

IBM Sterling Gentran:Server for iSeries

Communications Guide

Release 3.6



This edition applies to the 3.6 Version of IBM® Sterling Gentran:Server® for iSeries® and to all subsequent releases and modifications until otherwise indicated in new editions.

Before using this information and the product it supports, read the information in Notices on page N-1.

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Before You Begin

How is the Documentation Organized?

Information about IBM® Sterling Gentran:Server® is available through both online help and user documentation (provided on CD-ROM). Online help contains reference material (panel definitions, field definitions, etc.). It gives you quick access to relevant information as you are using the IBM® Sterling Gentran:Server® for iSeries® system. The user documentation, on the other hand, describes procedures (“how to. . .”) and is intended to *complement* and *enhance* the online help.

In this Book

The *IBM® Sterling Gentran:Server for iSeries® Communications Guide* is comprised of eleven chapters, two appendices, a glossary of communication terms, and an index. The first chapter, Using Communications, is presented in a 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 Sterling Gentran:Server communications. 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 started. Please read the *IBM® Sterling Gentran:Server® for iSeries® 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?

Chapter 1 Using Communications

This chapter illustrates the use of the communications subsystem within Sterling Gentran:Server for iSeries. General information sections explain the capabilities of the software and the concepts upon 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.

Chapter 2 Using Scripts

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

Chapter 3 Bisync Communications Support

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

Chapter 4 SNA Communications Support

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

Chapter 5 SNA LU6.2 Communications Support

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

Chapter 6 Asynchronous Communications Support

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

Chapter 7 XMODEM File Transfer Support

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

Chapter 8 OFTP Communications 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.

Chapter 9 FTP Communications Support

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

Chapter 10 MQSeries Interface

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

Chapter 11 Using Line Pools

This chapter covers specific information about using line pools with Sterling 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.

Chapter 12 IFS Gateway

This chapter covers GIFSGATE, an interface between Sterling Gentran:Server for iSeries and the Integrated File System (IFS). The IFS gateway is installed as a standard part of Sterling Gentran:Server for iSeries and no additional installation procedures are required.

Appendix A. Modems: Configuration and Troubleshooting

This appendix contains a list of recommended modems for use with Sterling 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 Sterling Gentran:Server for iSeries Manuals

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

- ***IBM® Sterling Gentran:Server® for iSeries® Manager's Implementation Planner***

The Manager's Implementation Planner is designed to assist you with the process of collecting, organizing and prioritizing the information required to successfully implement EDI. The Planner includes EDI tutorial materials and other planning and implementation materials.

- ***IBM® Sterling Gentran:Server® for iSeries® User Guide***

The User Guide is task oriented. Use the Table of Contents to locate information about specific tasks and procedures. Use the index to locate information regarding individual panels or field definitions. For more detailed descriptions of individual panels and field definition, please use the online help. Apart from the opening chapter, "System Essentials", which everyone should read, most Sterling Gentran:Server users will not need to read every chapter in this manual.

- ***IBM® Sterling Gentran:Server® for iSeries® Technical Reference Guide***

The Technical Reference Guide is now a fully searchable online manual. The Technical Reference Guide includes information on advanced topics, program and command names, and system messages.

- ***IBM® Sterling Gentran:Server® for iSeries® Release 3.6 Installation Guide***

The Installation Guide provides step-by-step installation and conversion instructions. Please read *all* the instructions *before* beginning the installation.

In this Chapter

Sterling Gentran:Server for iSeries Communications software 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:

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 - Operations and Management of Communications 1-4
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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. In order 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

Sterling 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 (that is, 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.

Sterling 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 *IBM® Sterling Gentran:Server® for iSeries® 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. As with all Sterling Gentran:Server commands, 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 the *IBM® Sterling Gentran:Server® for iSeries® Technical Reference Guide* for more information on scheduling communication sessions.

Active sessions can be monitored from within Sterling 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 EDI system. This includes managing and controlling the actual EDI data to retransmit, reprocess, 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 1.1 depicts the Communications subsystem.

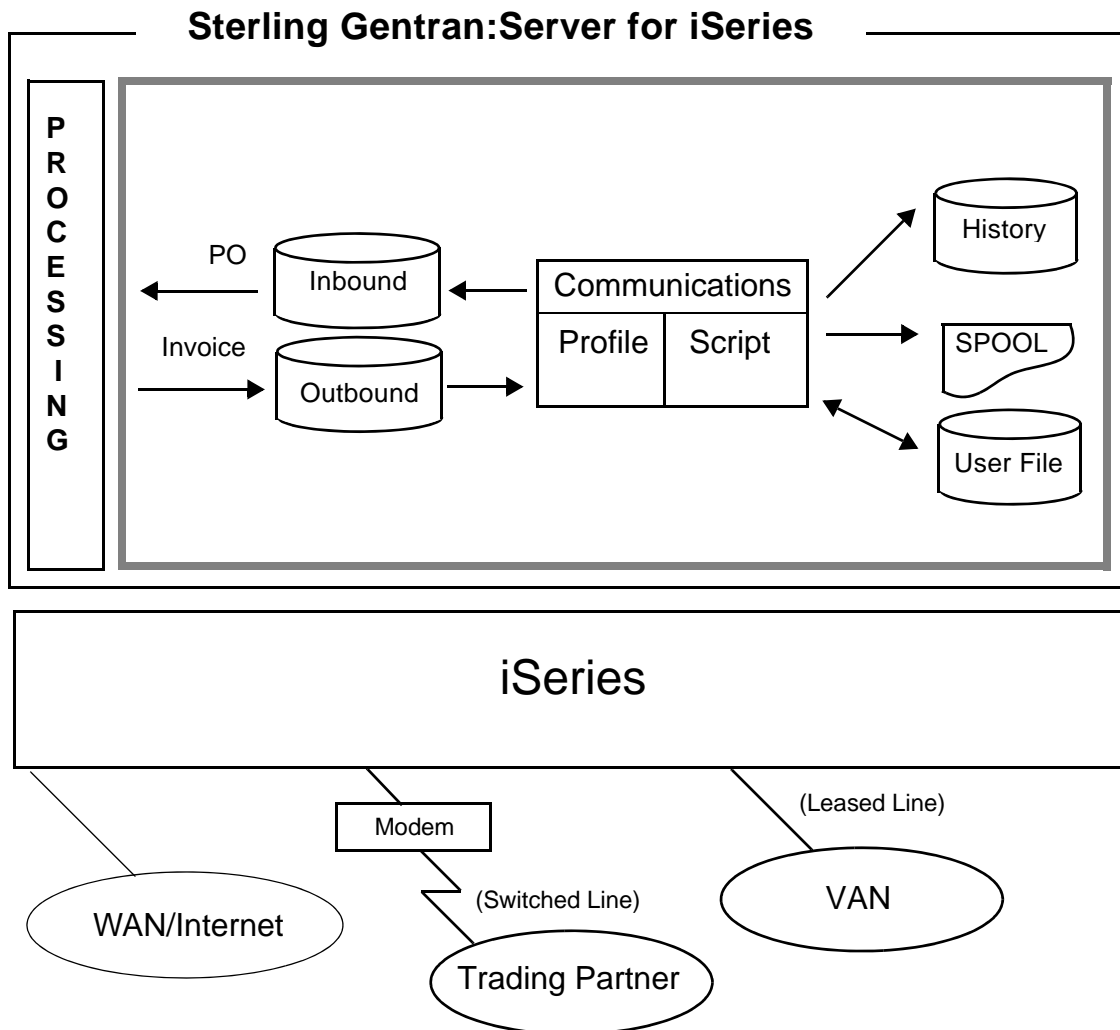


Figure 1.1 Communications Subsystem Diagram

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
GENCOM Communications Menu	Access all communications functions from a menu.	<ul style="list-style-type: none"> ○ Select option '4' on the GENMAIN menu ○ Type 'GO GENCOM' on the command line ○ Type 'J COM' on the command line
EDIX400-FMT01 Work with Communications	Access all Communications functions	<ul style="list-style-type: none"> ○ Select option '1' on the GENCOM menu ○ Type 'EXCPGM EDIX400' on the command line ○ Type 'J CM' on the command line
EDIX401-FMT01 Communication Profile — Part 1	Define the Protocol and FIFO/LIFO method	<ul style="list-style-type: none"> ○ Select an option (1-5) on panel EDIX400-FMT01 ○ Type '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 vary depending on the protocol	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ Select option '11' on panel EDIX400-FMT01 ○ Type 'EXCPGM EDIX819' on the command line

Panel Name	Purpose	Access Methods
EDIX402-FMT01 Work with Communications Session	Access session control scripts for comm profiles	<ul style="list-style-type: none"> ○ Select option '2' on the GENCOM menu ○ Select option '12' on panel EDIX400-FMT01 ○ Type 'EXCPGM EDIX402' on the command line ○ Type 'J CS' on the command line
EDIX403-CTL01 Communication Session Control	Define detailed instructions (action data) for a session script	<ul style="list-style-type: none"> ○ Select option '1', '2', or '5' on panel EDIX402-FMT01 ○ Type 'EXCPGM EDIX403' on the command line
EDIX43B-FMT01 Communication Session Control Extended Parms	Define extended parameters for each script record or maintain the "command" in hex mode	<ul style="list-style-type: none"> ○ Select option '11' on panel EDIX403-FMT01 ○ Type '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	<ul style="list-style-type: none"> ○ Add a script record on panel EDIX403-CTL01 with Tran type 'E' ○ Press F13 (Services) on panel EDIX403 or EDIX43B and select an option the option for 'Communication Evoke' ○ Type 'EXCPGM EDIX43C' on the command line
EDIX817-FMT01 Work with Communication Jobs	Monitor and control active comm jobs	<ul style="list-style-type: none"> ○ Select option '6' on the GENCOM menu ○ Select option '13' on panel EDIX400-FMT01 ○ Type 'EXCPGM EDIX817' on the command line ○ Type 'J CJ' on the command line

Panel Name	Purpose	Access Methods
EDIX406-FMT01 Work with Communications History Log	View the history information for previous communication sessions	<ul style="list-style-type: none"> ○ Select option '3' on the GENCOM menu ○ Select option '14' on panel EDIX400-FMT01 ○ Type 'EXCPGM EDIX406' on the command line ○ Type 'J CH' on the command line
EDIX404-FMT01 Work with Outbound Queue Control	Access Outbound data and change the status of batches	<ul style="list-style-type: none"> ○ Select option '4' on the GENCOM menu ○ Select option '15' on panel EDIX400-FMT01 ○ Type 'EXCPGM EDIX404' on the command line ○ Type 'J OQ' on the command line
EDIX405 Outbound Queue Inquiry	View the actual data on a selected Outbound batch	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ Select option '5' on the GENCOM menu ○ Select option '16' on panel EDIX400-FMT01 ○ Type 'EXCPGM EDIX407' on the command line ○ Type J IQ on the command line
EDIX408 Inbound Queue Inquiry	View the actual data in a selected Inbound batch	<ul style="list-style-type: none"> ○ Select option '5' on panel EDIX407-FMT01 ○ Select option '11' on panel EDIX406-FMT01 for an Inbound session

Panel Name	Purpose	Access Methods
EDIX820-FMT01 Work with Network Profiles	Access network profiles that can be used by the automatic network update utility	<ul style="list-style-type: none"> ○ Select option '7' on the GENCOM menu ○ Select option '17' on panel EDIX400-FMT01 ○ Type 'EXCPGM EDIX820' on the command line ○ Type 'J NET' 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	<ul style="list-style-type: none"> ○ Select option '2' or '5' on panel EDIX820-FMT01 ○ Type 'EXCPGM EDIX821' on the command line
EDIX460-FMT01 Work with MQ Links	Access all the queue information supported in the Sterling Gentran:Server system	<ul style="list-style-type: none"> ○ Select option '8' on the GENCOM menu ○ Select option '18' on panel EDIX400-FMT01 or panel EDIX402-FMT01 ○ Type 'EXCPGM EDIX460' on the command line ○ Type 'J MQ' on the command line
EDIX461-FMT01 MQ Link Configuration	Define the queues to be used in sending/receiving files within MQSeries	<ul style="list-style-type: none"> ○ Select an option (1 – 5) on panel EDIX460-FMT01 ○ Type 'EXCPGM EDIX461' on the command line
STRCOMSSN Start Communications Session	Initiate a communication session for a specified comm profile and script name	<ul style="list-style-type: none"> ○ Select option '10' on the GENCOM menu ○ Select option '30' on panel EDIX400-FMT01 or on panel EDIX402-FMT01 ○ Select option '33' on panel EDIX404-FMT01 ○ Prompt 'STRCOMSSN' on the command line ○ Type 'J SSN' on the command line

Panel Name	Purpose	Access Methods
SHUTDOWN End active Comm Jobs	End active Communication Jobs	<ul style="list-style-type: none"> ○ Select option '12' on the GENCOM menu ○ Select option '31' on panel EDIX400-FMT01 ○ Prompt 'SHUTDOWN' on the command line
GENLINP Sterling Gentran:Server Line Pools	Create line pool description and identify modem lines to be used in pool for Sterling Gentran:Server communications	<ul style="list-style-type: none"> ○ Select option '13' on the GENCOM menu ○ Select option '33' on panel EDIX400-FMT01 ○ Prompt 'GENLINP' on the command line ○ Type 'J LIN' on the command line
PRGCHF Purge Comm History File	Purge the Communication History Log using selection criteria	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ Select option '14' on the GENCOM menu ○ Select option '43' on panel EDIX400-FMT01 ○ Prompt 'PRGALL' on the command line

Panel Name	Purpose	Access Methods
RTVCHF Retrieve Comm History File	Retrieve the Communication History Log using selection criteria	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ Select option '21' on the GENCOM menu ○ Select option '45' on panel EDIX400-FMT01 ○ Prompt 'RTVOBQ' on the command line
RTVIBQ Retrieve Inbound Queue from Tape	Retrieve the Inbound Queue (control and data files) using selection criteria	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ Select option '18' on the GENCOM menu ○ Select option '47' on panel EDIX400-FMT01 ○ Prompt 'RTVALL' on the command line
PRGALLA Purge all Comm Files	Purge all Comm files automatically at the end of each Comm session, if activated	<ul style="list-style-type: none"> ○ Type a value in "Days to Purge" on panel EDIX401-FMT01 (not '999') and 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.	<ul style="list-style-type: none"> ○ Press F21 on panel EDIX405 or EDIX408 and select *Segment for print level ○ Select option '6' on panel EDIX404 or EDIX407 and select *Segment for print level ○ Select option '37' on the GENCOM menu ○ Prompt 'PRTEDIDTA' on the command line

Panel Name	Purpose	Access Methods
PRTCOM Print Comm Control Script	Print the session control records for a specified comm profile and script name	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ Select option '22' on the GENCOM menu ○ Prompt 'PRTCOMHST' on the command line ○ Select *YES for the 'Print Comm Session Log' parm on the STRCOMSSN command ○ Selection option '34' from the EDIX406 panel
GENMQSND Send File to MQ Queue	Send a file to an MQSeries queue	<ul style="list-style-type: none"> ○ Select option '39' on the GENCOM menu ○ Prompt GENMQSND on the command line ○ Type 'J MQS' on the command line
GENMQRCV Receive File from MQ Queue	Receive a file from an MQSeries queue	<ul style="list-style-type: none"> ○ Select option '38' on the GENCOM menu ○ Prompt GENMQRCV on the command line ○ Type '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	<ul style="list-style-type: none"> ○ 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 IFS Gateway	Allow data to be moved back and forth from the Sterling Gentran:Server Comm queues to the integrated file system	<ul style="list-style-type: none"> ○ 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.	<ul style="list-style-type: none"> ○ Select option '42' on the 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	<ul style="list-style-type: none"> ○ Select option '30' on the GENCOM menu ○ Select option '3' on the GENPRC menu ○ Prompt 'ADD' on the command line ○ Type 'J ADD' on the command line
EXTRACT Extract Data from Queues	Extract a batch of data from the inbound or outbound queue	<ul style="list-style-type: none"> ○ Select option '31' on the GENCOM menu ○ Select option '30' on panel EDIX404 ○ Select option '30' on panel EDIX407 ○ Select option '4' on the GENPRC menu ○ Prompt 'EXTRACT' on the command line ○ Type 'J EXT' on the command line
STATFLG Change Status	Change the status of a batch of data on the inbound or outbound queue	<ul style="list-style-type: none"> ○ Select option '32' on the GENCOM menu ○ Prompt 'STATFLG' on the command line
CHGDUP Change Duplex	Change the duplex setting on the line/controller/device iSeries objects to full or half duplex	<ul style="list-style-type: none"> ○ Select option '33' on the GENCOM menu ○ Prompt 'CHGDUP' on the command line
CHGPHNUM Change Phone Number	Change the modem phone number of the line/controller/device iSeries objects	<ul style="list-style-type: none"> ○ Select option '34' on the GENCOM menu ○ Prompt 'CHGPHNUM' on the command line

Panel Name	Purpose	Access Methods
STRRPSR Start Rmt Pgm Start Requests	Varies on all configured Sterling Gentran:Server Remote Program Start Requestable devices so that they are available to respond to incoming program start requests	<ul style="list-style-type: none"> ○ Select option '40' on the GENCOM menu ○ Prompt 'STRRPSR' on the command line
CHGCOMPRF Change Partner Comm Profiels	Change the Comm Profile listed on the partner interchange records or group record	<ul style="list-style-type: none"> ○ Select option '43' on the GENCOM menu ○ Prompt 'CHGCOMPRF' on the command line
RPLCHARS Replace Characters	Find and replace characters on the user defined file	<ul style="list-style-type: none"> ○ Select option '13' on the GENPRC menu ○ Select option 44' on the GENCOM menu ○ Prompt 'RPLCHARS' on the command line

Access the Communications Subsystem

```
GENMAIN          IBM® Sterling Gentran:Server® for iSeries® 3.6
                                     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. File Tracking Menu (GENFILETRK)
 14. Sterling Gentran:Server Search Index

More...

Selection or command
===> 4

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User Support
```

Figure 1.2 Sterling Gentran:Server Main Menu (GENMAIN)

The Communications subsystem can be accessed using the following steps:

1. On the GENMAIN menu (Figure 1.1), select option '4' (Communications Menu). The Sterling Gentran:Server Communications (GENCOM) menu displays (Figure 1.2).

```
GENCOM                Sterling Gentran:Server Communications 3.6
                                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. Sterling Gentran Line Pools        (GENLINP)
 14. Purge All Communication Files       (PRGALL)

                                          More...

Selection or command
====>1

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User Support
(C) COPYRIGHT IBM, 2011, ALL RIGHTS RESERVED.
```

Figure 1.3 Sterling Gentran:Server Communications Menu

2. On the GENCOM menu, type '1' (Work with Communications) on the command line and press **Enter**.

The Work with Communications panel (EDIX400-FMT01) displays (Figure 1.3). All tasks associated with communications may be performed from this panel or the GENCOM menu.

The Work with Communications panel (EDIX400-FMT01), Figure 1.4, contains a list of Communication Profile IDs from which all options can be accessed.

```

EDIX400                      Work with Communications                      EDI 04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA                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
      ATEASY      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

Type option (and Information), press Enter.
  12=Session Ctrl  13=Jobs  14=History Log  15=Outb Queue  16=Inb Queue

Type option (and Information), press Enter.
  17=Network Prf  18=MQ Links  22=PRCTRNIN  30=Start Session  31=End Session

Type option (and Information), press Enter.
  32=Copy Comm  33=Line Pool  40=Purge Hist  41=Purge Outb  42=Purge Inb

Type option (and Information), press Enter.
  43=Purge All  44=Retv History  45=Retv Outbound  46=Retv Inbound

Type option (and Information), press Enter.
  47=Retv All  50=ezComm
  
```

Additional Options

Figure 1.4 Work with Communications Panel (EDIX400-FMT01)

Press **F23** (More Options) to view additional options available.

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

Alternatively, the Communications subsystem can be accessed using this step:

Type 'GO GENCOM' on the command line and press **Enter**. The Communications menu (GENCOM) displays. All tasks associated with communications may be performed from this menu.

The Communications Menu (GENCOM) is shown in Figure 1.5.

```

GENCOM                Sterling Gentran:Server Communications 3.6
                                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    (STRCOMSNT)
    12. End Active Comm Jobs                (SHUTDOWN)
    13. Sterling 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

```

Figure 1.5 Sterling Gentran:Server Communications menu (GENCOM)

Work with Communications

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

- 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. Sterling Gentran:Server supplies predefined profiles for the major EDI networks. If necessary, a new profile can be created for a unique communication partner.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . . CN3BSC

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

Opt  Profile ID  Company
2  CN3BSC      Bi-Synch Communications Rel 3
   CN3SNA      SNA Communications Rel 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 1.6 Work with Communications Panel (EDIX400-FMT01)

The Work with Communications panel (EDIX400-FMT01) is shown in Figure 1.6. In the Option field next to the desired Profile ID, type ‘2’ (Revise) 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 *IBM® Sterling Gentran:Server® for iSeries® 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 1.7, is the first panel used to define the comm profile. The next panel that is shown for the comm profile ID varies depending on the protocol specified, for example, BSC or SNA.

```

EDIX401                      Communication Profile                      EDI 04/30/11
FMT01                          12:00:00

Comm Profile ID. . . . . CN3BSC

Company. . . . . Bi-Synch Communications Rel 3
Contact. . . . . NETWORK COMMUNICATIONS
Phone. . . . . ( 614 ) 793 - 7000 x       
International Dial Code. . . . .
Protocol . . . . . BSC
Days to Purge. . . . . 999
FIFO/LIFO. . . . . F
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 1.7 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 type your direct communication partner's company name.

Contact

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

Phone

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

International Dial Code

A 3-position alphanumeric field used to type 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.
 The protocol cannot be changed once the profile has been created.



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 Chapter 2, "Using Scripts" 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 the automatic purge option. Use “999” or “000” to bypass the automatic purge function.

When auto purge is enabled, the following files are 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,’ or ‘000,’ 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’ 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.

Used Most Frequently

This flag is used for online display purpose only. To display a sublist of communication profile IDs used most often, set this flag to ‘Y’ and then sort to that field on the Work with Communication panel (EDIX400) or permanently in the System Config Menu (GENSYSCFG) by selecting option 22, Set W/W Communications Sort Option (SETCOMMSRT).

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 varies 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 is 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.

Field Definitions (Basic View)

Comm Profile ID

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

Company (Protected)

Displays the direct communication partner's company name.

Modem Port

A 6-position alphanumeric field that specifies the iSeries Resource Name that is associated with the communication port that is 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 or fax 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 causes an assumed Auto Answer configuration by the system and outgoing calls will fail.

If you are creating the profile for paging purposes, this field is where you type the modem access number or the tap number. The number can be obtained by calling the pager provider.

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 the Auto Call Unit "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.

In order 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.

Field Names	Dial Settings				
	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 value of “Y”, the “Local Site ID” field must contain the code value expected by the remote site.

Duplex (Required)

Determines the duplex setting to 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, auto-answer, 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 Sterling 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 Sterling Gentran:Server for iSeries 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 a profound 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 (that is, 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.

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

Remote Cmd Password

Defines the optional password 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

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," 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 1.9, 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.

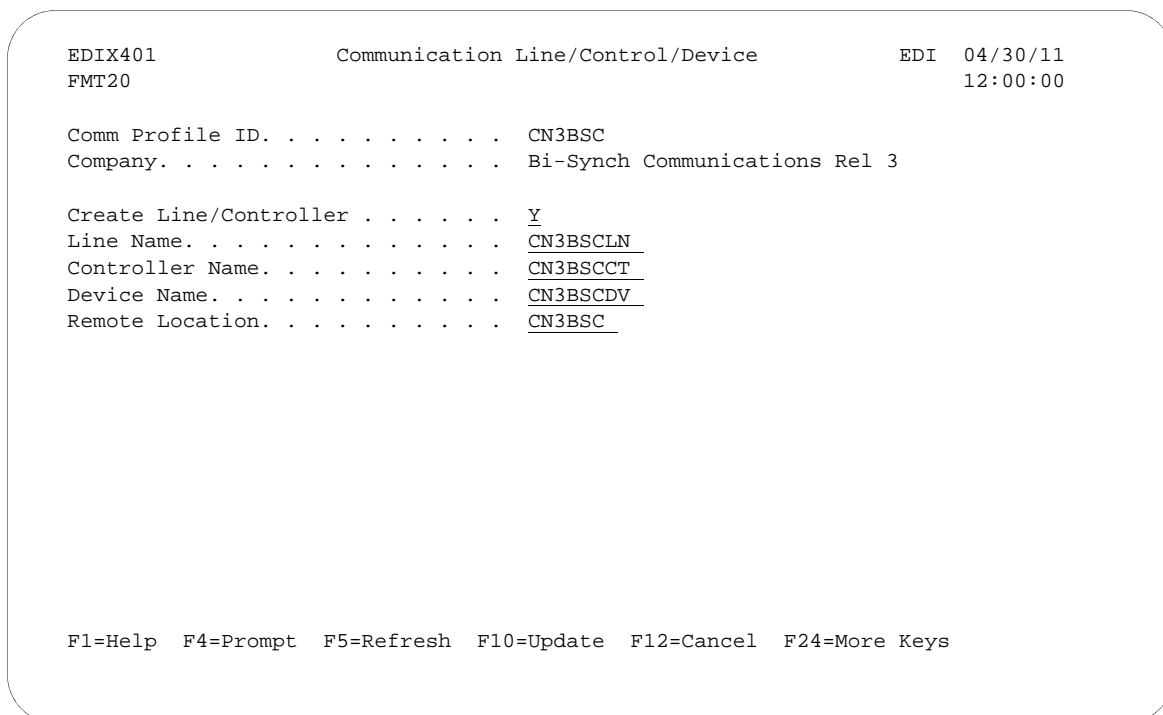


Figure 1.9 Communications Line/Controller/Device Panel (EDIX401-FMT20)

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 in order 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 1.10 depicts a telephone conversation between two people and the relationship between two computers using the script.

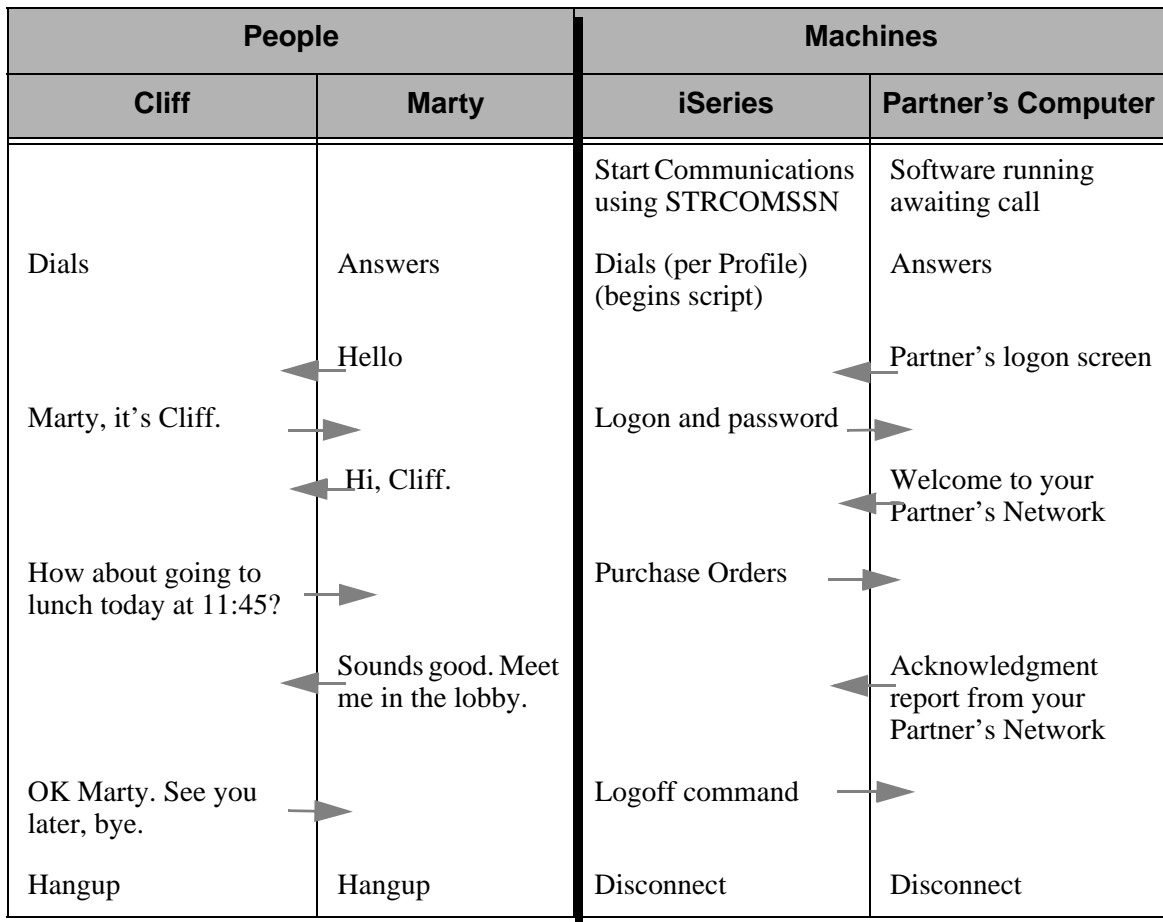


Figure 1.10 Script Conversation Example

Sterling 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.

```

EDIX400                Work with Communications                EDI  04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA      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
12  CN3BSC      Bi-Synch Communications Rel 3
   CN3SNA      SNA Communications Rel 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 1.11 Work with Communications Panel (EDIX400-FMT01)

To access session control scripts, start from the Work with Communications Panel. In the Option field next to the desired comm profile ID, type '12' (Session Ctrl) and press **Enter**, as shown in Figure 1.11. 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) 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.

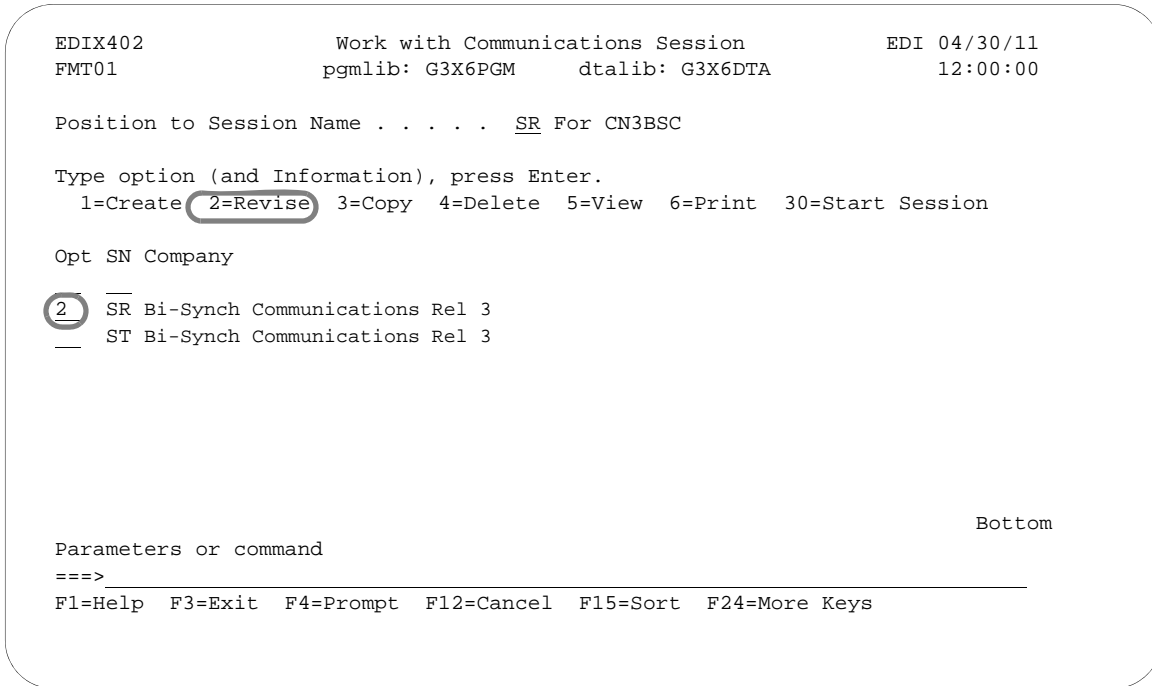




Figure 1.12 Work with Communications Sessions Panel (EDIX402-FMT01)

To select a session control script, type ‘2’ in the Option field next to the desired session name and press **Enter**, as shown in Figure 1.12. 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) displays, as shown in Figure 1.13.

 **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 view (top screen) and extended view (bottom screen).

```

EDIX403          Communication Session Control          EDI  04/30/11
CTL01                                                    12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . SR
Company. . . . . Bi-Synch Communications Rel 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  04/30/11
CTL01                                                    12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . SR
Company. . . . . Bi-Synch Communications Rel 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 1.13 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 Tran 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 Tran 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 Sterling 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 Sterling Gentran:Server for iSeries inbound queue.

File Name (Required for File types “OF”, “IF” and “IA”)

A 10-position alphanumeric field used to type 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 Sterling 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.

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/Off** key. When hex mode is off, the field allows entry of alphanumeric data, just like the Command fields on the unfolded view of the EDIX403 panel. When hex mode is on, the field also allows entry of hexadecimal data. The panel will initially be displayed with hex mode off. (SEE the topic “Hex Mode Command Editing” in this chapter for more information.)

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 EDIX401-FMT04 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”.

Network Scripts

Sterling 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 editing the necessary session control records in each script defined for the comm profile
- Automatically updating 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.



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 *IBM® Sterling Gentran:Server® for iSeries® User Guide* provided by your value-added network or communication partner to ensure that the setup correctly reflects their specific requirements.

Script examples are included for the comm profiles shown in the following table.

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)
CN3BSC	Bi-Synch Communications Release 3 (BSC)
CN3SNA	SNA Communications Release 3 (SNA)
GEIS	GE Information Services

Comm Profile ID	Network Name
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 IBM Product Support. A technical support person can assist you in building and testing communication scripts for other networks. (SEE the topic “Exercise: Creating a Direct Communication Partner” later in this chapter for information about how to establish custom scripts for communicating with specific partners.)

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. As shown in Figure 1.16, 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  04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . ADVBSC
Session Name . . . . . RA
Company. . . . . ADVANTIS BSC

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

Opt Seq No Tran File File Name  Ind Description
___  ___  ___  ___  ___  ___  _____
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 1.16 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. As shown in Figure 1.17, 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 04/30/11
CTL01                                12:00:00

Comm Profile ID. . . . . ADVLU0
Session Name . . . . . RA
Company. . . . . ADVANTIS SDLC

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 IBM LOGON
  20  D    ---  ---  5  RECV & DROP WELCOME MESSAGE
  30  R    SP  ---  7  TRAP FOR CHANGE DIRECTION
  50  C    ---  ---  2  SEND INFO EXCHANGE LOGON
  60  D    ---  ---  7  RECV & DROP DATA SET 1 PROMPT
  70  C    ---  ---  2  SEND RECV REQUEST FOR ERR MSGS
  90  D    ---  ---  7  RECV & DROP DATA SET 2 PROMPT
  95  R    SP  ---  7  RECV IBM SYS MSGS IF AVAILABLE
 100  C    ---  ---  2  SEND REQUEST FOR X12 DATA
 110  D    ---  ---  7  RECV & DROP DATA SET 3 PROMPT

More...

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

Figure 1.17 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. As shown in Figure 1.21, 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  04/30/11
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 1.18 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. As shown in Figure 1.21, 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  04/30/11
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 1.19 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. As shown in Figure 1.21, 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 04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . BTASCL
Session Name . . . . . RS
Company. . . . . BT UK GNS EDI*NET Async "Live" Sys

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: .
  __  _20  C  __  _____  0  SEND SYSTEM PASSWORD
BTEDI001059427..
  __  _30  D  __  _____  0  WAIT FOR X.25 CONNECT MSG
Connected to .
  __  _40  D  __  _____  0  WAIT FOR CRLF AFTER X.121 ADDR
...
  __  _50  C  __  _____  0  SEND LOGON SEQUENCE
&MBX;&PWD;A120;..
More...

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

Figure 1.20 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. As shown in Figure 1.21, 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  04/30/11
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 1.21 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. As shown in Figure 1.21, 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  04/30/11
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 1.22 Session Control for Communication Profile ID: BTXAS

Bi-Synch Communications – Release 3 (Comm Profile ID: CN3BSC)**Session Names**

Contact the Bi-Synch Communications — Release 3 to obtain Mailbox ID and Batch ID/password information. As shown in Figure 1.23, 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  04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . RA
Company. . . . . COMMERCE NET 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 1.23 Session Control for Comm ID: CN3BSC

SNA Communications – Release 3 (Comm Profile ID: CN3SNA)

Session Names

Contact the SNA Communications — Release 3 SNA to obtain Mailbox ID and Batch ID/password information,. As shown in Figure 1.24, 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 04/30/11
CTL01                                                    12:00:00

Comm Profile ID. . . . . CN3SNA
Session Name . . . . . SO
Company. . . . . SNA Communications Rel 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 LOGON MSG
SUCCESSFUL LOGON TO 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 1.24 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. As shown in Figure 1.25, 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  04/30/11
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
/EDXRVC
___  _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 1.25 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. As shown in Figure 1.26, 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  04/30/11
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 1.26 Session Control for Comm Profile ID: Klein

MCI Bisync (Comm Profile ID: MCIBSC)

Session Names

Contact MCI to obtain User ID and password information. As shown in Figure 1.27, 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  04/30/11
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 1.27 Session Control for Communication Profile ID: MCIBSC

Transsettlements (Comm Profile ID:TRANS)

Session Names

Contact the Transsettlements Network to obtain Account number and password information. As shown in Figure 1.29, 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  04/30/11
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 SECURITY 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 1.29 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. As shown in Figure 1.30, 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  04/30/11
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 1.30 Session Control for Comm Profile ID:WSUN

Automatically Update Network Scripts

Sterling 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.

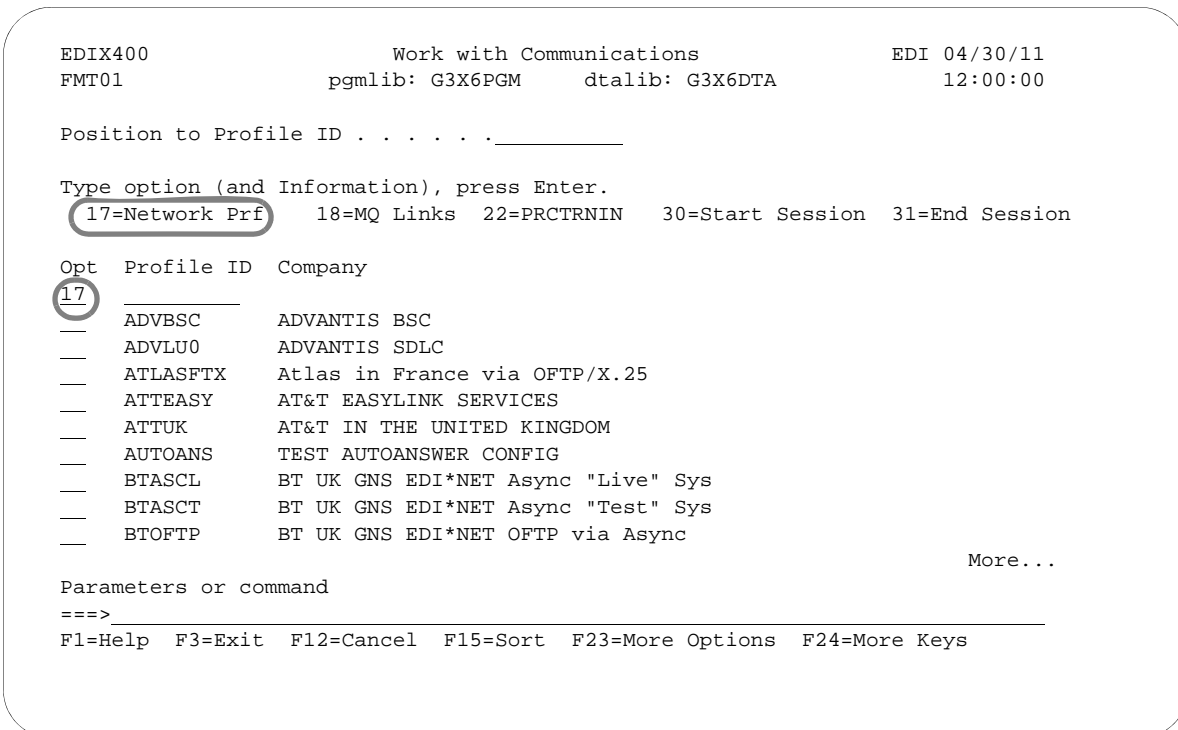


Figure 1.31 Work with Communications Panel (EDIX400-FMT01)

To access the Network Profiles, type ‘17’ (Network Prf) on the key entry line and press **Enter**, as shown in Figure 1.31.

The Work with Network Profile panel (EDIX820-FMT01), shown in Figure 1.32, 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  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          12:00:00

Position to Network ID . . . . . CN3BSC__

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

Opt Network ID Network Name                      Last Update
Date      User
-----
  2 CN3BSC      Bi-Synch Communications Rel 3      04/30/2011 EDI
  — CN3SNA      SNA Communications Rel 3                        04/30/2011 DSH
  — SEARS      SEARS INFORMATION NETWORK                      04/30/2011 COM
  — TRANS      TRANSETTLEMENTS NETWORK                       04/30/2011 XXX
  — WSUN      WESTERN UNION                                04/30/2011 JBS

                                                                 Bottom

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

```

Figure 1.32 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) displays, as shown in Figure 1.7.

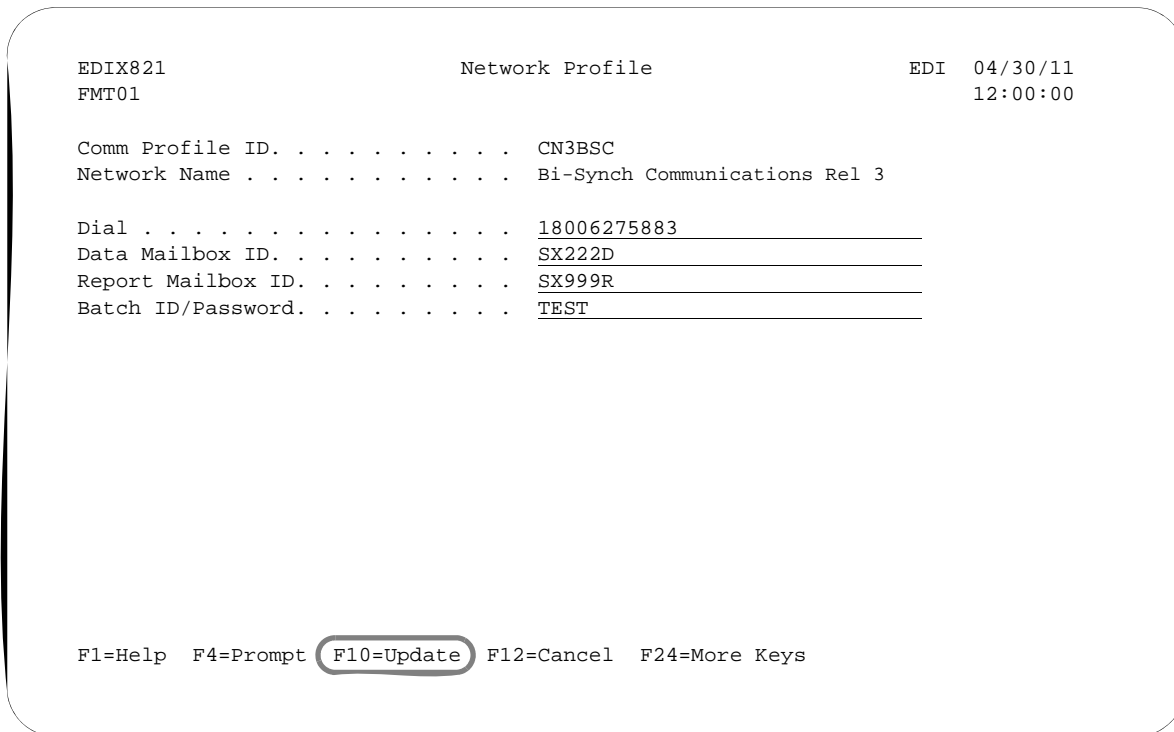


Figure 1.33 Network Profile Panel (EDIX821-FMT01)

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 Sterling Gentran:Server for iSeries Release 3.6 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.)

The system copies the necessary information and advances you to the comm profile ID panel (EDIX401-FMT01), as shown in Figure 1.35, to let you customize the profile and configuration information before the copy is performed.

```

EDIX401                Communication Profile                EDI  04/30/11
FMT01                  .                                  12:00:00

Comm Profile ID. . . . . TESTCOPY

Company. . . . . Test copy of a Profile
Contact. . . . . NETWORK COMMUNICATIONS
Phone. . . . . ( 614 ) 793 - 7000 x     
International Dial Code. . . . .     
Protocol . . . . . BSC
Days to Purge. . . . . 999
FIFO/LIFO. . . . . F
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 1.35 Communication Profile Panel (EDIX401-FMT01)

Make any necessary changes to the new comm profile and press **Enter**. This advances you to the Communication Profile panel (EDIX401-FMT02), as shown in Figure 1.36.

 **NOTE**

You cannot change the protocol when creating a profile by copying from another profile.

```

EDIX401          Communication Profile          EDI 04/30/11
FMT02           BSC                          12:00:00

Comm Profile ID. . . . . TESTCOPY
Company. . . . . Test copy of a Profile

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 1.36 Communication Profile panel (EDIX401-FMT02)

Make necessary changes and press **F10** (Update).

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.

Copy Communication Scripts

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

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . . _____

Type option (and Information), press Enter.
12=Session Ctrl  13=Jobs  14=History Log  15=Outb Queue  16=Inb Queue

Opt  Profile ID  Company
12  _____  _____
___  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

Parameters or command
===>_____
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
More...

```

Figure 1.37 Work with Communications Panel (EDIX400-FMT01)

Copy Scripts between Profiles

On the Work with Communications panel (EDIX400-FMT01), shown in the previous figure, 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), as shown in the previous figure, 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 the following figure. This panel displays slightly differently when accessed for all profiles or for a single profile.

```

EDIX402                Work with Communications Session                EDI 04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA            12:00:00

Position to Profile ID . . . . . CN3BSC  SR

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  6=Print  30=Start Session

Opt Profile  SN Company
-----
3 CN3BSC    SR Bi-Synch Communications Rel 3
   CN3BSC    ST Bi-Synch Communications Rel 3
   CN3SNA    RA SNA Communications Rel 3
   CN3SNA    RD SNA Communications Rel 3
   CN3SNA    RR SNA Communications Rel 3
   CN3SNA    SO SNA Communications Rel 3
   CN3SNA    SR SNA Communications Rel 3
   CN3SNA    ST SNA Communications Rel 3
   DEFAULT  SO Sterling Gentran Default

Parameters or command
====>
F1=Help  F3=Exit  F4=Prompt  F12=Cancel  F15=Sort  F24=More Keys
More...

```

Figure 1.38 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.

```

EDIX403          Communication Session Control          EDI  04/30/11
CTL01                                12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . SR
Company. . . . . Bi-Synch Communications Rel 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  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
  (3) 70  R   IQ      7  RECEIVE X12 DATA TO INQUE
.....
: Copy To :
: CN3BSC SR :
: F3=Exit F12=Cancel :
: :
: :
: :
.....

```

Figure 1.39 Work with Communication Session Control Panel (EDIX403-CTL01)

Copy Script Record between Profiles

On the Communication Session Control panel (EDIX403-CTL01), as shown above, 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 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 above, 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.

Process Inbound Files

To process inbound translations from the Work with Communications panel (EDIX400-FMT01), type option '22' (PRCTRNN) on the key entry line or next to the desired comm profile ID and press **Enter**. If it is entered next to a specific comm profile ID, the Profile ID is pre-loaded. Otherwise, press **F4** to see a list of valid IDs.

```

EDIX400                      Work with Communications                      EDI 04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . . _____

Type option (and Information) press Enter.
 17=Network Prf  18=MQ Links  22=PRCTRNN  30=Start Session  31=End Session

Opt Profile ID Company
22 _____
—  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

Parameters or command
===> _____
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
More...

```

Figure 1.40 Work with Communications Panel (EDIX400-FMT01)

You can also run the PRCTRNN command from the Work with Inbound Queue Control panel (EDIX407). If you selected to view inbound queue from a specific comm Profile ID, the profile ID is pre-loaded when you enter option '22' (PRCTRNN) on the key entry line. Otherwise, press **F4** to see a list of valid comm Profiles IDs.

```

EDIX407          Work with Inbound Queue Control          EDI 04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      12:00:00

Position to Profile ID . . . . . _____ Profile Seq _____

Type option (and Information), press Enter
  2=Revise  4=Delete  5=View  6=Print  22=PRCTRM IN  30=Extract Data

      Profile
Opt Profile  Sts   Seq #   Date      Time      Records  Comm  Batch  Batch
 22  _____  _____  _____  _____  _____  _____  _____  _____  _____
  ___ CN3BSC   RN     6 04.02.02  15:16:30      7      10     11 EDIFACT
  ___ CN3BSC   H      5 06.29.00  11:09:17     12       9     10 POINB
  ___ CN3BSC   H      3 06.20.99  14:13:34      7       2      3 Edifact
  ___ CN3BSC   PI     2 11.09.99  17:35:37      6       2      2 SEMPOAP
  ___ CN3BSC   PI     1 11.09.99  17:36:16     16       3      1 INVFILE
  ___ EVAL     PI    162 12.14.99  11:16:36      6       8       9
  ___ EVAL     PI    161 12.14.99  11:16:05      7       8       8
  ___ EVAL     PI    160 12.14.99  11:11:49      6       7       7
                                           More...

Parameters or command
===> _____
F1=Help  F6=More/Less  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
    
```

Figure 1.41 Work with Inbound Queue Control Panel (EDIX407-FMT01)

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 EDI 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. It is also important to understand how the communications “module” interfaces with the translation “module” in Sterling Gentran:Server. Outbound processing must already be completed prior to transmitting EDI data. The last step of the Outbound process is to add the batches of EDI data to the Outbound Queue with a ready status of ‘Q’ (Queued for transmission).

The EDI data remains in the Outbound Queue until you send it to a VAN or direct communication partner via a comm session. Typically, these jobs to perform Outbound Processing and then initiate comm sessions are scheduled to run on a routine basis (i.e., 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 EDI data remains in the Inbound Queue until you execute Inbound Processing. At that time, a copy of the data is passed to the Inbound Processing procedure and the status is changed to PI (processed inbound). These jobs are also typically scheduled to run at specific times in an unattended mode.

Management

From time to time, EDI 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 Inbound Processing (PRCTRININ) 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, you can restore it 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 GENCOM menu.

```

EDIX400                Work with Communications                EDI 04/30/11
FMT01                  pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . . _____

Type option (and Information), press Enter
 17=Network Prf 18=MQ Links 30=Start Session 31=End Session 32=Copy Comm

Opt  Profile ID  Company
30  _____
___  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 1.42 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**.

There are two other ways to run the STRCOMSSN command.

1. From the Work with Comm Session panel (EDIX402) using option '30.' From this screen, the Profile ID and Session Name are both pre-loaded.
2. From the Work with Outbound Queue Control page (EDIX404) using option '33' and press **Enter**. Press **F4** on the Profile ID and session name for a list of valid profile IDs and session names.

The Start Communication Session (STRCOMSSN) command panel is shown with the selected comm profile ID pre-loaded. It 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 . . . . . > SR                  Name
Delete Previous Jobs? . . . . . *YES         *YES, *NO
Schedule Job? . . . . . *NO                 *YES, *NO
Run Continually? . . . . . *NO              *YES, *NO

Additional Parameters

Trace? . . . . . *NO                       *YES, *NO
Run Interactively? . . . . . *NO           *YES, *NO
Connect If No Data? . . . . . *YES        *YES, *NO
Reset Queues on Fail? . . . . . *NO       *YES, *NO
Number of Restarts (0-99) . . . . . 0     0-99
Enable COMM-PRESS Software? . . . . . *NO *YES, *NO
Process Name . . . . . STRCOMSSN
Print Comm Session Log? . . . . . *NO     *YES, *NO

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

```

Figure 1.43 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 in order 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.

Session Type

An alphabetic field used to type the session name you are initiating for this Communication Profile ID. This is the unique identifier used to determine which session control set to use for this session. You may define one or more sets of session control records by entering a two-position session name on the set. When initiating the communication session with the profile ID, you must select the session control set to be used. A session name is user-defined; however, some basic codes are: SO (Send Only session), SR (Send and Receive session), and RA (Receive All).

Delete Previous Jobs?

This field allows cycling of communication jobs for this profile ID before this job executes. A value of *YES deletes all previous communication jobs using this profile name as the job name. A value of *NO does not allow the job deletion to be done.

Run Continually?

An alphanumeric field used to designate whether or not the job restarts immediately after completion of the designated communication script. A value of *YES results in the designated communication script, as defined in the profile definition communication job, re-executing in a never-ending loop. A value of *NO results in the designated communication script executing one time after being initiated.

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 iSeries ICF and iSeries Communications traces.

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.

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 is 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 Queue on Fail

If the Reset Queues on Fail parameter is set to *YES, Sterling Gentran:Server interprets 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, Sterling Gentran:Server sets any inbound queue

batches that were received during the session to status RA (Received Abnormally), so that they are not automatically processed by Sterling Gentran:Server inbound processing. Sterling Gentran:Server sets any outbound queue batches that were transmitted during the session to status SA (Sent Abnormally), so that they are 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

This 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.'

Enable COMM-PRESS Software

This parameter activates the COMM-PRESS Software for this communication session. If *YES is specified, this function compresses the data from the outbound queue prior to transmission and decompresses the data received prior to loading it to the inbound queue. The default is *NO. Set this parameter to *YES only if your communications partner or VAN is expecting your data to be compressed using the COMM-PRESS software package.



NOTE

The COMM-PRESS Software must be installed on your system and accessible from the library list at run time.

Process Name

This parameter allows you to uniquely identify the command or job flow in the Message Center. The default is the command name. It can be modified to any 15-byte alphanumeric value to further identify this process in the Message Center. The process name displays on the Work with Message Center panel and all information for this job is tracked under this name.

Additional Information

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 processed 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 displays, as shown in the following figure.

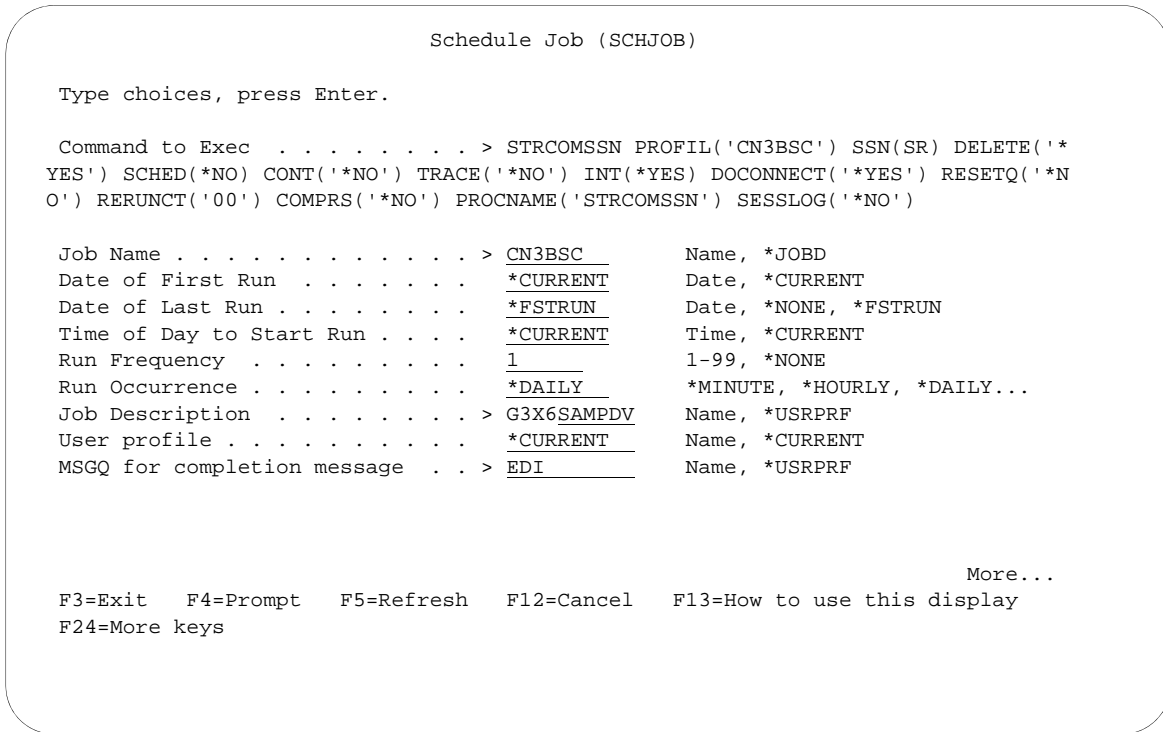


Figure 1.44 Schedule Job Panel (SCHJOB)

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.

```

EDIX400                      Work with Communications          EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA      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
13  _____
   CN3BSC      Bi-Synch Communications Rel 3
   CN3SNA      SNA Communications Rel 3
   REDINET     CONTROL DATA / REDINET NETWORK
   RMTDAA      Remote Dial Line/Answer/ASYN
   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 1.45 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**.

Work with Communication Jobs

The Work with Communication Jobs panel (EDIX817-FMT01) 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.

```

EDIX817          Work with Communication Jobs          EDI  04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      12:00:00

Position to Job Name . . . . . _____

Type option (and Information), press Enter.
  4=Delete  11=Inbound  12=Outbound  13=Profile  14=Session  15=End  30=Joblog

      Initial Id/          Comm Active Id/      Active  Start      Elapsed
Opt  Job Name      Line Id  Type Session Name  Function Time  Time
___  TS20S1      /ON LIN012  BSC  CN3BSC      /ON  SEND      12:00:00  00:50:06

Parameters or command
===> _____
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys

```

Figure 1.46 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 or 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 Sterling Gentran:Server 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.

```

EDIX400                Work with Communications                EDI      04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA                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
---  ---
14  CN3BSC      Bi-Synch Communications Rel 3
---  CN3SNA      SNA Communications Rel 3
---  REDINET     CONTROL DATA / REDINET NETWORK
---  RMTDAA      Remote Dial Line/Answer/ASYN
---  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

Parameters or command
===>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
More...

```

Figure 1.47 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**. 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) displays as shown in the following figure, 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 04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA          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 04-30-11  15:05:55  15:05:55  00:00:00  B  N
____ CN3BSC  SR    6           23 04-30-11  15:07:19  15:07:19  00:01:25  E  N
____ CN3BSC  SR    1           1 04-30-11  14:57:54  14:57:54  00:00:00  B  N
____ CN3BSC  SR    1           13 04-30-11  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 1.48 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 displays 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 (i.e., '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.

To automatically print the entire communications session according to the Comm Stamp assigned to it, type '6' in the Option field next to that entry. This creates a spooled file named SESSLOG.

Type '34' next to any entry on the Communications History screen to execute the PRTCOMHST Command and create a spooled file named SESSLOG.

F2 (More/Less) toggles between a basic and extended view of the history information. Initially, the basic view displays 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.

The following figure illustrates pressing **F2** (More/Less) to see the extended view.

```

EDIX406          Work with Communications History Log          EDI 04/30/11
FMT01            pgmlib: G3X6PGM          dtalib: G3X6DTA          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 04-30-11  15:05:55  15:05:55  00:00:00  B  N
____ CN3BSC  SR    6           2 04-30-11  15:05:58  15:06:17  00:00:19  C  N
____ CN3BSC  SR    6           3 04-30-11  15:06:17  15:06:17  00:00:00  C  N
____ CN3BSC  SR    6           4 04-30-11  15:06:18  15:06:18  00:00:00  C  N
____ CN3BSC  SR    6           5 04-30-11  15:06:19  15:06:19  00:00:00  OQ S N
____ CN3BSC  SR    6           6 04-30-11  15:06:19  15:06:21  00:00:02  OQ S N
____ CN3BSC  SR    6           7 04-30-11  15:06:21  15:06:22  00:00:01  OQ S N
____ CN3BSC  SR    6           8 04-30-11  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
F23 not valid at this time.

```

Figure 1.49 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.

The following figures illustrate the combination of pressing **F2** (More/Less) and **F6** (Msg On/Off).

```

EDIX406          Work with Communications History Log          EDI 04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA          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 04-30-11  15:05:55  15:05:55  00:00:00  B  N
COMMUNICATIONS START-UP                                Rtn Code: STRT
___  CN3BSC  SR      6          23 04-30-11  15:07:19  15:07:19  00:01:25  E  N
COMMUNICATIONS COMPLETED SUCCESSFULLY                Rtn Code: GOOD
___  CN3BSC  SR      1          1 04-30-11  14:57:54  14:57:54  00:00:00  B  N
COMMUNICATIONS START-UP                                Rtn Code: STRT
___  CN3BSC  SR      1          13 04-30-11  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 04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA          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 04-30-11  15:05:55  15:05:55  00:00:00  B  N
COMMUNICATIONS START-UP                                Rtn Code: STRT
___  CN3BSC  SR      6          2 04-30-11  15:05:58  15:06:17  00:00:19  C  N
CNTL RECORD SEND COMPLETED                            Rcds: 1 Rtn Code: 0000
___  CN3BSC  SR      6          3 04-30-11  15:06:17  15:06:17  00:00:00  C  N
CNTL RECORD SEND COMPLETED                            Rcds: 1 Rtn Code: 0000
___  CN3BSC  SR      6          4 04-30-11  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 1.50 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 (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 (the format is defined in environment control).

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

PRTCOMHST Command

Use the PRTCOMHST command to print records from the Communications History file. The PRTCOMHST command prints records according to the following criteria:

- Date/Time range
- Number of days
- Communications stamp

Once you execute the command, PRTCOMHST prompts for the search criteria. The search criteria selected determines subsequent prompts to further clarify the search.

The figure below illustrates the PRTCOMHST command and the prompts associated with each criteria selected:

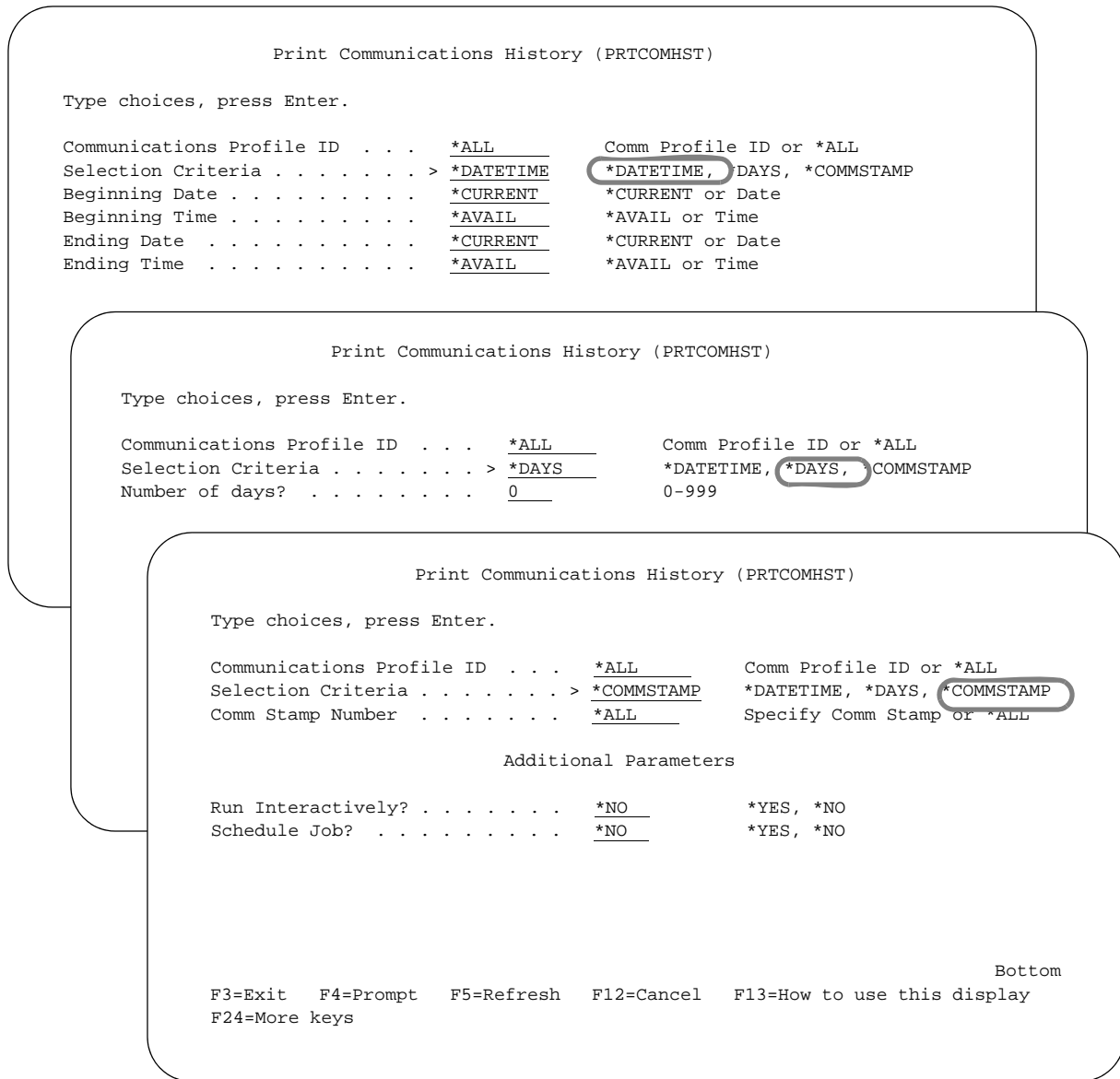


Figure 1.51 Print Communications History (PRTCOMHST) with Additional Parameters

Field Definitions

Select from the following parameters for the PRTCOMHST prompts:

Communications Profile ID

The Communications Profile ID identifies the specified profile from which to create a report. Use this parameter for the Selection Criteria of *DATETIME and *DAYS. Use if for *COMMSTAMP only when the Comm Stamp number specified is *ALL. The default is *ALL.

Selection Criteria

Selection Criteria is mandatory, and determines how the Communications History is searched. Choose from the following:

*DATETIME: Allows for a search of a date/time selection. Other fields associated with this selection are Profile ID, Beginning Date/Time, and Ending Date/Time.

*DAYS: Allows for a search of communications sessions that occurred a select number of days prior. This number includes the current day. Other fields associated with this selection are Profile ID and Number of Days.

*COMMSTAMP: Allows you to print a particular communications session by the communications stamp. Other field associated with this selection is Comm Stamp Number.

Comm Stamp Number

The Comm Stamp Number is used in conjunction with the Selection Criteria "COMMSTAMP. Sterling Gentran:Server assigns a Communication Stamp number to each communications session that executes within the system. Specify this number to print the Communication History for this session. The default is *ALL.

**NOTE**

If you use *ALL in the Comm Stamp Number field, PRTCOMHST will print all sessions according to the selection made in the Profile ID Field. Thus, selecting *ALL for the "Comm Profile ID=", "Selection Criteria=", and "Comm Stamp Number=" fields will cause the entire contents of the Communications History file to be printed.

Beginning Date

Specify the Beginning Date in conjunction with the Selection Criteria of *DATETIME. Select the default *CURRENT to use the current date as a beginning date, or type the beginning date for the reporting period. The format is determined by the Date Format specified in the Environment Control for the USERID submitting the command.

**NOTE**

Do not use separators such as "/" within this field. For example, if the Date Format is *YMD, type the date of August 23, 2001 as 010823.

Beginning Time

Specify the Beginning Time in conjunction with the Selection Criteria of *DATETIME. Type the HHMMSS (24-hour clock) of the start time for the collection of Communications History entries. The default value *AVAIL will have a start time of 000001.

**NOTE**

Do not use separators such as “:” to delimit Hour, Minute, or Second.

Ending Date

Specify the Ending Date in conjunction with the Selection Criteria of *DATETIME. Select the default *CURRENT to use the current date as the ending date, or type the ending date for the reporting period. The format is determined by the Date Format specified in the Environment Control for the USERID submitting the command.

**NOTE**

Do not use separators such as “/” within this field. For example, if the Date Format is “YMD, type the date of August 23, 2001 as 010823.

Ending Time

Specify the Ending Time in conjunction with the Selection Criteria of *DATETIME. Type the HHMMSS (24-hour clock) for the end time for the collection of Communications History entries. The default *AVAIL will have an end time of 240000.

**NOTE**

Do not use separators such as “:” to delimit Hour, Minute, or Second.

Number of Days?

Specify the Number of Days in conjunction with the selection Criteria of *DAYS to determine how many days past to create a report. Use a specific Profile ID to further define the report, otherwise all Communications Sessions will be reported. The valid selections are 1-999.

Run Interactively?

This parameter allows you to perform the process interactively (immediately). If you select *YES to run the command in an interactive mode, you can monitor system messages that occur during the processing. However, this selection locks you out of the system from the terminal on which the job was submitted until the process has completed.

Schedule Job?

Use this alphanumeric field to designate if you want to run this option by scheduling it as a job. The default for this field is *NO.

Manage the Outbound Queue

All data that you process from your applications through Sterling Gentran:Server for iSeries 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).

```

EDIX400                Work with Communications                EDI    04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA      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      Bi-Synch Communications Rel 3
---  ---
---  CN3SNA       SNA Communications Rel 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 1.52 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 the following figure, 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 04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA            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
Opt Profile  Sts   Seq #   Date       Time       Records   Comm  Batch  Batch
           _____
 5_ CN3BSC   Q     187  04-30-11   11:40:20    3         241
___ CN3BSC   Q     186  04-30-11   11:40:20    4         240
___ CN3BSC   Q     185  04-30-11   14:28:01    4         239
___ CN3BSC   Q     184  04-30-11   14:28:01    4         238
___ CN3BSC   Q     183  04-30-11   14:28:01    4         237
___ CN3BSC   Q     182  04-30-11   14:22:42    4         236
___ CN3BSC   Q     181  04-30-11   14:20:18    4         234
___ CN3BSC   Q     180  04-30-11   11:06:01    4         233
___ CN3BSC   Q     179  04-30-11   11:03:18    4         231
                                           More...

Parameters or command
===>_____
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys

```

Figure 1.53 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 displays 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' or 'Created Date' 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 the following figure, displays the actual data contained in the selected batch.

```

EDIX405                               Outbound Queue Inquiry           EDI      04/30/11
                                                                         12:00:00
Comm Profile Id . . . CN3BSC                Line Number . . . . 000000001
Profile Seq . . . . 000187                  Status. . . . . Q
Add Date. . . . . 04/30/11                 Batch Seq Number. . 0000241
Add Time. . . . . 12:40
Batch-Id. . . . .

UNB+UNOA:1+MYDUNS:01+COFFEEDUNS:ZZ+011213:1140+00000000000001++CONTRL++0'UNH+
00000000001+CONTRL:2:1:UN'UCI+00000000000005+COFFEEDUNS:ZZ+MYDUNS:01+7'UCM+00
000000005+ORDERS:D:94B+7'UNT+4+00000000000001'UNZ+1+00000000000001'

                                           Bottom

F1=Help  F2=Hex  F5=Refresh  F12=Cancel  F17=Next Rcd
F19=Left  F20=Right  F21=Prt Dta
End of data records

```

Figure 1.54 Character Display Mode of the Outbound Queue Inquiry panel (EDIX405)

Press **F2** (Hex) to toggle between character and hexadecimal displays.

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**.

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.

```

EDIX404          Work with Outbound Queue Control          EDI  04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      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   04/30/11   12:00:00    18           259
      Last Update User      Date       Time  00:00:00
--- CN3BSC    Q      204   04/30/11   12:00:00    21           258
      Last Update User      Date       Time  00:00:00
--- CN3BSC    Q      203   04/30/11   12:00:00    18           257
      Last Update User      Date       Time  00:00:00
--- CN3BSC    Q      202   04/30/11   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

```

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 in order to prevent it from being sent. In order for a copy of the batch of data to be transmitted 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 04/30/11
FMT01                  pgmlib: G3X6PGM          dtalib: G3X6DTA          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  04-30-11   11:40:20   3           241
  -----
  Change Status to
  RN
  F3=Exit  F12=Cancel
  -----
  CN3BSC   Q    179  04-30-11   11:03:18   4           231
  -----
  More...

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

Figure 1.56 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 displays and allows you to specify the new status code. 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**.

The following figure shows the deletion of a batch from the outbound queue.

```

EDIX404          Work with Outbound Queue Control          EDI 04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      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
Opt Profile  Sts   Seq #   Date       Time       Records   Comm   Batch  Batch
                Stamp  Seq #   ID
-----
___ CN3BSC    Q     187   04/30/11   11:40:20   3         241
___ CN3BSC    Q     186   04/30/11   11:40:20   4         240
___ CN3BSC    Q     185   04/30/11   14:28:01   4         239
(4) CN3BSC    Q     184   04/30/11   14:28:01   4         238
___ CN3BSC    Q     183   04/30/11   14:28:01   4         237
___ CN3BSC    Q     182   04/30/11   14:22:42   4         236
___ CN3BSC    Q     181   04/30/11   14:20:18   4         234
___ CN3BSC    Q     180   04/30/11   11:06:01   4         233
___ CN3BSC    Q     179   04/30/11   11:03:18   4         231
                                     More...

Parameters or command
====>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
Cancel request complete.  No data updated.

```

Figure 1.57 Work with Outbound Queue panel (EDIX404 - FMT01)

A confirmation panel displays, showing the entry or entries to be deleted.

```

EDIX404          Work with Outbound Queue Control          EDI  04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      12:00:00

Press Enter to confirm your choices for Delete.
Press F12=Cancel to return to change your choices.

      Profile
Profile  Sts   Seq #   Date       Time    Records  Comm  Batch  Batch
          Q     184  04/30/11   14:28:01    4      Stamp Seq #   ID
CN3BSC

                                           Bottom

F12=Cancel
    
```

Figure 1.58 Work with Outbound Queue Control panel (EDIX404 - CTL02)

Press **Enter** to confirm deletion for all selected entries or **F12** to cancel.

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

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

```

Figure 1.59 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 displays, allowing the user to modify the print level, output type, and starting and ending record sequence number.

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 04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      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
Opt Profile  Sts   Seq #   Date       Time      Records  Comm  Batch  Batch
      _____
30  CN3BSC   Q     187  04-30-11   11:40:20    3         241
   CN3BSC   Q     186  04-30-11   11:40:20    4         240
   CN3BSC   Q     185  04-30-11   14:28:01    4         239
   CN3BSC   Q     184  04-30-11   14:28:01    4         238
   CN3BSC   Q     183  04-30-11   14:28:01    4         237
   CN3BSC   Q     182  04-30-11   14:22:42    4         236
   CN3BSC   Q     181  04-30-11   14:20:18    4         234
   CN3BSC   Q     180  04-30-11   11:06:01    4         233
   CN3BSC   Q     179  04-30-11   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

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

Figure 1.60 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 displays, allowing the user to modify other parameters.

Find a String of Data in the Comm Queues

It may be necessary to search the Outbound EDI data for a string of data in order to locate the batch for printing or reprocessing. This option allows you to enter a search string along with additional selection criteria and produce a report with all the matches found.

```

EDIX404          Work with Outbound Queue Control          EDI 04/30/11
FMT01           pgmlib: G3X6PGM          dtalib: G3X6DTA          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
Opt Profile Sts Seq #      Date      Time  Records  Comm  Batch  Batch
          Stamp  Seq #      ID
-----
31 CN3BSC  Q      187 04-30-11  11:40:20  3      241
   CN3BSC  Q      186 04-30-11  11:40:20  4      240
   CN3BSC  Q      185 04-30-11  14:28:01  4      239
   CN3BSC  Q      184 04-30-11  14:28:01  4      238

          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 . . . . . INV01
Search in Unwrapped Data? . . . . . *YES          *YES, *NO
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

          Additional Parameters

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 1.61 Find String in Comm Queues (FNDSTRCOM) Command

To search for a string, type '31' (Find String) next to a specific batch or on the key entry line if all batches are to be searched and press **Enter**. The FNDSTRCOM command displays, allowing the user to enter the search string (string to find) and modify other selection criteria. A report (EBDI074) is generated, identifying the matches found.

NOTE

You may type a string of data from 1 – 25 characters in length for a search.

You can search the string in wrapped or unwrapped data. If you select to search in unwrapped data, you may not find all the batches containing the string. This is because unwrapping data stops when invalid or no EDI data is encountered. If this happen, try searching with the data wrapped.

**CAUTION**

If you type special characters in the string, such as spaces or hyphens, or type the string within quotes, the string should be typed in uppercase, since the iSeries auto-conversion to upper case will not be performed in these cases.

IFS Gateway

Sterling 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  04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      12:00:00

Position to Profile ID . . . . . Profile Seq  9999999

Type option (and Information), press Enter.
32=GIFSGATE      33=Start Session
Profile
Opt Profile  Sts   Seq #   Date       Time       Records   Comm   Batch   Batch
Stamp      Seq #   ID
32 CN3BSC   Q      205   04/30/11   12:00:00   18        259
   CN3BSC   Q      204   04/30/11   12:00:00   21        258
   CN3BSC   Q      203   04/30/11   12:00:00   18        257

Sterling 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 1.62 Perform IFS Gateway Command (GIFSGATE)

To use IFS Gateway, type '32' (GIFSGATE) next to the selected batch of data and press **Enter**. The GIFSGATE command displays, enabling you to modify other parameters. (SEE Chapter 12 for more information about the GIFSGATE command, and field descriptions.)

Start a Communication Session from the Outbound Queue

You can start a communication session from the Outbound Queue Control panel by typing option '33' (Start Session) on the key entry line and press **Enter**.

```

EDIX404                Work with Outbound Queue Control                EDI 04/30/2011
FMT01                  pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . . _____ Profile Seq 9999999

Type option (and information), press Enter.
 32=GIFSGATE  33=Start Session

      Profile
Opt Profile  Sts  Seq #   Date    Time    Records  Comm  Batch  Batch
 33 _____  _____  _____  _____  _____  _____  _____  _____
   CN3BSC    Q    206 08.19.03  11:06:02    12           260
   CN3BSC    Q    205 05.16.03  15:06:36    18           259
   CN3BSC    Q    204 05.16.03  15:06:36    21           258
   CN3BSC    Q    203 05.16.03  15:06:36    18           257
   CN3BSC    Q    202 05.16.03  15:06:36    22           256
   CN3BSC    Q    201 05.16.03  15:05:23     4           255
   CN3BSC    Q    200 11.27.02  11:57:03     7           254
   CN3BSC    Q    199 11.27.02  11:57:03     7           253
                                           More...

Parameters or command
===> _____
F1=Help  F6=More/Less  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
    
```

Figure 1.63 Start Session from Outbound Queue

The STRCOMSSN command panel displays, allowing you to modify other parameters. If the Work with Outbound Queue panel view is selected for a specific comm. Profile ID and option '33' is entered, the Profile ID is pre-loaded. On the Session Type parameter, press **F4** (Prompt) for a list of valid session names for the profile ID.

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 processed, the system changes the status to 'PI' (Processed Inbound).

Data processed Inbound from the 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 reprocess the data contained in the batches.

Access the Inbound Queue

You can access the Inbound Queue from the Work with Communications panel (EDIX400-FMT01).

```

EDIX400                      Work with Communications          EDI    04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA      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      Bi-Synch Communications Rel 3
---  CN3SNA      SNA Communications Rel 3
---  REDINET     CONTROL DATA / REDINET NETWORK
---  RMTDAA      Remote Dial Line/Answer/ASYN
---  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 1.64 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**. 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-FMT01), as shown in the following figure, 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 04/30/11
FMT01                  pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile Seq                                For  CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  22=PRCTRNIN  30=Extract Data
                Profile
Opt Profile  Sts   Seq #   Date       Time       Records   Comm   Batch  Batch
-----
   CN3BSC   PI     5    04-30-11   11:09:17    12       9      10  POINB
  5  CN3BSC   PI     3    04-30-11   14:13:34     7       2       3  Edifact
   CN3BSC   RN     2    04-30-11   17:35:37     6       2       2  SEMPOAP
   CN3BSC   RN     1    04-30-11   17:36:16    16       3       1  INVFILE

                                                                 Bottom

Parameters or command
===>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys

```

Figure 1.65 Work with the Inbound Queue Control Panel (EDIX407-FMT01)

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 displays 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' or 'Created Date' 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 as follows, displays the actual data contained in the selected batch.

```

EDIX408                      Inbound Queue Inquiry          EDI      04/30/11
                                      12:00:00
Comm Profile Id . . . CN3BSC                      Line Number . . . . 000000001
Profile Seq . . . . 000002                      Status. . . . . RN
Date Received . . . . 04-30-11                  Batch Seq Number. . 0000002
Time Received . . . . 17:35
Batch-Id. . . . . SEMPOAPPL

ISA*00*                *00*                *01*987654321          *01*123456789          *991012*
1*U*00400*000000001*0*T*#?GS*PO*987654321*123456789*19991012*1500*000000001*X
4010?ST*850*0001?BEG*00*NE*01120001**19991012?N1*ST*XX**100?PO1**10*EA*5.12**
PART-123?PO1**30*DA*10.0**PI*PART-456?PO1**5*CA*8.25**PI*PART-789?CTT*3?SE*8*
1?ST*850*0002?BEG*00*NE*01120030**19991017?N1*ST**3*200?PO1**20*BX*9.5**PI*PA
123?PO1**500*CA*22.79**PI*PART-4?CTT*2?SE*7*0002?GE*2*000000001?IEA*1*0000000

                                      Bottom

F1=Help  F2=Hex  F5=Refresh  F12=Cancel  F17=Next Rcd
F19=Left  F20=Right  F21=Prt Dta
End of data records

```

Figure 1.66 Character Display Mode of the Inbound Queue Inquiry Panel (EDIX408)

In order 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. The following figure illustrates the hexadecimal display.

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.

```

EDIX407          Work with Inbound Queue Control          EDI  04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      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   04/30/11  12:00:00    7     10     11 EDIFACT
      Last Update User      Date 04/30/11    Time 12:00:00
---  CN3BSC   PI     5   04/30/11  12:00:00   12     9      10 POINB
      Last Update User      Date          Time 00:00:00
---  CN3BSC   H      3   04/30/11  12:00:00    7     2       3 Edifact
      Last Update User      Date          Time 00:00:00
---  CN3BSC   PI     2   04/30/11  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.

```

Revise the Batch Status on the Inbound Queue

There may be times when it is necessary to reprocess inbound EDI data. In order for a copy of the batch of data to be passed 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).

```

EDIX407                Work with Inbound Queue Control                EDI 04/30/11
FMT01                  pgmlib: G3X6PGM          dtalib: G3X6DTA          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
Opt Profile  Sts   Seq #   Date       Time       Records   Stamp   Batch  Batch
-----
___ CN3BSC    PI     5   04-30-11   11:09:17   12        9       10 POINB
___ CN3BSC    PI     3   04-30-11   14:13:34   7         2        3 Edifact
(2) CN3BSC    PI     2   04-30-11   17:35:37   6         2        2 SEMPOAP
-----
Change Status to
  RN
F3=Exit  F12=Cancel
-----
Parameters or command
====>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys
    
```

Figure 1.68 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 displays and allows you to specify the new status code. 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**.

The following figure shows the deletion of a batch from the inbound queue.

```

EDIX407          Work with Inbound Queue Control          EDI 04/30/11
FMT01            pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile Seq _____          For CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  22=PRCTRIN  31=Find String
                Profile
Opt Profile  Sts   Seq #   Date       Time       Records   Comm   Batch  Batch
-----  -----  ---  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
  CN3BSC   PI     5   04/30/11   11:09:17    12      9     10  POINB
  CN3BSC   PI     3   04/30/11   14:13:34     7      2      3  Edifact
  4 CN3BSC   RN     2   04/30/11   17:35:37     6      2      2  SEMPOAP
  CN3BSC   RN     1   04/30/11   17:36:16    16      3      1  INVFILE

Parameters or command
===>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys

Bottom

```

Figure 1.69 Delete batch from Inbound Queue

A confirmation panel displays, showing the entry or entries to be deleted.

```

EDIX407          Work with Inbound Queue Control          EDI 04/30/11
FMT01            pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Press Enter to confirm your choices for Delete.
Press F12=Cancel to return to change your choices.

                Profile
Profile Sts   Seq #   Date       Time       Records   Comm   Batch  Batch
-----  ---  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
  CN3BSC   RN     2   04-30-11   17:35:37     6      2      2  SEMPOAP

F12=Cancel

Bottom

```

Figure 1.70 Work with Inbound Queue Control panel (EDIX407 - CTL02)

Press **Enter** to confirm the deletion for all selected entries.

Print Inbound Queue Data

There may be 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

It is extremely important that the starting sequence number begins with an interchange record. The program requires this information in order to determine the separators and terminators.

```

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 1.71 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 displays, allowing the user to modify the print level, output type, and starting and ending record sequence number.

Initiate Inbound Processing from the Inbound Queue Control

To process inbound transactions from the Inbound Queue Control panel, type option '22' (PFCTRNN) on the key entry line and press **Enter**.

```

EDIX407                Work with Inbound Queue Control                EDI 04/30/11
FMT01                  pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . . _____ Profile Seq _____

Type option (and Information), press Enter
  2=Revise  4=Delete  5=View  6=Print  22=PRCTRNN  30=Extract Data

Profile
  Opt Profile  Sts   Seq #   Date      Time      Records  Comm  Batch  Batch
  22 _____  _____  _____  _____  _____  _____  _____  _____  _____
  ___ CN3BSC   RN     6 04.02.02  15:16:30    7     10     11 EDIFACT
  ___ CN3BSC   H      5 06.29.00  11:09:17   12      9     10 POINB
  ___ CN3BSC   H      3 06.20.99  14:13:34    7      2      3 Edifact
  ___ CN3BSC   PI     2 11.09.99  17:35:37    6      2      2 SEMPOAP
  ___ CN3BSC   PI     1 11.09.99  17:36:16   16      3      1 INVFILE
  ___ EVAL     PI    162 12.14.99  11:16:36    6      8      9
  ___ EVAL     PI    161 12.14.99  11:16:05    7      8      8
  ___ EVAL     PI    160 12.14.99  11:11:49    6      7      7
                                          More...

Parameters or command
====> _____
F1=Help  F6=More/Less  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys

```

Figure 1.72 Start Session from the Inbound Queue Control

The PRCTRNN command panel displays, enabling you to modify other parameters. Press **F4** (Prompt) on the Communications Profile ID parameter for a list of valid Profile IDs. If the option '22' is entered on the Work with Inbound Queue panel for a specific comm Profile ID, the Profile ID is pre-loaded.

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 04/30/11
FMT01                  pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile Seq _____ For CN3BSC

Type option (and Information), press Enter.
  2=Revise  4=Delete  5=View  6=Print  22=PRCTRN  30=Extract Data

Profile
Opt Profile  Sts   Seq #   Date       Time       Records   Stamp   Batch  Batch
_____  _____  _____  _____  _____  _____  _____  _____  _____  _____
30 CN3BSC    PI      5  04-30-11  11:09:17   12        9       10 POINB
___ CN3BSC    PI      3  04-30-11  14:13:34    7        2        3 Edifact
___ CN3BSC    RN      2  04-30-11  17:35:37    6        2        2 SEMPOAP
___ CN3BSC    RN      1  04-30-11  17:36:16   16        3        1 INVFILE

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 . . > *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

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

Figure 1.73 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 displays, 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 of Data in the Comm Queues

It may be necessary to search the Inbound EDI data for a string of data in order to locate the batch for printing or reprocessing. This option allows you to enter a search string along with additional selection criteria and produce a report with all the matches found.

```

EDIX407          Work with Inbound Queue Control          EDI 04/30/11
FMT01           pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile Seq _____          For CN3BSC

Type option (and Information), press Enter.
31=Find String 32=GENIBQIFS
Profile
Opt Profile  Sts   Seq #   Date       Time       Records   Comm   Batch  Batch
Stamp      Seq #   ID
-----
31 CN3BSC    PI      5   04-30-11   11:09:17   12        9      10 POINB
   CN3BSC    PI      3   04-30-11   14:13:34   7         2       3 Edifact
   CN3BSC    RN      2   04-30-11   17:35:37   6         2       2 SEMPOAP
   CN3BSC    RN      1   04-30-11   17:36:16  16         3       1 INVFILE

Find String in Comm Queues (FNDSTRCOM)

Type choices, press Enter.

Comm Profile ID . . . . . > CN3BSC          *ALL, Character
Direction . . . . . > *IN                 *IN, *OUT
Batch Sequence Number . . . . . > 000010    Number, *ALL
String to find . . . . . TP DIV1
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

Additional Parameters

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 1.74 Find String in Comm Queues (FNDSTRCOM) Command

To search for a string, type '31' (Find String) next to a specific batch or on the key entry line if all batches are to be searched and press **Enter**. The FNDSTRCOM command displays, allowing the user to enter the search string (string to find) and modify other selection criteria. A report (EBDI074) is generated identifying the matches found.

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).

```

EDIX407          Work with Inbound Queue Control          XX 04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      12:00:00

Position to Profile ID . . . . . _____ Profile Seq 9999999

Type option (and Information) press Enter.
31=Find String  32=GENIBQIFS

Profile
Opt Profile  Sts   Seq #   Date       Time       Records   Comm   Batch  Batch
_____  _____  _____  _____  _____  _____  _____  _____  _____  _____
32  CN3BSC   PI      6   04/30/11   12:00:00    7        10     11  EDIFACT
___  CN3BSC   PI      5   04/30/11   12:00:00   12         9     10  POINB
___  CN3BSC   H       3   04/30/11   12:00:00    7         2      3  Edifact
___  CN3BSC   PI      2   04/30/11   12:00:00    6         2      2  SEMPOAP

Gentran IBQ to IFS Gateway (GENIBQIFS)

Type choices, press Enter.

Communication profile id . . . . . > CN3BSC      Name
Outbound IFS directory . . . . . _____
Outbound IFS file . . . . . _____
Outbound End of Line . . . . . *FIXED          *CRLF, *CR, *LF, *LFCR...
Periodic polling . . . . . _____          *NO, *YES

Additional Parameters

Process Name . . . . . GENIBQIFS
Append Data? . . . . . *NO          *YES, *NO
Start Profile Sequence Number . . > 6          Number
End Profile Sequence Number . . > 6          Number
Run interactively . . . . . > *YES          *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 1.75 Perform Gentran IBQ to IFS Gateway Command (GENIBQIFS)

To use 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 Sterling 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 will default the status of the batch to 'Q' (Queued), however, you can override the status to 'H' or 'SN'. When data is added to the inbound queue, the system will default the status of the batch to 'RN' (Received Normally), however, you can override the status to 'PI' or 'H'.
- 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 typed 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.
- When data is added to the inbound queue, you have the option of specifying a maximum of 2 HEX characters to be removed from the data before adding it to queue.



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.

The following figure 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
Outbound Queue Status . . . . . Q      Q, H, SN

                                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 1.76 Add Data to Queues (panel 1)

```

                                Add Data to Queues (ADD)

Type choices, press Enter.

Lock the File? . . . . . *YES          *NO, *YES
Schedule Job ? . . . . . *NO           *YES, *NO

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

```

Figure 1.77 Add Data to Queues (panel 2)

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 Sterling 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.

Lock the File

The default value for Lock the File parameter is *YES. It allows you to check for an object lock. If the object is locked, the program will wait 10 seconds and try allocating it again. If it is still allocated, the job ends and the file will not be added to the queue.

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 Sterling 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 Sterling 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 removes 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 removes only batches containing that Batch ID. If you type '*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.

The following figure shows the Extract Data From Queues (EXTRACT) panel.

```

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

Figure 1.78 Extract Data From Queues (panel 1)

```

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
Keep Blank Records? . . . . . *NO           *NO, *YES
Lock the File? . . . . . *YES         *NO, *YES
Wrap Multiple Batches. . . . . *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 1.79 Extract Data from Queues (panel 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 displays 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.

Keep Blank Records

This field determines whether blank records will be kept in the data when the data is loaded to the queue. *NO indicates that blank records will be removed from the data when the data is added to the queue. *YES indicates that blank records will be kept.

Lock the File?

This field determines whether the file that the data is being copied to is to be locked. The default is *YES.

Wrap Multiple Batches

When answering *YES to this parameter and there are multiple batches to extract, there will be no spaces in between batches. The next batch of data will start in the next position after the last batch's segment terminator.



NOTE

If you have unwrapped data to be extracted - DO NOT answer '*YES' to this parameter. It will cause the spacing of the batches to be shifted and could result in invalid data. The default for this parameter is *NO and it will not wrap the batches.

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 processed or extracted). Likewise, all batches of data processed outbound or added 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 enhance your processing throughput. 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 the Work with Communications panel (EDIX400-FMT01) or prompted from the command line. These commands are described in the following table.

Option Codes	Commands	Description
40	PRGCHF	Purge the Communications History file
41	PRGOBQ	Purge the Outbound Queue
42	PRGIBQ	Purge the Inbound Queue
43	PRGALL	Purge all Communications files
44	RTVCHF	Retrieve the Communications History file
45	RTVOBQ	Retrieve the Outbound Queue
46	RTVIBQ	Retrieve the Inbound Queue
47	RVTALL	Retrieve all Communications 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 processing 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 the value '999,' the system executes the Purge All Comm Files processing.

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/or weekends.

Purge the Communications History Log (PRGCHF)

To access the PRGCHF command, select Option '40' (Purge Hist) on the Work with Communications panel (EDIX400-FMT01), or prompt 'PRGCHF' on the command line. The command panel displays, as shown in the following figure.

```

Purge Comm History File (PRGCHF)

Type choices, press Enter.

Selection Criteria for Purge . . . *DAYS_____ *DATE, *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
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 1.80 Purge Comm History File (PRGCHF) 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.

Process Name

This parameter allows you to uniquely identify the command or job flow in the Message Center. The default is the command name. It can be modified to any 15-byte alphanumeric value to further identify this process in the Message Center. The process name displays on the Work with Message Center panel and always tracks under this name.

Purge the Outbound Queue (PRGOBQ)

To access the PRGOBQ command panel, select Option '41' (Purge Outb) on the Work with Communications panel (EDIX400-FMT01), or prompt 'PRGOBQ' on the command line. The command panel displays, as shown in the following figure.

```

Purge Outbound Queue (PRGOBQ)

Type choices, press Enter.

Selection Criteria for Purge . . . *DAYS          *DATE, *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 1.81 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.

Process Name

This parameter allows you to uniquely identify the command or job flow in the Message Center. The default is the command name. It can be modified to any 15-byte alphanumeric value to further identify this process in the Message Center. The process name displays on the Work with Message Center panel, and always tracks under this name.

Purge the Inbound Queue (PRGIBQ)

To access the PRGIBQ command, select Option '42' (Purge Inb) on the Work with Communications panel (EDIX400-FMT01), or prompt 'PRGIBQ' on the command line. The command panel displays, as shown in the following figure.

```

Purge Inbound Queue (PRGIBQ)

Type choices, press Enter.

Selection Criteria for Purge . . . *DAYS          *DATE, *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

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

```

Figure 1.82 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.

Process Name

This parameter allows you to uniquely identify the command or job flow in the Message Center. The default is the command name. It can be modified to any 15-byte alphanumeric value to further identify this process in the Message Center. The process name displays on the Work with Message Center panel and always tracks under this name.

Purge All Communications Files (PRGALL)

To access the PRGALL command, select Option '43' (Purge All) on the Work with Communications panel (EDIX400-FMT01), or prompt 'PRGALL' on the command line. The command panel displays, as shown in the following figure.

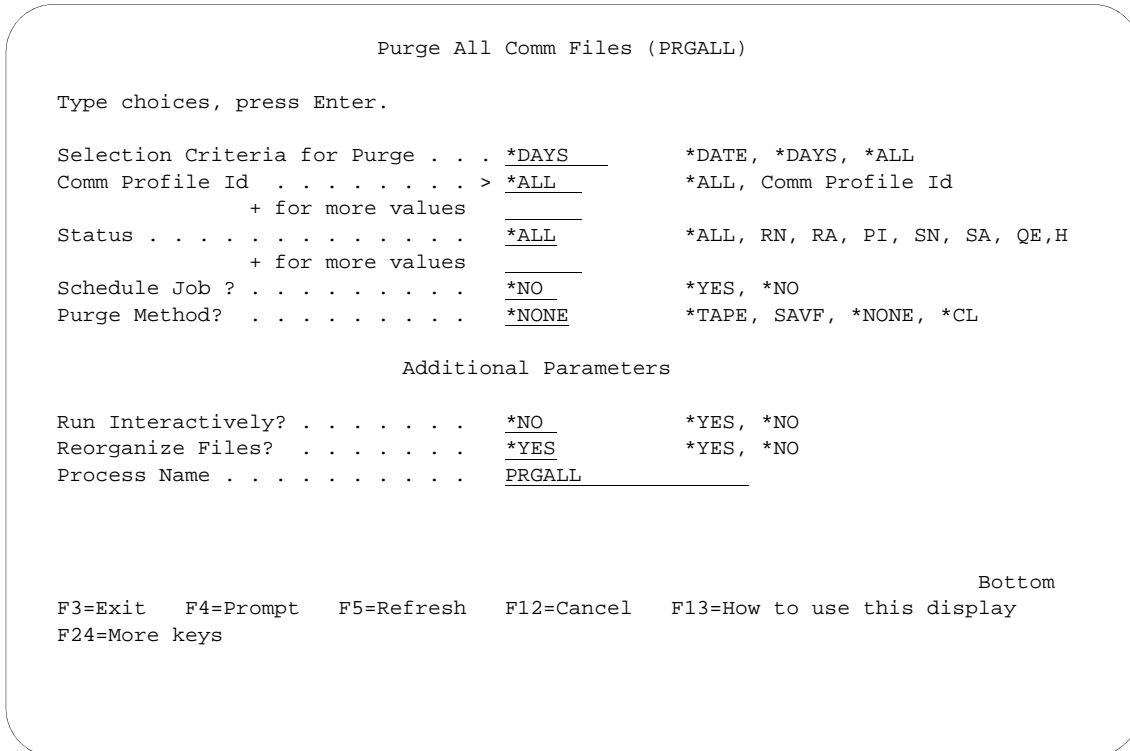


Figure 1.83 Purge All Comm Files (PRGALL) panel

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.

Process Name

This parameter allows you to uniquely identify the command or job flow in the Message Center. The default is the command name. It can be modified to any 15-byte alphanumeric value to further identify this process in the Message Center. The process name displays on the Work with Message Center panel and always tracks under this name.

Retrieve the Communications History Log (RTVCHF)

To access the RTVCHF command, select Option '44' (Retrieve History) on the Work with Communications panel (EDIX400-FMT01), or prompt 'RTVCHF' on the command line. The command panel displays, as shown in the following figure.

```

Retrieve Comm Hst from Tape (RTVCHF)

Type choices, press Enter.

Communication History File . . .  COMHST      Character value
Library . . . . .                G3X6DTA    Character value
Retrieve Method . . . . .         _____    *TAPE, *SAVF

Additional Parameters

Run Interactively? . . . . .     *NO        *YES, *NO

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

```

Figure 1.84 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 '45' (Retv Outbound) on the Work with Communications panel (EDIX400-FMT01), or prompt 'RTVOBQ' on the command line. The command panel displays, as shown in the following figure.

```

Retrieve Outbnd Que from Tape (RTVOBQ)

Type choices, press Enter.

Outbound Control File . . . . . OUTCTL      Character value
Outbound Data File . . . . . OUTDTA      Character value
Library . . . . . G3X6DTA      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 1.85 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 '46' (Retrieve Inbound) on the Work with Communications panel (EDIX400-FMT01), or prompt 'RTVIBQ' on the command line. The command panel displays as shown in the following figure.

```

Retrieve Inbound Que from Tape (RTVIBQ)

Type choices, press Enter.

Inbound Control File . . . . . INBCTL      Character value
Inbound Data File   . . . . . INBDTA      Character value
Library             . . . . . G3X6DTA     Character value
Retrieve Method     . . . . .               *TAPE, *SAVF

Additional Parameters

Run Interactively? . . . . . *NO          *YES, *NO

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

```

Figure 1.86 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 '47' (Retrieve All) on the Work with Communications panel (EDIX400-FMT01), or prompt 'RTVALL' on the command line. The command panel displays as shown in the following figure.

```

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 . . . . . G3X6DTA      Character value
Retrieve Method . . . . . _____      *TAPE, *SAVF

Additional Parameters

Run Interactively . . . . . *NO          *YES, *NO

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

Figure 1.87 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 IBM® Sterling B2B Collaboration Network (the value-added network for IBM). 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 Sterling B2B Collaboration Network.

The ezCOMM command is accessed from the Work with Communications panel (EDIX400-FMT01).

```

EDIX400                      Work with Communications                      EDI 04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . .

Type option (and Information), press Enter.
47=Retv All  50=ezCOMM

Opt  Profile ID  Company
50  _____
___  ADVBSC      ADVANTIS BSC
___  ADVLU0     ADVANTIS SDLC
___  ATLASFTX   Atlas in France via OFTP/X.25
___  ATEASY     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
Command prompting ended when user pressed F12.

```

Figure 1.88 Work with Communications

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 the following figure, introduces the ezCOMM command. This command can be used to customize the pre-defined profiles for Sterling B2B Collaboration Network (the IBM VAN).

```

ezCOMM                      Communications (ezCOMM)                04/30/11
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 Sterling B2B Collaboration Network (the Value Added Network
for IBM). 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 Sterling B2B Collaboration 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 1.89 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 Sterling B2B Collaboration Network. These panels are documented earlier in this chapter.

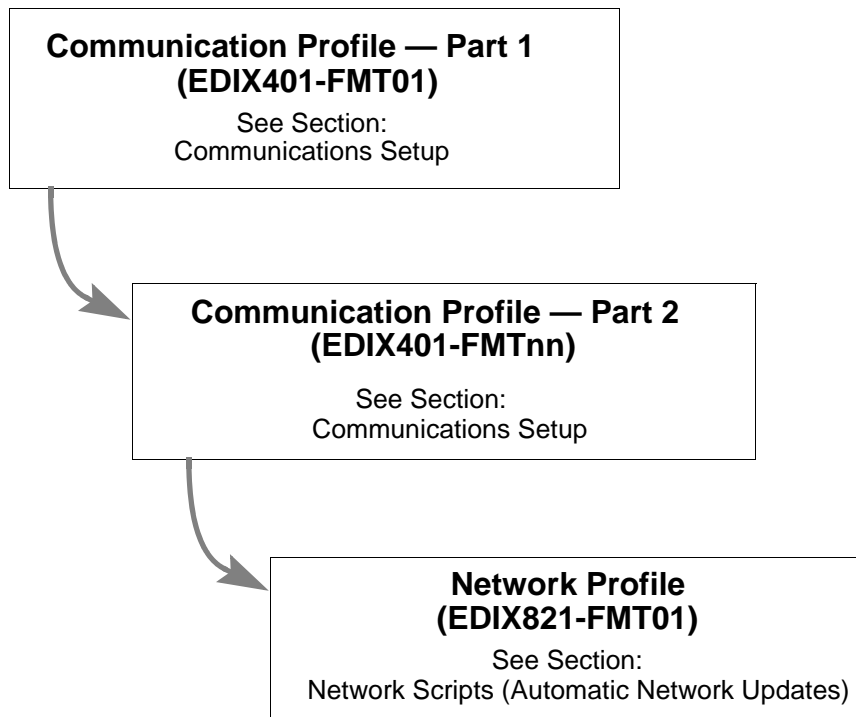


Figure 1.90 The ezCOMM Panels

Reports

EBDI078 — Sterling Gentran:Server 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 Sterling Gentran:Server program that generates this report (EBDI078) appears in the upper left-hand corner of the actual report. The report title “Sterling 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 placing a ‘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 report can also be generated from the Audit subsystem. (SEE the “Audit” chapter in the *IBM® Sterling Gentran:Server® for iSeries® Technical Reference Guide* for an example of the PRTEIDTA command.) The Print EDI Data (PRTEIDTA) 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. If the file already exists, specify *NO in the Create File parameter. Note that the file should have a minimum record length of 80 bytes, since the data is unwrapped and written as 80-byte records. The default is to create the file with a record length of 80 bytes.

```
EBDI078      RUN DATE 04/30/11      STERLING 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 *990212*165
2*U*00300*000002824*0*T**?
GS*PO*EDIISAPART*EDIINBOUND*971010*1652*987*X*004010?
ST*850*000987001?
BEG*00*NE*14**971101?
NTE*ALL*###
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?
NI*BT*MILLER & HARTMAN*92*1159001?
REF*DP*124?
NTE*GEN*JUST ONE MORE NOTE?
PO1*1*-48*EA*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 1.91 EDI Print Report (EBDI078)

Fields on the EDI Print Report (EBDI078)

The fields on the report are defined as follows:

Field Name	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

EBDI074 — Sterling Gentran:Server Comm Queue Search Report

Contents of the Report

This report contains all the information associated with the selected string of data being searched for in the comm queues. This information includes the profile ID, the profile and batch sequence numbers for the batch of data found with the match, the unwrapped record number within the batch where the data was found, and the entire unwrapped EDI data record containing the string match.

How to Identify the Report

The identifier “EBDI074” is printed in the upper left corner of the report. The report title, “Sterling Gentran Comm Queue Search Report”, is printed in the center at the top of the report. The identifier, EBDI074, 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. The report is generated by typing option ‘31’ next to any batch of data (or on the key entry line) displayed on the Work with Outbound Queue Control panel (EDIX404) or the Work with Inbound Queue Control panel (EDIX407). It can also be generated by prompting the FNDSTRCOM command from a command line.

```

EBDI074                                STERLING GENTRAN COMM QUEUE SEARCH REPORT
Date: 04/30/11                          FIND STRING: COFFEE
Profile ID: *ALL                          Direction: *IN                      Batch: *ALL
Start Date: *BEGIN                        End Date: *END                      Start Time:
COMM   PROFILE   BATCH   WRAP   UNWRAP   DATA
PROFILE SEQ NUM   SEQ NUM REC NUM REC NUM MATCHES
CN3BSC   3         3       1       1   UNB+UNOA:1+COFFEEDUNS:ZZ+MYDU
CN3BSC   3         3       5      13   IMD+F++:::FIVE LB CANS OF IRI
Total Record Matches Found for Profile:  2
EVAL    159        6       1       1   UNB+UNOA:1+COFFEE DUNS:ZZ+MYD
EVAL    159        6       5      13   IMD+F++:::FIVE LB CANS OF IRI
EVAL    161        8       1       1   UNB+UNOA:1+COFFEE DUNS:ZZ+MYD
EVAL    161        8       5      13   IMD+F++:::FIVE LB CANS OF IRI
Total Record Matches Found for Profile:  4
Total Record Matches Found for All Profiles:  6

                                           IBM
                                           Bottom

F3=Exit  F12=Cancel  F19=Left  F20=Right  F24=More keys

```

Figure 1.92 Comm Queue Search Report (EBDI074)

Fields on the Comm Queue Search Report (EBDI074)

The fields on the report are defined in this table.

Field Names	Description
Header Lines	
Find String	Data string to be found (up to 25 characters). The search string can contain embedded blanks.
Profile ID	Comm Profile ID (or *ALL) used in the search criteria.
Direction	Direction (*IN or *OUT) of the comm queues to be searched.
Batch	Batch sequence number (or *ALL) used in the search criteria.
Limit Matches	The maximum number of matches to be printed on the report.
Start Date	The starting date of generated batches to be searched. Any batch that was generated on or after the starting date and within the end date criteria is included in the search.
End Date	The ending date of generated batches to be searched. Any batch that was generated on or before the ending date and within the start date criteria is included in the search.
Start Time	The starting time for the start date used in the selection criteria.
End Time	The ending time for the end date used in the selection criteria.
Detail Lines	
Comm Profile	Profile ID for the batch of data containing the matching string.
Profile Seq Num	Profile sequence number for the batch of data containing the matching string.
Batch Seq Num	Batch sequence number for the batch of data containing the matching string.
Wrap Rec Num	The record number from the wrapped batch of data (as it resides on the queue) containing the matching string.
Unwrap Rec Num	The record number from the unwrapped batch of data containing the matching string. The unwrapped record number can be useful for locating the string match if you want to extract or print (using PRTEIDITA) the individual batch of data for which the string match was found since the records within the batch are unwrapped.
Data Matches	The 80-byte unwrapped EDI data record containing the matching string.

EBDI081 — Print Communications History Report (PRTCOMHST)

Contents of the Report

This report contains the Communications History information for selected sessions.

How to Identify the Report

The identifier “EBDI081” is printed in the upper left corner of the report. Once created on the spool file, the report will have a file name of **SESSLOG** and the user data name **EBDI081P**.

How to Generate the Report

There are several ways to create a Communications Report.

- Select *YES to the SESSLOG parameter from the STRCOMSSN command to create the report for each session that is run.
- Select option 6 from the Work with Communications History screen (EDIX406) to print the entire session.
- Type PRTCOMHST on the command line (or select option 34 from the Work with Communications History screen) to create the report using a variety of selection criteria
- Modify EDCLUSER to create a session log for every communications session that is executed.

Each are described on the following pages.

Print from the STRCOMSSN command

From the Start Communications Session (STRCOMSSN) panel, select *YES at the Print Comm Session Log? (SESSLOG) parameter.

```

Start Communications Session (STRCOMSSN)

Type choices, press Enter.

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

Additional Parameters

Trace? . . . . . *NO                *YES, *NO
Run Interactively? . . . . . *NO        *YES, *NO
Connect If No Data? . . . . . *YES       *YES, *NO
Reset Queues on Fail? . . . . . *NO       *YES, *NO
Number of Restarts (0-99) . . . . 0        0-99
Enable COMM-PRESS Software? . . . *NO       *YES *NO
Process Name . . . . . STRCOMSSN
Print Comm Session Log? . . . . . *YES     *YES, *NO

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

Figure 1.93 From the Start Communications Session (STRCOMSSN) panel

Select Options 6 or 34 from Work with Communications History (EDIX406)

Select options 6 or 34 from within the Work with Communications History screen to print portions of the Communications History entries. Option 6 prints the entire communication session by Comm Stamp number according to the line entry selected in the Opt column. Option 34 displays the PRTCOMHST command and can be modified to specific selection criteria.

```

EDIX406          Work with Communications History Log          EDI 04/30/11
FMT01           pgmlib: G3X6PGM          dtalib: G3X6DTA          12:00:00

Position to Profile ID . . . . . Seq _____ Comm Stamp _____

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
 6  CN3BSC  SR     6           1 04-30-11  15:05:55  15:05:55  00:00:00  B  N
   CN3BSC  SR     6           23 04-30-11  15:07:19  15:07:19  00:01:25  E  N
   CN3BSC  SR     1           1 04-30-11  14:57:54  14:57:54  00:00:00  B  N
   CN3BSC  SR     1           13 04-30-11  15:00:08  15:00:08  00:04:14  E  N
   DOCDEMO WH     5           1 04-30-11  14:18:30  14:18:32  00:00:02  B  N
   DOCDEMO WH     4           1 04-30-11  16:51:21  16:51:25  00:00:04  B  N
   EVAL    RA     8           1 04-30-11  11:15:34  11:15:34  00:00:00  B  N
   EVAL    RA     8           8 04-30-11  11:16:38  11:16:38  00:01:04  E  N
                                          More...

Parameters or command
====> _____
F1=Help  F2=More/Less  F6=Msg On/Off  F9=Retrieve  F24=More Keys

```

Figure 1.94 From the Work with Communications History screen (EDIX406)

Print from the PRTCOMHST Command

This command allows a specific session to be printed according to the following Selection Criteria:

- *DATETIME prints Communications History entries by a Date/Time range.
- *DAYS allows selected Communications History entries by *n* number of days past.
- *COMMSTAMP allows for the selection of a specified Communications History entry by its Communications Stamp number.

Based on your Selection Criteria, you will be prompted to further clarify your selection. By using **F10** you can execute the report interactively, submitted to batch, or scheduled to run at a later time.

```

Print Communications History (PRTCOMHST)

Type choices, press Enter.

Communications Profile ID . . . . *ALL          Comm Profile ID or *ALL
Selection Criteria . . . . . > *DATETIME       *DATETIME, *DAYS, *COMMSTAMP
Beginning Date . . . . . *CURRENT           *CURRENT or Date
Beginning Time . . . . . *AVAIL            *AVAIL or Time
Ending Date . . . . . *CURRENT           *CURRENT or Date
Ending Time . . . . . *AVAIL            *AVAIL or Time

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

Figure 1.95 PRTCOMHST with *DATETIME as Selection Criteria

```

Print Communications History (PRTCOMHST)

Type choices, press Enter.

Communications Profile ID . . . . *ALL          Comm Profile ID or *ALL
Selection Criteria . . . . . > *DAYS          *DATETIME, *DAYS, *COMMSTAMP
Number of days? . . . . . 3                0-999

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

Figure 1.96 PRTCOMHST with *DAYS as Selection Criteria

```

Print Communications History (PRTCOMHST)

Type choices, press Enter.

Communications Profile ID . . . . *ALL          Comm Profile ID or *ALL
Selection Criteria . . . . . > *COMMSTAMP      *DATETIME, *DAYS, *COMMSTAMP
Comm Stamp Number . . . . . 2114             Specify Comm Stamp or *ALL

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

```

Figure 1.97 PRTCOMHST with *COMMSTAMP as Selection Criteria

Modify EDCLUSER

EDCLUSER is a user exit that runs at the end of every Communications session. If you want to create a session log at the end of each Communications session you can modify EDCLUSER to perform this task. This feature allows you to create the session log by modifying only one CL. The alternative would be to modify each CL containing the STRCOMSSN command, to add the Print Session Log parameter set to *YES, as described in the previous procedure.

To modify the EDCLUSER, add the following comments:

```

/*****
/* CALL EBDI081P TO CREATE A SESSION LOG OF THE COMMUNICATIONS      */
/* SESSION.                                                          */
/*****
/*****
/* THIS STEP WILL CALL EBDI081P TO CREATE A SESSLOG AT THE END OF EACH*
/* SESSION. BY UNCOMMENTING THIS SECTION ALL COMM SESSIONS WILL      */
/* CREATE A SPOOLED FILE CALLED "SESSLOG". THIS REPORT IS THE SAME  */
/* THAT WOULD BE CREATED IF SESSLOG *YES OPTION WAS SELECTED ON THE */
/* STRCOMSSN COMMAND. REMOVE THE COMMENTS AND RECOMPILE TO GENTRAN */
/* PGM LIBRARY.                                                      */
/*****
/*      CHGVAR      VAR(&COMLOG2) VALUE (&COMLOG)                   */
/*      CALL        PGM(PRTCOMHSC) PARM(PROFIL +                     */
/*                  &SELECT &COMLOG2 &FROMDATE &FROMTIME +        */
/*                  &TODATE &TOTIME &DAYS &INT &SCHED)            */
/*                                                                 */
/*                                                                 */
/*****

```

EBDI081P STERLING GENTRAN SESSION LOG PAGE: 1

DATE: 04/30/11 15:33:05

COMM STAMP	PROF I.D.	SESS NAME	SEQ#	START DATE	START TIME	END TIME	ELAPSED TIME	FILE NAME	STATUS	RETURN CODE	BATCH SEQ #
2114	DCSBSC	S1	010730	151006	151006	000000			B N	STRT	
COMMUNICATIONS START-UP											
2114	DCSBSC	S1	005	010730	151007	151037	000030		C N	0000	
CNTL RECORD SEND COMPLETED											
2114	DCSBSC	S1	030	010730	151037	151037	000000	OQ	S N	0000	0007911
OUTQUE SEND COMPLETED, ID:DCSBSC ,0001 BATCHES SENT											
2114	DCSBSC	S1	010730	151038	151038	000000			T N	TOTS	
TOTAL OF ALL RECORDS SENT											
2114	DCSBSC	S1	010730	151038	151038	000000			T N	TOTR	
TOTAL OF ALL RECORDS RECEIVED											
2114	DCSBSC	S1	010730	151038	151038	000032			E N	GOOD	
COMMUNICATIONS COMPLETED SUCCESSFULLY											

RCDS:0000006
RCDS:0000001
RCDS:0000005
RCDS:0000006
RCDS:0000006
RCDS:0000006
RCDS:0000006

IBM

Fields on the Communications History Report (EBDI081P)

The fields on the report are defined in this table.

Field Names	Description
Comm Stamp	Unique number that is assigned to each communications session
Profile ID	Communications profile assigned to communication session
Sess Name	Session control used by the Communications profile
Sess Seq #	The record of the step within the Session Control to which the entry applies
Start Date	The beginning date of the communications session
Start Time	The beginning time of the communications session
End Time	The ending time of the communications session
Elapsed Time	The time recorded for the duration of the step in session control and the entire session.
File Name	The location of the files being transmitted or received (IQ=Inbound Queue, OQ=Outbound Queue, IF=Inbound File, OF=Outbound File, SP=Spooled File).
Status	The status of the step of the session. For example, B N represents "Begin Normal." E A represents "End Abnormal"
Return Code	The return code of each step. This field also contains iSeries MAJMIN code when communications have failed.
Batch Seq	Batch sequence number assigned to incoming and outgoing batches
Message/RCDS	The message text for each step. This field also includes record counts when data is transmitted or received.

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 Inbound Processing immediately at the end of a communication session?

At the end of every communication session, the supplied user-CL, 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 Sterling Gentran:Server program library (G3X6PGM).

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 (Do Connect Flag)	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 (COMM-PRESS Software)	4	*CHAR	*Yes/*No
PRCNAM (Process Name)	15	*CHAR	Character String
MCSEQ (Message Center Sequence Number)	9	*DEC	0-999999999

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 can be reviewed for problem resolution.

When the status is 'S,' the user may want to automatically submit Inbound Processing (PRCTRIN), followed by the interface to the Application system. For immediate acknowledgment reconciliation information, the user may also want to print the Audit report (PRTAUD) with selected criteria.

How can I control the inactivity timer used during communication sessions?

Sterling Gentran:Server is extremely 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 (e.g. within 30 seconds or the session should be cancelled) to better control your own resources. Sterling 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 Sterling Gentran:Server data library (G3X6DTA). This means that Sterling 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 Sterling Gentran:Server should wait for a response after a receive step has been executed. This field is called the inactivity timer and is only used when a receive step is executed that does not contain a receive timer value. If the amount of inactive time is exceeded, the receive step is ended 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 Params) 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 Sterling 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 Sterling 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: Recording 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: Updating the Communication Profile

Type 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. Type 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.

<u>Advantis Network Bisynd</u>	
Profile ID:	ADVBSC
Session to View:	RA
Sample Script Record:	
<u>Seq No</u>	<u>Script Record</u>
015	/*L ACCT,USRID,PSWD/*S EDIRECT/*U BSCEDI
	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 100px; height: 100px; margin-left: 20px;"></div> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 100px; height: 100px; margin-left: 20px;"></div> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 100px; height: 100px; margin-left: 20px;"></div> </div> <div style="margin-left: 10px;"> <p>Password: _____</p> <p>User ID: _____</p> <p>Account ID: _____</p> </div> </div>

Figure 1.98 Advantis Network Bisynd Conversion Worksheet

Advantis Network SNA

Profile ID: ADVSNA
 Session to View: RA

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
015	/*L ACCT,USRID,PSWD/*S EDIRECTS/*U SNAEDI
050	IELOGON ACCOUNT(ACCT) USERID(USRID) PASSWORD(USRID);

Figure 1.99 Advantis Network SNA Conversion Worksheet

AT&T Easylink Services

Profile ID: ATTEASY
 Session to View: SR

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
010	+:SIGNON USERNAME= <u>USRNM</u> PASSWORD= <u>PSWD</u>

Password: _____

User ID: _____

Figure 1.100 AT&T Easy Network Conversion Worksheet

AT&T in the U.K

Profile ID: ATTUK
 Session to View: SR

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
010	/*SIGNON USERNAME= <u>USRNM</u> PASSWORD= <u>PSWD</u>

Password: _____

User ID: _____

Figure 1.101 AT&T in the U.K. Network Conversion Worksheet

BT UK GNS EDI*NET ASYNC

Profile ID: BTASC
 Session to View: RS

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
020	<u>&MBX;&PSW;A120;</u>

Figure 1.102 BTASC Network Conversion Worksheet

BT UK GNS EDI*NET BISYNC

Profile ID: BTUK
 Session to View: RS

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
020	<u>&MBX;&PSW;A120;</u>

Figure 1.103 BTUK Network Conversion Worksheet

BT UK GNS EDI*NET ASYNC VIA X.25

Profile ID: BTXAS
Session to View: RS

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
010	&MBX;&PSW;A120;

The diagram shows two arrows originating from the script record '&MBX;&PSW;A120;'. One arrow points to the label 'Password:' followed by a horizontal line. The other arrow points to the label 'Mailbox ID:' followed by a horizontal line.

Figure 1.104 BTXAS Network Conversion Worksheet

Bi-Synch Communications Rel 3

Profile ID: CN3BSC
 Session to View: SR

Sample Script Record:










<u>Seq No</u>	<u>Script Record</u>
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 1.105 Bi-Synch Communications Release 3 Conversion Worksheet

Bi-Synch Communications Rel 3-Synch Communications Rel 3 Release 3

Profile ID: CN3SNA
Session to View: SO
Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
030	\$\$ADD SX999D BATCHID='TEST'

Batch ID/Password: _____
Data Mailbox ID: _____

The diagram shows two arrows originating from the script record. One arrow points from the underlined 'TEST' in the script record to the 'Batch ID/Password' input field. The other arrow points from the underlined 'SX999D' in the script record to the 'Data Mailbox ID' input field.

Figure 1.106 Bi-Synch Communications Release 3 SNA Conversion Worksheet

GE Information Services

Profile ID: GEIS
 Session to View: RA

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>	
005	<u>IDX,PASSW,MAILA</u>	Password: _____ User ID: _____
037	<u>/EDXRCV MAILNUM</u>	Mailbox: _____

Figure 1.107 General Electric Network Conversion Worksheet

Kleinschmidt Network

Profile ID: KLEIN
 Session to View: SR

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>	
005	<u>#SIGNON USERID,PASSWORDX</u>	Password: _____ User ID: _____

Figure 1.108 Kleinschmidt Network Conversion Worksheet

MCI Bsync

Profile ID: MCI
 Session to View: SR

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
012	MAILBOXID;PASSWD;B135;

Figure 1.109 MCI Bsync Network Conversion Worksheet

Sears Communication Network

Profile ID: SEARS
 Session to View: SR

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
005	+LOGON SEARSEDI, IDXXXXX, PASSWORD

Figure 1.110 Sears Communication Network Conversion Worksheet

Transsettlements Network

Profile ID: TRANS
 Session to View: RA

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
001	LOG 2434,ACCT,PASSWORD

Password: _____
 Account Number: _____

Figure 1.111 Transsettlements Network Conversion Worksheet

Western Union

Profile ID: WSUN
 Session to View: SR

Sample Script Record:

<u>Seq No</u>	<u>Script Record</u>
005	SIGNON ACCOUNT99,PASSW.PASSW

Password: _____
 Account Number: _____

Figure 1.112 Western Union Conversion Worksheet

2 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  04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      12:00:00

Position to Session Name . . . . . __ For CN3BSC

Type option (and Information), press Enter.
  1=Create 2=Revise 3=Copy 4=Delete 6=Print 30=Start Session

Opt SN Company
__  __
__  RA Bi-Synch Communications Rel 3
__  RD Bi-Synch Communications Rel 3
__  RF Bi-Synch Communications Rel 3
__  RR Bi-Synch Communications Rel 3
__  SO Bi-Synch Communications Rel 3
(2) SR Bi-Synch Communications Rel 3
__  ST Bi-Synch Communications Rel 3

Bottom

Parameters or command
====> _____
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F24=More Keys

```

Figure 2.1 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 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) displays, as shown in Figure 2.2.



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.

```

EDIX403          Communication Session Control          EDI  04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . SR
Company. . . . . Bi-Synch Communications Rel 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  04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . SR
Company. . . . . Bi-Synch Communications Rel 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 2.2 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 Sterling 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 Sterling Gentran:Server for iSeries inbound queue.

File Name: (Required for File Types “OF”, “IF” and “IA”)

A 10-position alphanumeric field used to type 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 Sterling 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 — 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   04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . SR
Company. . . . . Bi-Synch Communications Rel 3

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

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 2.3 Communications Session Control Panel (EDIX403-CTL01)

To access the extended parameters, type ‘11’ (Extended Parns) next to the selected script records (from either folded or unfolded view) and press **Enter**.

The Communication Session Control panel (EDIX43B-FMT01) displays, as shown in the following figure. 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.

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” which 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 display 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 display as:

```
COMMAND:
LOGON SUCCESSFUL_____
DDCDD4EECCCECED44444444444444444444444444444444444444444444444444444444
3676502433522643000000000000000000000000000000000000000000000000000000
```

where the first character, "L," is represented by the hexadecimal value "D3," which displays 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, "0" 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 (".") displays 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 display as:

```
COMMAND:
LOGON SUCCESSFUL. . _____
DDCDD4EECCCECED0144444444444444444444444444444444444444444444444444444444
3676502433522643D50000000000000000000000000000000000000000000000000000
```

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 type the Add ("2") or Update ("3") Action code and other session control data as necessary. In the Command field, type 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 which 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/LU1 transaction 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:

1. BSC transaction codes/actions
2. BSC send indicators
3. BSC receive indicators

Table 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 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 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:

1. SNA/LU0/LU1 transaction codes/actions
2. SNA/LU0/LU1 send indicators
3. SNA/LU0/LU1 receive indicators

Table 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 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 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 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:

1. X62/L62 transaction codes/actions
2. X62/L62 send indicators
3. X62/L62 receive indicators

Table 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 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 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.

ASYNC Tables

This section contains the following tables:

1. Async send/receive indicators
2. Async transaction code/actions
3. Async send indicators
4. Async receive indicators

Table 1: 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 2: 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 3: 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 4: 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 Sterling Gentran:Server for iSeries 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. Each Sterling Gentran:Server communication module interprets the keywords that are applicable to it. The table below shows the protocols to which each of the keywords apply.

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	
SESSFAL							x	x	x	x	x	
CMLOGON							x					
SET							x					
APPEND									x	x		
AUTOEERP									x	x		
CREDITS									x			
INFILE									x	x		
LOCID									x	x		
LOCPW									x	x		
NOCOMPRESS									x	x		
OUTFILE									x	x		

Extended Logic Keyword	Profile Protocol Type											
	BSC	GMC	SNA	LU0	L62	X62	ASC	XAS	OFA	OFX	ASX	FTP
OUTFMT									x	x		
OUTLRECL									x	x		
RECVONLY									x	x		
RESPOND									x	x		
REVERSEEERP									x	x		
RMTID									x	x		
RMPW									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		
VERIFY									x	x		
XBUFSIZE									x	x		
FTP Subcommand												x
AEXLATE												x
CHGRECSEPI												x
CHGRECSEPO												x
RMVCHR												x

Extended Logic Keyword	Profile Protocol Type											
	BSC	GMC	SNA	LU0	L62	X62	ASC	XAS	OFA	OFX	ASX	FTP
EAXLATE												x
EMPTYBATCHIN												x
RECSEPI												x
RECSEPO												x
RECSIZE												x
SKIPBLANKEOF												x
XLATEI												x
XLATEO												x
AUTODELETE												x
AUTORENAME												x
FTPCCSID												x
FTPTBLOUT												x
FTPTBLIN												x
OBAPPEND												x
ONESEGPERREC												x
OQEDIT												x
RTVSEQ												x
SAVSEQ												x
SETSEQ												x
TIMEFMT												x

Figure 2.5 Extended Logic Keywords

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.

Type all extended script logic keywords 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 display 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 Sterling Gentran:Server for iSeries and 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 Sterling 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.'

Remote Commands

Sterling Gentran:Server supports the use of five unique remote commands. These commands, received from the remote system and processed by Sterling 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 Sterling 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 Sterling Gentran:Server 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 Sterling 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 Sterling 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 Sterling 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 1 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 follow the example.

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:

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. Sterling 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 Sterling 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 Sterling 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 acquire 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, Sterling 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. Sterling 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.

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 Sterling Gentran:Server facilities, including the STRCOMSSN 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 Sterling Gentran:Server.

When you start communications using session name “\$\$,” Sterling Gentran:Server for iSeries 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 Sterling Gentran:Server is specifically designed to communicate with IBM’s 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, Sterling Gentran:Server 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

This command will terminate all active Sterling 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

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 thru 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).

```

EDIX403          Communication Session Control          EDI  04/30/11
CTL01                                12:00:00

Comm Profile ID. . . . . CN3BSC
Session Name . . . . . SR
Company. . . . . Bi-Synch Communications Rel 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 2.7 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
```


Bisync Communications Support

Introduction

Sterling Gentran:Server 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, Sterling Gentran:Server 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

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 Sterling Gentran:Server, 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 Sterling Gentran:Server, 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 04/30/11
FMT01                                     12:00:00

Comm Profile ID. . . . . CN3BSC

Company. . . . . Bi-Synch Communications Rel 3
Contact. . . . . NETWORK COMMUNICATIONS
Phone. . . . . ( 614 ) 793 - 7000 x     
International Dial Code. . . . .
Protocol . . . . . BSC
Days to Purge. . . . . 999
FIFO/LIFO. . . . . F
Used Most Frequently . . . . . N
Update Allowed . . . . . y

```

```

EDIX401          Communication Profile          EDI 04/30/11
FMT03                                     BSC          12:00:00

Comm Profile ID. . . . . CN3BSC
Company. . . . . Bi-Synch Communications Rel 3

Modem Port . . . . . *SYNC1
Dial . . . . . 18006275883

```

```

EDIX401          Communication Profile          EDI 04/30/11
FMT02                                     BSC          12:00:00

Comm Profile ID. . . . . CN3BSC
Company. . . . . Bi-Synch Communications Rel 3

Modem Port . . . . . *SYNC1          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 3.1 Setting up a BSC Communication Profile

Complete the panels necessary to configure for BSC communications, as shown above. 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

Field Names	Dial Settings				
	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” 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 a profound effect 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”, 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.

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 the following figure, to specify your own line/controller/device names.

```
EDIX401          Communication Profile          EDI 04/30/11
FMT20            BSC                          12:00:00

Comm Profile ID. . . . . CN3BSC
Company. . . . . Bi-Synch Communications Rel 3

Modem Port . . . . . *SYNC1          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 Line/Control/Device      EDI 04/30/11
FMT20            BSC                          12:00:00

Comm Profile ID. . . . . CN3BSC
Company. . . . . Bi-Synch Communications Rel 3

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 3.2 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 which actually 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 by the script.

Create a BSC Script

BSC scripts are created and edited using the same facilities as the other communication types within Sterling Gentran:Server for iSeries. (SEE the "Using Communications" chapter for basic information on scripting.)

A BSC script is coded similarly to scripts for the other protocols supported by Sterling Gentran:Server. 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 Sterling Gentran:Server inbound queue as a single batch
- R/IM Receive to Sterling Gentran:Server inbound queue, separating multiple batches
- R/ID Receive to Sterling 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 Sterling Gentran:Server inbound queue as a single batch.

For R/IM, multiple files received will be placed on the Sterling Gentran:Server inbound queue. Unlike R/IQ, which creates a single 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 Sterling 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 field 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 Sterling Gentran:Server outbound queue
- S/OM Send from Sterling 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

The script below is an example of how a BSC script could be used to send and receive files.

```

EDIX403          Communication Session Control          EDI    04/30/11
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 3.3 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 Sterling 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 Sterling Gentran:Server inbound queue if the literal is received.
- Sequence #50 – Send all eligible batches from the Sterling 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:

1. BSC transaction codes/actions
2. BSC send indicators
3. BSC receive indicators

Table 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 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 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 Sterling Gentran:Server Host ID Verify field of the Communication Profile panel (EDIX401-FMT02).
- ✓ _____ Will blank compression be required? _____
This is indicated in the Sterling Gentran:Server Blank Compress field of the Communication Profile panel (EDIX401-FMT02).
- ✓ _____ Will transparency be required? _____
This is indicated in the Sterling Gentran:Server Transparency field of the Communication Profile panel (EDIX401-FMT02).
- ✓ _____ What block size will be used? _____
This is indicated in the Sterling Gentran:Server 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 Sterling Gentran:Server Inter-Record Separator field of the Communication Profile panel (EDIX401-FMT02).

SNA Communications Support

Introduction

Sterling Gentran:Server 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, Sterling Gentran:Server 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 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 Sterling Gentran:Server, 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 Sterling Gentran:Server, 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.

Create an SNA/LU0 profile

```

EDIX400          Work with Communications          EDI  04/30/11
FMT01           pgmlib: G3X6PGM      dtalib: G3X6DTA      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  IBMLU0      IBM INFORMATION NETWORK SDLC
  2  INSIRLXA   XAS INTO INS IRELAND (EIRTRADE)
  3  INSNET     INTERNATIONAL NETWORK SERVICES BSC
  4  JES2       Generic Manufacturing Headquarters
  5  KLEIN      KLEINSCHMIDT NETWORK

EDIX401          Communication Profile             EDI  04/30/11
FMT05           SNA                               12:00:00

Comm Profile ID. . . . . JES2
Company. . . . . Generic Manufacturing Headquarters

Modem Port . . . . . LIN021
Dial . . . . . 1916635555
Exchange Id. . . . . 05698703
SSCP Id. . . . . 05F0F0F9F9F8
Local Address. . . . . 02
Station Address. . . . . C2

EDIX401          Communication Profile             EDI  04/30/11
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 . . . . . 1916635555
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
Prompt function not defined for field (CPFDUP)
    
```

Figure 4.1 SNA Communication Profile Panels

Complete the panels necessary to configure for SNA/LU0 communications, as shown in the preceding figure. 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

Field Names	Dial Settings				
	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, Sterling Gentran:Server will automatically create 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 which actually transfer 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 Sterling Gentran:Server for iSeries. (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 Sterling Gentran:Server. 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 Sterling Gentran:Server inbound queue as a single batch
- R/IM Receive to Sterling Gentran:Server inbound queue, separate multiple batches
- R/JR Receive to Sterling 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 Sterling Gentran:Server inbound queue as a single batch.

For R/IM, multiple files received will be placed on the Sterling 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 Sterling 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 Sterling Gentran:Server outbound queue
- S/OM Send from Sterling 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

The script below is an example of how an SNA/LU0 script could be used to send and receive files.

```

EDIX403          Communication Session Control          EDI   04/30/11
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 Parm

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 4.2 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 Sterling 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 Sterling Gentran:Server inbound queue when the literal is received.
- Sequence #50 – Send all eligible batches from the Sterling 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:

1. SNA/LU0/LU1 transaction codes/actions
2. SNA/LU0/LU1 send indicators
3. SNA/LU0/LU1 receive indicators

Table 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 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 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 Sterling Gentran:Server for iSeries and the Remote Program Start Request feature.

Included in this section is a sample implementation of a session initiated by a host system (PLU) with Sterling Gentran:Server 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 Sterling Gentran:Server 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 Sterling Gentran:Server 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 8 characters must be blank filled to achieve a total length of 8 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 6 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 Sterling Gentran:Server libraries in its library list, and the user profile has been defined within Sterling Gentran:Server Environment Control, and is authorized to 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 2 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 Sterling Gentran:Server (using the address specified by a Profile ID appearing in the Script Start record).

NOTE

When the PLU is a Connect:Supertracs (SNA) mainframe product, the remote used to initiate the connection to Sterling 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 the following figure, displays.
3. Press **F12** (Cancel) to exit this panel.

EDIX401	Communication Profile	EDI 04/30/11
FMT04	SNA	12:00:00
Comm Profile ID.	RPSR01	
Company.	REMOTE PGM START REQUEST 01 DEVICE	
Modem Port	<u>LIN061</u>	Retries. <u>00</u>
Switched Line.	<u>N</u> (Y/N)	Auto Dial. <u>N</u>
Auto Call Unit	<u>N</u>	Auto Call Port _____
Dial	<u>REMOTE</u>	
Inactivity Timer	<u>090</u>	Duplex <u>*FULL</u>
Remote Network ID.	<u>SSNET</u>	Remote Cntl Point. <u>SSHOST</u>
Exchange Id.	<u>05628403</u>	
SSCP Id.	<u>05F0F0F9F9F8</u>	
Local Address.	<u>21</u>	
Station Address.	<u>C1</u>	
Application ID	<u>ORDERNET</u>	
Record Size.	<u>0080</u>	Max Ru Size. <u>0256</u>
Separate Files	<u>Y</u> (Y/N)	
Wrap Data Flag	<u>N</u> (Y/N)	Remote Cmd Password. <u>*NONE</u>
F1=Help F2=More/Less F4=Prompt F10=Update F12=Cancel F24=More Keys		

Figure 4.3 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) displays as shown in the following figure.
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 4.4 Add Communications Entry (ADDCMNE)

Sterling Gentran:Server Requirements for Host Initiated Communication on a Dedicated Line to Connect:Supertracs for MVS

The following section contains these requirements:

- Running Sterling Gentran:Server through two lines to two other Sterling Gentran:Server for iSeries locations
- Connect:Supertracs (SNA) Option Definition File Entries

Sterling Gentran:Server Requirements for two Dedicated Lines to two iSeries Locations Running Sterling 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,
FMPPROF=X'03',TSPPROF=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 Sterling Gentran:Server 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 units after the \$\$CON command is issued, as described in the following example.

Example

The following example is for DALLAS.

Connect:Supertracs (SNA)	Sterling Gentran:Server for iSeries
<p>1. Operator types: F SUPTRACS,\$\$CON L=DALCTL</p> <p>2. Connect:Supertracs sends (VIA LU001): \$\$SCRIPT ID=DAL4001 SESSION=SR</p> <p>4. Connect:Supertracs receives the: \$\$REQ ID=DALLAS and sends all batches that were queued for: ID=DALLAS</p>	<p>3. Receives script record and ends session. Sterling 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.</p>

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:

1. Connect:Mailbox/Supertracs (SNA)
2. Connect:Mailbox/Supertracs (SNA – Leased)
3. Connect:Mailbox/Supertracs (BSC)

These will assist you in setting up and using Connect:Mailbox/Supertracs.

Communicate with Connect:Mailbox/Supertracs (SNA)

For Sterling 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 Sterling Gentran:Server Requirements and the VTAM/NCP Definition Requirements to the host system programmer responsible for Connect:Mailbox/Supertracs (SNA) implementation.
- ✓ _____ Ensure that Sterling Gentran:Server is defined as a remote to Connect:Mailbox/Supertracs (SNA) using Connect:Mailbox/Supertracs (SNA) to Sterling 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 Sterling Gentran:Server Local Address field of the Communication Profile panel (EDIX401-FMT04). This field uniquely identifies the Sterling Gentran:Server session and cannot be in use by any other iSeries communication product (such as RJE).
- ✓ _____ The Mainframe Exchange ID is _____.
This is used in the Sterling Gentran:Server 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 Sterling Gentran:Server 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 Sterling Gentran:Server Station Address field of the Communication Profile panel (EDIX401-FMT04).
- ✓ _____ The maximum RU size is _____.
This is used in the Sterling Gentran:Server 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 Sterling 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 Sterling Gentran:Server Session with Connect:Mailbox/Supertracs (SNA) on the Mainframe

Sterling Gentran:Server for iSeries sends the following logon command:

```
LOGON APPLID(applid)
```

“Applid” is supplied within the iSeries 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= <i>remote name</i>
	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 Sterling Gentran:Server.

luname	LU	LOCADDR=localaddr,	*
		DLOGMOD=STCS400	*
		USSTAB=usstable	

Sterling Gentran:Server Remote Definition

Sterling 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=rmtname1Installation Defined Remote Name
  CONSOLE=YES
  COMPRESS=NO
  MEDIA=CN
  DISCINTV=60
  BLKSIZE=256
  .
  .
  .
*****
** Sample connect
*****

*CONNECT
  .
  .

LISTNAME=listname
  TYPE=LU1RJJE
  ACSESS#=1
  DISCINTV=30
  RETRY=2
  MAXRMT#=1

      rmtname1 MEDIA=CN
  .
  .
  .
```

Communicate with Connect:Mailbox/Supertracs (SNA) (Leased)

Part 5.2 describes Sterling Gentran:Server and its requirements for communication with Connect:Mailbox/Supertracs (SNA) over a leased line, VTAM, and NCP.

Included in this section is a sample implementation of a session between Connect:Mailbox/Supertracs (SNA) and Sterling 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 Sterling Gentran:Server Requirements and the VTAM/NCP Definition Requirements to the host systems programmer responsible for Connect:Mailbox/Supertracs (SNA) implementation.
- ✓ _____ Ensure that Sterling Gentran:Server is defined as a remote to Connect:Mailbox/Supertracs (SNA) using the Connect:Mailbox/Supertracs (SNA) to Sterling 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 Sterling Gentran:Server Local Address field of the Communication Profile panel (EDIX401-FMT04). This field uniquely identifies the Sterling Gentran:Server session and cannot be in use by any other iSeries communication product (such as RJE).
- ✓ _____ The Connect:Mailbox/Supertracs (SNA) application ID is _____.
This is used in the Sterling Gentran:Server Application ID field of the Communication Profile panel EDIX401-FMT04.
- ✓ _____ The Mainframe Exchange ID is _____.
This is used in the Sterling Gentran:Server 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 Sterling Gentran:Server 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 Sterling Gentran:Server Station Address field of the Communication Profile panel (EDIX401-FMT04).
- ✓ _____ The maximum RU size is _____.
This is used in the Sterling Gentran:Server 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 Sterling 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 Sterling Gentran:Server Session with Connect:Mailbox/Supertracs (SNA) on the Mainframe

Sterling Gentran:Server for iSeries sends the following logon command:

```
LOGON APPLID(applid)
```

“Applid” is supplied within the iSeries 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= <i>remote name</i>
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.

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) displays as shown in the following figure.

In that description names are created by the system, you do not want a new line and controller, since an existing leased line is 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 Sterling 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  01-17-04
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 4.5 Communication Line/Controller/Device panel (EDIX819-FMT01)

Communicate with JES2 SNA

The following section describes JES2 communicating with Sterling 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 Sterling 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 Sterling 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 Sterling Gentran:Server Local Address field of the Communication Profile panel (EDIX401-FMT04). This field uniquely identifies the Sterling Gentran:Server session and cannot be in use by any other iSeries communication product (such as RJE).
- ✓ _____ The JES2 application ID is _____.
This is used in the Sterling Gentran:Server Application ID field of the Communication Profile panel (EDIX401-FMT04).
- ✓ _____ The Mainframe Exchange ID is _____.
This is used in the Sterling Gentran:Server 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 Sterling Gentran:Server 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 Sterling Gentran:Server Station Address field of the Communication Profile panel (EDIX401-FMT04).
- ✓ _____ Maximum RU size _____.
This is used in the Sterling Gentran:Server 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,          *
          FMPPROF=X'03',TSPPROF=X'03',      *
          PRIPROT=X'B1',                    *
          SECPROT=X'A3',                    *
          COMPROT=X'7080',                  *
          RUSIZES=X'8585',                  *
          PSERVIC=X'01102000F100E00000010040'
MODEEND

```

VTAM USS Table Entry

The Sterling Gentran:Server product sends the following logon command:

```
LOGON APPLID(applid)
```

“Applid” is supplied within the Sterling 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 Sterling Gentran:Server.

```

luname    LU      LOCADDR=localaddr,          *
          DLOGMOD=STCS400,                    *
          USSTAB=usstable

```

JES2 Definition Requirements

For Sterling Gentran:Server to communicate correctly with JES2 on the mainframe using an SNA LU0/LU1 protocol, the remote definition must be correct.

Sterling 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 Sterling Gentran:Server
*****
RMTnnnn  LUTYPE1,
          NOCOMPCT,
          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

```

Sterling Gentran:Server Profile Sample

When defining a Profile ID for JES2 SNA within Sterling 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 displays, press **Enter**. The basic view, panel EDIX401-FMT05 or extended view, panel EDIX401-FMT04 of the Communication Profile panel displays.
3. Press F2 (More/Less) to see the extended view of panel EDIX401-FMT04 as shown in the following figure.

```

EDIX401          Communication Profile          EDI 04/30/11
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)        Remote Cmd Password. . . . . *NONE
Wrap Data Flag . . . . . Y (Y/N)

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

Figure 4.6 Extended View of Communication Profile panel (EDIX401-FMT04)

Sterling Gentran:Server Script Sample

When defining a communication session control script for JES2 SNA within Sterling 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) displays.
2. On panel EDIX402-FMT01, type '2' in the Option field next to "RA" and press **Enter**. The Communication Session Control panel (EDIX403-CTL01) displays as shown in the following figure.

```

EDIX403           Communication Session Control           EDI  04/30/11
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 JES2 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 4.7 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) displays.
2. On panel EDIX402-FMT01, type '2' in the Option field next to "SO". The Communication Session Control panel (EDIX403-CTL01) displays as shown in the following figure.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 Parm

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 4.8 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) displays.
2. On panel EDIX402-FMT01, type '2' in the Option field next to "SR". The Communication Session Control panel (EDIX403-CTL01) displays as shown in the following figure.
3. Press **F9** (Fold/Unfold) to view more information.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 4.9 Communication Session Control panel (EDIX403-CTL01)

SNA LU6.2 Communications Support

**NOTE**

This feature is an optional add-on product that may be purchased separately.

Introduction

Sterling Gentran:Server 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, Sterling Gentran:Server 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.

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 units that are both using Sterling 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 Sterling 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 Sterling Gentran:Server, 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.

The figure displays three sequential screenshots of the LU6.2 Communication Profile configuration interface. The first panel shows a general profile (FMT01) with fields for Company, Contact, Phone, and Protocol. The 'Protocol' field is set to 'L62'. A callout box with arrows pointing to this field and the second panel contains the text: "Type 'L62' to go to L62 setup panel or enter 'X62' to go to X62 setup panel".

The second panel shows the 'L62' profile (FMT08) with detailed settings for Modem Port (LIN072), Retries (02), Auto Dial (N), Auto Call Unit (N), Local Exchange ID (05601232), Remote Exchange ID (05601231), and Station Address (01).

The third panel shows the 'X62' profile (FMT09) with settings for Lgl Channel Type (*SVCBOTH), Lgl Channel ID (001), Mode Name (*NETATR), X25 Password (X62TEST), Reverse Charge (*NONE), DCE Support (N), Record Size (0080), Max Ru Size (1024), Modulus (8), Window Size (02), Packet Size (0128), Wrap Data Flag (Y), and Remote Cmd Password (*NONE).

At the bottom of the third panel, the following function key definitions are listed: F1=Help, F4=Prompt, F5=Refresh, F10=Update, F12=Cancel, F24=More Keys.

Figure 5.1 LU62 Communication Profile Panels

Complete the panels necessary to configure for L62/X62 communications, as shown in the preceding figure. 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

Field Names	Dial Settings				
	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, Sterling Gentran:Server will automatically create 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 which actually transfer 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 Sterling Gentran:Server for iSeries. (SEE the "Use Communications" chapter for basic information about creating scripts.)

An L62/X62 script is coded similarly to scripts for the other protocols supported by Sterling Gentran:Server. 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 Sterling Gentrans:Server inbound queue as a single batch
- R/IM Receive to Sterling Gentrans: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 Sterling Gentrans:Server inbound queue as a single batch.

For R/IM, multiple files received will be placed on the Sterling Gentrans: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 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 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 Sterling Gentran:Server outbound queue
- S/OM Send from Sterling 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 using the EDIX43C-FMT01 panel, which enables you to provide 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 “Initiate Communication Sessions” section in the “Use Communications” chapter for more information about starting communications sessions.)

X62/L62 Tables

The section contains the following tables:

1. X62/L62 transaction codes/actions
2. X62/L62 send indicators
3. X62/L62 receive indicators

Table 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

Table 1: X62/L62 Transaction Codes/Actions

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 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 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 Sterling 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 an IBM 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 '4' on the command line at the bottom of the page. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Because you are creating a new profile, type 'LOCLDL' in the Profile ID field.
3. Type '1' in the Option field next to the "LOCLDL" Profile ID, then press **Enter**.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          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

Parameters or command
====>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
More...
```

Figure 5.2 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Local Leased Line/Dial/SDLC/ APPC information

4. Fill in the necessary information and press **Enter** to see the next panel.

```

EDIX401                               Communication Profile                EDI  04/30/114
FMT01                                  EDI  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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

Figure 5.3 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) displays as shown in the following figure.

5. Type the data into appropriate fields, as shown in the following figure.
6. 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 04/30/11
FMT08	L62	12:00:00
Comm Profile ID.	LOCLDL	
Company.	Local Leased Line/Dial/SDLC/APPC	
Modem Port	<u>LIN072</u>	Retries. <u>02</u>
Switched Line.	<u>N (Y/N)</u>	Auto Dial. <u>N (Y/N)</u>
Auto Call Unit	<u>N</u>	Auto Call Port _____
Dial	_____	
Inactivity Timer	<u>300</u>	
Local Exchange ID.	<u>05601232</u>	Remote Exchange ID <u>05601231</u>
Local Location Name.	<u>LOCLDL</u>	Remote Location Name <u>RMTLAL</u>
Remote Network ID.	<u>*NONE</u>	Remote Cntl Point. _____
Mode Name.	<u>*NETATR</u>	
Station Address.	<u>01</u>	
Wrap Data Flag	<u>Y (Y/N)</u>	Remote Cmd Password. <u>*NONE</u>
Record Size.	<u>0080</u>	Max Ru Size. <u>1024</u>
F1=Help F4=Prompt F5=Refresh F10=Update F12=Cancel F24=More Keys		

Figure 5.4 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have provided you with a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following figure.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 5.5 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 the following figure, 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                               04/30/11
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 5.6 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, Sterling 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) displays.
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) displays.
3. Press **F13** (Services), and a Service Menu window displays.
4. In the Service field, type '1' for Communication Evoke and press **Enter**.

The Communication Evoke panel (EDIX43C-FMT01) displays, showing the current contents of the Evoke record, and 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 '4' on the command line at the bottom of the page. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type 'RMTLAL' in the Profile ID field.
3. Type '1' in the Option field next to the "RMTLAL" Profile ID and press **Enter**.

```

EDIX400                Work with Communications                EDI  04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA      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      Async comm via BT async pad
  __ CN3BSC       Bi-Synch Communications Rel 3
  __ CN3SNA       SNA Communications Rel 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 5.7 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Remote Leased-line/answer/SDLC/ APPC information.

4. Fill in the panel with the data displayed in this figure and press **Enter**.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 5.8 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) displays as shown in the following figure.

5. Type the data, as shown in the following figure, into appropriate fields.
6. 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 04/30/11
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 5.9 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have included a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following figure.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 5.10 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, Sterling 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 '4' on the command line at the bottom of the page. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type 'LOCDDL' in the Profile ID field.
3. Type '1' in the Option field next to the "LOCDDL" Profile ID; then press **Enter**.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          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
  __ INSNTL    TEST X.25 N. TELECOM (IRL) TO INS
  __ JES2      Generic Manufacturing Headquarters
  __ KLEIN     KLEINSCHMIDT NETWORK
  __ LOCDA    Test ASC Answer with AT commands
  __ LOCDDA   Local Dial Line/Dial/ASYN

                                                    More...

Parameters or command
====> _____
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys

```

Figure 5.11 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Local Dial Line/Dial/SDLC/ APPC information

4. Fill in the panel with the data displayed in this figure and press **Enter**.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 5.12 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) displays as shown in the following figure.

5. Type the data, shown in the following figure, into appropriate fields.
6. 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 04/30/11
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 5.13 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have included a completed example for you.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following figure.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 5.14 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 the following figure, 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                               04/30/11
FMT01                                  12:00:00

Comm Profile ID . . . . . LOCDDL
Session Name . . . . . T1
Company . . . . . Local Dial Line/Dial/SDLC/APPC

Library Name . . . . . G20PGM
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 5.15 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, Sterling 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) displays.
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) displays.
3. Press **F13** (Services), and a Service Menu window displays.
4. In the Service field, type '1' for Communication Evoke and press **Enter**. The Communication Evoke panel (EDIX43C-FMT01) displays and shows the current contents of the Evoke record, and 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 '4' on the command line at the bottom of the page and press **Enter**. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type 'RMTDAL' in the Profile ID field.
3. Type '1' in the Option field next to the "RMTDAL" Profile ID and press **Enter**.

```

EDIX400                Work with Communications                EDI  04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA      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     Async comm via BT async pag
  __ CN3BSC     Bi-Synch Communications Rel 3
  __ CN3SNA     SNA Communications Rel 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

Parameters or command
====>
F1=Help  F3=Exit  F12=Cancel  F15=Sort  F23=More Options  F24=More Keys
More...
```

Figure 5.16 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Remote Dial Line/Answer/SDLC/APPC information

4. Fill in the panel with the data displayed in this figure and press **Enter**.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

Figure 5.17 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT08) displays as shown in the following figure.

5. Type the data, shown in the following figure, into appropriate fields.
6. Once the field 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 04/30/11
FMT08	L62	12:00:00
Comm Profile ID.	RMTDAL	
Company.	Remote Dial Line/Answer/SDLC/APPC	
Modem Port	<u>LIN031</u>	Retries. <u>02</u>
Switched Line.	<u>Y</u> (Y/N)	Auto Dial. <u>N</u> (Y/N)
Auto Call Unit	<u>N</u>	Auto Call Port _____
Dial	_____	
Inactivity Timer	<u>300</u>	
Local Exchange ID.	<u>05601231</u>	Remote Exchange ID . . . <u>05601232</u>
Local Location Name.	<u>RMTDAL</u>	Remote Location Name . . <u>LOCDDL</u>
Remote Network ID.	<u>*NONE</u>	Remote Cntl Point. _____
Mode Name.	<u>*NETATR</u>	
Station Address.	<u>01</u>	
Wrap Data Flag	<u>Y</u> (Y/N)	Remote Cmd Password. . . <u>*NONE</u>
Record Size.	0080	Max Ru Size. <u>1024</u>
F1=Help F4=Prompt F5=Refresh F10=Update F12=Cancel F24=More Keys		

Figure 5.18 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have included a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following figure.

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  04/30/11
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 5.19 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**, changes are made, and you need to press **F12** (Cancel) to leave the panel. If you press **F10**, changes are made, and you are automatically exited. 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, Sterling 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 Sterling 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 an IBM 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 '4' on the command line at the bottom of the page and press **Enter**. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
 2. Since you are creating a new profile, type 'LOCLDX' in the Profile ID field.

3. Type '1' in the Option field next to the "LOCLDX" Profile ID and press **Enter**.

```

EDIX400                Work with Communications                EDI  04/30/11
FMT01                  pgmlib: G3X6PGM      dtalib: G3X6DTA      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
  __ LOCLDN      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 5.20 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Local Leased Line/Dial/X25 Network information.

4. Fill in the panel with the data displayed in this figure and press **Enter**.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 5.21 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) displays as shown in the following figure.

5. Type the data, as shown in the following figure, into the appropriate fields.
6. 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 04/30/11
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 5.22 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have provided you with a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following two figures.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 5.23 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)

```

EDIX403          Communication Session Control          EDI  04/30/11
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 5.24 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 Sterling 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 the following figure, 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  04/30/11
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 5.25 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, Sterling 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) displays.
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) displays.
3. Press **F13** (Services), and a Service Menu window displays.
4. In the Service field, type ‘1’ for Communication Evoke. The Communication Evoke panel (EDIX43C-FMT01) displays and shows the current contents of the Evoke record, and 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 '4' on the command line at the bottom of the page and press **Enter**. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type 'RMTLAX' in the Profile ID field.
3. Type '1' in the Option field next to the "RMTLAX" Profile ID and press **Enter**.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          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      Asynch comm via BT async pad
  __ CN3BSC      Bi-Synch Communications Rel 3
  __ CN3SNA      SNA Communications Rel 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 5.26 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Remote Leased Line/Answer/X25 Netwk information.

4. Fill in the panel with the data displayed in this figure.
5. Once the fields are filled, press **Enter**.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 5.27 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) displays as shown in the following figure.

6. Type the data, as shown in the following figure, 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, and the message at the bottom of the panel: "Create Operation Successful," indicates that the profile is created.

```

EDIX401                Communication Profile                EDI 04/30/11
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. . . . . 02
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 5.28 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have provided you with a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following figure.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 Parm

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 5.29 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 that the indicator (Ind) field in the script describes what Sterling Gentran:Server waits to see before continuing to the next script step.

You now have Profile ID RMTLAX and session script T1 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, Sterling Gentran:Server waits for the session to be initiated with the remote system and receives its data to the Inbound Queue. It then

transmits 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 ‘4’ on the command line at the bottom of the page and press **Enter**. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type ‘LOCLDN’ in the Profile ID field.
3. Type ‘1’ in the Option field next to the “LOCLDN” Profile ID; then press **Enter**.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          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
  __  LOCLDN      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 5.30 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Local Leased Line/Dial/No X.25 Netwk information.

4. Fill in the panel with the data displayed in this figure and press **Enter**.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 5.31 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) displays as shown in the following figure.

5. Type the data, as shown in the following figure, into the appropriate fields.
6. 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 04/30/11
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. . . . . _____

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

Figure 5.32 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays.(We have provided a completed example for you.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01.

The unfolded view of panel EDIX403-CTL01 displays as shown in the following two figures.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 5.33 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)

```
EDIX403                Communication Session Control                EDI  04/30/11
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 Parm

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 5.34 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 Sterling 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 the following figure, 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  04/30/11
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 5.35 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, Sterling 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) displays.
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) displays.
3. Press **F13** (Services), and a Service Menu window displays.
4. In the Service field, type '1' for Communication Evoke.

The Communication Evoke panel (EDIX43C-FMT01) displays and shows the current contents of the Evoke record, and 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 '4' on the command line at the bottom of the page. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type 'RMTLAN' in the Profile ID field.
3. Type '1' in the Option field next to the "RMTLAN" Profile ID, then press **Enter**.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          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     Asynch comm via BT async pad
  __ CN3BSC     Bi-Synch Communications Rel 3
  __ CN3SNA     SNA Communications Rel 3
  __ REDINET    CONTROL DATA / REDINET NETWORK
  __ RMTDAA     Remote Dial Line/Answer/ASYN
  __ 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 5.36 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Remote Leased Line/Answer/No X25 Netwk information.

4. Fill in the panel with the data displayed in this figure.
5. Once the fields are filled, press **Enter**.

```

EDIX401          Communication Profile          EDI    04/30/11
FMT01                               12:00:00

Comm Profile ID. . . . . RMTLAN

Company. . . . . Remote Leased 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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

Figure 5.37 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) displays as shown in the following figure.

6. Type the data, as shown in the following figure, 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, and the message at the bottom of the panel: “Create Operation Successful,” indicates that the profile is created.

EDIX401	Communication Profile	EDI 04/30/11
FMT09	X62	12:00:00

Comm Profile ID. . . .	RMTLAN	Lgl Channel Type . . .	*SVCBOTH
Company.	Remote Lease Lin/Answer/No X25 Netw	Lgl Channel ID	001
Modem Port	<u>LIN011</u>	Mode Name.	*NETATR
Switched Line.	<u>N (Y/N)</u>	X25 Password	<u>X62TEST</u>
Inactivity Timer . . .	<u>300</u>	Reverse Charge	*NONE
Session Initiator. . .	*ANS	DCE Support.	<u>N (Y/N)</u>
Net Connection Init. .	*REMOTE	Record Size.	0080
Remote Net Addr. . . .	<u>311012345678</u>	Max Ru Size.	<u>1024</u>
Local Net Addr	<u>311012345677</u>	Modulus.	8
Local Exchange ID. . .	<u>05600006</u>	Window Size.	<u>02</u>
Remote Exchange ID . .	<u>05600007</u>	Packet Size.	<u>0128</u>
Local Location	<u>AS400A</u>	Wrap Data Flag	<u>Y (Y/N)</u>
Remote Location. . . .	ORDERNET	Remote Cmd Password. .	*NONE
Remote Network ID. . .	*NONE		
Remote Cntl Point. . .	_____		

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

Figure 5.38 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have provided you with a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following figure.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 DATA FROM THE 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 5.39 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 Profile ID RMTLAN and session script 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, Sterling 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 '4' on the command line at the bottom of the page. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type 'LOCDDN' in the Profile ID field.
3. Type '1' in the Option field next to the "LOCDDN" Profile ID; then press **Enter**.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          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 5.40 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it displays Local Dial-Line/Dial/No X.25 Network information.

4. Fill in the panel with the data displayed in this figure and press **Enter**.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

Figure 5.41 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) displays as shown in the following figure.

5. Type the data, as shown in the following figure, into the appropriate fields.
6. 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 04/30/11
FMT09	X62	12:00:00
Comm Profile ID.	LOCDDN	
Company.	Local Dial-Line/Dial/No X25 Network	
Modem Port	<u>LIN032</u>	Lgl Channel Type <u>*SVCBOTH</u>
Switched Line.	Y (Y/N)	Lgl Channel ID <u>001</u>
Inactivity Timer	<u>300</u>	Mode Name. <u>BLANK</u>
Session Initiator.	<u>*DIAL</u>	X25 Password <u>X62TEST</u>
Net Connection Init.	<u>*LOCAL</u>	Reverse Charge <u>*NONE</u>
Remote Net Addr.	<u>311012345677</u>	DCE Support. <u>Y (Y/N)</u>
Local Net Addr	<u>311012345678</u>	Record Size. <u>0080</u>
Local Exchange ID.	<u>05600007</u>	Max Ru Size. <u>1024</u>
Remote Exchange ID	<u>05600006</u>	Modulus. <u>8</u>
Local Location	<u>ORDERNET</u>	Window Size. <u>02</u>
Remote Location.	<u>AS400A</u>	Packet Size. <u>0128</u>
Remote Network ID.	<u>*NONE</u>	Wrap Data Flag <u>Y (Y/N)</u>
Remote Cntl Point.	_____	Remote Cmd Password. <u>*NONE</u>
Retries.	02	Auto Dial. <u>Y (Y/N)</u>
Auto Call Unit	<u>V</u>	Auto Call Port <u>—</u>
Dial	<u>5551212</u>	
F1=Help F4=Prompt F5=Refresh F10=Update F12=Cancel F24=More Keys		

Figure 5.42 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have provided you with a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following two figures.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 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 5.43 Unfolded View of the Communication Session Control panel (EDIX403-CTL01)


```

EDIX43C                      Communication Evoke                      EDI   04/30/11
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 5.45 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, Sterling 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) displays.
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) displays.
3. Press **F13** (Services), and a Service Menu window displays.
4. In the Service field, type ‘1’ for Communication Evoke. The Communication Evoke panel (EDIX43C-FMT01) displays and shows the current contents of the Evoke record, and 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 '4' on the command line at the bottom of the page. The Work with Communication panel (EDIX400-FMT01) displays as shown in the following figure.
2. Since you are creating a new profile, type 'RMTDAN' in the Profile ID field.
3. Type '1' in the Option field next to the "RMTDAN" Profile ID, then press **Enter**.

```

EDIX400                      Work with Communications                      EDI  04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA          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      Asynch comm via BT async pad
  __ CN3BSC      Bi-Synch Communications Rel 3
  __ CN3SNA      SNA Communications Rel 3
  __ REDINET     CONTROL DATA / REDINET NETWORK
  __ RMTDAA      Remote Dial Line/Answer/ASYN
  __ 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 5.46 Work with Communications panel (EDIX400-FMT01)

The Communication Profile panel (EDIX401-FMT01) displays as shown in the following figure, and it shows Remote Dial Line/Answer/No X25 Netwk information

4. Fill in the panel with the data displayed in this figure.
5. Once the fields are filled, press **Enter**.

```

EDIX401          Communication Profile          EDI      04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

Figure 5.47 Communication Profile panel (EDIX401-FMT01)

The Communication Profile panel (EDIX401-FMT09) displays as shown in the following figure.

6. Type the data, as shown in the following figure, 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, and the message at the bottom of the panel, "Create Operation Successful," indicates that the profile is created.

EDIX401	Communication Profile	EDI 04/30/11
FMT09	X62	12:00:00

Comm Profile ID.	RMTDAN	Lgl Channel Type	<u>*SVCBOTH</u>
Company.	Remote Dial/Answer/No X25 Network	Lgl Channel ID	<u>001</u>
Modem Port	<u>LIN011</u>	Mode Name.	<u>*NETATR</u>
Switched Line.	<u>N (Y/N)</u>	X25 Password	<u>X62TEST</u>
Inactivity Timer	<u>300</u>	Reverse Charge	<u>*NONE</u>
Session Initiator.	<u>*ANS</u>	DCE Support.	<u>N (Y/N)</u>
Net Connection Init.	<u>*REMOTE</u>	Record Size.	<u>0080</u>
Remote Net Addr.	<u>311012345678</u>	Max Ru Size.	<u>1024</u>
Local Net Addr	<u>311012345677</u>	Modulus.	<u>8</u>
Local Exchange ID.	<u>05600006</u>	Window Size.	<u>02</u>
Remote Exchange ID	<u>05600007</u>	Packet Size.	<u>0128</u>
Local Location	<u>AS400A</u>	Wrap Data Flag	<u>Y (Y/N)</u>
Remote Location.	<u>ORDERNET</u>	Remote Cmd Password.	<u>*NONE</u>
Remote Network ID.	<u>*NONE</u>		
Remote Cntl Point.	<u> </u>		

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

Figure 5.48 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 Sterling 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) displays.
2. On panel EDIX402-FMT01, type '1' in the Option field; type 'T1' in the SN field and press **Enter**. The Communications Session Control panel (EDIX403-CTL01) displays. (We have provided you with a completed example.)
3. Press **F9** (Fold/Unfold) to see the unfolded view of panel EDIX403-CTL01. The unfolded view of panel EDIX403-CTL01 displays as shown in the following figure.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 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 5.49 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 Profile ID RMTDAN and session script T1 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, Sterling 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.

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, XAS, or OFT.

- Protocol type ASC supports communication with asynchronous devices.
- Protocol type ASX supports communication with standard asynchronous devices which implement the XMODEM file transfer protocol.

- Protocol type OFA supports communication with asynchronous devices which implement the ODETTE file transfer protocol.
- Protocol type OFX supports communication with asynchronous devices which implement the ODETTE file transfer protocol over an X.25 connection.
- Protocol type XAS supports asynchronous communication via X.25 connections.
- Protocol type OFT supports communication over a TCP/IP connection with other devices that implement the ODETTE File Transfer Protocol.

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 which 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.

Even though OFTP over TCP/IP is not ‘asynchronous’ in the sense of the other protocol options, you must configure the data link layer, modems, and so forth, because the OFTP protocol engine is contained in Sterling Gentran:Server Asynchronous Communication Module. Because of this, OFTP over TCP/IP has been included in the list of asynchronous protocols.

**NOTE**

The OFTP protocol engine is contained in the Sterling Gentran:Server Asynchronous communication module, OFTP over TCP/IP has been included in this list of asynchronous protocols.

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 is 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.

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 3 of the character 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 Sterling Gentran:Server software. To autodial with an XAS or OFX profile, the modem must be configured for V.25bis SDLC dialing.

- 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:

- 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.
- 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 which 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 '0A' 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 '0A' 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 '0A' 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 '0A.' 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.

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 which 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) and the OFTP over TCP/IP panel (EDIX401-FMT21) 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 which represent one EBCDIC character.

The translation fields on the panels EDIX401-FMT06, EDIX401-FMT07, and EDIX401-FMT21 display as follows:

```
Translation:
Inbound (from) . __ __ (01 - FF)
Inbound (to) . . __ __ (01 - FF)
Outbound (from). __ __ (01 - FF)
Outbound (to). . __ __ (01 - FF)
```

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 topic “Asynchronous Extended Script Logic” 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, EDIX401-FMT07) and the OFTP over TCP/IP panel (EDIX401-FMT21) 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

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
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

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

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 subtopic “Scripting Considerations” in the “Asynchronous Communication Support” section in this chapter for general information on scripting. SEE the topic “Extended Script Logic” 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 Sterling 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 Sterling 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.”

SESSFALL

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.” SESSFALL 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.

SESSFALL 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 SESSFALL followed by SESSEND.

CMLOGON

Used to authenticate the remote user or computer system by requiring transmission of a user ID and password. The Sterling 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.

PROTOCOL

Determines what file transfer protocol will be used for any subsequent Send and Receive steps, including commands received in remote command mode.

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.

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 following sample script 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 6.1 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 type 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.

Figure 6.2 Detail for each line in the script example

“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.

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 units 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 the following figure, allows you to specify the information necessary for evoking the asynchronous communicator on the remote system.

```

EDIX43C                               Communication Evoke                               EDI   04/30/11
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 6.3 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

- LOCDA A -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 LOCDA A and performs file transfers.

The following figure shows the Communication Profile for a local system, dial line, initiate call, ASC in use configuration.

```

EDIX401          Communication Profile          EDI    04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.4 Communication Profile panel (EDIX401-FMT01)

The following figure shows the extended view of the previous Communication panel.

EDIX401	Communication Profile	EDI 04/30/11
FMT06	ASC	12:00:00
Comm Profile ID.	LOCDDA	
Company.	Local Dial Line/Dial/ASYNC	
Modem Port	<u>LIN061</u>	Retries. <u>02</u>
Switched Line.	<u>Y</u>	Auto Dial. <u>Y</u> (Y/N)
Dial	<u>5551212</u>	
Remote Location.	<u>LOCDDA</u>	Job Termination Delay. <u>N</u>
Line Speed	<u>09600</u>	End-of-Cmd Character . <u>00</u>
Print Record Size.	<u>132</u>	EOT Character. <u>3F</u>
Outbound Block Size.	<u>1024</u>	ETX Character. <u>03</u>
Command Set.	<u>A</u>	Translation:
Flow Control	<u>N</u> (Y/N/H)	Inbound (from) ___ ___
Remote Cmd Password.	<u>*NONE</u>	Inbound (to) ___ ___
		Outbound (from). ___ ___
Modem Break Character.	<u>+</u>	Outbound (to). ___ ___
Modem Auto-Answer Command	<u>ATS0=1</u>	
Modem Init. Command.	<u>ATQ0V1X4</u>	
Modem OK Message	<u>OK<CR><LF></u>	
Modem Connect Message.	<u>CONNECT<?><CR><LF></u>	
F1=Help F4=Prompt F5=Refresh F10=Update F12=Cancel F24=More Keys		

Figure 6.5 Extended View of Communication panel (EDIX401-FMT06)

The following figure 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  04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . LOCDDA
Session Name . . . . . T1
Company. . . . . Local Dial Line/Dial/ASYN

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

Opt Seq No Tran File File Name  Ind Description
---  ---  ---  ---  ---  ---  ---
  10  S  OF  TESTSND.01  2  SEND A TEST FILE TO 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 6.6 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.

The following figure shows the Communication Profile for a remote system, dial line, answer, ASC in use configuration.

```

EDIX401                Communication Profile                EDI    04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.7 Communication Profile panel (EDIX401-FMT01)

The following figure shows the extended view of the previous panel.

EDIX401	Communication Profile	EDI 04/30/11
FMT06	ASC	12:00:00
Comm Profile ID.	RMTDAA	
Company.	Remote Dial Line/Answer/ASYNC	
Modem Port	<u>LIN032</u>	Retries. <u>02</u>
Switched Line.	<u>Y</u>	Auto Dial. <u>N</u> (Y/N)
Dial	_____	
Remote Location.	<u>RMTDAA</u>	Job Termination Delay. <u>N</u>
Line Speed	<u>09600</u>	End-of-Cmd Character . <u>00</u>
Print Record Size.	<u>132</u>	EOT Character. <u>3F</u>
Outbound Block Size.	<u>1024</u>	ETX Character. <u>03</u>
Command Set.	<u>A</u>	Translation:
Flow Control	<u>Y</u> (Y/N/H)	Inbound (from) ___ ___
Remote Cmd Password.	<u>*NONE</u>	Inbound (to) ___ ___
		Outbound (from). ___ ___
		Outbound (to). ___ ___
Modem Break Character.	<u>+</u>	
Modem Auto-Answer Command	<u>ATS0=1</u>	
Modem Init. Command.	<u>ATQ0V1X4</u>	
Modem OK Message	<u>OK<CR><LF></u>	
Modem Connect Message.	<u>CONNECT<?><CR><LF></u>	
F1=Help F4=Prompt F5=Refresh F10=Update F12=Cancel F24=More Keys		

Figure 6.8 Extended View of Communication Profile (EDIX401-FMT06)

The following figure shows the Communication Session Control panel (EDIX403-CTL01) for a remote system, dial line, answer, ASC in use configuration.

```

EDIX403          Communication Session Control          EDI  04/30/11
CTL01                                     12:00:00

Comm Profile ID. . . . . RMTDAA
Session Name . . . . . T1
Company. . . . . Remote Dial Line/Answer/ASYN

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

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 6.9 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.

The following figure shows the Communication Profile panel (EDIX401-FMT01) for the local system, dial line, answer, ASC in use configuration.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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
Used Most Frequently . . . . .    N
Update Allowed . . . . .      Y

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

```

Figure 6.10 Communication Profile panel (EDIX401-FMT01)

The following figure shows the expanded view of the previous panel.

```

EDIX401          Communication Profile          EDI 04/30/11
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). . . . . __ __
                                           Outbound (to). . . . . 0D 15

Modem Break Character. . . . . +
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 6.11 Expanded View of Communication Profile panel (EDIX401-FMT06)

The following figure shows the Communication Session Control panel (EDIX403-CTL01) for the local system, dial line, answer, ASC in use configuration.

```

EDIX403          Communication Session Control    EDI 04/30/11
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 6.12 Communication Session Control panel (EDIX403-CTL01)

The following figure 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 04/30/11
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 Params

Opt Seq No Tran File File Name  Ind Description
-----
   60  C   _   _   _   0 SEND CONFIRMATION MESSAGE
ISERIES RECEIVE COMPLETE.
   70  S  OF SNDFIL.80  2 SEND A TEST FILE
-----
   80  R  IQ   _   _   7 RECV FILE TO INQUE
-----
   90  S  OF SNDFIL.80  2 SEND A FILE & TEST APPEND
-----
   _   _   _   _   _   _
-----
More...
F1=Help  F4=Prompt  F9=Fold/Unfold  F10=Update  F12=Cancel  F24=More Keys

```

Figure 6.13 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 the 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).

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 following example script only illustrates 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 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 6.15 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.

The following figure shows a Communication Profile for a Local System, Leased Line, Dial (initiate), No Commands, X.25 Network in use configuration.

```

EDIX401          Communication Profile          EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.16 Communication Profile panel (EDIX401-FMT01)

The following figure shows the extended view of the previous panel.

```

EDIX401          Communication Profile          EDI  04/30/11
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. . . . . 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. . . . . N (Y/N)

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

```

Figure 6.17 Extended View of Communication Profile panel (EDIX401-FMT07)

The following figure shows the Session Control panel (EDIX403-CTL01) for the LXALDNX Communication Profile.

```

EDIX403          Communication Session Control          EDI  04/30/11
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 6.18 Communication Session Control panel (EDIX403-CTL01)

The following figure 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   04/30/11
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 . . . . . L62TEST
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 6.19 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.

The following figure 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  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.20 Communication Profile panel (EDIX401-FMT01)

The following figure 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 04/30/11
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 6.21 Communication Profile panel (EDIX401-FMT07)

The following figure 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  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.23 Communication Profile panel (EDIX401-FMT01)

The following figure shows the expanded view of the previous panel.

```

EDIX401                      Communication Profile                      EDI  04/30/11
FMT07                                                                12:00:00
                                XAS

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
Lgl Channel ID . . . . . 001
Modulus. . . . . 8
Window Size. . . . . 02
Packet Size. . . . . 0128
Print Record Size. . . . . 132
Outbound Block Size. . . . . 1024
Reverse Charge . . . . . *REQUEST

Translation:
Inbound (from) . . . . . ____
Inbound (to) . . . . . ____
Outbound (from). . . . . ____
Outbound (to). . . . . ____

Remote Cmd Password. . . . . *NONE
DCE Support. . . . . N (Y/N)

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

```

Figure 6.24 Expanded View of the Communication Profile panel (EDIX401-FMT07)

The following figure 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  04/30/11
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 . . . . . RMTLANXA
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 6.26 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.

The following figure 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  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.27 Communication Profile panel (EDIX401-FMT01)

The following figure shows the extended view of the previous panel.

```

EDIX401                      Communication Profile                      EDI  04/30/11
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 6.28 Extended View of the Communication Profile panel (EDIX401-FMT07)

The following figure 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  04/30/11
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 6.29 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.

The following figure 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  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.30 Communication Profile panel (EDIX401-FMT01)

The following figure shows the extended view of the previous panel.

```

EDIX401          Communication Profile          EDI  04/30/11
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. . . . . 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 6.31 Extended View of Communication Profile panel (EDIX401-FMT07)

The following figure 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  04/30/11
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 6.32 Unfolded Communication Session Control panel (EDIX403-CTL01)

The following figure 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  04/30/11
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 6.33 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.

The following figure 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 04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.34 Communication Profile panel (EDIX401-FMT01)

The following figure shows an extended view of the previous panel.

```

EDIX401          Communication Profile          EDI 04/30/11
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. . . . . 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 6.35 Communication Profile panel (EDIX401-FMT07)

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.

The following figure 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  04/30/11
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 6.36 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.

The following figure 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  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.37 Communication Profile panel (EDIX401-FMT01)

The following figure show the extended view of the previous panel.

```

EDIX401          Communication Profile          EDI  04/30/11
FMT07                                     12:00:00
                                     XAS

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 6.38 Communication Profile panel (EDIX401-FMT07)

The following figure 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  04/30/11
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 6.40 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.

The following figure 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  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 6.41 Communication Profile panel (EDIX401-FMT01)

The following figure shows the extended view of the previous panel.

```

EDIX401          Communication Profile          EDI 04/30/11
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. . . . . 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. . . . . N (Y/N)

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

```

Figure 6.42 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.

The following figure 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  04/30/11
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 6.43 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.

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 Sterling 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. Sterling 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 Sterling Gentran:Server systems, you can exchange transparent data via an asynchronous connection. This is not possible with the Sterling Gentran:Server standard asynchronous communications.



NOTE

This is accomplished by configuring both Sterling 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 Sterling 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 Sterling 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 to do, 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 which 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 Sterling 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) displays. To create a profile for XMODEM communication, fill in the required information on the Communications Profile panel, and specify **ASX** for Protocol.

```

EDIX401                Communication Profile                EDI    04/30/11
FMT01                  FMT01                               12:00:00

Comm Profile ID. . . . . MUXMA

Company. . . . . Test_XMODEM_answerer
Contact. . . . . MU
Phone. . . . . ( 614 ) 555 - 1212 x ____
International Dial Code. . . . . ____
Protocol . . . . . ASX
Days to Purge. . . . . 999
FIFO/LIFO. . . . . F
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

F1=Help  F12=Cancel  F13=Services  F24=More Keys

```

Figure 7.1 Creating 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 Sterling 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) displays.

```

EDIX401          Communication Profile          EDI 04/30/11
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 . . . . . 19200          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) . . . . .
Modem Break Character. . . . . +    Outbound (from). . . . .
Modem Auto-Answer Command ATS0=1  Outbound (to). . . . .
Modem Init. Command. . . . . ATQ0V1X4
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 7.2 ASC configuration panel for XMODEM over an asynchronous line

Complete the Communication Profile – ASC panel (EDIX401-FMT06). (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 you press **Enter** to complete the Communication Profile – ASC panel (EDIX401-FMT06), the system displays the EDIX401 FMT12 panel. This panel contains the parameters that will be used to conduct the XMODEM portion of the communication session with the remote system.

```

EDIX401                Communication Profile                EDI    04/30/11
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 7.3 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 of “3F” specifies that the last block be padded with EBCDIC SUB characters. When transmitted, these will be translated to ASCII SUB characters (hex “1A”, aka 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 affects 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 Sterling 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 Sterling 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 Sterling 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 Sterling 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 supported for XMODEM file transfers:

- S/OQ Send from Sterling Gentran:Server Outbound Queue
- S/OM Send from Sterling Gentran:Server Outbound Queue, allowing separation of multiple batches
- S/OF Send from Outbound File provided by user
- R/IQ Receive to Sterling 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 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 shown below uses XMODEM to send outbound queue data to a PC and retrieve a text file to be printed.

```

EDIX403          Communication Session Control          EDI   04/30/11
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 7.4 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 Sterling 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.)

OFTP Communication Support

Overview

Sterling Gentran:Server for iSeries provides support for the ODETTE File Transfer Protocol (OFTP) version 1.2 as defined by the Organization for Data Exchange by Teletransmission in Europe.

OFTP support is provided by the Sterling Gentran:Server optional asynchronous communication module.



NOTE

This feature is an optional add-on product that may be purchased separately.

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.
- Via a TCP/IP connection. Use this option if you need to access the OFTP host via your LAN/WAN and the Internet. You must install and configure TCP/IP support on your iSeries system according to IBM instructions.

In addition to supporting the OFTP Initiator role (i.e. dialer), your Sterling Gentran:Server for iSeries system 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 Sterling 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 Sterling Gentran:Server systems, you can exchange transparent data via an asynchronous connection. This is not possible with the Sterling 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 Sterling 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 Sterling 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 “C0” (hexadecimal) 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 “C0” (hexadecimal) 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 Sterling 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 Sterling 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 Sterling 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. Sterling 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 will be treated as a continuous stream, so all protocol characters will be removed, and record boundaries will be ignored (records will be ‘wrapped’ into the inbound queue or user file).
- Sterling 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.
- Sterling Gentran:Server does not require that EERPs be received in response to outbound data. However, if an EERP is received by Sterling 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 Sterling Gentran:Server for iSeries, 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) displays. 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 the following figure.

```

EDIX401                Communication Profile                EDI    04/30/11
FMT01                  EDI                                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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 8.1 Creating 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 the following figure.

```

EDIX401          Communication Profile          EDI   04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

Figure 8.2 Creating an OFX profile for using OFTP over an X.25 leased line

OFT Creates a profile that will communicate over a TCP/IP connection. Use OFT if you access your OFTP host by using a LAN/WAN and the Internet. Creating an OFT profile is illustrated in the following figure.

```

EDIX401          Communication Profile          EDI   04/30/11
FMT01                               12:00:00

Comm Profile ID. . . . . MYOFTC

Company. . . . . My test OFT client_____
Contact. . . . . CHRIS_SMITH_____
Phone. . . . . ( 614 ) 793 - 7000_ x ____
International Dial Code. . . . . ____
Protocol . . . . . OFT
Days to Purge. . . . . 999
FIFO/LIFO. . . . . F
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 8.3 Creating an OFT profile for using OFTP over TCP/IP

The next step in creating an OFTP profile is to complete the panels corresponding to the communication type you are using—that is, asynchronous, X.25, or TCP/IP. Sterling Gentran:Server will lead you through the appropriate panels. After you press **Enter** to complete the EDIX401-FMT01 panel, the necessary configuration panels display.

OFTP is a higher protocol that is dependent on the basic asynchronous communication support within Sterling 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 and press **Enter** to complete the EDIX401-FMT01 panel.

- If you specified Protocol OFA, the basic asynchronous (ASC) configuration panel EDIX401-FMT06 displays, as shown in the following figure.

```

EDIX401          Communication Profile          EDI 04/30/11
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). . . . . ___ ___
                                          Outbound (to). . . . . ___ ___

Modem Break Character. . . +
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 8.4 ASC Configuration on Panel for OFTP Over an Asynchronous Line

- If you specify protocol OFT, first the OFTP configuration panel EDIX401-FMT10 displays as shown in Figure 8.7. Then the TCP/IP configuration panel EDIX401-FMT21 displays as follows:

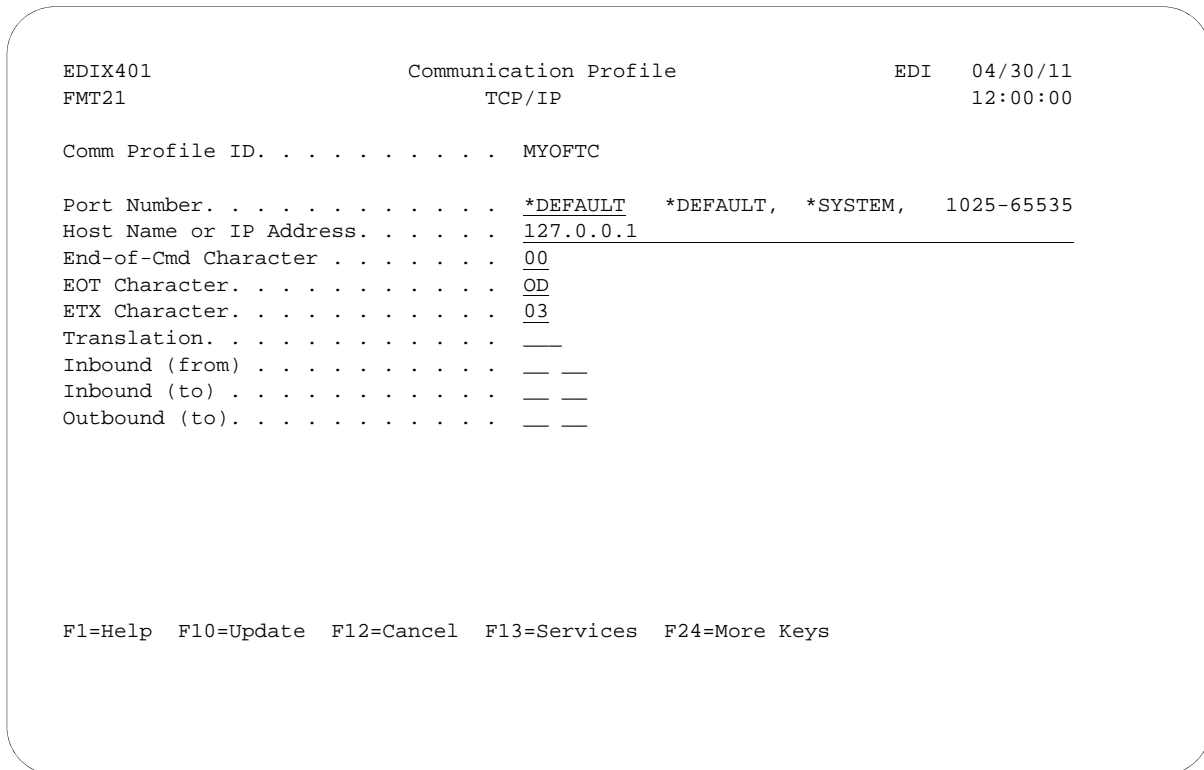


Figure 8.5 OFT configuration panel for OFTP over TCP/IP

Descriptions

Port Number

This field determines the TCP/IP port that will be used for OFTP communications.

- *DEFAULT causes the standard OFTP port (3305) to be used
- *SYSTEM causes the port number to be determined by the “odette-ftp” entry in the system service table.
- A numeric value between 1025 and 65535 specifies the port number that should be used.

Host Name or IP Address

This field determines the host (remote system) with which an OFTP communications session is to be initiated.

Valid values are a host name or IP address. If a host name is specified, it must be defined in the system host table or be available via the system DNS configuration.

Valid characters for a host name are A-Z, a-z, 0-9, underscores, minus sign (dash), period (but not consecutive periods). Host names are not case-sensitive but it is 'normal' to retain the case that a user enters.

Valid values for an IP address are n.n.n.n, where *n* is a number from 0 - 255.

**NOTE**

If the EDIX401-FMT10 screen field "Act as Responder (Host)" (CPFORS) is set to "Y," then this field will not be used.

End-of-Command, EOT Character, ETX Character

These fields are described in the topic "Use of ETX, EOT, and End-of-CMD Characters" in the "Asynchronous Communication Support" Chapter.

Translation Field

These fields are described in the topic "Application Level Translation" in the "Asynchronous Communication Support" Chapter.

After completing the EDIX401-FMT21 panel, the OFTP configuration panel EDIX401-FMT10 displays as described in the next section.

- If you specified Protocol OFX, the basic asynchronous-over-X.25 (XAS) configuration panel EDIX401-FMT07 displays, as shown in the following figure.

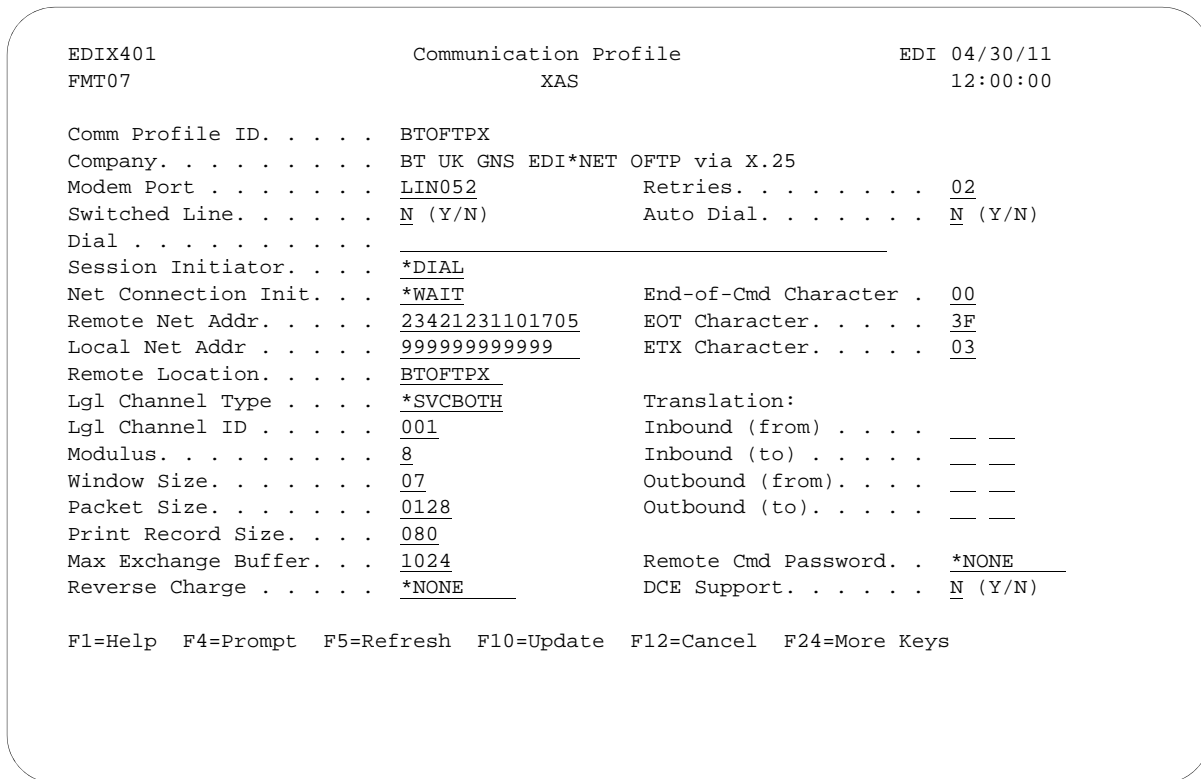


Figure 8.6 XAS configuration panel for OFTP over an X.25 leased line

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 “Outbound Block Size”, governs the amount of data that will be written by Sterling Gentrans:Server to the iSeries communications support.

The value that you type for “Max Exchange Buffer” will determine 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 you press **Enter** to complete the EDIX401-FMT06 or FMT07 Communication Profile panel, the EDIX401-FMT10 panel displays, as shown in the following figure. This panel contains the parameters that will be 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.

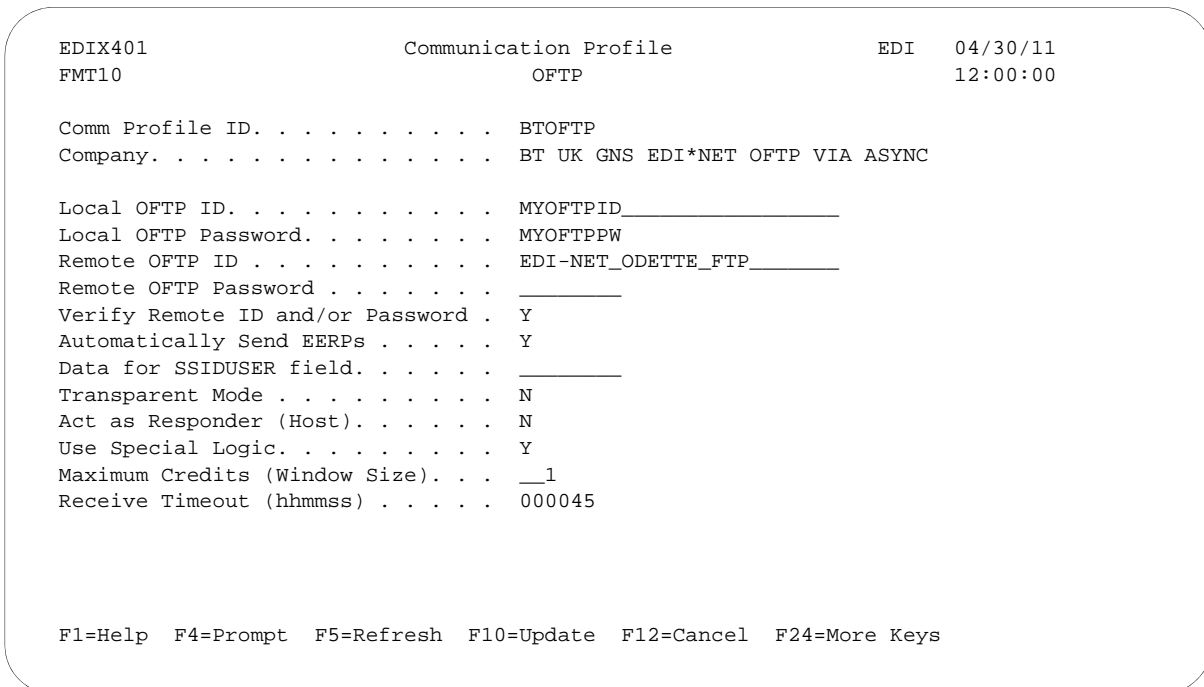


Figure 8.7 OFTP Configuration Panel

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 which 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 Sterling 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 Sterling 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 Sterling Gentran:Server 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 Sterling 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 Sterling Gentran:Server for iSeries. (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 iSeries 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 iSeries 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 which 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 interpretations 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 Sterling 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 to 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.

REVERSEERP

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 “Remote OFTP ID” from the communication profile is used.

SFIDFMT=U/F/V/T

Specifies the value that will be transmitted in the SFIDFMT field that 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 Sterling 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 Sterling 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 Sterling 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 following communication session control script 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    04/30/11
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 Parm

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 8.8 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
- UTFMT=U and SFIDFMT=U will be used
- OFTP data compression will be used if supported by the remote system.

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 a TCP/IP connection to be initiated from the local iSeries to the OFTP host. After the connection is established, the session control script begins executing.

Because the connection to the OFTP host system is established automatically by iSeries TCP/IP 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, just as the OFX example did.

Like the OFX 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.

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.

FTP Communication Support

**NOTE**

This feature is an optional add-on product that may be purchased separately.

Introduction

Beginning with Version 3, Release 1 of iSeries, the iSeries has 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.

Sterling Gentran:Server communications 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

Sterling Gentran:Server/FTP Integration

Although the actual FTP communication is performed by the iSeries FTP support, this interface integrates iSeries FTP with Sterling Gentran:Server by providing many familiar Sterling 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 Sterling Gentran:Server FTP interface are loaded during the Sterling Gentran:Server 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 Sterling Gentran:Server, you must activate this component by turning it on in the Global Parameters screen EDIX415-FMT04.

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 Sterling 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 Sterling 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 Sterling Gentran:Server interface reads messages generated by the FTP client to evaluate the results of the communications session. Currently, English, German, Belgian-Dutch, and Spanish 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 Sterling 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 Sterling Gentran:Server FTP interface was tested using the following operating systems as remotes:

- iSeries
- AIX
- OS/2
- MS-DOS/Microsoft 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 Sterling 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., iSeries's 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 iSeries FTP client and EDI data cannot be reliably transferred from the iSeries 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 Sterling Gentran:Server interface works by default.

There are cases when an FTP server does not support the BINARY transfer type. To accommodate these rare situations, the Sterling Gentran:Server 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 Sterling Gentran:Server 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 Sterling Gentran:Server 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 (Sterling Gentran:Server default) is in use, translation will be performed using the translate tables GENASCII and GENEBCDIC, which reside in the Sterling Gentran:Server program library (G3X6PGM). 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 iSeries FTP client rather than by Sterling Gentran:Server.



NOTE

ASCII type transfers are not recommended with Sterling Gentran:Server.



CAUTION

Special consideration should be made for the EDI separators specified in the partner setup when the data is being transmitted via FTP. Many users have used X '15' as a segment terminator for their EDI data. In FTP, X '15' is translated to an X'0A' when the remote requires the data to be in ASCII. This X '0A' is an ASCII new line (NL). Having this character in the data may cause the data to become unwrapped. In turn, the remote trading partner will not be able to process the data. As a general rule, always use printable hex values as EDI separators.

Sterling Gentran:Server FTP Configuration

Like the other communication protocols within Sterling 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.



RECOMMENDATION

You may wish to copy and customize the sample FTP profile that is shipped with the product, rather than creating the profile and script yourself. The name of the sample FTP profile is SAMPFTP and can be found in the Tutorial Library (G3X6SAMP).

The specifics of creating profiles and scripts for FTP are discussed in the following sections.

Create an FTP Profile

```

EDIX400                Work with Communications                EDI  04/30/11
FMT01                  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      Bi-Synch Communications Rel 3
___  CN3SNA      SNA Communications Rel 3
___  REDINET     CONTROL DATA / REDINET NETWORK
___  RMTDAA      Remote Dial Line/Answer/ASYN
___  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 9.1 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**. The Communications Profile panel (EDIX401-FMT01) displays, as shown in the following figure.

```

EDIX401          Communication Profile          EDI  04/30/11
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
Used Most Frequently . . . . . N
Update Allowed . . . . . Y

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

```

Figure 9.2 Creating an FTP communication profile

On the Communications Profile panel (EDIX401-FMT01), type the company name for this Communication Profile in the Company field, and type 'FTP' in the Protocol field. Press **Enter** to go to the FTP Communication Profile panel (EDIX401-FMT11), which is shown in the following figure.

```

EDIX401          Communication Profile          EDI  04/30/11
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 9.3 Creating 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 an FTP client communication profile, these are the default processing steps:

1. Sterling 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 iSeries 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. Sterling 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. Sterling Gentran:Server issues the *BINARY* subcommand, which is the recommended file transfer type for all Sterling 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 Sterling 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 Sterling 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 Sterling Gentran:Server not to perform the login sequence (steps 2-6) automatically. Instead, Sterling 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 from 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 to 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.

**NOTE**

If the FTP client interface is used with an ASCII type file transfer, then the iSeries FTP client performs translation regardless of this setting. For ASCII type transfers, this should be set to 'N.'

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 iSeries. 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 which actually 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 Sterling Gentran:Server for iSeries. (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 Sterling 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 typing 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 Sterling Gentran:Server 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 Sterling Gentran:Server 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 Sterling Gentran:Server Inbound Queue
- R/IM Receive to Sterling 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.

For R/IQ and R/IM, data is received to the Sterling 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 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 iSeries FTP client. Files received by the iSeries FTP client are created using the Filename.Member convention. This is why the period (.) must be avoided.

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 output. To avoid this, the BINARY file transfer type should be used.

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 iSeries 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 Sterling Gentran:Server Outbound Queue
- S/OM Send from Sterling 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 “####” as part of the filename. The filename can be specified using up to three separate parts:

- An optional filename prefix of 0 to 64 bytes
- The special character sequence of “####”
- An optional filename suffix of 0 to 11 bytes

This sequence will be replaced by a 4-digit number which will start with 0001 and will be incremented for every batch transmitted by the current send step.

The following examples show different filenames specified in the Command field, and the resulting filenames on the Host system that received the files. These examples assume that there are three eligible outbound batches to be transmitted.

Command Field	File Names on Host
FILE####	FILE0001 FILE0002 FILE0003
####FILE	0001FILE 0002FILE 0003FILE

Command Field	File Names on Host
FILE####.EDI	FILE0001.EDI FILE0002.EDI FILE0003.EDI
####	PROFILEID0001 PROFILEID0002 PROFILEID0003

Note that when the Command field contains only the special character sequence “####” without a filename prefix or suffix, the Profile-ID of the session is automatically used as a prefix.

**CAUTION**

Some systems require the first character of a filename to be non-numeric. The file naming conventions of the Host system that receives the file must be followed.

**NOTE**

The sequence number will be reset to 0001 for every communication session. 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 topic “X-Extended Script Logic” in this chapter for detailed descriptions of these keywords.)

For S/OM, two additional special character sequences may be used to assist in the creating unique file names on the FTP server system. Specifying +BATSEQ+ in the command field of the Send step will insert the batch sequence number that identifies the outbound data batch. Similarly, specifying +PRFSEQ+ will insert the profile sequence number of the batch.

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 iSeries FTP client. Files received by the iSeries FTP client are created using the Filename.Member convention. This is why the period (.) must be avoided.

For all FTP send transactions, the Indicator field in the script will not be used.

For S/OQ and S/OF users 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 18 in this chapter.

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 March 1, 2011 at 15:45.

Command Field	File Names on Host
+DTSTAMP+	200804301545
+DTSTAMP+INV	200804301545INV
+DTSTAMP+.TXT	200804301545.TXT
MYCO+DTSTAMP+.TXT	MYCO200804301545.TXT
If S/OM is specified with three batches to transmit: +DTSTAMP+#####	200804301545001 200804301545002 200804301545003

The file name prefix (prior to the +DTSTAMP+) and the suffix (after the +DTSTAMP+) are limited to 25 characters each. A period is not required by Sterling 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. We strongly recommend that you read the definitions for the fields entitled “Inbound Record Separator,” “Outbound Record Separator,” and “ASCII-EBCDIC Translation,” which are in previous topics of 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 Sterling Gentran:Server 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 Sterling Gentran:Server for iSeries to a UNIX system where it is 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 typically contain some 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 additional 1055-byte blank record at the end of the file. This record contains only pad (space) characters.

Generally, this is not a problem since 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 sensitive to white space characters, the SKIPBLANKEOF keyword can be used. When “Y” is specified, Sterling Gentran:Server does not create this extra blank record which 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 of “N” is used.

 **NOTE**

This keyword is only for use in specific situations such as the example presented above. It does 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 function. When AUTODELETE=Y is specified, each file received will be deleted from the server after it has been received. AUTODELETE=Y must appear in the script prior to the R/IM and the R/IM must use FILENAME* or '*’ on the command line.

Once an AUTODELETE=Y script record has been processed, the option remains in effect for every Receive step until the end of the script or AUTODELETE=N is encountered.

If no AUTODELETE record is included in a script, the default (AUTODELETE=N) will be in effect.

AUTORENAME=*string*

When the S/OM function is used to send multiple files to the FTP server, the AUTORENAME keyword will cause a RENAME subcommand to be generated after each PUT subcommand. This can be used with certain servers that require that the entire file be sent and then renamed or moved to trigger the server to process the file.

string is a filename mask that will determine what the file will be renamed to and must be specified in the same format as the filename on the Send. For more information about this syntax, see the description on how files names are determined for S/OM, special characters sequences “####” information, and “+DTSTAMP+” information in the topic “X – Extended Script Logic” on page 18.

For example, the following script records will send all eligible outbound queue batches to directory “/home/mydir” on the server, and the files will initially be named “mydata.+DTSTAMP+.####,” where +DTSTAMP+ is replaced by a data/time stamp and #### is replaced by a sequence number. After each FTP PUT is completed, an FTP RENAME subcommand will be issued to rename the file to the same name, but add the suffix “.rename” and include a directory specification that will cause the file to be moved to “/home/newdir.” Rules imposed by the server system will determine the specifics of how the renamed mask should be formatted.

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. You can type hex character representation 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. You can type Hex character representation using the Extended Parameters screen (EDIX43B) of Communications Session Control.

RMVCHR=”string”

This keyword can be used to remove characters from FTP inbound data. This is similar in function to the CHGRECSEPI keyword and/or the inbound record separator characters specified on the FTP communications profile.

 **NOTE**

It is more efficient to use the inbound record separators or CHGRECSEPI facilities. RMVCHR should be used only if additional characters or longer strings must be removed.

“string” may be any sequence of characters from 1 to 71 characters in length, enclosed by delimiters and preceded by “RMVCHR=”. The delimiter character may be any character. The character immediately following the equal sign will be the delimiter and must also appear at the end of the string. X is the delimiter in the following example:

RMVCHR-Xmy string contains “quotes”X

In non-printable characters are to be removed, they may be entered using the EDIX43B Hex mode screen.

 **NOTE**

This feature operates on data before it passes through ASCII-EBCDIC translation. Therefore, the “string” to be removed must be specified in the character set of the host system. For example, if you want to remove the linefeed character that appears in the inbound queue as an EBCDIC x’15’ and the data originated on a UNIX machine using ASCII, the original character was most likely a x’0A’. Therefore, your script should specify the x’0A’ character in the RMVCHR statement of the communication session control script.

Up to ten RMVCHR statements may appear in a communication session control script and they must appear before any Receive step to which they should apply. If more than 10 occur in a script, those beyond the tenth will be ignored.

Unexpected results may occur if one RMVCHR string is a substring of another (for example, having a RMVCHR string for X'0A' and another for x'0D0A'). In most cases, the desired results would be achieved by specifying the longer string first; thus, x'0D0A' on the first RMVCHR statement and x'0A' on the second.

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 been issued prior to this command.

EMPTYBATCHIN=Y or N

This keyword allows the user to optionally bypass creation of empty batches on the Sterling Gentran:Server inbound queue when a zero length file is received from the server. This may occur with certain hosts, such as Ford ANX.

FTPCCSID=nnnnn

Overrides the default value of the coded character set identifier (CCSID) parameter used to execute the iSeries FTP command to conduct a Sterling Gentran:Server 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 IBM Support.

FTPTBLOUT=xxxxxxxxxx

Overrides the default value of the TBLFTPOUT parameter used to execute the iSeries FTP command to conduct a Sterling Gentran:Server 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 Sterling Gentran:Server and is generally used only with BINARY type file transfers. FTPTBLOUT affects character translation performed by the iSeries 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 IBM Support.

FTPTBLIN=xxxxxxxxxx

Overrides the default value of the TBLFTPIN parameter used to execute the iSeries FTP command to conduct a Sterling Gentran:Server 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 Sterling Gentran:Server and is generally used only with BINARY type file transfers. FTPTBLIN affects character translation performed by the iSeries 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 IBM Support.

SETSEQ

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 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.

SAVESEQ

This keyword stores the last-used S/OM ##### sequence number in an iSeries data area. It can be used in combination with RTVSEQ to retain the sequence number between communications sessions.

Syntax:

SAVESEQ DTAARA = *dtaraname* [LIB=*libname*]

Where:

dtaraname 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 iSeries 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 iSeries 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 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* does 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 displays: Mon
%A	Full name of current weekday	Monday
%b	Abbreviated name of current month	July displays: Jul
%B	Full name of current month	July
%C	Century number – Year divided by 100	2011 displays: 20
%d	Day of month	Displayed as 01-31
%D	Current month, date, year	Displayed with / as delimiter: 04/30/11
%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 displays: 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 displays: 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

Specifier	Result	Example
%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
%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	March 1, 2006 displayed as: 04/30/11
%X	Current time representation of locale. Typically HH:MM:SS	08:00 AM displayed as 08:00:00
%y	Current year without century	Year 2011 displayed as: 01
%Y	Current year	Four digit year displayed: 2011

**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 the %x as the time stamp will create a PUT command, as PUT localfilename 07/23/01. The 07/23/01 being the remote filename may cause the server to attempt to put the file in directory 07, subdirectory 23, filename 01. Therefore, you should always coordinate with your trading partner as to the exact filename format that is acceptable. 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\$23\$01. 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.

OBAPPEND

Specify eXtended logic record OBAPPEND=Y to cause the Sterling Gentrans:Server FTP client interface to generate APPend subcommands instead of PUTs. The X record must appear in the script prior to any Send transactions which are intended to be affected. Use the OBAPPEND=N to return the system to the default state, in which PUTs are generated. The OBAPPEND setting remains in effect until another OBAPPEND keyword is encountered.

ONESEGPERREC

The ONESEGPERREC keyword causes a record break on the specified segment terminator character when data from the outbound queue is written to a temporary file for transmission via the FTP client. If the file is sent using an ASCII type transmission, the server will receive one segment per record with no pad characters at the end of the batch.

 **NOTE**

Sterling Gentran: Server must also be configured to write one segment per record to the outbound queue.

Syntax:

ONESEGPERREC=X

- ONESEGPERREC must appear in column 1 of control data filed in the script.
- X is the segment terminator character and can be any single character.
- X must appear immediately following the equal sign.
- If X is a non-displaying character, you may type it using hex mode in the EDIX43C Communications Session Control screen.

OQEDIT

The OQEDIT keyword allows any character on the outbound queue to be converted to a specified character string before it is transmitted. This allows a CRLF or other sequence to be added to outbound data after or instead of the segment terminator. This can be used to send one segment per record to stream file systems when using binary type transfers.

 **NOTE**

Due to the fixed record length file on the iSeries, some pad characters may be present at the end of batches and files.

Syntax:

OQEDIT "X" "ZZZ"

- OQEDIT must appear in column 1 of the control data field in the script.
- X is any single character that is to be converted.
- ZZZ is any character sequence of 0 or more bytes that X will be converted to.
- Where the double quotes are shown as a delimiter, any character may be used as long as there is a matching pair.
- Disable the OQEDIT function by specifying an X value that is not one character in length, such as OQEDIT "" or OQEDIT by itself.

- You may type non-displaying characters using hex mode in the EDIX43C Communications Session Control Screen.

FTP Script Example 1

The script below 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 actual FTP file transfers.

This example assumes the login, password and binary command were issued via the automated process from the definitions on the Profile panel.

```

EDIX403           Communication Session Control           EDI  04/30/11
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 Parm

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 9.4 Example 1: FTP Session Control Script

FTP Script Example 2

The communications session control script in Figure 9.5 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  04/30/11
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 9.5 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

The following session 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 would indicate that only the date/time stamp will be used as the remote filename.

```

EDIX403                Communication Session Control                EDI 04/30/11
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
    
```

The +DTSTAMP+ can be preceded and followed by text for further file naming. For example:

```

EDIX403                Communication Session Control                EDI 04/30/11
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
    
```


The previous example creates a file on the remote FTP server with the file name of INVOICE072301.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 following example 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 0723010001, 0723010002, 0723010003, through 072301<nnnn>.

```


EDIX403                Communication Session Control                EDI 04/30/11
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
    
```

 **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 18 of this document.

The next example creates a date/time string that is separated by a hyphen. The actual file name would appear as 07-23-01.

```

EDIX403                Communication Session Control                EDI 04/30/11
CTL01                                12:00:00

Comm Profile ID. . . . . FTSPSAMP
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  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
TIMEFMT="%d-%m-%y"
  _  _20  S  OM  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
"+DTSTAMP+"
  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _

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

The following example uses spaces to separate the date/time string elements.

```

EDIX403                Communication Session Control                EDI 04/30/11
CTL01                                12:00:00

Comm Profile ID. . . . . FTSPSAMP
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  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
TIMEFMT="%d %m %y"
  _  _20  S  OM  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
"+DTSTAMP+"
  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _
  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _

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

In order 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.)



CAUTION

Prior to starting an FTP client communication session, CURLIB must be specified in the iSeries User Profile definition, or set via the CHGCURLIB command. You cannot use the *CRTDFT in the CURLIB. This applies to all FTP client communications started using the STRCOMMSSN command or Job Scheduler.



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.

Using the FTP Server Interface

The Sterling Gentran:Server FTP server interface allows data to be exchanged between the Sterling Gentran:Server communication queues and a remote (client) system.

The following steps are necessary to prepare the Sterling Gentran:Server FTP server interface for use:

1. Configure your iSeries FTP server using the information in the “iSeries TCP/IP Configuration and Reference” manual.
2. Create an appropriate FTP communication profile using the information in the previous topic, “Sterling Gentran:Server FTP Configuration.”
3. Configure the remote (client) system for FTP communication with your iSeries.
4. Configure the FTP library using the command GENFTPSLL.

FTP server sessions are conducted “outside” of Sterling 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 Sterling 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 Sterling Gentran:Server communication queues, and perform necessary data formatting and character translation.



NOTE

If errors occur while processing Sterling 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 Command

GENFTPSLL (Sterling Gentran:Server FTP Set Lib List) is a command which allows the user to change the Sterling Gentran:Server 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 Sterling Gentran:Server 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 Sterling 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 Sterling 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 Sterling Gentran:Server inbound queue.
3. If you need to receive data from Sterling 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.
3. After the file transfers have been completed, execute the GENFTPUPDT command on the iSeries to cause Sterling Gentran:Server to update the communications history and batch status to reflect the file transfers that have occurred.
4. 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 Sterling Gentran:Server and the iSeries FTP server. These commands are submitted from the remote FTP client to the iSeries FTP server to invoke the Sterling 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 Sterling 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 Sterling 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 Sterling 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 Sterling 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 which 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 which 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 actual record length used may be increased by up to 2 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 Sterling 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 Sterling Gentran:Server inbound queue.

The GENFTPADD command accepts parameters which 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 Sterling Gentran:Server communications.

BID specifies the batch ID that will be assigned to the data batch on the Sterling 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. The Batch ID will contain spaces.

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 Sterling 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 Sterling Gentran:Server for iSeries. Therefore, it is the client system’s responsibility to issue this command prior to using the QUIT command at the end of every FTP session that uses the Sterling Gentran:Server FTP server interface.



CAUTION

If the client system fails to execute the GENFTPUPDT command, then the Sterling Gentran:Server communication history and outbound queue batch status will not be correct.

10 MQSeries Interface

In this Chapter

This chapter covers the following topics:

- Overview of MQSeries Interface 10-1
- Using the MQ Link Panels..... 10-3
- Sterling Gentran:Server MQSeries Configuration 10-11
- Send Files to MQSeries..... 10-13
- Receive Files from MQSeries 10-15
- Report..... 10-17

Overview of MQSeries Interface

Sterling Gentran:Server 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 Sterling Gentran:Server interface with MQSeries allows files to be transferred directly from a database file, or they can be transferred from the Sterling Gentran:Server communications queues. You can also receive files directly into the Sterling Gentran:Server communications queues, or to a database file. By entering the MQ Link on the ADD, EXTRACT, PRCTRIN, or PRCTRNO commands, the data is transferred/received directly from any of these points.

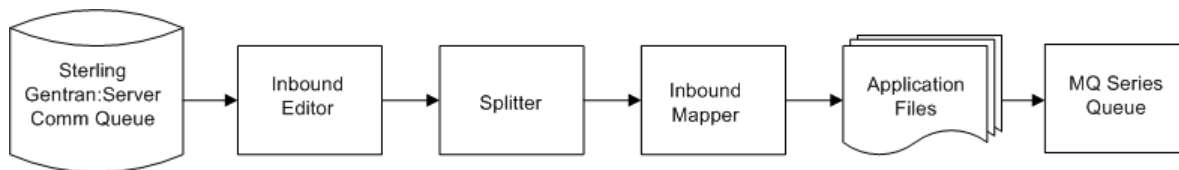
In addition to the current functionality, MQ Link provides additional capabilities. On the ADD command, you can take data from an MQSeries queue and place it in the Sterling Gentran:Server communication queues. The EXTRACT command takes data directly from the Sterling Gentran:Server communication queue and sends it to MQSeries. The PRCTRIN command sends the intermediate application files to MQSeries for each application processed. The PRCTRNO command pulls the data from MQSeries and places it in the application file prior to processing the application.

Sterling Gentran:Server 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.

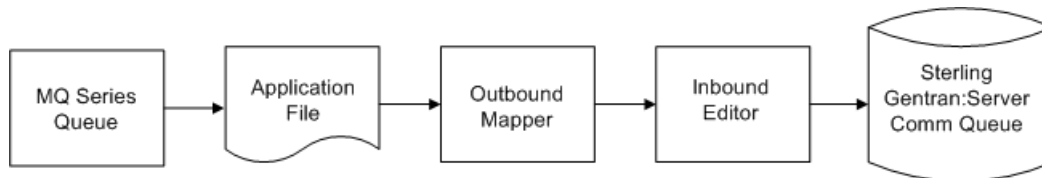
 **NOTE**

To use the MQSeries interface, you must have a good working knowledge of MQSeries. IBM does not provide a means to maintain the MQSeries queues, channels, and managers. These functions and items must be maintained separately outside of the Sterling Gentran:Server product. The interface has been based upon having the MQSeries queues defined at 4MB on the iSeries system where Sterling 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.



Using the MQ Link Panels

The MQ Links panels enable you to set up and configure link definitions to transport files between Sterling Gentran:Server, MQSeries, and other systems that are MQSeries enabled.

Access MQ Link Panels

The MQ Link panels are accessed from the Sterling Gentran:Server Communications menu. Select option '1' on the GENMAIN menu or type "GO GENCOM" on the command line and press **Enter**. The system displays the Sterling Gentran:Server Communications menu.

```
GENCOM                Sterling Gentran:Server Communications 3.6
                                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
    9. Work with Network Profiles
    10. Start a Comm Session                (STRCOMSSN)
    11. Start a Comm Session with Trace    (STRCOMSSNT)
    12. End Active Comm Jobs              (SHUTDOWN)
    13. Sterling Gentran Line Pools        (GENLINP)
    14. Purge All Communication Files      (PRGALL)
                                           More...

Selection or command
===>8

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User Support
(C) COPYRIGHT IBM , 2011, ALL RIGHTS RESERVED.
```

Figure 1.1 The Sterling Gentran:Server Communications menu

To access Work with MQ Links, type '8' on the command line and press **Enter**.

The MQ Links panels are used for the following tasks:

- Creating an MQ Link
- Viewing an MQ Link
- Deleting an MQ Link
- Printing an MQ Link
- Copying an MQ Link
- Revising 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 04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA      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 9.2 Work with MQ Links Panel (EDIX460-FMT01)

To create an MQ Link, complete these steps.

1. Type '1' (Create) in the Option field.
2. Select an alphanumeric name (up to 10 bytes) to represent an MQ Link that Sterling Gentrans:Server will use to access an existing MQSeries data queue. Type 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) displays.

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.

This diagram illustrates the MQ Link Configuration panel (EDIX461-FMT01).

EDIX461	MQ Link Configuration	EDI 04/30/11
FMT01		12:00:00
MQ Link Name	IHFILE	
MQ Queue Name.	SYSTEM.GENTRAN.IHQUEUE	
MQ Queue Manager	*DEFAULT	_____
Method of transferring files	<u>1</u>	
File name in header record?.	<u>Y</u>	
Message Descriptor Version .	<u>2</u>	
Sending Information:		
Message Priority	—	
Notification	*NONE	
Reply Queue.	_____	
Translation (from)	— —	
	(to) — —	
Receiving Information:		
Convert Data?	<u>Y</u>	
Break at Record Separators?	<u>N</u>	
Translation (from)	— —	
	(to) — —	
F1=Help F4=Prompt F10=Update F12=Cancel F24=More Keys		

Figure 9.3 MQ Link Configuration Panel (EDIX461-FMT01)

Type 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 the 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: Type this when you want to use the Confirm on Arrival option to verify a message was added to the remote system MQ Queue.

COD: Type 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 typed 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 which 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:  
Outbound (from)...__ __  
Outbound (to)...0D 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 which 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 hexadecimal value entered in the Translation from field in order to identify when the record is to break.

When you type ‘N’ in this field, the system places the data 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 which 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:

```
Inbound (from) ..0D
Inbound (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 and illustrates how to copy an existing MQ Link.

```

EDIX460                      Work with MQ Links                      EDI 04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA      12:00:00

Position to MQ Link Name . . . . . POFILES

Type option (and Information), press Enter.
  1=Create  2=Revise  3=Copy  4=Delete  5=View  6=Print

Opt  MQ Link                MQ Queue
 3  IHFILE                  SYSTEM.GENTRAN.IHQUEUE
-----
Copy To
  IHTESTFILE                SYSTEM.GENTRAN.IHQUEUE
F3=Exit  F12=Cancel

Bottom

Parameters or command
====>
F1=Help  F3=Exit  F5=Refresh  F9=Retrieve  F12=Cancel  F15=Sort
Create Operation Successful.

```

Figure 9.4 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**. The MQ Link Configuration panel (EDIX461-FMT01) displays.

This diagram illustrates the MQ Configuration panel.

```

EDIX461                      MQ Link Configuration                      EDI 04/30/11
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 9.5 MQ Link Configuration panel (EDIX461-FMT01)

Sterling 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).

Sterling Gentran:Server 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 Sterling Gentran:Server 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 04/30/11
FMT01                        pgmlib: G3X6PGM      dtalib: G3X6DTA      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  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 9.6 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**.

The MQ Link Configuration panel (EDIX461-FMT01) displays, as shown in the following figure.

```

EDIX461                MQ Link Configuration                EDI 04/30/11
FMT01                  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 9.7 MQ Link Configuration panel (EDIX461-FMT01)

Send Files to MQSeries

In addition to the EXTRACT and PRCTRIN 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.

```

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 9.8 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 Sterling Gentran:Server to MQSeries. The MQ Link must be defined on the Work with MQ Links (EDIX460) panel. When you enter this name, you provide all of the information needed to send data to MQSeries.

File Name to Queue

Type 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. When *FILE is entered in the field, the system uses the filename as the member name. A specific member can be entered. *FIRST is the default which 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 displays 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 PRCTRNOOUT 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.

```

                                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 9.9 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 Sterling Gentran:Server to MQSeries. The MQ Link must be defined on the Work with MQ Links (EDIX460) panel. When you enter this name, you provide all of the information needed to receive data from MQSeries.

File Name to Queue

Type 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 Sterling Gentran:Server 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. When *FILE is entered in the field, the system uses the filename as the member name. A specific member can be entered. *FIRST is the default which 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 Sterling Gentran:Server communication queue.

Record Length

This is only required when *YES was specified for the Create File parameter. Type the length of the file that is to be created.

Comm Profile ID to Queue

Type the name of the Sterling Gentran:Server 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 Sterling Gentran:Server communications queue. Type '*IN' if you want the data to be directed to the inbound queue, or type '*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 displays 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

Sterling 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 Sterling 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).

This diagram illustrates the MQ Links Configuration report.

```

EBDI461  RUN DATE 03/01/2011  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)

```

Figure 9.10 MQ Links Configuration Report — EBDI461 RUNTIME

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.

Field Names	Description
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.

11 Using Line Pools**In this Chapter**

This chapter contains the following sections:

- Introduction 11-1
- How Line Pools Work with Sterling Gentran:Server Communications 11-1
- Requirements for Using Line Pools 11-2
- When Line Pools Can Be Used. 11-2
- Create a Line Pool. 11-3
- Set Up a Line Pool with a Comm Profile 11-4

Introduction

The use of line pools within Sterling Gentran:Server 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 Sterling 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 be 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

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 Sterling Gentran:Server Line Pool (GENLINP) panel displays as shown in the following figure.

```

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
Maximum Passes Through Pool . . *NOMAX 1-999, *NOMAX
Delay Between Passes (seconds) 300    0-9999

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

```

Figure 10.1 Sterling Gentran:Server Line Pool (GENLINP) panel

The Sterling 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 Sterling 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-FMTnn, where 'nn' is 02-09, depending upon 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.'

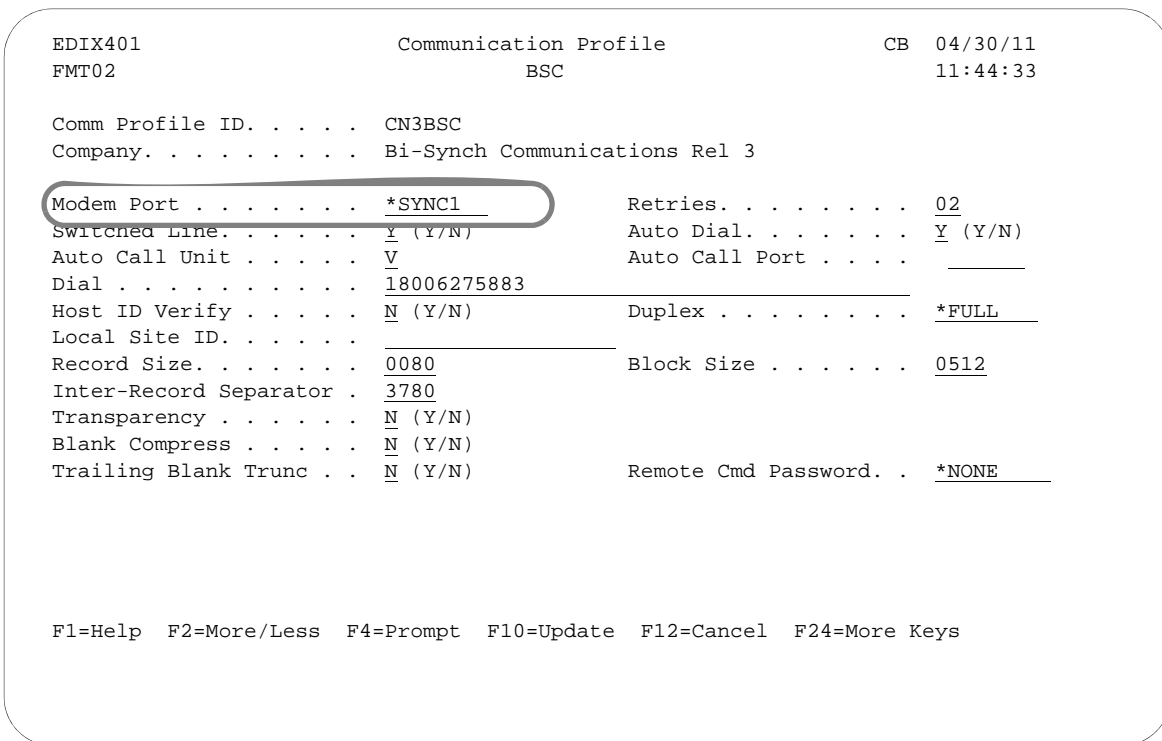


Figure 1.2 Example of Profile with Line Pool information

4. Repeat steps 1 – 3 for each profile which will use the line pool.

For more information about working with comm profiles, see the "Using Communications" chapter.

12 IFS Gateway

In this Chapter

This chapter covers the following topics:

- What is GIFSGATE?..... 12-2
- How to Use the GIFSGATE Command 12-4
- How to Use the GENIBQIFS Command 12-13
- Stopping the IFS Gateway 12-17

What is GIFSGATE?

Overview

GIFSGATE is an interface between Sterling Gentran:Server for iSeries and the Integrated File System (IFS). The IFS gateway is installed as a standard part of Sterling Gentran:Server for iSeries and no additional installation procedures are required.

The IFS gateway is logically positioned between the Sterling Gentran:Server communications queues and the IFS files that serve as the hand-off point between Sterling Gentran:Server and an external software product.

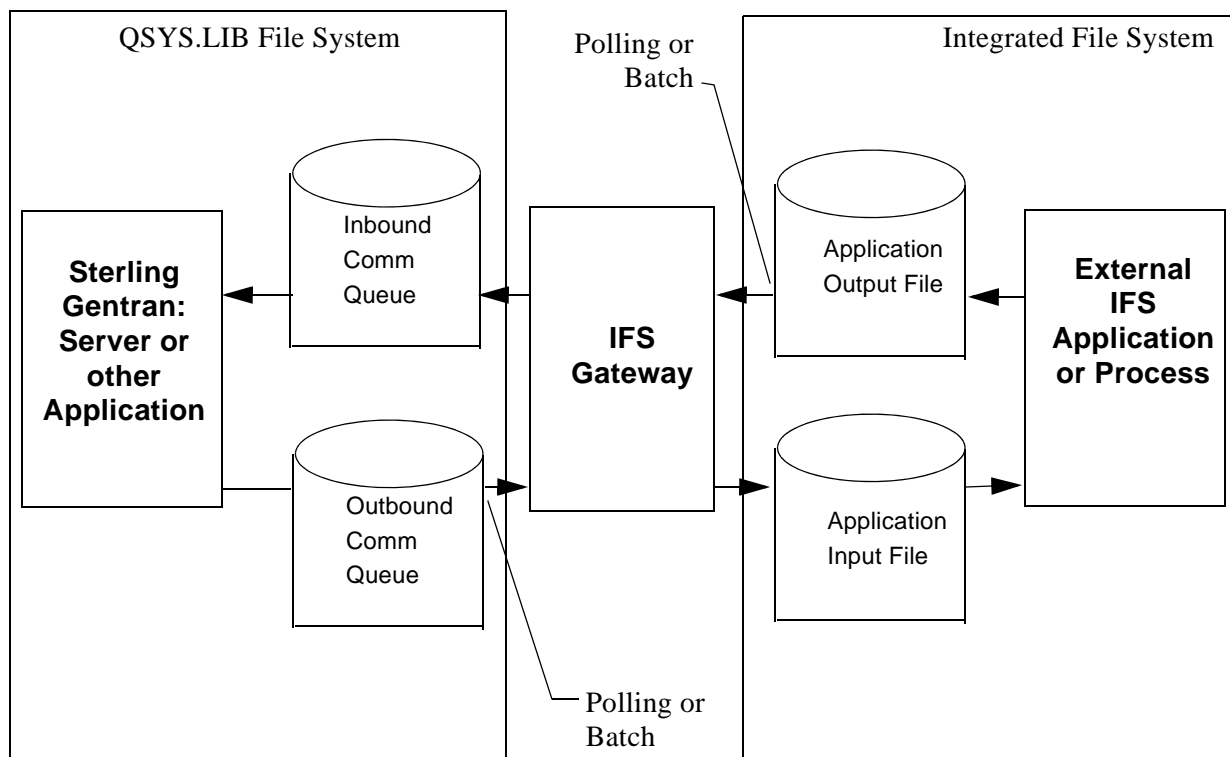


Figure 12-1 IFS Gateway

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 Sterling Gentran:Server 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 Sterling Gentran:Server communications queues and the external application input and output directories.

Sterling Gentran:Server Communications Profiles

Although the traditional Sterling Gentran:Server communication subsystem is not used for communication via the IFS gateway, a communication profile is used to identify data moving through the Sterling Gentran:Server inbound and outbound communications queues. A communication profile named IDXGATE is included with Sterling 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. 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. Type the command GIFSGATE at the command line and press **F4** (Prompt).

```
GENMAIN                IBM® Sterling Gentran:Server® for iSeries® 3.6
                                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. File Tracking Menu        (GENFILETRK)
   14. Sterling Gentran:Server Search Index

More...

Selection or command
====> GIFSGATE

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User Support
(C) COPYRIGHT IBM, 2011, ALL RIGHTS RESERVED.
```

Figure 12-2 The Sterling Gentran:Server GENMAIN Menu

System Response: the GIFSGATE command displays.

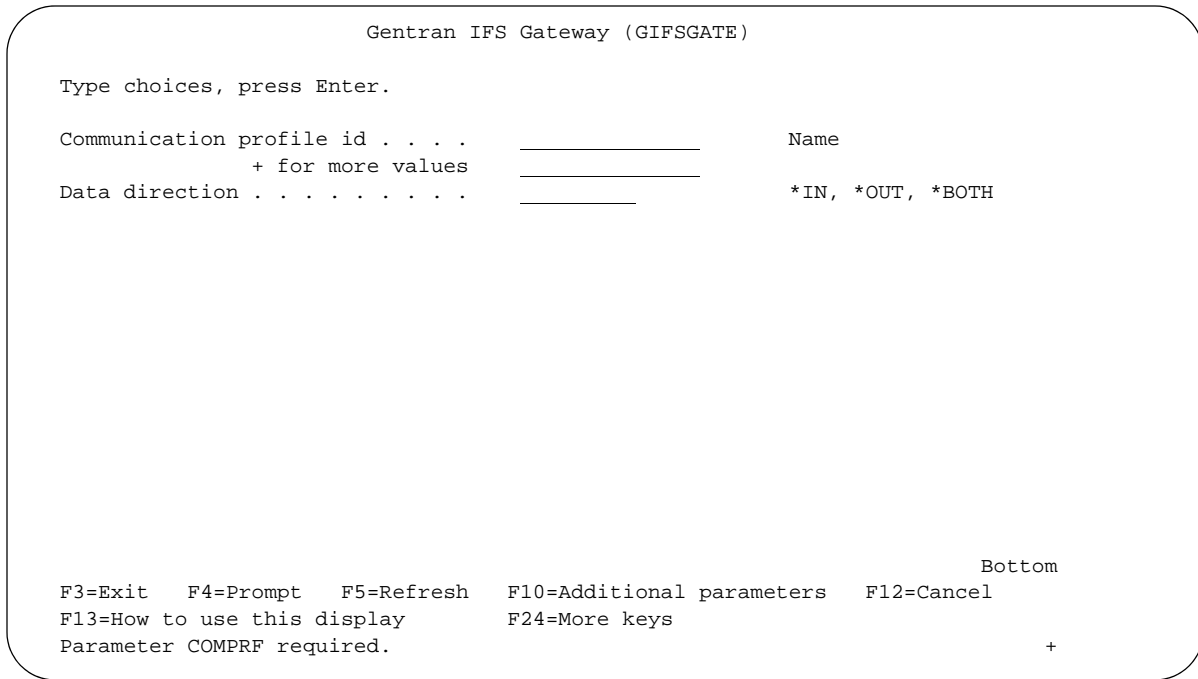


Figure 12-3 The IFS Gateway (GIFSGATE) command panel

2. Type the following responses to the prompts and press **Enter**.

Prompt	Response
Communications profile ID	In this instance, use the sample ID provided with the Sterling 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 Sterling Gentran:Server to integrated file system) * BOTH (in and out)

System Response: The system displays additional fields.

```

Sterling Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Communication profile id . . . . . > IDXGATE      Name
      + for more values
Data direction . . . . . > *BOTH      *IN, *OUT, *BOTH
Inbound IFS directory . . . . . _____
_____
Inbound IFS file . . . . . _____
_____
Batchid to Queue . . . . . _____
_____
Inbound End of Line . . . . . *FIXED      *CRLF, *CR, *LF, *LFCR...
Remove Hex Characters? . . . . . *NO      *YES, *NO
Outbound IFS directory . . . . . _____
_____
Outbound IFS file . . . . . _____
_____

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

Figure 12-4 The GIFSGATE command panel with additional fields displayed

3. Type a value in each field, using the Field Definition descriptions that follow this procedure for reference.

```

Sterling Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Communication profile id . . . . . > IDXGATE      Name
      + for more values
Data direction . . . . . > *BOTH      *IN, *OUT, *BOTH
Inbound IFS directory . . . . . /HOME/ECENGINE/DATA/MYCO/EDIIN
_____
Inbound IFS file . . . . . *
_____
Batchid to Queue . . . . . _____
_____
Inbound End of Line . . . . . *FIXED      *CRLF, *CR, *LF, *LFCR...
Remove Hex Characters? . . . . . *NO      *YES, *NO
Outbound IFS directory . . . . . /HOME/ECENGINE/DATA/MYCO/EDIOUT
_____
Outbound IFS file . . . . . MYFILE1
_____

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

Figure 12-5 The GIFSGATE command panel with field values entered

- Once you have entered the appropriate field values, press **Page Down** to display Additional Parameters.

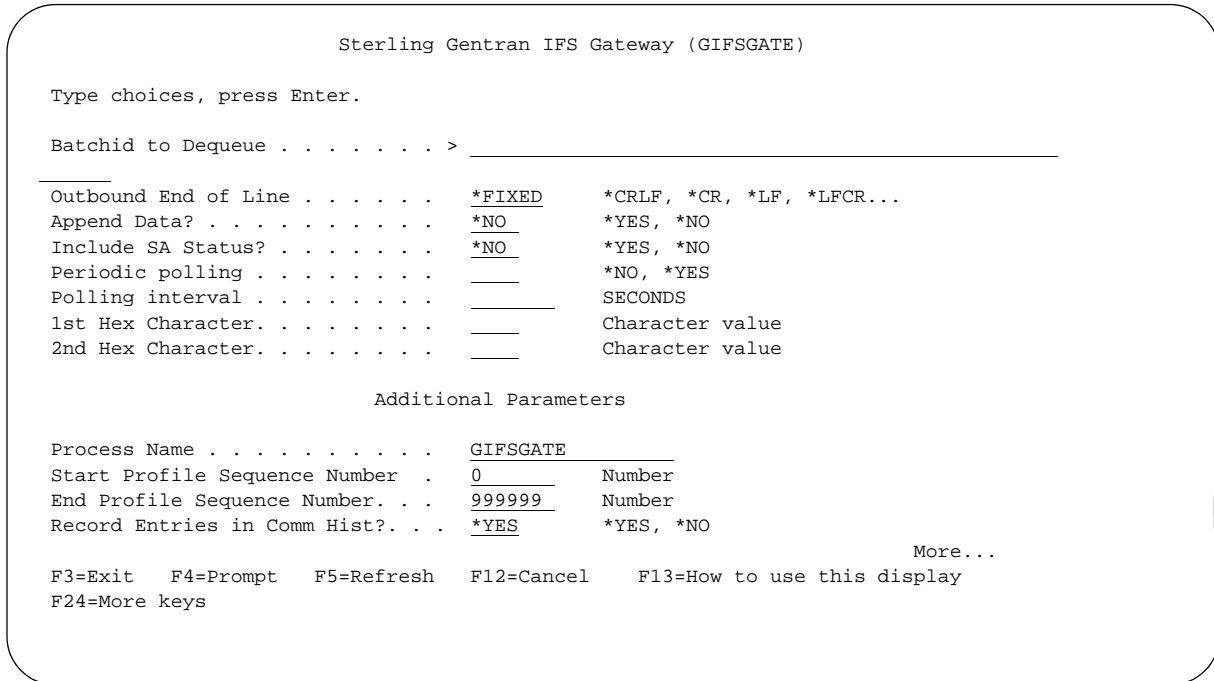


Figure 12-6 The GIFSGATE command panel with additional parameters displayed

- Type a value in each field, using the Field Definition table that follows this procedure for reference. 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.

Field Descriptions for the GIFSGATE Command

Communication profile id (COMPRF)

The name of the Sterling Gentran:Server communication profile that is to be accessed through the 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 Sterling 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 for Parameter COMPRF panel where you may enter up to 25 (total) 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 copies them to the inbound queue under the specified profile ID.

When you have multiple data directories to pull, you can use the %PROFILE% variable, along with the multiple communication profiles parameter. To use this feature, the profile ID to transfer must exist in the communication profile parameter and it must be part of the directory path. The program will replace %PROFILE% with each communication profile entered and the IFS Gateway.

Example

Two directories contain data:

- /home/inbound/partner1
- /home/inbound/partner2

You must create two communication profiles, called PARTNER1 and PARTNER2. On the GIFSGATE command, enter PARTNER1 and PARTNER2 in the COMPRF parameter. For the Inbound IFS directory (INDIR) parameter, enter /home/inbound/%PROFILE% and an '*' for the Inbound IFS file (INFILE). When the GIFSGATE job executes, it will place all of the files in directory /home/inbound/partner1 in the inbound communication queue for profile PARTNER1. It will then continue and place all files found in /home/inbound/partner2 into the inbound communication queue for profile PARTNER2.

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. You can also use the * as a wildcard. It can be used as a prefix or suffix wildcard.

Example: *.text will pick up all files in the directory specified that end with “.txt”.

Example: EDI* will pick up all files in the directory specified that begin with “EDI”.

Batchid to Queue (BATCHIDI)

Enter a batch ID if you want the inbound batches to be marked with the given batch ID. Leave blank if you do not want a batch ID.

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	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <input type="radio"/> Single-byte to single-byte <input type="radio"/> Double-byte to double-byte <input type="radio"/> Mixed ASCII to mixed ASCII <input type="radio"/> Mixed EBCDIC to mixed EBCDIC
*ALL	Any single or double character combination of carriage-return and line-feed is appended to the end of each line.

Remove Hex Characters (RMCHAR)

This parameter is only valid when *IN or *BOTH is specified on the Data Direction (DIRECTION). It allows the user to specify up to 2 hex characters to be removed from the data before adding to the queue. *FIXED should be specified on the Inbound End of Line (OUTEOL) parmameter.

If you enter *YES for the Remove Hex Characters field, 1st Hex Character and 2nd Hex Character fields are displayed for you to enter in hex to be removed from the data.

Outbound IFS directory (OUTDIR)

This is the directory where data from the outbound queue will be placed.

When you have multiple communication profiles to send, you can use the %PROFILE% variable, along with the multiple communication profiles parameter. To use this feature, the profile ID to transfer must exist in the communication profile parameter and it must be part of the directory path. The program will replace %PROFILE% with each communication profile entered and the IFS Gateway.

Example

Two communication profiles have data to send to the IFS file system:

- PARTNER1
- PARTNER2

You must create two like directories with the profile name as part of the directory path: /home/outbound/partner1 and /home/outbound/partner2. On the GIFSGATE command, enter PARTNER1 and PARTNER2 in the COMPRF parameter. For the Outbound IFS directory (OUTDIR) parameter, enter /home/outbound/%PROFILE%. When the GIFSGATE job executes, it will place all batches with a 'Q' status found in communication profile PARTNER1 into directory /home/outbound/partner1. It will then continue and place all batches with a 'Q' status found in communication profile PARTNER2 into directory /home/inbound/partner2.

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.

Batchid to Dequeue (BATCHIDO)

Enter a batch ID when you want only those batches of data to be pulled that have the batch ID entered and the correct status. When this parameter is left blank, all batches will be pulled that have the appropriate status, whether they have a batch ID or not.

Outbound End of Line (OUTEOL)

Specifies the end-of-line characters which are recognized in the stream 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. Type *YES if the command is to run on a periodic basis. Type *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 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.

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.

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.

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 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.)

How to Use the GENIBQIFS Command

This 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 GENIBQIFS command follows the procedure.

1. Type the command GENIBQIFS at the command line and press **F4** (Prompt).

```
GENMAIN          IBM® Sterling Gentran:Server® for iSeries® 3.6
                                     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. File Tracking Menu (GENFILETRK)
 14. Sterling Gentran:Server Search Index

More...

Selection or command
====>GENIBQIFS

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User Support
(C) COPYRIGHT IBM, 2011, ALL RIGHTS RESERVED.
```

Figure 12-7 The Sterling Gentran:Server GENMAIN Menu

System Response: The GENIBQIFS command displays.

```
          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 12-8 The Gentran IBQ to IFS Gateway (GENIBQIFS) command panel

2. Type a value in each field, using the Field Definition table that follows this procedure for reference. 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 . . . . . GENIBQIFS
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 12-9 The Gentran IBQ to IFS Gateway (GENIBQIFS) command panel with additional parameters displayed

Field Descriptions for the GENIBQIFS Command

Communication Profile ID (COMPRF)

The name of the Sterling 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 stream 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 Gentrans 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.)

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.

A Modems: Configuration and Troubleshooting

Overview

The following is a list of *recommended* modems for use with Sterling Gentran:Server for iSeries. These modems have been tested by IBM 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 IBM support to note these variations. Use the information that follows as a guideline for Sterling Gentran:Server 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

Overview

Speed	Modem	Dialing Method	Bisync Protocols	SNA Protocols	Async Protocols	Async Protocols via X.25
	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
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		

Speed	Modem	Dialing Method	Bisync Protocols	SNA Protocols	Async Protocols	Async Protocols via X.25
	IBM 7857	AT Commands			X	
<ol style="list-style-type: none"> 1. The UDS 9648T modem can be configured to operate in Bell 208 mode. Bell 208 mode works with Sterling 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, <u>but it is not recommended</u> because it can create undesirable results. 						

Figure A.1 Recommended Modems for Sterling Gentran:Server for iSeries

Configuration Requirements

The Sterling Gentran:Server for iSeries 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 iSeries communications support or by Sterling Gentran:Server, 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	<input type="checkbox"/> Dial tone? <input type="checkbox"/> Access code required? <input type="checkbox"/> Telephone cable plugged into correct port? <input type="checkbox"/> Modem connected to correct line on iSeries?
Modem is dialing but not connecting	<input type="checkbox"/> Dialing the correct number? <input type="checkbox"/> Compatible with remote modem? <input type="checkbox"/> Special configuration requirements for the remote system?

Figure A.2 Problem Solving Checklist

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'.

		High-Order Hex Digit															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Low-Order Hex Digit	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															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Low-Order Hex Digit	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

Inbound Translation Table (ASCII-to-EBCDIC)

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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 Sterling 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 Sterling 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. Sterling Gentran:Server for iSeries supports 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 Sterling 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 Telecommunication Access Method. 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 Sterling 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 Program. 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. Sterling 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 Control Program. 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 Sterling 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 Emulation Program. 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 Sterling 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 Sterling 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 Sterling 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 Sterling Gentran:Server for iSeries, but can be processed if sent by a remote terminal, provided the Sterling 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. Sterling Gentran:Server for iSeries may receive data from the communication line directly into the Sterling 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 Sterling 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 Sterling Gentran:Server for iSeries to establish sessions with SNA products on MVS systems.

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