Connect:Express® z/OS

Installation Guide

Version 4.2.3

Sterling Commerce
An IBM Company

Connect:Express z/OS Installation Guide

Version 4.2.3

First Edition

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Chapter 1

Preface

The Connect:Express z/OS Installation Guide is for network operations staff who install and maintain Connect:Express z/OS Version 4.2.3.

This guide assumes knowledge of the z/OS operating system, including its applications, network, and environment. If you are not familiar with the z/OS operating system, refer to the z/OS library of manuals.

Chapter Overview

The Connect:Express z/OS Installation Guide is organized into the following chapters:

Chapter	Description
2 About Connect:Express	This chapter provides an overview of the features and capabilities of Connect:Express and describes Connect:Express in the z/OS environment. This chapter also includes system requirements and installation prerequisites.
3 Planning the Installation	This chapter provides a description of the installation material and instructions for planning the installation of Connect:Express z/OS.
4 Installing Connect:Express for z/OS	This chapter provides instructions to install Connect:Express z/OS Core files.
5 Installing a Connect:Express Subsystem	This chapter provides instructions to install a Connect:Express z/OS subsystem.
6 Verifying the Installation	This chapter provides instructions to help you verify the installation of Connect:Express.
7 Optional Installation Tasks	This chapter provides informations about optional tasks.
8 Installation Worksheets	This chapter provides installation worksheets to help preparing installation process.

Connect:Express Documentation

Connect:Express documentation consists of the following manuals:

❖ The *Connect:Express z/OS 4.2.3 Release Notes* lists maintenance updates and any important notes.

❖ The *Connect:Express z/OS 4.2.3 Installation Guide* describes the planning and installation of Connect:Express.

❖ *The Connect:Express z/OS 4.2.3 User Guide* includes general information on using the TSO/ISPF interface, and serves as a reference of user and environment commands.

❖ *The Connect:Express z/OS 4.2.3 Utilities Guide* describes the optional Utilities package that you can integrate with Connect:Express.

❖ *The Connect:Express z/OS 4.2.3 FTP Guide* provides you with the information that you need to use Connect:Express with the FTP protocol.

❖ *The Connect:Express z/OS 4.2.3 Administration Guide* provides detailed information about transfer operations for system administrators and other advanced users of Connect:Express.

❖ *The Connect:Express z/OS 4.2.3 Options Guide* provides information about the CICS, IMS, and RJE interfaces available for Connect:Express.

❖ *The Connect:Express z/OS 4.2.3 PeSIT User Fields Guide* describes how you can exchange the PeSIT Pi37 and Pi99 fields with any PeSIT software.

❖ *The Connect:Express z/OS 4.2.3 Etebac3 User Guide* provides you with the information that you need to use Connect:Express with the Etebac3 protocol.

❖ *The Connect:Express HTTP Option Implementation Guide* provides you with the information that you need to implement HTTP access to the Connect:Express z/OS repository.

❖ *The Connect:Express z/OS 4.2.3 SSL Guide* includes general information on implementing secured file transfers.

❖ *The Connect:Express z/OS 4.2.3 Sysplex Supervision Guide* includes general information on implementing a group of Connect:Express Plex managers under control of a Connect:Express Plex supervisor.

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Conventions Used in This Guide

The Connect:Express z/OS Installation Guide uses certain notational conventions. This section describes the conventions used in this guide.

Convention	Description
UPPERCASE LETTERS	Uppercase letters in the command format indicate that you type in information as shown.
Lowercase letters	Lowercase letters or words in commands or syntax boxes require substitution by the user. For example, index1.index2.PARMLIB indicates that you must provide the first and second indexes of the string. "PARMLIB" is mandatory.
Bold Letters	Bold print in syntax boxes indicates Connect:Express commands and required parameters. For example, PLEX=N indicates that the parameter PLEX must be set to N.
Underlined Letters	Underlining indicates default values for parameters and subparameters. For example, PLEX=Y|<u>N</u> specifies that the default for PLEX is N.
Vertical Bars (|)	Vertical bars indicate that you can supply one of a series of values separated by the vertical bars. For example RUN=H|C specifies that H or C is valid.
Monospaced characters (characters of equal width)	Monospaced characters represent information for screens, commands, Processes, and reports.
Convention	Description
Punctuation	Code all commas and parentheses as they appear.
£ or #	The Pound character (£) and the hash character (#) are equivalent.

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Chapter 2

About Connect:Express

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This chapter provides an overview of the features and capabilities of Connect:Express, and describes Connect:Express in the z/OS environment. This chapter also includes system requirements and installation prerequisites.

About Connect:Express

Connect:Express™ enables the control, security, and automation of file transfers across multi-platform networks. It supports numerous operating systems and protocols, thus ensuring a long-term investment. Connect:Express has the following features:

- ❖ High-performance file transfer
- ❖ Adaptability and integration into the existing operating environment and applications
- ❖ Secure data exchange and network access
- ❖ Automation of the exchange process
- ❖ Scalability according to your needs
- ❖ Interoperability and openness with different hardware, protocols, and links
- ❖ Support for ASCII/EBCDIC translation and transfer of encrypted data

With Connect:Express, you can transfer various file types including, text, binary data, and programs, to facilitate central site distribution of data and application libraries. You can also implement user exits or procedures to function at the beginning, during, and end of a transfer.

Interfaces

For each platform, several interfaces are available for administration and implementation of Connect:Express:

- ❖ Operator interface
- ❖ Batch utilities interface
- ❖ Application Programming Interface (API)

Management and Controls

Connect:Express enables transferring of all file types and includes the following facilities for improved control and management:

- ❖ Requester and server modes
- ❖ Independence between sites by using symbolic names and local parameters
- ❖ Compression for PeSIT (Horizontal/Vertical/Mixed) or ODETTE-FTP
- ❖ Automatic restart for failed connections
- ❖ Checkpoint/restart
- ❖ Management of multiple links
- ❖ Use of backup links in case of network problems
- ❖ Automatic or manual restart of interrupted transfers
- ❖ Management of external translation tables (ASCII/EBCDIC)

Connect:Express also has its own scheduling capability which is used for triggering connections to exchange Partners. Extensive exits are also available to further enable automation through event management.

Monitoring Tools

Connect:Express maintains a Files directory and a Partners directory, making it possible to take control of and monitor all data exchanges with external systems. All Connect:Express activities are monitored by extensive tracking tools, including:

- ❖ The transfer request table which enables an operator, batch job, or user program to review, activate, or delete events.
- ❖ The journal which enables an operator, batch job, or user program to view results and statistics.
- ❖ The SYSLOG file which provides a chronological view of all past events.
- ❖ The Application Program Interface (API) which enables completed event records to be filtered, processed individually, or reviewed later.

Security Features

Connect:Express ensures completely secure transfers at several levels, including:

- ❖ Control of requests issued by a known Partner or local originator
- ❖ Control of access to data
- ❖ Control of flows with specific protection, depending on the direction of the transfer
- ❖ Control of activities such as the limitation of the maximum number of simultaneous links between Partners and the activation/deactivation of Partners, Files, or transfers
- ❖ Privacy and data integrity through SSL communication

Connect:Express Functionality

Connect:Express works on different operating systems and can exchange data with any compatible software through SNA, X.25, and TCP/IP networks using public transfer protocols such as French PeSIT and ETEBAC protocols, and ODETTE-FTP. It can also support FTP transfers. Some functions, however, are only available in a Connect:Express environment with SNA 3270 and LU6.2 connections.

Connect:Express uses symbolic Partner and File names to enable communications with remote sites. The user online interface enables you to exchange and process user or application-specific information about Partners and Files.

This manual describes Connect:Express z/OS. However, the descriptions of the Connect:Express environment and design can apply to any operating system that implements Connect:Express.

Address Spaces for Connect:Express

Connect:Express z/OS uses six types of address spaces for the following jobs:

Job	Description
Transfer Operations Manager (TOM)	The monitor address space which manages all of file transfer operations, including the interfaces, the monitoring tools, and the security features.
Auxiliary Network Manager (ANM)	The network address space which handles X.25 CTCP (DATE and GATE), SNA PA-PA, SNA LU2, SNA LU6.2, and TCP/IP
Auxiliary Protocol Manager (APM)	The protocol address space which handles PeSIT, ODETTE, and ETEBAC3 protocols. This address space is connected to the application through user exits. One APM can process 1-16 transfers at the same time, and Connect:Express can manage 1 to 8 APMs. The supported transfer protocols are: PeSIT D and E (standard Connect:Express transfer protocol) ETEBAC3 ODETTE-FTP
Auxiliary FTP Manager (AFM)	The FTP monitor address space which handles FTP transfers.
Effector Address Space (EAS)	The FTP protocol address space which handles FTP transfers. This address space is connected to the application through user exits.
Auxiliary Trace Manager (ATM)	The trace address space which handles protocol traces.

How Connect:Express Works

Connect:Express prepares for data transfer by setting up a relationship between Partner computer systems and data. This relationship is setup by creating Partner definitions and File definitions. The relationship can be changed at any time without affecting transfer operations.

A Partner definition refers to the remote system with whom you are to establish communication. The Connect:Express system that resides on your host is also assigned a symbolic Partner name because you are seen as a Partner by other Connect:Express or compatible systems.

A File definition refers to the data that you want to transfer between two or more Partners. This includes the physical attributes, data presentation, and transfer handling information. Both the Partner definition and the File definition are assigned symbolic names. Symbolic names are used as opposed to physical names, which refer to devices.

Connect:Express accepts, executes, and monitors requests to transfer files to and from Partners. Before a transfer is accepted, Connect:Express verifies that symbolic names match for both Partners and Files, and that physical file attributes are consistent.

The following diagram illustrates how two Connect:Express systems communicate to negotiate file transfers. Each system is defined as a Partner, and each system has the same File profile definition. One symbolic Partner refers to a unique location. One symbolic File refers to a collection of data sets.
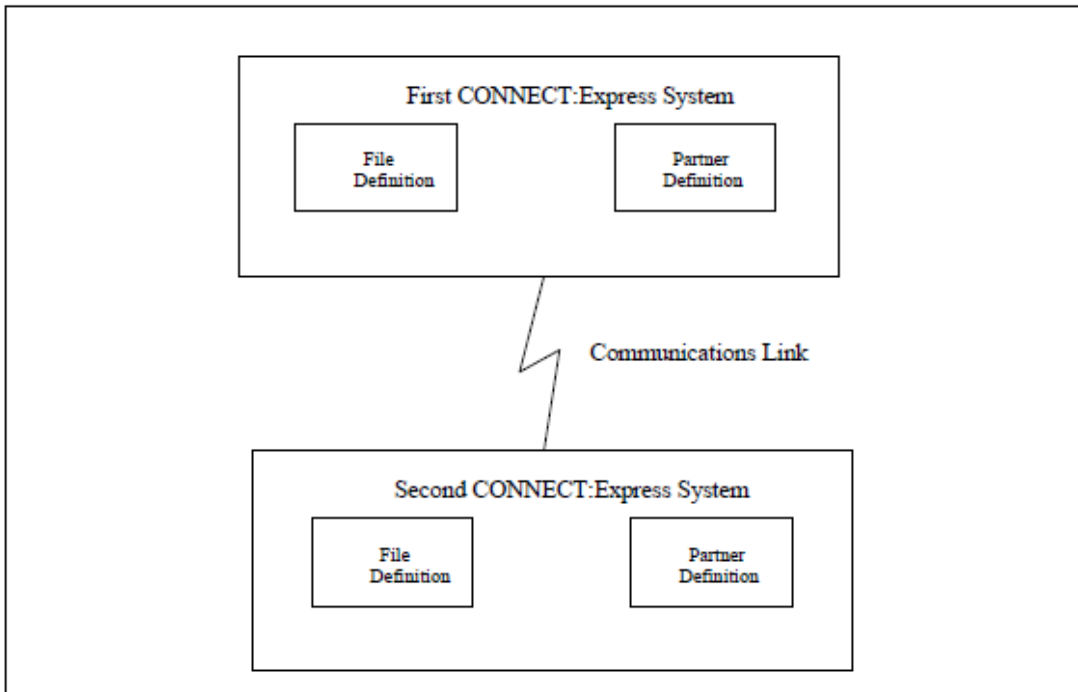
Note: You can setup a Partner definition as a general Partner profile pointed to by a group of Partners, thus referring to no network identification in particular. You can use a File definition as a specific file pointing to a unique physical data set name.

The following diagram illustrates two Connect:Express systems, SYSA and SYSZ, and FILE1, a payroll file.
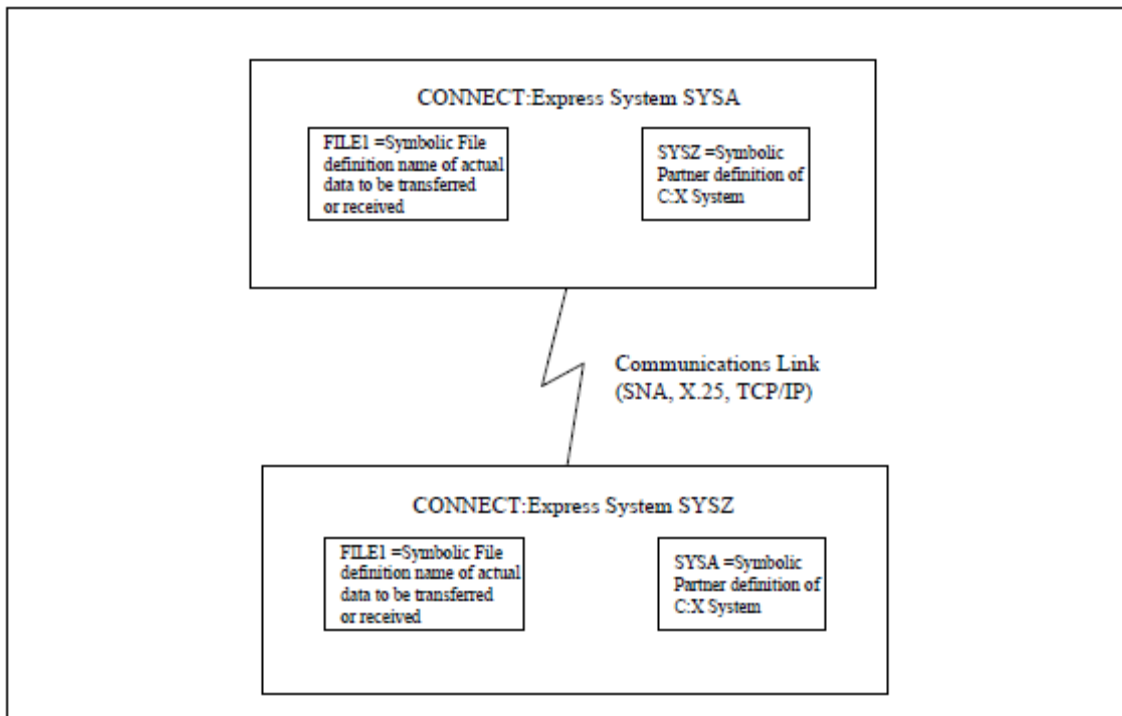
In the example above, the first Connect:Express system has a Partner name of SYSA. The other Connect:Express system has a Partner name of SYSZ. SYSA and its corresponding password is defined in SYSZ's Partners directory. Likewise, SYSZ is defined in SYSA's Partners directory. Each system must have the other system's Partner name in its directory for data transfer to occur.

A File profile with the symbolic name of FILE1 is defined on both Connect:Express systems. These definitions contain information such as rules about the local data set name to be transmitted or received, the Partner with which to transfer data, compression options, local record processing information, and actions to take place at the beginning and end of a transfer. Note that the symbolic names of the File are the same, FILE1, but the physical file attributes, processing, and transfer handling are local definitions. This is required for data transfer.

WARNING: Without these relationships, data transfer cannot take place between these Connect:Express systems.

Connect:Express in a z/OS Environment

In the z/OS environment, the Connect:Express monitor address space is an MVS Subsystem, and the jobs or processes used by Connect:Express, such as the Auxiliary Protocol Manager (APM), are tasks. One environment handles PeSIT, ODETTE, and ETEBAC3 transfers over X25, SNA, and TCP/IP networks. This environment handles SSL communication. The other environment handles FTP transfers.

PeSIT, ODETTE, and ETEBAC3 Transfers

The Auxiliary Protocol Manager (APM) is a task started by Connect:Express and dedicated to handling PeSIT, ODETTE, and ETEBAC3 transfers. One APM can handle up to 16 simultaneous transfer servers for any network and transfer protocol. Connect:Express can manage the address spaces for up to 8 APMs.

The Auxiliary Network Manager (ANM) is another task started by Connect:Express that is dedicated to network handling, including SSL.

The following diagram shows the relationship between the APM(s) and the ANM. The TOM in this diagram is the Transfer Operations Manager which provides the user interface for Connect:Express.
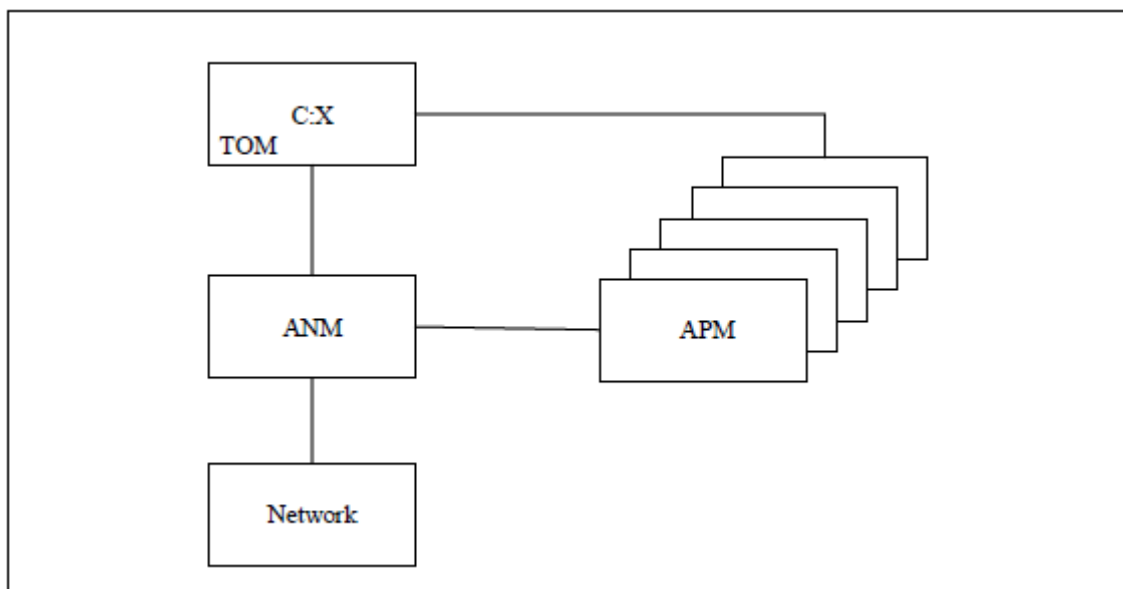
FTP Transfers

The Auxiliary FTP Manager (AFM) is a task started by Connect:Express that is dedicated to FTP transfer management. The Effector Address Space (EAS) is a task started by the AFM that is dedicated to handling the FTP transfers. Several FTP transfers can be handled by one EAS, and several EAS can be started by the AFM.

Note: The management of FTP transfers is described in *Connect:Express z/OS FTP Guide*.

The following diagram shows the relationship between the Auxiliary FTP Manager (AFM), the EAS, and the Connect:Express user interface.
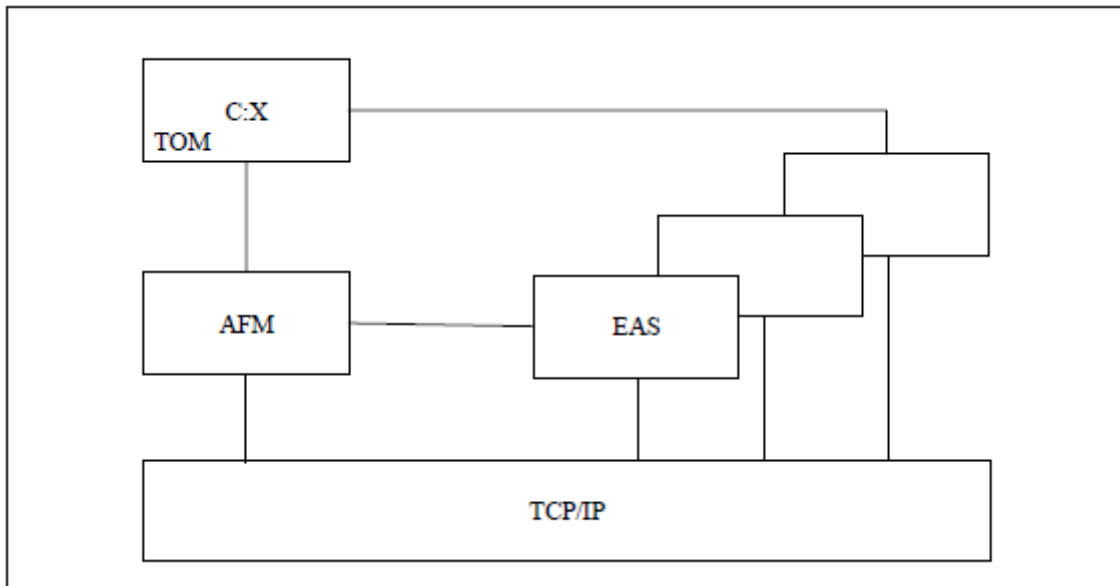
Trace Services

The Auxiliary Trace Manager (ATM) is a task started by Connect:Express that is dedicated to providing protocol traces.

Note: The trace utility is described in the *Connect:Express z/OS Administration Guide*.

The following diagram shows the relationship between the Auxiliary Trace Manager (ATM) and other Connect:Express address spaces. For PeSIT, Etebac, and Oftp, a trace file is built from TOM and APM address spaces information sent to ATM. For FTP, a trace file is built from AFM and EAS address spaces information sent to ATM.
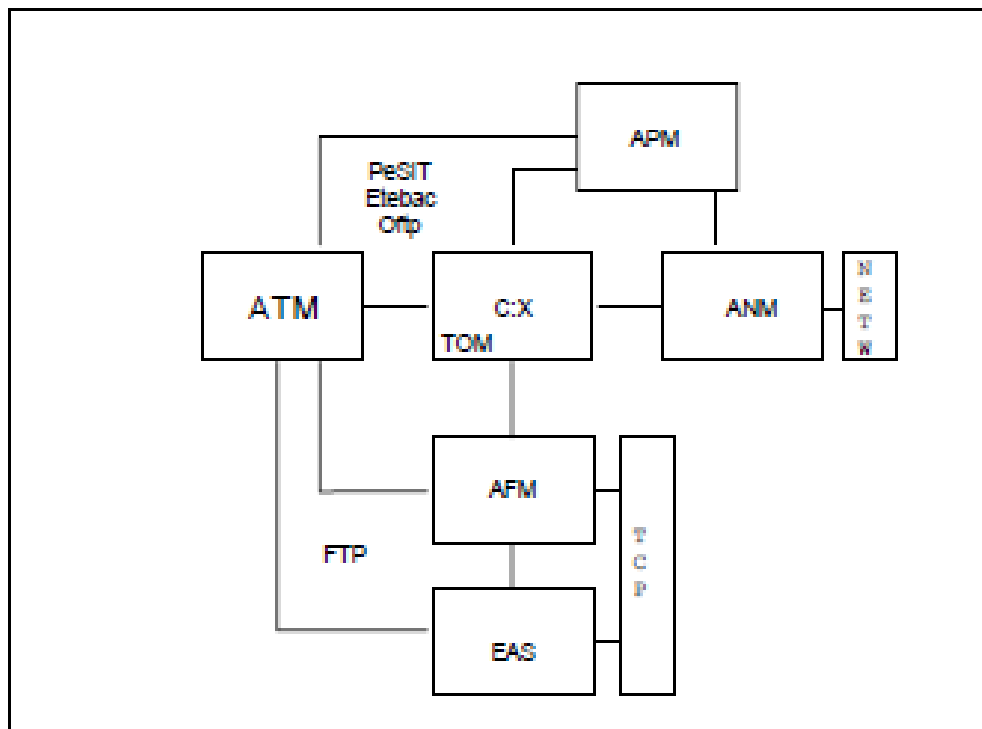
Resources, Interfaces and Parameters

Connect:Express provides resources, interfaces, and parameters that users can configure for transfers.

Resources are tools that you can enable or disable. Connect:Express resources include:

- ❖ Monitor
- ❖ Partners Control table
- ❖ Files Control table
- ❖ Requests Control table
- ❖ Transfer servers (APM)
- ❖ FTP services (AFM/EAS)
- ❖ Network handlers (ANM)
- ❖ Trace Services (ATM)

Interfaces enable users to manage Connect:Express resources through the subsystem interface for organizing and managing transfers, and operations control. There are also interfaces that enable Connect:Express to communicate with other software for file transfer planning, security, statistics, and other user applications.

Parameters tell Connect:Express how to handle certain transfers. For example, you can specify how many interruptions are allowed during a transfer and have Connect:Express automatically restart the transfer. Or when a transfer is received, you could have an application start automatically.

How to Use Connect:Express

Connect:Express configuration depends on the way you want to implement and integrate it into your user environment. You can use Connect:Express as a file carrier or to integrate transfer requests within applications.

If you implement Connect:Express as a file carrier, you would run Connect:Express for a system production environment. To integrate transfer requests within applications, you would need to configure an application environment. The system production environment manages transfer operations on behalf of the application with starts, stops, or restarts, while the application environment is used by the person who makes a transfer request. The system production environment typically uses a batch interface to work with Connect:Express resources while an application environment typically uses an Application Program Interface (API). The following diagram illustrates the relationship between Connect:Express and the user.
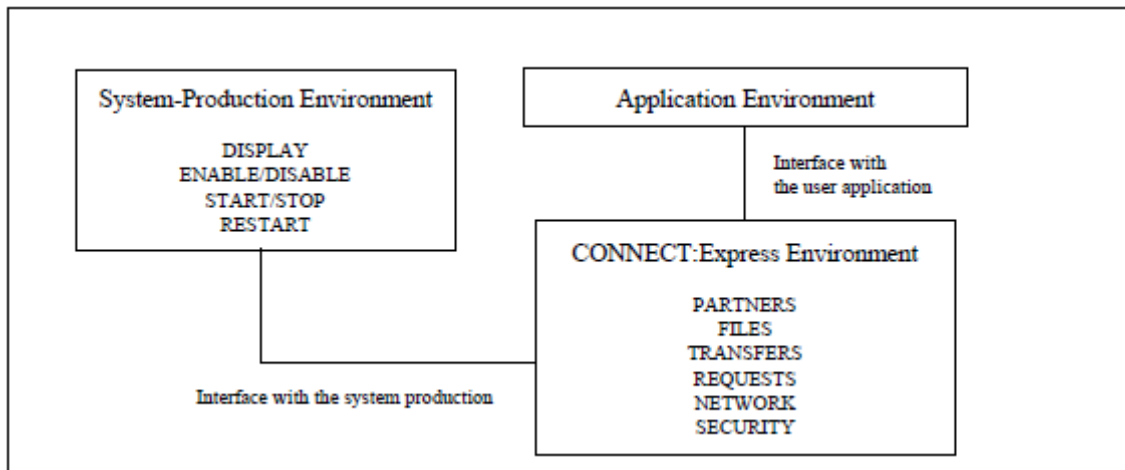
Transfer protocols enable applications to exchange specific information. Connect:Express provides transfer services through interfaces that establish communication between applications, as shown in the following illustration.
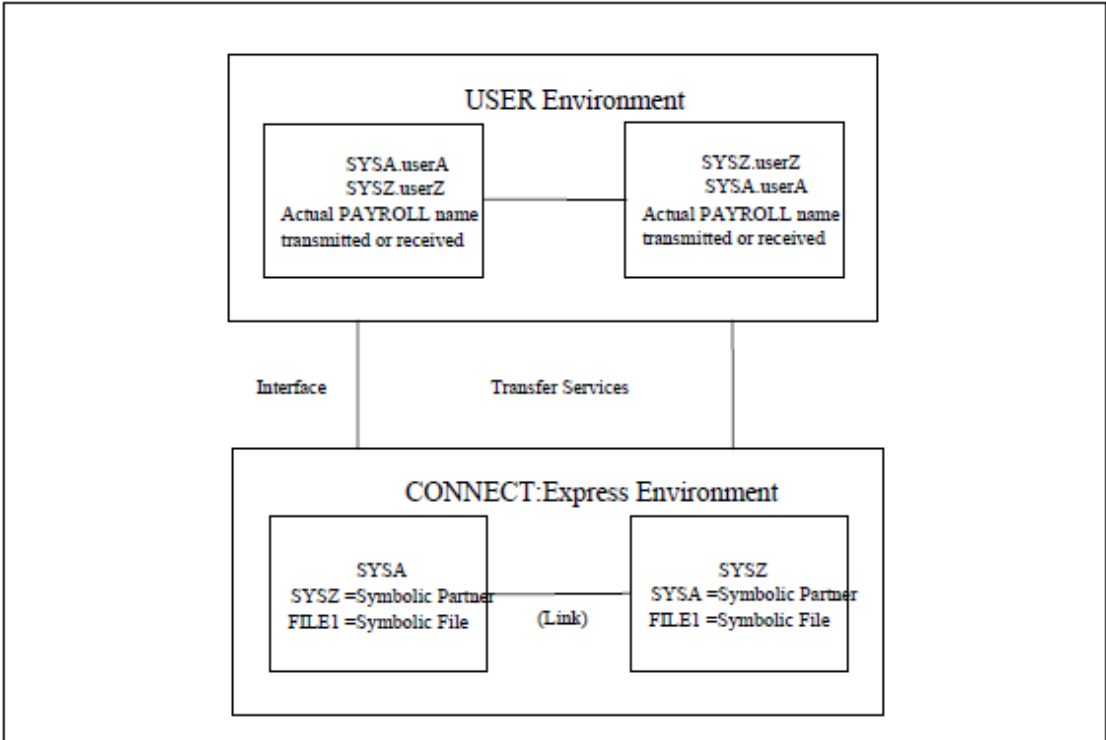
To transfer PAYROLL files between userA on SYSA and userZ on SYSZ, you must define SYSA and SYSZ as Partners and create the common FILE1 definition in Connect:Express directories. Connect:Express uses only the symbolic names when processing the transfer, and provides the interface through which user information is moved in both directions.

Connect:Express can be implemented as a system utility driven by the system production, or it can be application driven. Users can communicate with each other using Connect:Express on both ends or with Connect:Express at one end and with another application, such as FTP client, ETEBAC client, etc. at the other end. Some functions, however, are only available with Connect:Express on both ends.

System Utility (Production) Configuration

When communication is mainly handled by the System Production team on behalf of the application, then Connect:Express facilities manage the transfers. In this case, symbolic name conventions are sufficient to control the file transfer. This is called the system utility (production) configuration. The following diagram illustrates this configuration.
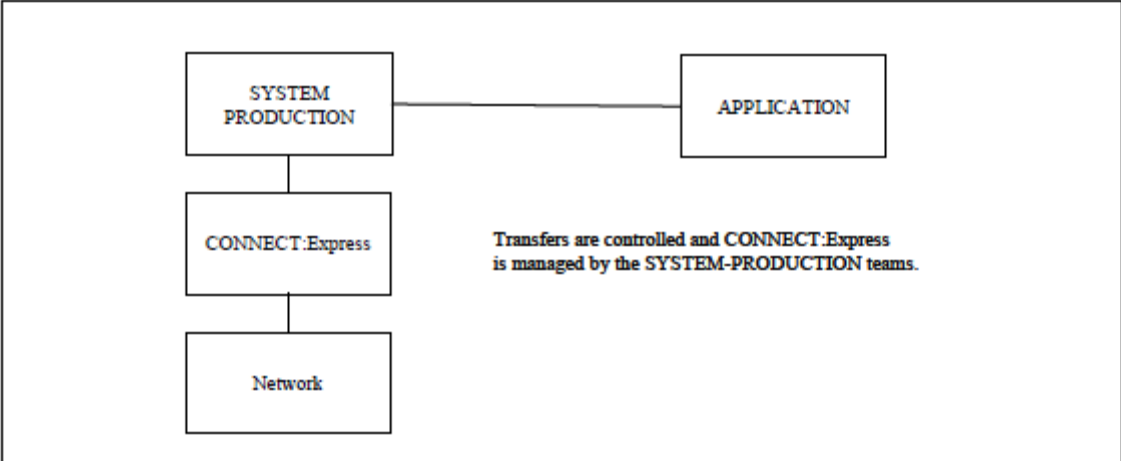
Application Configuration

Application-driven requirements are accomplished with the Application Program Interface (API) and with user exits. Some Connect:Express optional features act as Data Exchange Applications under the control of Connect:Express which executes the file transfers. This is called an Application Driven configuration. The following diagram shows an application driven configuration.
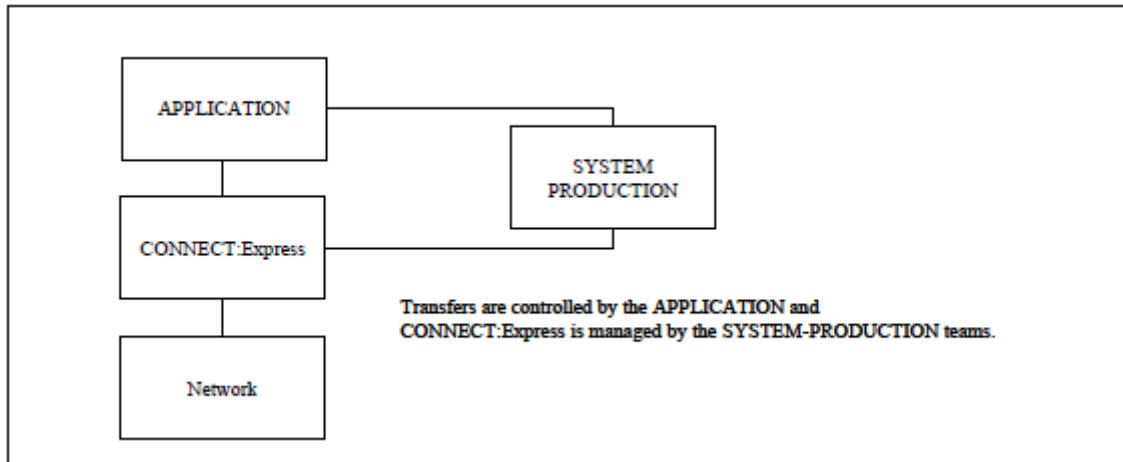
System Requirements

Connect:Express z/OS requires the following hardware and software:

- ❖ APF-authorized load libraries
- ❖ z/OS (release 2.1 or later)
- ❖ TSO/ISPF/PDF for interactive capability
- ❖ Any release of ACF/NCP and ACF/VTAM, for communications between z/OS-based systems using SNA
- ❖ NPSI, for communications over an X.25 network
- ❖ TCP/IP, for communications in a TCP/IP environment
- ❖ RACF, ACF2, or TOP SECRET authorized tasks
- ❖ Definition of an MVS subsystem
- ❖ Definition of a storage protection key
- ❖ z/OS SSL services for SSL communications
- ❖ The UNIX System Services (POSIX) environment

Note: Read the Release Notes for the most current hardware and software requirements.

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Chapter 3

Planning the Installation

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This chapter contains the information you need to plan your installation. Installation is easier and more effective if you complete your planning before you begin.

Before You Begin

Before you begin your installation, complete the following steps:

1. Obtain a license key (APKey)

Note: You cannot run Connect:Express without an APKey file. It must be installed and available for Connect:Express at initialization.

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2. Read the Connect:Express for z/OS Release Notes for the latest product information including:

    o   Additional installation requirements

    o   Product enhancements

    o   Maintenance updates

    o   Documentation changes

The information in this document can affect your installation procedures and definitions. Verify your hardware and software requirements. Review

System Requirements on page 14 for hardware and software requirements.

3. Determine your high-level qualifier. Connect:Express uses the following high-level qualifiers during its installation:

    o   The libraries that contain the files that perform the installation are prefixed with CX.NvrrmmA. Refer to Distribution Libraries DASD Requirement and Description on page 16 for more information.

    o   The installation procedure prefixes the installed Connect:Express libraries with a high-level qualifier (referred to as **$CX**) that you specify during installation. See the Connect:Express for z/OS Release Notes for the version, release, and maintenance level for the release you are installing.

Suggested value for $CX: Index1.TOMVvrr. For example for version 4.23: $CX=Index1.TOMV423

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    o   Before you install, verify that you either have the latest maintenance tape for Connect:Express for z/OS or download the latest maintenance by going to the Product Support section of the Sterling Commerce Web site at www.sterlingcommerce.com. You need a Support On Demand user name and password for access to the information and services provided on the Sterling Commerce Customer Support Web site. For more information, see the Connect:Express for z/OS Release Notes.

4. Complete the worksheets in Installation Worksheets on page 55 that are relevant for all types of installations and those relevant for your specific environment.

In this list, v indicates the version, rr indicates the release, and mm indicates the modification level to the release. For example, release 4.2.3.00 is 42300.

Planning DASD Requirements

DASD requirements for Connect:Express distribution libraries, VSAM files, and SMP/E files are discussed in this section.

Distribution Libraries DASD Requirement and Description

This section describes the Connect:Express distribution libraries, their attributes, and space allocation requirements and content.

Distribution Libraries Space Requirement

The following table describes the Connect:Express for z/OS distribution libraries, their attributes, and space allocation requirements. Connect:Express is delivered on CD.

Data Set	DSORG	LRECL	BLKSIZE	RECFM	SPACE	File Name
BIN	PS	1024	6144	FB	8 CYLS	CX.NvvrrmmA.BIN

This file contains distribution librairies in a packed transmit format and should be restored to their original format to perform the Connect:Express installation.

To be restored, distribution libraries are requiring the following disk space:

Data Set	DSORG	LRECL	BLKSIZE	RECFM	SPACE	File Name
DISTLIB	PO(PDSE)	80	32720	FB	50 BLKS	CX.NvvrrmmA.DISTLIB
TXLIB	PO(PDSE)	80	32720	FB	400 BLKS	CX.NvvrrmmA.TXLIB
TXLIBU	PO(PDSE)	80	32720	FB	180 BLKS	CX.NvvrrmmA.TXLIBU
LKLIB	PO(PDSE)	0	32760	U	370 BLKS	CX.NvvrrmmA.LKLIB

Note: File Names are prefixed with CX for comprehension purpose but may be renamed to feet your site requirements.

Installation process creates 3 more files requiring the following space:

Data Set	DSORG	LRECL	BLKSIZE	RECFM	SPACE	File Name
JCL	PO(PDSE)	80	32720	FB	10 BLKS	CX.NvvrrmmA.JCL
CNTL	PO(PDSE)	80	32720	FB	10 BLKS	CX.NvvrrmmA.CNTL
PROCLIB	PO(PDSE)	80	32720	FB	4 BLKS	CX.NvvrrmmA.PROCLIB

Description of Distribution Files

The following table describes each Connect:Express distribution file.

File	Description
BIN	The original distribution file, shipped on CD.
DISTLIB	Contains installation and customization components.
TXLIB	Contains all Connect:Express non-load modules, such as ISPPLIB, ISPSLIB, ISPMLIB for French version.
TXLIBU	Contains all Connect:Express non-load modules, such as ISPPLIB, ISPSLIB, ISPMLIB for English version.
LKLIB	Contains all Connect:Express load modules.
PROCLIB	Installation process creates members to be copied into your own environment PROCLIB.

Connect:Express Libraries Space Requirement

Note: Where TRKS or CYLS are used, 3390 tracks/cylinders are assumed.

Connect:Express Core Libraries

The following table describes the Connect:Express for z/OS libraries that are generated as part of the installation procedure, their attributes, and space allocation requirements.

When using SMP/E Installation procedure, two copies are created: a distribution library and a target library.

Data Set	DSORG	LRECL	BLKSIZE	RECFM	SPACE
INSTLIB	PO(PDSE)	80	32720	FB	9 TRKS
ISPCLIB	PO(PDSE)	80	32720	FB	4 CYLS
ISPLLIB	PO(PDSE)	0	32760	U	4 CYLS
ISPMLIB	PO(PDSE)	80	32720	FB	10 TRKS

Data Set	DSORG	LRECL	BLKSIZE	RECFM	SPACE
ISPPLIB	PO(PDSE)	80	32720	FB	4 CYLS
ISPSLIB	PO(PDSE)	80	32720	FB	5 TRKS
ISPTLIB	PO(PDSE)	80	32720	FB	4 TRKS
LOADLIB	PO(PDSE)	0	32760	U	17 CYLS
LOADSSL	PO(PDSE)	0	32760	U	10 TRKS
MACLIB	PO(PDSE)	80	32720	FB	3 CYLS
PARMLIB	PO(PDSE)	80	32720	FB	10 TRKS
README	PO(PDSE)	80	32720	FB	4 TRKS
SAMPLIB	PO(PDSE)	80	32720	FB	3 CYLS
SAMPOPT	PO(PDSE)	80	32720	FB	8 TRKS
SYSJCL	PO(PDSE)	80	32720	FB	10 TRKS
SYSPRM	PO(PDSE)	80	32720	FB	3 TRKS

Description of Connect:Express Core Libraries

The following table describes each Connect:Express core libraries.

File	Description
INSTLIB	This library contains JCLs and PROCedures models for subsystem installation, VSAM definitions and migrations from previous version.
ISP?LIB	Contains the Connect:Express ISPF application.
LOADLIB	All the Connect:Express load modules except SSL modules and ISPLLIB modules.
LOADSSL	The Connect:Express SSL modules.

File	Description
MACLIB	Cobol and Assembler Public DSECT definitions.
PARMLIB	This library contains parameters skeletons used by Subsystem installation and parameters models useful for Connect:Express customization.
README	The latest's news and fixes from Connect:Express.
SAMPLIB	Samples JCL and programs.
SAMPOPT	Samples parameters.
SYSJCL	UNLOAD RELOAD JCL Skeletons used by Subsystem installation.
SYSPRM	UNLOAD RELOAD parameters samples.

Connect:Express Subsystem Libraries

The following table describes the Connect:Express for z/OS libraries that are generated as part of the installation procedure **for each created Subsystem**, their attributes, and space allocation requirements.

Data Set	DSORG	LRECL	BLKSIZE	RECFM	SPACE
PARMLIB	PO(PDSE)	80	32720	FB	10 TRKS
SYSJCL	PO(PDSE)	80	32720	FB	10 TRKS
SYSPRM	PO(PDSE)	80	32720	FB	3 TRKS

Description of Connect:Express Subsystem Libraries

The following table describes each Connect:Express Subsystem libraries.

File	Description
PARMLIB	Customized Connect:Express parameters.
SYSJCL	UNLOAD RELOAD customized jobs.
SYSPRM	UNLOAD RELOAD parameters.

Connect:Express Subsystem Files Space Requirement

Connect:Express Subsystem Files Space Requirement

Data Set	DSORG	LRECL	BLKSIZE	RECFM	SPACE[1]
AFM AFMLOG	-	133	266	FB	1 CYL
AFM SYSLOG	-	133	6118	FB	1 CYL
APMxx[2] CHKMODEL	PS	8192	8192	FS	1 TRK
APMxx SYSLOG	PS	133	6118	FB	1 CYL
SYSCHK	PS	32756	32756	F	3 CYLS
SYSFIL	VSAM KSDS	600/8	-	-	1 CYL
SYSJNL	VSAM ESDS	1024/0	-	-	4 CYLS
TOM SYSLOG	PS	133	6118	FB	1 CYL
SYSPAR	VSAM KSDS	500/10	-	-	1 CYL
SYSRCY	PS	256	256	F	1 CYL
SYSUTx[3]	PS	160	160	FB	1 CYL

---

[1] Primary defaulted allocation
[2] From APM01 to APM08
[3] From SYSUT2 to SYSUT4

Description of Connect:Express Subsystem Files

Data Set	Description
AFM AFMLOG	AFM LOG.
AFM SYSLOG	AFM SYSLOG.
APMxx CHKMODEL	APM Checkpoint model, one per APM for performance optimization. (When models allocated on different volumes).
APMxx SYSLOG	APM SYSLOG, one per APM.

Data Set	Description
SYSCHK	Connect:Express monitor checkpoint file.
SYSFIL	Files directory.
SYSJNL	Monitor Journal.
TOM SYSLOG	Monitor SYSLOG.
SYSPAR	Partners directory.
SYSRCY	Recovery file. Contains all local requests submitted to Connect:Express while monitor is not UP and recovered when starting.
SYSUTx[4]	Monitor working files.

---

[4] `From SYSUT2 to SYSUT4`

Planning for Security

Connect:Express z/OS provides interfaces with RACF, CA-ACF2 and CA-TOP SECRET.

For security reasons, you should declare the Connect:Express Monitor (TOM) address space as a started task. When the TOM address space is a started task, you have more control over security because it is not dependent on the authorization of a submitter. Connect:Express Address Space IDs (TOM, ANM, APM, AFM, and EAS) must be allowed to read/write data sets used in their JCL. TOM APMs and EASs must be enabled to allocate, delete, and update data sets and temporary data sets used for data transfer. The following screen shows examples delivered in the *INSTLIB* library:

```
See members : $$$$RACF, $$$$SEC, $$$$ACF2, $$$$TOPS.
```

If the Connect:Express subsystem name is TOM3, the started tasks would be called TOM3MON, TOM3ANM, TOM3APM, TOM3AFM, and TOM3AS.

Note: When using TCP/IP with RACF, you can verify that an RACF user has a UID defined in an OMVS segment. Use the RACF command LISTUSER to check for a UID in the OMVS segment.

If you are not using RACF, then check the appropriate area in your security package for a similar function. If you do not implement the UNIX security, you must define a default UID for OMVS.

Planning Network Requirements

The Auxiliary Network Manager (ANM) of Connect:Express is a set of network application programs which support multiple sessions and protocols. You must have at least one of the following applications to operate Connect:Express:

- ❖ SNA LU-LU (LU0), SNA 3270, or LU6.2 SNA links which require the IBM ACF/VTAM and the ACF/NCP.
- ❖ X.25 (LLC0 in DATE, LLC4 in GATE, and LLC5 in all modes)

The ANM requires the IBM X.25NPSI for X.25 access. CTCPs in DATE or GATE mode are the ANM components that manage X.25 links. Contact IBM for NCP and X.25 NPSI maintenance procedures. The installed version for each component should have all the necessary updates.

An X.25 network access line can be entirely dedicated to Connect:Express with MCH generated in DATE mode, or it can be shared with other applications. For links through PAD, you can use the CVCs of an MCH even when GATE=NO is defined for the ANM. The ANM can support up to 32 X.25 access lines with 256 CVCs each.

- ❖ TCP/IP links

TCP/IP is required. The ANM supplies an optional standard interface for TCP/IP links, and the AFM provides FTP transfers over TCP/IP.

- ❖ PeSIT version D/E, ETEBAC 1/2/3, ODETTE-FTP, or FTP protocols supported by Partners that you will communicate with.

CSA Use Considerations

Starting version z/OS 1.9, the parameter ALLOWUSERKEYCSA in the active DIAGxx member of the system PARMLIB is set to the default value of 'NO'. IBM is restricting the use of CSA by applications, and Connect:Express sub-system interface is meeting this requirement. If you start Connect:Express ALLOWUSERKEYCSA(NO), the TOM address space abends with code B78-5C. Starting with version 4.2.2, the CSA storage used by Connect:Express can be protected by a key different than 8. The amount of CSA that Connect:Express uses is limited to receiving operator commands. All Connect:Express interface programs and areas are loaded in Connect:Express private storage.

If ALLOWUSERKEYCSA(NO) is set, you must associate a storage protection key, for example key 5, to the main program of Connect:Express. Or you will have to set ALLOWUSERKEYCSA(Y) .

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
-------------------------------------------------------------------------------
ISREDDE2 SYS1.PARMLIB(SCHEDTM) - 01.25 Columns 00001 00072
Command ===> Scroll ===> CSR
****** **************************** Top of Data ****************************
040000 PPT PGMNAME(P1B2P000) /* PROGRAM NAME P1B2P000 (GLOBAL) */
040500 , KEY(5) /* PROTECTION KEY 5 */
040600 PPT PGMNAME(P1B2P001) /* PROGRAM NAME P1B2P001 (LOCAL) */
040700 , KEY(5) /* PROTECTION KEY 5 */
040800 PPT PGMNAME(P1B2PCEE) /* PROGRAM NAME P1B2PCEE (LANG.ENVIR.) */
040900 , KEY(5) /* PROTECTION KEY 5 */
****** ************************** Bottom of Data **************************
```

Installing Connect:Express for z/OS

You run Connect:Express job streams to install the product initially. These job streams are produced from ISPF/PDF skeletons that are filled in by executing an installation CLIST. This CLIST displays panels that enable you to customize the Connect:Express installation for your requirements.

Connect:Express for z/OS supports either an IBM System Modification Program Extended (SMP/E) or non-SMP/E installation. The SMP/E installation produces the best results.

Before you begin installing Connect:Express for z/OS, read chapter 2, Planning the Installation, and review the Connect:Expressfor z/OS Release Notes.

These instructions detail how to perform a new installation.

Notice: This chapter covers Connect:Express z/OS first installation. For detailed procedures to install maintenance fixes, refer to *Connect:Express z/OS Administration Guide*.

Extract the Installation Libraries from Bin File

To prepare for the installation, you need several libraries on DASD. These partitioned data sets (PDSs) are included in the **$CX**.N42300A.BIN file received from Sterling Commerce, on distribution media.

To extract the libraries:

1. Use the following JCL to unpack and extract libraries from the received BIN file. This JCL is located on distribution media.

2. Change JOB Card to adapt to your site.

3. Change the following highlighted variables as follows:

   o   Change **$CX** to the high-level qualifier to be used throughout the installation for Connect:Express files.

   o   In the TSO RECEIVE SYSIN, change **$TSOUSER** to a valid Userid.

```
//CXBUILD JOB (CX-BUILD),'CX BUILD',CLASS=A,
//          MSGCLASS=X,REGION=0M,NOTIFY=&SYSUID
//*
//********************************************************************//
//*          DELETE  INSTALLATION LIBRARIES                       *//
//********************************************************************//
//*
//DELETE   EXEC PGM=IDCAMS,REGION=1024K
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
 DELETE $CX.N42300A.XMI
 DELETE $CX.N42300A.DISTLIB
 DELETE $CX.N42300A.TXLIB
 DELETE $CX.N42300A.TXLIBU
 DELETE $CX.N42300A.LKLIB
 SET MAXCC=0
/*
//*
```

```
//*******************************************************************//
//*                   UNPACK BIN FILE                             *//
//*******************************************************************//
//UNPACK    EXEC PGM=TRSMAIN,PARM='UNPACK'
//* $CX.N42300A.BIN : RECEIVED FILE FROM STERLING COMMERCE
//INFILE    DD DSN=$CX.N42300A.BIN,
//             DISP=OLD
//* &&XMI : UNPACKED LIBRARIES XMIT FORMAT
//OUTFILE   DD DSN=$CX.N42300A.XMI,
//             DISP=(NEW,CATLG,DELETE),
//             SPACE=(CYL,(40,4,40),RLSE),
//             DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
//SYSPRINT  DD SYSOUT=*
//*
//*******************************************************************//
//*          ALLOC    INSTALLATION LIBRARIES                       *//
//*******************************************************************//
//ALLOC     EXEC PGM=IEFBR14
//DISTLIB   DD DISP=(NEW,CATLG,DELETE),
//             SPACE=(32720,(50,0,20)),
//             DSNTYPE=LIBRARY,
//             DCB=(LRECL=80,BLKSIZE=0,RECFM=FB),
//             DSN=$CX.N42300A.DISTLIB
//TXLIB     DD DISP=(NEW,CATLG,DELETE),
//             SPACE=(32720,(400,0,500)),
//             DSNTYPE=LIBRARY,
//             DCB=(LRECL=80,BLKSIZE=0,RECFM=FB),
//             DSN=$CX.N42300A.TXLIB
//TXLIBU    DD DISP=(NEW,CATLG,DELETE),
//             SPACE=(32720,(180,0,120)),
//             DSNTYPE=LIBRARY,
//             DCB=(LRECL=80,BLKSIZE=0,RECFM=FB),
//             DSN=$CX.N42300A.TXLIBU
//LKLIB     DD DISP=(NEW,CATLG,DELETE),
//             SPACE=(32760,(370,0,80)),
//             DSNTYPE=LIBRARY,
//             DCB=(LRECL=0,BLKSIZE=32760,RECFM=U),
//             DSN=$CX.N42300A.LKLIB
//*
//*******************************************************************//
//*            EXTRACT INSTALLATION LIBRARIES                      *//
//*******************************************************************//
//EXTRACT   EXEC PGM=IKJEFT1B,DYNAMNBR=100
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//LOGNAME  DD SYSOUT=*
//*
//SYSTSIN  DD *
  PROFILE NOPREFIX
  RECEIVE USERID($TSOUSER) +
   INDSN('$CX.N42300A.XMI(DISTLIB)')
   DSNAME('$CX.N42300A.DISTLIB')
  RECEIVE USERID(          ) +
   INDSN('$CX.N42300A.XMI(TXLIB)')
   DSNAME('$CX.N42300A.TXLIB')
  RECEIVE USERID(          ) +
   INDSN('$CX.N42300A.XMI(TXLIBU)')
   DSNAME('$CX.N42300A.TXLIBU')
  RECEIVE USERID(          ) +
   INDSN('$CX.N42300A.XMI(LKLIB)')
   DSNAME('$CX.N42300A.LKLIB')
//*
//*******************************************************************//
//*            DELETE XMI FILE                                     *//
//*******************************************************************//
//DELXMI    EXEC PGM=IDCAMS,REGION=1024K
//SYSPRINT  DD SYSOUT=*
```

```
//SYSIN    DD *
 DELETE $CX.N42300A.XMI
```

4. Submit this JOB. This job will load the $CX.N42300A.DISTLIB, $CX.N42300A.TXLIB, $CX.N42300A.TXLIBU and $CX.N42300A.LKLIB libraries. See on page 17 for a description of the contents.

Generate the Core Install JCL through ISPF/PDF

Refer to the information you recorded in Installation Worksheets, when you specify parameters on the installation panels displayed in this procedure.

Execute the Core Installation CLIST

1. From the TSO **COMMAND** option of ISPF/PDF (usually option 6), execute the CXINST CLIST as shown in the following example, where **$CX** specifies the high-level qualifier you defined for Connect:Express files.

```
=== > EXEC '$CX.N42300A.DISTLIB(CXINST)' '$CX.N42300A'
```

The CXINST CLIST attempts to allocate the **$CX**.N42300A.CNTL and **$CX**.N42300A.JCL data sets. If these data sets already exist, then you must invoke the CXINST CLIST using the RESTART parameter. To access Help with the CXINST CLIST, invoke the CLIST as follows:

```
EXEC '$CX.N42300A.DISTLIB(CXINST)' '?'
```

Note: The CXINST CLIST does not account for SMS-managed DASD; therefore, you must customize the generated JCL if you install onto SMS-managed DASD.

Complete the JCL Core Installation Menus

The CXINST CLIST displays a series of menus that let you customize the installation. The four installation panels are:

- ❖ The Connect:Express installation Main Menu collects information about how you want to customize your installation. You move to the appropriate installation menus based on how you specify your installation choices on this menu.

- ❖ The Connect:Express SMP/E Main Menu displays information required to complete an SMP/E installation.

All menus include tutorials (PF1/HELP KEY) that explain the information requested on a panel and identify the required fields. When you have completed the installation panels, a list of installation JCL members created is displayed.

```
CXINPAN1            Connect:Express V.rr.mm                DATE-YYYY/MM/DD
     --------          Installation Main Menu      --------   TIME-HH:MM


 CMD ==>

  C:X Product High Level Qualifier ................ $CX
  Permanent DASD Device Type ..................... SYSDA___
  Permanent DASD Volume Serial No.  ............... _____


  Ispf Language .................................. US

  SMP/E Install (Y,N) ............................ Y

  Job Card Information
  ==>  //CXINST  JOB (CX-INSTALL),'CX INSTALL',CLASS=A,_____
  ==>  //          MSGCLASS=X,REGION=0M,NOTIFY=&SYSUID_____
  ==>  //*_____
  ==>  //*_____

   Press ENTER to continue, PF1 for Help, PF3 to Terminate the Install
```

2. When the Connect:Express Installation Main Menu is displayed, use the information recorded in Worksheet for All Installations on page 56 to define the appropriate fields and press **Enter**.

Note: Enter the VOLUME parameter for the Permanent DASD Volume Serial No. field if you wish to allocate all C:X System Files to a specific DASD Volume.

Individual field Help displays for all fields. By placing the cursor on an individual field and pressing the PF1 key, Help for that specific field displays in a pop-up window.

Connect:Express installation CLIST invokes the other installation menus based upon how you specify your installation selections on the Installation Main Menu.

    3.   Take one of the following actions:

        ❖   For a non-SMP/E installation, continue with step 4.

        ❖   For an SMP/E installation, refer to your completed Worksheet for SMP/E Installation on page 57 to define the parameters in the SMP/E Main Menu:

            ▪   Define the appropriate fields using your high-level qualifier.

            ▪   Continue with step 4.

```
                    Connect:Express V.rr.mm                 DATE-YYYY/MM/DD
        --------        SMP/E Installation Menu     --------  TIME-HH:M

 CMD ==>

 SMP/E Dataset Information :
  SMP/E Datasets HLQ ........... $CX_____

  CSI Dataset Name ............. $CX.CSI_____

  TARGET Zone Dataset Name ..... $CX.CSI_____
  DIST Zone Dataset Name ....... $CX.CSI_____




        Press ENTER to continue, PF1 for Help, PF3 to return
```

    4.   Press **Enter** to generate the JCL.

```
                    Connect:Express V.rr.mm                 DATE-YYYY/MM/DD
        --------          JCL Generation Menu      --------  TIME-HH:MM

 CMD ==>

   The Connect:Express JCL generation may take a moment to execute.


   Press ENTER to begin the generate, PF1 for Help, PF3 to return
    Type  CAN  to terminate
```

After Connect:Express installation CLIST generates the JCL, a screen displays the jobnames and a description of each member created in the file, as shown in the following example. Your screen will look different depending on what components you installed.

    5.   Continue with one of the following procedures:

        ❖   Execute the Core Installation JCL Using SMP/E on page 32.

        ❖   Execute the Core Installation JCL for a Non-SMP/E Installation on page 32.

Note: The following example is a representation. Your content may vary, slightly.

```
                      Connect:Express V.rr.mm                    DATE-YYY/MM/DD
     --------           JCL Generation Menu         --------     TIME-HH:MM
 CMD ==>
 Connect:Express JCL Generation Complete, RC=0

 Jobname             Description
 -------             -----------
 CXALLOC             Allocation JCL Job Stream
 CXSMPE              SMP/E RECEIVE and APPLY JCL Job Stream
 CXACPT              SMP/E ACCEPT JCL Job Stream
 CXBCKOUT            Installation Backout JCL Job Stream




                 Press ENTER to terminate

```

The following table lists the members that are generated in the **$CX**.N42300A.JCL file.

Member Name	Content
CXALLOC	Jobstream to allocate all Connect:Express Core files.
CXSMPE	Job stream to perform RECEIVE and APPLY processing of Connect:Express base.
CXACPT	Job stream to perform ACCEPT processing for Connect:Express base.
CXBCKOUT	Job stream to back out base Connect:Express installation.
CXIEBC	Job stream to install base Connect:Express, IEBCOPY process.

Execute the Core Installation JCL Using SMP/E

Connect:Express can be installed using SMP/E. The SMP/E system modification (SYSMOD) on the Connect:Express media is NvrrmmA, where v is the version number, rr is the release number, and mm is the maintenance level of Connect:Express for z/OS. The NvrrmmA SYSMOD contains all base Connect:Express modules.

To execute the installation using SMP/E, run two job streams from the **$CX**.N42300A.JCL library as follows:

1. Run the job CXALLOC to define all the system files that Connect:Express uses.

2. Run the installation job stream member CXSMPE to perform SMP/E processing. The following steps summarize the processing specified in the job stream.

   ❖ Initializes SMP/E libraries.

   ❖ Performs SMP/E RECEIVE step of base installation.

   ❖ Performs SMP/E APPLY step of base installation.

Execute the Core Installation JCL for a Non-SMP/E Installation

To execute the installation JCL for a non-SMP/E installation, run two job streams from the **$CX**.N42300A.JCL library as follows:

1. Run the job CXALLOC to define all the system files that Connect:Express uses.

2. Run the installation job member CXIEBC to perform the non-SMP/E installation. This Job install the distributed libraries into Connect:Express core libraries.

Perform SMP/E Accept Processing

After Connect:Express is installed with SMP/E and verified, perform SMP/E Accept Processing to update the distribution libraries. Accepting the base product enables you to back out maintenance PTFs by SMP/E commands in case of unexpected results.

To verify your Connect:Express Installation, proceed with Installing a Connect:Express Subsystem on page 35 followed by Verifying the Installation on page 41.

The member CXACPT in the **$CX**.N42300A.JCL library contains the job stream to perform the Accept Processing for the base Connect:Express code.

Back Out and Restart the Installation

Connect:Express provides you a back-out job stream in case errors occur during the installation. If you need to back out the Connect:Express installation, run the CXBCKOUT member. This job stream deletes all files created by CXALLOC.

The following methods apply to SMP/E and non-SMP/E installations.

Back Out the SMP/E and Non-SMP/E Installation

If you need to back out the Connect:Express installation because of errors, run the CXBCKOUT member. This job stream deletes all files created by CXALLOC. CDBCKOUT also deletes all libraries and SMP/E files, including the SMP/E CSI.

Restart the SMP/E and Non-MP/E Installation

You can use a standard z/OS JCL RESTART card to restart the job stream in case of failure.

Chapter 5

Installing a Connect:Express Subsystem

Once Connect:Express core libraries are installed you can define a Connect:Express Subsystem, a monitor address space and all its address spaces.

Modify System Parmlib

Set APF Libraries

Two Connect:Express libraries need to be included and declared as APF libraries. Without declaring these two libraries, Connect:Express will abend with abend S047.

These two libraries are:

- ❖ **$CX**.LOADLIB
- ❖ **$CX**.LOADSSL

These Connect:Express libraries are Core libraries. Only declare this two libraries as APF libraries once.

Define Subsystem in IEFSSNxx

Each Connect:Express Subsystem has to be defined in IEFSSNxx System Parmlib Member.

Define each Subsystem you plan to use, using the right name, TOMx.

```
SUBSYS  SUBNAME(TOMX)
```

Define Protection Key

Starting version z/OS 1.9, the parameter ALLOWUSERKEYCSA in the active DIAGxx member of the system PARMLIB is set to the default value of 'NO'. IBM is restricting the use of CSA by applications, and Connect:Express sub-system interface is meeting this requirement. If you start Connect:Express ALLOWUSERKEYCSA(NO), the TOM address space abends with code B78-5C. Starting with version 4.2.2, the CSA storage used by Connect:Express can be protected by a key different than 8. The amount of CSA that Connect:Express uses is limited to receiving operator commands. All Connect:Express interface programs and areas are loaded in Connect:Express private storage.

If ALLOWUSERKEYCSA(NO) is set, you must associate a storage protection key, for example key 5, to the main program of Connect:Express. Or you will have to set ALLOWUSERKEYCSA(Y) .

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
------------------------------------------------------------------------------
ISREDDE2 SYS1.PARMLIB(SCHEDXX) - 01.25 Columns 00001 00072
Command ===> Scroll ===> CSR
****** **************************** Top of Data ****************************
040000 PPT PGMNAME(P1B2P000) /* PROGRAM NAME P1B2P000 (GLOBAL) */
040500 , KEY(5) /* PROTECTION KEY 5 */
040600 PPT PGMNAME(P1B2P001) /* PROGRAM NAME P1B2P001 (LOCAL) */
040700 , KEY(5) /* PROTECTION KEY 5 */
040800 PPT PGMNAME(P1B2PCEE) /* PROGRAM NAME P1B2PCEE (LANG.ENVIR.) */
040900 , KEY(5) /* PROTECTION KEY 5 */
****** ************************* Bottom of Data **************************
```

Generate the Subsystem Install JCL through ISPF/PDF

Refer to the information you recorded in the worksheets in Installation Worksheets, when you specify parameters on the installation panels displayed in this procedure.

Execute the Subsystem Installation CLIST

1. From the TSO **COMMAND** option of ISPF/PDF (usually option 6), execute the CXISSN CLIST as shown in the following example, where **$CX** specifies the high-level qualifier you defined for Connect:Express files.

```
=== > EXEC '$CX.N42300A.DISTLIB(CXISSN)' '$CX.N42300A R'
```

The CXINST CLIST attempts to allocate the **$CX**.N42300A.CNTL and **$CX**.N42300A.JCL data sets. If these data sets already exist, then you must invoke the CXINST CLIST using the RESTART parameter. Because you already installed core system files, you are in restart mode for subsystem definition.

To access Help with the CXISSN CLIST, invoke the CLIST as follows:

```
EXEC '$CX.N42300A.DISTLIB(CXISSN)' '?'
```

Complete the JCL Subsystem Installation Menus

The CXISSN CLIST displays a series of menus that let you customize the installation. The four installation panels are:

❖ The Connect:Express Subsystem definition part 1, defining files allocation and Jobs and PROCedures names.

❖ The Connect:Express Subsystem definition part 2, defining Monitor minimal parameters.

All menus include tutorials (PF1/HELP KEY) that explain the information requested on a panel and identify the required fields. When you have completed the installation panels, a list of installation JCL members created is displayed.

Individual field Help displays for all fields. By placing the cursor on an individual field and pressing the PF1 key, Help for that specific field displays in a pop-up window.

```
                    Connect:Express V.rr.mm              DATE-YYY/MM/DD
        --------      SubSystem Definition (SSN) (1) -----    TIME-HH:MM
 Make the necessary changes and press Enter
CMD ==>
        Installation Distlib High Level Qualifier... $CX.N42300A
 SSN.. TOM _  C:X SubSystem High Level Qualifier... INDEX1__ . INDEX2_____
             C:X Product High Level Qualifier .... $CX_____
 Defaults : Device... SYSDA___  Vol... _____   Vsam Cat.. _____

           Catalog    Vol.    Cyl              Catalog    Vol.     Cyl
 SYSFIL... _____  _____    01    SYSPAR... _____  _____     01
 SYSJNL... _____  _____    01
           Device                             Device
 SYSLOG... _____  _____    01    SYSRCY... _____  _____     04
 SYSCHK... _____  _____    03    Max Requests.. 0512
 APMCHKM1. _____  _____          APMCHKM2. _____  _____
 APMCHKM3. _____  _____          APMCHKM4. _____  _____
 APMCHKM5. _____  _____          APMCHKM6. _____  _____
 APMCHKM7. _____  _____          APMCHKM8. _____  _____

 Proc  ANM     APM      AFM      ATM       EAS
 Name  _____  _____  _____  _____   _____
 Job   UNLOD   RELOAD  RJE      TOM
 Name  _____   _____   _____   _____    ENTER to continue, PF3 to Terminate
```

Suggested values for C:X Subsystem HLQ index1 and index2 (named HLQ1,HLQ2). If $CX=INDEX1.TOMVvrr, set HLQ1 to INDEX1 and HLQ2 to TOM?Vvrr with ? your monitor name. For example, for subsystem TOM7, set HLQ1 to INDEX1 and HLQ2 to TOM7V423.

2. When the Connect:Express Subsystem definition panel is displayed, use the information recorded in Worksheet for Subsystem Definition on page 58 to define the appropriate fields and press **Enter**.

Note: This first panel allows to define defaults for DEVICE Name, DASD VOL name and VSAM Catalog. You can also define specific DEVICE, VOL and VSAM catalog individually for each file defined in this screen.

Note: For performance reasons, it is recommended to define specific volumes for APMCHKMx (CHECKPOINTS models).

```
                        Connect:Express V.rr.mm                DATE-YYYY/MM/DD
        --------        SubSystem Definition (SSN) (2) -----   TIME-DD:HH
        --------        TOMx Minimal Parmlib Setup ---------
 Make the necessary changes and press Enter
 CMD ==>
 Auth. Data Set (AUTHDS).... _____
 Work Dsn: Major Index (MAJIND). _____ Unit Name (WRKUNT). SYSDA__

 Monitor Name (DPCSID). _____ Monitor Password (DPCPSW).. _____
 Requests: Max Queue Entries (RQEMAX).. ____ Max Simultaneous (MAXSRQ).. __
 SSN Command Prefix (CMDPRE). _ Message Prefix (MSGPRX). ___
 User Exit Journal: Exit Name (UEXJNL). _____ Error Action (ACTEXT). ____
 RMF Logging (RMFLOG). _ SMF Record Number (SMFREC). ___
 RACF Control (RACFCN). _ SMS System Det. Blocksize (SMSSDB). _
 Initial Optionnal Message (MSGINI)...
 ... _____
 User Proc: Post Init (UPRCPI). _____ Normal End (UPREND). _____
 ADHOC Control (ADHOCN). _
 Applications (APLNUM): (Count,Entries) ( __ , __ )
 Timer (STIMEV) (Min,Min) ( __ , __ ) Max Timer Retry Count (STIMOC). __
 Overflow Entries Count: File (FCTADD). __ Partner (PCTADD). __
 Local TOM's Count (TOMLCL). __ TOM Application Name (TOMACB). ____E_____

          Press Enter To Continue, PF3 to Return to Previous Panel
```

3. When the Connect:Express Subsystem definition, minimal parmlib setup panel is displayed, use the information recorded in Worksheet for Subsystem Definition on page 58 to define the appropriate fields and press **Enter**.

4. Give some last information to generate Jobcards and press **Enter**.

```
                        Connect:Express V.rr.mm                DATE-YYYY/MM/DD
        --------        SubSystem Definition (SSN)  --------   TIME-HH:MM
        --------        TOMx Jobcards Infos    -------------

 CMD ==>


 Job Card Information for Configuration Jobs

 ==>  //CXINST  JOB (CX-INSTALL),'CX INSTALL',CLASS=A,_____
 ==>  //          MSGCLASS=X,REGION=0M,NOTIFY=&SYSUID_____
 ==>  //*_____
 ==>  //*_____

 Job Card Information for Customized TOM Jobs

 Account........ ACCOUNT_
 Program. Name.. PROGRAM-NAME_____
 Class.......... C
 MsgClass....... M


  Press ENTER to continue, PF1 for Help, PF3 for Previous Screen
```

5. Press **Enter** to generate the JCL.

```
                    Connect:Express V.rr.mm                  DATE-YYYY/MM/DD
      --------      SubSystem Definition (SSN)  --------     TIME-HH:MM
      --------      TOMx Generation         -------------
 CMD ==>

   The Connect:Express SSN generation may take a moment to execute.


   Press ENTER to begin the generate, PF1 for Help, PF3 to return
    Type  CAN  to terminate
```

After Connect:Express generates the JCL, a screen displays the jobnames and a description of each member created in the file.

6.   Continue with Execute the Subsystem Installation JCL on page 40.

```
                    Connect:Express V.rr.mm                  DATE-YYY/MM/DD
      --------      SubSystem Definition (SSN)  --------+    TIME-HH:MM
      --------      TOMx Generation Result --------+
 CMD ==>
 Connect:Express SSN Build JCL Generation Complete, RC=0

 Jobname       Library      Description
 -------       -------      -----------
 TOMxALLC      JCL          TOMx Files Allocations
 TOMxCUST      JCL          TOMx Files Customization
 TOMxBOUT      JCL          TOMx Files Backout
 TOMxDEL       CNTL         TOMx Files Backout CNTL Cards






              Press ENTER to terminate
```

The following table lists the members that are generated in the **$CX**.N42300A.JCL file.

Member Name	Content
TOMxALLC	Jobstream to allocate all Connect:Express Subsystem TOMx files.
TOMxCUST	Job stream to perform customization for JCL, PROCedures and PARMLIB members for TOMx Subsystem.
TOMxBOUT	Job stream to back out Connect:Express TOMx Subsystem files installation.
TOMxDEL	Backout parameters for TOMx Subsystem

Execute the Subsystem Installation JCL

To execute the Subsystem installation, run two job streams from the **$CX**.N42300A.JCL library as follows:

1. Run the job TOMxALLC to define all the Subsystem files that Connect:Express uses. This Job allocates Subsystem libraries, Files and VSAM Files.

2. Run the job TOMxCUST to customize JCL PROCedures and PARLMIB members necessary to enable Subsystem.

Note: PROCedures are not directly copied to your system PROCLIB. They are created in **$CX**.N42300A.PROCLIB library. Before running Subsystem for the first time, copy this PROCedure to your System PROClib.

Note: PROCedures for ANM, APM, ATM, AFM, EAS are generated by the Subsystem customization JCL. Subsystem customization JCL does not generated a PROCedure but a JOBstream. If you plan to use a PROCedure to start the monitor, change this JOBstream to a PROCedure.

Back Out Subsystem Installation

Connect:Express provides you a back-out job stream in case errors occur during the Subsystem installation. If you need to back out the Connect:Express Subsystem installation, run the TOMxBOUT member. This job stream deletes all files created by TOMxALLC.

Chapter 6

Verifying the Installation

This chapter provides instructions to help you verify the installation of Connect:Express. It also describes how Connect:Express manages transfer operations.

Start your Subsystem

Cold start the Monitor (RUN=C). This starts the ANM and APM procedures.. Start the monitor using JOBstream or Started Task depending of the method you choose for your subsystem.

Verify the Connect:Express Installation

To verify the installation that you just completed, you will initiate a transfer request with a simple production configuration. Then if needed, you can setup a more sophisticated application configuration or run Connect:Express in a PLEX environment. For more information about running Connect:Express in a Sysplex environment, refer to the Administration Guide and the Sysplex Supervision implementation Guide.

This section guides you through the following steps to help you verify the installation:

Step 1 – Initialize the TSO/ISPF Session.

Step 2 – Check your local Connect:Express system.

Step 3 – Define the other Connect:Express Partners.

Step 4 – Define the File attributes profiles.

Step 5 – Execute a transfer.

Step 1 Initialize the TSO/ISPF Session

(Refer to chapter Install ISPF IUI Using the LIBDEF Service on page 53 to setup ISPF interface)

1. Start Connect:Express ISPF interface.

2. Select option 0 (zero) from the Main Menu to display the Initialization screen.

3. Type the subsystem name in the monitor field and press <Enter>. This updates your ISPF profile with the correct information. If Connect:Express has started, the data sets for the Connect:Express system will appear in the panel. Check to see that they are correct.

4. Type the correct data set name of the ISPLLIB file. (The ISPLLIB DSN is not in the Connect:Express batch procedure.)

5. Type the correct temporary work unit, that is 'SYSDA' or '3390', but not 'VIO'.

The following screens show an example of the Initialization Screens.

```
S2B2PI01 ------------ INITIALIZATION 1/2 ------------------------------------
OPTION ===> ?

           ? MONITOR ===> TOM7  NAMES INITIALIZATION ( AUTOMATIC ---> YES ).
             TEMPORARY WORK-UNIT ===> SYSDA    , JES2-INTERFACE ---> ISF
           L LOGON-PROCEDURE, O  OPTIONS, V ISPF INSTALLATION CHECKING.
--------  S : CHECK FILES OF .          . . .
V
_  ISPLLIB     ===> PSR$TST.TOMV423.ISPLLIB
_  LOADLIB     ---> PSR$TST.TOMV423.LOADLIB
_              --->
_  FILES        -> PSR$TST.TOM7V423.SYSFIL
_  PARTNERS     -> PSR$TST.TOM7V423.SYSPAR
_  PARAMETERS   -> PSR$TST.TOM7V423.SYSPRM
_  JCL MODEL    -> PSR$TST.TOM7V423.SYSJCL
_  JOURNAL      -> PSR$TST.TOM7V423.SYSJNL
_  SYSLOG       -> SYSOUT
_  SYSIN        -> PSR$TST.TOM7V423.PARMLIB(PARMTOM7)
_  SYSEVT       -> PSR$TST.TOM7V423.PARMLIB(EVENT7)
_  AUTHDS       -> PSR£DEV.CXPLEX.AUTHDS


            X EXIT, -PF3- END, -PF10/11- SCROLL
```

6. Run the Installation Verification Program (IVP). After the ISPF session is initialized, type V in the option line and press <Enter> to run the ISPF installation verification. Read the messages carefully because the IVP (clist %TOMIVP) executes and checks data set allocation, initialization parameters, and tables. During IVP, exit from each panel using the <PF3> key. The following screen show example of 1 of 5 screens while running the IVP.

```
*-------------------------------------------------------------*
080117
+++ TOM SSN="TOM7" IVP : INSTALLATION VALIDATION PROCEDURE


ISPFV>2-ZENVIR : ISPF 6.0MVS     TSO
ISPFV>2-ZAPPLID: TOMP



TSOE-SYSISPF  : ACTIVE
TSOE-SYSRACF  : AVAILABLE
TSOE-SYSPREF  :          (PREFIXING TEMPORARY FILE)
LOGON-PROC    : CETEST


*-------------------------------------------------------------*
NOTE: IF A PANEL IS DISPLAYED, ONLY EXIT WITH '-PF3-'
*-------------------------------------------------------------*




*-------------------------------------------------------------*
--- TESTING ISPF MANDATORY FILE ACCESS FROM LOGON-PROCEDURE FOR :
```

7. Check Available Options. Type the letter O in the option field and press <Enter> to check the Connect:Express Options that you can use. Your asset protection file (AUTHDS=) determines the available options. You can also view your CPU number or type AP in the option field to browse the active Asset Protection File. The following screens show examples of the Options screen and the Asset Protection screen.

```
S2B2POPT ------------ OPTIONS ----------------------- NAMES INITIALIZED    !
OPTION ===> ?                                        X EXIT, -PF3- END

MONITOR  => TOM7 / PSRTOM7   CSGB ACTIVE GLOBAL
         AP BROWSE ASSET-PROTECTION.       RACFCN= S ADHOCN= N UPRFCT= Y
0=OPTION NOT AUTHORIZED, CPUID=00026CC02094 , 128 APM SESS., 128  FTP SESS.
ACT      04 : 1        AUTHORIZATIONS FOR FTP-HTML.
BSC      02 : 1        LINK VIA BSC (ETEBAC1/2).
CICS     10 : 1        CICS INTERFACE.
ETEBAC3  05 : 1        LINK VIA ETEBAC3.
FTP      03 : 1        LINK VIA FTP.
IMS      16 : 1        IMS INTERFACE.
LOCAL    09 : 1        LOCAL MONITOR.
LU6.2    06 : 1        LINK VIA LU6.2.
MBO      12 : 1        MAILBOX OPTION.
ODETTE   11 : 1        LINK VIA ODETTE.
PAC      08 : 1        EXPLOITATION PACKAGE.
PESIT    01 : 1        LINK VIA PESIT (FRENCH).
SYSPLEX  19 : 1        SYSPLEX INTERFACE.
TCP-IP   15 : 1        LINK VIA TCP-IP.
         14 : 0
SSL      20 : 1        SSL INTERFACE.
```

Asset Protection Screen

The Asset Protection file name is initialized from the AUTHDS= parameter of the SYSIN file. You can use the following z/OS command to dynamically update the file:

```
/F TOMJOB, AUTHDS=Index.asset.file
```

The AP option displays the active asset protection file, as shown below.

```
 Menu  Utilities  Compilers  Help
 ------------------------------------------------------------------------------
  BROWSE    AP.KEY                                            -PF06/18- PRINTOFF !
  Command ===>                                                Scroll ===> CSR
 ******************************** Top of Data *********************************
 W WARNING THIS IS THE WARNING FIELD
 V AP-VERSION 1.0
 W KEY-NUM 17754
 T LICENSE-ID 13703
 W ACCT-NUM 12345
 W PSP 12345
 W CUSTOMER-NAME EXAMPLE Connect:EXPRESS USER
 S PRODUCT EXPRESS
 B EXPIRATION-DATE
 M OPERATING-SYSTEM OS390
 S LICENSE-TYPE NORMAL
 E CPU-ID 45830
 N APM-NUMBER 8
 N FTP-SESSIONS 6
 N NUMBER-SERVERS 5
 B PESIT
 B FTP
 Z B4BAA6FDFE85894812A89EF57AD73DA66B64F2
 Z ACB6B8B1BEABAAADBAFEE6CF079100861D8143AF45DA9F31F53E6B7FD5FDB9002736E4F925
 ****************************** Bottom of Data *********************************
```

8. Display the Logon Procedure. Type L in the option field and press <Enter> to check the dynamically allocated files. You must verify that the files for your LOGON-PROCEDURE or %TOMLIB are correct. The following screen shows an example of the Logon Procedure screen.

```
 BB            LOGON-PROC DD                                              -
  OPTION ===>                                                  PAGE -> PAGE


                               -PF3- END, -PF7/8- SCROLL
     ----------- B BROWSE, E EDIT
     !   FILE               DSNAME
     V
     _    STEPLIB   -        INDEX1.USER1.LOADLIB
                            SHAG03


     _    STEPLIB   1        USER12.COMMON.ISPLLIB
                            USER12


     _    STEPLIB   2        INDEX1.SPF.ISPLLIB
                            SHAG03


     _    STEPLIB   3        INDEX1.TOM4V422.ISPLLIB
                            SHAG03


     _    STEPLIB   3        INDEX1.TOM4V422.LOADLIB
                            SHAG03
```

Step 2 Check your Local Connect:Express z/OS System

1. Verify that the DPCSID and DPCPSW parameters are setup correctly in the SYSIN file. This information is needed for your remote Partner to define your Connect:Express system as a Partner.

Step 3 Define the Other Connect:Express Partners

To complete a transfer, you must define another Partner. Partners are the other Connect:Express systems involved in data transfer. Partner profile names can be alpha-numeric. A Partner must have your Connect:Express system defined as a Partner in its own directory. Complete the following steps to add a Partner profile:

1. Select option 1.1 (PARTNERS) from the Main Menu to display the Partners Directory (1/4) screen. Refer to Adding a Partner in Chapter 2 of the User Guide for details about the Partners Directory screens.

2. Type A (Add) in the option line, <Tab> to the Partner field, and type a Partner symbolic name. Press <Enter> to display the Partners Directory (2/4) screen.

3. Enter all necessary information about the Partner and press <Enter>. You can press <PF1> for help with field definitions. The Partners Directory (3/4) screen is displayed.

4. Press <Enter> to confirm the addition of the Partner profile.

Note: The parameters of the last Partner that you created or viewed stay on the screen when you create a new Partner. This is helpful when creating multiple Partner records because it enables you to create a new Partner from an existing Partner record.

The following screens show examples of an z/OS SNA Partner, a UNIX X.25 Partner, and a Windows TCP/IP Partner.

z/OS SNA Partner Definition

```
TOM4230    PARTNER OF TOM7 TO  VIEW      (2/4)
 OPTION ===>                      -ENTER- : GO ON, -PF3- : CANCEL   X : EXIT
 TYPE: TOM,PESIT-E
 MOD: PSR0003  10/01/13 04:16:19 -
 SYMBOLIC NAME        : OS390           DPCSID ALIAS        : -
 TOM PASSWORD         : OS390           DPCPSW ALIAS        : -
 INITIAL STATE        : E               APM RECEPTION CLASS : A
 RACF USER            : TOMUSR          RACF GROUP          : -

 PARTNER TYPE         : T
 SESSION PROT.NUM.-T. : 5    : 2        SSL CONFIGURATION   : -
 AUTOMATIC RESTART    : YES             DN CONTROL MEMBER   : -

 LINK TYPES           : S    : -
 EFF. TOTAL/IN/OUT    : 050  : 025  : 025  FLOW CONTROL T.  SLD : -

 SNA: LUNAME  : ANM7AP01 LOGMODE    : -       LOGDATA   : -       DISC : N
 X25: MCHMSC  : -    REM.ADDR.  : -              LOC.ADDR  : -
      CUG     : -    UDF        : -              CHARGE    : -
      FACILITIES      : -
 IP : ADDR.   : -              PORT  : -    FTP PASV  : - PROF.  : -
      HOST    : -                            'S': - RIGHTS  : -
 NOTE  : Z/OS PARTNET VIA SNA
```

In the example above, the z/OS Partner is enabled at initialization. Connect:Express controls the Password 'OS390' and executes the transfer in Class A. File access is through RACF User 'TOMUSR'.

The Partner's type is TOM (Connect:Express), which means that some functions are active, such as transferring extra information in the protocol fields.

The Session protocol number corresponds to the PeSIT-E profile, and the Automatic Restart is YES, for full retry if needed.

The Partner connects using an SNA Link with the Luname ANM4AP01 for controlled input, and the Partner is authorized for 50 simultaneous sessions, 25 input sessions and 25 output sessions.

UNIX X.25 Partner Definition

```
TOM4230    PARTNER OF TOM7 TO  VIEW       (2/4)
 OPTION ===>                        -ENTER- : GO ON, -PF3- : CANCEL   X : EXIT
 TYPE: TOM,PESIT-E
 MOD: PSR0003  10/01/13 04:21:16       1
 SYMBOLIC NAME        : UNIX          DPCSID ALIAS         : -
 TOM PASSWORD         : UNIX          DPCPSW ALIAS         : -
 INITIAL STATE        : E             APM RECEPTION CLASS  : A
 RACF USER            : TOMUSR        RACF GROUP           : -

 PARTNER TYPE         : T
 SESSION PROT.NUM.-T. : 5    : 2      SSL CONFIGURATION    : -
 AUTOMATIC RESTART    : YES           DN CONTROL MEMBER    : -

 LINK TYPES           : X    : -
 EFF. TOTAL/IN/OUT    : 020  : 010  : 010  FLOW CONTROL T.   SLD  : -

 SNA: LUNAME  : -         LOGMODE    : -         LOGDATA   : -         DISC : N
 X25: MCHMSC  : A    REM.ADDR.  : 03110214404824   LOC.ADDR  : -
      CUG     : -    UDF        : -                CHARGE    : 1
      FACILITIES      : -
 IP : ADDR.   : -             PORT  : -    FTP PASV  : - PROF.   : -
      HOST    : -                              'S': - RIGHTS  : -
 NOTE  : UNIX PARTNET VIA SNA
```

WINDOWS TCP/IP Partner Definition

```
TOM4230    PARTNER OF TOM7 TO  VIEW       (2/4)
 OPTION ===>                        -ENTER- : GO ON, -PF3- : CANCEL   X : EXIT
 TYPE: TOM,PESIT-E
 MOD: PSR0003  10/01/13 04:23:45 -
 SYMBOLIC NAME        : CXNT          DPCSID ALIAS         : -
 TOM PASSWORD         : CXNT          DPCPSW ALIAS         : -
 INITIAL STATE        : E             APM RECEPTION CLASS  : A
 RACF USER            : -             RACF GROUP           : -

 PARTNER TYPE         : T
 SESSION PROT.NUM.-T. : 5    : 2      SSL CONFIGURATION    : -
 AUTOMATIC RESTART    : YES           DN CONTROL MEMBER    : -

 LINK TYPES           : I    : -
 EFF. TOTAL/IN/OUT    : 020  : 010  : 010  FLOW CONTROL T.   SLD  : -

 SNA: LUNAME  : -         LOGMODE    : -         LOGDATA   : -         DISC : N
 X25: MCHMSC  : -    REM.ADDR.  : -              LOC.ADDR  : -
      CUG     : -    UDF        : -              CHARGE    : -
      FACILITIES      : -
 IP : ADDR.   : 1.1.1.1       PORT  : 4006 FTP PASV  : - PROF.   : -
      HOST    : -                              'S': - RIGHTS  : -
 NOTE  : WINDOWS PARNET VIA TCPIP
```

Step 4 Define the File Attributes Profile

File profiles contain information about the data that is transferred between two or more Partners. File profile names can be alpha-numeric. To complete a transfer, each Partner must define the File profile on their system with their local parameters. Complete the following steps to add a new File profile:

1. Select option 1.2 (Files) from the Main Menu to display the File Attributes (1/5) screen.

2. Type A (Add) on the option line, <Tab> to the File field, and type a File symbolic name. Press <Enter> to display the File Attributes (2/5) screen. Refer to Adding a File in Chapter 2 of the User Guide for detailed information about the File Attributes screens.

3. Enter all necessary information about the File and press <Enter>. You can press <PF1> for help with field definitions. The File Attributes (3/5) screen is displayed

4. Enter all necessary information about the File and press <Enter> to display the File Attributes (4/5) screen.

5. Use this screen for a user exit, if applicable. Press <Enter> to reach the File Attributes (5/5) screen.

6. Press <Enter> to confirm the addition of a new File profile.

Note: The parameters of the last File that you created or viewed stay on the screen when you create a new File. This is helpful when creating multiple File profiles because it enables you to create a new File profile from an existing File profile.

The following screens show an example of a File profile.

File Attributes (2/5) Screen

```
TOM4230---------------- FILES ATTRIBUTES (2/5) ------------------------------
 OPTION ===>

 SYMBOLIC NAME            : FILE1       MODE: NORMAL

 INIT STATE ...........   : E          E: IN-SERVICE H: HOLD

 NOTIFICATION LEVEL ....   : 0          0:NO 1:START 2:END 3:START AND END
                                        4,5,6,7: SAME AS 0,1... AND ON ERROR
 DIRECTION .............   : T          T:TRANSMIT R:RECEIVE *:TRANS./REC.
 RECEIVING PARTNER .....   : UNIX       'NAME', £LIST, */$$ALL$$ OR $$API$$
 SENDING PARTNER .......   : -          'NAME', £LIST, */$$ALL$$ OR $$API$$

 PRIORITY ..............   : 1          0:URGENT 1:FAST 2:NORMAL 3:SLOW
 DSN DEFINITION TYPE ...   : F          D:DYNAMIC F:FIXED
 ALLOCATION RULE .......   : 1          0:CREATE/REPLACE 1:PREALL. 2:CREATE
                                        3:EXIT A:APPLICATION SERVER
 FILE TYPE .............   : S          S/H/M/P/PU/V/VU/UU/SU/TU/HU
 PRESENTATION ..........   : 04         COMPRESS.,DATA TYPE (01-24)
 UNLOAD/RELOAD MEMBER ..   : -          OPTIONNAL
 SSL CONFIGURATION......   : -          OPTIONNAL

 OPTION  : VIEW                         UPDATE: 10/01/13 04:28 PSR0003
 -ENTER- : NEXT SCREEN                  -PF3- : CANCEL
```

In the example above, the profile 'FILE1' is Enabled at initialization and this file can only be Transmitted. The receiving Partner must be the UNIX Partner that you defined.

The Priority of the transfer is '1' and the data set name is Fixed by this entry. It cannot be forced when making the transfer request.

The Allocation rule '1' means that the file must exist at the time the transfer is executed. The File Type is Sequential (QSAM). Using the Presentation table number '04' means that Compression will be Mixed because the UNIX Partner is a PeSIT Partner.

File Attributes (3/5) Screen

```
TOM4230--------------- FILES ATTRIBUTES (3/5) -------------------------------
 OPTION ===>

 SYMBOLIC NAME              : FILE1        DEF.: F  ALL.: 1  TYPE: S  DIR.: T
                                           SDB: Y
 DSN LOCAL  ...........     : TOM7.FILE1.XMIT.TEST
 GDG NUMBER ...........     : -            +XX OR -XX
 1 SYMBOLIC UNIT NAME ..    : -            'UNITNAME'
   VOLUME NAMES ........    : -         -        -         -        -
 2 SMS DATA-STOR-MGMT ..    : -                   -                 -
 DISPOSITION ...........    : SHR          SHR/OLD/NEW

 ALLOCATION TYPE .......    : -            CYL/TRK UB/KB/MB(?BYTES-SMSSDB)
 SPACE PRIM.-SEC. ......    : -      -     1 TO 4 NUMERIC CHARACTERS
 DIRECTORY BLOCKS .....     : -            IF PARTITIONED
 RECORD FORMAT .........    : -            F,FB,FBA,FBM,V,VB,VBA,VBM,VBS,VS,U
 LRECL-BLKSIZE .........    : -      -     1 TO 5 NUMERIC CHARACTERS
 RETENTION (EXPDT/RETPD)    : -            X'CCYYDDD',E'YYDDD'/R'NNNN'
 PERMISSION (HFS)           : -  -  -      User(1-7) Group(1-7) Other(1-7)
 Remote dsn/Pi99 .......    : -                                          <
 TYPE/STRUCTURE/MODE FTP    : -   -   -    EN/AN/I,F/R,B/C/S
 UNIQUE ............ FTP    : N            Yes/No
 NOTE    : -
```

In the File Attributes (3/5) screen, you can see the data set name and the Disposition 'SHR' for allocating this file. On the top of this screen, parameters from the previous screen are displayed.

File Attributes (4/5) Screen

```
TOM4230--------------- FILES ATTRIBUTES (4/5) -------------------------------
 OPTION ===>

 SYMBOLIC NAME              : FILE1        DEF.: F  ALL.: 1  TYPE: S  DIR.: T
                                           UPRFCT:
 --- S : SYMBOLS CHECKING
 V
   TRANSMISSION :
   START EXIT ..........    : L1GFIUE1     USER EXIT NAME
 _ START COMMAND .......    : -
   END EXIT ............    : L1GFIUE1     USER EXIT NAME
 _ END COMMAND .........    : S MYPROC,D=&D

   RECEPTION :
   START EXIT ..........    : -            USER EXIT NAME
 _ START COMMAND .......    : -
   END EXIT ............    : -            USER EXIT NAME
 _ END COMMAND .........    : -


 OPTION  : VIEW                            UPDATE: 10/01/13 04:28 PSR0003
 -ENTER- : NEXT SCREEN                     -PF3- : PREVIOUS SCREEN
```

The File Attributes (4/5) screen shows actions that take place at the beginning and end of transfer. For example, there is a Start Exit 'L1GFIUE1' from the Connect:Express Utilities Package Option, and at End of Transfer the same exit will be activated followed by the z/OS Start Command 'MYPROC'. The parameter D=&D is passed to this command. &D is a symbolic keyword that is replaced with the name of the data set that you are transferring.

The UPRFCT=Y parameter remembers the SYSIN option that gives you authorization to declare a Start command in this screen.

Step 5 Execute a Transfer

To transfer data in Connect:Express, you can enter a request by application call, in BATCH, or by using the ISPF Normal Transfers screens (option 4.1).

When Connect:Express accepts a request, the request is queued in the Request Control Table (RCT). After accepting your request, it is scheduled if Connect:Express resources are active. You can view schedule information in the SYSLOG file (SYSOUT or option 2.2) or in the Request Control Table (option 2.1). If all definitions are correct, the transfer is completed, the request is purged, and the result is stored in the SYSJNL file (option 2.3 JOURNAL). The successful end of transfer is reported through the user interface.

Note: To transfer a file, you must have created Partner and File definitions on the remote UNIX system. The profile, FILE1, must be setup for reception on the remote system and the Partner name must be from your local DPCSID= and DPCPSW= parameters in the SYSIN file of Connect:Express. Likewise, the UNIX Partner and password must be from the DPCSID= and DPCPSW= parameters in the SYSIN file of the remote UNIX site.

Enter a Normal Transfer Request

1. Select option 4.1 (Normal) from the Main Menu to display the Normal Transfer screen. Activate the checking option, but do not activate the Extension option. See Transfer Requests in Chapter 3 of the User Guide.

2. In the File field, type the symbolic File attributes profile name that you have already defined.

Note: If you defined the direction, Partner, and the DSNAME on the File Attributes screens press <Enter> to submit the request.

3. In the Direction field, type T for transmit.

4. In the Partner field, type the symbolic Partner name you have already defined.

5. In the DSNAME field, type the name of a data set already cataloged and press <Enter>.

Note: The DSNAME cannot be quoted, either with ISPF or batch transfers. Also, a DSNAME **cannot** contain leading blanks, imbedded blanks, or special characters.

6. Because the Checking option is Yes, this screen displays information found in the directories about the data to be transferred, such as LINK TYPE. If this information is correct, press <Enter> to confirm the request or press <PF3> to cancel the request.

7. When your request is accepted by the Connect:Express Monitor, the following message is displayed:

```
REQUEST ACCEPTED, NUMBER xxxxxxxx
where: xxxxxxxx is the request number. (This number is used to reference a request.)
```

The following screens show an example of a normal transfer request with the results.

Normal Transfer (Screen 1)

```
TOM4230     NORMAL TRANSFER
 OPTION ===>                                                        CSGB



 SUB-SYSTEM . ===> TOM7
 FILE ....... ===> FILE1
 NOTIFICATION ===>         (0-7/*)
 DIRECTION .. --->         (T/R)
 PARTNER .... --->

 DSNAME ....  --->


 TYPE ....... ---> N       (N/H/I/K/U)
 MODE ....... ---> I       (I/D)
 LINK ....... --->         ( /C/I/S/T/X)
 CLASS ...... ---> A       (A-Z/*)
 PRIORITY ... ---> 1       (0-3)
 MEMBER ..... --->         (PRM)
 CHECKING ... ---> YES     (YES/NO)
 EXTENSION .. ---> NO      (YES/NO) ALIAS/ORG/DST/API-ETB3/SEC/RGR.
 NOTE->
            X EXIT, -ENTER- REQUEST, -PF1- HELP TRC, -PF3- END
```

Normal Transfer (Screen 2)

```
TOM4230     NORMAL TRANSFER                        -ENTER- / -PF3-    !
 OPTION ===>                                                        CSGB

 TOM7

 SUB-SYSTEM . ===> TOM7
 FILE ....... :   FILE1                                      ENABLED
 NOTIFICATION :         (0-7/*)            0
 DIRECTION .. :         (T/R)              T
 PARTNER .... :                            UNIX    52        ENABLED

 DSNAME ....  :                                              FIXED
                 TOM7.FILE1.XMIT.TEST                    -   SEQUENTIAL

 TYPE ....... :   N       (N/H/I/K/U)
 MODE ....... :   I       (I/D)
 LINK ....... :           ( /C/I/S/T/X)    X25
 CLASS ...... :   A       (A-Z/*)
 PRIORITY ... :   1       (0-3)
 MEMBER ..... :           (PRM)                -
 CHECKING ... :   YES     (YES/NO)
 EXTENSION .. :   NO      (YES/NO) ALIAS/ORG/DST/API-ETB3/SEC/RGR.
 NOTE->
            X EXIT, -ENTER- REQUEST, -PF1- HELP TRC, -PF3- END
```

LOG of Transfer

```
REQUEST 00000001 FILE1 UNIX SRC=0000 TRC=0000 PRC=0000
REQUEST 00000001 <- TSO00001 ACCEPTED (N)
COMMUNICATION OPENED (O) WITH: UNIX REQ: 00000001 (X MCH3, LCCE1B01)
REQUEST 00000001 FILE1 TRANSFER ACCEPTED APM 01 EFF 01
REQUEST 00000001 FILE1 TRANSFER STARTED APM 01 EFF 01
REQUEST 00000001 FILE1 TRANSFER ENDED TRC=0000L APM 01 EFF 01
REQUEST 00000001 TRANSMITTED -> UNIX FILE FILE1 NUMBER OF RECORDS
TRANSFER DURATION :00:02:56, RESTART NUMBER : 000 , NUMBER OF S/R
COMMUNICATION CLOSED (O) WITH: UNIX
REQUEST 00000001 <- TSO00001 COMPLETED
REQUEST 00000001 <- TSO00001 PURGED
```

Enter a BATCH Transfer Request

After executing a normal transfer, you should also enter a BATCH request. See the $REQ£SCI JCL in the Connect:Express SAMPLIB. The following example shows the BATCH Normal Transfer facility, P1B2PREQ, and the full PARM field.

```
//*----------------------------------------------------------------
//* PARAMETERS: -
//* -
//* SSN = Connect:Express SUBSYSTEM NAME (REQD) -
//* TYP = TYPE OF TRANSFER (N=NORM,H=HELD,I=INQ) (REQD) -
//* PRT = PRIORITY (REQD) -
//* CLS = CLASS (REQD) -
//* DIR = DIRECTION (T=TRANSMIT,R=RECEIVE) (REQD) -
//* LNK = LINK TYPE (S=SNA,X=X25,I=TCP-IP) (OPT) -
//* SFN = SYMBOLIC FILENAME (ACTUAL NAME (REQD) -
//* $JCL = USE DD CARD FOR DATA SET -
//* $SYS = USE SYSIN FOR DATA SET) -
//* SPN = SYMBOLIC PARTNER NAME (OPT) -
//* DSN = DSNAME FOR REQUEST (OPT) -
//* DFRD IF REQUEST TO BE DIFFERRED (MODE=D) (OPT) -
//* WAITnnnn TO MAKE PROGRAM WAIT nnnn MINUTES COMPLETION (OPT) -
//* NLV = HTTP NOTIFICATION LEVEL -
//* -
//* A DD CARD //RETPDNNN DD DUMMY ADDED TO JCL TRANSMIT A -
//* RETENTION DELAY = NNN TO THE RECEIVER -
//* -
//* -
//*----------------------------------------------------------------
//STEP01 EXEC PGM=P1B2PREQ,
// PARM=('SSN=TOM4','TYP=N','PRT=0','CLS=A','DIR=T','LNK=I', *
// 'SFN=FILE1','SPN=UNIX', *
//* 'DSN=a.b.c','DFRD',WAITnnnn') optional
//* ----- -----
//STEPLIB DD DSN=INDEX1.TOMV423.LOADLIB,DISP=SHR
//SYSUDUMP DD SYSOUT=*
//SYSPR20 DD SYSOUT=*
//*
```

The Transfer Process

A transfer can be initialized as an outgoing transfer from a local Batch or TSO/ISPF requestor, or as an incoming transfer from an external connected requestor.

There are three phases of a transfer:

1. Connection
2. File selection
3. File transfer, either transmission or reception.

Connection takes place in the Connect:Express address space, while selection and transfer occur in the APM address space. Connect:Express is notified about results and conditions by the APM, and several selections and transfers can take place during one connection. For example, you could have the following scenario:

❖ Connection
❖ File1 selection
❖ File1 transfer
❖ File2 selection aborted
❖ File3 selection
❖ File3 transfer
❖ End connection

Getting Started with Connect:Express

You just completed a normal transfer request to verify the installation of Connect:Express. There are additional features that you can use to automate the transfer process and to integrate it into your business operations. The User Guide provides information about how to prepare the file transfers in Connect:Express. The Administration Guide has information to help you better manage transfer operations with Connect:Express.

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Chapter 7

Optional Installation Tasks

</div>

Some installation tasks are optional or depend on the features you are using.

Clean Up Installation Files

After you have installed and verified your installation of Connect:Express, Core libraries and Subsystem(s), you can delete the following files:

- ❖ **$CX**.N42300A.LKLIB
- ❖ **$CX**.N42300A.TXLIB
- ❖ **$CX**.N42300A.TXLIBU
- ❖ **$CX**.N42300A.DISTLIB

Install ISPF IUI Using the LIBDEF Service

Using the LIBDEF service to install the ISPF IUI provides flexibility by:

- ❖ Allowing you to define ISPF libraries for an application after ISPF is already active.
- ❖ Having definitions in effect only for the duration of that application and only for users who invoke that application.
- ❖ Not requiring application libraries to be allocated in either the TSO logon proc JCL, through the TSO ALLOCATE command from a CLIST, or any other method.

Connect:Express currently supports the following LIBDEFs:

- ❖ ISPF panels (ISPPLIB)
- ❖ ISPF modules (ISPLLIB)
- ❖ Messages (ISPMLIB)
- ❖ Skeletons (ISPSLIB)
- ❖ Tables (ISPTLIB)

Use the following clist methods to implement LIBDEFs for Connect:Express.

```
PROC 0
CONTROL NOMSG
CONTROL MSG
ISPEXEC LIBDEF ISPLLIB DATASET ID('$CX.ISPPLIB',' '$CX.LOADLIB')
ISPEXEC LIBDEF ISPSLIB DATASET ID('$CX.ISPSLIB')
ISPEXEC LIBDEF ISPTLIB DATASET ID('$CX.ISPTLIB')
ISPEXEC LIBDEF ISPPLIB DATASET ID('$CX.ISPPLIB')
ISPEXEC LIBDEF ISPMLIB DATASET ID('$CX.ISPMLIB')
ALTLIB DEACTIVATE QUIET APPLICATION(CLIST)
ALTLIB ACTIVATE   QUIET APPLICATION(CLIST) DSNAME('$CX.ISPCLIB')
ISPEXEC SELECT PANEL(S2B2Z000) NEWAPPL(TOMP) PASSLIB
ISPEXEC LIBDEF ISPLLIB
ISPEXEC LIBDEF ISPPLIB
ISPEXEC LIBDEF ISPMLIB
ISPEXEC LIBDEF ISPTLIB
ISPEXEC LIBDEF ISPSLIB
EXIT
```

Chapter 8

Installation Worksheets

The following worksheet corresponds to the installation panels and additional worksheets are used for the definition of a Subsystem. Make copies of the Subsystem worksheets if necessary. You may want to save the worksheets for later reference.

Worksheet for All Installations

Use the following worksheet to prepare for all installations.

Installed	Description
C:X Product High Level Qualifier (Required)	
	The data set high level qualifier (HLQ) used for ALL C:X system data sets and SMP/E data sets. You are given the option to change SMP/E HLQ in the following panels
Permanent DASD Device Type (Required)	
	The DASD device type for all permanent C:X system files. The default is SYSDA.
Permanent DASD Volume Serial No.	
	Fill this field in if you want to allocate all Connect:Express system files in a specific DASD volume.
ISPF Language (Required)	
	Select From US or FR for the ISPF interface Language.
SMP/E Install (Y,N) (Required)	
	This flag instructs the dialogs to perform an SMP/E installation if set to Y, or an IEBCOPY installation if set to N.
Job Card Information	
	These are the batch job cards used for all installation jobs. The dialogs fill in a dummy job card for you to customize.

Worksheet for SMP/E Installation

Data	Description
SMP/E Data Sets HLQ (Required)	
	The data set high level qualifier used for SMP/E data sets such as SMPPTS or SMPSTS. Its value is initially set to the same as the System HLQ.
CSI Data Set Name (Required)	
	The data set name used for the SMP/E CSI.
TARGET Zone Data Set Name (Required)	
	The SMP/E data set name that contains target zone information.
DIST Zone Data Set Name (Required)	
	The SMP/E data set name that contains distribution zone information.

Worksheet for Subsystem Definition

Installed	Description
SSN (Required)	
	This the C:X Subsystem Name. Name begins with TOM followed by any Character from A to Z or Number from 0 to 9.
SubSystem High Level Qualifier (Required)	
	Enter First and Second index to qualify your Subsystem Files. Those must be different from Product High Level Qualifier.
	Suggested values for C:X Subsystem HLQ index1 and index2 (named HLQ1,HLQ2). If $CX=INDEX1.TOMVvrr, set HLQ1 to INDEX1 and HLQ2 to TOM?Vvrr with ? your monitor name. For example, for subsystem TOM7, set HLQ1 to INDEX1 and HLQ2 to TOM7V423.
Permanent DASD Device Type	
	The DASD device type for all permanent Connect:Express Subsystem files. This field is required and defaults to SYSDA.
Permanent DASD Volume Serial	
	This field can be filled in if wish to allocate all Connect:Express Subsystem files in a specific volume.
Default VSAM Catalog	
	This field can be filled in if you wish to allocate all Connect:Express VSAM Subsystem files in a specific catalog.
Specific Vsam Catalog	
	This field can be filled in if you wish to allocate this VSAM Subsystem file in a specific catalog.

Installed	Description
Specific Vsam Catalog	
	This field can be filled in if you wish to allocate this VSAM Subsystem file in a specific catalog.
Specific DASD Volume Serial	
	This field can be filled in if you wish to allocate this Connect:Express system file in a specific volume.
Specific DASD Device Type	
	The DASD device type for this permanent file if needs to be specific one.
Primary Cyl allocation	
	This field has to be filled with the primary CYL allocation value. Defaulted to:
	01 for SYSFIL, SYSPAR, SYSLOG, SYSCHK
	03 for APMCHKMx
	04 for SYSJNL
SYSCHK Max Requests	
	This is the C:X Subsystem Maximum Requests holded by SYSCHK File. This number must be greater or equal to the RQEMAX (RCT size) parameter.
Procedures and Jobs Names	
	Give a Unique and different Name to Procedures and Jobs.
	ANM (6 chars max):
	APM (6 chars max):
	AFM (6 chars max):
	ATM (6 chars max):
	EAS (6 chars max):
	TOM (7 chars max):
	UNLOAD (5 chars max):
	RELOAD (5 chars max):
	RJE (6 chars max):

Installed	Description
Auth. Data Set	
	This required field is your Asset Protection File. This file was received from Customer Support.

Installed	Description
Work Dsn Major Index	
	This the major index of temporary files allocated by Connect:Express when unloading and loading partitioned, VSAM-type or EDCICONV-processed files.
Work Dsn Unit Name	
	Enter a valid Unit Name for temporary files created by C:X when unloading and loading partitioned or VSAM-type files.
Monitor Name	
	DPCSID is the symbolic name given to the Connect:Express Monitor. Partners use this name for identification when the session begins. This is your Partner name.
Monitor Password	
	DPCPSW is the default symbolic password of your Connect:Express.
Requests Max Queue Entries	
	This is the Request Control Table (RCT) size with a maximum of 1024.
	This field value can not be greater than the Max Requests field value.
Max Simultaneous Requests	
	Enter the number of Simultaneous Requests C:X can hold at a time. This number includes TSO requests and batch jobs.
SSN Command Prefix	
	CMDPRE is the unique prefix character of the subsystem command. All commands intended for the Monitor can be transmitted by MODIFY or through the subsystem feature.
Message Prefix	
	Messages Issued in SYSMSG can be prefixed using this Value.

Installed	Description
User Exit Journal Name	
	UEXJNL is the name of the user exit routine which receives control for each end of transfer. For no Exit, Enter NONE.
User Exit Journal Error Action	
	Use CONT to enable C:X to ignore a return code other than 0 from a User Exit (UEXJNL=). User Exit is disabled. Use STOP to stop the monitor if the User Exit (UEXJNL=) ends with a return code other than zero. Leave this field blank if UEXJNL=NONE.
RMF Logging	
	When set to Y, Connect:Express sends RMF records. This measures the Connect:Express system utilization. When set to N, Connect:Express does not produce RMF records.
SMF Record Number	
	This is the SMF Record Number created for C:X. This record enables Connect:Express to control network and system resource usage, file names which have moved, statistics per Partner or per type of link, the RACF userid used against dsnames, and the type of request. Enter 000 for no SMF Record.
RACF Control	
	Valid Values are Y,N or S. Y: RACF Usage. S: SAF Usage. N: No RACF or SAF Usage.
SMS System Det. Blocksize	
	SMSSDB tells the Monitor which method to use when computing the blocksize. With Y, blocksize is calculated by SMS. Otherwise, (N) Connect:Express computes itself the blocksize.
Initial Optionnal Message	
	Message to be sent to an operator when a TSO ISPF session starts or when a Connect:Express function starts.

Installed	Description
Post Init User Proc	
	UPRCPI is the name of a user procedure to be started after correct initialization of Connect:Express. Enter NONE for no Post Init User Procedure.
Normal End User Proc	
	UPREND is the name of a user procedure to be started after correct termination of Connect:Express. Enter NONE for no Normal End User Procedure.
ADHOC Control	
	Set this field to Y to allow TSO AD HOC request, with mandatory RACF user and password to be transmitted with the request to the remote Partner. This RACF facility is available for protocol number 5 (PeSIT-E) only, and with another Connect:Express. Set this field to N to disable TSO AD HOC request for incoming or outgoing transmissions. Set this field to U to allow TSO AD HOC request, with optional RACF user and password to be transmitted with the request to the remote Partner. This is the UNSAFE mode. For incoming calls you can use the RACFUD= field as a default RACF user.
Applications Count and Entries	
	Indicates how many address spaces can connect to the monitor (Count) with a maximum allowed of 64. For each address space (application), enter the numbers of entries made available with a maximum of 32.
Timer	
	The first field is the number of minutes between two call attempts. The second parameter is the number of minutes Connect:Express waits before restarting a local request interrupted by a network incident or a local request rejected by the Partner with an error code defined in the T1B2PCOD table.
Max Timer Retry Count	
	This value defines the maximum number of attempts for calling a Partner or restarting a request. STIMOC represents the maximum number of call attempts on one link to another Monitor.

Installed	Description
Files Overflow Entries Count	
	This value represents the maximum number of new entries in the File directory which can be sent dynamically to Connect:Express. Enter 00 for no dynamic update of the directory. Updates are taken into account on the next monitor restart. Enter a non null value to allow dynamic updates. This value represents the maximum of new entries allowed.
Partner Overflow Entries Count	
	The value represents the maximum number of new entries in the Partner directory which can be sent dynamically to Connect:Express. Enter 00 for no dynamic update of the directory. Updates are taken into account on the next monitor restart. Enter a non null value to allow dynamic updates. This value represents the maximum of new entries allowed.
Local TOM's Count	
	TOMLCL indicates the number of simultaneous SNA sessions with a limit of 16. For no Local Tom, Enter 00 and NONE as TOMACB Value.
TOM Application Name	
	TOMACB is the name of the VTAM application defined for the monitor for SNA sessions with locals monitors of the same cross-domain. If Connect:Express is operating alone, Enter NONE and set TOMLCL to 00.
JOB Account	
	For Generated and customized Jobstreams like UNLOAD or RELOAD, define Job Card values.
JOB Programmer Name	
	For Generated and customized Jobstreams like UNLOAD or RELOAD, define Job Card values.
JOB Class	
	For Generated and customized Jobstreams like UNLOAD or RELOAD, define Job Card values.

Installed	Description
JOB MsgClass	
	For Generated and customized Jobstreams like UNLOAD or RELOAD, define Job Card values.