^Z"                       ; SEND CTRL-Z "EOT" CHARACTER
            waitfor "iSeries RECEIVE COMPLETE" ; WAIT FOR CONFIRMATION MESSAGE

            hangup                               ; DISCONNECT

endproc                                         ; END OF MAIN PROCEDURE
```

Figure 9.16 Example PC Communication Script

Please note that different techniques are used to trigger the end of the receive step on the two systems. The end of receive step on the PC is triggered by an inactivity timeout (30 seconds) when the iSeries finishes sending its outbound file and begins its Data Trap. The end of the receive step on the iSeries is triggered when the PC sends the Ctrl-Z (hex “1A”, ASCII SUB). The iSeries receives the ASCII SUB and translates it to an EBCDIC SUB, which is hex

“3F”. Hex “3F” is the EOT character defined in the communication profile for LOCDAA. Because Indicator 7 is used on the Receive step in the iSeries script, receipt of the EOT character ends the receive step.

This concludes the example for the remote PC, dial line, dial, asynchronous communication using PROCOMM PLUS.

Asynchronous (XAS) via X.25 Examples

NOTE

This feature is an optional add-on product that may be purchased separately.

This section provides examples for configuring and executing communication using the XAS protocol support. The XAS communications support provides an asynchronous connection to the remote system using an X.25 line configuration. There are no assumptions made as to the remote system you may be communicating with. The remote may be an X.25 network, a PC, or another iSeries. Examples for both dial-up and leased line connections are provided.

The following examples use a standard naming convention to help illustrate the configuration type being used. The naming convention includes the system type (local or remote), the physical line type (dial-up or leased), the session initiation type (dial or answer), and a modem command set indicator. The naming convention adheres to the following rules:

- The first character of each Profile ID indicates the system type. A local system definition represents your machine and uses “L” as the first character in each example, while the remote system definitions use “R.”
- The second and third characters of each Profile ID represent the type of protocol support being used. Each example uses “XA” indicating X.25 with asynchronous support.
- The fourth character of each Profile ID indicates the physical connection type being used. The character “D” indicates a dial-up type line, while the character “L” indicates a leased line connection.
- The fifth character of each Profile ID represents the session initiation type. The character “D” (dialer) indicates that you will be starting the session with the remote system, while the character “A” (answer) indicates that you will be waiting for the remote system to contact you.
- The sixth character of each Profile ID represents the modem command set being used. The character “V” indicates that the modem supports the V.25bis command set. The character “N” (None) indicates that the modem does not use a command set, and will not send responses or receive any commands. The character “N” would be appropriate when using a leased line configuration, or when doing a manual dial in a switched line environment.
- The seventh character indicates whether an X.25 network is being used. The character “X” indicates that an X.25 network is being used, while the character “N” indicates no X.25 network is being used.

The examples include all parameters used in building the Profile ID and the Session Scripts.

There are currently four pairs of configuration examples. These are the most common XAS configurations and should be useful in many environments. Each example contains one configuration defining the local system parameters and a second configuration defining the remote system parameters. The four pairs are listed below:

- **LXALDNX** – Local system configured for leased line, initiate the connection (dial), no dial commands in use, X.25 network in use.
- **RXALANX** – Remote system configured for leased line, answer incoming calls initiated by another system, no dial commands in use, X.25 network in use.

- **LXADDVX** – Local system configured for dial line, initiate the connection (dial) to network PAD, V.25bis dial commands in use, X.25 network in use.
- **RXALANX** – Remote system configured for leased line, answer incoming calls initiated by another system, no dial commands in use, X.25 network in use.

- **LXADDVN** – Local system configured for dial line, initiate the connection (dial), V.25bis dial commands, no X.25 network in use.
- **RXADANN** – Remote system configured for dial line, answer incoming calls initiated by another system, no dial commands, no X.25 network in use.

- **LXALDNN** – Local system configured for leased line, initiate the connection (dial), no command set, no X.25 network in use.
- **RXALANN** – Remote system configured for leased line, answer incoming calls initiated by another system, no dial commands, no X.25 network in use.

Figure 9.17 shows a Communication Profile for a Local System, Leased Line, Dial (initiate), No Commands, X.25 Network in use configuration.

```
EDIX401                   Communication Profile               EDI   03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LXALDNX

Company. . . . . . . . . . . . . .  Local Leased/Dial/No CMDS/X25 Netwk
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  XAS
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y



F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.17 Communication Profile panel (EDIX401-FMT01)

Figure 9.18 shows the extended view of the previous panel.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT07                              XAS                              12:00:00

Comm Profile ID. . . . .  LXALDNX
Company. . . . . . . . .  Local Leased/Dial/No CMDS/X25 Netwk
Modem Port . . . . . . .  LIN032             Retries. . . . . . . .  02
Switched Line. . . . . .  N (Y/N)            Auto Dial. . . . . . .  N (Y/N)
Dial . . . . . . . . . .  ____________________
Session Initiator. . . .  *DIAL
Net Connection Init. . .  *WAIT              End-of-Cmd Character .  00
Remote Net Addr. . . . .  311012345678        EOT Character. . . . .  3F
Local Net Addr . . . . .  311087654321        ETX Character. . . . .  03
Remote Location. . . . .  LXALDNX
Lgl Channel Type . . . .  *SVCBOTH            Translation:
Lgl Channel ID . . . . .  001                 Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                   Inbound (to) . . . . .  __ __
Window Size. . . . . . .  2                   Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128                Outbound (to). . . . .  __ __
Print Record Size. . . .  132
Outbound Block Size. . .  1024                Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *NONE               DCE Support. . . . . .  N (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.18 Extended View of Communication Profile panel (EDIX401-FMT07)

Figure 9.19 shows the Session Control panel (EDIX403-CTL01) for the LXALDNX Communication Profile.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LXALDNX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Local Leased/Dial/No CMDS/X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __    5   E     __   ________    0  EVOKE THE TARGET PROGRAM
 __   30   S     OM   ________    2  SEND FROM OUTB QUEUE
 __   40   R     IM   ________    7  RECV DATA TO INB QUEUE
 __   ___  _     __   ________    _  ____________________________
 __   ___  _     __   ________    _  ____________________________
                                                              More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.19 Communication Session Control panel (EDIX403-CTL01)

Figure 9.20 shows the Communication Evoke panel (EDIX43C-FMT01) for the Local System, Leased Line, Dial (Initiate), No Commands, X.25 Network in Use configuration.

```
EDIX43C                    Communication Evoke                EDI   03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . . LXALDNX
Session Name . . . . . . . . . . . T1
Company. . . . . . . . . . . . . . Local Leased/Dial/No CMDS/ X25 Network

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RXALANX
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *YES
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 9.20 Communication Evoke panel (EDIX43C-FMT01)

This ends the configuration for the local system, leased line, dial (initiate), no command set, X.25 network in use configuration (LXALDNX). The configuration for the remote system (RXALANX) begins on the next page.

This begins the definitions for the remote system in leased line, answer (wait for the other system to contact you), no command set, X.25 network in use configuration. This configuration is used by the remote system to communicate with the local system that uses the LXALDNX configuration.

Figure 9.21 shows the Communication Profile panel (EDIX401-FMT01) for the Remote System, Leased Line, Answer, No Commands, X.25 Network in Use configuration.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . .  RXALANX

Company. . . . . .  Leased Line/Answer/No CMDS/X25 Netw
Contact. . . . . .  Test Contact
Phone. . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . .  XAS
Days to Purge. . . . . .  999
FIFO/LIFO. . . . . .  F
Update Allowed . . . . . .  Y

F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.21 Communication Profile panel (EDIX401-FMT01)

Figure 9.22 shows the Communication Profile panel (EDIX401-FMT07) for the Remote System, Leased Line, Answer, No Commands, X.25 Network in Use configuration.

```
EDIX401                   Communication Profile                EDI 03/01/06
FMT07                              XAS                             12:00:00

Comm Profile ID. . . . .  RXALANX
Company. . . . . .  Remote Line/Answer/No CMDS/X25 Netw
Modem Port . . . . . .  LIN021            Retries. . . . . .  02
Switched Line. . . . . .  N (Y/N)         Auto Dial. . . . . .  N (Y/N)
Dial . . . . . .
Session Initiator. . . .  *ANS
Net Connection Init. . .  *WAIT           End-of-Cmd Character .  00
Remote Net Addr. . . . .  *ANY            EOT Character. . . . .  3F
Local Net Addr . . . . .  311012345678     ETX Character. . . . .  03
Remote Location. . . . .  RXALANX
Lgl Channel Type . . . .  *SVCBOTH         Translation:
Lgl Channel ID . . . . .  001              Inbound (from) . . . .
Modulus. . . . . .  8                      Inbound (to) . . . . .
Window Size. . . . . .  02                 Outbound (from). . . .
Packet Size. . . . . .  0128               Outbound (to). . . . .
Print Record Size. . . .  132
Outbound Block Size. . .  1024             Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *ACCEPT          DCE Support. . . . . .  N (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.22 Communication Profile panel (EDIX401-FMT07)

Figure 9.23 shows the Communication Session Control panel (EDIX403-CTL01) for the Remote System, Leased Line, Answer, No Commands, X.25 Network in Use configuration.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . . RXALANX
Session Name . . . . . . . . . . . T1
Company. . . . . . . . . . . . . . Leased Line/Answer/No CMDS/X25 Netw


Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind  Description
 __    30   R   IM   ________     7   RECV DATA TO INB QUEUE
 __    40   S   OM   ________     2   SEND FROM OUT QUEUE
 __   ____  _   __   ________     _   ____________________________
 __   ____  _   __   ________     _   ____________________________
 __   ____  _   __   ________     _   ____________________________
                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.23 Communication Session Control (EDIX403-CTL01)

Note that the local system initiates the session to the remote system, and this remote system requires no evoke record creation.

This ends the example for the remote system, leased line, answer, no commands, X.25 network in use configuration.

This begins the Local System, Dial Line, Dial (initiate the session), V.25bis Dial Commands, X.25 Network in Use configuration.

Figure 9.24 shows the Communication Profile panel (EDIX401-FMT01) for the Local System, Dial Line, Dial (Initiate), V.25bis Commands, X.25 Network in Use configuration.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LXADDVX

Company. . . . . . . . . . . . . .  Dial Line/Dial/V25 CMDS/X25 Netwk
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x ____
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  XAS
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y


F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.24 Communication Profile panel (EDIX401-FMT01)

Figure 9.25 shows the expanded view of the previous panel.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT07                              XAS                              12:00:00

Comm Profile ID. . . . .  LXADDVX
Company. . . . . . . . .  Dial Line/Dial/V25 CMDS/X25 Netwk
Modem Port . . . . . . .  LIN072              Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)             Auto Dial. . . . . . .  Y (Y/N)
Dial . . . . . . . . . .  5551234
Session Initiator. . . .  *DIAL
Net Connection Init. . .  *WAIT               End-of-Cmd Character .  00
Remote Net Addr. . . . .  311012345678         EOT Character. . . . .  3F
Local Net Addr . . . . .  311087654321         ETX Character. . . . .  03
Remote Location. . . . .  LXADDVX
Lgl Channel Type . . . .  *SVCBOTH             Translation:
Lgl Channel ID . . . . .  001                  Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                    Inbound (to) . . . . .  __ __
Window Size. . . . . . .  2                    Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128                 Outbound (to). . . . .  __ __
Print Record Size. . . .  132
Outbound Block Size. . .  1024                 Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *REQUEST             DCE Support. . . . . .  N (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.25 Expanded View of the Communication Profile panel (EDIX401-FMT07)

In the previous example, note that the reverse charge field is set to "*REQUEST". This option is selected because the local system is dialing an X.25 PAD, and cannot be billed directly by the X.25 network. The "*REQUEST" option indicates that the remote system be requested to pay the X.25 network charges for this call. This option is dependent upon the remote system using the "*ACCEPT" option for the reverse charge field on their system. If the remote system does not use the "*ACCEPT" option for reverse charge, then the call will fail.

Figure 9.26 shows the Communication Session Control panel (EDIX403-CTL01) for the Local System, Dial Line, Dial (Initiate), V.25bis Commands, X.25 Network in Use configuration.

```
EDIX403               Communication Session Control            EDI   03/01/06
CTL01                                                                  12:00:00

Comm Profile ID. . . . . . . . . .  LXADDVX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Dial Line/Dial/V25 CMDS/X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __    5   E    __   ________    0  EVOKE THE TARGET PROGRAM
 __   30   S    OM   ________    2  SEND FROM OUTQUEUE
 __   40   R    IM   ________    7  RECV DATA TO INQUEUE
 __   ___  _    __   ________    _  ____________________________
 __   ___  _    __   ________    _  ____________________________
 __   ___  _    __   ________    _  ____________________________
                                                            More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.26 Communication Session Control panel (EDIC403-CTL01)

Figure 9.27 shows the Communication Evoke panel (EDIX43C-FMT01) for the Local System, Dial Line, Dial (Initiate), V.25bis Commands, X.25 Network in Use configuration.

```
EDIX43C                    Communication Evoke                  EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LXADDVX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Dial Line/Dial/V25 CMDS/X25 Netwk

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RXALANXA
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *YES
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 9.27 Communication Evoke panel (EDIX43C-FMT01)

This ends the configuration for the local system, dial line, dial (initiate), V.25bis commands, X.25 network in use configuration (LXADDVX). The configuration for the remote system (RXALANX) begins on the next page.

This begins the definitions for the remote system in leased line, answer (wait for the other system to contact you), no command set, X.25 network in use configuration. This configuration is used by the remote system to communicate with the local system that uses the LXADDVX configuration.

Figure 9.28 shows the Communication Profile panel (EDIX401-FMT01) for the Remote System, Leased Line, Answer, No Commands, X.25 Network in Use configuration.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  RXALANX

Company. . . . . . . . . . . . . .  Remote Line/Answer/No CMDS/X25 Netw
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  XAS
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y




F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.28 Communication Profile panel (EDIX401-FMT01)

Figure 9.29 shows the extended view of the previous panel.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT07                              XAS                                12:00:00

Comm Profile ID. . . . .  RXALANX
Company. . . . . . . . .  Remote Line/Answer/No CMDS/X25 Netw
Modem Port . . . . . . .  LIN021              Retries. . . . . . . .  02
Switched Line. . . . . .  N (Y/N)             Auto Dial. . . . . . .  N (Y/N)
Dial . . . . . . . . . .
Session Initiator. . . .  *ANS
Net Connection Init. . .  *WAIT               End-of-Cmd Character .  00
Remote Net Addr. . . . .  *ANY                EOT Character. . . . .  3F
Local Net Addr . . . . .  311012345678        ETX Character. . . . .  03
Remote Location. . . . .  RXALANX
Lgl Channel Type . . . .  *SVCBOTH            Translation:
Lgl Channel ID . . . . .  001                 Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                   Inbound (to) . . . . .  __ __
Window Size. . . . . . .  02                  Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128                Outbound (to). . . . .  __ __
Print Record Size. . . .  132
Outbound Block Size. . .  1024                Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *ACCEPT             DCE Support. . . . . .  N (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.29 Extended View of the Communication Profile panel (EDIX401-FMT07)

Figure 9.30 shows the Communication Session Control panel (EDIX403-CTL-01) for the Remote System, Leased Line, Answer, No Commands, X.25 Network in Use configuration.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  RXALANX
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Leased Line/Answer/No CMDS/X25 Netw


Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__   30    R    IM    ________   7   RECV TO INB QUEUE
__   40    S    OM    ________   2   SEND FROM OUT QUEUE
__   ___   _    __    ________   _   ____________________________
__   ___   _    __    ________   _   ____________________________

                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.30 Communication Session Control panel (EDIX403-CTL01)

Please note that the local system initiates the session to the this remote system, and this remote system requires no evoke record creation.

This ends the example for the remote system, leased line, answer, no commands, X.25 network in use configuration.

This begins the definitions for the local system, dial line, dial (initiate), V25bis commands, no X.25 network used configuration.

Figure 9.31 shows the Communication Profile panel (EDIX401-FMT01) for the Local System, Dial Line, Dial (Initiate), V.25bis Commands, No X.25 Network in Use configuration.

```
EDIX401                    Communication Profile                EDI   03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . . LXADDVN

Company. . . . . . . . . . . . . .  Dial Line/Dial/V25 CMDS/No Network
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  XAS
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y

F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.31 Communication Profile panel (EDIX401-FMT01)

Figure 9.32 shows the extended view of the previous panel.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT07                              XAS                                12:00:00

Comm Profile ID. . . . .  LXADDVN
Company. . . . . . . . .  Dial Line/Dial/V25 CMDS/No Network
Modem Port . . . . . . .  LIN032              Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)             Auto Dial. . . . . . .  Y (Y/N)
Dial . . . . . . . . . .  5551212
Session Initiator. . . .  *DIAL
Net Connection Init. . .  *LOCAL              End-of-Cmd Character .  00
Remote Net Addr. . . . .  311012345678         EOT Character. . . . .  3F
Local Net Addr . . . . .  311087654321         ETX Character. . . . .  03
Remote Location. . . . .  LXADDVN
Lgl Channel Type . . . .  *SVCBOTH             Translation:
Lgl Channel ID . . . . .  001                  Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                    Inbound (to) . . . . .  __ __
Window Size. . . . . . .  2                    Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128                 Outbound (to). . . . .  __ __
Print Record Size. . . .  132
Outbound Block Size. . .  1024                 Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *NONE                DCE Support. . . . . .  Y (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.32 Extended View of Communication Profile panel (EDIX401-FMT07)

Figure 9.33 shows the Communication Session Control panel (EDIX403-CTL01) for the Local System, Dial Line, Dial (Initiate), V.25bis Commands, No X.25 Network in Use configuration.

```
EDIX403               Communication Session Control             EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LXADDVN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Dial Line/Dial/V25 CMDS/No Network

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind  Description
__    5    E    __  _________   0   EVOKE THE TARGET PROGRAM
__   30    S    OM  _________   2   SEND FROM OUTQUEUE
__   40    R    IM  _________   7   RECV DATA TO INQUEUE
__   ___   _    __  _________   _   ____________________________
__   ___   _    __  _________   _   ____________________________
                                                              More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.33 Unfolded Communication Session Control panel (EDIX403-CTL01)

Figure 9.34 shows the Evoke Communication panel for the Local System, Dial Line, Dial (Initiate), V.25bis Commands, No X.25 Network in Use configuration.

```
EDIX43C                    Communication Evoke                 EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  LXADDVN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Dial Line/Dial/V25 CMDS/No X25 Netwk

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RXADANN
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *YES
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 9.34 Communication Evoke panel (EDIX43C-FMT01)

This ends the configuration for the local system, dial line, dial (initiate), V.25bis commands, no X.25 network configuration (LXADDVN). The configuration for the remote system (RXADANN) begins on the next page.

This begins the definitions for the remote system in dial line, answer (wait for the other system to contact you), no command set, no X.25 network used configuration. This configuration is used by the remote system to communicate with the local system that uses the LXADDVN configuration.

Figure 9.35 shows the Communication Profile panel (EDIX401-FMT01) for the Remote System, Dial Line, Answer, No Commands, No X.25 Network in Use configuration.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . . RXADANN

Company. . . . . . . . . . . . . .  Dial Line/Answer/No CMDS/No Network
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .
Protocol . . . . . . . . . . . . .  XAS
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.35 Communication Profile panel (EDIX401-FMT01)

Figure 9.36 shows and extended view of the previous panel.

```
EDIX401                    Communication Profile                 EDI 03/01/06
FMT07                              XAS                               12:00:00

Comm Profile ID. . . . .  RXADANN
Company. . . . . . . . .  Dial Line/Answer/No CMDS/No Network
Modem Port . . . . . . .  LIN021              Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)             Auto Dial. . . . . . .  N (Y/N)
Dial . . . . . . . . . .  ____________________________________________
Session Initiator. . . .  *ANS
Net Connection Init. . .  *REMOTE             End-of-Cmd Character .  00
Remote Net Addr. . . . .  *ANY                EOT Character. . . . .  3F
Local Net Addr . . . . .  311012345678        ETX Character. . . . .  03
Remote Location. . . . .  RXADANN
Lgl Channel Type . . . .  *SVCBOTH            Translation:
Lgl Channel ID . . . . .  001                 Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                   Inbound (to) . . . . .  __ __
Window Size. . . . . . .  2                   Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128                Outbound (to). . . . .  __ __
Print Record Size. . . .  132
Outbound Block Size. . .  1024                Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *NONE               DCE Support. . . . . .  Y (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.36 Communication Profile panel (EDIX401-FMT07)

Please note that in this example the option “*REMOTE” is used for the network connection initiation field. This option indicates that the remote will send SABM (set asynchronous balanced mode) to this remote system to start the X.25 connection. Note also that the reverse charge option is set to “*NONE” because the incoming call is placed directly to this machine and no X.25 network is in use.

Figure 9.37 shows the unfolded view of the Communication Session Control panel (EDIX403-CTL01) for the Remote System, Dial Line, Answer, No Commands, No X.25 Network in Use configuration.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  RXADANN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Dial Line/Answer/No CMDS/No Network

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    30     R   IM   _________   7  RECV TO INB QUEUE
__    40     S   OM   _________   2  SEND FROM OUT QUEUE
__   ___     _   __   ________   _  ____________________________
__   ___     _   __   ________   _  ____________________________
__   ___     _   __   ________   _  ____________________________

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.37 Communication Session Control panel (EDIX403-CTL01)

Please note that the local system initiates the session to the this remote system, and this remote system requires no evoke record creation.

This ends the example for the remote system, dial line, answer, no commands, no X.25 network in use configuration.

This begins the local system, leased line, dial (initiate the session), no dial commands, no X.25 network in use configuration.

Figure 9.38 shows the Communication Profile panel (EDIX401-FMT01) for the Local System, Leased Line, Dial (Initiate), No Dial Commands, No X.25 Network in Use configuration.

```
EDIX401                    Communication Profile                 EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . . LXALDNN

Company. . . . . . . . . . . . . . Leased Line/Dial/No CMDS/No Network
Contact. . . . . . . . . . . . . . Test Contact
Phone. . . . . . . . . . . . . . . ( 614 ) 555 - 1212  x
International Dial Code. . . . . . ___
Protocol . . . . . . . . . . . . . XAS
Days to Purge. . . . . . . . . . . 999
FIFO/LIFO. . . . . . . . . . . . . F
Update Allowed . . . . . . . . . . Y



F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.38 Communication Profile panel (EDIX401-FMT01)

Figure 9.39 show the extended view of the previous panel.

```
EDIX401                    Communication Profile                 EDI 03/01/06
FMT07                              XAS                                 12:00:00

Comm Profile ID. . . . .  LXALDNN
Company. . . . . . . . .  Leased Line/Dial/No CMDS/No Network
Modem Port . . . . . . .  LIN072              Retries. . . . . . . .  02
Switched Line. . . . . .  N (Y/N)             Auto Dial. . . . . . .  N (Y/N)
Dial . . . . . . . . . .  ____________________________________
Session Initiator. . . .  *DIAL
Net Connection Init. . .  *LOCAL              End-of-Cmd Character .  00
Remote Net Addr. . . . .  311012345678         EOT Character. . . . .  3F
Local Net Addr . . . . .  311087654321         ETX Character. . . . .  03
Remote Location. . . . .  RXALANN
Lgl Channel Type . . . .  *SVCBOTH            Translation:
Lgl Channel ID . . . . .  001                 Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                   Inbound (to) . . . . .  __ __
Window Size. . . . . . .  02                  Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128                Outbound (to). . . . .  __ __
Print Record Size. . . .  132
Outbound Block Size. . .  1024                Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *NONE               DCE Support. . . . . .  Y (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.39 Communication Profile panel (EDIX401-FMT07)

Figure 9.40 shows the Communication Session Control panel (EDIX403-CTL01) for the Local System, Leased Line, Dial (Initiate), No Dial Commands, No X.25 Network in Use configuration.

```
EDIX403               Communication Session Control            EDI  03/01/06
CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . . LXALDNN
Session Name . . . . . . . . . . . T1
Company. . . . . . . . . . . . . . Leased Line/Dial/No CMDS/No X25 Netwk

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __    5   E    __   ________    0  EVOKE THE TARGET PROGRAM
 __   30   S    OM   ________    2  SEND FROM OUTQUEUE
 __   40   R    IM   ________    7  RECV DATA TO INQUEUE
 __   ___  _    __   ________    _  ________________________________
 __   ___  _    __   ________    _  ________________________________
                                                                More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.40 Communication Session Control panel (EDIX403-CTL01)

Figure 9.41 shows the Communication Evoke panel (EDIX43C-FMT01) the Local System, Leased Line, Dial (Initiate), No Dial Commands, No X.25 Network in Use configuration.

```
EDIX43C                    Communication Evoke                  EDI  03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  LXALDNN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Leased Line/Dial/No CMDS/No X25 Netwk

Library Name . . . . . . . . . . .  G7X0PGM
Program Name . . . . . . . . . . .  STRCOM62
Profile to Evoke . . . . . . . . .  RXALANN
Session to Evoke . . . . . . . . .  T1
Trace *YES or *NO. . . . . . . . .  *YES
User ID. . . . . . . . . . . . . .  QPGMR
Password . . . . . . . . . . . . .  QPGMR




F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel
```

Figure 9.41 Communication Evoke panel (EDIX43C-FMT01)

This ends the configuration for the local system, leased line, dial (initiate), no dial commands, no X.25 network in use configuration (LXALDNN). The configuration for the remote system (RXALANN) begins on the next page.

This begins the definitions for the remote system in leased line, answer (wait for the other system to contact you), no command set, no X.25 network in use configuration. This configuration is used by the remote system to communicate with the local system that uses the LXADDNN configuration.

Figure 9.42 shows the Communication Profile panel (EDIX401-FMT01) for the Remote System, Leased Line, Answer, No Commands, No X.25 Network in Use configuration.

```
EDIX401                    Communication Profile                EDI  03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . . RXALANN

Company. . . . . . . . . . . . . .  Leased Line/Answer/No CMDS/No Netwk
Contact. . . . . . . . . . . . . .  Test Contact
Phone. . . . . . . . . . . . . . .  ( 614 ) 555 - 1212  x
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  XAS
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y




F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.42 Communication Profile panel (EDIX401-FMT01)

Figure 9.43 shows the extended view of the previous panel.

```
EDIX401                    Communication Profile                 EDI 03/01/06
FMT07                              XAS                             12:00:00

Comm Profile ID. . . . .  RXALANN
Company. . . . . . . . .  Leased Line/Answer/No CMDS/No Netwk
Modem Port . . . . . . .  LIN021              Retries. . . . . . . .  02
Switched Line. . . . . .  N (Y/N)             Auto Dial. . . . . . .  N (Y/N)
Dial . . . . . . . . . .  ____________________________
Session Initiator. . . .  *ANS
Net Connection Init. . .  *REMOTE             End-of-Cmd Character .  00
Remote Net Addr. . . . .  *ANY                EOT Character. . . . .  3F
Local Net Addr . . . . .  311012345678        ETX Character. . . . .  03
Remote Location. . . . .  RXALANN
Lgl Channel Type . . . .  *SVCBOTH            Translation:
Lgl Channel ID . . . . .  001                 Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                   Inbound (to) . . . . .  __ __
Window Size. . . . . . .  2                   Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128                Outbound (to). . . . .  __ __
Print Record Size. . . .  132
Outbound Block Size. . .  1024                Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *NONE               DCE Support. . . . . .  N (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.43 Communication Profile panel (EDIX401-FMT07)

Please note that in this example the option “*REMOTE” is used for the network connection initiation field. This option indicates that the remote will send SABM (set asynchronous balanced mode) to this remote system to start the X.25 connection. Note also that the reverse charge option is set to “*NONE” because the incoming call is placed directly to this machine and no X.25 network is in use.

Figure 9.44 shows the Communication Session Control panel (EDIX403-CTL01) for the Remote System, Leased Line, Answer, No Commands, No X.25 Network in Use configuration.

```
 EDIX403               Communication Session Control            EDI  03/01/06
 CTL01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  RXALANN
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Leased Line/Answer/No CMDS/No X25 Netw


 Type option, press Enter.
   3=Copy Seq#  4=Delete   11=Extended Parms

 Opt Seq No Tran File File Name  Ind   Description
 __    30   R    IM     ________    7   RECV TO INB QUEUE
 __    40   S    OM     ________    2   SEND DATA FROM OUT QUEUE
 __   ____  _    __     ________    _   ________________________________
 __   ____  _    __     ________    _   ________________________________
                                                                    More...
 F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 9.44 Communication Session Control panel (EDIC403-CTL01)

Please note that the local system initiates the session to the remote system, and this remote system requires no evoke record creation.

This ends the example for the remote system, leased line, answer, no commands, no X.25 network in use configuration.

Chapter

10 XMODEM File Transfer Support

Introduction

Asynchronous communication, in its basic form, simply allows characters to be transferred in both directions. This allows data to be transferred between machines, but does nothing to ensure that the data received is the same as what was transmitted. This problem is addressed through the use of error correcting hardware or file transfer protocols or both.

The XMODEM file transfer protocol was designed in the late 1970s and provides basic mechanisms for error detection and recovery. Because of its age and relative simplicity, it has been implemented on many types of computer systems. It is supported by the vast majority of asynchronous PC communications products as well as many larger systems and networks.

XMODEM file transfer support is provided by the Gentran:Server optional asynchronous communication module. This support allows XMODEM file transfers over a switched asynchronous connection.

Many variations of XMODEM have evolved since its introduction. The original protocol was based on 128 byte blocks with checksum error detection. Later enhancements included larger 1024 byte blocks for improved throughput, and CRC-16 error detection for improved assurance of data integrity. Gentran:Server can be configured to use either standard blocksize as well as either method of error detection. This should provide compatibility with most systems that claim to support the XMODEM or XMODEM-1K file transfer protocol.

Considerations

All of the considerations detailed in the “Asynchronous Communication Support” chapter also apply to XMODEM, with the following differences:

- The necessity for error correcting hardware is eliminated by the error control provided by XMODEM. However, error correcting hardware is still strongly recommended to avoid communication failures that could occur outside the XMODEM portion of the communication session.
- By using XMODEM between two Gentran:Server systems, you can exchange transparent data via an asynchronous connection. This is not possible with the Gentran:Server standard asynchronous communications.

NOTE

This is accomplished by configuring both Gentran:Server XMODEM communication profiles to not perform ASCII-EBCDIC translation.

- While executing the parts of your communication session control script that do not invoke XMODEM support (control records, data traps, etc.), the asynchronous communicator employs the system level translation described in the Asynchronous Communication Support chapter. This translation cannot be disabled or altered.
- While executing the parts of your communication session control script that invoke XMODEM support, all queue and print data will be translated according to the translate tables GENASCII and GENEBCDIC in your Gentran:Server program library. These tables provide translation equivalent to the system level translation described in the Asynchronous Communication Support chapter. This translation can be disabled in your XMODEM communication profile. You should not modify or override these translation tables.

XMODEM Flow Control Considerations

XMODEM protocol uses all possible 8-bit binary characters, including all control characters. Therefore, XMODEM cannot be used with any hardware or communications network that reserves certain characters for control purposes.

For example, XON/XOFF flow control is based on the transmission of special control characters. This makes it incompatible with XMODEM. Since XON/XOFF is the only flow control mechanism currently supported by the iSeries, flow control cannot be used when running XMODEM on the iSeries. Flow control will automatically be disabled in the XMODEM communications configuration that is created by Gentran:Server.

An additional consequence of these facts is that because no flow control is possible between your iSeries and modem, you must ensure that your communications port is operating at the same speed as the connection between your modem and the remote modem. This can be accomplished by:

1. Configuring your modem to return a connection message that indicates the true speed of the connection to the remote modem.
2. Configuring your modem to only establish a connection at the line speed you have specified in your communication profile.
3. Configuring your modem to disable all flow control between the iSeries and itself.
4. Changing the modem connect message in your communications profile to check for the line speed in the message that is expected because of items 1 and 2. The default modem connect message allows a variety of connect messages, which we do not want so it must be changed.

NOTE

You ***must*** ensure that the steps listed above are carried out. Items 1, 2, and 3 can generally be accomplished either via hardware (switches or buttons on the modem) or software (modem commands that can be included in the Modem Initialization Command in your communication profile). Item number 4 requires that you determine the exact connect message that will be issued by your modem. You should consult your modem documentation to determine the most appropriate way to accomplish these goals.

Configuration

Like the other communication protocols within Gentran:Server, configuring for XMODEM communication consists of two parts:

1. Create a communication profile.
2. Create a communication session control script.

NOTE

You may wish to copy and customize one of the sample XMODEM profiles that are shipped with the product, rather than creating the profile and script yourself.

The specifics of creating profiles and scripts for XMODEM are discussed in the following sections.

Create an XMODEM Profile

After choosing Option **1** (Create) on the Work with Communications panel (EDIX400-FMT01), the Communications Profile panel (EDIX401-FMT01) is displayed. To create a profile for XMODEM communication, fill in the required information on the Communications Profile panel and specify **ASX** for Protocol, as shown in Figure 10.1.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  MUXMA

Company. . . . . . . . . . . . . .  Test_XMODEM_answerer_________
Contact. . . . . . . . . . . . . .  MU_____________________________
Phone. . . . . . . . . . . . . . .  (_____)_____-_______x_______
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  ASX
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F10=Update  F12=Cancel  F13=Services  F24=More Keys
```

Figure 10.1 Create an ASX profile for using XMODEM over an asynchronous line

XMODEM is a higher level protocol that is dependent on the basic asynchronous communication support within Gentran:Server. Therefore, the next step in creating an XMODEM profile is to complete the configuration panel for basic asynchronous communication type ASC.

After you press **Enter** to complete the EDIX401-FMT01 panel, the Basic Asynchronous (ASC) Configuration panel (EDIX401-FMT06) is displayed.

```
EDIX401                    Communication Profile                 EDI 03/01/06
FMT06                               ASC                              12:00:00

Comm Profile ID. . . . .  MUXMA
Company. . . . . . . . .  Test_XMODEM_answerer
Modem Port . . . . . . .  LIN041              Retries. . . . . . .  02
Switched Line. . . . . .  Y                   Auto Dial. . . . . .  N (Y/N)
Dial . . . . . . . . . .  ____________________________________
Remote Location. . . . .  MUXMA_____         Job Termination Delay.  N
Line Speed . . . . . . .  09600               End-of-Cmd Character .  00
Print Record Size. . . .  132                 EOT Character. . . . .  0D
Outbound Block Size. . .  1024                ETX Character. . . . .  03
Command Set. . . . . . .  A                   Translation:
Flow Control . . . . . .  N (Y/N/H)          Inbound (from) . . . .  __ __
Remote Cmd Password. . .  *NONE_______        Inbound (to) . . . . .  __ __
                                              Outbound (from). . . .  __ __
Modem Break Character. .  +                   Outbound (to). . . . .  __ __
Modem Auto-Answer Command ATS0=1___
Modem Init. Command. . .  ATQ0V1X4\Q___
Modem OK Message . . . .  OK<CR><LF>_____________________________________
Modem Connect Message. .  CONNECT 9600<?><CR><LF>________________________

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 10.2 ASC configuration panel for XMODEM over an asynchronous line

Complete the Communication Profile – ASC panel (EDIX401-FMT06), such as shown in Figure 10.2. (SEE the "Asynchronous Communications Examples" section in the Asynchronous Communication Support chapter for more information.)

You may notice the following differences in the behavior of the Communication Profile – ASC panel (EDIX401-FMT06) when configuring for XMODEM (ASX) as opposed to basic async (ASC):

1. The Outbound Block Size field will only accept a value of 128 or 1024. The value you specify will determine the size of the XMODEM blocks your system transmits and expects to receive. The correct setting is determined by the capabilities of the remote system. Failure to configure the proper blocksize can cause your XMODEM transfers to operate with reduced efficiency or fail entirely. Basic XMODEM uses 128 byte blocks. Many systems support 1024 byte blocks for better throughput – this is sometimes referred to as XMODEM-1K.
2. The Flow Control field will only accept a value of **N**. This was explained in more detail in the section titled "XMODEM Flow Control Considerations".

The Modem Init. Command and Modem Connect Message shown in the example Communication Profile – ASC panel (EDIX401-FMT06) above are for a UDS V.3229 modem. Through these fields, the example addresses the points mentioned in the prior topic titled "XMODEM Flow Control Considerations".

After pressing **Enter** to complete the Communication Profile – ASC panel (EDIX401-FMT06), the EDIX401 FMT12 panel is displayed. This panel, as shown in Figure 10.3, contains the parameters that are used to conduct the XMODEM portion of the communication session with the remote system.

```
EDIX401                    Communication Profile               EDI    03/01/06
FMT12                              XMODEM                             12:00:00

Comm Profile ID. . . . . . . . . .  MUXMA
Company. . . . . . . . . . . . . .  Test XMODEM answerer

Error Control Method . . . . . . .  1      (1=CRC, 2=Checksum)
Outbound Block Pad Character . . .  3F
Inbound Block Trim Character . . .  3F
Line Timeout (HHMMSS). . . . . . .  000045
ASCII-EBCDIC Translation . . . . .  Y









F1=Help  F12=Cancel  F13=Services  F24=More Key
```

Figure 10.3 XMODEM Configuration Panel

Field Descriptions

Error Control Method

Specify 1 to perform error control based on standard 16-bit Cyclic Redundancy Check (CRC). Specify 2 to perform error control based on an 8-bit checksum. The value you should use is determined by the capabilities of the remote system. Because CRC checking is much more reliable than checksum, 1 (the default) should always be used unless the remote does not support CRC16.

Outbound Block Pad Character

Because XMODEM uses a fixed block size without regard for the length of the file you are transmitting, there will almost always be extra bytes at the end of the last block of a file. This field specifies the hexadecimal value of the EBCDIC character that should be used to fill these extra bytes. You should select the most appropriate pad character for the system that will be receiving your data.

For example, the default **3F** specifies that the last block be padded with EBCDIC SUB characters. When transmitted, these will be translated to ASCII SUB characters (hex 1A, or Ctrl-Z). Ctrl-Z is used on MS-DOS systems as an End-of-File marker for ASCII text files. Therefore, this could be an appropriate pad character for transmitting data to a PC. You may prefer to pad with spaces. If so, you would specify the EBCDIC value of a space (hex 40), which would subsequently be translated to an ASCII space (hex 20) and transmitted. (SEE the “System Level Translation” section in the Asynchronous Communication Support chapter for more information on translation.)

You must specify a valid hexadecimal value (**00** – **FF**) for Outbound Block Pad Character.

Inbound Block Trim Character

This performs the function complementary to the Outbound Block Pad Character field discussed previously. It causes your system to ignore any matching characters at the end of the final block of a received XMODEM file. This allows you to reduce or eliminate unneeded pad characters that would otherwise be written to the inbound queue, user file, or SPOOL file.

The Inbound Block Trim Character field may be left blank to indicate that no received characters should be trimmed, or it may specify the valid hexadecimal value (00-FF) of the EBCDIC representation of the character that is to be trimmed.

If you do not leave the field blank, in addition to removing the character you specify, your system will also remove all SUB characters (hex 3F). This allows you to remove SUBs plus another character. This capability is useful for remotes that use a SUB and another pad character. For example, the GEIS EDI*EXPRESS Mark III XMODEM interface pads the last block with one SUB and the remainder spaces. By specifying a value of hex 40 (EBCDIC space), you tell your system to remove the spaces and it removes the SUB automatically, thus eliminating all the pad characters.

Line Timeout

Specifies the time (in format HHMMSS) that your system will wait to receive an XMODEM block or response during data transfer. After the specified time elapses, your system will take the recovery actions specified by XMODEM protocol. You should use the default value of 000045 unless you need to increase it due to the response time of the remote.

ASCII-EBCDIC Translation

Specify **`Y`** or **`N`** to determine whether inbound data will be translated from ASCII to EBCDIC and outbound data will be translated from EBCDIC to ASCII. This setting only effects the XMODEM file transfer steps of your communication script. Other portions of the script, such as data traps and control records, will always use translation, regardless of this setting.

The default value of **`Y`** causes translation to be performed, because most systems that one would be likely to communicate with using XMODEM use the ASCII character set.

You may wish to specify **`N`** to disable translation if you are communicating with another EBCDIC machine, such as another iSeries using Gentran:Server, or if you are transferring transparent (binary) data.

Create an XMODEM Script

After creating an XMODEM communication profile, you must provide an appropriate communication session control script. This script will contain the commands transmitted and responses expected for connecting to and navigating about the remote system. The script can invoke the Gentran:Server XMODEM support to conduct the file transfer portions of the session as needed.

XMODEM scripts are created and edited using the same facilities as the other communication types within Gentran:Server for iSeries. (SEE the "Using Communications" and "Using Scripts" chapters for basic information on scripting.)

Invoke XMODEM Support

An XMODEM script is coded the same way as a standard asynchronous script, using control record steps and data trap steps to converse with the remote system, and send and receive steps to transfer data.

When you wish to invoke the Gentran:Server XMODEM support to perform a file transfer, you indicate this by specifying **`X`** for the Ind (Indicator) field of a send or receive step.

The following transaction/file options are supported for XMODEM file transfers:

- **`S/OQ`** Send from Gentran:Server Outbound Queue.
- **`S/OM`** Send from Gentran:Server Outbound Queue, allowing separation of multiple batches.
- **`S/OF`** Send from Outbound File provided by user.
- **`R/IQ`** Receive to Gentran:Server Inbound Queue.
- **`R/IF`** Receive to Inbound File provided by user.
- **`R/IA`** Receive and Append to Inbound File provided by user.
- **`R/SP`** Receive to SPOOL file.

XMODEM Scripting Differences

The XMODEM communication session control script will be interpreted as described in the "Scripting Considerations" section in the Asynchronous Communications Support chapter, with the following differences for send or receive steps that invoke XMODEM:

- The Command field will not be not used. Therefore, its special uses as a "No Data" message for sends and receives, and as a batch separator for send outbound multiple, do not apply to XMODEM.
- Receive inbound multiple (R/IM) is not applicable. Each XMODEM receive will create one batch on the inbound queue. Multiple receives would be used to produce multiple inbound batches.
- The ETX, EOT, and End-of-Cmd characters defined in the profile are not used during XMODEM send or receive steps because the protocol defines all necessary control characters. However, these characters still have the same significance during the portions of the script that are not XMODEM send or receive steps. (SEE "Scripting Considerations" in the Asynchronous Communication Support chapter for general information on asynchronous scripting.)

NOTE

You can use all the standard asynchronous send and receive commands in the same script with XMODEM sends and receives. When Indicator **x** is specified, XMODEM will be used. When any other valid Indicator value is specified, the standard asynchronous send/receive logic will be used.

The sample XMODEM script in Figure 10.4 uses XMODEM to send outbound queue data to a PC and retrieve a text file to be printed.

```
EDIX403               Communication Session Control            EDI   03/01/06
CTL01                                                                  12:00:00

Comm Profile ID. . . . . . . . . .  MUXMA
Session Name . . . . . . . . . . .  M1
Company. . . . . . . . . . . . . .  Test XMODEM answerer

Type option, press Enter.
   3=Copy Seq#  4=Delete   11=Extended Parms

 Opt Seq No Tran File File Name  Ind Description
 __     _10   C     __  __________  2  Send_msg_to_remote_operator___
You_are_connected_to_iSeries._Start_your_XMODEM_receive_now._____________________
 __     _20   S     OQ  __________  X  Send_data_using_XMODEM________
_____________________________________________________________________________
 __     _30   C     __  __________  2  Send_msg_to_remote_operator___
iSeries_finished_sending._Start_an_XMODEM_send_from_PC_to_iSeries_now._____________
 __     _40   R     SP  __________  X  Receive_text_file_using_XMODEM
_____________________________________________________________________________
 __     _50   C     __  __________  2  Send_msg_to_remote_operator___
Receive_completed._iSeries_disconnecting._____________________________________
                                                                       More...
 F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 10.4 Simple Session Control Script Using XMODEM

Extended Script Logic

Many of the systems that one would be likely to communicate with using XMODEM would require more complex scripting than the simple top-down example presented above.

To accommodate these situations, the Gentran:Server asynchronous communications module includes Asynchronous Extended Script Logic. This provides script commands that support conditional logic and branching, which allows you to create significantly more powerful scripts.

(SEE the “Asynchronous Extended Script Logic” section in the Asynchronous Communication Support chapter for more information.)

Chapter

11 OFTP Communication Support

Overview

Gentran:Server for iSeries Communications Module provides support for the ODETTE File Transfer Protocol (OFTP) version 1 as defined by the Organization for Data Exchange by Teletransmission in Europe.

OFTP support is provided by the Gentran:Server optional asynchronous communication module.

The connection to the OFTP host system can be:

- Asynchronous, using a switched (dial-up) line. Use this option if you need to access the OFTP host by dialing a network PAD. The communication profile protocol type for this connection is OFA.
- Synchronous, usually using a nonswitched (leased) X.25 line. Use this option if you need to access the OFTP host via a direct connection to an X.25 network. The communication profile protocol type for this connection is OFX.

In addition to supporting the OFTP Initiator role (i.e. dialer), the Communications Module also provides limited support for the OFTP Responder role (i.e. answerer), which allows it to act as an OFTP host. Although full host functionality (data forwarding to adjacent nodes, etc.) is not supported directly by the communication subsystem, Responder mode allows you to:

- Use OFTP between two Gentran:Server systems
- Communicate with OFTP products that only support OFTP Initiator role

Considerations

All of the considerations detailed in the “Asynchronous Communication Support” chapter also apply to OFTP, with the following differences:

- The necessity for error correcting hardware is eliminated by the error control provided by OFTP. However, error correcting hardware is still strongly recommended to avoid communication failures that could occur outside the OFTP portion of the communication session.

- By using OFTP between two Gentran:Server systems, you can exchange transparent data via an asynchronous connection. This is not possible with the Gentran:Server standard (non-OFTP) asynchronous communications.

  NOTE

  This is accomplished by configuring one system as Initiator, the other as Responder, and both for OFTP transparent mode.

- While executing the parts of your communication session control script that do not invoke OFTP support (control records, data traps, etc.), the asynchronous communicator employs the system level translation described in the "Asynchronous Communication Support" chapter. This translation cannot be disabled or altered.
- While executing the parts of your communication session control script that invoke OFTP support, all queue and print data will be translated according to the translate tables GENASCII and GENEBCDIC in your Gentran:Server program library. These tables provide translation equivalent to the system level translation described in the "Asynchronous Communication Support" chapter. This translation can be disabled by specifying the Gentran:Server OFTP transparent mode in your communication profile or script. You should not modify or override these translation tables.
- If you are using an X.25 connection (profile protocol type OFX) over which your system will initiate the connection, your system will always include the protocol identifier hex C0 as the first byte of Call User Data in the X.25 Call Request packet. The X.25 network and the remote system must be able to accommodate this protocol identifier.
- If you are using an X.25 connection (profile protocol type OFX) over which the remote system will initiate the connection, the remote system must send hex C0 as the protocol identifier in the first byte of Call User Data in the X.25 Call Request packet. Your system must receive this protocol identifier in the X.25 Incoming Call packet in order to accept the connection.

Implementation

The following notes are specific to the OFTP implementation within Gentran:Server.

- Each outbound queue batch will be transmitted as a separate OFTP file. Data can optionally be sent from a user-provided file.
- An outbound batch or file will be considered "Sent Normal" after a positive acknowledgment (EFPA) has been received.
- Each OFTP file that is received will be added to the inbound queue as a separate batch. Data can optionally be received to a user-provided file.
- An inbound batch or file will be considered "Received Normal" after a positive acknowledgment (EFPA) has been transmitted.
- OFTP specifies that a filename, date, and time are used to uniquely identify each file. When Gentran:Server transmits a file, the filename comes from the communication session control script, and the date and time are acquired from the iSeries system clock when the file transmission begins. When Gentran:Server receives a file, the filename, date, and time

received from the remote system are not used, but are recorded in the communication history log.

- The OFTP specification defines several record formats that can be used to transfer files. The format that will be used to send outbound data is controlled by the communication session control script. The format of inbound data is controlled by the remote system. Gentran:Server will allow the receipt of inbound OFTP files having any valid OFTP record format. To facilitate the exchange of EDI data, inbound data of any format is treated as a continuous stream, so all protocol characters are removed and record boundaries are ignored (records are wrapped into the inbound queue or user file).
- Gentran:Server OFTP can optionally generate OFTP End-to-End Response commands (EERPs) when a file has been received, if this is required by the remote with which you are communicating.
- Gentran:Server does not require that EERPs be received in response to outbound data. However, if an EERP is received by Gentran:Server, it will not be used, but its receipt will be recorded in the communication history log.
- The receipt of print data using OFTP is not supported. However, it is possible to include Receive-to-SPOOL steps in the non-OFTP portion of an OFTP communication session control script.

Configuration

Like the other communication protocols within Gentran:Server for iSeries Communications Module, configuring for OFTP communication consists of two parts:

- Create a communication profile.
- Create a communication session control script.

NOTE

You may wish to copy and customize one of the sample OFTP profiles that are shipped with the product, rather than creating the profile and script yourself.

The specifics of creating profiles and scripts for OFTP are discussed in the following sections.

Create an OFTP Profile

After choosing option **1** (Create) on the Work with Communications panel (EDIX400-FMT01), the Communications Profile panel (EDIX401-FMT01) is displayed. To create a profile for OFTP communication, fill in the required information on EDIX401- FMT01 and specify one of the following values for Protocol:

OFA Creates a profile that will communicate over a switched asynchronous connection. Use **OFA** if you access your OFTP host by using an asynchronous modem to dial into a network PAD, which subsequently connects you to the host. Creating an OFA profile is illustrated in Figure 11.1.

```
EDIX401                    Communication Profile                EDI   03/01/06
FMT01                                                                12:00:00

Comm Profile ID. . . . . . . . . .  BTOFTP

Company. . . . . . . . . . . . . .  BT_UK_GNS_EDI*NET_OFTP_VIA_ASYNC___
Contact. . . . . . . . . . . . . .  CHRIS BARBER_____________________________
Phone. . . . . . . . . . . . . . .  ( 442 ) 231 - 711_  x ____
International Dial Code. . . . . .  441
Protocol . . . . . . . . . . . . .  OFA
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F10=Update  F12=Cancel  F13=Services  F24=More Keys
```

Figure 11.1 Create an OFA profile for using OFTP over an asynchronous line

OFX Creates a profile that will communicate over a synchronous connection. Use **OFX** if you access your OFTP host by using an X.25 leased line. Creating an OFX profile is illustrated in Figure 11.2.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  BTOFTPX

Company. . . . . . . . . . . . . .  BT UK GNS EDI*NET OFTP via X.25
Contact. . . . . . . . . . . . . .  Chris Barber
Phone. . . . . . . . . . . . . . .  ( 442 ) 231 - 711   x
International Dial Code. . . . . .  441
Protocol . . . . . . . . . . . . .  OFX
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F10=Update  F12=Cancel  F13=Services  F24=More Keys
```

Figure 11.2 Create an OFX profile for using OFTP over an X.25 leased line

OFTP is a higher level protocol that is dependent on the basic asynchronous communication support within Gentran:Server for iSeries. Therefore, the next step in creating an OFTP profile is to complete the configuration panel for one of the basic asynchronous communication types, ASC or XAS. After you press **Enter** to complete the EDIX401-FMT01 panel:

- If you specified Protocol OFA, the basic asynchronous (ASC) configuration panel EDIX401-FMT06 will be displayed, as shown in Figure 11.3.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT06                              ASC                            12:00:00

Comm Profile ID. . . . .  BTOFTP
Company. . . . . . . . .  BT UK GNS EDI*NET OFTP via Async
Modem Port . . . . . . .  LIN051            Retries. . . . . . . .  01
Switched Line. . . . . .  Y                 Auto Dial. . . . . . .  Y (Y/N)
Dial . . . . . . . . . .  5551212
Remote Location. . . . .  BTOFTP            Job Termination Delay.  N
Line Speed . . . . . . .  09600             End-of-Cmd Character .  00
Print Record Size. . . .  132               EOT Character. . . . .  3F
Max Exchange Buffer. . .  1000              ETX Character. . . . .  03
Command Set. . . . . . .  A                 Translation:
Flow Control . . . . . .  Y (Y/N/H)         Inbound (from) . . . .  __ __
Remote Cmd Password. . .  *NONE             Inbound (to) . . . . .  __ __
                                            Outbound (from). . . .  __ __
Modem Break Character. .  +                 Outbound (to). . . . .  __ __
Modem Auto-Answer Command ATS0=1
Modem Init. Command. . .  ATQ0V1X4
Modem OK Message . . . .  OK<CR><LF>
Modem Connect Message. .  CONNECT<?><CR><LF>

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 11.3 ASC configuration panel for OFTP over an asynchronous line

- If you specified Protocol OFX, the basic asynchronous-over-X.25 (XAS) configuration panel EDIX401-FMT07 will be displayed, as shown in Figure 11.4.

```
EDIX401                    Communication Profile                EDI 03/01/06
FMT07                              XAS                            12:00:00

Comm Profile ID. . . . .  BTOFTPX
Company. . . . . . . . .  BT UK GNS EDI*NET OFTP via X.25
Modem Port . . . . . . .  LIN052             Retries. . . . . . . .  02
Switched Line. . . . . .  N (Y/N)            Auto Dial. . . . . . .  N (Y/N)
Dial . . . . . . . . . .  ____________________________________
Session Initiator. . . .  *DIAL
Net Connection Init. . .  *WAIT              End-of-Cmd Character .  00
Remote Net Addr. . . . .  23421231101705      EOT Character. . . . .  3F
Local Net Addr . . . . .  999999999999        ETX Character. . . . .  03
Remote Location. . . . .  BTOFTPX
Lgl Channel Type . . . .  *SVCBOTH           Translation:
Lgl Channel ID . . . . .  001                Inbound (from) . . . .  __ __
Modulus. . . . . . . . .  8                  Inbound (to) . . . . .  __ __
Window Size. . . . . . .  07                 Outbound (from). . . .  __ __
Packet Size. . . . . . .  0128               Outbound (to). . . . .  __ __
Print Record Size. . . .  080
Max Exchange Buffer. . .  1024               Remote Cmd Password. .  *NONE
Reverse Charge . . . . .  *NONE              DCE Support. . . . . .  N (Y/N)

F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 11.4 XAS configuration panel for OFTP over an X.25 leased line

Complete the panel displayed. (SEE the sections “Asynchronous Communications Examples” and “Asynchronous via X.25 Examples” in the Asynchronous Communication Support chapter for more information.)

You may notice one difference on the EDIX401-FMT06 or FMT07 panel when configuring for OFTP. The field labeled `Outbound Block Size` on the ASC and XAS versions of the panel has been replaced by `Max Exchange Buffer` on the OFA and OFX panels. This is because the OFTP exchange buffer size, like the outbound block size, governs the amount of data that is written by Gentran:Server to the iSeries communications support.

The value that you enter for `Max Exchange Buffer` determines the exchange buffer size that your system will attempt to negotiate with the remote. The actual value used may be less, depending on the outcome of the negotiation. You should accept the default for this field unless you have a specific reason to change it.

After pressing **Enter** to complete the EDIX401-FMT06 or FMT07 Communication Profile panel, the EDIX401-FMT10 panel is displayed, as shown in Figure 11.5. This panel contains the parameters that are used to conduct the OFTP portion of the communication session with the remote system. The same panel is used for both OFA (asynchronous) and OFX (X.25) configurations.

```
EDIX401                    Communication Profile               EDI   03/01/06
FMT10                               OFTP                             12:00:00

Comm Profile ID. . . . . . . . . .  BTOFTP
Company. . . . . . . . . . . . . .  BT UK GNS EDI*NET OFTP VIA ASYNC

Local OFTP ID. . . . . . . . . . .  MYOFTPID_____________________
Local OFTP Password. . . . . . . .  MYOFTPPW
Remote OFTP ID . . . . . . . . . .  EDI-NET ODETTE FTP_________
Remote OFTP Password . . . . . . .  ________
Verify Remote ID and/or Password .  Y
Automatically Send EERPs . . . . .  Y
Data for SSIDUSER field. . . . . .  ________
Transparent Mode . . . . . . . . .  N
Act as Responder (Host). . . . . .  N
Use Special Logic. . . . . . . . .  Y
Maximum Credits (Window Size). . .  __1
Receive Timeout (hhmmss) . . . . .  000045



F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 11.5 OFTP Configuration Panel

Field Descriptions

Local OFTP ID

Up to 25 characters consisting of A – Z, 0 – 9, space, and hyphen. Identifies your system to the remote OFTP system with which you are communicating. Normally, this ID will be assigned to you by the OFTP host network you have subscribed to. This value will be transmitted by your system to the remote system in the OFTP SSID command.

Local OFTP Password

Up to 8 characters consisting of A – Z, 0 – 9, “/”, “-”, “.”, “&”, “(“, and “)”. This is the password that corresponds to the Local OFTP ID. This value will be transmitted by your system to the remote system in the OFTP SSID command.

Remote OFTP ID

Up to 25 characters consisting of A – Z, 0 – 9, space, and hyphen. Identifies the remote system that you are communicating with. The remote system will transmit its ID to you in the OFTP SSID command. Your system will also use this value as the destination ID in the OFTP SFID command that is transmitted to identify outbound data files.

Remote OFTP Password

Up to 8 characters consisting of A – Z, 0 – 9, "/", "-", ".", "&", "(", and ")." This password identifies the remote system that you are communicating with. The remote system will transmit its password to you in the OFTP SSID command.

Verify Remote ID and/or Password

Valid values are **Y** and **N**. Controls validation of the ID and password received from the remote system with which you are communicating. If you specify **Y** for this field, then the ID and/or password values received from the remote in the OFTP SSID command will be compared to Remote OFTP ID and/or Remote OFTP Password values on the EDIX401 FMT10 panel. If the values do not match, the OFTP session will be canceled. If either of the panel fields is left blank, then validation of that field will not be performed.

Automatically Send EERPs

Valid values are **Y** and **N**. Specifying **Y** causes OFTP End-to-End Response commands to be sent to the remote system. Each time a file is received successfully, an EERP will immediately be generated and transmitted to the remote system. If you specify **N**, then EERPs will not be generated or transmitted. The network you are communicating with will determine whether you need to send EERPs.

NOTE

If you are using the automatic EERP feature and a communication failure prevents the transmission of an EERP for a file that has already been received, the EERP will be stored and transmitted during the next OFTP session that is run using that communication profile.

Data for SSIDUSER Field

The OFTP specification allows for eight bytes of user defined data to be exchanged in the SSID command. Some networks use this field to perform special functions, such as establish or change passwords, etc. You should leave this field blank unless instructed to use it by the network you are communicating with.

Transparent Mode

Valid values are **Y** and **N**. Specifying "Y" bypasses ASCII-EBCDIC translation of the data being sent and received. You should only specify **Y** if you are communicating directly (not through a network) with another copy of Gentran:Server for iSeries OFTP. For files containing text data, transparent mode is optional and eliminates the overhead of translating the data to and from ASCII as it is sent and received. For files containing non-text (binary) data, transparent mode is required to avoid corruption of the data.

Act as Responder (Host)

Valid values are **Y** and **N**. In an OFTP session, the system that requests the connection is referred to as the Initiator and the system that answers the request is referred to as the Responder. Normally, when communicating with an OFTP network, you will be the Initiator, so you should leave this field set to the default **N**. However, if you are communicating directly (not through a network) with another Gentran:Server for iSeries OFTP (or other OFTP communication product) one of the systems will have to be configured as Responder. This can be accomplished in Gentran:Server for iSeries by specifying **Y** for this field.

Use Special Logic

Valid values are **`Y`** and **`N`**. Determines whether OFTP special logic will be used during the session. OFTP special logic performs error checking to ensure the integrity of transferred data. It should generally be used for all connections. However, you can reduce communication overhead by not using special logic if you can guarantee an error free link to the remote system and if you perform enough testing to satisfy yourself that data can be exchanged reliably without using special logic. Since the use of special logic is negotiated between the two OFTP systems, the value you specify may not actually be used to conduct the session.

Maximum Credits (Window Size)

Determines the number of outstanding OFTP data frames that will be exchanged with the remote system before an acknowledgment must be exchanged via an OFTP CDT command. A setting of **`1`** requires acknowledgment after every data frame. A higher number may improve throughput if you are using a reliable communication link. Because the credit value is negotiated between the two systems, the actual value used during the OFTP session may be less than what you specify.

Receive Timeout (hhmmss)

Specifies the maximum time that your system will wait for an expected response from the remote system before considering the situation an error. The function of this value is roughly equivalent to the T1 timer as defined in the OFTP specification Enhancements to the OFTP Extension revision 1.0. The default value of **`45`** seconds should be used unless you are communicating with a system or network that frequently generates longer delays.

Create an OFTP Script

After creating an OFTP communication profile, you must provide an appropriate communication session control script. This script will contain the commands transmitted and responses expected for connecting your system to the OFTP host system. Once connected, the script will invoke the Gentran:Server OFTP support to conduct the OFTP portion of the session.

OFTP scripts are created and edited using the same facilities as the other communication types within Gentran:Server for iSeries Communications Module. (SEE the "Using Communications" and "Using Scripts" chapters for basic information on scripting.)

Extended Script Logic

OFTP is implemented with Extended Script Logic records, which use session control records with Transaction Type `X`. When an `X` record is processed, the contents of the Command fields are interpreted and corresponding actions are taken. The other session control fields are ignored.

After preparing the appropriate script logic to connect your system to the OFTP host, you must invoke OFTP support by coding an `X` type record with the Extended Logic keyword STARTOFTP in the Command field.

In addition to the STARTOFTP command, there are many other Extended Logic keywords that can be used to set and/or override various options for the OFTP session. In cases where a keyword value specified in the session control script conflicts with a value in the profile, the script value will override the profile value.

You may combine multiple OFTP keywords in a single `X` record, and you may use multiple `X` records, but a keyword may not span records. The sequence of keywords does not matter, except that the STARTOFTP keyword must be placed on the last `X` record.

Optionally, single or double quotes may be used to delimit the value you are assigning to a keyword. This is necessary if you are coding a string value that contains embedded spaces.

Extended Logic Keywords

The following are the Extended Script Logic keywords that can be used with OFTP.

APPEND
Causes inbound data destined for a user file to be appended to the file. Otherwise, the file will be cleared before data is written to it. This keyword only has meaning if the INFILE keyword is also specified.

AUTOEERP
Equivalent to specifying **`Y`** for `Automatically Send EERPs` as described in the "Creating an OFTP Profile" section.

CREDITS=number
Same function as `Maximum Credits` field described in the "Creating an OFTP Profile" section.

INFILE=filename

Specifies that data received during the OFTP session should be written to a user provided file rather than the inbound queue. Specify a valid OS/400 file name, up to 10 characters. The file must already exist and must be in the library list. This achieves the same result as using a Receive to Inbound File step in a non-OFTP script.

LOCID=string

Same function as `Local OFTP ID` field described in the "Creating an OFTP Profile" section.

LOCPW=string

Same function as `Local OFTP Password` field described in the "Creating an OFTP Profile" section.

NOCOMPRESS

Causes your system to negotiate to establish a session that will not use OFTP data compression.If this keyword is not specified, then your system will negotiate to establish a session that does use OFTP data compression.

OUTFILE=filename

Specifies that data transmitted during the OFTP session should be read from a user provided file rather than the outbound queue. Specify a valid OS/400 file name, up to 10 characters. The file must exist and must be in the library list. This achieves the same result as using a Send from Outbound File step in a non-OFTP script.

OUTFMT=U/F/V/T

Selects one of the OFTP defined record formats that determine how your outbound data will be mapped to the OFTP virtual file for transmission to the remote system. If this keyword is not specified, format U will be used. The available formats and their descriptions are:

`U` (Unstructured)	The entire file will be transmitted as a single record, using the OFTP End-of-Record (EOR) bit in only the final subrecord header of the file.
`F` (Fixed)	Each outbound record will be delimited by the OFTP EOR bit. The length of the transmitted records will be determined by the OUTLRECL keyword.
`V` (Variable)	Each outbound record will be delimited by the OFTP EOR bit. Because the records on the outbound queue or user file are fixed-length, **`OUTFMT=V`** will transmit the data the same way as **`OUTFMT=F`**, except that the value of the SFIDFMT field in the SFID command will be V.
`T` (Text)	Each outbound record will be delimited by the insertion (by Gentran:Server OFTP) of a carriage return and linefeed, in addition to using the OFTP EOR bit. The length of the transmitted records will be determined by the OUTLRECL keyword.

OUTLRECL=number

Determines the record length that will be used to format your outbound data for transmission when `OUTFMT=F/V/T`. The supported range of values is **`1`** – **`4096`**. If this keyword is not specified, the record length used will be the record length of the outbound data source. This would be 80 bytes if sending from the queue, or the actual record length of an outbound user file. For `OUTFMT=U` files, OUTLRECL is not applicable because the entire file will be transmitted as a single record.

RECVONLY

Specifies that no outbound data is to be transmitted from your system to the remote system during the OFTP session. The local system will attempt to negotiate a receive only session during the SSID phase of session establishment.

RESPOND

Equivalent to specifying **`Y`** for `Act as Responder` as described in the "Creating an OFTP Profile" section.

REVERSEEERP

Causes outbound EERPs to be formatted with the contents of the EERPORIG (originator) and EERPDEST (destination) fields reversed from what is described by the OFTP specification. This may be required for communication with certain OFTP remotes, such as TRADANET networks.

RMTID=string

Same function as `Remote OFTP ID` field described in the "Creating an OFTP Profile" section.

RMTPW=string

Same function as `Remote OFTP Password` field described in the "Creating an OFTP Profile" section.

SENDONLY

Specifies that no data is to be transmitted from the remote system to your system during the OFTP session. The local system will attempt to negotiate a send only session during the SSID phase of session establishment.

SFIDDATE=yymmdd

Causes the specified date to be used in the OFTP SFID command that identifies all outbound files. By default, the current system date is used.

SFIDDEST=string

Specifies the OFTP Destination ID that will be used in the OFTP SFID command that identifies all outbound files. By default, the R`emote OFTP ID` from the communication profile is used.

SFIDFMT=U/F/V/T

Specifies the value that will be transmitted in the `SFIDFMT` field, which indicates the record format of the OFTP virtual file. If this keyword is not specified, the value will be determined by the OUTFMT keyword. By using this keyword, you can essentially 'lie' to the remote system about how your output data will be formatted. This may be necessary for communication with certain OFTP remotes.

SFIDLRECL=number

Specifies the value that will be transmitted in the `SFIDLRECL` field, which indicates the length of the longest record in the record in the OFTP virtual file. If this keyword is not specified, the SFIDLRECL field will be determined by the OUTLRECL keyword. The supported range of values is **`0`** – **`99999`**.

SFIDDSN=string

Specifies the OFTP file name that will be used in the OFTP SFID command that identifies all outbound files.

SFIDORIG=string

Specifies the OFTP Originator ID that will be used in the OFTP SFID command that identifies all outbound files. By default, the `Local OFTP ID` from the communication profile is used.

SFIDTIME=hhmmss

Causes the specified time to be used in the OFTP SFID command that identifies all outbound files. By default, the current system time is used.

SFIDUSER=string

The OFTP specification allows for eight bytes of user defined data to be exchanged in the SFID command. The use of this field is optional and is dictated by the remote system. You should leave this field blank unless specifically instructed to use it by the network you are communicating with.

SPECIAL

Equivalent to specifying **`Y`** for `Use Special Logic` as described in the "Creating an OFTP Profile" section.

SSIDUSER=string

Same function as `Data for SSIDUSER Field` field described in the "Creating an OFTP Profile" section.

STARTOFTP

Invokes Gentran:Server for iSeries OFTP support to conduct an OFTP session using the parameter values from the communication profile and session control script.

NOTE

The keyword **STARTOFTP** is mandatory. If omitted, the OFTP portion of the session will not run and no data will be transmitted.

TIMEOUT=hhmmss

Same function as `Receive Timeout` field described in the "Creating an OFTP Profile" section.

TRANSPARENT

Equivalent to specifying **`Y`** for `Transparent Mode` as described in the "Creating an OFTP Profile" section.

VERIFY

Equivalent to specifying **Y** for `Verify Remote ID and/or Password` as described in the "Creating an OFTP Profile" section.

XBUFSIZE=number

Same function as `Max Exchange Buffer` field described in the "Creating an OFTP Profile" section.

When to use the OFTP Keywords

The various OFTP extended logic keywords provide a great deal of flexibility in controlling your OFTP sessions. They allow you to override values from the profile, as well as set certain parameters that cannot be set in the profile. The defaults that are built into the system were chosen to allow the most common type of session to be run with a minimum of keywords.

The only OFTP keyword that is absolutely required is the `STARTOFTP` keyword. It invokes the OFTP communication support to conduct the OFTP session. This keyword should be placed in the script after the point at which the connection to the OFTP host has been established. This is illustrated by the OFTP scripting examples in the next two sections.

Normally, you will be running a Send/Receive script. Therefore, you will also need to use the `SFIDDSN` keyword to set the OFTP filename that will identify your outbound data to the OFTP host system.

Assuming that the only keywords you specify are **STARTOFTP** and **SFIDDSN**, the following defaults will be in effect for your session:

- All values from the Communications Profile will be used
- A Send/Receive session will be allowed
- Data will be received to the inbound queue
- Data will be transmitted from the outbound queue
- The current date and time will be used to timestamp the outbound data file(s)
- The Local OFTP ID from the profile will be used as the file Originator
- The Remote OFTP ID from the profile will be used as the file Destination
- OUTFMT=U and SFIDFMT=U will be used
- OFTP data compression will be used if supported by the remote system.

If you require different processing than what was just described, then you will need to include the appropriate keywords in your script to override the defaults. Some examples of this would be:

- Running a Send Only or Receive Only session (`SENDONLY` and `RECVONLY` keywords)
- Receiving inbound data to a file instead of the queue (`INFILE` keyword)
- Appending inbound data to a file instead of the queue (`APPEND` keyword)
- Sending outbound data from a file instead of the queue (`OUTFILE` keyword)
- Sending an OFTP Destination ID for your files that is different from the `Remote OFTP ID` specified in the profile (`SFIDDEST` keyword)

- Sending an OFTP Originator ID for your files that is different from the `Local OFTP ID` specified in the profile (`SFIDORIG` keyword)
- Sending a specific date and/or time to identify your outbound files, rather than the system date and time (`SFIDDATE` and `SFIDTIME` keywords)
- Specifying a value to be used in the `SSIDUSER` or `SFIDUSER` commands to control special processing by the OFTP host system you are using (`SSIDUSER` and `SFIDUSER` keywords)
- Overriding an OFTP parameter from the communications profile so that you can perform a test without having to actually modify the profile (`CREDITS` keyword, for example)
- Sending outbound data using an OFTP record format other than `U`, such as **`F`**, **`V`**, or **`T`** (`OUTFMT` keyword)
- Sending outbound data using record format **`F`**, **`V`**, or **`T`** with a record length other than the actual length of the outbound data source (`OUTLRECL` keyword)
- Sending the SFID command with values for the `SFIDFMT` and/or `SFIDLRECL` fields, which would not be the default values considering the `OUTFMT` and `OUTLRECL` being used (`SFIDFMT` and `SFIDLRECL` keywords)
- Forcing your OFTP session to run without using OFTP data compression (`NOCOMPRESS` keyword)

NOTE

Certain keywords and keyword combinations can cause Gentran:Server OFTP to operate 'outside' the OFTP specification. This capability is provided to accommodate the peculiarities of certain networks and OFTP products with which Gentran:Server must communicate. Incorrect use of these keywords can cause problems. In general, you should allow the defaults to control the OFTP session, and specify as few keywords as possible, using them only when you have a specific reason to do so.

OFTP Asynchronous (OFA) Scripting Example

The communication session control script in Figure 11.6 illustrates a typical asynchronous implementation, in which we must make contact with a network PAD, request a connection to a host computer, and conduct an OFTP session.

```
EDIX403               Communication Session Control            EDI   03/01/06
CTL01                                                                  12:00:00

Comm Profile ID. . . . . . . . . .  BTOFTP
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  BT UK GNS EDI*NET OFTP VIA ASYNC

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __     _10   D    __  __________  0  WAIT_FOR_BT_CONNECT_MESSAGE___
and_press_RETURN:_._____________________________________________________
 __     _20   C    __  __________  0  SEND_PAD_PASSWORD_____________
AIJMEAJNNE..____________________________________________________________
 __     _30   D    __  __________  0  Wait_for_"Connected_to"_______
Connected_to._____________________________________________________________
 __     _40   D    __  __________  0  Wait_for_CR/LF_________________
..._____________________________________________________________________
 __     _50   X    __  __________  _  Start_OFTP_session____________
STARTOFTP  SFIDDSN="TEST FILE NAME"_____________________________________
                                                                   More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 11.6 Example script for asynchronous OFTP session

This script would be used with the BTOFTP profile shown earlier in this section. The `BTOFTP` profile is an OFA profile, which means it runs OFTP over an asynchronous connection.

When the communication session is started, the information in the profile causes the modem to dial and connect to a British Telecom network PAD. Once the modems have connected, the session control script begins executing.

The first four lines of the script (sequence nos. 10-40) are concerned with establishing a connection with the OFTP host system. First, the PAD connection message is received, then a command is issued that requests a connection from the PAD to the OFTP host.

After the connection to the host has been established, the extended logic record on line 50 starts the OFTP session. The session will be conducted using the OFTP parameters from the EDIX401-FMT10 Communication Profile panel. The `SFIDDSN` keyword specifies that all outbound data transmitted to the OFTP host will be given the OFTP filename of `TEST FILE NAME`.

Because no other OFTP extended logic keywords were coded, defaults will be used to control other aspects of the OFTP session. These defaults will result in the following:

- A Send/Receive session will be allowed
- Data will be received to the inbound queue
- Data will be transmitted from the outbound queue
- The current date/time will be used to timestamp the outbound data file(s)
- The Local OFTP ID from the profile will be used as the file Originator
- The Remote OFTP ID from the profile will be used as the file Destination
- OUTFMT=U and SFIDFMT=U will be used
- OFTP data compression will be used if supported by the remote system.

OFTP X.25 (OFS) Scripting Example

The communication session control script in Figure 11.7 performs the same function as the script in the previous example, but it is used with an OFX profile that communicates with the OFTP host over an X.25 leased line.

```
EDIX403               Communication Session Control            EDI   03/01/06
CTL01                                                                  12:00:00

Comm Profile ID. . . . . . . . . .  BTOFTPX
Session Name . . . . . . . . . . .  SR
Company. . . . . . . . . . . . . .  BT UK GNS EDI*NET OFTP VIA X.25

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__    _10   X    __  __________  _  Start_OFTP_session___________
STARTOFTP SFIDDSN="OFTP FILE NAME"_____________________________________________
__    ___   _    __  __________  _  ____________________________________
_____________________________________________________________________________
__    ___   _    __  __________  _  ____________________________________
_____________________________________________________________________________
__    ___   _    __  __________  _  ____________________________________
_____________________________________________________________________________
__    ___   _    __  __________  _  ____________________________________
_____________________________________________________________________________
                                                                       More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 11.7 Example script for X.25 OFTP session

This script would be used with the BTOFTPX profile shown earlier in this section.

When the communication session is started, the information in the profile causes an X.25 call request to be issued from the local iSeries to the British Telecom OFTP host. After the call is connected, the session control script begins executing.

Because the connection to the OFTP host system is established automatically by the iSeries' X.25 support, the initial script lines from the previous example are not necessary. All the script needs to do is start the OFTP session with a single extended logic record.

Like the first example, the OFTP session will be conducted using the parameters from the EDIX401-FMT10 Communication Profile panel. The SFIDDSN keyword specifies that all outbound data transmitted to the OFTP host will be given the OFTP filename of `TEST FILE NAME`.

Because no other OFTP extended logic keywords were coded, defaults will be used to control other aspects of the OFTP session. These defaults will result in the following:

- A Send/Receive session will be allowed
- Data will be received to the inbound queue
- Data will be transmitted from the outbound queue
- The current date/time will be used to timestamp the outbound data file(s)
- The Local OFTP ID from the profile will be used as the file Originator
- The Remote OFTP ID from the profile will be used as the file Destination
- OUTFMT=U and SFIDFMT=U will be used
- OFTP data compression will be used if supported by the remote system

Chapter

12 FTP Communication Support

NOTE
This feature is an optional add-on product that may be purchased separately.

Introduction

Beginning with V3R1 of OS/400, the iSeries included support for TCP/IP and many of the common higher level TCP/IP protocols, such as File Transfer Protocol (FTP). This simplifies connectivity between the iSeries and the many systems on which these "open" standards have been implemented, such as UNIX machines. This connectivity may be intra-company, between machines attached to your company's LAN or WAN, or inter-company, via a private WAN or the Internet.

The Communications Module includes an interface that allows you to use iSeries TCP/IP support to exchange EDI data with other systems using FTP. This interface consists of two parts:

- FTP Client Interface – The FTP client is the component within FTP that allows your system to log in to a remote FTP server and send and receive files. The events in the session are controlled from the local system (client).
- FTP Server Interface – The FTP server is the component within FTP that allows a remote FTP client to log in to your system and send and receive files. The events in the session are controlled from the remote system (client).

NOTE
With either interface, the FTP client controls the session by sending commands to the FTP server. This relationship is inherent in FTP communications.

For more information on TCP/IP and FTP on the iSeries, see your iSeries TCP/IP documentation.

Considerations

Gentran:Server/FTP Integration

Although the FTP communication is performed by the iSeries FTP support, this interface integrates iSeries FTP with Gentran:Server by providing many familiar Gentran:Server communication features, such as:

- Communication profiles
- Communication session control scripts
- Management of data via the inbound and outbound communication queues
- Recording of activity in the communication history log
- Communication job scheduling (only applicable to the FTP client interface)

Installation

All of the components of the Gentran:Server FTP interface are loaded during the Gentran:Server for iSeries Communications Module installation process, without any additional effort on your part.

You must also install the iSeries TCP/IP Connectivity Utilities licensed program, following IBM's instructions.

NOTE

Because the FTP interface is an optionally licensed component of Gentran, an activation key will need to be obtained and entered before the FTP interface can be used.

iSeries FTP Configuration

You must configure your iSeries for TCP/IP and FTP using the facilities and procedures detailed in the iSeries TCP/IP Configuration and Reference.

Use the TCP/IP host table to assign names for all systems with which you will communicate using the Gentran:Server FTP client interface.

When you have completed the iSeries configuration, perform the tests described in the next two sections (Configuration Verification Tests for FTP Client Interface and Configuration Tests for FTP Server Interface) to verify that the support required by the Gentran:Server interface works properly.

Configuration Verification Tests for FTP Client Interface

1. From a command line on the local iSeries, use the PING command to contact the remote (server) system, using a name from the TCP/IP host table.
2. From a command line on the local iSeries, use the FTP command to connect to and log in to the remote (server) system, using the same host name that was used in step 1.
3. After logging into the server as described in step 2, use the FTP subcommands BINARY, PUT, and GET to send and receive files to and from the server system using FTP binary image mode.
4. Log out and end the connection to the server by using the QUIT subcommand.

NOTE

The Gentran interface reads messages generated by the FTP client to evaluate the results of the communications session. Currently, English and German language messages are supported. If your needs require the FTP client interface on the iSeries system in any other language, please contact your Customer Service Representative.

Configuration Verification Tests for FTP Server Interface

1. From a command line on the remote (client) system, use the PING command to contact your iSeries.
2. From a command line on the remote (client) system, use the FTP command to connect to and log in to your iSeries' FTP server.
3. After logging into the iSeries FTP server as described in step 2, use the FTP subcommands BINARY, PUT, and GET to send and receive files to and from the iSeries using FTP binary image mode.
4. Use the QUOTE subcommand to send subcommands to the iSeries FTP server.
5. Log out and end the connection to the iSeries by using the QUIT subcommand.

NOTE

You will not be able to use the Gentran:Server FTP interface successfully until you can complete all of the applicable tests. These tests represent the minimum subset of FTP subcommands required to perform basic send and receive functions. More advanced functions may require additional subcommands.

Remote System Requirements

The iSeries FTP support should allow communication with a variety of systems. The remote system must provide support for the basic FTP functions required by the tests that were outlined in the previous topic.

The Gentran:Server FTP interface was tested using the following operating systems as remotes:

- OS/400
- AIX
- OS/2
- DOS/Windows
- Sun/OS
- HP/UX

Security

There are a multitude of security issues regarding the use of TCP/IP protocols, especially where the Internet is concerned. The Gentran:Server FTP interface makes this situation neither better nor worse. It is your responsibility to adequately secure your system and protect your data. For more information on this topic, you should start with the iSeries TCP/IP Configuration and Reference and the iSeries Security Guide and Reference.

CAUTION

It is crucial that you give extra attention to security when using TCP/IP and FTP. By allowing a client system access to your FTP server, you not only grant the ability to transfer files, but also to create and delete objects and to execute commands. Failure to control remote users' access could introduce serious security exposures.

ASCII and BINARY File Transfer Types

ASCII and BINARY are two file transfer types commonly encountered in FTP communications.

ASCII type transfers are designed for transferring text files, such as source code, which can be represented using all printable characters and predictable record separators. This type of data is relatively simple and performing conversions between unlike systems is straightforward for the FTP programs. These conversions include ASCII-EBCDIC translation, adding or deleting trailing spaces, and inserting or removing record separators between a record-oriented EBCDIC system (i.e., the OS/400 QSYS.LIB file system) and a stream-oriented ASCII system (i.e., a PC or UNIX system).

BINARY type transfers are designed for other types of files, such as executable code, which are destroyed if altered by the conversion mechanisms described above. BINARY essentially tells the FTP client and server not to attempt to interpret, modify, translate, or convert data in any way.

Although most EDI data can be represented using only printable characters, it is common to find various communication control characters used as delimiters and to find things such as fixed-length data elements in which spaces are significant. These characteristics of EDI data conflict with the conversions performed by the OS/400 FTP client and EDI data cannot be reliably transferred from the OS/400 QSYS.LIB file system using FTP ASCII type transfers.

FTP BINARY transfer type can be used to avoid this conflict. Any necessary data conversions must be performed separately outside the file transfer process. This is the safest way to transfer EDI data between unlike systems because it entrusts the data conversion process to a specialized application rather than the generic FTP utilities. This is how the Gentran interface works by default.

There are cases when an FTP server does not support the BINARY transfer type. To accommodate these rare situations, the Gentran FTP interface will allow the ASCII type transfer to be used. This imposes very strict requirements on the format of the data transmitted and received and should only be used if absolutely necessary under the direction of Gentran communications support.

NOTE

Do not confuse ASCII transfer type with ASCII data. It is common for an FTP server or VAN FTP interface to expect transmission and receipt of ASCII data because the origins of FTP were ASCII machines. This does not mean the ASCII transfer type must be used. ASCII data can be transferred using the FTP BINARY transfer type. This is the Gentran default and recommended mode of operation that can be used in almost all situations.

ASCII-EBCDIC Translation

The iSeries uses the EBCDIC character set. Because many of the systems that one would be likely to communicate with using FTP use the ASCII character set, data translation must be performed. All inbound data will be translated from ASCII to EBCDIC. All outbound data will be translated from EBCDIC to ASCII.

When the FTP BINARY transfer type (Gentran default) is in use, translation will be performed using the translate tables GENASCII and GENEBCDIC, which reside in the Gentran:Server program library (G20PGM). These tables perform the translation described in Appendix B, “Translating between ASCII and EBCDIC”.

CAUTION

You should not modify or override these translation tables.

Translation can be disabled in your FTP communication profile. This could be used to eliminate the overhead of translation if you were communicating with another iSeries (or other EBCDIC machine).

Translation should also be disabled in an FTP communication profile if the FTP ASCII transfer type is being used. In this case, translation is performed by the OS/400 FTP client rather than by Gentran:Server.

NOTE

ASCII type transfers are not recommended with Gentran:Server.

Gentran:Server FTP Configuration

Like the other communication protocols within Gentran:Server, configuring for FTP communication consists of two parts:

1. Create a communication profile
2. Create a communication session control script (FTP client interface only)

The FTP communication profile that you create can be used by both the client and server interfaces. Communication session control scripts are only required for the FTP client interface.

The specifics of creating profiles and scripts for FTP are discussed in the following sections.

Create an FTP Profile

```
EDIX400                    Work with Communications                EDI  03/01/06
FMT01                 pgmlib: G3X4PGM   dtalib:G3X4DTA                 12:00:00

Position to Profile ID . . . . . .  _______

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Line/Ctl/Dev

Opt  Profile ID  Company
 1   SAMPFTP_
 __  CN3BSC      COMMERCE:Network RELEASE 3
 __  CN3SNA      COMMERCE:Network RELEASE 3
 __  REDINET     CONTROL DATA / REDINET NETWORK
 __  RMTDAA      Remote Dial Line/Answer/ASYNC
 __  RMTDAL      Remote Dial Line/Answer/SDLC/APPC
 __  RMTDAN      Remote Dial/Answer/No X25 Network
 __  RMTLAL      Remote Leased-line/answer/SDLC/APPC
 __  RMTLAN      Remote Lease Lin/Answer/No X25 Netw
 __  RMTLAX      Remote Leased Line/Answer/X25 Netwk
                                                                      More...
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 12.1 Work with Communications Panel (EDIX400-FMT01)

On the Work with Communications panel (EDIX400-FMT01), type **1** (Create) in the Option field on the key entry line. Type **SAMPFTP** in the Profile ID field on the key entry line and press **Enter**, as shown in Figure 12.1.

The Communications Profile panel (EDIX401-FMT01) is displayed, as shown in Figure 12.2.

```
EDIX401                   Communication Profile               EDI   03/01/06
FMT01                                                               12:00:00

Comm Profile ID. . . . . . . . . .  SAMPFTP

Company. . . . . . . . . . . . . .  Sample FTP Profile
Contact. . . . . . . . . . . . . .  Customer Service
Phone. . . . . . . . . . . . . . .  (___ ) ___ - ____  x  ____
International Dial Code. . . . . .  ___
Protocol . . . . . . . . . . . . .  FTP
Days to Purge. . . . . . . . . . .  999
FIFO/LIFO. . . . . . . . . . . . .  F
Update Allowed . . . . . . . . . .  Y









F1=Help  F10=Update  F12=Cancel  F13=Services  F24=More Keys
```

Figure 12.2 Create an FTP communication profile

On the Communications Profile panel (EDIX401-FMT01), type your company name in the Company field and **FTP** in the Protocol field. Press **Enter**.

The FTP Communication Profile panel (EDIX401-FMT11) is displayed, as shown in Figure 12.3.

```
EDIX401                   Communication Profile               EDI   03/01/06
FMT11                              FTP                              12:00:00

Comm Profile ID. . . . . . . . . .  SAMPFTP
Company. . . . . . . . . . . . . .  Sample FTP Profile

FTP Server Name. . . . . . . . . .  FTPHOSTNAME
Login ID . . . . . . . . . . . . .  MYID
Login Password . . . . . . . . . .  MYPWD
Record Size. . . . . . . . . . . .  0080
Inbound Record Separator (hex) . .  __ __
Outbound Record Separator (hex). .  __ __
ASCII/EBCDIC Translation . . . . .  Y
Secure Connection. . . . . . . . .  *DFT









F1=Help  F4=Prompt  F5=Refresh  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.3 Create an FTP communication profile

Type the name of the remote in the FTP Server Name field. For this example, type **FTPHOSTNAME**. Type the login ID that will be used for access to the host in the Login ID field, and type the password that will be used to access the host in the Login Password field. Press **F10** (Update) to create the profile.

Field Descriptions

FTP Server Name

Specifies the name of the FTP server, as defined in the iSeries TCP/IP host table, that will be used by the FTP client interface to establish a connection to the remote system. This field is not used by the FTP server interface.

Login ID

Specifies the user ID that will be used by the FTP client interface to log in to the FTP server. This field is not used by the FTP server interface. When a communications session is started for a Gentran:Server FTP client communication profile, these are the *default* processing steps:

1. Gentran:Server issues the command `FTP rmtsys`, where `rmtsys` is the host name or IP address of the server system. The host name or IP address used as `rmtsys` is specified in the FTP Server Name on the communications profile. The command invokes the OS/400 FTP client program, and opens a connection to the FTP server.
2. The server issues a login prompt, requesting identification from the client system.
3. Gentran:Server responds to the login prompt with a login string `username password`, where `username` is the Login ID and `password` is the Login Password specified in the communications profile.
4. The server issues a message confirming the login, and the FTP client program waits for the next FTP subcommand.
5. Gentran:Server issues the `BINARY` subcommand, which is the recommended file transfer type for all Gentran:Server FTP communications.
6. The session is switched to binary file transfer mode, the server issues a confirmation message, and the FTP client program waits for the next subcommand.
7. Processing of the communications session control script now begins.

NOTE

Steps 1 – 6 are normally performed ***automatically*** by Gentran:Server, based on the information in the communications profile.

In some situations, this default processing may not be appropriate for the FTP server with which you are communicating. For example, the FTP server may require a username or password longer than the 10-character fields on the Gentran:Server communications profile panel (EDIX401-FMT01). For these situations, you can specify ***NOLOGIN** for the Login ID field in the communications profile. This special value instructs Gentran:Server not to perform the login sequence (steps 2 – 6) automatically. Instead, Gentran:Server

performs step 1, then proceeds directly to step 7. This allows you to control login processing with commands in your communications session control script. Continuing with the previous example, if your FTP server requires a username or password longer than 10 characters, you can code a control record send as the first step in your script. This record would then be sent in response to the initial login prompt form the FTP server. Using this technique, you would then have up to 80 characters to use for your username and password.

NOTE

If you use the `*NOLOGIN` option, you must include the BINARY or ASCII subcommand as a control record sent in your communication session control script immediately following the script steps used to log in. This is generally the BINARY subcommand since FTP ASCII type transfers are not recommended for exchanging EDI data.

Login Password

Specifies the password that will be used by the FTP client interface to log in to the FTP server. This password must correspond to the Login ID that was specified. This field is not used by the FTP server interface, or when `*NOLOGIN` is specified for the Login ID field.

Record Size

Specifies the record length that will be used to prepare outbound data for transmission by both the FTP client and FTP server interfaces.This field determines the interval at which the record separator characters specified by the Outbound Record Separator fields will be added to the outbound data.Valid values range from **`1`** – **`4096`**.

Inbound Record Separator

Specifies a sequence of characters that will be considered to be record separators and will be eliminated from data that is received by both the FTP client and FTP server interfaces.

NOTE

To facilitate the transmission of EDI data, the record separators will not be observed (not cause a “short” inbound record to be considered complete) but will be removed. This results in the input data stream being continuously ”wrapped” into its destination records, without any record separators.

If the Inbound Record Separator fields are left blank, then no characters will be removed from inbound data. If one or two characters are specified, then all occurrences of that character or character sequence will be removed before the data is written to the inbound queue or user file. The Inbound Record Separator fields specify the hexadecimal value of the characters that are to be removed from the data. If translation is enabled in the profile (the default), then these fields specify the character representation *after* translation has been performed according to the ASCII-EBCDIC translation table in the Communications Reference. Therefore, these fields should normally contain the EBCDIC representation of the record separator characters to be removed.

Outbound Record Separator

Specifies a sequence of characters that will be added to transmitted data to allow the remote system to delimit records when the data is processed. If the Outbound Record Separator fields are left blank, then no record separator characters will be added to outbound data. If one or two characters are specified, then that character or character sequence will be added to all outbound data at the fixed interval specified by the Record Size field.

The Outbound Record Separator fields specify the hexadecimal value of the characters to be added to the data. If translation is enabled in the profile (the default), then these fields specify the character representation *before* translation has been performed according to the EBCDIC-ASCII translation table in the Communications Reference. Therefore, these fields should normally contain the EBCDIC representation of the record separator characters to be added.

ASCII-EBCDIC Translation

Specify **`Y`** or **`N`** to determine whether inbound data will be translated from ASCII to EBCDIC and outbound data will be translated from EBCDIC to ASCII. This setting only affects queue, file, and print data that is sent and received during FTP communications. It does not affect other types of data, such as control records, extended logic records, or remote commands received from an FTP client.

Secure Connection

Specifies the type of security mechanism to be used for protecting information transferred on the FTP control connection, including the password used to authenticate the session with the FTP server. Enter '*DFT' when you want to take the iSeries default value. Enter '*SSL' to use encryption to protect data from being viewed during transmission and to verify that data loss or corruption does not occur. When *SSL is used, after connecting to the specified FTP server, the FTP client sends an AUTH (authorization) subcommand requesting a TLS/SLL protected session. If the server supports SSL, an SSL negotiation is performed. If the server does *not* support SSL or if the SSL negotiation fails, the connection is closed.

NOTE

When *SSL is used, there is configuration required on the OS/400. Please refer to the IBM manuals for SSL setup for your system.

FTP Communication Session Control Scripts

NOTE

Session control scripts are only required by the FTP client interface, not the FTP server interface. The FTP client interface uses the session control script to control the FTP session. In contrast, the FTP server interface requires the remote system to control the session, therefore scripts are not needed.

After creating an FTP communication profile, you must provide an appropriate communication session control script. The script will contain any commands necessary to prepare the remote system for file transfer, as well as the steps that transfer files. The exact contents of the script will be determined by the remote system's requirements and capabilities, and by the work that must be accomplished with the script.

Create an FTP Script

FTP scripts are created and edited using the same facilities as the other communication types within Gentran:Server for iSeries Communications Module. (SEE the "Using Communications" and "Using Scripts" chapters for basic information about scripting.)

An FTP script is coded similarly to scripts for the other protocols supported by Gentran:Server. The following script transactions can be used:

Trans	Description	Use
C	Control Record	Used to execute an FTP subcommand
R	Receive	Used to receive a file from the FTP server to your system
S	Send	Used to send a file from your system to the FTP server
X	Extended Logic	Used to execute an extended logic keyword

FTP Script Transactions

C – Control Record

Used to execute an FTP subcommand. The FTP subcommand must be supported by both the local (client) and remote (server) systems. For more information on applicable subcommands and their syntax, see your iSeries TCP/IP documentation, and the documentation for the FTP server with which you are communicating.

The text coded in the Command field of the script record will be passed unchanged to the iSeries FTP client program. Because the FTP server will frequently be case sensitive, be sure to use the correct case when entering FTP subcommands in a script.

A typical FTP subcommand that would be executed using this facility is CD, which would be used to change to the appropriate directory on the remote system before performing a file transfer.

NOTE

Control Records are very powerful and provide you with the ability to insert FTP subcommands beyond the control of Gentran. Therefore, it is possible that some subcommands or subcommand sequences may interfere with the operation of the Gentran FTP interface. It is the user's responsibility to identify any of these subcommands or sequences and avoid use of those which may affect the Gentran FTP interface.

R – Receive

Used to receive a file from the FTP server to your system. By typing one of the following values in the File Type field, you can direct the inbound data to a specific location.

The Command field of the script record is used to specify the name of the file to be received from the server. The filename must be specified using the correct syntax for the type of system with which you are communicating. The filename can optionally include a path specification. For example:

`C:\EDI\X12.DAT` might specify the name of a file on a PC,

while

`/usr/bob/EDI/X12_data` might specify the name of a file on a UNIX system.

FTP Receive transactions may be combined with File options as follows:

- **R/IQ** Receive to Gentran Inbound Queue
- **R/IM** Receive to Gentran Inbound Queue
- **R/IF** Receive to Inbound File provided by user
- **R/IA** Receive and Append to Inbound File provided by user
- **R/SP** Receive to spool file

For **R/IQ** and **R/IM**, data is received to the Gentran:Server inbound queue. The data to be received is determined by the filespec specified in the Command field in the Receive step of the script. Multiple files may be received from the server if the filespec contains the wildcard character, "*". If more than one file is received, each file is received into a separate batch on the queue.

For **R/IF** and **R/IA**, the server file named by the Command field in the receive step of the script will be received to the iSeries file named by the File Name field. This file must exist (be pre-allocated) on your iSeries before the communication session is started, and must be accessible via the library list of the job used to conduct the session.

When R/IF is specified, the destination file is cleared before any received data is written to it. When R/IA is specified, the file is not cleared, and data received is appended. Multiple files may be received from the server if the filespec in the Command field contains the wildcard character, "*". If more than one file is received, all of the received files are concatenated into the specified inbound file. Due to stream/record conversion, the resulting file may contain pad characters between the data that was received from the individual files.

CAUTION

When specifiying the name of the iSeries file in the File Name field, avoid the use of the period character (.) in the name (e.g., EDI.DATA). Although these are valid iSeries file names, they cause problems for the OS/400 FTP client.

For **R/SP**, the server file named by the Command field in the receive step will be received to a spool file. This file may contain ASCII carriage control characters such as carriage returns, line feeds, and form feeds. These characters are interpreted as described in the Print Control topic of the "Async Communications Support" chapter. Multiple files may be received from the server if the filespec in the Command field contains the wildcard character, "*". If more than one file is received, each file will produce a separate spool file.

CAUTION

Print control characters will be consumed by the file transfer process when the ASCII file transfer type is used for receiving print data. This results in incorrect input. To avoid this, the BINARY file transfer type should be used to receive print data.

For all FTP receive transactions, the Indicator field in the script will not be used.

NOTE

The Command field in the receive step of the script is a filespec that can include the wildcard character, "*". The filespec may resolve to multiple files on the server. The LS subcommand is used to resolve the filespec. The syntax used for the filespec must be such that it would cause the LS subcommand to return the desired list of files, considering the file system employed by the FTP server. For example, to receive all files beginning with the characters TEST you can specify the filespec as **TEST*** for a UNIX FTP server, while using **TEST*.*** would achieve the desired results with a native OS/400 FTP server.

S – Send

Used to send a file from your system to the FTP server. By specifying File Type **OQ** or **OF**, you can transmit data from the outbound queue or a user-provided file.

The Command field of the script record is used to specify the name of the file to which your outbound data will be written on the server system. The filename must be specified using the correct syntax for the type of system with which you are communicating. The filename can optionally include a path specification. For example:

C:\EDI\X12.DAT might specify the name of a file on a PC,

while

`/usr/bob/EDI/X12_data` might specify the name of a file on a UNIX system.

FTP Send transactions may be combined with File options as follows:

- **`S/OQ`** Send from Gentran:Server Outbound Queue
- **`S/OM`** Send from Gentran:Server Outbound Queue, separating multiple batches
- **`S/OF`** Send from Outbound File provided by user

For **`S/OQ`**, all eligible data batches on the outbound queue will be transmitted to the file (on the FTP server system) that is named by the Command field in the send step of the script. All batches will be transmitted to a single file on the server.

For **`S/OM`**, each eligible batch on the outbound queue will be transmitted to a separate file on the FTP server system. The file names on the server will be determined by the Command field in the send step of the script. This name should be coded to include the special character sequence "####". This sequence will be replaced by a 4-digit number that will start with 0001 and will be incremented for every batch transmitted by the current send step. For example, if there were three eligible outbound batches and the Command field contained the name `Data_from_AS400_####`, the batches would be transmitted to the server using the file names `Data_from_AS400_0001`, `Data_from_AS400_0002`, and `Data_from_AS400_0003`.

Alternatively, this action may be modified (for example, to retain the sequence number between sessions) using the FTP Extended Logic keywords `SETSEQ`, `SAVSEQ`, and `RTVSEQ`. Figure 9.5 illustrates an example of an FTP Control Script using these Extended Logic keywords. SEE the "X-Extended Script Logic" section of this chapter for detailed descriptions of these keywords.

NOTE

The sequence number is reset to 0001 for every communication session. Or, use the FTP Extended Logic keywords above to modify this action.

For **`S/OF`**, the iSeries physical file named by the File Name field in the send step of the script will be transmitted to the file (on the FTP server system) that is named by the Command field. This file must exist on your iSeries and must be accessible via the library list of the job used to execute the communication session.

CAUTION

When specifying the name of the iSeries file in the File Name field, avoid the use of the period character (.) in the name (for example, EDI.DATA). Although these are valid iSeries file names, they cause problems for the OS/400 FTP client.

For all FTP send transactions, the Indicator field in the script will not be used.

For `S/OQ` and `S/OF`, you can specify a date/time string for the full or partial name on the host. Specifying **`+DTSTAMP+`** in the command field of the send step will insert a default date/time string in its place. The default date/time string format is `YYYYMMDDHHMM`. If a different date/time string is

required, build it using the Extended Logic keyword TIMEFMT. Refer to "X – Extended Script Logic" on page 12-17.

For S/OM, if there are multiple batches to send, use the **###** option in the command line to get the unique file name. Use the **####** option in conjunction with the **+DTSTAMP+** to ensure a unique file name for each batch sent. Use the same date/time string for each file sent within the S/OM.

The following examples show how to use the +DTSTAMP+ function. This example assumes that the communications session was initiated on April 1, 2006 at 15:45.

Command Field	File Names on Host
+DTSTAMP+	200604011545
+DTSTAMP+INV	200604011545INV
+DTSTAMP+.TXT	200604011545.TXT
MYCO+DTSAMP+.TXT	MYCO200604011545.TXT
If S/OM is specified with three batches to transmit: +DTSTAMP+####	200604011545001 200604011545002 200604011545003

The file name prefix (prior to the +DTSTAMP+) and the suffix (after the +DTSAMP+) are limited to 25 characters each. A period is not required by Gentran:Server for the use of a suffix. If it exceeds 80 characters, the filename will be truncated.

CAUTION

If +DTSTAMP+ is used multiple times within the same Session Control script, the same date/time string will be used for each send step. This may cause the files on the FTP Server to be overwritten due to duplicate names. To avoid this situation, specify a unique prefix or suffix along with the +DTSTAMP+ on each send steps command line. Otherwise, use the Extended Logic Keyword TIMEFMT to specify a different string prior to each send step.

X – Extended Script Logic

Used to execute extended script logic keywords. When a keyword is used to set an option, the selected option will remain in effect for the duration of the session unless it is changed by another occurrence of the keyword.

NOTE

All FTP extended logic keywords must begin in the first column of the Command field. Only one extended logic keyword can be specified on a session control record. If more than one extended logic keyword is needed, they may be specified by using multiple control records.

RECOMMENDATION

Some of the following extended keywords provide additional control of record separators and character set translation. It is strongly recommended that you read the definitions for the fields titled, "Inbound Record Separator," "Outbound Record Separator," and "ASCII-EBCDIC Translation" that appear earlier in this chapter.

RECSIZE=nnnn

When outbound data is prepared for transmission via FTP, the communication profile can specify record separator characters that will be inserted into the data at a fixed interval. By default, this interval is determined by the Record Size field in the profile.

The RECSIZE keyword can be used to override the record size from the profile. This is accomplished by coding an extended logic record and specifying the Command field as `RECSIZE=`*nnnn*, where *nnnn* is a 1- to 4-digit number with a value from **`1`** to **`4096`**. The specified value will be used to prepare the outbound data for all subsequent send transactions (or until another `RECSIZE` keyword is encountered).

SKIPBLANKEOF=Y or N

When a file is transferred via the Gentran Communications Outbound Queue, pad characters may be introduced at the end of the file.This occurs when the record length of the file being transferred and the outbound queue itself are not even multiples.

For example, a 1055-byte record length version 3 SAPIN IDOC file is to be transferred from GENTRAN/400 to a UNIX system where it will be processed by SAP. An FTP ASCII type transfer will be used to perform the necessary EBCDIC-to-ASCII translation, trailing blank truncation, and addition of record separators. When the SAPIN file is ADDed to the outbound queue, the last record will almost always contain some number of pad spaces because 1055 is not an even multiple of 80 (the outbound queue size). When this data is taken from the outbound queue and reformatted into 1055-byte records again for transmission, the pad characters that were added to the queue result in the creation of an extra 1055-byte blank record at the end of the file. This record contains only pad (space) characters.

Generally this is not a problem, as most applications are not sensitive to "white space" characters after the logical end of the data that is to be processed. For those applications that are, the `SKIPBLANKEOF` keyword can be used. When **`Y`** is specified, Gentran will not create this extra blank record that is composed entirely of pad (space) characters.

Once this keyword has been used in a communications session control script, its setting remains in effect until the end of the script or until it is used again. If this keyword does not appear in a script, the default value **N** will be used.

NOTE

This keyword is only for use in specific situations such as the example presented above. It will not eliminate all pad characters in all situations.

AUTODELETE=Y or N

This keyword provides a mechanism for automatically deleting files from the FTP server after they have been received by the Receive Inbound Multiple (R/IM) function. When **AUTODELTE=Y** is specified, each file received by R/IM will be deleted after it has been received.

Once an AUTODELETE=Y script record has been processed, the option will remain in effect for every R/IM step until the end of the script or AUTODELETE=N is encountered.

If no AUTODELETE record is included in a script, the default (AUTODELTE=N) will be used.

RECSEPO=Y or N

This keyword allows the user to specify whether record separators will be inserted at a fixed interval into **outbound** data. Specifying **Y** indicates that record separators will be inserted at a fixed interval. Specifying **N** disables record separator insertion. The record separators used for insertion must be defined by the Outbound Record Separator field on screen EDIX401 FMT11, or by using the extended logic command **CHGRECSEPO**, as indicated below.

RECSEPI=Y or N

This keyword allows the user to specify whether record separators will be removed from **inbound** data. Specifying **Y** indicates that record separators will be removed. Specifying **N** disables the removal of record separators. The record separators to be removed must be defined by the Inbound Record Separator field on screen EDIX401 FMT11, or by using the extended logic command **CHGRECSEPI**, as indicated below.

CHGRECSEPO=XX

This keyword allows the user to specify one or two characters that will be inserted as record separators at a fixed interval into *outbound* data. When used, this keyword overrides the value(s) specified for the Outbound Record Separator on screen EDIX401 FMT11, or the value(s) specified by a prior CHGRECSEPO command. Hex character representation can be entered using the Extended Parameters screen (EDIX43B) of Communications Session Control.

CHGRECSEPI=XX

This keyword allows the user to specify one or two characters that will be considered record separators, and will be removed from *inbound* data. When used, this keyword overrides the value(s) specified for the Inbound Record Separator on screen EDIX401 FMT11, or the value(s) specified by a prior CHGRECSEPI command. Hex character representation can be entered using the Extended Parameters screen (EDIX43B) of Communications Session Control.

XLATEO=Y or N

This keyword allows the user to specify whether character translation from the EBCDIC code set to the ASCII code set will be used for *outbound* data. Specifying **Y** will enable translation.

XLATEI=Y or N

This keyword allows the user to specify whether character translation from the ASCII code set to the EBCDIC code set will be used for *inbound* data. Specifying **Y** will enable translation.

AEXLATE=XXXXXXXXXX

This keyword allows the user to specify the name (up to ten characters) of a translation table that will be used for translating *inbound* data. When used, this table name will override the default translation table that would normally be used during communications. It can also override a translation table name specified by a prior "AEXLATE" command. Translation will occur if either the `ASCII/EBCDIC Translation` field on the communication profile screen is set to **Y** or the `XLATEI=Y` command has been issued prior to this command.

EALXATE=XXXXXXXXXX

This keyword allows the user to specify the name (up to ten characters) of a translation table that will be used for translating outbound data. When used, this table name will override the default translation table that would normally be used during communications. It can also override a translation table name specified by a prior `EAXLATE` command. Translation will occur if either the `ASCII/EBCDIC Translation` field on the communication profile screen is set to **Y** or the `XLATEO=Y` command has bee issued prior to this command.

FTPCCSID=nnnnn

Overrides the default value of the coded character set identifier (CCSID) parameter used to execute the OS/400 FTP command to conduct a Gentran FTP client session when the FTP type is set to ASCII (not recommended).

It specifies the ASCII CCSID that is used for single-byte character set (SBCS) ASCII file transfers. The CCSID value chosen is the default used by the FTP client for ASCII-to-EBCDIC and EBCDIC-to-ASCII translation. Translation is determined using the specified ASCII CCSID and the EBCDIC CCSID of the job.

If this keyword is not used, the value `*DFT` is passed to the FTP command and the default 00819 (ISO 8859-1 8-bit ASCII) is used.

CAUTION

Use of this keyword may have undesirable results. Avoid using this keyword except when directed by Gentran Communications Support.

FTPTBLOUT=xxxxxxxxxx

Overrides the default value of the `TBLFTPOUT` parameter used to execute the OS/400 FTP command to conduct a Gentran FTP client session when the FTP type is set to ASCII (not recommended).

It specifies the table object that is to be used to map all outgoing data in the FTP client. Outgoing data is translated from EBCDIC to ASCII. If a table object is specified for FTPTBLOUT, the table object is used for outgoing translation. Otherwise, the FTPCCSID value is used to determine outgoing translation.

The specified table must be available in the library list of the job when the communications session is executed.

NOTE

This is not the same as the EAXLATE keyword. EAXLATE affects character translation performed by Gentran and is generally used only with BINARY type file transfers. FTPTBLOUT affects character translation performed by the OS/400 FTP client during ASCII type file transfers.

CAUTION

This keyword affects other character translation in the FTP client in addition to that which occurs during file transfers. Use of this keyword may have undesirable results. Avoid using this keyword except when directed by Gentran Communications Support.

FTPTBLIN=xxxxxxxxxx

Overrides the default value of the TBLFTPIN parameter used to execute the OS/400 FTP command to conduct a Gentran FTP client session when the FTP type is set to ASCII (not recommended).

It specifies the table object that is to be used to translate all incoming data in the FTP client. Incoming data is translated from ASCII to EBCDIC. If a table object is specified for FTPTBLIN, the table object is used for incoming translation. Otherwise, the FTPCCSID value is used to determine incoming translation.

The specified table must be available in the library list of the job when the communications session is executed.

NOTE

This is not the same as the AEXLATE keyword. AEXLATE affects character translation performed by Gentran and is generally used only with BINARY type file transfers. FTPTBLIN affects character translation performed by the OS/400 FTP client during ASCII type file transfers.

CAUTION

This keyword affects other character translation in the FTP client in addition to that which occurs during file transfers. Use of this keyword may have undesirable results. Avoid using this keyword except when directed by Gentran Communications Support.

SETSEQ=nnnn

This keyword sets the sequence number used with the S/OM #### feature. The internal last-used sequence number is set to one less than the value specified so that the value specified is the next number used to replace #### in an S/OM file name.

Syntax:

SETSEQ Value = *nnnn*

Where:

nnnn is a one- to four-digit number ranging from **0** to **9999**.

NOTE

Sequence number zero is never used. If zero is specified, the next sequence number is 0001.

SAVSEQ

This keyword stores the last-used S/OM #### sequence number in an OS/400 data area. It can be used in combination with RTVSEQ to retain the sequence number between communications sessions.

Syntax:

SAVSEQ DTAARA = *dtaaraname* [LIB=*libname*]

Where:

dtaaraname is the name of the data area where you want to store the sequence number. If a data area does not exist, it is created.

libname is the name of the library where the data resides. If *libname* is not specified, the library list is used to locate the data area. Further, if *libname* is not specified and the data area must be created, it is created in the job's current library.

The keywords ***dtaaraname*** and ***libname*** can be specified in either order.

CAUTION

dtaaraname and *libname* must be valid OS/400 object names. If invalid names are specified, runtime errors occur during the communication session when the script is executed.

RTVSEQ

This keyword retrieves the last-used S/OM #### sequence number from an OS/400 data area. It can be used in combination with SAVSEQ to retain the sequence number between communication sessions.

Syntax:

RTVSEQ DTAARA = *dtaaraname* [LIB=*libname*]

Where:

dtaaraname is the name of the data area where the sequence number was previously saved.

libname is the name of the library where the data area resides. If *libname* is not specified, the library list is used to locate the data area.

The keywords *dtaaraname* and *libname* can be specified in either order.

NOTE

If *dtaaraname* and *libname* do not identify an existing data area, the last-used sequence number is set to zero and results in a sequence number of 0001 for the next #### file name generated.

TIMEFMT="formatstring"

Using this Extended Logic keyword allows a date/time string to be included in the remote file name during the FTP communications session. It is used in conjunction with S/OQ and S/OF by placing a +DTSTAMP+ in the command line of the send step. When the script is interpreted, the +DTSTAMP+ will be replaced by a character string of the specified format. You can also use it with S/OM and #### for sequential numbering of the outbound files. The double quotes are required for the *formatstring* within the command line of the TIMEFMT Extended Logic. The date/time string created by the TIMEFMT Extended Logic is used for all +DTSTAMP+ occurrences until another TIMEFMT Extended Logic is encountered within the Session Control script. Please see sample scripts for examples.

NOTE

Because the script is interpreted prior to execution of the FTP session, the generated time stamp may not be the exact time that the file was transmitted. If you anticipate that more than one file may be transmitted with the same time stamp, you may need to include #### to guarantee a unique file name.

The format of the date/time string is determined by using one or more of the following format specifiers in the *formatstring* parameter of the TIMEFMT Extended Logic record. The number of parameters is only limited to a resulting filename length of 80 bytes. The FTP server receiving the data may have a file name length that is smaller than 80 bytes.

Coordinate with your trading partners to ensure the date/time string is compatible. Each format specifier is case sensitive.

Specifier	Result	Example
%a	Abbreviated name of current weekday	Monday is displayed: Mon
%A	Full name of current weekday	Monday
%b	Abbreviated name of current month	July is displayed: Jul
%B	Full name of current month	July
%C	Century number – Year divided by 100	2006 is displayed: 20
%d	Day of month	Displayed as 01 – 31
%D	Current month, date, year	Displayed with / as delimiter: 01/01/06
%H	Current Hour – 24-hour clock	9:00 PM displayed as 21
%I	Current Hour – 12-hour clock	9:00 PM or AM displayed as 09
%j	Current day of the year – Julian Date	01/01/06 displayed as 001
%m	Current month numeric	July is displayed: 07
%M	Current minute	Displayed in two digits: 15
%p	AM or PM of current time	Displayed as: AM or PM
%R	Current time – 24-hour clock with ‘:’	5:00 PM is displayed: 17:00
%S	Current second	Displayed in two digits: 14
%T	Current time Hour Minute Second with ‘:’	Displayed as: 08:00:00
%u	Current weekday as decimal number with Monday as 1 and Sunday as 7	Displayed as single digit. Monday displayed as 1
%U	Week number of the year where Sunday is the first day of the week	Displayed as two digits: 00-53
%V	Week number of the year where Monday is the first day of the week. First week of year must have four days to be considered week 01. Otherwise it is week 53 of previous year.	Displayed as two digits: 00 – 53
%w	Current weekday with Sunday as 0	Displayed as single digit: Sunday is 0, Saturday is 6

Specifier	Result	Example
%W	Week number of the year where Monday is the first day of the week	Displayed as two digits: 00-53
%x	Current date representation of locale. Typically MM/DD/YY	July 23, 2006 displayed as: 07/23/06
%X	Current time representation of locale. Typically HH:MM:SS	08:00 AM displayed as 08:00:00
%y	Current year without century	Year 2001 displayed as: 01
%Y	Current year	Four digit year displayed: 2006

CAUTION

Many of the time stamps indicated above use ':' and '/' as separators. This may cause adverse effects on some FTP servers because of the file structure. For example, using `%x` as the time stamp will create a `PUT` command, as **`PUT localfilename 07/23/06`**. The `07/23/06` as the remote filename may cause the server to attempt to put the file in directory `07`, subdirectory `23`, filename 06. Therefore, you should always coordinate with your trading partner for the exact filename format. An alternative to this example would be to use the string of **`"$m%d%y"`**.

Within the format string, you can insert non-specifier characters to act as separators of the elements. For example, **`TIMEFMT="%m$%d$%y"`** would result in a date/time string of `07$26$06`. Any character(s) can be used in this manner. If you use a space, then you must encapsulate the filename in the command line of the send step with " ". Please review the sample scripts for an example of this feature.

FTP Script Example 1

The script in Figure 12.4 is an example of how the FTP client interface could be used to send and receive files. In the example, script record `Seq Nos. 10` and `30` are used to change directory on the server to the appropriate directories for the file transfers. Script record `Seq Nos. 20` and `40` perform the FTP file transfers.

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . . SAMPFTP
Session Name . . . . . . . . . . . SR
Company. . . . . . . . . . . . . . Sample FTP Profile

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__   10    C    __   _______    _  Change directory on server
cd /usr/EDI/outbound
__   20    R    IQ   _______    _  Receive data to inbound queue
filename.to.receive
__   30    C    __   _______    _  Change directory on server
cd/usr/EDI/inbound
__   40    S    OQ   ________   _  Send data from outbound queue
destination.file.name
__   ___   _    __   ________   _  ____________________________
_______________________________________________________________________________
                                                                      More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.4 Example 1: FTP Session Control Script

FTP Script Example 2

The communications session control script in Figure 12.5 shows how the SAVSEQ and RTVSEQ Extended Logic keywords can be used to retain the Outbound Multiple #### sequence number between sessions.

```
EDIX403                Communication Session Control            EDI  03/01/06
CTL01                                                                12:00:00

Comm Profile ID. . . . . . . . . . FTPTEST
Session Name . . . . . . . . . . . T1
Company. . . . . . . . . . . . . . TEST FTP PROFILE

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __   10    X    __   _______    _  Restore last used seq num
RTVSEQ DTAARA=FTPTEST LIB=PRODLIB
 __   20    S    OM   _______    _  Send outbound multiple
MULTISEND####
 __   30    X    __   _______    _  Save seq num for next run
SAVSEQ DTAARA=FTPTEST LIB=PRODLIB
 __   ___   _    __   ________   _  ____________________________
 ____________________________________________________________________________
                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.5 Example 2: FTP Session Control Script

The first time the script is executed, the data area does not exist; therefore, the RTVSEQ control record results in a last-used sequence number of zero and the first batch transmitted from the outbound queue is named MULTISEND0001. If three batches were transmitted, they are named MULTISEND0001, MULTISEND0002, and MULTISEND0003, respectively. When the SAVSEQ control record is executed, the last-used sequence number, 0003, is saved in the data area PRODLIB/FTPTEST.

On the next run of this script, the RTVSEQ retrieves the last-used sequence number of 0003 from the data area PRODLIB/FTPTEST. If two outbound batches are transmitted, they are named MULTISEND0004 and MULTISEND0005, respectively. When the SAVSEQ control record is executed, the last-used sequence number, 0005, is saved in the data area PRODLIB/FTPTEST.

Sample Scripts using TIMEFMT

Figure 12.6 shows the TIMEFMT=Extend logic using the parameter of "%d%m%y", which translates to the current DDMMYY. The +DTSTAMP+ in the S/OQ step indicates that only the date/time stamp will be used as the remote filename.

```
EDIX403               Communication Session Control            EDI 03/01/06
CTL01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  FTPSAMP
Session Name . . . . . . . . . . .  T1
Company. . . . . . . . . . . . . .  Sample FTP Profile

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __    10   X    __  __________  _  Set Date/Time Stamp
TIMEFMT="%d%m%y"
 __    20   S    OQ  __________  _  Send From OQ
+DTSTAMP+
 __   _____  _    __  __________  _  ____________________________________
 __   _____  _    __  __________  _  ____________________________________


                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.6 Sample TIMEFMT Script Session T1

The +DTSTAMP+ can be preceded and followed by text for further file naming, as shown in Figure 12.7.

```
EDIX403               Communication Session Control            EDI 09/01/03
CTL01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  FTPSAMP
Session Name . . . . . . . . . . .  T2
Company. . . . . . . . . . . . . .  Sample FTP Profile

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __    10   X    __  __________  _  Set Date/Time Stamp
TIMEFMT="%d%m%y"
 __    20   S    OQ  __________  _  Send From OQ
INVOICE+DTSTAMP+.TXT
 __   _____  _    __  __________  _  ____________________________________
 __   _____  _    __  __________  _  ____________________________________


                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.7 Sample TIMEFMT Script Session T2

The previous example creates a file on the remote FTP server with the file name of INVOICE072306.TXT. The +DTSTAMP+ must appear in the Send Step, otherwise only the name in the command line will be used as the file name. The file name prior to and after the +DTSTAMP+ is limited to 25 characters each.

The example in Figure 12.8 creates an individual file name for each batch transmitted in the Outbound Queue that is distinguished with a sequential number. In this instance the remote file names are 072306**0001**, 072306**0002**, 072306**0003**, through 072306*nnnn*.

```
EDIX403               Communication Session Control            EDI 03/01/06
CTL01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  FTPSAMP
Session Name . . . . . . . . . . .  T3
Company. . . . . . . . . . . . . .  Sample FTP Profile

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
__     10  X    __  __________  _  Set Date/Time Stamp
TIMEFMT="%d%m%y"
__     20  S    OM  __________  _  Send From OQ
+DTSTAMP+####
__   _____  _    __  __________  _  ____________________________________
__   _____  _    __  __________  _  ____________________________________

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.8 Sample TIMEFMT Script Session T3

NOTE

Refer to the earlier examples for more information about the RTVSEQ and SAVSEQ Extended Logic scripting functions and the use of ####, which starts on page 12-21.

The example in Figure 12.9 creates a date/time string that is separated by a hyphen. The file name would appear as `09-01-06`.

```
EDIX403               Communication Session Control            EDI 03/01/06
CTL01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  FTPSAMP
Session Name . . . . . . . . . . .  T4
Company. . . . . . . . . . . . . .  Sample FTP Profile

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __    __10   X    __  __________  _  Set Date/Time Stamp
TIMEFMT="%d-%m-%y"
 __    __20   S    OM  __________  _  Send From OQ
"+DTSTAMP+"
 __   _____  _    __  __________  _  ____________________________________
 __   _____  _    __  __________  _  ____________________________________

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.9 Sample TIMEFMT Script Session T4

The example in Figure 12.10 uses spaces to separate the date/time string elements.

```
EDIX403               Communication Session Control            EDI 03/01/06
CTL01                                                              12:00:00

Comm Profile ID. . . . . . . . . .  FTPSAMP
Session Name . . . . . . . . . . .  T5
Company. . . . . . . . . . . . . .  Sample FTP Profile

Type option, press Enter.
  3=Copy Seq#  4=Delete   11=Extended Parms

Opt Seq No Tran File File Name  Ind Description
 __     __10   X    __  __________  _  Set Date/Time Stamp
TIMEFMT="%d %m %y"
 __     __20   S    OM  __________  _  Send From OQ
+DTSTAMP+
 __   _____  _    __  __________  _  ____________________________________
 __   _____  _    __  __________  _  ____________________________________

                                                                    More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys
```

Figure 12.10 Sample TIMEFMT Script Session T4

For this example to work successfully, the entire file name in the send step must be encapsulated with double quotes (`"filename"`).

Start an FTP Client Communication Session

After creating an appropriate communication profile and script, an FTP client communication session can be started by using the STRCOMSSN command or the job scheduler. (SEE the section "Initiating Communication Sessions" in the "Using Communications" chapter for more information.)

NOTE

The STRCOMSSN command and job scheduler cannot be used to start FTP server sessions. These sessions will be initiated by the remote system when it wishes to communicate.

When an FTP client communication session is initiated, the profile and script are used to create a series of commands that will be passed to the iSeries FTP client program for execution. Control record transactions will be passed directly to FTP, and send and receive transactions will be converted to FTP PUT and GET subcommands, respectively.

Use the FTP Server Interface

The Gentran:Server FTP server interface allows data to be exchanged between the Gentran:Server communication queues and a remote (client) system.

The following steps are necessary to prepare the Gentran:Server FTP server interface for use:

1. Configure your iSeries FTP server using the information in the “iSeries TCP/IP Configuration and Reference”.
2. Create an appropriate FTP communication profile using the information in the previous section, “Gentran:Server FTP Configuration”.
3. Configure the remote (client) system for FTP communication with your iSeries.
4. Configure the FTP library using the new command GENFTPSLL.

FTP server sessions are conducted “outside” of Gentran:Server using the iSeries FTP server, under the control of the remote (client) system. The client will issue standard FTP subcommands to establish the FTP connection, set file transfer parameters, and perform file transfers.

The interface to Gentran:Server is provided by several additional commands that will be submitted to the iSeries FTP server by using the QUOTE RCMD facility from the FTP client. These commands are used to copy data to and from the Gentran:Server communication queues, and perform necessary data formatting and character translation.

NOTE

If errors occur while processing Gentran:Server FTP server interface commands, messages will be written to the QSYSOPR message queue.

Because the responsibility for establishing and controlling the session is the client’s, you must determine and implement the most effective method for each specific FTP client to create and execute the appropriate FTP subcommands. Control of the FTP client can be manual, by typing commands directly into the FTP client program, or automated, using an FTP command file or other facility available on the client system.

`GENFTPSLL` (Gentran FTP Set Lib List) is a command that allows the user to change the Gentran FTP server production and test library names at any time. Prompt the command **`GENFTPSLL`** and specify program and data library names for both a production and test environment. This command changes the library names added to the library list of an FTP client using the Gentran FTP server.

FTP Server Session Flow

The remote system must perform the following actions using its FTP client program:

1. Connect to the iSeries FTP server. This can be accomplished by using the FTP command or the OPEN subcommand.
2. Log in to the iSeries FTP server using a valid iSeries user profile and password. This can be accomplished by responding to the prompts for user and password or by using the USER subcommand.
3. Execute the **GENFTPLIBL** command on the iSeries to create the environment for the Gentran:Server FTP server interface programs.
4. Use the FTP **BINARY** subcommand to place your FTP session into binary image transfer mode.
5. If you need to send data to Gentran:Server, perform these steps for each file you need to send:
   a. Use the FTP **PUT** subcommand to transfer the file from the client system to the iSeries.
   b. Execute the **GENFTPADD** command on the iSeries to add the file to the Gentran:Server inbound queue.
6. If you need to receive data from Gentran:Server:
   a. Execute the **GENFTPEXT** command on the iSeries to extract eligible batches from the outbound queue into a file.
   b. Use the FTP **GET** subcommand to transfer the file from the iSeries to the client system.
7. After the file transfers have been completed, execute the **GENFTPUPDT** command on the iSeries to cause Gentran:Server to update the communications history and batch status to reflect the file transfers that have occurred.
8. Use the FTP **QUIT** subcommand to log out of the iSeries FTP server and close the FTP connection.

FTP Server Interface Commands

The commands described in this section constitute the interface between Gentran:Server and the iSeries FTP server. These commands are submitted from the remote FTP client to the iSeries FTP server to invoke the Gentran:Server interface functions.

The commands are submitted for processing by using the QUOTE subcommand on the FTP client system to pass the `RCMD` subcommand to the iSeries FTP server. This combination causes the text that follows `QUOTE RCMD` to be passed to the server's command interpreter for execution.

For example, if you wanted to execute a command requiring the syntax `XYZCMD PARM1 PARM2` on the FTP server, you would issue the following command to the FTP client program:

```
QUOTE RCMD XYZCMD PARM1 PARM2
```

The following paragraphs describe the syntax of the Gentran:Server FTP server interface commands.

GENFTPLIBL

This command creates an environment (within the iSeries FTP server job) that will support the use of the other Gentran:Server FTP server interface commands.

This command must be executed immediately after the commands used to connect to and log in to the iSeries FTP server, before any other Gentran:Server FTP server interface commands are used.

`TEST` is an optional parameter of the command `GENFTPLIBL` to quickly move clients between production and test environments and add test library names to an FTP client's library list. This provides a method for switching FTP clients between a production and a test environment.

When an FTP client executes the `GENFTPLIBL` command with no parameters, it will default to adding the library names specified as production in the `GENFTPSLL` command to the client's library list. To run in a test environment, an FTP client would instead issue the command `GENFTPLIBL`, followed by a single space, and the parameter `TEST`. This will cause the library names specified as test in the `GENFTPSLL` command to be added to the client's library list. The two formats of the command are listed below.

`GENFTPLIBL` Add libraries specified as production in `GENFTPSLL` command.

`GENFTPLIBL TEST` Add libraries specified as test in `GENFTPSLL` command.

GENFTPEXT

This command causes data to be extracted from the Gentran:Server outbound queue. The data will be formatted for FTP binary transmission by adding record separators and translating the data from EBCDIC to ASCII. The data will then be written to an iSeries physical file. The GENFTPEXT command accepts parameters that allow the actions of the command to be tailored to your needs. The complete syntax of the command is shown below. Optional parameters are shown enclosed in brackets.

```
GENFTPEXT       COMPRF(profileid)

                [BID(batchid | *ALL)]

                FLNAME(filename)

                LBNAME(libraryname)

                [RECSZE(nnnn)]
```

COMPRF specifies the communication profile ID for which data is to be extracted.

BID specifies the batch ID that can be used to limit the data that is extracted to only those batches whose batch ID matches the one specified. The batch ID can be up to 44 characters and can be assigned to batches when they are added to the communication queues. If BID is not specified, then all eligible outbound batches with no batch ID (spaces) will be extracted. If *ALL is specified, then all eligible outbound batches will be extracted, regardless of batch ID.

NOTE

Eligible outbound batches are those with a batch status of Q (queued), IP (in progress), or SA (sent abnormal).

FLNAME specifies the name of the file that the outbound data will be written to. The file will be created automatically.

LBNAME specifies the name of the library in which the file will be created.

RECSZE specifies the record length of the physical file into which data will be extracted for transmission. The record length used may be increased by up to two bytes if outbound record separator characters have been specified in the communication profile. If RECSZE is not specified, the record length from the communication profile will be used.

GENFTPADD

This command causes data to be added to the Gentran:Server inbound queue. The data will be reformatted by translating the data from ASCII to EBCDIC and removing record separators. The data will then be written to the Gentran:Server inbound queue.

The GENFTPADD command accepts parameters that allow the actions of the command to be tailored to your needs.

The complete syntax of the command is shown below. Optional parameters are shown enclosed in brackets.

```
GENFTPADD       COMPRF(profileid)

                [BID(batchid)]

                FLNAME(filename)

                [LBNAME(libraryname)]
```

COMPRF specifies the communication profile ID for which data is to be added. The profile that is specified must have previously been defined within Gentran:Server communications.

BID specifies the batch ID that will be assigned to the data batch on the Gentran:Server inbound queue. The batch ID can be up to 44 characters. If BID is not specified, then no batch ID will be assigned to the inbound batch.

FLNAME specifies the name of the physical file from which inbound data is to be read. This file must exist. It should be the same file to which data was previously written by an FTP file transfer.

LBNAME specifies the name of the library in which the file resides. If LBNAME is not specified, then the library list will be searched.

GENFTPUPDT

This command causes the Gentran:Server communication history log and communication queue control files to be updated to reflect the batches that have been sent and received during the current FTP session.

Batches that were extracted by the GENFTPEXT command will be updated to status “sent normal”, and history records will be created to indicate their successful transmission. Batches that were added by the GENFTPADD command will also be recorded in the communication history.

This command allows the FTP client to control the final batch status and communications history within Gentran:Server for iSeries Communications Module. Therefore, it is the client system’s responsibility to issue this command at the end of every FTP session that uses the Gentran:Server FTP server interface.

CAUTION

If the client system fails to execute the GENFTPUPDT command, then the Gentran:Server communication history and outbound queue batch status will not be correct.

Chapter

13 Using Line Pools

In this Chapter

This chapter contains the following sections:

- Introduction 13-1
- How Line Pools Work with Gentran:Server Communications 13-1
- Requirements for Using Line Pools 13-1
- When Line Pools Can Be Used 13-2
- Create a Line Pool 13-3
- Set Up a Line Pool with a Comm Profile 13-4

Introduction

The use of line pools within the Gentran:Server for iSeries Communications Module is an extension to the communications subsystem. Line pools enable you to have a number of communications jobs active at one time, all sharing the same "pool" of up to five iSeries line resources.

How Line Pools Work with Gentran:Server Communications

Line pools prevent a communications job from failing when attempting to use a line resource that is already in use by another job. When you use a line pool, a communications job will check the status of each resource named in the line pool, attempting to find the first available resource. If an available resource is found, communications will begin over that resource. If all resources in the pool are checked and none has an available status, the job will delay for one minute, then start the status checking process again.

Requirements for Using Line Pools

- All resources named in the line pool must be using the same modem and autodial type.
- Multiple line pools may be defined on a single machine and used at the same time by different jobs.
- Only one line pool can be defined within a single Profile. For instance, it may beneficial to have one pool for all asynchronous communication jobs, and a second for all synchronous communication jobs. Using this scenario, multiple asynchronous jobs sharing one line pool, and multiple synchronous jobs sharing another line pool can all be active at the same time.

- There are no limitations on the number of line pools that may be used.
- Up to 5 communication resources can be defined in a line pool.

☞ **RECOMMENDATION**

You may want to set up one pool for production jobs, and another for test jobs to keep the maximum number of lines/modems available to your production environment.

When Line Pools Can Be Used

Line pools can only be used for switched line, outbound dial applications.

Line pools are *not* supported in the following environments:

- Stand alone auto-dialers on a separate port from the modem (801/ACU)
- Leased line connections
- LAN connections
- Auto-answer / Incoming calls

Create a Line Pool

To create a line pool, from the Work with Communications panel (EDIX400-FMT01), type **33** (Line Pools) on the key entry line and press **Enter**. The Gentran:Server Line Pool (GENLINP) panel is displayed as shown in Figure 13.1.

```
                          Gentran Line Pool (GENLINP)

Type choices, press Enter.

Line Pool Name . . . . . .   SYNC1          Name
Library  . . . . . . . . .   *GENDTA        Name, *GENDTA
Description  . . . . . . .   Line Pool #1
Resource Name 1  . . . . .   LIN031_____    Name, *RMV
Resource Name 2  . . . . .   LIN032_____    Name, *RMV
Resource Name 3  . . . . .   ___________    Name, *RMV
Resource Name 4  . . . . .   ___________    Name, *RMV
Resource Name 5  . . . . .   ___________    Name, *RMV




                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 13.1 Gentran:Server Line Pool (GENLINP) panel

The Gentran:Server Line Pool (GENLINP) panel is used to define line pool information. This panel enables you to create, update, and delete line pools and their contents.

NOTE

The Gentran:Server Line Pool command can also be accessed by typing **GENLINP** on the command line and pressing **Enter**.

This panel allows you to specify a five-character pool name, the library where the pool will reside, up to 30 characters as a description, and up to five resource names. Press **F1** (Help) for additional information on a field. Pool name, library name, and resource name are mandatory.

Set Up a Line Pool with a Comm Profile

Once a line pool has been created, you can associate that pool with each of the communications profiles that is to use it.

To associate a line pool with a particular comm profile, update the modem port field for that profile:

1. On the Work with Communications panel (EDIX400-FMT01), type **2** (Revise) in the Option field next to the desired Profile ID and press **Enter**.
2. On the Communication Profile panel (EDIX401-FMT*nn*, where *nn* is 02 – 09, depending on the protocol defined for this profile), press **F8** (Next) to see protocol-specific parameters.
3. Type the name of the line pool, preceded by an asterisk (*), in the Modem Port field and press **F10** (Update). The asterisk informs Gentran:Server you are naming a line pool, rather than a single line resource. For example, to use a line pool named SYNC1, update the Modem Port field with the value ***SYNC1**, as shown in Figure 13.2.

```
EDIX401                    Communication Profile                EDI   03/01/06
FMT02                              BSC                              12:00:00

Comm Profile ID. . . . .  CN3BSC
Company. . . . . . . . .  COMMERCE:Network RELEASE3

Modem Port . . . . . . .  *SYNC1           Retries. . . . . . . .  02
Switched Line. . . . . .  Y (Y/N)          Auto Dial. . . . . . .  Y (Y/N)
Auto Call Unit . . . . .  V                Auto Call Port . . . .  ______
Dial . . . . . . . . . .  916145551212
Host ID Verify . . . . .  N (Y/N)
Local Site ID. . . . . .  _____________
Record Size. . . . . . .  0080             Block Size . . . . . .  0512
Inter-Record Separator .  3780
Transparency . . . . . .  N (Y/N)
Blank Compress . . . . .  N (Y/N)
Trailing Blank Trunc . .  N (Y/N)
Continuous Processing. .  N (Y/N)          Script . . . . . . . .  __


F1=Help  F10=Update  F12=Cancel  F13=Services  F24=More Keys
```

Figure 13.2 Example of Profile with Line Pool information

4. Repeat steps 1 – 3 for each profile that will use the line pool.

For more information about working with comm profiles, see the "Using Communications" chapter.

Chapter

14 MQSeries Interface

In this Chapter

This chapter covers the following topics:

- Overview of MQSeries Interface 14-1
- MQ Link Panels 14-3
- Gentran MQSeries Configuration 14-11
- Send Files to MQSeries. 14-13
- Receive Files from MQSeries 14-15
- Report 14-17

Overview of MQSeries Interface

Gentran:Server for iSeries communications includes an MQSeries interface. This interface allows you to transfer files to and from other systems using MQSeries.

NOTE
This form of communication requires MQSeries to be loaded and configured on both the sending and receiving systems.

The Gentran:Server interface with MQSeries allows files to be transferred directly from a database file, or they can be transferred from the Gentran communications queues. You can also receive files directly into the Gentran communications queues, or to a database file. By entering the MQ Link on the `ADD`, `EXTRACT`, `PRCTRNIN`, or `PRCTRNOUT` commands, the data is transferred/received directly from any of these points.

In addition to the current functionality, MQ Link provides additional capabilities. On the `ADD` command, you can take data from an MQSeries queue and place it in the Gentran communication queues. The `EXTRACT` command takes data directly from the Gentran communication queue and sends it to MQSeries. The `PRCTRNIN` command sends the intermediate application files to

MQSeries for each application processed. The `PRCTRNOUT` command pulls the data from MQSeries and places it in the application file prior to processing the application.

NOTE

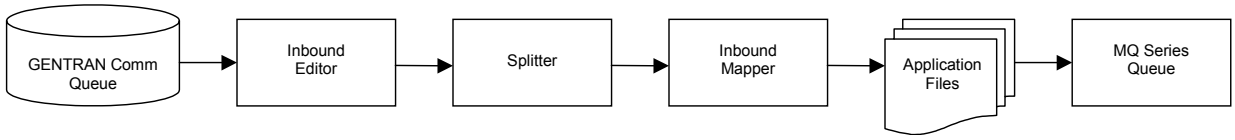
When using the MQSeries interface with the PRCTRNOUT process, you can only specify one application ID per run, and that application definition can only have one file defined to it.

Gentran provides the capability to insert or remove carriage return/line feed characters from the data. This would be used when transferring or receiving data from systems, such as Windows NT, that require those fields to be used as record separators. MQSeries performs the data conversion from ASCII to EBCDIC when you receive data from an ASCII source, provided the convert data parameter is marked on the MQ Link definition.

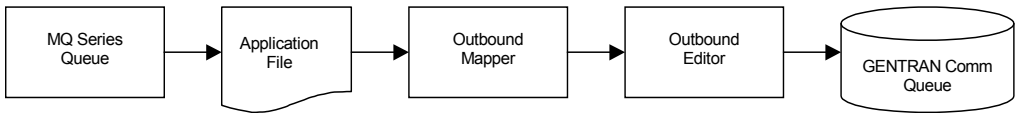
NOTE

To use the MQSeries interface, you must have a good working knowledge of MQSeries. Sterling Commerce does not provide a means to maintain the MQSeries queues, channels, and managers. These functions and items must be maintained separately outside of the Gentran product. The interface has been based upon having the MQSeries queues defined at 4MB on the iSeries system where Gentran:Server resides.

This diagram illustrates inbound processing using the MQSeries interface. The MQ Series interface places all application files to a defined MQSeries Queue.



This diagram illustrates outbound processing using the MQSeries interface. The application file is populated with the data received from an MQSeries Queue.



MQ Link Panels

The MQ Links panels enable you to set up and configure link definitions to transport files between Gentran:Server, MQSeries, and other systems that are MQSeries enabled.

Access MQ Link Panels

The MQ Link panels are accessed from the Gentran:Server Communications menu. Select option **4** on the GENMAIN menu or type **GO GENCOM** on the command line and press **Enter**. The system displays the Gentran:Server Communications menu.

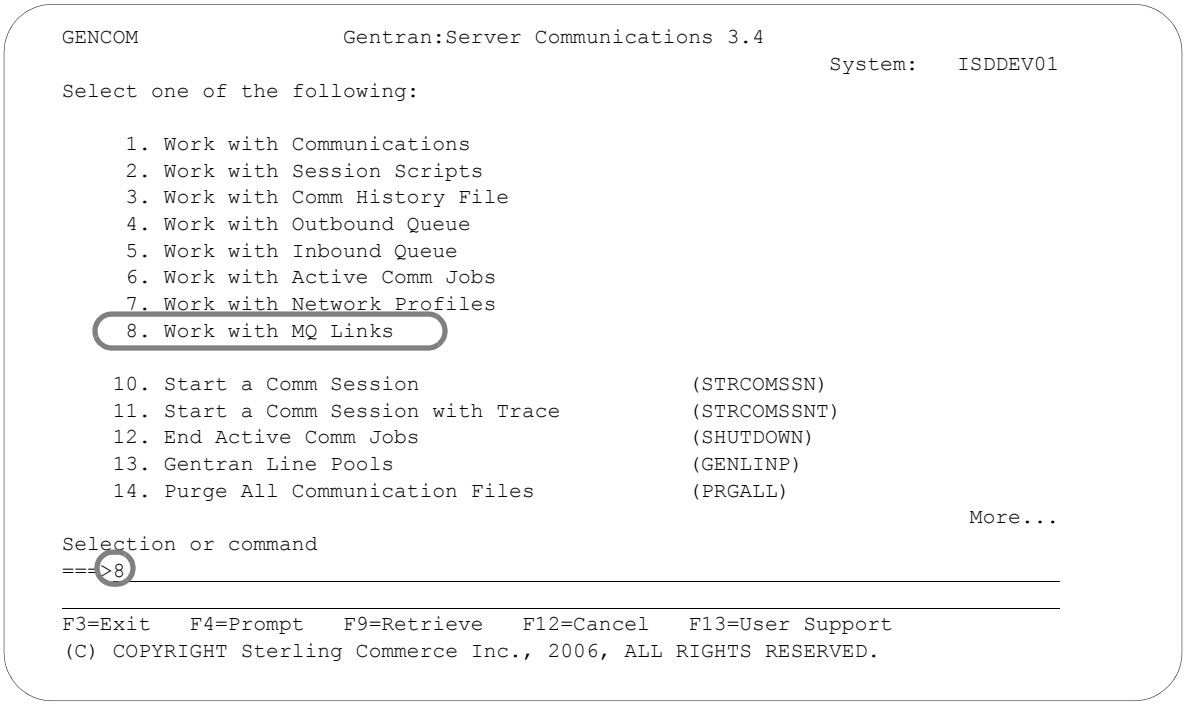


Figure 14.1 The Gentran:Server Communications menu

To access Work with MQ Links, type **8** on the command line and press **Enter**, as shown in Figure 14.1

The MQ Links panels are used for the following tasks:

- Create an MQ Link
- View an MQ Link
- Delete an MQ Link
- Print an MQ Link
- Copy an MQ Link
- Revise an MQ Link

Create a New MQ Link

The Work with MQ Links panel (EDIX460-FMT01) is used to create and maintain MQ Link definitions.

```
EDIX460                        Work with MQ Links                 EDI 03/01/06
FMT01                 pgmlib: G3X4PGM     dtalib: G3X4DTA             12:00:00

Position to MQ Link Name . . . . . . . .___________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  6=Print

Opt  MQ Link          MQ Queue
1    IHFILE           SYSTEM.GENTRAN.IHQUEUE
__   POFILES          SYSTEM.GENTRAN.POQUEUE






                                                                      Bottom
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F5=Refresh  F9=Retrieve  F12=Cancel  F15=Sort
```

Figure 14.2 Work with MQ Links Panel (EDIX460-FMT01)

To create an MQ Link, complete these steps (shown in Figure 14.2).

1. Type **1** (Create) in the Option field.
2. Select an alphanumeric name (up to 10 bytes) to represent an MQ Link that Gentran will use to access an existing MQSeries data queue. Enter the complete MQ Series queue name that ties the MQ Link and the MQSeries queue together and press **Enter**.

   The MQ Link Configuration panel (EDIX461-FMT01) is displayed.

Field Descriptions

MQ Link

This 10-position alphanumeric field is a short alias name for the MQ queue.

MQ Queue Name

This 48-position alphanumeric field is the actual MQ queue name.

NOTE

The MQ Link name cannot be used more than once.

Figure 14.3 shows the MQ Link Configuration panel (EDIX461-FMT01).

```
EDIX461                    MQ Link Configuration                EDI 03/01/06
FMT01                                                              12:00:00

MQ Link Name . . . . . .   IHFILE
MQ Queue Name. . . . . .   SYSTEM.GENTRAN.IHQUEUE

MQ Queue Manager . . . . .  *DEFAULT_____________________________________
Method of transferring files  1
File name in header record?.  Y
Message Descriptor Version .  2
Sending Information:
Message Priority . . . . .  _
Notification . . . . . .   *NONE
Reply Queue. . . . . .     ____________________________________________
Translation  . . . . . (from)  __ __
                         (to)  __ __
Receiving Information:
Convert Data?. . . . . .   Y
Break at Record Separators?   N
Translation  . . . . . (from)  __ __
                         (to)  __ __

F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 14.3 MQ Link Configuration Panel (EDIX461-FMT01)

Enter the appropriate information in the fields and press **F10** (Update) to create a new MQ Link.

Field Descriptions

MQ Queue Manager

A 48-byte alphanumeric field used to identify the queue manager that is associated with the MQ Queue. Use **`*Default`** when the MQ Queue is assigned to the default queue manager.

Method of transferring files

A 1-position alphanumeric field used to define the method of transferring/receiving files.

`1` Segmentation
This is the preferred method of transfer. However, your MQSeries system must support segmentation in order for this option to function. This method sends your file as one message and segments as needed. If the file being transferred is larger than the maximum queue size, then segmentation occurs. By using this method, you need not worry about the size of the file that will be transferred.

`2` One record per message
This method sends a message for every record that you have in your file. This method is used when your file has a very large logical record length and your MQSeries does not support segmentation.

3 One file per message
This method sends one file as one message. It does not use segmentation; therefore, if the file is larger than the defined queue size, an error occurs and you are not able to send the file. This method is used if your MQSeries does not support segmentation.

File Name in Header Record

A 1-position alphanumeric field used to identify whether the file name should be contained in the Message Descriptor. Valid values include:

N The file name is not included in the Message Descriptor.

Y The file name is in the Message Descriptor in the Application Identity Data in the format of LIBRARY/FILENAME/MEMBER.

Message Descriptor Version

A 1-position numeric field used to identify the version of MQSeries that is running on your system.

1 Version 1

2 Version 2 with segmentation support

Send Information

Message Priority

A 1-position numeric field used to identify the priority of the message being sent. Valid values are **0** to **9**.

Notification

A 5-position alphanumeric field used to identify whether there are any special instructions when delivering the message.

***NONE** There will be no notification when the message is delivered.

COA Enter this when you want to use the Confirm on Arrival option to verify a message was added to the remote system MQ Queue.

COD Enter this when you want to use the Confirm on Delivery option to verify a message was retrieved from a remote system MQ Queue.

Reply Queue

A 48-byte alphabetic field used to hold the name of the MQSeries queue on your system that is to be used to receive a reply from the remote system. Information can only be entered in this field if COA or COD is entered for the notification type.

Translation (From/To)

The combination of these fields define the characters that are to be translated “from” and the characters that are to be translated “to.” Each field consists of two hexadecimal digits that represent one EBCDIC character. The easiest way to understand the operation of translation is to consider this example.

Example—Adding Carriage Return/Line Feeds to Outbound Data

In this example, data is being transmitted from the iSeries to a remote device that expects each record to end with a carriage return/line feed. The data that is ready for transmission does not contain these characters at the end of the record because the application was unable to generate the data that way. The carriage returns and line feeds can be added to the outbound data as it is transmitted by specifying the following translation entries:

```
Translation:

   (from) ...
   (to)   ... OD 15
```

The "Outbound (from)" entries have been left blank. The "Outbound (to)" entry shows that we are translating to a carriage return/new line (hex `0D15`).Although we obviously cannot translate from "nothing" to "something," as this example suggests, using the translation fields in this manner has special meaning to the MQSeries interface. If the "Outbound (from)" entries are left blank and one or more of the "Outbound (to)" entries are filled in, then the characters entered for "Outbound (to)" will be transmitted following every data record. If the file is 100 bytes long, a carriage return/line feed will be transmitted after every 100 bytes of data, and placed on the remote system MQ Queue that way. When the data is pulled off the queue and received by an ASCII machine, an EBCDIC/ASCII translation occurs, changing it from a hex `0D15` to a hex `0D0A`.

Receive Information

Convert Data?

This is a 1-position alphabetic field that tells MQSeries whether or not to convert the data when it is removed from the MQSeries queue. This should always be turned on (specify **`Y`**) if the data is coming from an ASCII system. If the data is already in EBCDIC format, then a conversion is not necessary (specify **`N`**).

Break at Record Separators?

When receiving data from other devices such as PCs, the data is stored as one long string of data. When receiving data into the iSeries, it is placed into fixed-length records. If this situation occurs, you can use the record separators to determine the starting point of each new record. If you wish to start a new record each time a carriage return/line feed is encountered, type **`Y`** in this field. This field is used in conjunction with the Translation from field. There must be a hexidecimal value entered in the Translation from field in order to identify when the record is to break.

By entering an **`N`** in this field, the data is placed in the file on the iSeries as received from the MQSeries queue.

Translation (From) (To)

The combination of these fields define the characters that are to be translated "from" and the characters that are to be translated "to" when receiving information. Each field consists of two hexadecimal digits that represent one EBCDIC character. The easiest way to understand the operation of translation is to consider these examples.

MQ Translation Example 1—Removing Carriage Return/Line Feeds from Inbound Data

In this example, a remote PC transmits data to the iSeries using MQSeries. The PC data is stored on disk as fixed-length records delimited by Carriage Return/Line feed combinations, as is common on MS-DOS machines. When the iSeries receives this data, the Carriage Return/Line feeds are not needed. They can be removed from the inbound data as it is received by specifying the following translation fields:

```
Translation:

   (from) ... 0D 15
   (to)   ... __ __
```

The “Inbound (from)” entries configure the communicator to translate from the character sequence carriage return/line feed. The “Inbound (to)” entries have been left blank, meaning that the carriage return/line feed sequence should be translated to “nothing.” This results in the elimination of all carriage return/line feed sequences from the data that is received. Notice that the inbound line feed character is represented as hexadecimal `15`. Although the line feed is transmitted by the PC as a hexadecimal `0A` (ASCII line feed), it is translated to an EBCDIC new line (hex `15`). This ASCII-EBCDIC translation is performed by MQSeries as the data is retrieved from the queue. Therefore, the values you enter in the translation fields (which control translation at the application level) should always reflect the EBCDIC representation of the data after it has been translated by MQSeries.

MQ Translation Example 2—Adding Line Feeds after Carriage Returns

In this example, suppose that data is to be received to a user file on the iSeries from a system that sends every record followed by a carriage return. Once the data has been received to the user file, it is sent on to several different remote offices using PCs. The PCs expect all records to be terminated by a carriage return/line feed combination.

Since the data originally received to the user file only included carriage returns, some translation needs to occur. This translation could be performed as the data is received (inbound) or as the data is transmitted (outbound). Additional CPU overhead (which could reduce throughput) is required to do the translation in either direction. Since the data is only received once, but transmitted multiple times, it is more efficient to do the translation during the inbound session. The line feeds can be added to the data as it is received by specifying the following translation entries:

```
Translation:

    (from) ...0D __
    (to)   ...0D 15
```

This adds the necessary line feed after every carriage return as the data is received and written to the user file. The data is ready for distribution to the PCs.

Copy an MQ Link

It is sometimes easier to create a new MQ Link definition from an existing MQ Link definition. This section describes how to copy an existing MQ Link.

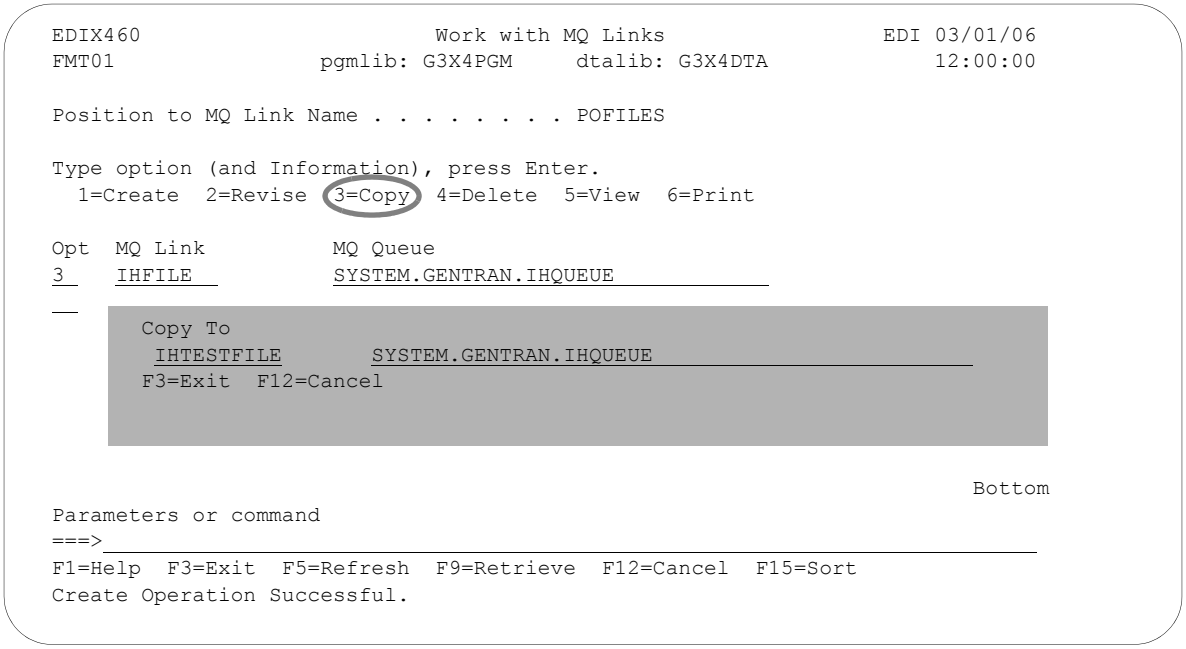


Figure 14.4 Work with MQ Links panel (EDIX460-FMT01)

Type **3** (Copy) in the Option field next to the definition you want to copy and press **Enter**. This action displays the "Copy To" window. Type the name of the new MQ Link definition and the MQ Queue name and press **Enter**, as shown in Figure 14.4.

The MQ Link Configuration panel (EDIX461-FMT01) is displayed.

Figure 14.5 shows the MQ Configuration panel.

```
EDIX461                   MQ Link Configuration                EDI 03/01/06
FMT01                                                              12:00:00

MQ Link Name . . . . . .   IHTESTFILE
MQ Queue Name. . . . . .   SYSTEM.GENTRAN.IHQUEUE

MQ Queue Manager . . . . .  *DEFAULT_____________________________________
Method of transferring files  3
File name in header record?.  Y
Message Descriptor Version .  2
Sending Information:
Message Priority . . . . . .  0
Notification . . . . . .  COD___
Reply Queue. . . . . .  SYSTEM.GENTRAN.REPLY.QUEUE_____________________
Translation  . . . . . (from)  __ __
                        (to)  __ __
Receiving Information:
Convert Data?. . . . . .  Y
Break at Record Separators?   N
Translation  . . . . . (from)  __ __
                        (to)  __ __

F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 14.5 MQ Link Configuration panel (EDIX461-FMT01)

Gentran:Server populates the fields with the values from the original MQ Link. You can accept the new MQ Link as it is or modify the field values. Press **F10** (Update) to create the MQ Link and returns to the Work with MQ Links panel (EDIX460-FMT01).

Gentran MQSeries Configuration

In order to access MQSeries, a 10-byte MQ Link name must be defined to correspond to an existing MQSeries queue. This definition contains the information necessary to exchange files using MQSeries. The MQ Link may be specified any time MQSeries is to be accessed.

MQ Link Definition for MQSeries

MQ Link provides the parameters needed to establish a link between Gentran and MQSeries. MQSeries provides a method to transfer information to and from most any type of computer system, providing that the MQSeries product is loaded and configured on each of the systems that you are working with. MQSeries performs an ASCII/EBCDIC conversion when necessary. The MQ Link definition provides the parameters necessary to perform the MQSeries transfer.

Revise MQ Links

The Work with MQ Links panel (EDIX460-FMT01) enables you to revise and delete the MQ Link configurations. The MQ Link configuration contains information that is needed to perform an MQSeries send or receive.

```
EDIX460                        Work with MQ Links                EDI 03/01/06
FMT01                pgmlib: G3X4PGM     dtalib: G3X4DTA             12:00:00

Position to MQ Link Name . . . . . _____________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  6=Print

Opt  MQ Link          MQ Queue
__   _________        ________________________________________________
__   IHTESTFILE       SYSTEM.GENTRAN.IHQUEUE
2_   POFILES          SYSTEM.GENTRAN.POQUEUE









                                                                    Bottom
Parameters or command
===>_____________________________________________________________________
F1=Help  F3=Exit  F5=Refresh  F9=Retrieve  F12=Cancel  F15=Sort
```

Figure 14.6 Work with MQ Links panel (EDIX460-FMT01)

To select an MQ Link configuration, type **2** in the Option field next to the selected name and press **Enter**, as shown in Figure 14.6.

The MQ Link Configuration panel (EDIX461-FMT01) is displayed, as shown in Figure 14.7.

```
EDIX461                    MQ Link Configuration                EDI 03/01/06
FMT01                                                               12:00:00

MQ Link Name . . . . . .   POFILES
MQ Queue Name. . . . . .   SYSTEM.GENTRAN.POQUEUE

MQ Queue Manager . . . . .  *DEFAULT_____________________________________
Method of transferring files  3
File name in header record?.  Y
Message Descriptor Version .  2
Sending Information:
Message Priority . . . . .  7
Notification . . . . . .    *NONE
Reply Queue. . . . . .      ____________________________________________________
Translation  . . . . . (from)  __ __
                       (to)   __ __
Receiving Information:
Convert Data?. . . . . .    Y
Break at Record Separators?   N
Translation  . . . . . (from)  __ __
                       (to)   __ __

F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 14.7 MQ Link Configuration panel (EDIX461-FMT01)

Send Files to MQSeries

In addition to the EXTRACT and PRCTRNIN commands, the GENMQSND command allows you to send database files to MQSeries. To access the GENMQSND command, select option **39** (Send File to MQ Queue) on the GENCOM menu or type **GENMQSND** on a command line and press **F4** (Prompt). The system displays the Send File to MQ Queue panel (Figure 14.8).

```
                    Send File to MQ Queue (GENMQSND)

Type choices, press Enter.

MQ Link  . . . . . .  _____________  Name
File Name to Queue . . . . . .  _____________  File Name
Library Name . . . . . .  *LIBL  Name, *LIBL, *CURLIB
Member Name  . . . . . .  *FIRST  Member, *FIRST, *FILE
Run Interactively? . . . . . .  *NO  *YES, *NO

                          Additional Parameters

Process Name . . . . . .  GENMQSND
Schedule Job?  . . . . . .  *NO  *YES, *NO

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 14.8 Send File to MQ Queue (GENMQSND) command

To run the Send File to MQ Queue command, specify the selection criteria and press **Enter**.

Field Descriptions

MQ Link

This is the name that connects Gentran to MQSeries. The MQ Link must be defined on the Work with MQ Links (EDIX460) panel. By entering this name, all of the information needed to send data to MQSeries is provided.

File Name to Queue

Enter the name of the file that is to be sent to MQSeries.

Library Name

Leave the default as ***LIBL** or change it to ***CURLIB** or the specific name of the library where the file resides.

Member Name

A 10-position alphanumeric field used to specify a member of a file to be loaded. If you enter ***FILE**, the system uses the filename as the member name. A specific member can be entered. ***FIRST** is the default that loads the first member.

Run Interactively?

This parameter allows you to perform the process interactively. If you choose to run the command in an interactive mode (***YES**), you can monitor system messages that occur during processing. However, you are locked out of the system from the terminal the job was submitted on until the process is complete.

Process Name

This prompt is used to identify the process name for the Message Center. The default for this prompt is the command name, but can be changed to any 15-byte field to help further identify this process. The process name is displayed on the first of the Work with Message Center panels (EDIX600) and always tracks under this name.

Schedule Job?

This is used to designate whether you want to run the job as a scheduled job. The default value for this field is ***NO**. If you specify ***YES**, the system displays the Schedule Job (SCHJOB) command to further define the job run requirements.

Receive Files from MQSeries

In addition to the ADD and PRCTRNOUT commands, the GENMQRCV command allows you to receive database files from MQSeries. To access the GENMQRCV command, select option **38** (Receive File from MQ Queue) on the GENCOM menu or type **GENMQRCV** on a command line and press **F4** (Prompt). The system displays the Receive File from MQ Queue panel (Figure 14.9).

```
                    Receive File from MQ Queue (GENMQRCV)

Type choices, press Enter.

MQ Link  . . . . . . . . . . . .   __________   Name
File Name  . . . . . . . . . . .   __________   File Name
Library Name . . . . . . . . . .   *LIBL       Name, *LIBL, *CURLIB
Member Name  . . . . . . . . . .   *FIRST      Member, *FIRST, *FILE
Create File? . . . . . . . . . .   *NO         *YES, *NO
Record Length  . . . . . . . . .   _________    Number
Comm Profile Id to Queue . . . .   _________    Comm Profile Id
Add Data to In or Out Queue  . .   *OUT        *IN, *OUT
Batch ID to Queue  . . . . . . .   ____________________________________

Run Interactively? . . . . . . .   *NO         *YES, *NO




                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 14.9 Receive File From MQ Queue (GENMQRCV) command

To run the Receive File from MQ Queue command, specify the selection criteria and press **Enter**.

Field Descriptions

MQ Link

This is the name that connects Gentran to MQSeries. The MQ Link must be defined on the Work with MQ Links (EDIX460) panel. By entering this name, all of the information needed to receive data from MQSeries is provided.

File Name to Queue

Enter the name of the file that is to receive the data from MQSeries.

NOTE

Leave this field blank when data will be added directly to the Gentran communications queue.

Library Name

Leave the default as ***LIBL** or change it to ***CURLIB** or the specific name of the library where the file resides.

Member Name

A 10-position alphanumeric field used to specify a member of a file to receive data from MQSeries. If you enter ***FILE**, the system uses the filename as the member name. A specific member can be entered. ***FIRST** is the default that loads the first member.

Create File

Specify ***YES** if you are receiving this data to a file and the file entered does not exist. Leave the default of ***NO** if the file already exists, or you are sending the data directly to the Gentran communication queue.

Record Length

This is only required when ***YES** was specified for the Create File parameter. Enter the length of the file that is to be created.

Comm Profile ID to Queue

Enter the name of the Gentran communications profile that you want the data to be placed under.

NOTE

Leave this field blank when receiving the data into a database file.

Add Data to In or Out Queue

This field is only required when directing the data to the Gentran communications queue. Enter ***IN** if you want the data to be directed to the inbound queue, or enter ***OUT** if you want the data to be directed to the outbound queue.

Run Interactively?

This parameter allows you to perform the process interactively. If you select to run the command in an interactive mode (***YES**), you can monitor system messages that occur during processing. However, you are locked out of the system from the terminal the job was submitted on until the process is complete.

Process Name

This prompt is used to identify the process name for the Message Center. The default for this prompt is the command name, but can be changed to any 15-byte field to help further identify this process. The process name appears on the first of the Work with Message Center panels (EDIX600) and always tracks under this name.

Schedule Job?

This is used to designate whether you want to run the job as a scheduled job. The default value for this field is ***NO**. If you specify ***YES**, the system displays the Schedule Job (SCHJOB) command to further define the job run requirements.

Report

EBDI461 — MQ Links Configuration Report

Overview

Gentran:Server provides the ability to print a hard copy report displaying the contents of a specific MQ Link definition.

Contents of the Report

The MQ Links Configuration Report is a user-generated report that contains information necessary to perform the sends/receives within MQSeries.

How to Identify the Report

The name of the Gentran:Server program that generates this report (EBDI461) is printed in the upper left-hand corner of the report. The identifier `EBDI461` is also displayed in the User Data field associated with the spooled report in the Output Queue. The report title, "MQ Links Configuration Report," is centered at the top of the page.

How to Generate the Report

This report is generated by selecting option **6** (Print) on the Work with MQ Links panel (EDIX460).

Figure 14.10 shows the MQ Links Configuration report.

```
EBDI461   RUN DATE 03/01/06     MQLINKS CONFIGURATION REPORT     RUN TIME 12:00:00   PAGE 1

MQ LINK ...................POFILES
MQ QUEUE NAME..............SYSTEM.GENTRAN.POQUEUE
METHOD OF TRANSFERRING FILES.....3
FILE NAME IN HEADER RECORD?......Y
MESSAGE DESCRIPTOR VERSION.......2
SENDING INFORMATION:
 MESSAGE PRIORITY........7
 NOTIFICATION............*NONE
 REPLY QUEUE.............
 TRANSLATION........(FROM)
                    (TO)

RECEIVING INFORMATION:
 CONVERT DATA?...................Y
 BREAK AT RECORD SEPARATORS?.....N
 TRANSLATION.......(FROM)
                   (TO)

                                    Sterling Commerce
```

Figure 14.10 MQ Links Configuration Report — EBDI461

Fields on the MQ Links Configuration Report (EBDI461)

The fields on the report are defined as follows:

Field Names	Description
MQ Link	Displays the 10-byte MQ Link definition name.
MQ Queue Name	Displays the 48-byte MQ queue name.
Method of Transferring Files	Indicates how the files are to be transferred.
File Name in the Header Record	Indicates whether the library/file name/member name is to be included in the message descriptor of the MQ message.
Message Descriptor Version	Indicates the version of MQSeries that is installed on your system.
Sending Information	
Message Priority	Indicates the priority for the message sent.
Notification	Indicates how the message notification is to occur.
Reply Queue	Displays the location of the reply queue.
Translation (From)/(To)	These fields define the characters that are to be translated from and the characters that they are translated to.
Receiving Information	
Convert Data	Indicates whether or not the data is to be converted.
Break at Record Separators?	Used with the Translation from field to determine the starting point of each new record.
Translation (From)/(To)	These fields define the characters that are to be translated from and the characters that they are translated to.

Chapter

15 Gentran IFS Gateway

In this Chapter

This chapter covers the following topics:

- What is GIFSGATE? 15-2
- How to use the GIFSGATE command 15-4
- Stopping the IFS Gateway 15-10
- How to Use the GENIBQIFS Command 15-11

What is GIFSGATE?

Overview

GIFSGATE is an interface between the Gentran:Server for iSeries Communications Module and the Integrated File System (IFS). The IFS gateway is installed as a standard part of Gentran:Server for iSeries Communications Module and no additional installation procedures are required.

The Gentran IFS gateway is logically positioned between the Gentran:Server communications queues and the IFS files that serve as the hand-off point between Gentran:Server and an external software product, as shown in Figure 15.1.

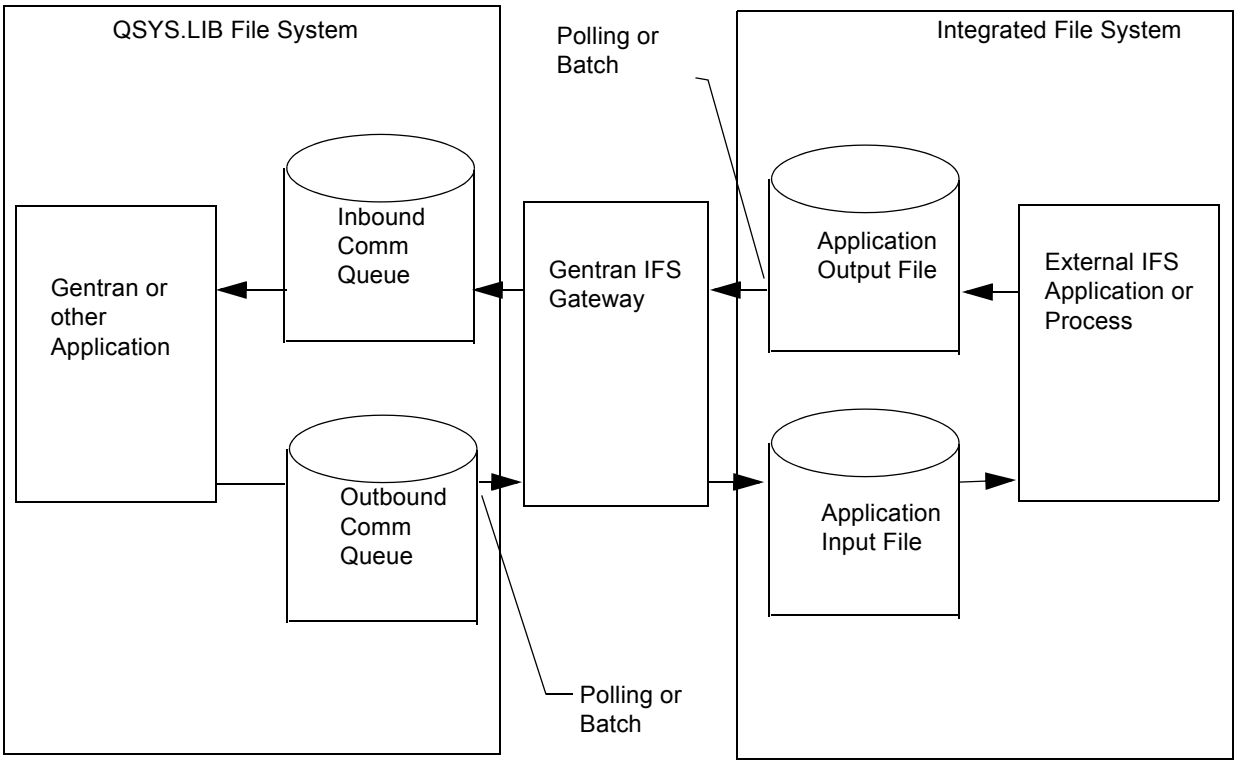


Figure 15.1 Gentran:Server for iSeries IFS Gateway

Two functions are performed by the gateway: inbound data transfer and outbound data transfer. You may configure the gateway to perform either function or both functions. The gateway can be configured many ways depending on your needs, however the two major ways are periodic polling and normal scheduled batch jobs.

Periodic Polling

Periodic polling simply means checking periodically for data in a specified location and taking some action if data is present. This method is used by many PC and UNIX products. Using the IFS gateway in this way extends that concept to take the data as far as the Gentran communications queues.

Scheduled Batch Jobs

If you prefer, you can run the gateway without polling, as a single-pass process. Using it this way, it can be an extension of your existing batch processes. Jobs may be scheduled and executed using your existing operations facilities. Each time the job is run, inbound and/or outbound data will be transferred between the Gentran communications queues and the external application input and output directories.

Gentran Communications Profiles

Although the traditional Gentran communication subsystem is not used for communication via the IFS gateway, a communication profile is used to identify data moving through the Gentran inbound and outbound communications queues. A communication profile named IDXGATE is included with Gentran for this purpose. If you wish, you may use this profile or create one of your own. If you create a profile, you may use any protocol. Because the profile is only used to identify data on the queues and not for actual communications, the protocol and other protocol-specific fields are not important.

How to use the GIFSGATE command

This procedure includes the steps necessary to use the GIFSGATE command that starts the IFS gateway. A table of field definitions for the GIFSGATE command follows the procedure.

1. Enter the command **GIFSGATE** at the command line and press **F4** (Prompt), as shown in Figure 15.2.

```
GENMAIN          Gentran:Server for iSeries Communications 3.4
                                                        System:   ISDDEV01
Select one of the following:

     1. Communications Menu                      (GENCOM)
     2. Work with Job Scheduler
     3. Work with Environment Control
     4. System Configuration Menu                (GENSYSCFG)

    10. Gentran:Server Search Index

    13. Gentran File Tracking Menu               (GENFILETRK)

    90. Sign off


                                                                    Bottom
Selection or command
===> GIFSGATE

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
(C) COPYRIGHT Sterling Commerce Inc., 2006, ALL RIGHTS RESERVED.
```

Figure 15.2 The Gentran:Server Communications Module GENMAIN Menu

System Response: The GIFSGATE command is displayed (Figure 15.3).

```
                      Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Communication profile id . . . . _____________  Name
Data direction . . . . . . . . . _________      *IN, *OUT, *BOTH









                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display       F24=More keys
Parameter COMPRF required.                                            +
```

Figure 15.3 The Gentran IFS Gateway (GIFSGATE) command panel

2. Enter the following responses to the prompts:

Prompt	Response
Communications profile ID	In this instance, use the sample ID provided with the Gentran:Server **IDXGATE**
Data direction	Enter the direction that the gateway will send the data: ■ ***IN** (data coming in from the integrated file system) ■ ***OUT** (data going from Gentran: Server to integrated file system) ■ ***BOTH** (in and out)

Press **Enter**.

System Response: Additional fields are displayed (Figure 15.4).

```
                    Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Communication profile id . . . . > IDXGATE       Name
Data direction . . . . . . . . . > *BOTH         *IN, *OUT, *BOTH
Inbound IFS directory  . . . . .  _____________________________________
_______
Inbound IFS file . . . . . . . .  _____________________________________

Inbound End of Line  . . . . . .  *FIXED        *CRLF, *CR, *LF, *LFCR...
Outbound IFS directory . . . . .  _____________________________________
_______
Outbound IFS file  . . . . . . .  _____________________________________

Outbound End of Line . . . . . .  *FIXED        *CRLF, *CR, *LF, *LFCR...
Append Data? . . . . . . . . . .    *NO          *NO, *YES
Include SA Status? . . . . . . .    *NO          *NO, *YES
Periodic polling . . . . . . . .    ______       *NO, *YES

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 15.4 The GIFSGATE command panel with additional fields displayed

3. Enter a value in each field, as shown in Figure 15.5. Refer to the Field Definitions on page 15-7 for details.

```
                    Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Communication profile id . . . . > IDXGATE       Name
Data direction . . . . . . . . .   *BOTH         *IN, *OUT, *BOTH
Inbound IFS directory  . . . . .   /HOME/ECENGINE/DATA/MYCO/EDIIN

Inbound IFS file . . . . . . . .   *

Inbound End of Line  . . . . . .   *FIXED        *CRLF, *CR, *LF, *LFCR...
Outbound IFS directory . . . . .   /HOME/ECENGINE/DATA/MYCO/EDIOUT

Outbound IFS file  . . . . . . .   MYFILE1

Outbound End of Line . . . . . .   *FIXED        *CRLF, *CR, *LF, *LFCR...
Append Data? . . . . . . . . . .   *NO           *NO, *YES
Include SA Status? . . . . . . .   *NO           *NO, *YES
Periodic polling . . . . . . . .   _____         *NO, *YES

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 15.5 The GIFSGATE command panel with field values entered

4. Once you have entered the appropriate field values, press **Page Down** to display Additional Parameters (Figure 15.6).

```
                    Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.


                         Additional Parameters

Process Name . . . . . . . . . .   GIFSGATE
Start Profile Sequence Number  .   0          Number
End Profile Sequence Number  . .   999999     Number
Record Entries in Comm Hist? . .   *YES          *YES, NO
Run interactively  . . . . . . .   *NO         *YES, *NO
Schedule job . . . . . . . . . .   *YES        *YES, *NO




                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 15.6 The GIFSGATE command panel with additional parameters displayed

5. Enter a value in each field. Refer to the Field Definitions below for details. When complete, press **Enter**.

   System Response: The job will be submitted. If you chose to run the job interactively, gateway processing will begin immediately in your interactive session and the screen will display status messages.

Field Descriptions for the GIFSGATE command

Communication profile id (COMRF)

The name of the Gentran:Server communication profile that is to be accessed through the Gentran IFS gateway. For outbound processing, the data will be extracted from the communication profile entered and placed in the IFS file system. For inbound processing, the data coming from the IFS file system will be placed on the queue entered.

A communication profile named IDXGATE is included with the Gentran:Server for this purpose. If you wish, you may use this profile or create one of your own. If you create a profile, you may use any protocol. This profile is only used to identify data on the queues and not for actual communications. The protocol and other protocol specific fields are not important.

+ For More Values

Used to enter either additional communication profile IDs or the **+** symbol to access the Specify More Values parameter COMPRF panel, where you can enter up to 25 communication profile IDs.

Data direction (DIRECTION)

You can control whether this invocation of the gateway will process inbound data, outbound data, or both. You may also run multiple invocations of the gateway, giving you flexibility.

Inbound IFS directory (INDIR)

This is the directory where the IFS gateway will look for files. If it finds the files, it will copy them to the inbound queue under the specified profile ID.

Inbound IFS file (INFILE)

Specify a single asterisk (*****) to check for any and all files in the Inbound IFS Directory. Specify a fully qualified filename (path and file) if you only want to check for one specific file.

Inbound End of Line (INEOL)

Specify the end-of-line characters which are recognized in the stream file during copying of records.

All records are transformed to a fixed-length format as they are copied to the database file. The fixed-length is equal to the length of the database file records to which they are copied. If one of the end-of-line character options is selected (ENDLINFMT(*FIXED) is not specified) the stream file is read up to the first occurrence of that character. The end-of-line character is stripped from the record. The remainder of the record is padded with blanks. The data is converted to the destination data format (if specified) and copied to the database file member. If a record is too long to fit in the fixed-length format, it is truncated, then copied.

The possible values are:

***ALL**	Any single or double character combination of carriage-return and line-feed is appended to the end of each line.
***CRLF**	Carriage-return followed by line-feed is appended to the end of each line.
***LF**	Line-feed is appended to the end of each line
***CR**	Carriage-return is appended to the end of each line.
***LFCR**	Line-feed followed by carriage-return is appended to the end of each line.
***FIXED**	Text lines in the stream file are considered fixed-length records of the same length as the database file records to which they are being copied. Any encountered CR, LF, or EOF characters are not stripped from the stream file. Tab expansion is not allowed and the TABEXPN parameter is not valid. If the last record in the stream file does not fill the database file record, that record is padded with blanks. Only stream files and database files with compatible encoding schemes, which do not result in the expansion of data record lengths, are valid with this option. If an incompatible encoding scheme combination is detected, the operation will fail. The following encoding scheme combinations are supported: ■ Single-byte to single-byte ■ Double-byte to double-byte ■ Mixed ASCII to mixed ASCII ■ Mixed EBCDIC to mixed EBCDIC

Outbound IFS directory (OUTDIR)

This is the directory where data from the outbound queue will be placed.

Outbound IFS file (OUTFILE)

This controls the file name to be used when files are created in the Outbound IFS Directory. Specify any name you want. You can also use the special character sequences **%PROFILE%**, **%BATSEQ%**, and **%DATETIME%** to include the communication profile ID, profile batch sequence number, and/or date and time stamp in the file name.

Outbound End of Line (OUTEOL)

Specifies the end-of-line characters which are recognized in the steam file during copying of records.

If one of the end-of-line character options is selected (ENDLINFMT(*FIXED) is not specified) the database file records are transformed to variable-length stream file text lines as they are copied. Each database file record is trimmed of any trailing blanks. The data is

converted to the destination data format (if specified) and the end-of-line character is appended to the end of the text line. The text line is copied to the stream file.

The possible values are:

***ALL**	Any single or double character combination of carriage-return and line-feed is appended to the end of each line.
***CRLF**	Carriage-return followed by line-feed is appended to the end of each line.
***LF**	Line-feed is appended to the end of each line
***CR**	Carriage-return is appended to the end of each line.
***LFCR**	Line-feed followed by carriage-return is appended to the end of each line.
***FIXED**	Text lines in the stream file are considered fixed-length records. CR and LF characters are not added at the end of each line, trailing blanks are not removed from the end of each record. The length of the stream file records equals the length of the database file records. Only stream files and database files with compatible encoding schemes, which do not result in the expansion of data record lengths, are valid with this option. If an incompatible encoding scheme combination is detected, the operation will fail. The following encoding scheme combinations are supported: ■ Single-byte to single-byte ■ Double-byte to double-byte ■ Mixed ASCII to mixed ASCII ■ Mixed EBCDIC to mixed EBCDIC

Append Data? (APPEND)

If *YES, data extracted is appended to the existing data within the file.

If *NO, existing data with the file is overwritten.

Include SA Status? (SA)

If *YES, batches that have SA or Q status are picked up for file transfer.

If *NO, only batches with a Q status are picked up for file transfer.

Periodic polling (POLL)

This field enables you to continuously run the command or execute it only once. Enter ***YES** if the command is to run on a periodic basis. Enter ***NO** if it is to run only once.

Polling interval (INTERVAL)

If polling, how many seconds to wait before the next check.

Process Name (PRCNAM)

This is not used in the Communications Module.

Start Profile Sequence Number (STRSEQ)

This field is used to type the profile sequence number that extract processing will begin with. The parameter is valid only if option **32** (GIFSGATE) is entered on the Work with Outbound Queue Control panel (EDIX-CTL01). Otherwise, the system ignores it.

End Profile Sequence Number (ENDSEQ)

This field is used to type the profile sequence number that extract processing will end with. The parameter is valid only if option **32** (GIFSGATE) is entered on the Work with Outbound Queue Control panel (EDIX404-CTL01). Otherwise, the system ignores it.

Run interactively (INT)

This parameter allows you to perform the process interactively (immediately). If you select to run the command in an interactive mode (***YES**), you can monitor system messages that occur during processing. However, you are locked out of the system from the terminal the job was submitted on until the process is complete.

Schedule job (SCHED)

This alphanumeric field is used to designate if you want to run this option by scheduling it as a job. Use ***NO** as the default for this field.

You can also access the Gentran IFS Gateway from the Work with Outbound Queue Control panel (EDIX404-CTL01). (SEE the topic “Operations and Management of Communications” in Chapter 1 of this guide for more information.)

Stopping the IFS Gateway

If you are running the IFS gateway in polling mode, stop the gateway by cancelling the gateway jobs using the ***IMMED** option. If you are not using polling, the gateway will end on its own after making one check of the inbound and/or outbound data sources.

How to Use the GENIBQIFS Command

The GENIBQIFS command enables you to copy batches from the inbound communication queue to the IFS file system.

The following procedure includes the steps necessary to use the GENIBQIFS command. A table of field definitions for the GIFSGATE command follows the procedure.

1. Type the command **GENIBQIFS** at the command line and press **F4** (Prompt), as shown in Figure 15.7.

```
GENMAIN             Gentran:Server for iSeries Version 3.4
                                                          System:   ISDDEV01
Select one of the following:

     1. Work with Partners
     2. Work with Application Definition
     3. Mapping Menu                          (GENMAP)
     4. Communications Menu                   (GENCOM)
     5. Work with Standards
     6. Work with Environment Control

     8. Audit Menu                            (GENAUD)
     9. Message Center Menu                   (GENMSG)
    10. Processing Menu                       (GENPRC)
    11. System Administration Menu            (GENSYS)
    12. Viewpoint Menu                        (GENVPT)
    13. Gentran File Tracking Menu            (GENFILETRK)
    14. Gentran:Server Search Index
                                                                    More...
Selection or command
===> GENIBQIFS
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
(C) COPYRIGHT Sterling Commerce Inc., 2006, ALL RIGHTS RESERVED.
```

Figure 15.7 The Gentran:Server GENMAIN Menu

System Response: The GENIBQIFS command displays (Figure 15.8).

```
                  Gentran IBQ to IFS Gateway (GENIBQIFS)

Type choices, press Enter.

Communication profile id . . . .   ________      Name
Outbound IFS directory . . . . .   ____________________________________

Outbound IFS file  . . . . . . .   ____________________________________

Outbound End of Line . . . . . .   *FIXED        *CRLF, *CR, *LF, *LFCR...
Periodic polling . . . . . . . .   ____          *NO, *YES

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 15.8 The Gentran IBQ to IFS Gateway (GENIBQIFS) command panel

2. Type a value in each field, as shown in Figure 15.9. Refer to the Field Definitions page 15-13 for details. Press **F10** to display additional parameters. When complete, press **Enter**.

   System Response: The job will be submitted. If you chose to run the job interactively, gateway processing begins immediately in your interactive session and the screen displays status messages.

```
                  Gentran IBQ to IFS Gateway (GENIBQIFS)

Type choices, press Enter.

Communication profile id . . . .   IDXGATE       Name
Outbound IFS directory . . . . .   '/HOME/ECENGINE/DATA/MYCO/EDIOUT'

Outbound IFS file  . . . . . . .   MYFILE1

Outbound End of Line . . . . . .   *FIXED        *CRLF, *CR, *LF, *LFCR...
Periodic polling . . . . . . . .   ____          *NO, *YES

                        Additional Parameters

Process Name . . . . . . . . . .   GIFSGATE
Append Data? . . . . . . . . . .   *NO           *YES, *NO
Start Profile Sequence Number  .   0             Number
End Profile Sequence Number  . .   999999        Number
Record Entries in Comm Hist? . .     *YES          *YES, NO
Include RA Status? . . . . . . .   *NO             *NO, *YES
Run interactively  . . . . . . .   *NO           *YES, *NO
Schedule job . . . . . . . . . .   *NO           *YES, *NO
                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 15.9 The Gentran IBQ to IFS Gateway (GENIBQIFS) command panel with additional parameters displayed

Field Descriptions for the GENIBQIFS Command

Communication Profile ID (COMRF)

The name of the Gentran:Server communication profile that contains the data that you want to extract the data from and that is placed in the integrated file system (IFS).

Outbound IFS Directory (OUTDIR)

This is the directory where data from the inbound queue will be placed.

Outbound IFS File (OUTFILE)

This controls the file name to be used when files are created in the Outbound IFS Directory. Specify any name you want. You can also use the special character sequences **%PROFILE%**, **%BATSEQ%**, and **%DATETIME%** to include the communication profile ID, profile batch sequence number, and/or date/time stamp in the file name.

Outbound End of Line (OUTEOL)

Specifies the end-of-line characters recognized in the steam file during copying of records.

If one of the end-of-line character options is selected (ENDLINFMT(*FIXED) is not specified), the database file records are transformed to variable-length stream file text lines as they are copied. Each database file record is trimmed of any trailing blanks. The data is converted to the destination data format (if specified) and the end-of-line character is appended to the end of the text line. The text line is copied to the stream file.

The possible values are:

***ALL**	Any single or double character combination of carriage-return and line-feed is appended to the end of each line.
***CRLF**	Carriage-return followed by line-feed is appended to the end of each line.
***LF**	Line-feed is appended to the end of each line
***CR**	Carriage-return is appended to the end of each line.
***LFCR**	Line-feed followed by carriage-return is appended to the end of each line.
***FIXED**	Text lines in the stream file are considered fixed-length records. CR and LF characters are not added at the end of each line, trailing blanks are not removed from the end of each record. The length of the stream file records equals the length of the database file records. Only stream files and database files with compatible encoding schemes, which do not result in the expansion of data record lengths, are valid with this option. If an incompatible encoding scheme combination is detected, the operation will fail. The following encoding scheme combinations are supported: ■ Single-byte to single-byte ■ Double-byte to double-byte ■ Mixed ASCII to mixed ASCII ■ Mixed EBCDIC to mixed EBCDIC

Periodic polling (POLL)

This field enables you to continuously run the command or execute it only once. Type ***YES** if the command is to run on a periodic basis. Type ***NO** if it is to run only once.

Process Name (PRCNAM)

This area is used to label the command for the Message Center. The default for this prompt is the command name, but can be changed to any 15-byte field to help further identify this process. The process name displays on the first panel of the Work with Message Center screen (EDIX600) and will always track under this name.

Append (APPEND)

This field lets you specify whether the records in the files being copied are to be appended (***YES**) to the target file, or are to create a file for each batch copied.

Start Profile Sequence Number (STRSEQ)

This field is used to type the profile sequence number that extract processing will begin with. The parameter is valid only if you enter option **32** (GENIBQIFS) on the Work with Inbound Queue Control panel (EDIX407-CTL01). Otherwise, the system ignores it.

End Profile Sequence Number (ENDSEQ)

This field is used to type the profile sequence number that extract processing will end with. The parameter is valid only if you enter option **32** (GENIBQIFS) on the Work with Inbound Queue Control panel (EDIX-407-CTL01). Otherwise, the system ignores it.

Record entries in Comm Hist? (COMMLOG)

Enter *YES to record the information in the Communications History File and to assign a Comm stamp number to the batch of data and in the Communication file. Enter *NO to not record information in the Communications History file.

Include RA Status? (RA)

If *YES, batches that have RA or RN status are picked up for file transfer.

If *NO, only batches with an RN status are picked up for file transfer.

Run Interactively (INT)

This parameter enables you to perform the process interactively (immediately). If you select to run the command in an interactive mode (***YES**), you can monitor system messages that occur during processing. However, you are locked out of the system from the terminal the job was submitted on until the process is complete.

Schedule Job (SCHED)

This alphanumeric field is used to designate if you want to run this option by scheduling it as a job. Use ***NO** as the default for this field.

You can also access the Gentran IBQ to IFS Gateway from the Work with Inbound Queue Control panel (EDIX407-CTL01). (SEE the topic “Operations and Management of Communications” in Chapter 1 of this guide for more information.)

Chapter

16 Job Scheduler

In this Chapter

The “Job Scheduler” chapter explains the processes for creating and maintaining entries in the Job Scheduler Master and Occurrence files.

This chapter covers the following topics:

- What is the Job Scheduler? 16-1
- What does the Job Scheduler Function Do? 16-2
- Take a Closer Look at the Job Scheduler 16-2
- Start the Subsystem Used by the Job Scheduler 16-3
- Panel Quick Reference 16-3
- Use the Job Scheduler Panels 16-5
- Common Questions 16-31

What is the Job Scheduler?

The Job Scheduler function gives you the ability to define run-time parameters for any job you wish to run on a routine basis. By establishing a schedule, you can automate your processing instead of manually initiating each job every time you wish to run it. You may use the Job Scheduler to run Gentran:Server jobs such as communication sessions and purges. You may also schedule any non-Gentran:Server jobs (your own applications) you need to run on a routine basis.

What does the Job Scheduler Function Do?

Using the Gentran:Server Job Scheduler feature, you can perform the following functions:

- Set parameters to schedule jobs to run automatically
- Maintain the Job Schedule parameters
- Change the status of a job schedule to temporarily de-activate it from running
- View and maintain current job schedule occurrence records
- Change the status of a job schedule occurrence record on the Job Scheduler to place it "on-hold" or delete it
- Purge or Retrieve Job Schedule records

Take a Closer Look at the Job Scheduler

The Job Scheduler function makes the automation of your system processing a manageable task. The Job Scheduler function enables you to schedule jobs to run automatically at a specified date and time without your intervention after the initial setup. Each time you set up a new set of scheduling parameters, you add an entry to the Job Scheduler Master file. This entry in the Job Scheduler Master file is like a "system reminder notice"; it reminds the system to automatically run a job on the date and time that you have specified and to continue to run it at regular intervals. You are now relieved of the duty of scheduling the job each time you want it to run.

The Job Scheduler helps you automate daily processing tasks by providing access to a common Job Scheduler function which can be accessed from any Gentran:Server command where a job can be run. This includes commands which support activities such as running reports and purges, setting up processing and communications jobs as well as any number of other user and administrative functions.

NOTE

Use of the Job Scheduler feature is not required. Jobs can still be executed interactively or submitted to batch. Using the Job Scheduler function, however, can greatly increase your processing efficiency by automating routine procedures.

Start the Subsystem Used by the Job Scheduler

When you are ready to begin using the Job Scheduler, you must start the subsystem GENTRAN340 in the data library. To start the subsystem, type the command:

```
STRSBS SBSD(GENTRAN340)
```

Once you have your scheduler set up to run jobs on a regular basis, you will want to have this subsystem active whenever your iSeries is up. Your iSeries Security Officer (QSECOFR) can automate this process by including the start of the subsystem in your iSeries Start Up Job (QSTRUP in QSYS or the program specified in the system value QSTRUPJOB).

Panel Quick Reference

The following table gives the purpose and access methods for the panels in the Job Scheduler function.

Panel Name	Purpose	Access Methods
EDIX412-FMT01 Work with Job Scheduler	Add, change, copy, delete and view job schedule master records	❍ Select option **2** on the GENMAIN menu ❍ Enter **EXCPGM EDIX412** on the command line
EDIX411-FMT01 Job Schedule Master	Define the job schedule master record	❍ Select an option (1 – 5) on the Work with Job Scheduler panel (EDIX412-FMT01) ❍ Enter **EXCPGM EDIX411** on the command line
EDIX409-FMT01 Work with Scheduled Entries	Add, change, copy, delete and view job schedule occurrence records	❍ Select option **11** on the Work with Job Scheduler panel (EDIX412-FMT01) ❍ Enter **EXCPGM EDIX409** on the command line
EDIX413-FMT01 Job Schedule	Define the job schedule occurrence record	❍ Select an option (1 – 5) on the Work with Scheduled Entries panel (EDIX409-FMT01) ❍ Enter **EXCPGM EDIX413** on the command line
PRGSCH Purge Job Schedule	Purge records from the Job Scheduler	❍ Select option **40** on the Work with Job Scheduler panel (EDIX412-FMT01) ❍ Prompt **PRGSCH** on the command line

Panel Name	Purpose	Access Methods
RTVSCH Retrieve Job Schedule	Retrieve Job Schedule records from tape or save file	❍ Select option **41** on the Work with Job Scheduler panel (EDIX412-FMT01) ❍ Prompt **RTVSCH** on the command line
SCHJOB Schedule Job	Add records to the Job Scheduler Master File	❍ Respond with ***YES** to the 'Schedule Job?' parameter on any Gentran:Server command ❍ Prompt **SCHJOB** on the command line

Use the Job Scheduler Panels

Job Scheduler functions are accessed from two general locations in the Gentran:Server Job Scheduler system. The panels used to create records on the Job Scheduler Master File are accessed from the individual commands located in each subsystem, such as the start communications (STRCOMSSN) command. The panels associated with maintaining the entries in the Job Scheduler Master File and with maintaining the job schedule occurrence records are accessed through the System Administration subsystem. Both access methods are described in this chapter.

The following tasks are included in the Job Scheduler. These tasks are documented in the next sections:

- Create a new entry in the Job Scheduler
- Manage entries in the Job Scheduler
- Manage Job Occurrence records
- Purge the Job Schedule (PRGSCH)
- Retrieve the Job Schedule (RTVSCH)

Create a New Entry in the Job Scheduler

After identifying a particular task to be scheduled and run on a routine basis you must define the schedule parameters that designate exactly when and how the Job Scheduler is to run the job. By entering this information, you add a master "schedule" record to the Job Scheduler Master file. *You only need to set up a schedule one time.* The system will then run the job automatically, using your parameters, as frequently as you specify. This master schedule allows you to set up several parameters including a meaningful job name, job description, run start and stop dates, run frequency, the unit of frequency (hours, days, quarters, etc.), a run time, a message queue, and any additional programs that you want executed after the normal or abnormal completion of the job.

A common method for adding master schedule records is from the Schedule Job (SCHJOB) panel.

The Gentran:Server Job Scheduler provides access to this panel from *any* other command in the system where a job can be scheduled to run. For instance, if you prompt the Purge All Comm files (PRGALL) command and specify **`*YES`** to the Schedule Job option, the Schedule Job (SCHJOB) panel is displayed.

In the following example, you will add records to the Job Scheduler Master file from the Communications subsystem. The job will automatically initiate a communications session at 2:00 p.m. every day.

Start Communications Session (STRCOMSSN) Command

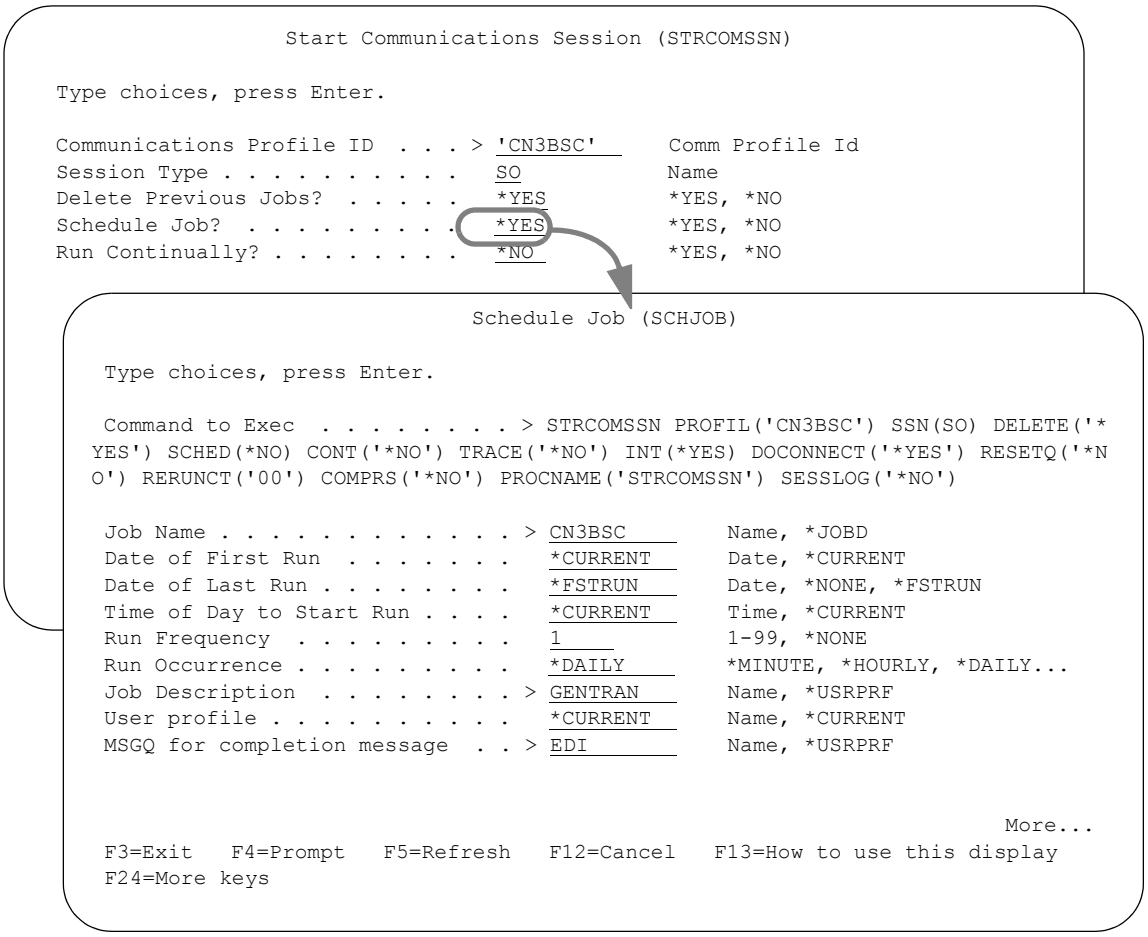


Figure 16.1 Schedule the STRCOMSSN command via the Schedule Job (SCHJOB) panel – Part 1

To schedule the Start Communications Session command from the Work with Communications panel (EDIX400-FMT01), type **30** (Start Session) in the Option field next to the desired communication Profile ID and press **Enter**. Specify the desired parameters and type ***YES** in the Schedule Job? parameter and press **Enter**. This automatically displays the Schedule Job (SCHJOB) panel, as shown in Figure 16.1.

The parameters entered on the submitted command are pre-loaded into the data fields on the SCHJOB panel. You may accept these default values or you may selectively override them. Press **Page Down** to specify additional Job Schedule parameters. Press **Enter** to add the job Schedule Master record.

Figure 16.2 illustrates the additional parameters shown when you **Page Down** on the SCHJOB panel.

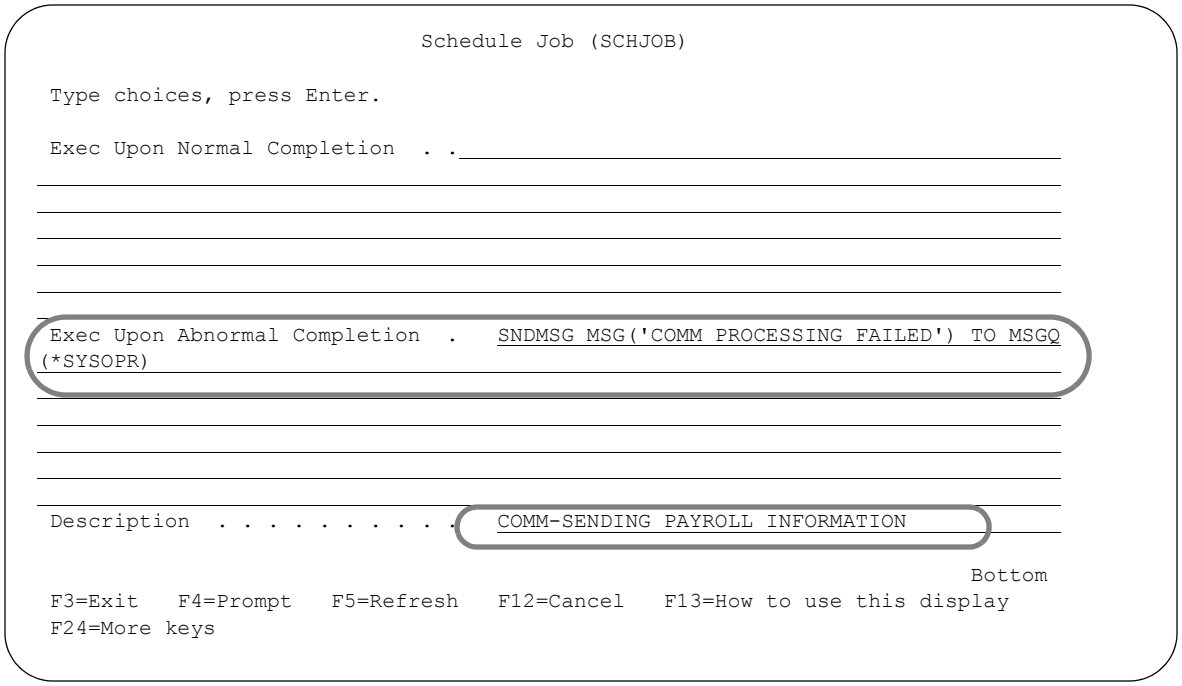


Figure 16.2 The Schedule Job (SCHJOB) panel – Part 2

Field Descriptions for the SCHJOB command

Command to Exec

The value in this field is the exact command string which will be executed by the Gentran:Server Job Scheduler. This string is built by the system from the data entered on the command panel which executed the 'Schedule Job?' request. In this example, the field shows you the command string that the system created from data you previously entered on the STRCOMSSN panel.

Job Name

The value in this field is pre-loaded from the previous panel. In this case, the Job Name field displays the value `STRCOMSSN`, which is the name of the command being scheduled.

Date of First Run

This field defines the first date from which the job can be automatically scheduled to run. The date is in the format specified in the System Configuration file (SYSCFG). To find out what that format is, use the **`SETGENFMT`** command on the GENSYSCFG menu.The default value is `*CURRENT`, which accepts the current system date.

Date of Last Run

This field defines the date after which the job will no longer be scheduled to run. The date is in the format specified in the System Configuration file. To find out what that format is, use the **SETGENFMT** command on the GENSYSCFG menu.

***NONE** No end date is specified. Enter this value if you want the scheduled job to run indefinitely according to the schedule you establish. The job will run perpetually until deactivated (Status = I). The system loads `9999999` into this field when the Job Schedule Master record is added. When viewing the job master for a perpetual job, the end date will appear as `*PERPETUAL`.

***FSTRUN** The end date is equal to the value entered into the Date of First Run field.

Time of Day to Start Run

This field defines the time of day that the job will run the first time it is executed. The time is in HHMMSS format using a military 24-hour clock (i.e., 2:00 p.m. is entered as 140000). The default value is `*CURRENT` for the current time.

NOTE

This value is valid for the first scheduled run only. After the first scheduled run of the job, the next scheduled run time for the job will depend on the values entered in the Run Frequency field and the Run Occurrence field.

Run Frequency

This is the number of times that the job is to be run, relative to the Run Occurrence field. Valid values are **01 – 99**. For example, if this field displays a value of `02`, and the Run Occurrence field displays a value of `HOURLY`, the job is run every two hours.

Run Occurrence

This is the job run unit, relative to the Run Frequency field. For example, if this field displays a value of `QUARTERLY`, and the Run Frequency field displays a value of `02`, the run occurrence is “every two quarters” or twice each year. Valid values are:

If this value is used…	the job will run…
***MINUTE**	every ‘n’ minutes
***HOURLY**	every ‘n’ hours
***DAILY**	every ‘n’ days
***WEEKLY**	every ‘n’ weeks
***MONTHLY**	every ‘n’ months
***QUARTERLY**	every ‘n’ quarters
***YEARLY**	every ‘n’ years
Note: Run Frequency should be **1** when using the values below:	
***WEEKDAY**	each weekday: Mon, Tues, Wed, Thurs, Fri

If this value is used…	the job will run…
***WEEKEND**	each weekend: Sat, Sun
***MWF**	every Mon, Wed, Fri
***TR**	each Tues, Thurs

Job Description

This field is used to designate the job description under which the job runs. The system defaults the job description from your Gentran:Server user profile in the Environment Control subsystem.

User Profile

This field is used to designate the iSeries user profile under which the job will run. The default value `*CURRENT` is the user who is currently maintaining or adding the job schedule record.

MSGQ for Completion Message

This field is used to define a secondary message queue for any messages that are generated from this job run. The system operator will always receive messages from job runs; however you may also designate another user, work station, or device to also receive messages. The system defaults the message queue from your Gentran:Server user profile in the Environment Control subsystem.

Exec Upon Normal Completion

This field can be used to enter a command that will be executed after a successful job run (normal completion). For example, you may enter a command to send a message to a user if the job ends normally. In addition to the Gentran:Server Job Scheduler executable programs, any iSeries command or user defined commands may be entered.

Exec Upon Abnormal Completion

This field can be used to enter a command that will be executed after an unsuccessful job run (abnormal completion). For example, you may enter a command to send a message to a user if the job abnormally ends, or, to initiate a second job if the original job abends. In addition to the Gentran:Server Job Scheduler executable programs, any iSeries command or user defined commands may also be entered.

Description

This field is used to provide additional information to describe the job being scheduled. The description can be used as an identification tool to help you differentiate between identical job name entries.

☞ **RECOMMENDATION**

It is extremely helpful to specify the description to further explain the job that is being scheduled. This description is displayed with the job name on the Work with Job Scheduler panel (EDIX412-FMT01).

Manage Entries in the Job Scheduler

The Job Schedule Master file records which can be created from multiple panels in the Gentran:Server system can all be viewed and maintained together from a set of panels located within the System Administration subsystem. This allows you to view in a single place all the Job Schedule Master records which you have created, both those related to Gentran:Server tasks and those related to other iSeries tasks.

Gentran:Server provides a maintenance panel, Work with Job Scheduler (EDIX412-FMT01), which you can use to manage existing records in the Job Scheduler.

The following example illustrates how to view and interpret the entries in the Job Schedule Master file and continues the STRCOMSSN scenario from the previous section.

Access the Job Scheduler Function

All maintenance tasks for the Job Scheduler are accessed from the Work with Job Scheduler panel (EDIX412-FMT01).

```
GENMAIN           Gentran:Server for iSeries Communications 3.4
                                                        System:   ISDDEV01
Select one of the following:

     1. Communications Menu                      (GENCOM)
     2. Work with Job Scheduler
     3. Work with Environment Control
     4. System Configuration Menu                (GENSYSCFG)

    10. Gentran:Server Search Index

    13. Gentran File Tracking Menu               (GENFILETRK)

    90. Sign off




                                                                    Bottom
Selection or command
===> ____________________________________________________________________

F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F13=User Support
(C) COPYRIGHT Sterling Commerce Inc., 2006, ALL RIGHTS RESERVED.
```

Figure 16.3 Accessing the Work with Job Scheduler function from the GENMAIN menu

To access the Work with Job Scheduler panel (EDIX412-FMT01), select **2** (Work with Job Scheduler) from the Gentran main menu and press **Enter**, as shown in Figure 16.3.

Work with Job Scheduler

The Work with Job Scheduler panel (EDIX412-FMT01) is shown in Figure 16.4. This panel lists all the Job Scheduler Master records that you have previously created and added to the Job Scheduler Master file. These job schedules may be for Gentran:Server Job Scheduler jobs or for your own internal jobs that will automatically run on the date and time you have designated in the Scheduler.

```
EDIX412                   Work with Job Scheduler                EDI 03/01/06
FMT01                pgmlib: G3X4PGM     dtalib: G3X4DTA             12:00:00

Position to Job Name . . . . . _____________ Seq _______

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Sch. Entries

Opt Job Name     Seq  St    Start       Time        End       Freq  Occurrence
__  _____________ ___
__  CN3BSC         1       03/01/06    17:08:30   03/01/06       1  DAY
__  CN3BSC         2       03/01/06    17:10:14   *PERPETUAL     1  DAY
__  CN3BSC         3       03/01/06    15:30:00   *PERPETUAL     1  DAY
__  PRCTRNOUT      1  I    03/01/06    11:54:01   *PERPETUAL     1  DAY
__  PRCTRNOUT      2       03/01/06    10:15:00   03/01/06       1  DAY
__  PRGAUD         1  C    03/01/06    09:08:38   03/01/06       1  DAY


                                                                    Bottom
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 16.4 The Work with Job Scheduler panel (EDIX412-FMT01)

In the previous section, we set up the master schedule to perpetually schedule job schedule occurrence records from outside the Job Scheduler itself.

From this panel, you can create, revise, copy, delete, and view a job schedule. Use option **11** (Sch. Entries) to access the job schedule occurrence records for a specific job name. Or, you can access all occurrence records by typing option **11** (Sch. Entries) on the key entry line. You can also access the Purge Schedule and Retrieve Schedule commands by using options **40** and **41**, respectively.

Finding entries on the Work with Job Scheduler panel (EDIX412-FMT01), particularly when there are numerous entries, is further facilitated by using both the "Sort By" option and the "Position To" option. The default sort order, as shown in the previous figure, is alphabetical by Job Name and Sequence. The following "Sort By" options are available:

- **Job Name** (Job Name); Sequence Number
- **Start** (Start Date); Job Name; Sequence Number
- **Status** (Select Status); Start Date; Job Name; Sequence Number

Figure 16.5 illustrates the selection of the sort option and the results of sorting the Job Scheduler Master file by Start Date, Job Name and Sequence.

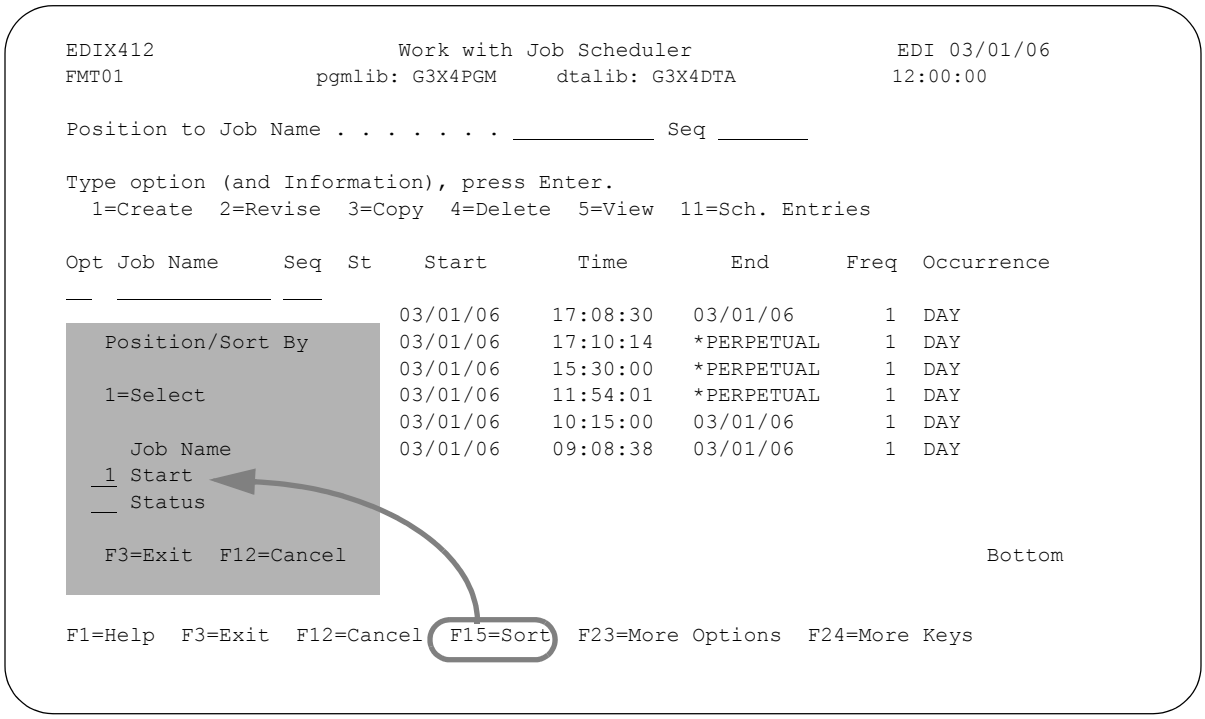


Figure 16.5 Select a sort order using the **F15** (Sort) from the Work with Job Scheduler panel (EDIX412-FMT01)

Access a Scheduled Job

Gentran:Server provides an additional panel, Job Schedule Master panel (EDIX411-FMT01), which allows you to see a detailed view of the command(s) to execute for a specific Job Schedule entry.

To continue with our example, we want to view the Job Schedule Master file record for the CN3BSC communications session (STRCOMSSN) which we created earlier. Figure 16.6 shows the Job Schedule Master panel (EDIX411-FMT01) with the CN3BSC record displayed:

```
EDIX412                  Work with Job Scheduler               EDI 03/01/06
FMT01                pgmlib: G3X4PGM     dtalib: G3X4DTA            12:00:00

Position to Job Name . . . . . .____________ Seq __________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Sch. Entries

Opt Job Name     Seq  St    Start      Time       End      Freq  Occurrence
__  ____________ ___
__  CN3BSC         1     03/01/06    17:08:30   03/01/06      1  DAY
_5  CN3BSC         2     03/01/06    17:10:14   *PERPETUAL    1  DAY
```

```
EDIX411                     Job Schedule Master                 EDI 03/01/06
FMT01                                                               12:00:00

Job Name . . . . . . . . . . . . . CN3BSC
Sequence . . . . . . . . . . . . .     2
Job Description. . . . . . . . . . GENTRAN
User . . . . . . . . . . . . . . . EDI
Run Frequency. . . . . . . . . . .  1
Run Occurrence . . . . . . . . . . D
Status . . . . . . . . . . . . . . A
Message Queue. . . . . . . . . . . EDI
Run Start Date/Time/Stop Date. . . 03/01/06  12:00:00 *PERPETUAL

Command
STRCOMSSN PROFIL('CN3BSC') SSN(SO) DELETE('*YES') SCHED(*NO) CONT('*NO') TR

Normal Completion Cmd to Execute

Abnormal Completion Cmd to Execute

F1=Help  F12=Cancel  F24=More Keys
```

Figure 16.6 The Job Schedule Master panel (EDIX411-FMT01)

To access the Job Schedule Master panel (EDIX411-FMT01) from the Work with Job Scheduler panel (EDIX412-FMT01), type **5** in the Option field and press **Enter**. After viewing the Job Schedule Master panel, return to the Work with Job Scheduler panel by pressing **F12** (Cancel).

Field Descriptions

The following fields are present on the Job Schedule Master panel (EDIX411-FMT01):

Job Name

This field specifies the Job Name you previously assigned to the job. The name *must* be a valid iSeries job name.

Sequence

This field displays the run sequence number for those jobs having the same job name, but varying start dates and times, as previously assigned by the system.

Job Description

This field is used to designate the job description under which the job runs. The system defaults the job description from your Gentran:Server user profile in the Environment Control subsystem.

User

This field is used to designate the system user profile under which the job will run.

Run Frequency

This field displays the number of times that the job is run, relative to the Run Occurrence field. Valid values are **01** – **99**. For example, if this field displays a value of 02, and the Unit field displays a value of H (Hours), the run frequency is every two hours.

Run Occurrence

This field displays a code which is an equivalent to the Run Occurrence field. Valid values for this field are:

If the value used is…	Description	then the job is run...
A	Each Weekday	Mon, Tues, Wed, Thurs, Fri
D	Days	every ‘n’ days
E	Each Weekend	Sat, Sun
F	Mon, Wed, Fri	every Mon, Wed, Fri
H	Hours	every ‘n’ hours
M	Months	every ‘n’ months
Q	Quarters	every ‘n’ quarters
T	Tues, Thurs	every Tue, Thurs
U	Minutes	every ‘n’ minutes
W	Weeks	every ‘n’ weeks
Y	Years	every ‘n’ years

Status

This field specifies the master job schedule "activity" status code. Valid values are:

C The system has completed scheduling all job schedule occurrence records for the run date and time indicated by the user.

A The system is active and in the process of scheduling job schedule occurrence records. For those jobs scheduled to run perpetually (no run end date), an "A" status will always appear after scheduling has started.

I Inactive is a user-entered value used to temporarily prevent the system from scheduling job schedule occurrence records on the Job Scheduler queue.

BLANK The system has not initiated the process of scheduling job schedule occurrence records because the defined start date is greater than the scheduler's 'generate through' date, which is stored in the data area SCHEDULER.

Message Queue

This field designates the secondary message queue for any messages that are generated from this job run. The operator will always receive all messages from job runs; however, you may also designate another user, work station, or device to also receive messages. The system defaults the message queue from your Gentran:Server user profile in the Environment Control subsystem.

Run Start Date/Time/Stop Date

The first two fields specify the specific Job Schedule start date and time (which will be the first time the job will be executed). The third field identifies the stop date of the scheduled job. Press **Tab** between each field.

You must enter the dates based on the format in your Gentran:Server user profile in the Environment Control subsystem. The time must be entered in HHMMSS format using a military 24-hour clock (i.e., 2:00 p.m. is entered as **140000**). To schedule a perpetual job, specify ***PERPETUAL** in the Stop Date field.

NOTE

This value is valid for the first scheduled run only. After the first scheduled run of the job, the next scheduled run time for the job will depend on the values entered in the Run Frequency field and the Run Occurrence field.

Command

The value in this field is the command string which will be executed by the Gentran:Server Job Scheduler. In this example, the field shows you the command string that the system created from data you previously entered on the STRCOMSSN command.

Normal Completion Cmd to Execute

This field can be used to enter a command that will be executed after a successful job run (normal completion). For example, you may enter a command to send a message to a user if the job ends normally. In addition to the Gentran:Server Job Scheduler executable programs, any iSeries command or user defined commands may be entered.

Abnormal Completion Cmd to Execute

This field can be used to enter a command that will be executed after an unsuccessful job run (abnormal completion). For example, you may enter a command to send a message to a user if the job abnormally ends, or, to initiate a second job if the original job abends. In addition to the Gentran:Server Job Scheduler executable programs, any iSeries command or user defined commands may also be entered.

Copying a Job Schedule

You may copy any record in the Job Schedule master file. After you copy the record you may view it by following the steps illustrated in the last section.

For our example, we are creating a new Job Scheduler Master file record called **CN3BSCTST**.

```
EDIX412                   Work with Job Scheduler                EDI 03/01/06
FMT01               pgmlib: G3X4PGM     dtalib: G3X4DTA           12:00:00

Position to Job Name . . . . . _____________ Seq _________

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Sch. Entries

Opt Job Name     Seq  St    Start       Time        End      Freq  Occurrence
__  _____________ ___
3   CN3BSC         1      03/01/06    17:08:30   03/01/06       1  DAY

   Copy To
   CN3BSCTST
   F3=Exit  F12=Cancel

                                                                      Bottom
Parameters or command
===> ____________________________________________________________________________
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
```

Figure 16.7 Copy a Job schedule Master file record

To copy a record in the Job Master file:

1. From the Work with Job Scheduler panel (EDIX412-FMT01), type **3** (Copy) in the Option field next to the Job Scheduler record you want to copy and press **Enter**.

2. The Copy To will display as shown in Figure 16.7. Type the job name of the new record and press **Enter.**

The Job Schedule Master panel (EDIX411-FMT01) displays as shown in Figure 16.8. At this point you may modify any of the fields on the new record.

NOTE

When the copy occurs, the Start Date and Start Time fields default to the *current* system date and time.

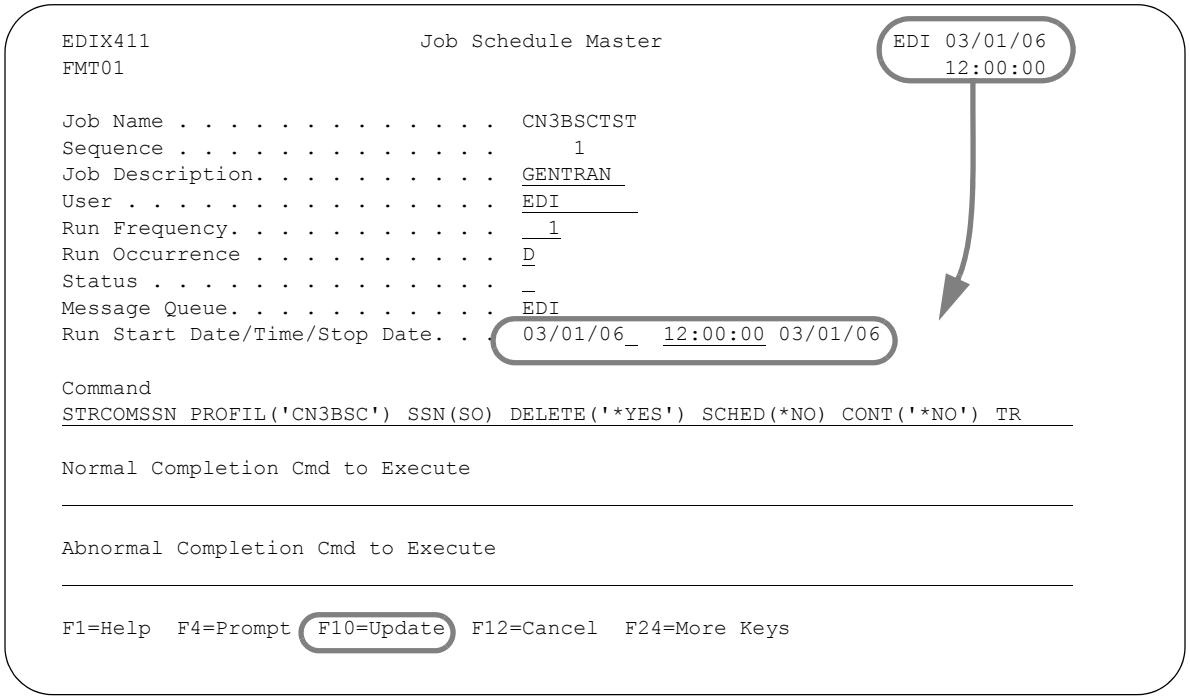


Figure 16.8 The Job Schedule Master panel (EDIX411-FMT01) after a record is copied

Press **F10** (Update) when you are finished making modifications. This will add the record to the Job Schedule Master file.

Delete a Job Schedule

Entries remain in the Job Schedule Master file until they are deleted. From time to time it is a good idea to review the contents of the file and delete jobs which are no longer in use.

```
EDIX412                  Work with Job Scheduler                EDI 03/01/06
FMT01               pgmlib: G3X4PGM     dtalib: G3X4DTA             12:00:00

Position to Job Name . . . . . .  CN3BSCTST  Seq ___1

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  11=Sch. Entries

Opt Job Name     Seq  St    Start       Time        End       Freq  Occurrence
    ____________ ___
4   CN3BSC         1      03/01/06    17:08:30   03/01/06       1  DAY
    CN3BSC         2      03/01/06    17:10:14   *PERPETUAL     1  DAY
```

```
EDIX411                    Job Schedule Master                  EDI 03/01/06
FMT01                                                               12:00:00

Job Name . . . . . .  CN3BSCTST
Sequence . . . . . .      1
Job Description. . . .  GENTRAN
User . . . . . .  EDI
Run Frequency. . . . .  1
Run Occurrence . . . .  D
Status . . . . . .  _
Message Queue. . . . .  EDI
Run Start Date/Time/Stop Date. . .  03/01/06  12:00:00 03/01/06

Command
STRCOMSSN PROFIL('CN3BSC') SSN(SO) DELETE('*YES') SCHED(*NO) CONT('*NO') TR

Normal Completion Cmd to Execute
_____________________________________________________________________________

Abnormal Completion Cmd to Execute
_____________________________________________________________________________

F1=Help  F4=Prompt  F11=Delete  F12=Cancel  F24=More Keys
Cursor in protected area of display.
```

Figure 16.9 Delete a Job schedule Master file record

Type **4** (Delete) in the Option field next to the Job Scheduler Master record you want to delete and press **Enter**. The Job Schedule Master panel (EDIX411-FMT01) will be displayed, as shown in Figure 16.9. Press **F11** (Delete).

Manage Job Occurrence Records

Up until now, we have been working solely with the records in the Job Schedule Master file. The Job Scheduler uses these "master" records to automatically create "Job Occurrence Records" in the Job Scheduler. For example, in our scenario we set up parameters to schedule a CN3BSC job to run one time each day at 2:00 p.m., starting from the current date, 03/01/06, (for the purpose of defining a date for this example). As a result the Job Scheduler will create job occurrence records for every scheduled run time for the CN3BSC job – one record for every day at 2:00 p.m. (See "How are job occurrence records generated?" in the "Common Questions" section in this chapter for more information.)

Gentran:Server Job Scheduler provides several features for working with the job occurrence records. These features allow you to work not only with the occurrence records automatically created by the Job Scheduler, but also lets you work with *any* occurrence record in the Job Scheduler.

Tasks which can be performed include:

- Access the Job Schedule Occurrence records
- Update Job Schedule Occurrence records
- Add Job Schedule Occurrence records
- Delete Job Schedule Occurrence records

NOTE

All additions, changes, and deletions of job schedule occurrence records on the Scheduler do ***not*** affect the job master records on the Job Scheduler Master file. For example, if you change a job record's execution commands on the Work with Scheduled Jobs panel (EDIX409-FMT01), these parameter changes are for this occurrence only and are ***not*** updated to the Job's master parameters as they exist on the Job Scheduler Master file.

Access the Job Schedule Occurrence Records

The job schedule occurrence records may be viewed from the Work with Job Scheduler panel (EDIX412-FMT01). Depending on how the option is selected, you may choose to view *all* the job schedule occurrence records or only those occurrence records associated with a *single* Job Schedule Master file record.

The Work with Scheduled Entries panel (EDIX409-FMT01) will appear as shown in the following figure. The features pertaining to working with the Job Schedule occurrence records are accessed by using the options available on the Work with Job Scheduler panel (EDIX412-FMT01) as illustrated in Figure 16.10.

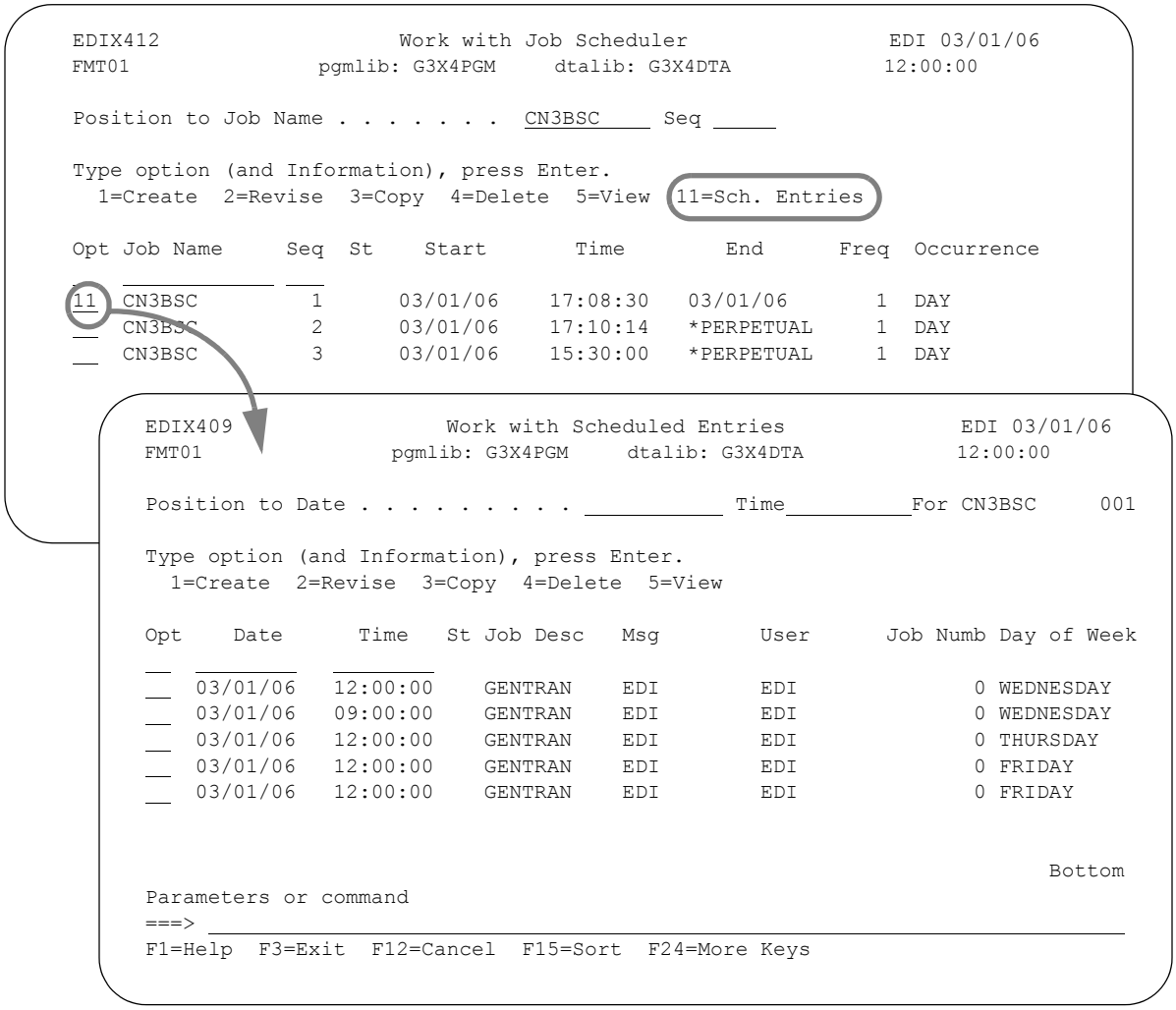


Figure 16.10 The Work with Scheduled Entries panel (EDIX409-FMT01)

To view all Job Schedule Occurrence records for a particular job, type **11** on the Work with Job Scheduler panel (EDIX412-FMT01) next to the Job Scheduler Master record you want to view and press **Enter**. The Work with Scheduled Entries panel (EDIX409-FMT01) will be displayed with the occurrences of the selected job.

You can use the Job Status field to determine the exact processing status of each job. The status code value will indicate that the job has completed running or was just submitted for execution. If it completed normally or abnormally, the completion instructions used by the system in either event would be displayed, whether it was manually placed on "hold" to temporarily prevent it from running, or manually added to the Job Scheduler queue (and does not exist on the Master File).

If you chose to see job occurrences for all jobs (by typing **11** on the key entry line on EDIX412-FMT01), you can access the Date/Time alternate sort option by pressing **F15** (Sort). You can use this option to see the next job to be run, regardless of job name; or use it to view all job occurrences for a particular day.

Keep in mind that the Work with Scheduled Entries panel (EDIX409-FMT01) allows you to take an interactive "snapshot" of the job schedule occurrence records as they exist on the Job Scheduler. As jobs are initiated, the Scheduler assigns them a Job Number. The Job Status field will remain blank until after the job has been executed.

Field Descriptions

Date

This field defines the job run start date. You must enter the date based on the format in your Gentran:Server user profile in the Environment Control subsystem.

Time

This field defines the job run start time. Format is HHMMSS in 24-hour military time.

St (Job Status)

This field displays the current processing status of the job. You may change the status of an unprocessed job (blank status) to temporarily suspend it by entering a value of **H** in this field. Processing status code values are:

NN The job has been executed and the first command ended normally and a normal completion command existed which is also executed normally.

NA The job has been executed and the first command ended normally and a normal completion command existed which terminated abnormally.

NX The job has been executed and the first command ended normally and no normal completion or abnormal completion commands existed.

AA The job has been executed and the first command ended abnormally and an abnormal completion existed command which also terminated abnormally.

AN The job has been executed and the first command ended abnormally and an abnormal completion command existed which terminated normally.

AX The job has been executed and the first command ended abnormally and no normal completion or abnormal completion commands existed.

S The job is in the process of being submitted.

SB The job has been submitted for processing and is currently running or the job was abruptly terminated while executing with no recovery possible.

H A user can place the job on hold which temporarily suspends processing. This will also prevent completed jobs from being purged.

ER An error has occurred. Either the user profile, message queue, or job description was not previously defined to the system.

ES Error on Submit Job. The Scheduler encountered an error on the submit job command for this job. The job could not be submitted.

BLANK The job has not started.

Job Desc

This field defines the job description under which the job will run. You may change this job description if you choose to add more libraries to the library list, or you may change the subsystem in which the jobs are run by changing the job queue. This field defaults to the job description defined by the Gentran:Server user profile in the Environment Control subsystem.

Msg (Queue)

This field defines the secondary message queue to which any messages generated by this occurrence of the job run will be (have been) sent.

User

This field defines the iSeries user profile of the person who created the job processing record, either by creating a job schedule, or by manually placing the specified job on the scheduling queue.

Job Numb

This field displays the job number assigned by the system when it began processing the job.

Day of Week

Shows the day of the week the job is scheduled to run. This field is only displayed if this panel was accessed for a specific job (that is, not from the key entry line), as shown in Figure 16.10.

Update a Job Occurrence Record

You may update a job schedule occurrence record on the Job Scheduler using the Work with Scheduled Entries panel (EDIX409-FMT01). For example, you may need to change an execution command parameters for a particular job or you may need to change the status of an occurrence record to place it on hold.

NOTE

Changes you make to the job schedule occurrence records on the Job Scheduler do *not* update the master parameter information for the job on the Job Scheduler Master file.

By placing a job schedule occurrence record on hold, you may temporarily suspend its future processing. You may also use the hold status to prevent an initiated job schedule occurrence record (a job that has already been run) from being removed from the Job Scheduler queue during a purge.

The Job Schedule panel (EDIX413-FMT01) displays as shown in the next figure.

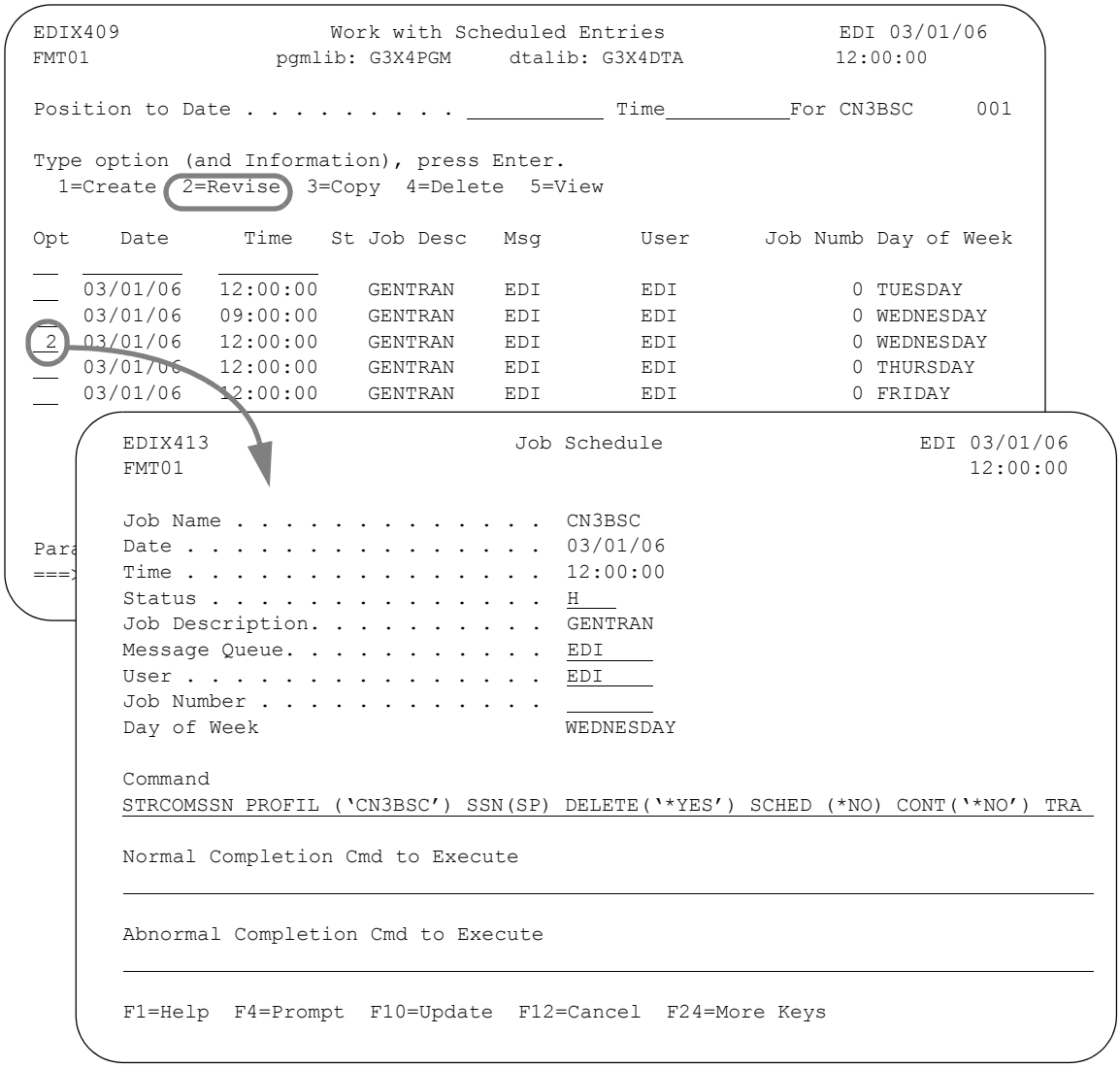


Figure 16.11 The Job Schedule panel (EDIX413-FMT01)

Type **2** (Revise) next to the Occurrence record you want to update and press **Enter**, as shown in Figure 16.11.

Make any necessary changes (you cannot change the Date or Time) and press **F10** (Update).

NOTE

Remember, when updating the record, you must remove the current status code (if a code exists) so that the system recognizes that the record still needs to be executed.

Add a Job Occurrence Record

You may create or add by copying a job schedule occurrence record to the Job Scheduler using the Work with Scheduled Entries panel (EDIX409-FMT01). This situation may occur if you need to run a job that is not currently scheduled, or has a scheduled date/time that is different than the date/time you currently need to run the job. Adding jobs to the Job Scheduler is typically reserved for special one-time job runs where scheduled run routines are impossible to predict and cannot be established.

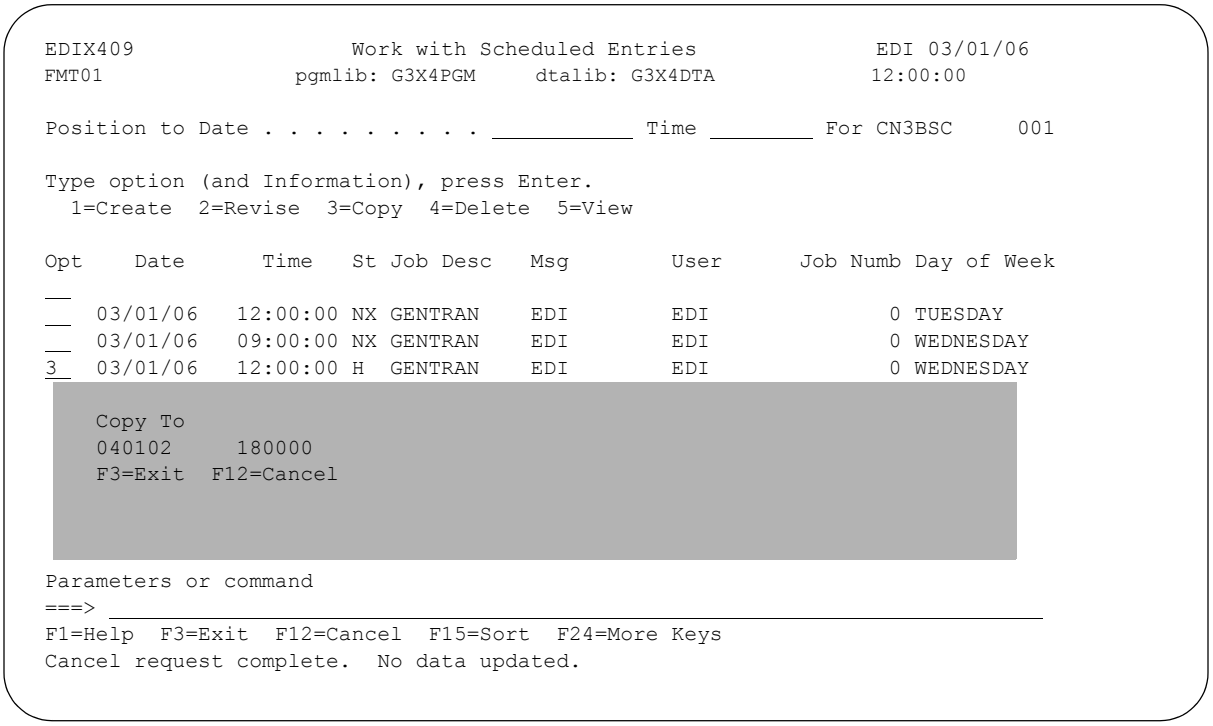


Figure 16.12 Add an entry to the Job Schedule

To add a job schedule occurrence record to the Job Scheduler:

- Type **3** (Copy) next to any existing entry on the Work with Scheduled Entries panel (EDIX409-FMT01) and press **Enter**.
- On the Copy To, type the date and time for the new occurrence record you want to add and press **Enter**, as shown in Figure 16.12. The date can be entered with or without date separators but must be in the user's date format.

The Job Schedule panel (EDIX413-FMT01) will display as shown in Figure 16.13.

```
EDIX413                          Job Schedule                    EDI   03/01/06
FMT01                                                                  12:00:00

Job Name . . . . . . . . . . . . . . CN3BSC
Date . . . . . . . . . . . . . . . . 03/01/06
Time . . . . . . . . . . . . . . . . 18:00:00
Status . . . . . . . . . . . . . . . __
Job Description. . . . . . . . . . . GENTRAN
Message Queue. . . . . . . . . . . . EDI
User . . . . . . . . . . . . . . . . EDI
Job Number . . . . . . . . . . . . . _______
Day of Week. . . . . . . . . . . . . MONDAY

Command
STRCOMSSN PROFIL('CN3BSC') SSN(SO) DELETE('*YES') SCHED(*NO) CONT('*NO') TR

Normal Completion Cmd to Execute
_____________________________________________________________________________

Abnormal Completion Cmd to Execute
_____________________________________________________________________________

F1=Help  F4=Prompt  F10=Update  F12=Cancel  F24=More Keys
```

Figure 16.13 New Occurrence Record

Create the command to execute, and if necessary, the command to execute upon a normal or abnormal completion and press **F10** (Update).

Delete a Job Occurrence Record

You may also delete a job schedule occurrence record that currently exists on the Job Scheduler using the Work with Scheduled Entries panel (EDIX409-FMT01). Remember, when you delete a job schedule occurrence record on the Job Scheduler, you are *not* deleting its master record on the Job Scheduler Master file.

The Job Schedule panel (EDIX413-FMT01) displays as shown in Figure 16.14.

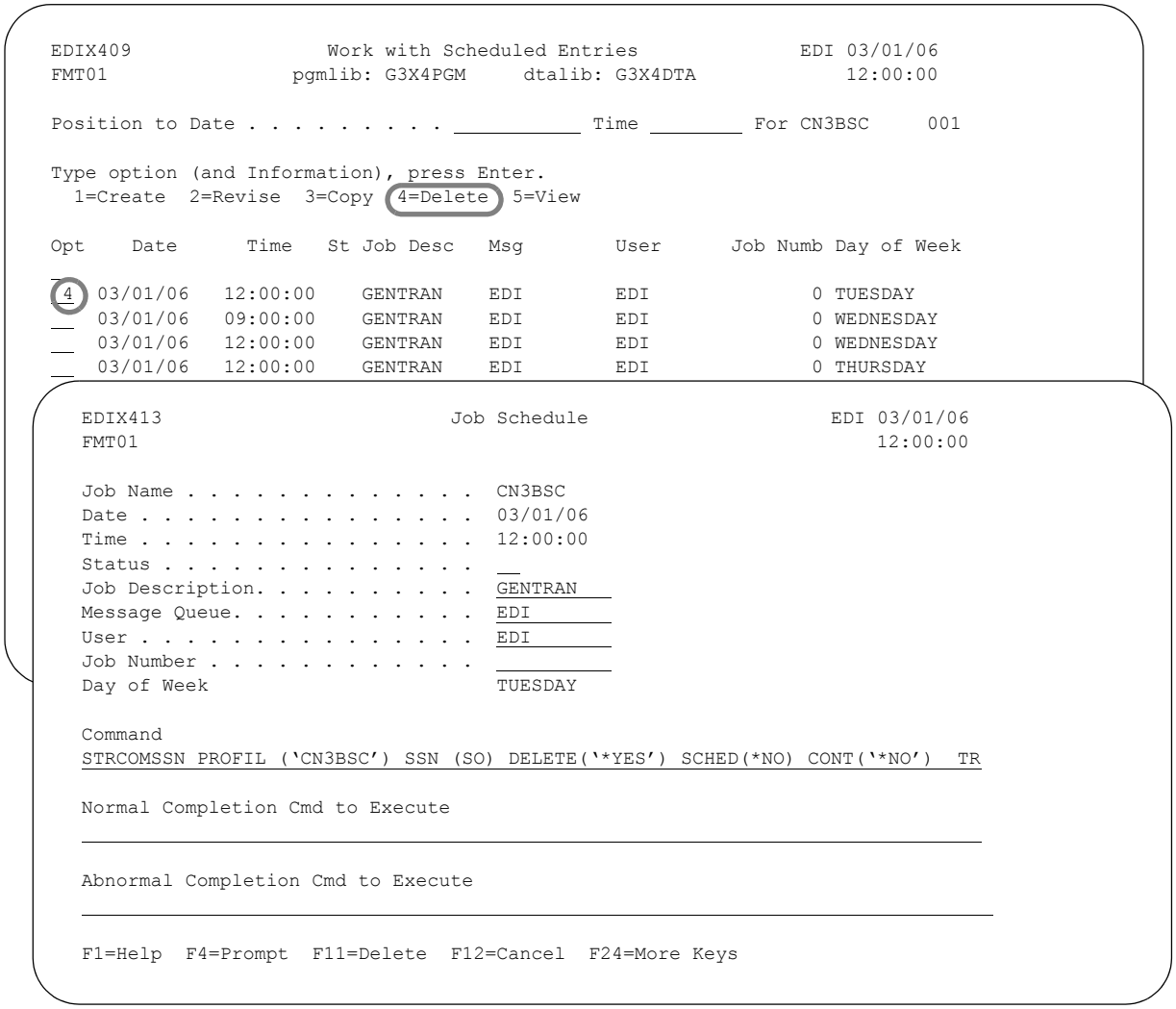


Figure 16.14 Delete an entry in the Job Scheduler

To *delete* a job schedule occurrence record from the Job Scheduler, type **4** (Delete) next to the occurrence record you wish to delete and press **Enter**. The Job Schedule panel (EDIX413-FMT01) will be displayed. Press **F11** (Delete).

Purge the Job Schedule (PRGSCH)

Job schedule occurrence records are not deleted from the Job Scheduler queue after they are run. They remain there until you purge them. Gentran:Server provides a feature for purging the Job Scheduler of old occurrence records. This feature allows you to selectively purge *groups* of occurrence records with a start date prior to a date you specified.

CAUTION

The Job Schedules subsystem (GENTRAN340) must be ended prior to executing the PRGSCH command. Records cannot be purged while the schedule is still actively processing scheduled jobs.

The Purge Job Schedule (PRGSCH) command appears as shown in Figure 16.15.

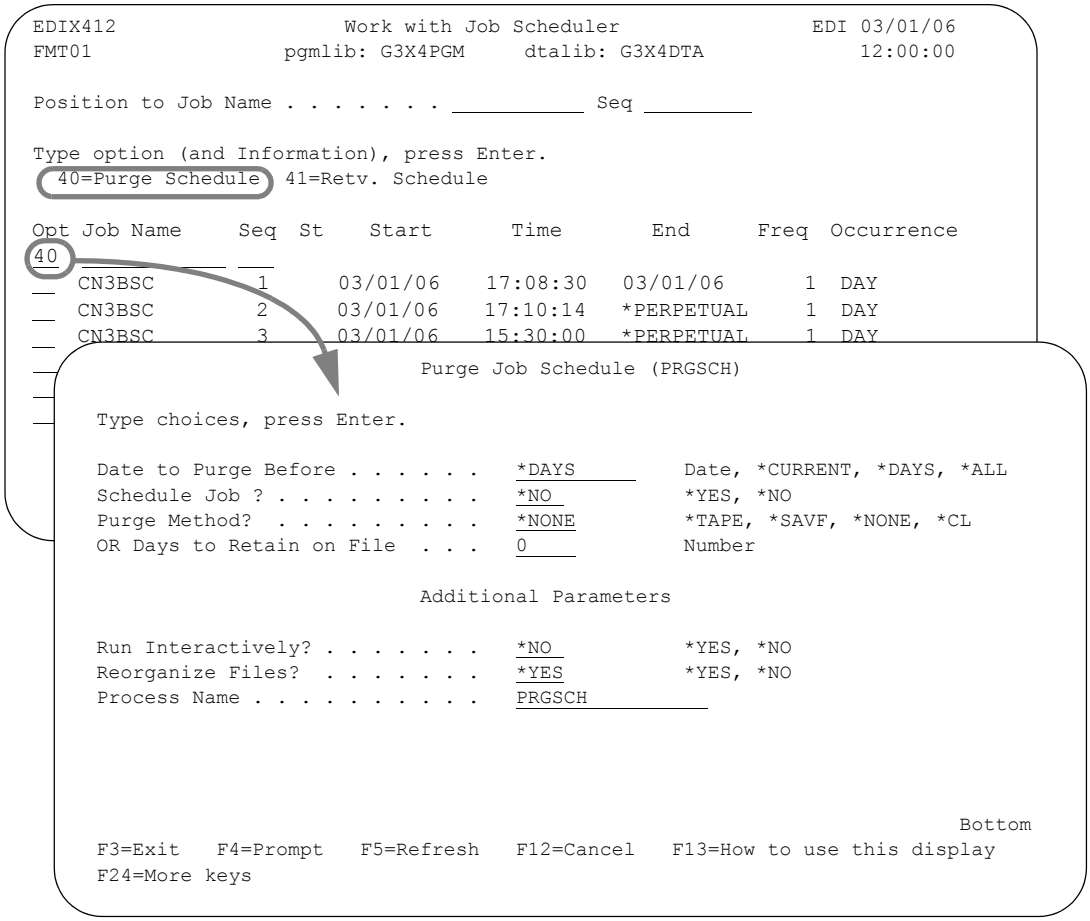


Figure 16.15 The Purge Job Schedule panel (PRGSCH)

To purge the Job Schedule, type **40** (Purge Schedule) on the key entry line or next to any job name on the Work with Job Scheduler panel (EDIX412-FMT01) and press **Enter**.

Type the desired parameters in each field on the PRGSCH command. Press **F1** (Help) for detailed information about the parameters.

You can execute the purge job one of three ways: Type **`*Yes`** to use the Job Scheduler feature; press **Enter** to immediately submit the job to your queue to run; or press **F10** (Additional parameters) and type **`*Yes`** for Run Interactively to run the purge job on your screen.

NOTE

For more information about using the PRGSCH command, see the online help.

Retrieve the Job Schedule (RTVSCH)

The Retrieve Job Schedule (RTVSCH) command allows you to restore Job Schedule records from tape or save file that have been previously purged to tape or save file with the PRGSCH command.

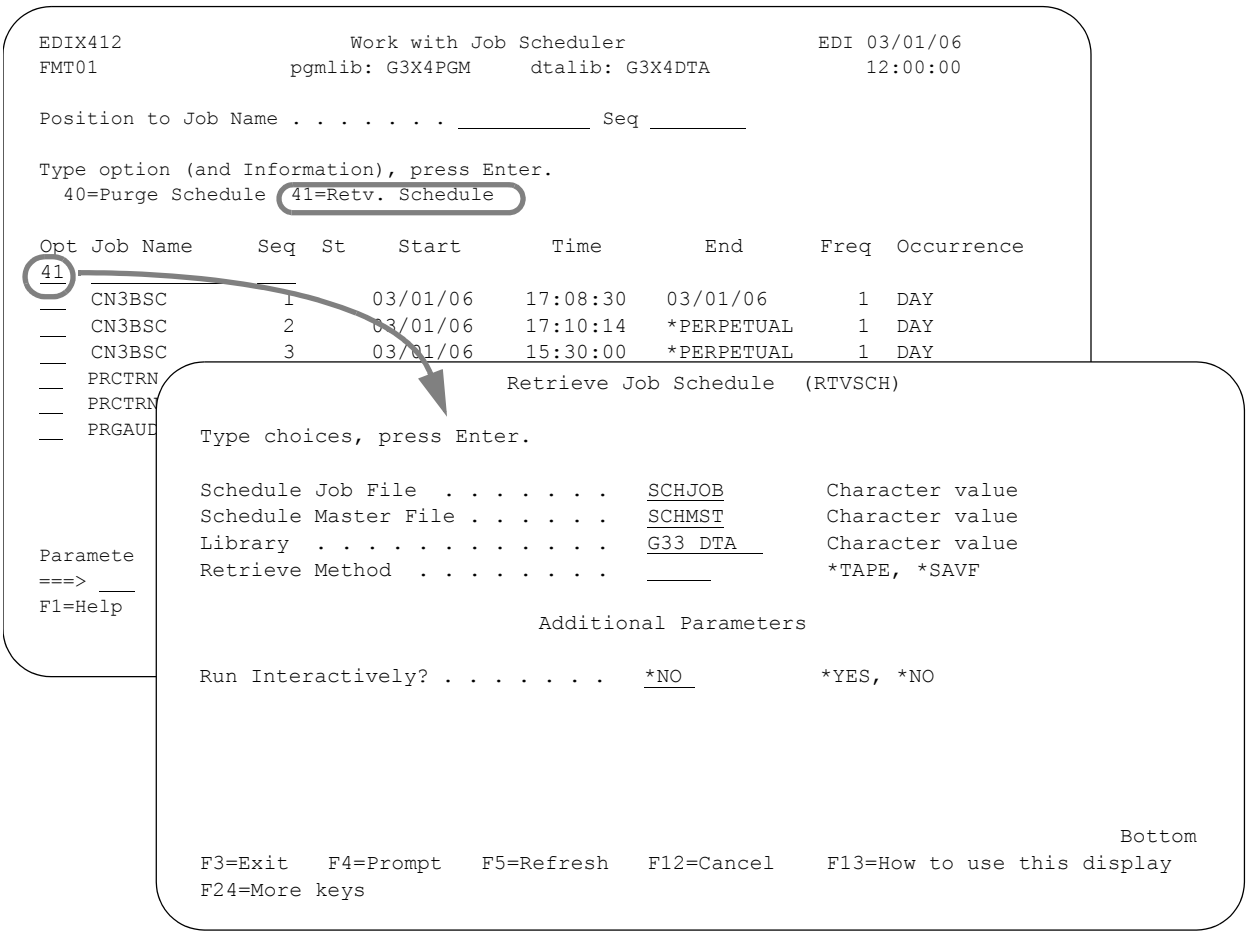


Figure 16.16 The Retrieve Job Schedule panel (RTVSCH)

To retrieve the Job Schedule, type **41** (Retv. Schedule) on the key entry line or next to any job name on the Work with Job Scheduler panel (EDIX412-FMT01) and press **Enter**. Type the desired parameters in each field on the RTVSCH command, as shown in Figure 16.16

You can execute the retrieve job one of three ways:

- Type ***Yes** to use the Job Scheduler feature.
- Press **Enter** to immediately submit the job to your queue to run.
- Press **F10** (Additional parameters) and type ***YES** for Run Interactively to run the retrieve job on your screen.

NOTE

For more information about using the RTVSCH command, see the online help.

Common Questions

How are job occurrence records generated?

When you schedule a job, Gentran:Server creates job occurrence records through the Stop Date or the schedule-thru date in the SCHEDULER data area, whichever comes first. The data area is located in the Gentran:Server data library (G20DTA). When the iSeries system date is equal to the schedule-thru date in the SCHEDULER data area, Gentran:Server automatically generates a new schedule-thru date by adding to this date the number of days in the first three positions of the data area. Then for all active schedules, Gentran:Server creates job occurrence records through the new schedule thru date for all schedules with an active status, including those with a stop date of `*PERPETUAL`. If the Stop Date is less than the new schedule-thru date, Gentran:Server only generates occurrence records through the Stop Date.

NOTE

The Gentran:Server subsystem GENTRAN340 must be active and the autostart job SCHEDULER must be running to generate new job occurrence records.

My jobs are scheduled – why don't they run?

Figure 16.17 can be used as a quick reference for determining why jobs are not scheduling. Following the flow chart, there are four examples that will assist you in reading and resolving the most common problems found in the joblogs, and provide detailed instructions for verifying the setup of the GENTRAN340 system. Throughout these examples it is assumed the Gentran data library is G20DTA. If your Gentran data library has a different name, substitute that name everywhere G20DTA is specified.

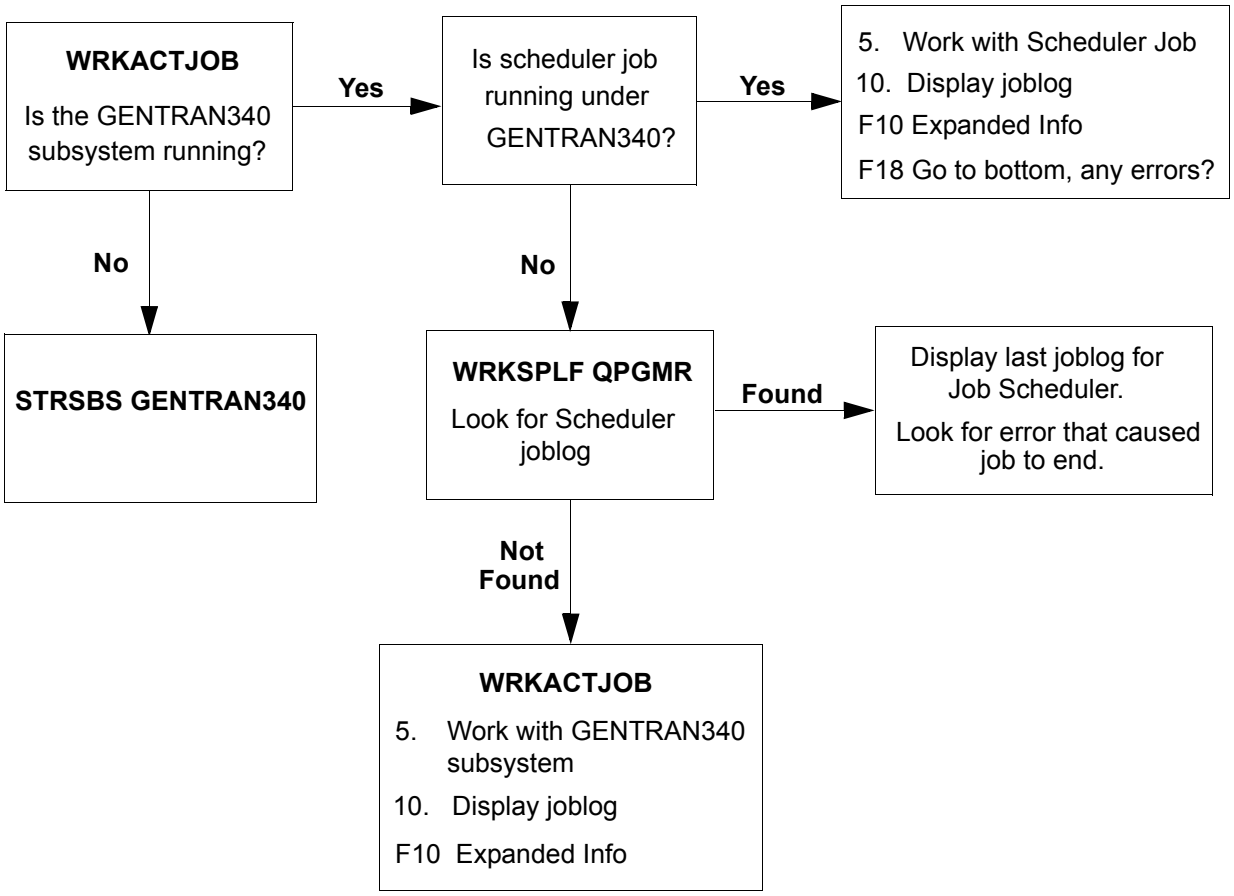


Figure 16.17 Find out why scheduled jobs are not running

Example 1: Why am I getting the error "QPGMR not authorized to object XXX" (where XXX is an iSeries user ID)?

The Scheduler job runs under the user profile QPGMR. Therefore, when the Scheduler job tries to submit a job that was scheduled using another user profile, QPGMR has to have authority to that user profile. When you schedule a job from the Job Schedule Master panel, the default user ID is the user ID of the current user. The iSeries user profile of the current user, or whatever user ID is specified, must be set up with QPGMR having `*USE` authority to that user profile. To resolve the above error, specify a user ID of QPGMR when scheduling jobs on the Job Schedule Master panel or change the object authority for the user ID specified to allow QPGMR authority. To change object authority, use the iSeries command:

```
EDTOBJAUT OBJ(*LIBL/<user id) OBJTYPE(*USRPRF).
```

Example 2: Why do I get the error "WAKEUP data queue not found"?

The WAKEUP data queue is used by the Scheduler job to wake it up when it is time to submit a scheduled job. If the WAKEUP data queue is not in the G20DTA library, create it. To do this, use the iSeries command CRTDTAQ as follows:

```
CRTDTAQ DTAQ(G20DTA/WAKEUP) MAXLEN(64512) SEQ(*FIFO)
```

Example 3: Why do I get the error "**Program ROUTERCL not found in current library list**"?

This error may show up in the Scheduler joblog, the GENTRAN340 subsystem joblog, or in the joblog of a job that was submitted by the Scheduler. Ensure that the G20DTA and G20PGM libraries are in the initial library list for all job descriptions that are being used. The Scheduler job uses the job description SCHEDULER. Use the **DSPJOBD** command for the job description SCHEDULER. Make sure that G20DTA and G20PGM are in the library list. The job being scheduled uses the job description specified on the Work with Scheduled Entries panel (EDIX409-FMT01) and the Work with Job Scheduler panel (EDIX412-FMT01). The default is the job description in environment control, but the users may have specified their own job description. Use the **DSPJOBD** command on the job description specified for the scheduled entry, and make sure G20DTA and G20PGM are in the initial library list. If the library list needs to be changed, you can do so by prompting the iSeries command **CHGJOBD** and modifying the **INLLIBL** (Initial Library List).

Example 4: Why can't I start an autostart job?

This error or something similar may show up in the joblog for the GENTRAN340 subsystem. This is most likely a problem with library names within the subsystem. You will need to go through the GENTRAN340 subsystem description and verify library names in the autostart entry, job queue entries, and routing entries. If one is wrong, you will most likely have to change them all.

Chapter

17 System Configuration File

In this Chapter

This chapter is intended for the System Administrator, and covers the following topics:

- What is the System Configuration File? 17-2
- Use the System Configuration Menu 17-3

What is the System Configuration File?

The System Configuration file (SYSCFG) contains system configuration information used by Gentran:Server to determine how online information should be displayed and/or configured. The SYSCFG file resides in the Gentran data library. You can use the iSeries command **DSPFFD FILE(SYSCFG)** to see a complete list of the fields. The parameters included in the file that relate to the Communications Module and their functions are shown in this table.

Parameter (Field Name)	Function
Set Gentran Break Year (SCY2K)	When no century is provided in data, break year is used to determine century. The system default is `40`.
Set Gentran Date Format for Commands (SCDTFMT)	The format to be used for dates displayed and entered on command panels. The system default is `*ENVCTL`.
Set Inbound Queue Sort Option (SETINBQSRT)	This command enables you to define the default sort option for the Work with Inbound Queue Control screen (EDIX407).
Set Outbound Queue Sort Option (SETOUTQSRT)	This command enables you to define the default sort option for the Work with Outbound Queue Control screen (EDIX404).
Set Comm History Log Sort Option (SETCOMHSRT)	This command enables you to define the default sort option for the Work with Comm History screen (EDIX406).
Set Job Scheduler Sort Option (SETJOBSSRT)	This command enables you to define the default sort option for the Work with Job Scheduler screen (EDIX412).
Set Gentran File Tracking Sort (SETFTRKSRT)	This command enables you to define the default sort option for the Gentran File Tracking System screen (EDIX650).

RECOMMENDATION

The System Configuration file should be regarded as a high security file. Modifications to it should be made with care and access to it should probably be limited to your EDI System Administrator.

The parameters can be accessed through the System Configuration menu in the Gentran:Server for iSeries Communications menu. The System Configuration menu is discussed in the next section.

Use the System Configuration Menu

The System Configuration menu enables you to set options on the System Configuration file (SYSCFG). The System Configuration file is located in the Gentran data library (G20DTA) and contains information about how your EDI system is set up. The fields being used in this release are detailed in this section. Other fields are reserved for future use.

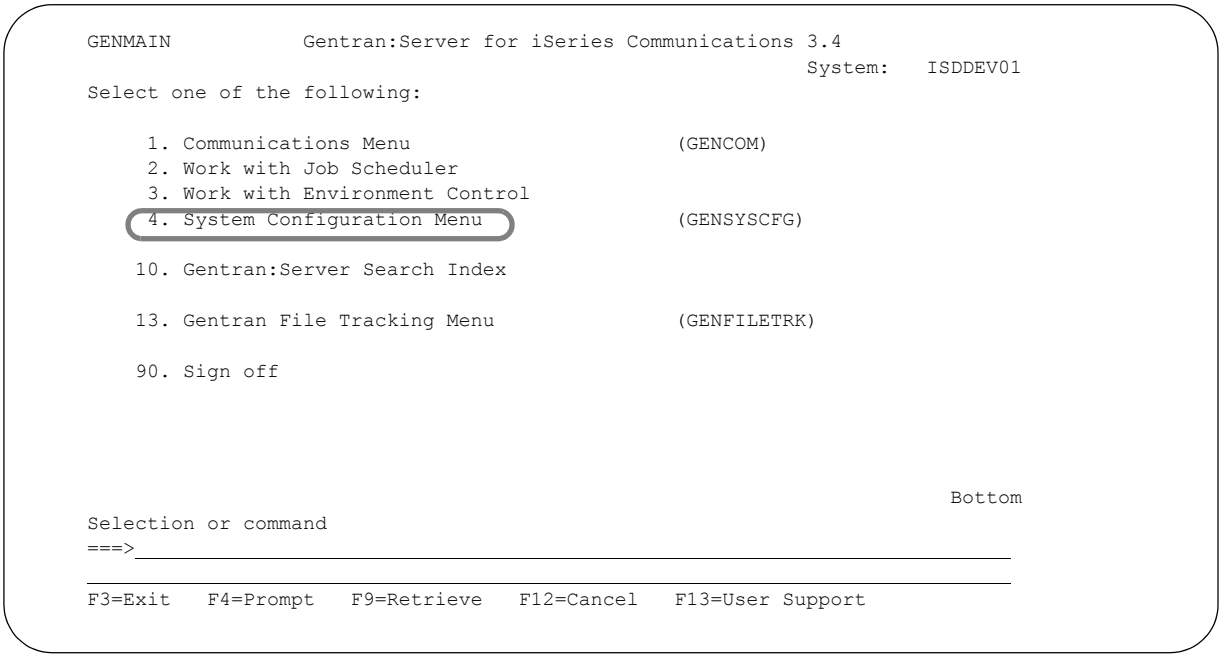


Figure 17.1 Select the System Configuration Menu from GENMAIN

Select option **4** from the GENMAIN menu, as shown in Figure 17.1, and press **Enter**.

The Gentran:Server System Configuration (Comm) menu is displayed, as shown in Figure 17.2.

```
GENSYSCFG       Gentran:Server System Configuration (Comm) 3.4
                                                        System:   ISDDEV01
Select one of the following:

     1. Set Gentran Break Year                 (SETGENYR)
     2. Set Gentran Date Format for Commands   (SETGENFMT)

    10. Set Inbound Queue Sort Option          (SETINBQSRT)
    11. Set Outbound Queue Sort Option         (SETOUTQSRT)
    12. Set Comm History Log Sort Option       (SETCOMHSRT)
    13. Set Job Scheduler Sort Option          (SETJOBSSRT)
    14. Set File Tracking Sort Option          (SETFTRKSRT)

    90. Sign off



Selection or command
===> _____________________________________________________________________

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
(C) COPYRIGHT Sterling Commerce Inc., 2006, ALL RIGHTS RESERVED.
```

Figure 17.2 Gentran:Server System Configuration (Comm) menu (GENSYSCFG)

NOTE

The System Configuration menu can also be accessed by using the command **GO GENSYSCFG**.

To select one of the options on the System Configuration menu, type the option number on the command line and press **Enter**. The command panel for the option chosen will be displayed next. Each of the options on the System Configuration menu is described in this section.

RECOMMENDATION

When selecting the options from the System Configuration menu, driver programs are used to retrieve the current value for the option and are then displayed on the command. If you update the option using the command from the command line instead of this menu, the current value will not be displayed.

Set Gentran Break Year

What is the “Break Year?”

The break year is the year that determines to which century the year belongs. If the input date is less than the break year, it is determined to be in the 2000s and is assigned a century of `20` or `1`. Otherwise, it is determined to be in the 1900s and is assigned a century of `19` or `0`.

The default break year is consistent with the IBM cut off year of `40`.

All internal processing of dates in Gentran:Server must include the century to ensure the integrity of processing. The dates are handled internally in one of two ways:

- In the format YYYYMMDD (uses a 2-digit century)
- In the format CYYMMDD (uses a 1-digit century)

Break Year Examples

The following are examples of various input dates and the resulting date determined by Gentran:Server. Examples are shown in `*YMD` format with and without the century and assume the default break year of `40`.

Input date	Input Date Format	Gentran date (yyyymmdd)
980301	yymmdd	199880301
199990412	yyyymmdd	19990412
1000101	cyymmdd	20000101
301215	yymmdd	20301215
800828	yymmdd	19800828
20151101	yyyymmdd	20151101

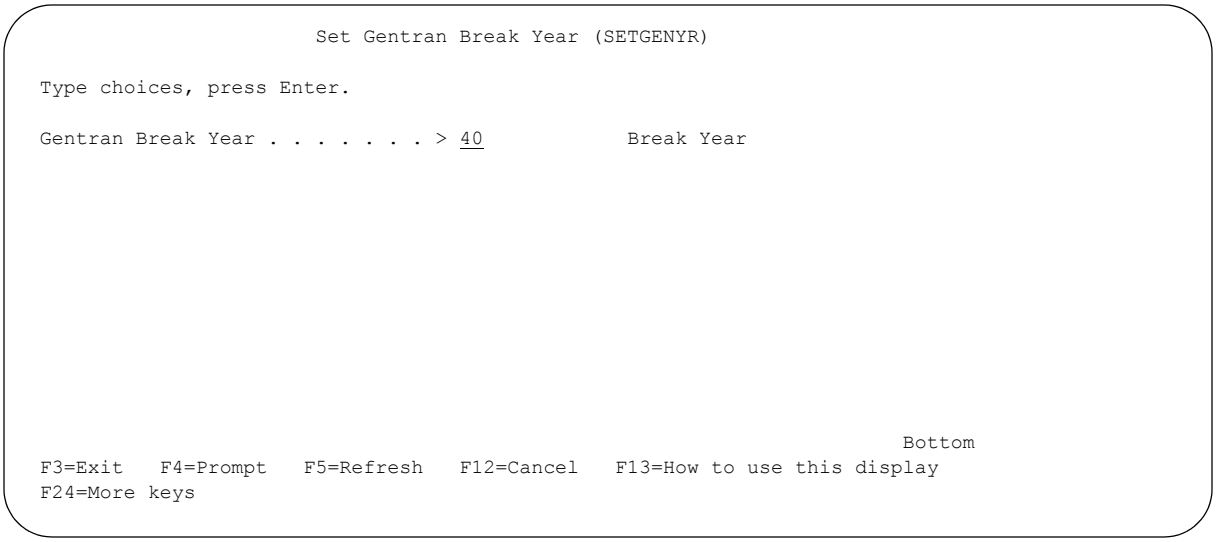


Figure 17.3 Set Gentran Break Year Command

Field Description

Set Gentran Break Year

Select this option to set the break year for Year 2000 processing.

If Gentran:Server encounters a 2-digit date during online or batch processing, the break year determines which century to use.

If a date has a year that is lower than that of the break year, Gentran:Server will use `20` as the 2-digit century and `1` as the 1-digit century. For example, if the break year is `40` and the date being evaluated has a year of `17`, the values `20`' and `1` would be used as the century, resulting in `2017` or `117`.

If a date has a year that is greater than or equal to that of the break year, Gentran:Server will use `19` as the 2-digit century and `0` as the 1-digit century. For example, if the break year is `40` and the date being evaluated has a year of `52`, the values `19` and `0` would be used as the century, resulting in `1952` or `052`.

Set Gentran Date Format

What is the Gentran Date Format?

The Gentran system can be configured to allow dates to be entered on commands in any format desired.

Default Format

For new users, the system default is *ENVCTL, which indicates that the format from the Environment Control user profile is used.

Sample Panel

Figure 17.4 shows the Set Gentran Date Format command panel.

```
                     Set Gentran Date Format (SETGENFMT)

Type choices, press Enter.

Gentran Date Format  . . . . . > *ENVCTL       *JOB, *SYSVAL, *ENVCTL...









                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 17.4 Set Gentran Date Format Command

Valid Values

The valid values for Date Format field are described in this table.

Date Format Value	Description
***JOB**	The date has the format specified by the job attribute, DATFMT.
***SYSVAL**	The date has the format specified by the system value, QDATFMT.
***ENVCTL**	The date has the format specified by the date format specified in the Environment Control for the user.
***MDY**	The date has the month, day, year format: mmddyy.

Date Format Value	Description
***MDYY**	The date has the month, day, year format: mmddyyyy.
***DMY**	The date has the day, month, year format: ddmmyy.
***DMYY**	The date has the day, month, year format: ddmmyyyy.
***YMD**	The date has the year, month, day format: yymmdd.
***YYMD**	The date has the year, month, day format: yyymmdd.
***JUL**	The date has the julian format: yyddd.
***LONGJUL**	The date has the long julian format: yyyyddd.
***USA**	The date has the United States date format: mm/dd/yyyy.
***EUR**	The date has the European date format, dd.mm.yyyy.
***ISO**	The date has the International Organization for Standardization (ISO) date format: yyyy-mm-dd.
***JIS**	The date has the Japanese Industrial Standard (JIS) date format: yyy-mm-dd.
***CYMD**	The date has the century, year, month, day format: cyymmdd, where c is 0 for years in the 1900's and is 1 for years in the 2000's.

To see these values on the command panel, press **F4** (Prompt) with the cursor positioned in the Date Format field.

Set the Gentran File Tracking Sort Option

Use the option to set the default sort option for the Work with gentran File Tracking panel (EDIX650).

Who is impacted by this option?

Changing the default sort option impacts all users in the same Gentran:Server environment.

Sample Panel

Figure 17.5 illustrates the Set Gentran File Tracking Sort command panel. The system default is Date, Time.

```
                Set Gentran File Tracking Sort (SETFTRKSRT)

Type choices, press Enter.

Date/Time  . . . . . . . . . . . > *YES          *NO, *YES
Program/Date/Time  . . . . . . . > *NO_          *NO, *YES
Subsystem/Date/Time  . . . . . . > *NO_          *NO, *YES
User/Date/Time . . . . . . . . . > *NO_          *NO, *YES









                                                                  Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 17.5 Set Gentran File Tracking Sort Order (SETFTRKSRT)

Chapter

18 Gentran File Tracking

In this Chapter

This chapter describes setting up, viewing, and using the Audit File tracking system for Gentran:Server. The chapter covers the following topics:

- What is Gentran File Tracking? 18-1
- Panel Quick Reference 18-2
- Access the Gentran File Tracking Subsystem 18-3
- Configure Gentran File Tracking 18-5
- Work with Gentran File Tracking 18-8
- Print the Gentran File Tracking Report 18-18
- Purge the File Tracking Entries (PRGFILETRK) 18-23
- Retrieve the Gentran File Tracking Entries (RTVFILETRK) 18-27
- Reports 18-30

What is Gentran File Tracking?

Gentran:Server File Tracking is a method to monitor all changes that are made to the Gentran File System. Any time a Gentran field or file is modified, an entry is recorded in the Gentran File Tracking system. These entries can be viewed or printed for audit purposes. The user can configure this system to capture all, none, or selected subsystems for file tracking.

Panel Quick Reference

The following table gives the purpose and access methods for the panels in the File Tracking system.

Panel Name	Purpose	Access Methods
GENFILETRK Gentran:Server File Tracking Menu	Select an option to work with the File Tracking Subsystem.	❍ Select option '13' on the GENMAIN menu. ❍ Type 'GO GENFILETRK' on the command line.
EDIX650-FMT01 Work with Gentran File Tracking	Display the Work with Gentran File Tracking entries.	❍ Select option '1' from the GENFILETRK menu. ❍ Type 'EXCPGM EDIX650' on the command line.
EDIX651-FMT01 File Tracking Detail	View detailed information about the item that was modified in the Gentran file.	❍ Select option '5' on panel EDIX650-FMT01.
EDIX660-FMT01 Gentran File Tracking Configuration	Display the configuration panel for Gentran File Tracking.	❍ Select option '2' on the GENFILETRK menu. ❍ Type 'EXCPGM EDIX660' on the command line.
PRTFILETRK Print Gentran File Tracking entries	Print selected list of File Tracking entries.	❍ Select option '3' on the GENFILETRK menu. ❍ Select option '30' on panel EDIX650-FMT01. ❍ Type 'PRTFILETRK' on the command line.
PRGFILETRK Purge Gentran File Tracking entries	Perform routine housekeeping purges on the File Tracking entries.	❍ Select option '4' on the GENFILETRK menu. ❍ Select option '40' on panel EDIX650-FMT01. ❍ Type 'PRGFILETRK' on the command line.
RTVFILETRK Retrieve Gentran File Tracking entries	Retrieve the Gentran File Tracking entries from tape or save file.	❍ Select option '5' on the GENFILETRK menu. ❍ Select option '41' on panel EDIX650-FMT01. ❍ Type 'RTVFILETRK' on the command line.

Access the Gentran File Tracking Subsystem

The Gentran File Tracking Menu (GENFILETRK) is the starting point for all the tasks associated with configuring, viewing, and monitoring the File Tracking utility. From this panel, you can go to the Work with Gentran File Tracking entries, Configure the Gentran File Tracking, Print, Purge, and Retrieve the File tracking entries.

To access the Gentran File Tracking menu, select option '13' (Gentran File Tracking Menu) on the Gentran:Server for iSeries menu (GENMAIN).

```
GENMAIN            Gentran:Server for iSeries Release 3.4
                                                          System:   IV5R2
Select one of the following:

     1. Work with Partners
     2. Work with Application Definition
     3. Mapping Menu                          (GENMAP)
     4. Communications Menu                   (GENCOM)
     5. Work with Standards
     6. Work with Environment Control

     8. Audit Menu                            (GENAUD)
     9. Message Center Menu                   (GENMSG)
    10. Processing Menu                       (GENPRC)
    11. System Administration Menu            (GENSYS)
    12. Viewpoint Menu                        (GENVPT)
    13. Gentran File Tracking Menu            (GENFILETRK)
    14. Gentran:Server Search Index
                                                                  More...
Selection or command
===>13_____________________________________________________________________
_____________________________________________________________________________
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Figure 18.1 Access the Gentran File Tracking Menu from GENMAIN

The Gentran File Tracking Menu (GENFILETRK) is displayed.

```
GENFILETRK            Gentran:Server File Tracking 3.4
                                                        System:   IV5R2
Select one of the following:

     1. Work with Gentran File Tracking
     2. Gentran File Tracking Configuration
     3. Print File Tracking Entry Report         (PRTFILETRK)
     4. Purge Gentran File Tracking Files        (PRGFILETRK)
     5. Retrieve Gentran File Tracking Files     (RTVFILETRK)

    90. Sign off









Selection or command
===>

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Figure 18.2 Gentran:Server File Tracking (GENFILETRK) panel

Configure Gentran File Tracking

Use of the File Tracking is controlled through the Gentran File Tracking Configuration panel. You can globally turn on or off the File Tracking and select the specific subsystems that you wish to monitor from this screen.

To access the Configuration screen, select option '2' (Gentran File Tracking Configuration) from the Gentran:Server File Tracking Menu (GENFILETRK) as shown in the following figure:

```
GENFILETRK             Gentran:Server File Tracking 3.4
                                                        System:   IV5R2
Select one of the following:

     1. Work with Gentran File Tracking
     2. Gentran File Tracking Configuration
     3. Print File Tracking Entry Report         (PRTFILETRK)
     4. Purge Gentran File Tracking Files        (PRGFILETRK)
     5. Retrieve Gentran File Tracking Files     (RTVFILETRK)

    90. Sign off









Selection or command
===>2_____________________________________________________________________________
_____________________________________________________________________________
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Figure 18.3 Access the Gentran File Tracking Configuration panel from GENFILETRK

Modify the Gentran File Tracking Configuration

The Gentran File Tracking Configuration panel (EDIX660-FMT01) displays with the default values. This panel and the default values are illustrated below:

```
EDIX660             Gentran File Tracking Configuration          XXX 2005/11/11
FMT01                                                                16:56:48

Activate Gentran File Tracking . .  N (Y/N)

Subsystem               Select  (Y/N)

Partner. . . . . . . . . . . . . .  N
Application. . . . . . . . . . . .  N
Transaction Mapping. . . . . . . .  N
Communication. . . . . . . . . . .  N
Standards. . . . . . . . . . . . .  N
Environmental Control. . . . . . .  N
Message Center . . . . . . . . . .  N
Processing . . . . . . . . . . . .  N
System Administration. . . . . . .  N
Viewpoint. . . . . . . . . . . . .  N
Gentran File Tracking. . . . . . .  N


Update Allowed . . . . . . . . . .  Y

F1=Help  F5=Refresh  F10=Update  F12=Cancel
```

Figure 18.4 Gentran File Tracking Configuration panel (EDIX660-FMT01)

Field Descriptions

Activate Gentran File Tracking

This parameter is used to turn on or off the entire File Tracking. To use the File Tracking utility, type 'Y' in this field. This activates File Tracking and allows you to select the desired subsystems you wish to monitor. If you wish to stop all File Tracking, type 'N' in this field and File Tracking will be disabled.

By using this field to turn the File Tracking on and off, you do not have to turn off each individual subsystem to disable the File Tracking Utility.

Partner
Application
Transaction Mapping
Communication
Standards
Environmental Control
Message Center
Processing
System administration
Viewpoint
Gentran File Tracking

These fields represent each Subsystem that can be monitored in the File Tracking utility. Valid values are:

Y	'Yes' activates the subsystem for File Tracking. Each time a Gentran field is modified in that subsystem, an entry will be recorded in the File Tracking system, giving detail information about the before and after information.
N	'No' disables File Tracking for that subsystem. 'No' is the default.

Update Allowed

Determines whether or not you can update this panel.

Y	'Yes' allows the user to modify this panel. 'Yes' is the default.
N	'No' does not allow any modifications to this panel.

Work with Gentran File Tracking

To access the Work with Gentran File Tracking panel, select option '1' (Work with Gentran File Tracking) on the Gentran:Server File Tracking (GENFILETRK) menu.

```
GENFILETRK            Gentran:Server File Tracking 3.4
                                                          System:   IV5R2
 Select one of the following:

      1. Work with Gentran File Tracking
      2. Gentran File Tracking Configuration
      3. Print File Tracking Entry Report         (PRTFILETRK)
      4. Purge Gentran File Tracking Files        (PRGFILETRK)
      5. Retrieve Gentran File Tracking Files     (RTVFILETRK)

     90. Sign off









 Selection or command
 ===> 1_____________________________________________________________________
_____________________________________________________________________________
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Figure 18.5 Access Work with Gentran File Tracking from GENFILETRK

All tracked changes that have occurred to Gentran files are available from the Work with Gentran File Tracking panel.

```
EDIX650              Work with Gentran File Tracking          XXX  2006/03/01
FMT01              pgmlib: G3X4PGM     dtalib: G3X4TSTDTA          17:18:41

Position to                          Date             Time  00:00:00.00
Type option (and Information), press Enter.
  4=Delete  5=View  6=Print  30=Prt FileTrk  40=Purge FileTrk  41=Rtv FileTrk

Opt  Date       Time       User       Program    Subsystem  Description

__   2006/03/01  15:49:07  IH         EDIX407A   COMM       Status of Batch cha
__   2006/03/01  15:48:59  IH         EDIX050    PARTNER    Deleted Data Separa
__   2006/03/01  15:48:37  IH         EDIX050    PARTNER    Added Data Separati
__   2006/03/01  15:48:27  IH         EDIX407A   COMM       Status of Batch cha
__   2006/03/01  15:47:56  IH         EDIX050    PARTNER    Added Data Separati
__   2006/03/01  15:47:33  IH         EDIX407A   COMM       Status of Batch cha
__   2006/03/01  15:46:49  IH         EDIX055    PARTNER    Reject Inbound Flag
__   2006/03/01  15:46:49  IH         EDIX055    PARTNER    Reject Outbound Fla
__   2006/03/01  15:46:46  IH         EDIX055    PARTNER    Reject Inbound Flag
                                                                    More...

Parameters or command
===>
F1=Help  F3=Exit  F9=Retrieve  F12=Cancel  F15=Sort
```

Figure 18.6 The Work with Gentran File Tracking panel (EDIX650-FMT01) display

View the File Tracking Records

The Work with Gentran File Tracking panel (EDIX650-FMT01) is the starting point to view all messages logged in the File Tracking Subsystem. This panel displays the primary information associated with each entry in the File Tracking system.

Field Definitions

Date and Time
The date and time that the file/field was modified

User
The user who made the change

Program
The program through which the change was made

Subsystem
The subsystem in which the change was made

Description
A description of the change that was made

Sort Options

The default sort order for the Gentran File Tracking is Date/Time. You can override the default sort order using the 'Set File Tracking Sort Option' (SETFTRKSRT) on the System Configuration menu. (SEE the "System Considerations" chapter in this guide for more information about working with system configuration options.)

To access the data in a different order, use the following sort options:

- Date Time
- Program, Date, Time
- Subsystem, Date, Time
- User, Date, Time

NOTE
The Date/time sorts are in descending order.

The Position To fields can be used to quickly access the information being searched. These fields will change according to the selected sort option.

The following figure illustrates the sort feature. Press **F15** to display the Sort window.

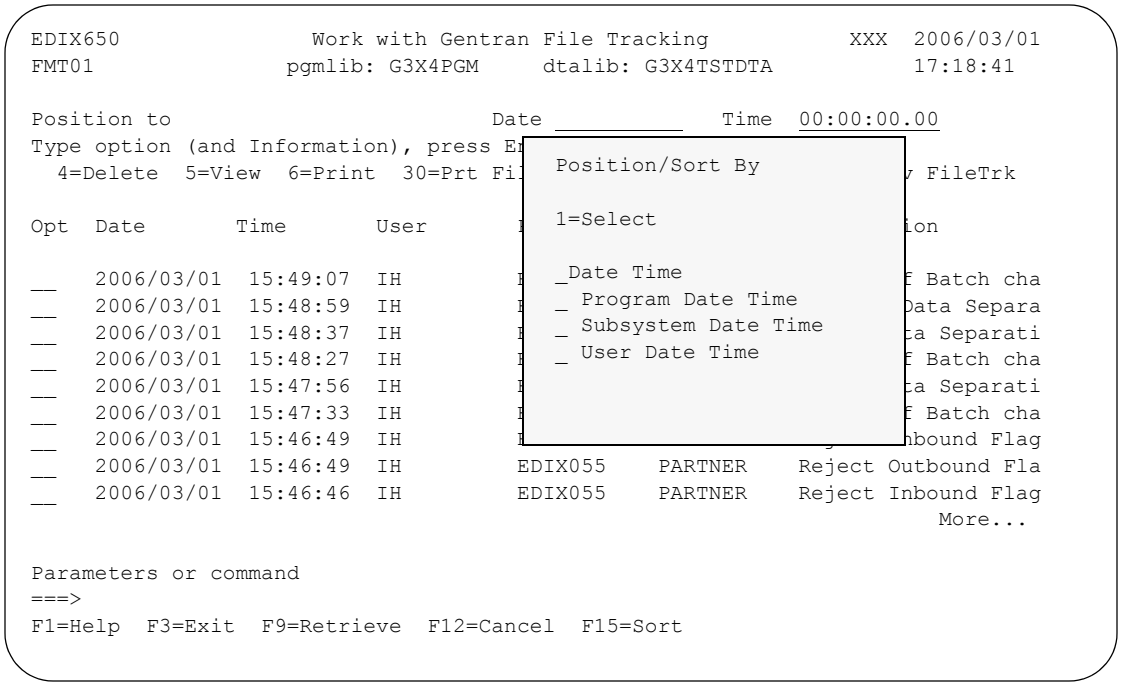


Figure 18.7 Work with Gentran File Tracking panel (EDIX650-FMT01) - Sort Window

To select a sort option for the Gentran File Tracking, type '1' in the Option field next to the sort option you want to use and press **Enter**.

Gentran File Tracking Work with options

You can run the following options from the Work with Gentran File Tracking panel (EDIX650-FMT01):

- Delete File Tracking Entries
- View File Tracking Details
- Print a File Tracking Entry
- Print File Tracking Entries based upon Selection Criteria
- Purge File Tracking Entries
- Retrieve File Tracking Entries

Delete Records from the Gentran File Tracking

You can delete entries from the Gentran File Tracking if you have the proper authority. Prior to deleting records, it is important to have a clear understanding of your organization's procedures for managing the File Tracking files.

CAUTION

Deletions cannot be reversed. Exercise caution when using the Delete option.

To delete an entry in the Gentran File Tracking, type '4' in the Option field next to the entries that you want to delete and press **Enter**. The item that you are deleting will be displayed on the Gentran File Tracking Control (EDIX651-FMT01) panel. You must press **F11** to confirm the deletion of the record. This confirmation panel will be displayed for each entry that has been selected for deletion.

The following figure shows the selection of a File Tracking entry to be deleted:

```
EDIX650              Work with Gentran File Tracking           XXX  2005/11/15
FMT01              pgmlib: G3X4PGM     dtalib: G3X4TSTDTA           10:11:34

Position to                          Date              Time  00:00:00.00
Type option (and Information), press Enter.
  4=Delete  5=View  6=Print  30=Prt FileTrk  40=Purge FileTrk  41=Rtv FileTrk

Opt  Date       Time       User       Program    Subsystem  Description

__   2006/03/01  15:49:07  IH         EDIX407A   COMM       Status of Batch cha
__   2006/03/01  15:48:59  IH         EDIX050    PARTNER    Deleted Data Separa
__   2006/03/01  15:48:37  IH         EDIX050    PARTNER    Added Data Separati
4_   2006/03/01  15:48:27  IH         EDIX407A   COMM       Status of Batch cha
__   2006/03/01  15:47:56  IH         EDIX050    PARTNER    Added Data Separati
__   2006/03/01  15:47:33  IH         EDIX407A   COMM       Status of Batch cha
__   2006/03/01  15:46:49  IH         EDIX055    PARTNER    Reject Inbound Flag
__   2006/03/01  15:46:49  IH         EDIX055    PARTNER    Reject Outbound Fla
__   2006/03/01  15:46:46  IH         EDIX055    PARTNER    Reject Inbound Flag
                                                                      More...

Parameters or command
===>
F1=Help  F3=Exit  F9=Retrieve  F12=Cancel  F15=Sort
```

Figure 18.8 Work with Gentran File Tracking panel (EDIX650-FMT01) - Delete option

The confirmation displays as follows:

```
EDIX651               Gentran File Tracking Control            XXX 2005/11/15
FMT01                                                              10:13:26

Last Update Date/Time. . . . . .  2006/03/01   15:48:27.20
User . . . . . .  IH
Subsystem. . . . . .  COMM
Program Name/Description . . . . .  EDIX407A
File/Field Name. . . . . .  INBCTL     IQCSTS
Comm Profile ID. . . . . .  IHCOMM

Description of Change. . . . . .  Status of Batch changed

Item . . . . . .  Profile Seq. No: 0000537

Old Value
PI

New Value
RN



F1=Help  F11=Delete  F12=Cancel
```

Figure 18.9 Gentran File Tracking Control panel (EDIX651-FMT01)

Press **F11** to confirm the deletion process or **F12** to cancel the delete action.

Display the File Tracking Details

Select option '5' (View) to display all details for a particular File Tracking record. To view the File Tracking details from the Work with Gentran File Tracking panel, type '5' in the Option field next to the entry that you want to display and press **Enter**.

```
EDIX650              Work with Gentran File Tracking           XXX  2005/11/15
 FMT01              pgmlib: G3X4PGM     dtalib: G3X4TSTDTA           10:19:01

 Position to                          Date              Time  00:00:00.00
 Type option (and Information), press Enter.
   4=Delete  5=View  6=Print  30=Prt FileTrk  40=Purge FileTrk  41=Rtv FileTrk

Opt Date       Time       User       Program    Subsystem  Description

 __ 2006/03/01  15:01:32  XXX        EBDI588    TRNMAP       27 TRNSEG records
 __ 2006/03/01  15:01:32  XXX        EBDI588    TRNMAP      166 TRNELE records
 __ 2006/03/01  15:01:32  XXX        EBDI588    TRNMAP      1 TRNHDR records a
 _5 2006/03/01  11:29:58  XXX        EDIX504    TRNMAP     Max Use changed
 __ 2006/03/01  11:29:54  XXX        EDIX504    TRNMAP     Max Use changed
 __ 2006/03/01  16:15:49  XXX        EDIX513    TRNMAP     Deleted TRNELE reco
 __ 2006/03/01  16:15:42  XXX        EDIX506    TRNMAP     Added TRNELE record
 __ 2006/03/01  16:06:37  XXX        EDIX502    TRNMAP     1 TRNSEG records ad
 __ 2006/03/01  16:06:37  XXX        EDIX502    TRNMAP        2 TRNELE records
                                                                      More...

 Parameters or command
 ===>
 F1=Help  F3=Exit  F9=Retrieve  F12=Cancel  F15=Sort
```

Figure 18.10 Work with Gentran File Tracking panel (EDIX650-FMT01) View Detail

The Gentran File Tracking Control panel displays showing the entry that was selected.

```
EDIX651               Gentran File Tracking Control             XXX 2005/11/15
FMT01                                                               11:15:57

Last Update Date/Time. . . . . .  2006/03/01   11:29:58.45
User . . . . . .  XXX
Subsystem. . . . . .  TRNMAP
Program Name/Description . . . . .  EDIX504    Transaction Map Segments
File/Field Name. . . . . .  TRNSEG     TSDMUC
Transaction ID . . . . . .  P485041I
S/R. . . . . .  R
Description of Change. . . . . .  Max Use changed

Item . . . . . .  Seq:   100 Seg: BEG  A: H

Old Value
0000000

New Value
0000001



F1=Help  F12=Cancel
```

Figure 18.11 Gentran File Tracking Control panel (EDIX651-FMT01)

View File Tracking Detail

The Gentran File Tracking Control (EDIX651-FMT01) panel displays the detailed information for the selected File Tracking entry.

Field Definitions

Last Update Date/Time
The date and time when the selected item was modified

User
The user who modified the entry

Subsystem
The subsystem in which the change was made

Program Name/Description
The program and a description of the program through which the change was made

File/Field Name
The file and field name that was modified

Transaction ID
This label varies depending on which subsystem was modified.

The following table lists the label and definition that could be displayed for each subsystem.

Subsystem	Label	Description
PARTNER	Partner ID	Displays the Partner ID that was modified.
APPDEF	Application ID	Displays the Application ID that was modified.
TRNMAP	Transaction ID	Displays the Transaction ID that was modified.
TRNMAP	Split	Displays the Split file that was modified.
TRNMAP	Table ID	Displays the Table ID that was modified.
COMM	Comm Profile ID	Displays the Communications Profile ID that was modified.
COMM	MQ Link Name	Displays the MQ Link Name that was modified.
STANDARD	Standard	Displays the Standard that was modified.
ENVIRNMNT	User ID	Displays the User ID that was modified.
SYSTEM	Job Name	Displays the Job Name in the Scheduler that was modified.
SYSTEM	Error Message Number	Displays the Error Message Number that was modified.

Subsystem	Label	Description
SYSTEM	Function	Displays the system configuration value that was modified.
GENFILETRK	Function	Displays Gentran File Tracking Configuration.
VIEWPOINT	Document Name / S or R	Displays the Document name and direction for the viewpoint document that was modified.
VIEWPOINT	Return Code	Displays the return code of the automatic notification entry that was modified.
VIEWPOINT	Network ID	Displays the network ID that was modified in the viewpoint system.

S/R

This label varies depending on which subsystem was modified.

The following table lists the label and definition that could be displayed for each subsystem.

Subsystem	Label	Description
PARTNER	Partner Qualifier	Displays the Partner Qualifier that was modified.
APPDEF	S/R	Displays the direction of the Application (S=Send, R=Receive).
TRNMAP	S/R	Displays the direction of the Application (S=Send, R=Receive).
TRNMAP	Sub-Split	Displays the sub-split that was cleared.
TRNMAP	Type of Table	Displays the type of table that was modified.
COMM	Session Name	Displays the session name that was modified.
COMM	MQ Queue Name	Displays the MQ Queue name that was modified.
STANDARD	Transaction	Displays the Transaction that was modified.
STANDARD	Transaction/ Segment	Displays the Transaction/Segment combination that was modified.
STANDARD	Segment/ Element ID	Displays the Segment/Element that was modified.
STANDARD	Trans/Seg/ Element	Displays the Transaction/Segment/Element combination that was modified.
STANDARD	Element ID	Displays the Element ID that was modified.

Subsystem	Label	Description
ENVIRNMNT	Name	Displays the name of the user whose environment was modified.
SYSTEM	Sequence	Displays the sequence number of the job that was modified in the Job Scheduler.
SYSTEM	Date/Time	Displays the date and time of the instance that was modified in the Job Scheduler.
VIEWPOINT	Partner Id	Displays the Partner ID that is associated with the document ID that was modified.
VIEWPOINT	Process / Command Name	Displays the Process and Command name that was modified for the Automatic Notification .

Description of Change

A brief description of what was modified

Item

Additional information about the item that was modified when the other description lines cannot fully describe the item

Old Value

The old value of the item prior to the modification

New Value

The new value of the item after the modification has been made

Print the Gentran File Tracking Report

The Gentran:Server system provides you with the ability to print a report containing information about File Tracking entries. There are two methods of printing the File Tracking information. You can either print one particular item or you can print multiple items based upon selection criteria.

To print a single entry, select option '6' (Print) from EDIX650 (FMT01), and the PRTFILETRK command is executed. It will produce report EBDI663, providing a printout of the particular item selected.

```
EDIX650               Work with Gentran File Tracking           XXX  2006/03/01
 FMT01               pgmlib: G3X4PGM     dtalib: G3X4TSTDTA           14:09:28

 Position to                          Date 2006/03/01   Time  11:33:14.13
 Type option (and Information), press Enter.
   4=Delete  5=View  6=Print  30=Prt FileTrk  40=Purge FileTrk  41=Rtv FileTrk

Opt Date       Time       User       Program    Subsystem  Description

    2006/03/01  11:33:14  IH         EDIX407A   COMM       Status of Batch cha
  6 2006/03/01  11:31:59  IH         EDIX407A   COMM       Status of Batch cha
    2006/03/01  11:31:53  IH         EDIX031    PARTNER    Expect an AK1, B5 o
    2006/03/01  11:31:53  IH         EDIX031    PARTNER    Acknowledge Specifi
    2006/03/01  11:31:53  IH         EDIX031    PARTNER    Group Acknowledgmen
    2006/03/01  11:31:53  IH         EDIX031    PARTNER    GS02 Applications S
    2006/03/01  11:30:51  IH         EDIX031    PARTNER    Send Group Outbound
    2006/03/01  11:28:14  IH         EDIX407A   COMM       Status of Batch cha
    2006/03/01  11:22:43  IH         EDIX407A   COMM       Status of Batch cha
                                                                       More...

 Parameters or command
 ===>
 F1=Help  F3=Exit  F9=Retrieve  F12=Cancel  F15=Sort
```

Figure 18.12 Printing one entry from the Gentran File Tracking System

The PRTFILETRK command will print multiple entries based on the selection criteria. This print option can be accessed from the Gentran:Server File Tracking menu (GENFILETRK) or the Work with Gentran File Tracking panel (EDIX650) using option '30'.

From the GENFILETRK menu, select option '3' (Print File Tracking Entry Report).

```
GENFILETRK             Gentran:Server File Tracking 3.4
                                                          System:   IV5R2
 Select one of the following:

      1. Work with Gentran File Tracking
      2. Gentran File Tracking Configuration
      3. Print File Tracking Entry Report          (PRTFILETRK)
      4. Purge Gentran File Tracking Files         (PRGFILETRK)
      5. Retrieve Gentran File Tracking Files      (RTVFILETRK)

     90. Sign off









 Selection or command
 ===>  3

 F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Enter the Print Options

Gentran:Server provides several selection options that allow you to selectively print all of some of the entries in the File Tracking system. The system builds the selection criteria based on the combined values entered in the fields on the Print File Tracking Entries (PRTFILETRK) panel.

The selection criteria available are:

- Age Selection Type
- User Id to Print
- Subsystem to Print
- Program to Print

You can combine the print selection criteria with an "age" parameter. The "age" parameter reduces the selection of file tracking entries that are printed. You may select to search for records using:

- Current Date
- Date Range
- Number of Hours from the current hour
- Days Old Range

NOTE

SEE the File Tracking Entries Report (EBDI663) in “Reports” on page 30 for more information about the report.

To run the Print File Tracking Entries Report (GENFILETRK) command, specify the selection criteria and press **Enter**.

```
                  Print File Tracking Entries (PRTFILETRK)

Type choices, press Enter.

Age Selection Type . . . . . .                *DATE, *DAYS, *HOURS, *ALL
User Id to Print . . . . . .   *ALL           *ALL, Name
Subsystem to Print . . . . . .   *ALL         *ALL, Name
Program to Print . . . . . .   *ALL           *ALL, Name

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Figure 18.13 Print File Tracking Entries (PRTFILETRK) Command

Parameter Definitions

Age Selection Type

A 6-position alphabetic field used to define an "age" record selection criteria for which you want to print File Tracking entries. After selecting one of the following valid values, the system displays a prompt line with an 8-position entry field enabling you to further define your selection. Valid values for this field are:

*DATE	Enables you to specify File Tracking records for a specific date, date range, or the current date. Only records within the specified date range are printed.
*DAYS	You can specify the number of days before the current date or any given day. Only records within the specified number of days are printed. Values are 0–999. Enter a "from" number and a "to" number. For example, if you entered '0' to '3', records 0–3 days old would be printed.
*HOURS	You can specify the number of hours to be included, starting from the current hour. Records between the current hour and the number of hours you specified are printed. Values are 0–24. For example, if you only want to include data for items that were changed in the last 2 hours, specify 2. File Tracking entries 0–2 hours old are printed.
*ALL	All records are included.

If you type a value of '*DATE' or '*DAYS' in the Age Selection Type field and press **Enter**, the system displays the following prompt lines:

From #, *CURRENT, or Date..____

To #, *CURRENT, or Date..____

If you type a value of '*HOURS' in the Age Selection Type field and press **Enter**, the system displays the following prompt line:

Hours to Include…____

User Id to Print

This is a 10-position alphanumeric field used to enter a specific Gentran user. By entering a specific user, only items modified by that user will print. Type *ALL to select all users.

Subsystem to Print

This is a 10-position alphabetic field used to enter a specific Gentran subsystem. By entering a specific subsystem, only items in that subsystem will print. Type *ALL to select all subsystems.

Program to Print

This is a 10-position alphanumeric field used to enter a specific Gentran program. By entering a specific program, only items that were changed using that program will print. Type *ALL to select all programs.

Run Interactively

This field is accessed by pressing **F10** to display additional parameters. It allows you to perform the process interactively. If you elect to run the command in interactive mode, you can monitor system messages that occur during processing. However, if you choose this option, your terminal is locked until the process is complete.

Schedule Job

This field is accessed by pressing **F10** to display additional parameters. It allows you to schedule the job to be run at a later time using the Gentran job scheduler.

Purge the File Tracking Entries (PRGFILETRK)

Each time a field is changed in a Gentran file that is marked to be tracked, a record is written in the Gentran File Tracking system. These records remain until you purge them. Gentran:Server provides a feature for purging the Gentran File Tracking system of old occurrences. This feature allows you to purge groups of records by using the selection criteria.

To purge the Gentran File Tracking files, select option '4' (Purge Gentran File Tracking Files) from the GENFILETRK menu and press **Enter**. The PRGFILETRK command can also be invoked from the Work with Gentran File Tracking panel (EDIX650) using option '40' (Purge FileTrk).

```
GENFILETRK            Gentran:Server File Tracking 3.4
                                                          System:   IV5R2
 Select one of the following:

      1. Work with Gentran File Tracking
      2. Gentran File Tracking Configuration
      3. Print File Tracking Entry Report         (PRTFILETRK)
      4. Purge Gentran File Tracking Files        (PRGFILETRK)
      5. Retrieve Gentran File Tracking Files     (RTVFILETRK)

     90. Sign off









 Selection or command
 ===>  4

 F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Figure 18.14 Access the Purge Gentran File Tracking Files (PRGFILETRK) panel

Type your selection criteria on the PRGFILETRK panel and press **Enter** to run. Press **F1** (Help) for detailed information about any of the parameters.

```
                  Purge Gentran File Tracking (PRGFILETRK)

Type choices, press Enter.

Date to Purge Before . . . . . .                Date, *CURRENT, *DAYS, *ALL
User . . . . . .   *ALL          *ALL, User Name
              + for more values
Subsystem Name . . . . . .   *ALL          *ALL, subsystem name
Schedule Job?  . . . . . .   *NO           *YES, *NO
Purge Method?  . . . . . .   *NONE         *TAPE, *SAVF, *NONE, *CL
OR Days to Retain on File  . . .   0        Number

                          Additional Parameters

Run Interactively? . . . . . .   *NO           *YES, *NO
Reorganize Files?  . . . . . .   *YES          *YES, *NO
Process Name . . . . . .   PRGFILETRK

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Figure 18.15 Purge Gentran File Tracking (PRGFILETRK) panel

You can execute the Purge Gentran File Tracking command in one of three modes:

- Press **Enter** to immediately submit the job to batch to run (this is the default).
- Press **F10** (Additional Parameters) and type '*YES' in the Run Interactively field to run the job interactively (your terminal will be locked until the job completes).
- Press **F10** (Additional Parameters) and type '*YES' in the Job Scheduler field to run the job at a later time.

Parameter Definitions

Date to Purge Before

A 10-position alphanumeric field used to define a purge date. You can enter a date or specify that you want everything before the current date (*CURRENT) purged. Type *ALL to purge all entries, including the current date.

User

This is a 10-position alphanumeric field used to enter a specific Gentran user. By entering a specific user, only entries modified by that user will be purged. Type *ALL to select all users.

Subsystem

This is a 10-position alphabetic field used to enter a specific Gentran subsystem. By entering a specific subsystem, only those entries in that subsystem will be purged. Type *ALL to select all subsystems.

Schedule Job?

This alphanumeric field is used to designate whether you want to run this option by scheduling it as a job. *NO is the default for this field.

Purge Method?

An alphanumeric field used to indicate whether the data should be saved to tape or to a save file. If you want the data to be saved to tape, specify '*TAPE' or '*CL'. Specify '*CL' when using this command within a CL. If you want to save the data to a save file, specify '*SAVF'. If you want the data purged without saving it, specify '*NONE'. The default is '*NONE'.

Additional Parameters

Run Interactively?

This parameter allows you to perform the purge process interactively. If you select to run the command in interactive mode (*YES), you can monitor system messages that occur during processing. However, you are locked out of the system from the terminal where the job was submitted until the process is complete.

Reorganize Files?

An alphanumeric field used to indicate whether the physical file(s) should be reorganized using the RGZPFM command. Valid values are:

*YES	Reorganize files immediately after the purge has completed.
*NO	Reorganize files at a later time.

Process Name

This is used to label the command from the Message Center. The default for this prompt is the command name, but can be changed to any 15-byte field to help further identify this process. The process name displays on the first panel of the Work with Message Center (EDIX600) panel and always tracks under this name.

Retrieve the Gentran File Tracking Entries (RTVFILETRK)

The Retrieve Gentran File Tracking Files (RTVFILETRK) command allows you to restore File Tracking entries that have been previously purged to tape or save file using the PRGFILETRK command.

To retrieve File Tracking files, select option '5' (Retrieve Gentran File Tracking Files) from the GENFILETRK menu and press **Enter**. The RTRFILETRK command can also be invoked from the Work with Gentran File Tracking (EDIX650) panel using option '41' (Rtv FileTrk).

```
GENFILETRK            Gentran:Server File Tracking 3.4
                                                          System:   IV5R2
 Select one of the following:

      1. Work with Gentran File Tracking
      2. Gentran File Tracking Configuration
      3. Print File Tracking Entry Report         (PRTFILETRK)
      4. Purge Gentran File Tracking Files        (PRGFILETRK)
      5. Retrieve Gentran File Tracking Files     (RTVFILETRK)

     90. Sign off









 Selection or command
 ===>  5

 F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
```

Figure 18.16 Accessing the Retrieve Gentran File Tracking Files (TRVFILETRK) command

Type your selection criteria on the RTVFILETRK command and press **Enter** to run. Press **F1** (Help) for detailed information about any of the parameters.

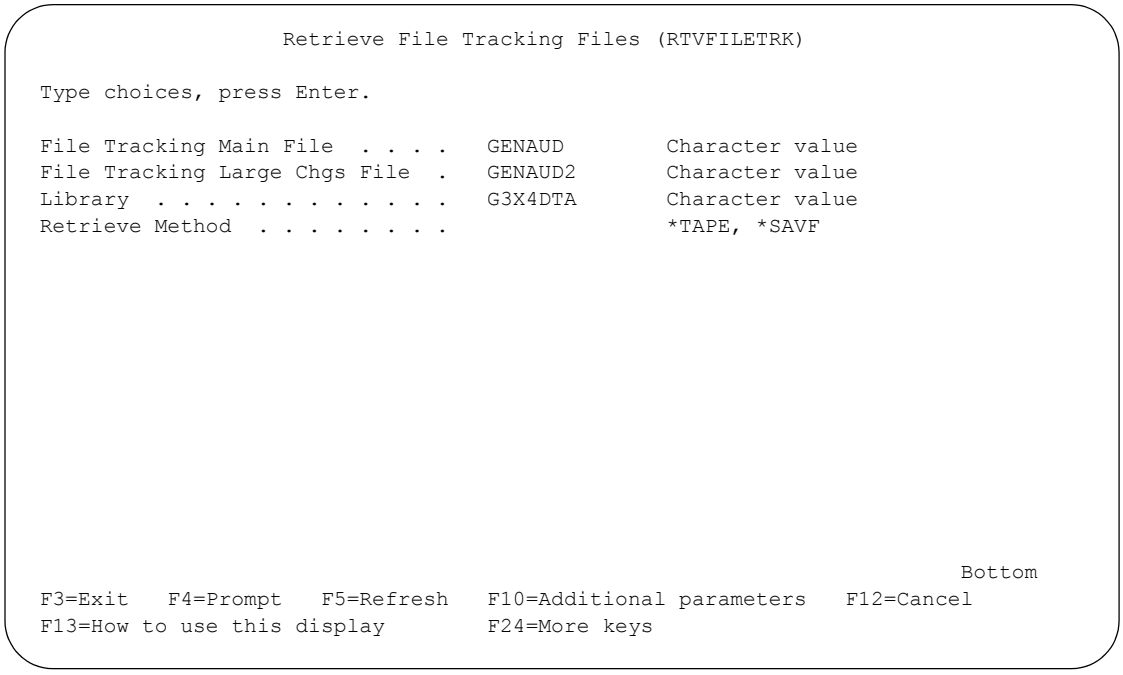


Figure 18.17 Retrieve File Tracking Files (RTVFILETRK) panel

You can execute the Retrieve Gentran File Tracking command in one of three modes:

- Press **Enter** to immediately submit the job to batch to run (this is the default).
- Press **F10** (Additional Parameters) and type '*YES' in the Run Interactively field to run the job interactively (your terminal will be locked until the job completes).
- Press **F10** (Additional Parameters) and type '*YES' in the Job Scheduler field to run the job at a later time.

Parameter Definitions

File Tracking Main File

This file contains all data that is stored for the File Tracking system (GENAUD).

File Tracking Large Chgs File

This file contains all data where the old and/or new value is larger than 50 bytes. It is used in conjunction with the main tracking file (GENAUD2).

Library

A 10-position alphanumeric field used to indicate the library name on your system where your Gentran Data files reside.

Retrieve Method

An alphanumeric field used to indicate whether the data should be retrieved from tape or save file. If you want the data to be retrieved from tape, specify '*TAPE.' To retrieve the data from save file, specify '*SAVF'.

Reports

EBDI663 - Gentran File Tracking Entries Report

Contents of the Report

The Gentran File Tracking Entries Report contains information about File Tracking entries that have been recorded.

How to Identify the Report

The identifier 'EBDI663' is printed in the upper left corner of the report. The report title, "Gentran File Tracking Entries Report" is printed in the center at the top of the report. The identifier 'EBDI663' is also printed in the User Data field associated with the spooled report in the Output Queue.

How to Generate the Report

This is a user-generated report. It is submitted in one of three ways:

- From the GENFILETRK menu, by selecting option '3'.
- From the Work with Gentran File Tracking panel (EDIX650-FMT01), by selecting option '30' (PRTFILETRK)
- From the Command Line, by entering the 'PRTFILETRK' command.

In all cases, you can use selection criteria to limit the information on the report by selecting any of the following combinations:

- Age Selection Type
- User Id
- Subsystem
- Program

Special Considerations

Like all other Gentran:Server reports, the Gentran File Tracking Entries Report automatically goes to the iSeries Output Queue defined for the user running the job. (SEE the "Environment Control" chapter in the *User Guide* for instructions to set up a user's Output Queue.)

Sample Report

```
EBDI663          RUN DATE 2006/03/01          GENTRAN FILE TRACKING ENTRIES REPORT                    RUN TIME 17:20:56    PAGE    1
                                                      SELECTION CRITERIA
                                                      ------------------
                    USER:  *ALL                  SUBSYSTEM: *ALL                          PROGRAM:  *ALL
                AGE SELECTION: *DATE             FROM 2006/03/01 TO 2006/03/01
DATE            TIME      USER       SUBSYSTEM   PROGRAM   DESCRIPTION                    FILE      FIELD
--------------------------------------------------------------------------------------------------------------
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . A003070               S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . A004010               S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . A004020               S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . DATEIN                S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . MKKDATEIN             S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . MKKIB12.14            S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . A003070               S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . A004010               S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . A004020               S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . DATEIN                S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . MKKDATEIN             S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . MKKIB12.14            S/R. . . . . . . . . . . . . .R
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . MKKDATEOUT            S/R. . . . . . . . . . . . . .S
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . MMMM                  S/R. . . . . . . . . . . . . .S
2006/03/01  10:49:32  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . TEST                  S/R. . . . . . . . . . . . . .S
2006/03/01  10:49:33  MKK        TRNMAP      EBDI589   Map re-synch performed          TRNELE    TRNELE
Transaction ID . . . . . . . . . TESTTEST              S/R. . . . . . . . . . . . . .S
2006/03/01  10:52:08  MKK        STANDARD    EDIX110   Version Update Allowed Changed  STDVER    VTRLOC
Standard . . . . . . . . . . . . 004010                        NEW VALUE: N
   OLD VALUE: Y
EBDI663          RUN DATE 2006/03/01          GENTRAN FILE TRACKING ENTRIES REPORT                    RUN TIME 17:20:56    PAGE    1
                                                      SELECTION CRITERIA
                                                      ------------------
                    USER:  *ALL                  SUBSYSTEMSterling Commerce               PROGRAM:  *ALL
                AGE SELECTION: *DATE             FROM 2006/03/01 TO 2006/03/01
DATE            TIME      USER       SUBSYSTEM   PROGRAM   DESCRIPTION                    FILE      FIELD
--------------------------------------------------------------------------------------------------------------
2006/03/01  13:33:34  XXX        COMM        EDIX403   Added new Session Control       COMCTL    COMCTL
Comm Profile ID. . . . . . . . . MAZFTP                Session Name . . . . . . . . .RG
2006/03/01  13:34:32  XXX        COMM        EDIX403   Deleted Session Control         COMCTL    COMCTL
Comm Profile ID. . . . . . . . . MAZFTP                Session Name . . . . . . . . .RG
   OLD VALUE: 015 C
                debug
   NEW VALUE:
2006/03/01  13:34:38  XXX        COMM        EDIX403   Added new Session Control       COMCTL    COMCTL
Comm Profile ID. . . . . . . . . MAZFTP                Session Name . . . . . . . . .RG
2006/03/01  13:34:44  XXX        COMM        EDIX403   Deleted Session Control         COMCTL    COMCTL
Comm Profile ID. . . . . . . . . MAZFTP                Session Name . . . . . . . . .RG
   OLD VALUE: 025 C
                cd
                                                                cd mazdir
```

Appendix

A Modems: Configuration and Troubleshooting

Overview

The following is a list of ***recommended*** modems for use with Gentran:Server for iSeries Communications Module. These modems have been tested by Sterling Commerce support and were known to work successfully at the time of testing. However, due to rapid changes in technology and customer requests, the revision levels of these modems change frequently. Due to these constant revisions in the modem firmware, it is difficult for Sterling Commerce support to note these variations. Use the information that follows as a guideline for the Communications Module modem requirements.

The following chart lists modems according to speed, dialing method, and supported protocol.

Speed	Modem	Dialing Method	Bisync Protocols	SNA Protocols	Async Protocols	Async Protocols via X.25
2400 bps	UDS 201 C	Manual	X	X		X
	UDS 201 C	UDS 801 ACU	X	X		
	UDS 201 C/D	Manual	X	X		X
	UDS 201 C/D	UDS Bisync(2)	X			
	UDS 2140	Manual	X	X		X
	UDS 2140	UDS 801 ACU	X	X		
	UDS 2140	UDS Bisync(2)	X			
	IBM 5853	Manual	X	X	X	X
	IBM 5853	V.25bis SDLC	X	X		X
	IBM 5853	AT Commands			X	
4800 bps	UDS 208 B	Manual	X	X		X
	UDS 208 B	UDS 801 ACU	X	X		
	UDS 208 B/D	Manual	X	X		X
	UDS 208 B/D	UDS Bisync(2)	X			
	UDS 2860	Manual	X	X		X
	UDS 2860	UDS 801 ACU	X	X		
	UDS 2860	UDS Bisync(2)	X			
	UDS 9648T(1)	Manual	X	X		X
	UDS 9648T(1)	V.25bis SDLC	X	X		X

Speed	Modem	Dialing Method	Bisync Protocols	SNA Protocols	Async Protocols	Async Protocols via X.25
9600 bps	UDS V.3225	Manual	X	X	X	X
	UDS V.3225	V.25bis SDLC	X	X		X
	UDS V.3225	AT Commands			X	
	UDS V.3227	Manual	X	X	X	X
	UDS V.3227	V.25bis SDLC	X	X		X
	UDS V.3227	AT Commands			X	
	UDS V.3229	Manual	X	X	X	X
	UDS V.3229	V.25bis SDLC	X	X		X
	UDS V.3229	AT Commands			X	
	UDS V.34	Manual	X	X	X	X
	UDS V.34	V.25bis SDLC	X	X		X
	UDS V.34	AT Commands			X	
	IBM 7855-10	Manual	X	X	X	X
	IBM 7855-10	V.25bis SDLC	X	X		X
	IBM 7855-10	V.25bis Async			X	
	IBM 7855-10	AT Commands			X	
	IBM 7857	Manual	X	X	X	X
	IBM 7857	V.25bis SDLC	X	X		X
	IBM 7857	V.25bis Async			X	
	IBM 7857	AT Commands			X	

(1) The UDS 9648T modem can be configured to operate in Bell 208 mode. Bell 208 mode works with Gentran:Server; however, the modem is not proven to work in any other mode.

(2) The UDS Bisync dial method will work and can be used, ***but it is not recommended*** because it can create undesirable results.

Configuration Requirements

The Communications Module requirements for modem settings will vary depending on the protocol being used (SYNC, ASYNC) and the requirements of the remote.

Autodialing will be performed by either the iSeries communications support or by Gentran, depending on the protocol and profile you are using.

For synchronous V.25bis dialing modems, the following modem configuration settings are necessary:

- V.25bis dialing using SDLC, HDLC, or bit-oriented option
- V.25bis dialing using the ASCII character set
- NRZ data encoding

Troubleshooting Problems

There are many simple things that can cause your connection to a remote system to fail. The ideas and figure that follow provide some simple troubleshooting items to look for if you have problems with a modem.

- Is the modem connected to a working telephone line (e.g. do you hear a dial tone if you plug the line into a phone)?
- Is the telephone line plugged into the proper outlet on the back of the modem?
- Do you need to use an access code (9, 8, etc.) to dial out of a PBX switch?
- Is the modem connected to the correct communications line on the iSeries? When you start a communication session or manually vary on the line, you should see the “Terminal Ready” (DTR or TR) light illuminate.

Once you have checked the above items and established that they are all set up and working properly, check the following items:

- Is your modem dialing? Check by having the modem dial a number you can monitor (e.g. a desk phone).
- If the modem is dialing the line, determine if it is getting to the remote system’s modem by turning your modem’s speaker on and listening as it attempts to connect.

If the modem does not connect once it has accessed a remote modem, it is probably not configured correctly, or is not compatible with the remote modem. Check the following item:

- Speak to the remote system’s support personnel to determine if your modem is compatible with their modem, or if there are any special configuration changes to be made to your modem. If you are not sure how to make the changes to your modem, contact the modem’s manufacturer for assistance.

The following figure summarizes these troubleshooting ideas.

Problem:	**Check for:**
Modem is not dialing	❒ Dial tone? ❒ Access code required? ❒ Telephone cable plugged into correct port? ❒ Modem connected to correct line on iSeries?
Modem is dialing but not connecting	❒ Dialing the correct number? ❒ Compatible with remote modem? ❒ Special configuration requirements for the remote system?

Figure A.1 Problem Solving Checklist

NOTE

Product support will give you all of the above suggestions for correcting modem connectivity problems, but they cannot help you configure your modem over the telephone.

Appendix

B Translating between ASCII and EBCDIC

The tables in this appendix illustrate the EBCDIC-to-ASCII translation that is applied to all outbound data transmitted via the iSeries' asynchronous ICF support, and the ASCII-to-EBCDIC translation that is applied to all inbound data received via the iSeries asynchronous ICF support.

Outbound Translation Table (EBCDIC-to-ASCII)

The following table illustrates the EBCDIC-to-ASCII translation that is applied to all outbound data transmitted via the iSeries' asynchronous ICF support. When using this table, the outer axes of the chart refer to the hexadecimal values of the EBCDIC representations of the characters being transmitted. The inner portion of the chart shows the hexadecimal values of the ASCII characters that are transmitted on the communication line.

For example, an outbound EBCDIC hex `3F` is translated to an ASCII hex `1A`.

NOTE

Blank squares that appear in the table, such as hex `9C`, represent characters that are translated to hex `FF`.

Low-Order Hex Digit \ High-Order Hex Digit	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	00	10			20	26	2D						7B	7D	5C	30
1	01	11					2F		61	6A	7E		41	4A		31
2	02	12		16					62	6B	73		42	4B	53	32
3	03	13							63	6C	74		43	4C	54	33
4									64	6D	75		44	4D	55	34
5	09	0A	0A						65	6E	76		45	4E	56	35
6		08	17						66	6F	77		46	4F	57	36
7	7F		1B	04					67	70	78		47	50	58	37
8		18							68	71	79		48	51	59	38
9		19						60	69	72	7A		49	52	5A	39
A					5B	5D	7C	3A								
B	0B				2E	24	2C	23								
C	0C	1C		14	3C	2A	25	40								
D	0D	1D	05	15	28	29	5F	27								
E	0E	1E	06		2B	3B	3E	3D								
F	0F	1F	07	1A	21	5E	3F	22								

Inbound Translation Table (ASCII-to-EBCDIC)

The following table illustrates the ASCII-to-EBCDIC translation that is applied to all inbound data received via the iSeries asynchronous ICF support. When using this table, the outer axes of the chart refer to the hexadecimal values of the ASCII representations of the characters being received on the communication line. The inner portion of the chart shows the hexadecimal values of the EBCDIC characters that are presented to the communication application.

For example, an inbound ASCII hex `1A` would be translated to an EBCDIC hex `3F`.

	High-Order Hex Digit																
Low-Order Hex Digit		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	0	00	10	40	F0	7C	D7	79	97	00	10	40	F0	7C	D7	79	97
	1	01	11	4F	F1	C1	D8	81	98	01	11	4F	F1	C1	D8	81	98
	2	02	12	7F	F2	C2	D9	82	99	02	12	7F	F2	C2	D9	82	99
	3	03	13	7B	F3	C3	E2	83	A2	03	13	7B	F3	C3	E2	83	A2
	4	37	3C	5B	F4	C4	E3	84	A3	37	3C	5B	F4	C4	E3	84	A3
	5	2D	3D	6C	F5	C5	E4	85	A4	2D	3D	6C	F5	C5	E4	85	A4
	6	2E	32	50	F6	C6	E5	86	A5	2E	32	50	F6	C6	E5	86	A5
	7	2F	26	7D	F7	C7	E6	87	A6	2F	26	7D	F7	C7	E6	87	A6
	8	16	18	4D	F8	C8	E7	88	A7	16	18	4D	F8	C8	E7	88	A7
	9	05	19	5D	F9	C9	E8	89	A8	05	19	5D	F9	C9	E8	89	A8
	A	15	3F	5C	7A	D1	E9	91	A9	15	3F	5C	7A	D1	E9	91	A9
	B	0B	27	4E	5E	D2	4A	92	C0	0B	27	4E	5E	D2	4A	92	C0
	C	0C	1C	6B	4C	D3	E0	93	6A	0C	1C	6B	4C	D3	E0	93	6A
	D	0D	1D	60	7E	D4	5A	94	D0	0D	1D	60	7E	D4	5A	94	D0
	E	0E	1E	4B	6E	D5	5F	95	A1	0E	1E	4B	6E	D5	5F	95	A1
	F	0F	1F	61	6F	D6	6D	96	07	0F	1F	61	6F	D6	6D	96	07

Glossary

Introduction

This glossary includes terms and definitions from the IBM Vocabulary for Data Processing, Telecommunication, and Office Systems, GC20-1699. Definitions from the American National Dictionary for Information Processing are identified by an asterisk (*). Definitions from draft proposals and working papers under development by the International Standards Organization, Technical Committee 97, Subcommittee 1, are identified by the symbol (TC97).

Definition of Terms

ACB

Access method control block.

ACB Name

(1) The name of an ACB macro instruction. (2) A name specified in the ACBNAME parameter of an APPL statement. Contrast with network name.

Note: This name allows an ACF/VTAM application program that is used in more than one domain to specify the same application program identification (pointed to by the APPLID parameter of the program's ACB statement) in each copy.

ACF/VTAM knows the program by both its ACB name and its network name (the name of the APPL statement). Program users within the domain can request a session using the ACB name or the network name; program users in other domains must use the network name (which must be unique in the network).

ACF

Advanced Communication Function.

ACF/NCP

Advanced Communication Function for the Network Control Program.

ACF/VTAM

Advanced Communication Function for the Virtual Telecommunication Access Method.

ACF/VTAM application program

A program that has opened an ACB to identify itself to ACF/VTAM and can now issue ACF/VTAM macro instructions.

ACF/VTAM definition

The process of defining the user application network to ACF/VTAM and modifying IBM-defined characteristics to suit the needs of the user.

ACF/VTAM definition library

The operation system files that contain the definition statements and start options filed during ACF/VTAM definition.

ACF/VTAM operator

A person or program authorized to issue ACF/VTAM operator commands. See domain operator, program operator, and network operator (2).

ACF/VTAM operator command

A command used to monitor or control an ACF/VTAM domain.

Active

In ACF/VTAM, pertaining to a major or minor node for which a VARY ACT command has been issued. Also, a major or minor node in a list of major nodes to be activated when ACF/VTAM is started. Contrast with inactive.

Adjacent NCPs

Network control programs (NCPs) that are connected by sub-area links with no intervening NCPs.

Adjacent Nodes

Two nodes that are connected by one or more data links with no intervening nodes.

Advanced Communication Function for the Network Control Program (ACF/NCP)

A program product that provides communication controller support for single-domain and multiple-domain networks, and, optionally, multiple-network capability.

Application

An in-house program designed to process specific jobs. This program is formatted by the customer for their business needs. (Example, payroll.)

Application Program

(1) A program written for or by a user that applies to the user's work. (2) A program used to connect and communicate with stations in a network, enabling users to perform application-oriented activities.

Application Program Identification

The symbolic name by which an application program is identified to ACF/VTAM.

Note: It is specified in the APPLID parameter of the ACB macro instruction. It corresponds to the ACBNAME parameter in the APPL statement or, if ACBNAME is defaulted, to the name of the APPL statement.

Application Program Major Node

In ACF/VTAM, a member of the ACF/VTAM definition library that contains one or more APPL statements, each representing an application program.

Automatic Logon

A process by which ACF/VTAM creates a session-initiation request (logon) for a session between a secondary logical unit (other than a secondary application program) and a designated primary logical unit whenever the secondary logical unit is not in session with, or queued for a session with, another primary logical unit. See also controlling application program and controlling logical unit.

Autoanswer

Autoanswer refers to the computer's capability in conjunction with Gentran:Server for iSeries to wait and automatically answer in-coming calls when remote sites dial in.

Autodial

Autodial refers to the computer's capability in conjunction with Gentran:Server for iSeries to automatically dial a remote site on a switched line in order to establish a connection.

Auto Call Unit

This term refers to an 801C Bell auto call unit or compatible unit. The auto call unit attaches to a communication port and a synchronous modem to provide dial out capabilities over a public telephone network. Gentran:Server for iSeries will support the use of an auto call unit in the profile definition.

Basic Information Unit (BIU)

In SNA, the unit of data and control information that is passed between half-sessions. It consists of a request/response header (RH) followed by a request/response unit (RU).

Basic Transmission Unit (BTU)

In SNA, the unit of data and control information passed between path control components. A BTU can consist of one or more path information units (PIUs).

Batch

A set of related data collected by, or added to Gentran:Server for iSeries. This is typically an application file that has been added to the outbound queue or extracted from the inbound queue.

Batch Processing

A type of data processing operation and data communication transmission where related transactions are grouped together and transmitted for processing. Usually by the same computer and under the same application; generally regarded as non–real time data traffic consisting of large files; type of data traffic where network response time is not critical; compare with interactive (processing).

Begin Bracket

In SNA, the value (binary 1) of the begin-bracket indicator in the request header (RH) of the first request in the first chain of a bracket; the value denotes the start of a bracket. Contrast with end bracket. See also bracket.

Bidder

In SNA, the LU-LU half-session defined at session activation as having to request and receive permission from the other LU-LU half-session to begin a bracket. Contrast with first speaker. See also bracket protocol.

Binary Synchronous Communication (BSC)

(1) Communication using binary synchronous line discipline. (2) A uniform procedure, using a standardized set of control characters and control character sequences, for synchronous transmission of binary-coded data between stations.

Binary Synchronous Transmission

Data transmission in which synchronization of characters is controlled by timing signals generated at the sending and receiving stations.

Bind

In SNA, a request to activate a session between two logical units.

Blank Compression

A method of replacing long strings of contiguous blanks with control characters indicating the number of blanks removed. Commonly used to shorten the amount of data sent over telecommunication lines.

Blank Truncation

A method of dropping trailing blanks from fixed length data records before sending data over telecommunication lines. Optionally used to shorten the amount of data sent over telecommunication lines.

BTAM

Basic **T**elecommunication **A**ccess **M**ethod. A standard IBM access method that provides high-level tools for the creation of bisync applications.

BTAM ID Verification

An optional BTAM feature which allows for the exchange and verification of host site and/or remote site IDs. Available for switched lines only, the feature provides for added security. Both the host site and the remote site must be capable of implementing the option.

Bracket

In SNA, one or more chains of request units (RUs) and their responses that are exchanged between the two LU-LU half-sessions and that represent a transaction between them. A bracket must be completed before another bracket can be started. Examples of brackets are data base inquiries/replies, update transactions, and remote job entry output sequences to work stations. See also begin bracket and end bracket.

Bracket Protocol

In SNA, a data flow control protocol in which exchanges between the two LU-LU half-sessions are achieved through the use of brackets, with one LU designated at session activation as the first speaker and the other as the bidder. The bracket protocol involves bracket initiation and termination rules. See also bidder and first speaker.

BSC

Binary synchronous communication.

Buffer

A portion of storage for temporarily holding input or output data.

Channel Adapter

A communication controller hardware unit used to attach the controller to a System/360 or a System/370 channel.

Channel-attached

(1) Pertaining to the attachment of devices directly by data channels (I/O channels) to a computer. Contrast with link-attached. (2) Pertaining to devices that are attached to a controlling unit by cables, rather than by telecommunication lines.

Channel-attached 3705

An IBM 3705 Communication Controller that is attached to a host processor by means of a data channel. Contrast with link-attached 3705.

Character-coded

In ACF/VTAM, pertaining to commands (such as LOGON or LOGOFF) entered by an end user and sent by a logical unit in character form. The character-coded command must be in the syntax defined in the user's unformatted system services definition table. Synonym for unformatted. Contrast with field-formatted.

Cluster Controller

A device that can control the input/output operations of more than one device connected to it. A cluster controller may be controlled by a program stored and executed in the unit; for example, the IBM 3601 Finance Communication Controller. Or it may be controlled entirely by hardware; for example, the IBM 3272 Control Unit.

Command

(1) A request from a terminal for the performance of an operation or the execution of a particular program. (2) In SNA, any field set in the transmission header (TH), request header (RH), and sometimes portions of a request unit, that initiates an action or that begins a protocol; for example: (a) Bind Session (session-control request unit), a command that activates an LU-LU session, (b) the change-direction indicator in the RH of the last RU of a chain, (c) the virtual route reset window indicator in a FID4 transmission header. See also ACF/VTAM operator command.

Communication Common Carrier

In the USA and Canada, a public data transmission service that provides the general public with transmission service facilities; for example, a telephone or telegraph company.

Communication Control Unit

A communication device that controls the transmission of data over lines in a network. Communication control units include transmission control units (such as the 2702 Transmission Control Unit) and communication controllers (such as the 3705 Communication controller).

Communication Controller

A type of communication control unit whose operations are controlled by one or more programs stored and executed in the unit. For example, the IBM 3705 Communication Controller. It manages the details of line control and the routing of data through a network.

Communication Line

Term for telecommunication line and transmission line.

Communication Stamp

A number that uniquely identifies each session occurrence of those batches on the Gentran:Server for iSeries inbound and outbound queues.

Compression

See blank compression.

Connect:Supertracs (BSC)

An online telecommunication program that runs under a IBM 370 machine architecture and manages data collection and data transmission between the host and remote terminals and computers using BSC 3780/2780 protocol.

Connect:Supertracs (SNA)

An online telecommunication program that runs under a 370 machine architecture and manages data collection and data transmission between the host and remote terminals and computers using SNA protocols.

Controlling Application Program

In ACF/VTAM, an application program with which a secondary logical unit (other than an application program) is automatically put in session whenever the secondary logical unit is available. See also automatic logon and controlling logical unit.

Controlling Logical Unit

In ACF/VTAM, a logical unit with which a secondary logical unit (other than an application program) is automatically put in session whenever the secondary logical unit is available. A controlling logical unit can be either an application program or a device-type logical unit. See also automatic logon and controlling application program.

Data Channel

A device that connects a processor and main storage with I/O storage units. Synonymous with input/output channel and I/O channel.

Data Flow Control (DFC) Layer

In SNA, the layer within a half-session that (1) controls whether the half-session can send, receive, or concurrently send and receive request units (RUs); (2) groups related RUs into RU chains; (3) delimits transactions via the bracket protocol; (4) controls the interlocking of requests and responses in accordance with control modes specified at session activation; (5) generates sequence numbers; and (6) correlates requests and responses.

Data Link Control (DLC) Layer

In SNA, the layer that consists of the link stations that schedule data transfer over a link between two nodes and perform error control for the link. Examples of data link control are SDLC for serial-by-bit link connection and data link control for the System/370 channel.

Data Link Control Protocol

In SNA, a set of rules used by two nodes on a data link to accomplish an orderly exchange of information. Synonymous with line control.

Data Terminal Equipment (DTE)

(TC97) That part of a data station that serves as a data source, data sink, or both, and provides for the data communication control function according to protocols.

Definite Response

In SNA, a value in the form-of-response-requested field of the request header. The value directs the receiver of the request to return a response unconditionally, whether positive or negative, to that request. Contrast with exception response and no response.

Delayed-request Mode

In SNA, an operational mode in which the sender may continue sending request units on the normal flow after sending a definite-response request chain on that flow, without waiting to receive the response to that chain. Contrast with immediate-request mode.

DISCINTV

Disconnect Interval.

Delayed-response Mode

In SNA, an operational mode in which the receiver of normal-flow request units can return responses to the sender in a sequence different from that in which the corresponding request units were sent. Contrast with immediate-response mode.

Domain

In SNA, a system services control point (SSCP) and the physical units (PUs), logical units (LUs), links, link stations, and all the associated resources that the SSCP has the ability to control by means of activation requests and deactivation requests. Synonymous with single-domain network.

Domain Operator

In a multiple-domain network, the person or program that controls the operation of the resources controlled by one system services control point. Contrast with network operator (2).

Duplex

* In data communication, pertaining to a simultaneous two-way independent transmission in both directions. Synonymous with full duplex. Contrast with half-duplex.

Echo Check

A check to determine the correctness of the transmission of data in which the received data are returned to the source for comparison with the originally transmitted data.

Element Address

In SNA, a value in the element address field of the network address identifying a specific resource within a sub-area. See sub-area address.

Emulation Mode

The function of a network control program that enables it to perform activities equivalent to those performed by a transmission control unit. Contrast with network control mode.

Enabled

In ACF/VTAM, pertaining to an LU that has indicated to its SSCP that it is now ready to establish LU-LU sessions. The LU can separately indicate whether this prevents it from acting as a primary logical unit (PLU) or as a secondary logical unit (SLU).

End Bracket

In SNA, the value (binary 1) of the end bracket indicator in the request header (RH) of the first request of the last chain of a bracket; the value denotes the end of the bracket. Contrast with begin bracket. See also bracket.

End User

In communication, the ultimate source or destination of application data flowing through a communication network. An end user may be an application program or a terminal operator.

EOT

End of Transmission

EP

Emulation **P**rogram. A program, or more nearly correct, an operating system which runs on a communication controller ("front end") such as a 3704 or 3705, emulating a 270x BSC communication controller. See also, PEP and NCP.

Exception Response

In SNA, a value in the form-of-response-requested field of a request header: the receiver is requested to return a response only if the request is unacceptable as received or cannot be processed; that is, a negative response, but not a positive one, may be returned. Contrast with definite response and no response. See also negative response.

Expedited Flow

In SNA, a data flow designated in the transmission header (TH) that is used to carry network control, session control, and various data flow control request/response units (RUs); the expedited flow is separate from the normal flow (which carries primarily end-user data) and can be used for commands that affect the normal flow. Contrast with normal flow.

Note: The normal and expedited flows move in both the primary-to-secondary and secondary-to-primary directions. Requests and responses on a given flow (normal or expedited) usually are processed sequentially within the path, but the expedited flow traffic may be moved ahead of the normal-flow traffic within the path at queuing points in the half-sessions and for half-session support in boundary functions.

Field-formatted

Pertaining to a request or response that is encoded into fields, each having a specified format such as binary codes, bit-significant flags, and symbolic names. Contrast with character-coded.

Field-formatted Request

In SNA, a request that is encoded into fields, each having a specified format such as binary codes, binary counts, bit-significant flags, and symbolic names; a format indicator in the request/response header (RH) for the request is set to zero. Contrast with character-coded.

First Speaker

In SNA, the LU-LU half-session defined at session activation as: (1) able to begin a bracket without requesting permission from the other LU-LU half-session to do so, and (2) winning contention if both half-sessions attempt to begin a bracket simultaneously. Contrast with bidder. See also bracket protocol.

First-in-chain (FIC)

A request unit whose request header (RH) begin chain indicator is on and whose RH end chain indicator is off. See also RU chain.

Flow Control

In SNA, the process of managing the rate at which data traffic passes between components of the network. The purpose of flow control is to optimize the rate of flow of message units, with minimum congestion in the network; that is, to neither overflow the buffers at the receiver or at intermediate routing nodes, nor leave the receiver waiting for more message units.

FMH

Function management header.

Function Management (FM) Header

In SNA, one or more headers, optionally present in the leading request units (RUs) of an RU chain, that allow one half-session in an LU-LU session to: (1) select a destination at the session partner and control the way in which the end-user data it sends is handled at the destination, (2) change the destination or the characteristics of the data during the session, and (3) transmit between session partners status or user information about the destination (for example, a program or device).

Note: FM headers can be used on LU-LU session types 0, 1, 4, and 6.

Generalized Path Information Unit Trace (GPT)

A record of the flow of path information units (PIUs) exchanged between the network control program and its attached resources. PIU trace records consist of up to 44 bytes of transmission header, request/response header, and request/response unit data.

Half-duplex

***** In data communication, pertaining to an alternate, one way at a time, independent transmission. Contrast with duplex.

Half-session

In SNA, a component that provides FMD services, data flow control, and transmission control for one of the sessions of a network addressable unit (NAU).

Houston Automatic Spooling Program (HASP)

A computer program that provides supplementary job management, data management, and task management functions, such as control of job flow, ordering tasks, and spooling. (See also JES2).

Host

The main processing computer at your central site. Also referred to as the “host site”, “host computer”, or “local site”.

Immediate-request Mode

In SNA, an operational mode in which the sender stops sending request units (RUs) on a given flow (normal or expedited) after sending a definite-response request chain on that flow until that chain has been responded to. Contrast with delayed-request mode. See also immediate-response mode.

Immediate-response Mode

In SNA, an operational mode in which the receiver responds to request units (RUs) on a given normal flow in the order it receives them in a first-in, first-out sequence. Contrast with delayed-response mode. See also immediate-request mode.

Inactive

In ACF/VTAM, pertaining to a major or minor node that has not been activated or for which the VARY INACT command has been issued. Contrast with active.

Inbound Queue

The inbound queue may contain multiple batches of data for multiple profile IDs. The batches of data are placed on the inbound queue when data is received from a remote and may be copied to an application file using the EXTRACT command.

Inter-record Separator

A special character used to separate multiple records in a block of data being transmitted over a telecommunication line. Gentran:Server for iSeries BSC allows either X“1E” or X“1F” as the inter-record separator. Also referred to as “IRS” or simply “record separator”.

IRS

See Inter-Record Separator, above.

JES2

Job Entry Subsystem 2. The spooler for IBM’s OS/VS2/MVS operating system. In addition to spooling unit record input and output, JES2 performs certain operator console and job control functions. JES3, another MVS spooler, is similar in function to JES2.

Job Entry Subsystem (JES)

JES is a system facility that is responsible for handling all input and output, such as spooling, job queuing, operator commands, and managing the scheduler work area. (See also JES2).

Last-in-chain (LIC)

A request unit whose request header (RH) end chain indicator is on and whose RH begin chain indicator is off. See also RU chain.

Leased Line

A dedicated telecommunication line for which no dialing is required to establish a connection with the remote end. Also, Nonswitched Line.

Line Control

Synonym for data link control protocol.

Line Group

One or more telecommunication lines of the same type that can be activated and deactivated as a unit.

Link

In SNA, the combination of the link connection and the link stations joining network nodes; for example: (1) a System/370 channel and its associated protocols, (2) a serial-by-bit connection under the control of Synchronous Data Link Control (SDLC). Synonymous with data link.

Note: A link connection is the physical medium of transmission; for example, a telephone wire or a microwave beam. A link includes the physical medium of transmission, the protocol, and associated communication devices and programming; it is both logical and physical.

Link Connection

In SNA, the physical equipment providing two-way communication between one link station and one or more other link stations; for example, a telecommunication line and data circuit-terminating equipment (DCE).

Link-attached

In ACF/VTAM, pertaining to devices that are physically connected by a telecommunication line. Synonymous with remote. Contrast with channel-attached.

Link-attached Communication Controller

An IBM communication controller that is attached to another communication controller by means of a link.

Local

Synonymous with channel-attached. Pertaining to a device that is attached to a controlling unit by cables, rather than by a telecommunication line.

Local Address

In SNA, an address used in a peripheral node in place of an SNA network address and transformed to or from an SNA network address by the boundary function in a sub-area node.

Local Non-SNA Major Node

In ACF/VTAM, a major node whose minor nodes are channel-attached non-SNA terminals.

Local SNA Major Node

In ACF/VTAM, a major node whose minor nodes are channel-attached peripheral nodes.

Log Off

To request that a session be terminated.

Log On

(1) To initiate a session. (2) In SNA products, to initiate a session between an application program and a logical unit.

Logic Error

In ACF/VTAM, an error condition that results from an invalid request; a program logic error.

Logical Unit (LU)

In SNA, a port through which an end user accesses the SNA network in order to communicate with another end user and through which the end user accesses the functions provided by system services control points (SSCPs). An LU can support at least two sessions - one with an SSCP and one with another LU - and may be capable of supporting many sessions with other logical units. See also network addressable unit (NAU), peripheral LU, physical unit, system services control point, primary logical unit, and secondary logical unit. Contrast with physical unit (PU).

Logical Unit (LU) Services

In SNA, capabilities in a logical unit to: (1) receive requests from an end user and, in turn, issue requests to the system services control point (SSCP) in order to perform the requested functions, typically for session initiation; (2) receive requests from the SSCP, for example to activate LU-LU sessions via Bind Session requests; and (3) provide session presentation and other services for LU-LU sessions. See also physical unit (PU) services.

Logoff

In ACF/VTAM, an unformatted session-termination request.

Logon

In ACF/VTAM, an unformatted session-initiation request for a session between two logical units. See automatic logon and session-initiation request.

Logon Data

In ACF/VTAM: (1) The user data portion of a field-formatted or unformatted session-initiation request. (2) The entire logon sequence or message from an LU. Synonymous with logon message.

Logon Message

Synonym for logon data.

Logon Mode

In ACF/VTAM, a subset of session parameters specified in a logon mode table for communication with a logical unit. See also session parameters.

Logon Mode Table

In ACF/VTAM, a set of entries for one or more logon modes. Each logon mode is identified by a logon mode name.

LU

See “Logical Unit”.

LU1RJE

See “LU Type 1 RJE”.

LU Type 1 RJE

A device such as a 3770, a PC running Connect:Tracs, or a similar device or software package which uses Logical Unit Type 1 protocols and is used primarily for data transfer or RJE (Remote Job Entry) purposes. The devices typically have multiple I/O devices, such as printers, card readers, and storage devices. An operator console for messages or interactive use is often present.

LU-LU session

In SNA, a session between two logical units in an SNA network. It provides communication between two end users, or between an end user and an LU services component.

Major Node

In ACF/VTAM, a set of minor nodes that can be activated and deactivated as a group. (See node and minor node.)

Manual Dial

The method of establishing contact over switched telecommunication lines wherein human intervention is required. The operator at the host site must manually dial the telephone number of the remote site if the connection is initiated by the host site. The opposite of auto dial.

Middle-in-chain (MIC)

A request unit whose request header (RH) begin chain indicator and RH end chain indicator are both off. See also RU chain.

Minor Node

In ACF/VTAM, a uniquely-defined resource within a major node. See node and major node.

Modem

(modulator-demodulator) A device that modulates and demodulates signals transmitted over data communication facilities.

Multiple-domain Network

In SNA, a network with more than one system services control point (SSCP). Contrast with single-domain network.

Multipoint Link

A link or circuit interconnecting several link stations. Synonymous with multidrop line. Contrast with point-to-point link.

Multithread Application Program

An ACF/VTAM application program that processes requests for more than one session concurrently. Contrast with single-thread application program.

NCP

Network **C**ontrol **P**rogram. The SNA software for IBM's intelligent 37xx communication controllers. NCP supports BSC (EP) functions through a subprogram called PEP (q.v.).

NCP major node

In ACF/VTAM, a set of minor nodes representing resources, such as lines and peripheral nodes, controlled by a network control program. See major node.

Negative Response

In SNA, a response indicating that a request did not arrive successfully or was not processed successfully by the receiver. Contrast with positive response. See exception response.

Network

A network is a Third Party Network. Networks are defined to Gentran:Server for iSeries for the purposes of collecting and routing data.

Network Address

In SNA, an address, consisting of sub-area and element fields, that identifies a link, a link station, or a network addressable unit. Sub-area nodes use network addresses; peripheral nodes use local addresses. The boundary function in the sub-area node to which a peripheral node is attached transforms local addresses to network addresses and vice versa. See local address and network name.

Network Addressable Unit (NAU)

In SNA, a logical unit, a physical unit, or a system services control point. It is the origin or the destination of information transmitted by the path control network. See also network name, and network address.

Network Communication Control Facility (NCCF)

An IBM program product consisting of a base for command processors that can monitor, control, and improve the operation of a network.

Network Control Mode

The functions of a network control program that enable it to direct a communication controller to perform activities such as polling, device addressing, dialing, and answering. Contrast with emulation mode.

Network Control Program (NCP)

A program, generated by the user from a library of IBM-supplied modules, that controls the operations of a communication controller.

Network Control Program Generation

The process, performed in a host system, of assembling and link-editing a macro instruction program to produce a network control program.

Network Name

(1) In SNA, the symbolic identifier by which end users refer to a network addressable unit (NAU), a link, or a link station. See also network address. (2) In a multiple-domain network, the name of the APPL statement defining an ACF/VTAM application program is its network name and it must be unique across domains. Contrast with ACB name.

Network Operator

(1) A person or program responsible for controlling the operation of all or part of a network. (2) The person or program that controls all the domains in a multiple-domain network. Contrast with domain operator.

Networking

In a multiple-domain network, communication among domains.

No Response

In SNA, a value in the form-of-response-requested field of the request header (RH) indicating that no response is to be returned to the request, whether or not the request is received and processed successfully. Contrast with definite response and exception response.

Node

(1) In SNA, an endpoint of a link or junction common to two or more links in a network. Nodes can be distributed to host processors, communication controllers, cluster controllers or terminals. Nodes can vary in routing and other functional capabilities. (2) In ACF/VTAM, a point in a network defined by a symbolic name. Synonymous with network node. See major node and minor node.

Non-switched Line

A dedicated telecommunication line on which connection is not established through a switched network. The opposite of a switched (dial-up) line. A nonswitched line is often called a leased line.

Only-in-chain (OIC)

A request unit whose request header (RH) begin chain indicator and RH end chain indicator are both on. See also RU chain.

Outbound Queue

The outbound queue may contain multiple batches of data for multiple profile IDs. The batches of data are placed on the outbound queue by the ADD command before they are sent to a remote.

Parallel Sessions

In SNA, two or more concurrently active sessions between the same two logical units (LUs) using different pairs of network addresses. Each session can have independent session parameters.

Partitioned Emulation Programming (PEP) Extension

A function of a network control program that enables a communication controller to operate some telecommunication lines in network control mode while simultaneously operating others in emulation mode.

Path Information Unit (PIU)

In SNA, a message unit consisting of a transmission header (TH) alone, or of a TH followed by a basic information unit (BIU) or a BIU segment. See also transmission header.

Pending Active Session

In ACF/VTAM, the state of an LU-LU session recorded by the SSCP when it finds both LUs available and has sent a CINIT request to the primary logical unit (PLU) of the requested session.

PEP

Partitioned **E**mulation **P**rogram. This communication controller subprogram provides BSC (EP) functions to NCP running on 37xx controllers. See EP and NCP, above.

Peripheral LU

In SNA, a logical unit representing a peripheral node.

Physical Unit (PU)

In SNA, one of three types of network addressable units (NAUs); each node of an SNA network contains a physical unit (PU) that manages and monitors the resources (such as attached links) of a node, as requested by an SSCP via an SSCP-PU session.

Note: An SSCP activates a session with the physical unit in order to indirectly manage, through the PU, resources of the node such as attached links.

Physical Unit (PU) Services

In SNA, the components within a physical unit (PU) that provide configuration services and maintenance services for SSCP-PU sessions. See also logical unit (LU) services.

Point-to-point Line

A telecommunication line connection which allows data exchange between two points on the connection, usually the host site and a remote site. Once a dialed connection is established on a switched network, the connection is considered point-to-point. Leased lines where the remote site is a single station are also considered point-to-point.polling

(1) * Interrogation of devices for purposes such as to avoid contention, to determine operational status, or to determine readiness to send or receive data. (2) (TC97) The process whereby stations are invited, one at a time, to transmit.

Port

The iSeries physical address associated with a communication line.

Positive Response

A response indicating that a request was received and processed. Contrast with negative response.

POWER

The spooling subsystem of the DOS and VSE operating systems.

Primary Logical Unit (PLU)

In SNA, the logical unit (LU) that contains the primary half-session for a particular LU-LU session. Contrast with secondary logical unit.

Note: A particular logical unit may contain both primary and secondary half-sessions for different active LU-LU sessions.

Problem Determination

The process of identifying the source of a problem; for example, a program component, a machine failure, telecommunication facilities, user or contractor-installed programs or equipment, an environment failure such as a power loss, or a user error.

Profile

The set of communication parameters that is associated with a given company or application in Gentran:Server for iSeries. The profile will contain information specific to the communication details like phone numbers, protocol, and contact names.

Profile ID

A 1 to 8 alphanumeric identifier associated with the profile in Gentran:Server for iSeries. A profile ID is typically associated with a company or an application.

Profile Sequence Number

The sequence number is a number that uniquely identifies a batch of data residing on the inbound or outbound queues. It may be used by the EXTRACT command to differentiate a batch of data when multiple batches with the same profile id reside on the inbound queue. It is analogous to the Connect:Supertracs (SNA) and Connect:Supertracs (BSC) batch number.

PU

Physical Unit.

Public Network

A network established and operated by communication common carriers or telecommunication administrations for the specific purpose of providing circuit-switched, packet-switched, and leased-circuit services to the public. Contrast with user-application network.

Remote Job Entry (RJE)

The submission of job control statements and data from a remote terminal that causes the described jobs to be scheduled and executed as though encountered in the input stream.

Remote Site

Any data terminal equipment for communicating with a data processing system from a location that is distanced from the data processing system by time, space, or electronics.

Request Unit (RU)

In SNA, a message unit that contains control information such as a request code or FM headers, end-user data, or both.

Request/response Unit (RU)

In SNA, a generic term for a request unit or a response unit.

RU chain

In SNA, a set of related request/response units (RUs) that are consecutively transmitted on a particular normal or expedited data flow. The request RU chain is the unit of recovery: if one of the RUs in the chain cannot be processed, the entire chain is discarded.

Note: Each RU belongs to only one chain, which has a beginning and an end indicated via control bits in request/response headers within the RU chain. Each RU can be designated as first-in-chain (FIC), last-in-chain (LIC), middle-in-chain (MIC), or only-in-chain (OIC). Response units and expedited-flow request units are always sent as only-in-chain.

Script

A script is the name given to the set of transaction codes used to instruct Gentran:Server for iSeries to send and receive data. The Session Control Maintenance panel EDIM403 is used to define the session script.

Secondary Logical Unit (SLU)

In SNA, the logical unit (LU) that contains the secondary half-session for a particular LU-LU session. Contrast with primary logical unit.

Session

In SNA, a logical connection between two network addressable units (NAUs) that can be activated, tailored to provide various protocols, and deactivated, as requested. The session activation request and response can determine options relating to such things as the rate and concurrence of data exchange, the control of contention and error recovery, and the characteristics of the data stream. Sessions compete for network resources such as the links within the path control network. For routing purposes, each session is identified by the network or local addresses of the session partners.

Note: Each session is uniquely identified in a transmission header (TH) by a pair of network addresses, identifying the origin and destination NAUs of any transmissions exchanged during the session.

Session-initiation Request

In SNA, an initiate or logon request from a logical unit (LU) to a system services control point (SSCP) that an LU-LU session be activated.

Session Limit

In SNA, the maximum number of concurrently active LU-LU sessions a particular logical unit can support.

Session Parameters

In SNA, the parameters that specify or constrain the protocols (such as bracket protocol and pacing) for a session between two network addressable units. See also logon mode.

Session Partner

In SNA, one of the two network addressable units (NAUs) having an active session.

SIGNON

A special format data record sent by some remote BSC terminals designed to communicate with RJE software (such as JES or DOS POWER). The SIGNON record is not required by Gentran:Server for iSeries, but can be processed if sent by a remote terminal, provided the Gentran:Server for iSeries script has been configured to do so.

Single Domain Network

In SNA, a network with one system services control point (SSCP). Contrast with multiple-domain network.

Single-thread Application Program

An ACF/VTAM application program that processes requests for multiple sessions one at a time. Such a program usually requests synchronous operations from ACF/VTAM, waiting until each operation is completed before proceeding. Contrast with multithread application program.

SNA Character String (SCS)

A character string composed of EBCDIC controls, optionally intermixed with end-user-data, that is carried within a request/response unit.

SNA Terminal

A terminal that supports Systems Network Architecture protocols.

Spool

A file used to hold print data before it is printed. Gentran:Server for iSeries may receive data from the communication line directly into the Gentran:Server for iSeries spool file.

Start-stop Transmission

(1) (TC97) Asynchronous transmission such that a group of signals representing a character is preceded by a start element and is followed by a stop element. (2) Asynchronous transmission in which a group of bits is preceded by a start bit that prepares the receiving mechanism for the reception and registration of a character and is followed by at least one stop bit that enables the receiving mechanism to come to an idle condition pending the reception of the next character. See also binary synchronous transmission and synchronous data link control.

Sub-area

A portion of the SNA network consisting of a sub-area node, any attached peripheral nodes, and their associated resources. Within a sub-area node, all network addressable units, links, and adjacent link stations (in attached peripheral or sub-area nodes) that are addressable within the sub-area share a common sub-area address and have distinct element addresses.

Sub-area Address

In SNA, a value in the sub-area field of the network address that identifies a particular sub-area. See also element address.

Switched Line

A communication line in which the connection between the communication controller and a remote link station is established by dialing.

Switched Major Node

In ACF/VTAM, a major node whose minor nodes are physical units and logical units attached by switched SDLC links.

Synchronous Data Link Control (SDLC)

A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or nonswitched links. The configuration of the link connection may be point-to-point or multipoint. SDLC conforms to subsets of the Advanced Data Communication Control Procedures (ADCCP) of the American National Standards Institute and High-Level Data Link Control (HDLC) of the International Standards Organization.

System Services Control Point (SSCP)

In SNA, a focal point within an SNA network for managing the configuration, coordinating network operator and problem determination requests, and providing directory support and other session services for end users of the network. Multiple SSCPs cooperating as peers, can divide the network into domains of control, with each SSCP having a hierarchical control relationship to the physical units and logical units within its domain.

Systems Network Architecture (SNA)

The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through and controlling the configuration and operation of networks.

Note: The purpose of the layered structure of SNA is to allow the ultimate origins and destinations of information (that is, the end users) to be independent of, and unaffected by, the way in which the specific SNA network services and facilities used for information exchange are provided.

Telecommunication Line

Any physical medium such as a wire or microwave beam, that is used to transmit data. Synonymous with transmission line.

Terminal

A device, usually equipped with a keyboard and some kind of display, capable of sending and receiving information over a link.

Transaction Code

The Gentran:Server for iSeries script code that indicates the action to be taken during a communication session. Example transaction codes are “S” to send, “R” to receive, “C” to send an 80 character literal, and “D” to trap data when received.

Transmission Control Unit

A device which usually resides at the host site and which manages data over the telecommunication lines to and from many remote sites. It is also known as a “TCU”.

Transmission Header (TH)

In SNA, control information, optionally followed by a basic information unit (BIU) or a BIU segment, that is created and used by path control to route message units and to control their flow within the network. See also path information unit.

Transmission Line

Synonym for telecommunication line.

Transparency

A mode of transmitting data over telecommunication lines wherein special line control characters embedded in the data are “transparent”, that is, they do not function in their normal capacity as line control characters. Transparency mode is used when non-text data (binary data such as object modules) must be sent over telecommunication lines.

Truncation

See Blank Truncation, above.

Unformatted

In ACF/VTAM, pertaining to commands (such as LOGON or LOGOFF) entered by an end user and sent by a logical unit in character form. The character-coded command must be in the syntax defined in the user’s unformatted system services definition table. Synonymous with character-coded. Contrast with field-formatted.

Unformatted System Services (USS)

In SNA products, a system services control point (SSCP) facility that translates a character-coded request, such as a logon or logoff request into a field-formatted request for processing by formatted system services and translates field-formatted replies and responses into character-coded requests for processing by a logical unit. Contrast with formatted system services.

User-application Network

A configuration of data processing products, such as processors, controllers, and terminals, established and operated by users for the purpose of data processing or information exchange, which may use services offered by communication common carriers or telecommunication Administrations. Contrast with public network.

User Batch ID

A 1- to 24-character free form batch identifier which may be used to describe the contents of a batch of data. The batchid is recognized by the Connect:Supertracs (SNA) and Connect:Supertracs (BSC) products.

USS Table

A table defined to VTAM which provides conversion of character-coded LOGON or LOGOFF to field-formatted LOGON or LOGOFF. This table must be provided in an MVS system to allow Gentran:Server for iSeries to establish sessions with SNA products on MVS systems.

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