

# **Connect:Express<sup>®</sup>** **OS/390**

## **Installation Guide**

**Version 4.2.0**

***Connect:Express OS/390 Installation Guide***

**Version 4.2.0**

**First Edition**

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# Preface

The *Connect:Express OS/390 Installation Guide* is for network operations staff who install and maintain Connect:Express OS/390 Version 4.2.0.

This guide assumes knowledge of the OS/390 operating system, including its applications, network, and environment. If you are not familiar with the OS/390 operating system, refer to the OS/390 library of manuals.

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## Chapter Overview

The *Connect:Express OS/390 Installation Guide* is organized into the following chapters:

Chapter	Description
1 About Connect:Express	This chapter provides an overview of the features and capabilities of Connect:Express, and describes Connect:Express in the OS/390 environment. This chapter also includes system requirements and installation prerequisites.
2 Installing Connect:Express	This chapter provides a description of the installation tape and instructions for installing Connect:Express OS/390 with SMP/E and without SMP/E.
3 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.

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## Connect:Express Documentation

Connect:Express documentation consists of the following manuals:

- ❖ The *Connect:Express OS/390 4.2.0 Release Notes* lists maintenance updates and any important notes.
- ❖ The *Connect:Express OS/390 4.2.0 Installation Guide* describes the planning and installation of Connect:Express.
- ❖ The *Connect:Express OS/390 4.2.0 User Guide* includes general information on using the TSO/ISPF interface, and serves as a reference of user and environment commands.
- ❖ The *Connect:Express OS/390 4.2.0 Utilities Guide* describes the optional Utilities package that you can integrate with Connect:Express.
- ❖ The *Connect:Express OS/390 4.2.0 FTP Guide* provides you with the information that you need to use Connect:Express with the FTP protocol.

- ❖ The *Connect:Express OS/390 4.2.0 Administration Guide* provides detailed information about transfer operations for system administrators and other advanced users of Connect:Express.
- ❖ The *Connect:Express OS/390 4.2.0 Options Guide* provides information about the CICS, IMS, and RJE interfaces available for Connect:Express.
- ❖ The *Connect:Express OS/390 4.2.0 PeSIT User Fields Guide* describes how you can exchange the PeSIT Pi37 and Pi99 fields with any PeSIT software.
- ❖ The *Connect:Express OS/390 4.2.0 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 OS/390 repository.
- ❖ The *Connect:Express OS/390 4.2.0 SSL Guide* includes general information on implementing secured file transfers.
- ❖ The *Connect:Express OS/390 4.2.0 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 OS/390 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 N specifies that the default for PLEX is N.

---

<b>Convention</b>	<b>Description</b>
Vertical Bars ( )	Vertical bars indicate that you can supply one of a series of values separated by the vertical bars. For example <code>RUN=H C</code> specifies that H or C is valid.
Monospaced characters (characters of equal width)	Monospaced characters represent information for screens, commands, Processes, and reports.
Punctuation	Code all commas and parentheses as they appear.
£ or #	The Pound character (£) and the hash character (#) are equivalent.

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## About Connect:Express

This chapter provides an overview of the features and capabilities of Connect:Express, and describes Connect:Express in the OS/390 environment. This chapter also includes system requirements and installation prerequisites.

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### 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 OS/390. 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 OS/390 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

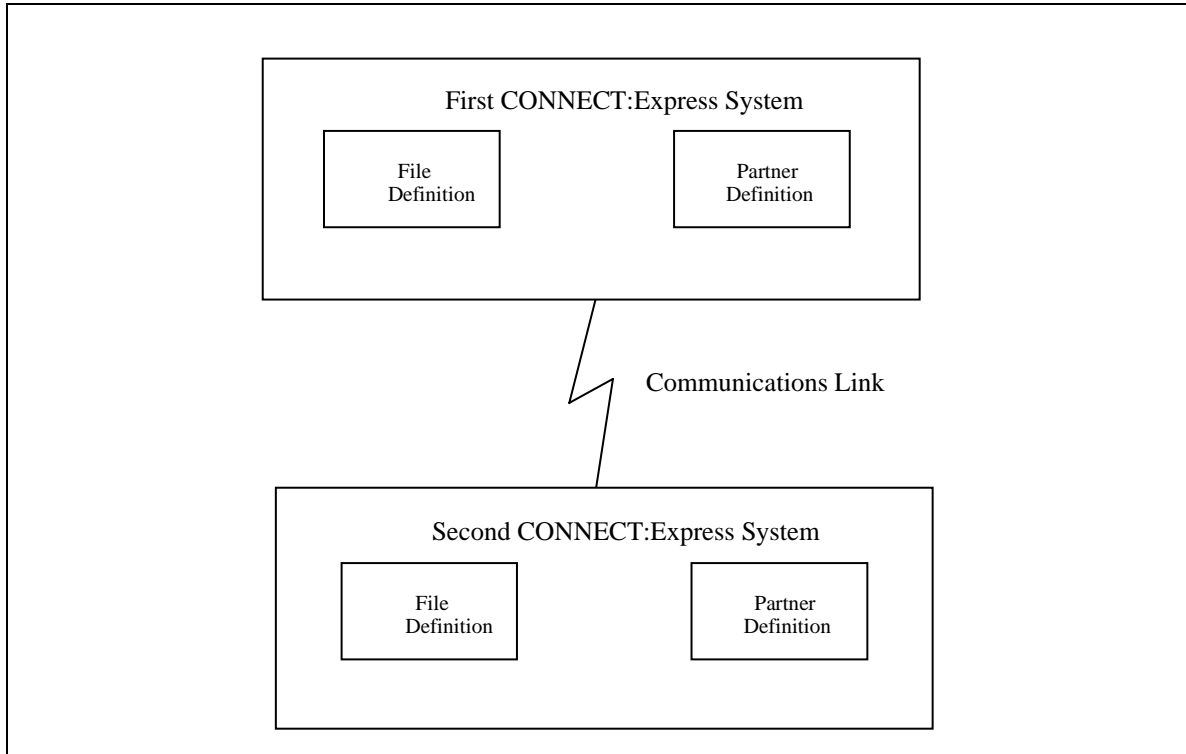
Connect:Express prepares for data transfer by setting up a relationship between Partner computer systems and data. This relationship is setup by creating Partner definitions and File definitions. The relationship can be changed at any time without affecting transfer operations.

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.



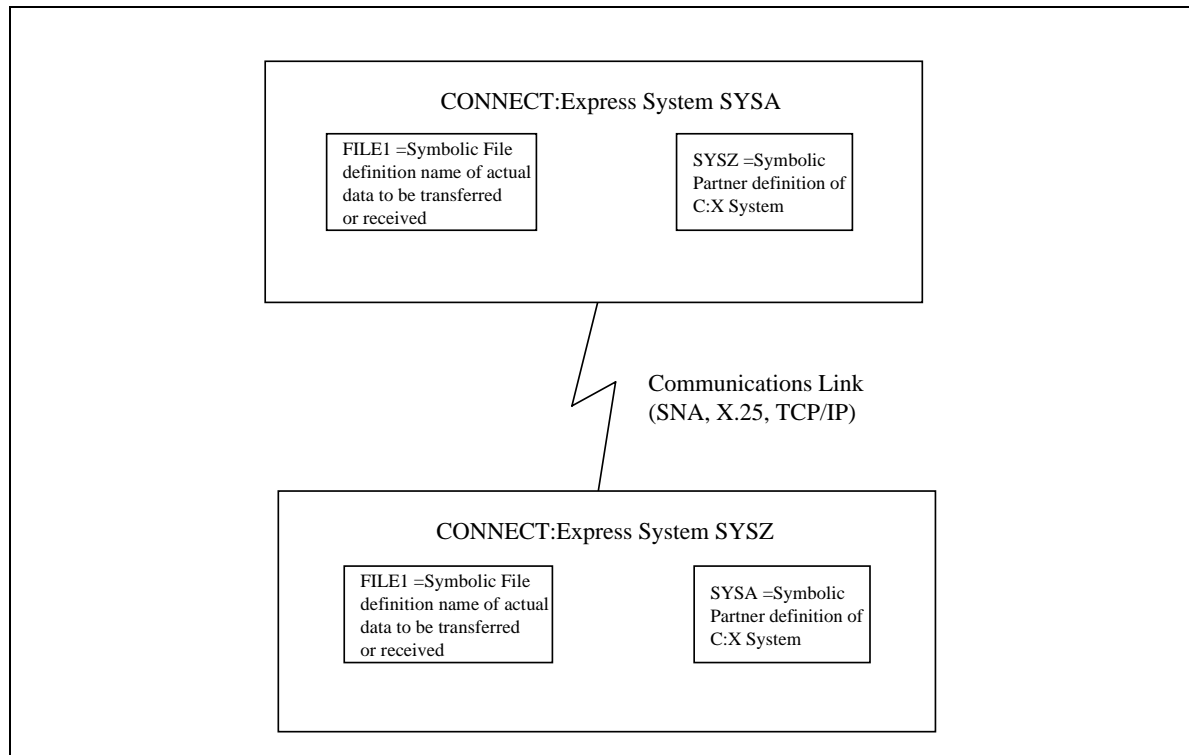
---

**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.

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

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## Connect:Express in an OS/390 Environment

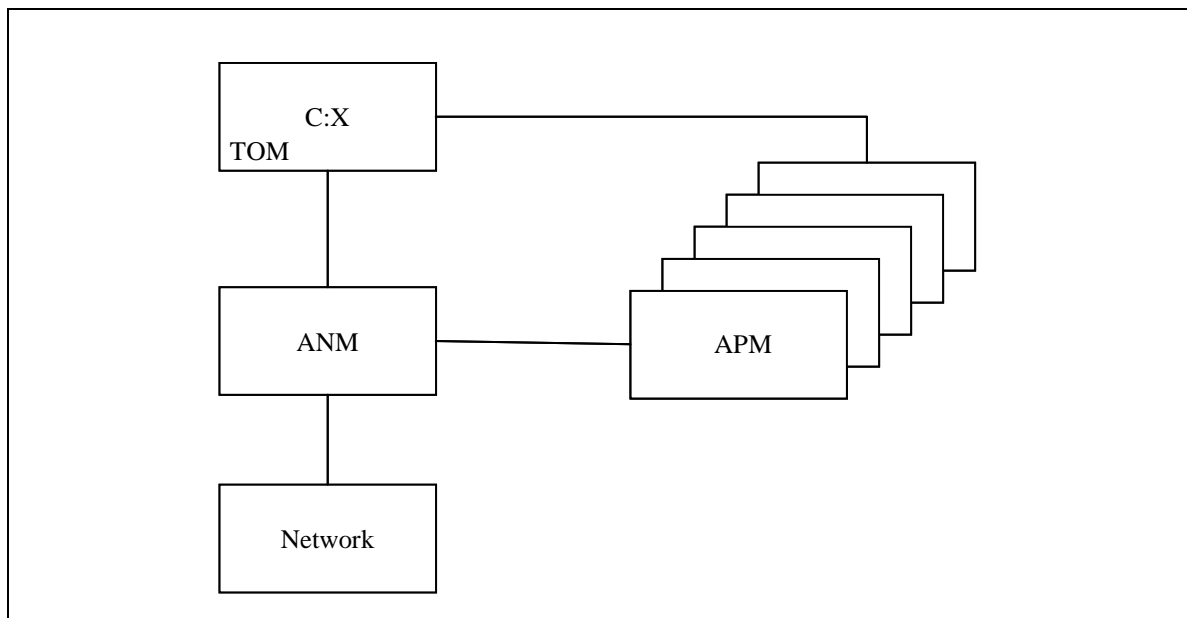
In the OS/390 environment, the Connect:Express monitor address space is an OS/390 Subsystem, and the jobs or processes used by Connect:Express, such as the Auxiliary Protocol Manager (APM), are tasks. One environment handles PeSIT, ODETTE, and ETEBAC3 transfers over X25, SNA, and TCP/IP networks. This 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

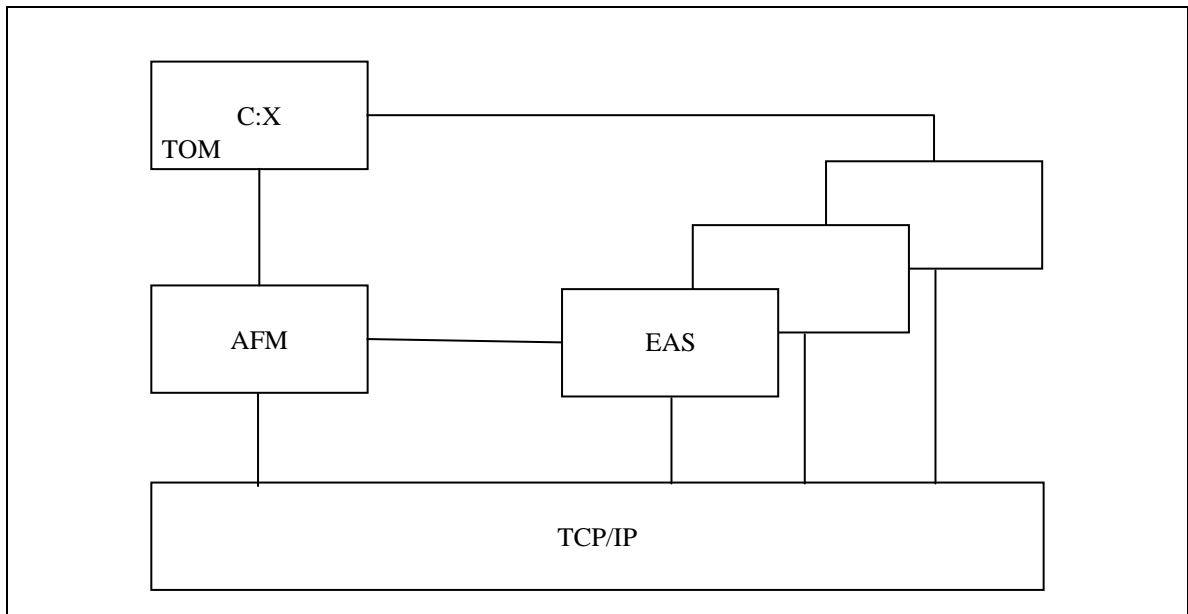
The Auxiliary FTP Manager (AFM) is a task started by Connect:Express that is dedicated to FTP transfer management. The Effector Address Space (EAS) is a task started by the AFM that is dedicated to handling the FTP transfers. Several FTP transfers can be handled by one EAS, and several EAS can be started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

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**Note:** The management of FTP transfers is described in *Connect:Express OS/390 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.

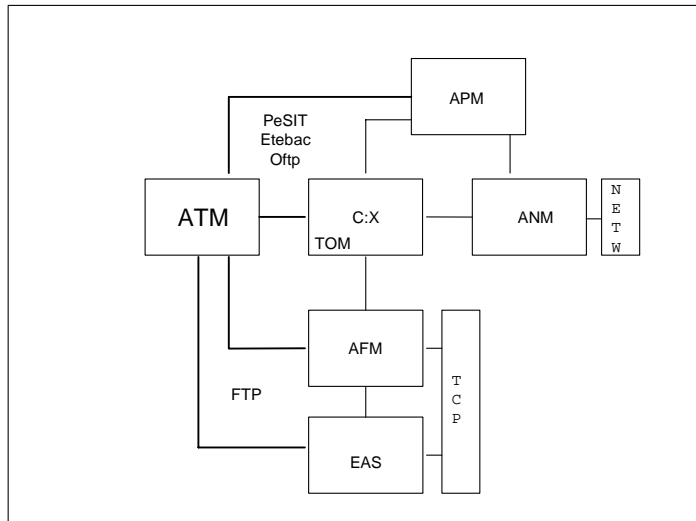
---

**Note:** The trace utility is described in the *Connect:Express OS/390 Administration Guide*.

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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.

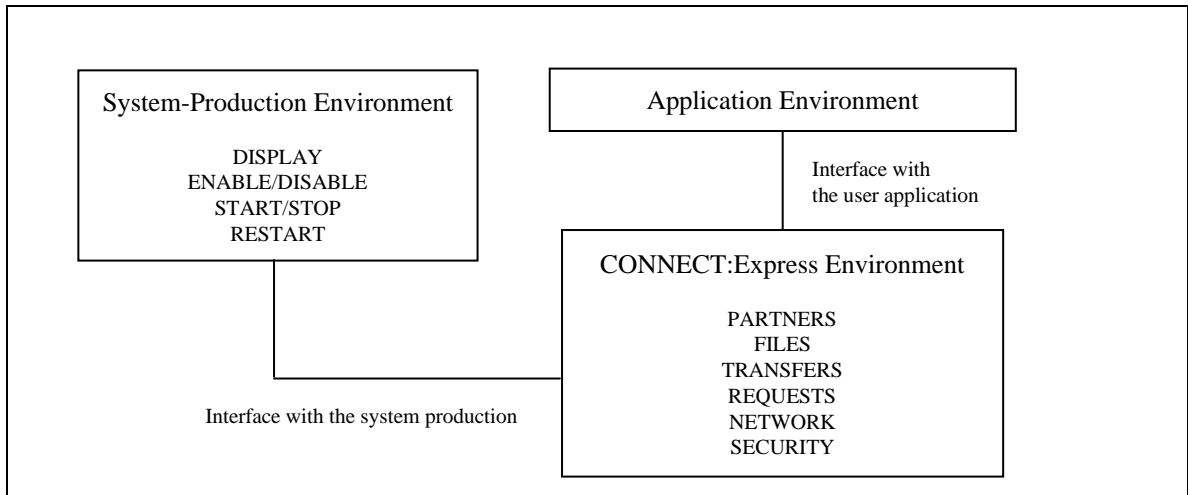
*Parameters* tell Connect:Express how to handle certain transfers. For example, you can specify how many interruptions are allowed during a transfer and have Connect:Express automatically restart the transfer. Or when a transfer is received, you could have an application start automatically.

## How to Use Connect:Express

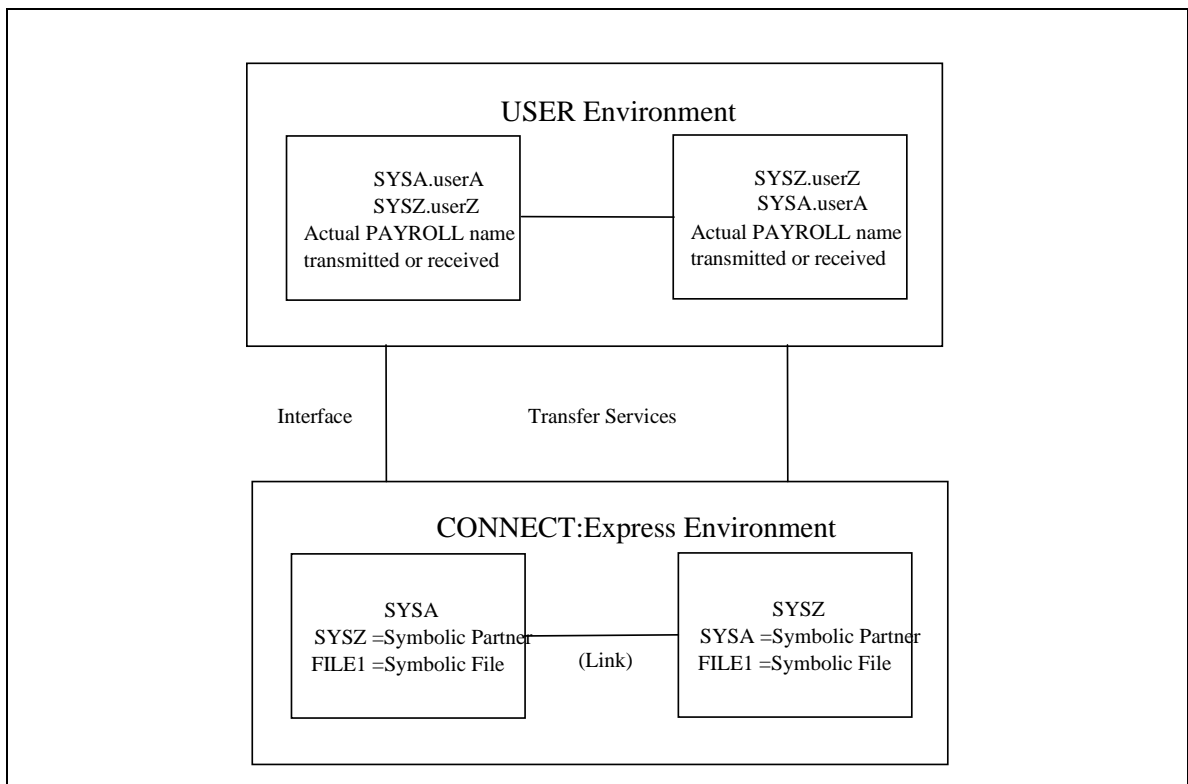
Connect:Express configuration depends on the way you want to implement and integrate it into your user environment. You can use Connect:Express as a file carrier or to integrate transfer requests within applications.



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.

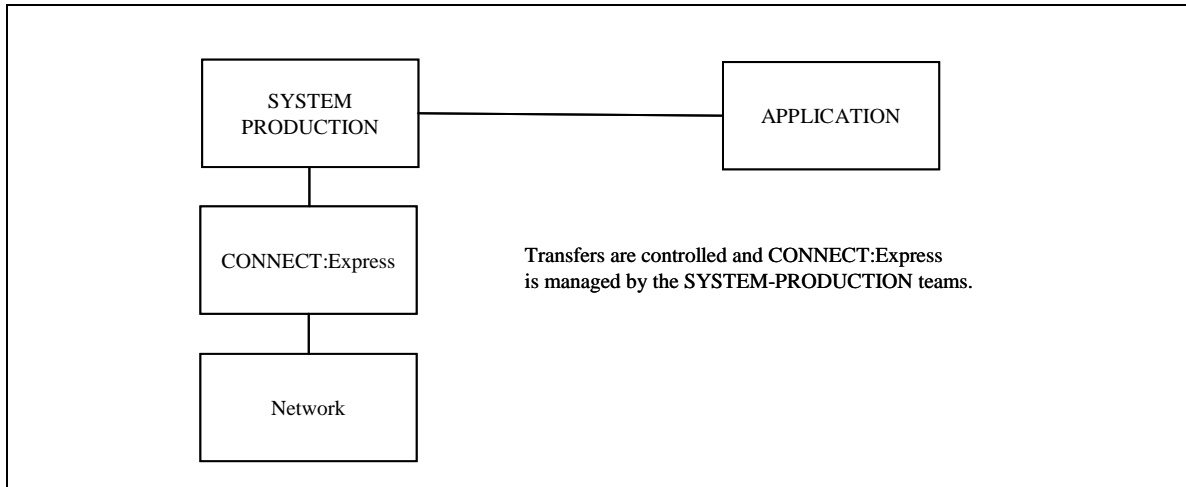


To transfer PAYROLL files between userA on SYSA and userZ on SYSZ, you must define SYSA and SYSZ as Partners and create the common FILE1 definition in Connect:Express directories. Connect:Express uses only the symbolic names when processing the transfer, and provides the interface through which user 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.

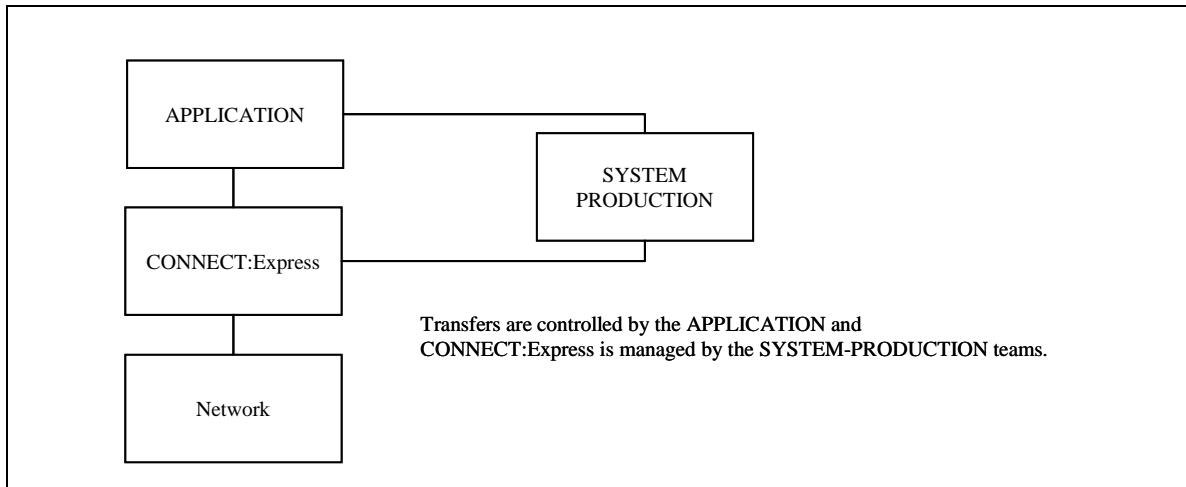
## System Utility (Production) Configuration

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 OS/390 requires the following hardware and software:

- ❖ DASD and real storage requirements, including:
  - SMP/E libraries: 15 cylinders (3390)
  - Connect:Express base libraries: 2\*67 cylinders (1 target + 1 distribution, 3390)
- ❖ APF-authorized load libraries
- ❖ Tape drive or cartridge unit
- ❖ OS/390 (release 2.5 or later)
- ❖ TSO/ISPF/PDF for interactive capability
- ❖ Any release of ACF/NCP and ACF/VTAM, for communications between OS/390-based systems using SNA
- ❖ NPSI, for communications over an X.25 network
- ❖ TCP/IP, for communications in a TCP/IP environment
- ❖ RACE, ACF2, or TOP SECRET authorized tasks
- ❖ Definition of an OS/390 subsystem
- ❖ z/OS SSL services for SSL communications
- ❖ The UNIX System Services (POSIX) environment

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

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## 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. CTCs 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.

## Security Considerations

Connect:Express OS/390 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:

```
for security : $$$RACF, $$$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.

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## Installation Prerequisites

Before you begin the installation, you must complete some pre-installation tasks. You can refer to Connect:Express help files for information and suggestions about setting up security, customizing ISPF, and installation. The \*INSTLIB\* examples include:

- ❖ Pre-installation: \$PREINST
- ❖ Security: \$\$\$RACF, \$\$\$SEC, \$\$\$ACF2, \$\$\$TOPS
- ❖ ISPF: \$\$\$ISPMI

All functions are provided in a unique set of libraries. Some optional features must be authorized in an Asset Protection File provided by Sterling Commerce.

## Pre-installation checklist

Before you start the installation, read through the entire installation process, and review the examples in steps 12 and 14. Step 12 describes how to define one monitor, and step 14 shows examples of the JCL cards that are

built during the installation procedure. The examples in these steps will help you prepare for the installation process. Then, complete the following steps:

1. **Obtain the Asset Protection File** from your Sterling Commerce Sales Representative or Systems Engineer. This file contains information such as your CPU serial number and expiration date. It also provides the authorization for Connect:Express options.

---

**Caution:** You must have a valid Asset Protection File before beginning installation. See the letter accompanying your Connect:Express shipment for information about receiving the file. AUTHDS is the initialization parameter in the Connect:Express SYSIN file (\$PARMTOMx) in the PARMLIB library.

---

2. **Verify that your system meets the hardware and software requirements** as described in the previous section.
3. **Read the *Connect:Express OS/390 Release Notes*** for the latest product information such as, additional installation requirements, product enhancements, maintenance updates, and documentation changes. The information in this document can affect your installation procedures and definitions.
4. **Determine the name of the Connect:Express subsystem and the primary and secondary indices that you will use for naming product data sets and Monitor data sets.** For example, if the subsystem name is TOM3, the names of the product data sets would have the format PROD.TOMV420.LOADLIB, and the Monitor data sets would have the format PROD.TOM3V412.SYSPAR. Notice that the product data set names do not include the subsystem name.
5. **Define APF-Authorized libraries.** You must define APF-authorized libraries to receive the modules that Connect:Express executes. Connect:Express executes modules in the \*STEPLIB\* and \*SYSLIB\* libraries or in the LINKLIST. You can concatenate the LOADLIB of Connect:Express with optional user libraries in which exit modules and customized tables are received.

The Connect:Express LOADLIB, user SYSLIB, and optional user libraries **must** be APF-authorized and can be put in LINKLIST. The APM SYSLIB DD card **cannot** be deleted. Place the LINKLIST data set names of the libraries in member LNKLISTxx of SYS1.PARMLIB, and make them APF by the parameter 'LNKAUTH=LNKLIST' in member IEASYSxx.

---

**Note:** If you are using the LOCAL Connect:Express option and changing often from LOCAL to GLOBAL, you have to increase the LINKAGE-INDEX.

---

6. **Define a subsystem.** Connect:Express OS/390 tasks communicate through an OS/390 subsystem interface, and Connect:Express is defined as a subsystem of OS/390. It must be defined in the SYS1.PARMLIB IEFSSNxx member without a routine or an initialization parameter. The name must be TOMx, where x is an alphanumeric value. You must define at least one subsystem name in the IEFSSNxx member of SYS1.PARMLIB. To perform intrahost transfers, more than one subsystem name is required. If

you are executing more than one Connect:Express, you must have additional subsystem names for testing and back-ups. The following screen shows an example of IEFSSNxx.

```

BROWSE -- SYS1.PARMLIB(IEFSSN00) - 01.13 ----- LINE 00000000 COL 001 080
COMMAND ==> _                               SCROLL ==> CSR
***** TOP OF DATA *****
JES2,, ,PRIMARY
CNMP
GSO1
. . . . .
TOM1
TOM2
TOMT
. . . . .
***** BOTTOM OF DATA *****

```

## Upgrading Connect:Express

If you are upgrading from a previous version of Connect:Express, you should save information from your current configuration. For example, you should save any modifications that you have made to Connect:Express tables in a user library. Otherwise, the installation procedure will overwrite them with default table information.

You may also have to setup a recovery procedure to preserve the current operational status of Connect:Express. Refer to the Administration Guide for information about planning for a cold start.





---

# Installing Connect:Express

This chapter provides a description of the installation tape and instructions for installing Connect:Express with SMP/E and without SMP/E.

---

**Note:** It is highly recommended that you use SMP/E.

---

---

## Overview

You will need the installation tape and the release notes to install Connect:Express. The installation tape for Connect:Express is a magnetic tape in SMP/E format. Instructions are provided in \$\$\$\$DIST, the first member of File 22. Use these instructions with this manual to guide you through the installation.

When you initially install version 4.2.0, the installation process has four parts.

1. Receive the product. You must copy the product files. This part is done only one time.
2. Install the monitor. If you are using multiple monitors, you will need to repeat these steps for each monitor that you want to install.
3. Customize the TSO/ISPF.
4. Check security and the JCL skeleton.

If you are upgrading version 4.1.2 or version 4.2.0, the process has two steps.

1. Receive and apply the 420? FMIDs. The new version replaces the current one.
2. Follow the instructions in the Release Notes.

The next sections describe the installation tape and provide detailed instructions to help you install Connect:Express OS/390.

---

## The Installation Tape

The installation tape has a SYSMOD FMID in the following format, *TPPVRF*, where:

T = Package type

PP = Package code

V = Number of release

R = Level of release

FF = Identifier

**FMIDs**

The following table lists the FMIDs on the tape:

Table	Description
HTM420?	Connect:Express BASE
HTU420?	Connect:Express BASE, user modifiable tables/modules
HTD420?	Connect:Express BASE, documentation
JTS420?	Connect:Express ISPF installation in English
JTF420?	Connect:Express ISPF installation in French
JTC420?	Connect:Express UNIX services (SSL)

**Members of the \*LOADLIB\***

The members of \*LOADLIB\* furnished by the FMID HTU420? are shown below:

```

L0USRZA  L1USRJNL  L1USRSM1  T0B2PACS  T1APMSRT  T1B2PCNT  T1B2PCOD  T1B2PPID
T1B2PP09  T1B2PP10  T1B2PP11  T1B2PP12  T1B2PP13  T1B2PP14  T1B2PP15  T1B2PP16
T1B2PP17  T1B2PP18  T1B2PP19  T1B2PP20  T1B2PP21  T1B2PP22  T1B2PP23  T1B2PP24
T1B2PSLD  T1B2PS12  T1B2PS13  T1B2PS14  T1B2PS15  T1B2PS16  T1B2PS17  T1B2PS21
T1B2PS22  T1B2PS23  T1B2PS24  T1B2PS25  T1B2PS26  T1B2PS27  T1B2PS33  T1B2PS34
T1B2PS35  T1B2PS36  T1B2PS37  T1B2PS38  T1B2PS39  T1B2PS3A  T1B2PS3B  T1B2PS3C
T1B2PS3D  T1B2PS3E  T1B2PS3F  T1B2PS41  T1B2PS50  T1B2PS51  T1B2PS53  T1B2PS54
T1B2PS55  T1B2PS56  T1B2PS57  T1B2PS58  T1B2PS59  T1B2PS5A  T1B2PS5B  T1B2PS5C
T1B2PS5D  T1B2PS5E  T1B2PS5F  T1B2PS60  T1B2PS70  T1B2PS80  T1B2PVOL  T1SECP01
T1SECP02  T1SECP04  T1SECP05  T1SECP07  T1SECP08  T1SECP09  T1SECP10  T1SECP11
T1SECP12  T1SECP13  T1SECP14  T1SECP15  T1SECP16  T1SECP17  T1SECP18  T1SECP19
T1SECP20  T1SECP21  T1SECP22  T1S32000

```

If you have made any modifications to any of these modules, ensure that your module is saved in a user library so that it will not be overwritten during the installation process.

## Tape Format

The tape volume number is HTM420?. The volume serial of the tape indicates the PTF which is HTM420'1' for PTF1. The tape format is always SMP/E, even if SMP/E is not used. The tape has 34 files that are identified in the following list:

FILE	DSN	
1	SMPMCS	DCB=(LRECL=80,RECFM=FB,BLKSIZE=3120)
2	HTM420?.F1	(UNLOADED JCLIN IEBCOPY FORMAT)
3	HTM420?.F2	(UNLOADED INSTLIB IEBCOPY FORMAT)
4	HTM420?.F3	(UNLOADED ISPCLIB IEBCOPY FORMAT)
5	HTM420?.F4	(UNLOADED ISPLLIB IEBCOPY FORMAT)
6	HTM420?.F5	(UNLOADED ISPSLIB IEBCOPY FORMAT)
7	HTM420?.F6	(UNLOADED LOADLIB IEBCOPY FORMAT)
	without user modifiable tables/modules.	
8	HTM420?.F7	(UNLOADED MACLIB IEBCOPY FORMAT)
9	HTM420?.F8	(UNLOADED SYSJCL IEBCOPY FORMAT)
10	HTM420?.F9	(UNLOADED PARMLIB IEBCOPY FORMAT)
11	HTM420?.F10	(UNLOADED SYSPRM IEBCOPY FORMAT)
12	HTM420?.F11	(UNLOADED SAMPLIB IEBCOPY FORMAT)
13	JTS420?.F1	(UNLOADED JCLIN IEBCOPY FORMAT)
14	JTS420?.F2	(UNLOADED ISPLIB IEBCOPY FORMAT)
15	JTS420?.F3	(UNLOADED ISPLIB IEBCOPY FORMAT)
16	JTS420?.F4	(UNLOADED ISPTLIB IEBCOPY FORMAT)
17	JTF420?.F1	(UNLOADED JCLIN IEBCOPY FORMAT)
18	JTF420?.F2	(UNLOADED ISPLIB IEBCOPY FORMAT)
19	JTF420?.F3	(UNLOADED ISPLIB IEBCOPY FORMAT)
20	JTF420?.F4	(UNLOADED ISPTLIB IEBCOPY FORMAT)
21	HTD420?.F1	(UNLOADED JCLIN IEBCOPY FORMAT)
22	HTD420?.F2	(UNLOADED DISTLIB IEBCOPY FORMAT)
23	HTD420?.F3	(UNLOADED SAMPOPT IEBCOPY FORMAT)
24	HTD420?.F5	(UNLOADED VSOZDS1 IDCAMS FORMAT)
		to reload by *DISTLIB* (\$RELOZD1).
	Following files 26 and 27 are to be used ONLY	
	if mentioned in the cover letter of Connect:Express installation:	
26	HTD420?.F6	(UNLOADED LOADMNT IEBCOPY FORMAT)
		to reload by listed *SRCZAP* (\$RELLOAD).
27	HTD420?.F7	(UNLOADED SRCZAP IEBCOPY FORMAT)
		to reload by listed *SRCZAP* (\$RELZAP).
28	HTU420?.F1	(UNLOADED JCLIN IEBCOPY FORMAT)
29	HTU420?.F2	(UNLOADED LOADLIB IEBCOPY FORMAT)
	with user modifiable tables/modules (for no-replace).	
34	HTC420?.F1	(UNLOADED JCLIN IEBCOPY FORMAT)
35	HTC420?.F2	(UNLOADED LOADSSL IEBCOPY FORMAT)
36	HTC420?.F3	(UNLOADED OBJSSL IEBCOPY FORMAT)
37	HTC420?.F4	(UNLOADED ENDSSL IEBCOPY FORMAT)

---

**Note:** Some of the files may be empty.

---

**File 22**

File 22 (HTD420?.F2) is the \*DISTLIB\* library that contains the following installation JCL:

- ❖ PTF? information for last updates, if applicable
- ❖ README (EGFIMSG) file that lists all fixes in this version
- ❖ Allocation of SMP/E libraries
- ❖ Allocation of SMP/E CSI
- ❖ SMP/E procedure to be customized in PROCLIB
- ❖ UCLIN for SMP/E
- ❖ Allocation of Connect:Express libraries
- ❖ RECEIVE/APPLY/ACCEPT jobs
- ❖ SMP/E list procedures
- ❖ JCL to reload the \*LOADMNT\* library, if you do not use SMP/E
- ❖ JCL to reload the \*SRCZAP\* library, if you do not use SMP/E
- ❖ JCL to reload the \*VSOZDS1\* file and the TAPE database
- ❖ Sample SMP/E APAR apply procedures
- ❖ Sample SMP/E ZAP apply procedures
- ❖ Sample JCL to reload the information database
- ❖ JCL used to create the installation tape

---

## The Installation Procedure

The installation process to install version 4.2.0 for the first time has four parts, as described in the following table:

Part	Installation Steps	Description
1	1 – 11	Receive the product.
2	12 – 16	Install the monitor. You must repeat this stage of installation for each monitor that you want to install. Step 12: Defining the monitor (Stage 1 JCL) Step 13: Creating the monitor environment (Stage 2 JCL) Steps 14-16: Checking the new environment.
3	17	Customize TSO/ISPF.
4	18 – 19	Check security and JCL skeletons.

---

**Note:** If you are running version 4.1.2 or version 4.2.0, this is an update and you only need to complete part one. The new FMIDs will replace the current ones when you update the software.

---

The CONNECT:Express SMP/E and the non-SMP/E installation procedures are similar. Both use the same tape format and sample files, although a non-SMP/E installation does not require all the steps of an SMP/E installation. You can use the instructions in this section for both types of installations.

Read the *Release Notes* to see if any changes have been made to the installation procedure.

---

**Note:** Change all JCL samples to reflect your site, particularly JOB cards and Connect:Express file names. Then, copy all supplied installation JCL. If you are updating Connect:Express, see the *Release Notes* for any changes to installation library members and installation procedures.

---

## Receive the Product

During this stage of installation, you are copying the product files and setting up the SMP/E product. Steps 3-9 are only for an SMP/E installation. If you do not use SMP/E, complete steps 1 and 2, and then go to step 10.

### Step 1 Copy File 22 Using IEBCOPY

- A. Use IEBCOPY to copy File 22 off the product tape. This creates the Connect:Express \*DISTLIB\* library that contains the installation JCL needed to complete the installation.
- B. Replace the DSNNAME and VOL=SER parameters with those for your system, as shown in the following sample JCL:

```
//S1      EXEC      PGM=IEBCOPY
//SYSPRINT DD      SYSOUT=*
//IN      DD        DSN=HTD420?.F2,DISP=OLD,
//          LABEL=( 22,SL),UNIT=TAPE,
//          VOL=SER=TM411
//OUT     DD        DSN=index1.TOMV420.DISTLIB,DISP=(,CATLG,DELETE),
//          UNIT=SYSALLDA,VOL=SER=vvvvvv,
//          DCB=(LRECL=80,BLKSIZE=6160),
//          SPACE=(CYL,(2,0,20))
//SYSIN   DD      *
COPY I=((IN,R)),O=OUT /* replace */
/*
```

### Step 2 Allocate the Connect:Express Product Libraries

- A. Edit the member, TOMALLO, in the data set index1.TOMV420.DISTLIB. Note that the JCL is an inline Procedure (PROC).

---

**Note:** You do not have to use TOMALLO if you need to define additional subsystems for intrahost testing of Connect:Express on the same CPU. To do this, you must install additional monitors by repeating steps 12 and 13 of the installation process using different parameters.

---

- B. Modify the symbolic parameters on the Procedure statement to correspond with your site. These values are passed to your JCL.
- C. Submit the job for execution to allocate the main Connect:Express product files.
- D. **For non-SMP/E installations only:** Copy the following files from the CONNECT:Express installation tape, then proceed to Step 10 on page 2-7:
  - ♦ \*LOADLIB\* from file number 7 (HTM420?.F6)
  - ♦ \*MACLIB\* from file number 8 (HTM420?.F7)
  - ♦ \*LOADLIB\* from file number 29 (HTU420?.F2)
  - ♦ \*INSTLIB\* from file number 3 (HTM420?.F2)

### Step 3 Allocate the Primary SMP/E Libraries

- A. Edit the member, SMPEALLO, in data set index1.TOMV420.DISTLIB. Note that the JCL is an inline Procedure.
- B. Modify the symbolic parameters on the EXEC statement to fit your site's needs. These values are passed on to the JCL.
- C. Submit the job for execution.

### Step 4 Allocate and Initialize the SMP/E CSI Data Set

- A. Edit the member, SMPECSI, in data set index1.TOMV420.DISTLIB. Note that the JCL is an inline Procedure.
- B. Change the name of the CSI data set and the VOLSER value to fit the naming conventions of the sites. You can redefine it with no restrictions.

### Step 5 Create an SMP/E Procedure

An SMP/E procedure (PROC) is required to install Connect:Express OS/390 using SMP/E.

- A. Edit the member, SMPEPROC, in data set index1.TOMV420.DISTLIB.
- B. Modify the symbolic parameters found in the Procedure statement. These values are passed on to the JCL to complete the JCL statements. Be sure to read the notes in the JCL.
- C. Move the Procedure to a system defined PROCLIB, or use it as an inline procedure.

### Step 6 Update the SMP/E Base Options

- A. To set up your new SMP/E environment, edit the member SMPEUCL in data set index1.TOMV420.DISTLIB.
- B. Modify the index1.TOMV420 values of the SMP/E CSI data set and the DSPREFIX. Review the comments in the JCL for changes to be made.

---

**Note:** SMP/E users receive a COND Code = 4 in the first UCLIN process because the OPTIONS name of Connect:Express is not added until the subsequent UCLIN process.

---

- C. Submit the job for execution.

### Step 7 Receive CONNECT:Express FMIDs

- A. Edit the member, SMPEREC, in data set index1.TOMV420.DISTLIB.
- B. Make modifications to select the correct FMIDs. See the JCL for information about which FMIDs you should choose.
- C. Submit the job for execution.

### Step 8 Apply CONNECT:Express FMIDs

- A. Edit the member, SMPEAPP, in data set index1.TOMV420.DISTLIB.
- B. Make modifications to select the correct FMIDs. See the JCL for information about which FMIDs you should choose.

- C. Submit the job for execution. The files created here are used for any additional Connect:Express monitors that you add.

## Step 9 Accept CONNECT:Express FMIDs

---

**Note:** Always use ACCEPT during the first installation.

---

- A. Proceed with ACCEPT of previous PTF before you APPLY the new one. Always use ACCEPT on the first installation.
- B. Edit the member, SMPEACC, in data set index1.TOMV420.DISTLIB. Make modifications to select the correct FMIDS. See the JCL for information about which FMIDs you should choose.
- C. Submit the job for execution. A return code of 4 is normal at first installation.

## Step 10 Install the \*LOADMNT\* \*SRCZAP\*

---

**WARNING:** Complete this step only if you are advised to do so in the Connect:Express Release Notes.

---

Install the \*LOADMNT\* and \*SRCZAP\* libraries to obtain the latest maintenance.

## Install the Monitor

During this phase of installation, you define the monitor and then create the monitor environment. You must repeat these steps for each monitor that you want to install.

## Step 11 Define One Monitor (Stage 1)

This step creates the JCL member \$STAGSMP2 (or \$STAGNEW for non-SMP/E installations) in the data set designated by the SYSPUNCH DD card.

- A. Carefully review and modify the macro parameters in \$STAGSMP (or \$STAGNEW) member of the \*INSTLIB\* data set index1.TOMV420.INSTLIB.
- B. Using the same keywords for both members, edit the \$STAGSMP (or \$STAGNEW). Refer to the example following step 12-E.
- C. Change the JOBCARD information in the JCL of job \$STAGSMP (or \$STAGNEW).
- D. Review and change information on the EXEC, SYSLIB, and SYSPUNCH DD cards.

---

**Note:** The SYSPUNCH data set is pre-allocated as 'index1.index2.PUNCH' by TOMALLO.

---

- E. Change the SYSIN MACRO parameters according to the JCL. These files are owned by one Connect:Express subsystem, so you can run this job again for an additional Connect:Express subsystem by changing the parameters.

The following screen shows an example of input parameters that you must edit to define one monitor.

```

M1SMPSTG JN=PSR4ST2N,          ← STAGE2 JOBNAME                *
      JA=(532,AINF),           ← JOBS ACCOUNT                  *
      JP=06496S.TYL,          ← JOBS PGMR'S NAME             *
      JC=C,                    ← JOBS CLASS                    *
      JM=V,                    ← JOBS MSGCLASS                *
      JNT=PSR0004,            ← JOBS NOTIFY                   *
      SYSDA=SYSALLDA,         ← WORK UNIT NAME                *
      SSN=TOM3,               ← SUBSYS NAME (SSN. = TOM#)    *
      INITDS=NEW,             YES/NO/NEW INITIALIZE data sets *
      TMI1=PSR$TST,          ← INDEX-1 Connect:Express SOFTWARE FILES *
      TMI2=TOMV420,          ← INDEX-2 (PRIMARY NAMES)      *
      TMP11=PSR$TST,         ← INDEX-1 Connect:Express      *
      TMP12=TOM3V412,        ← INDEX-2 (SUBSYS NAME)        *
      FILV=TRAVBE,           ← SYSFIL VOLUME (VSAM)Connect:Express Monitor Files *
      FILI1=PSR$TST,         ← INDEX-1                       *
      FILI2=TOM3V412,        ← INDEX-2 (SUBSYS NAME)        *
      FILC=1, PRIMARY CYLINDERS *
      PARV=TRAVBE,           ← SYSPAR VOLUME (VSAM)Connect:Express Monitor Files*
      PARI1=PSR$TST,         ← INDEX-1                       *
      PARI2=TOM3V412,        ← INDEX-2 (SUBSYS NAME)        *
      PARC=1, PRIMARY CYLINDERS *
      JNLV=TRAVBE,           ← SYSJNL VOLUME (VSAM)Connect:Express Monitor Files*
      JNLI1=PSR$TST,         ← INDEX-1                       *
      JNLI2=TOM3V412,        ← INDEX-2 (SUBSYS NAME)        *
      JNLC=4, PRIMARY CYLINDERS *
      CKV=TRAVBE,           ← SYSCHK VOLUME Connect:Express Monitor Files *
      CKI1=PSR$TST,         ← INDEX-1                       *
      CKI2=TOM3V412,        ← INDEX-2 (SUBSYS NAME)        *
      CHKC=3, PRIMARY CYLINDERS *
      LGV=TRAVBE,           ← SYSLOG VOLUME Connect:Express Monitor Files *
      LGI1=PSR$TST,         ← INDEX-1                       *
      LGI2=TOM3V412,        ← INDEX-2 (SUBSYS NAME)        *
      LGU=3380,              ← UNIT                          *
      RCV=TRAVBE,           ← RECOVERY VOLUME Connect:Express Monitor Files *
      RCI1=PSR$TST,         ← INDEX-1                       *
      RCI2=TOM3V412,        ← INDEX-2 (SUBSYS NAME)        *
      APMCKV1=TRAVBE,        ← APM1 CHK VOLUME              *
      APMCKV2=TRAVBE,        ← APM2 CHK VOLUME              *
      APMCKI1=PSR$TST,       ← INDEX (1 OR 2) FOR APM CHK+LOG *
      PROCLIB='PSR$TST.PROCLIB', ← USER PROCLIB DSN/NO         *
      ANMPROC=TOM3ANM,        ← NAME OF ANM IN PROCLIB 6 CHAR. *
      APMPROC=TOM3APM,        ← NAME OF APM IN PROCLIB 6 CHAR. *
      AFMPROC=TOM3AFM,        ← NAME OF AFM IN PROCLIB      *
      EASPROC=TOM3AS,         ← NAME OF EAS (6 CHARS)        *
      TCPLINK='YRESM80.RPTCPIP.V3R2.SEZALINK',←TCP-LINK *
      JREL=TOM3R,             ← JOBNAME FOR RELOAD 5 CHAR.→.....X$$ *
      JUNL=TOM3U,             ← JOBNAME FOR UNLOAD 5 CHAR.→.....X$$ *
      JRJE=TOM3RJ,           ← JOBNAME FOR RJE 6 CHAR.→.....X$ *
      JTOM=TOM3MON,          ← JOBNAME FOR C:X 7 HAR.→..... *
END

```



## Step 12 Create the Monitor Environment (Stage 2)

In Stage 2, a pre-generated job allocates and initializes the Connect:Express Partner and File directories, the recovery, checkpoints, journal, and syslogs data sets, as well as the parameter (SYSIN) and \*SYSJCL\* data sets. The job also customizes members in other Connect:Express libraries and creates the CONNECT:Express Monitor JOB/STC, ANM, APM, ATM, AFM, and EAS STCs required to start Connect:Express. These files are owned by **one** Connect:Express subsystem.

---

**Caution:** Never modify the Stage 2 JCL. You must correct the Stage 1 JCL and run it again.

---

- A. Review the JCL, \$STAGSMP2 (or \$STAGNEW), found in the SYSPUNCH data set that you defined in Step 12. Refer to the sample output shown after step 13-C.
- B. Submit the Stage 2 JCL for execution.

---

**WARNING:** The checkpoint file must not be allocated with the RELEASE SPACE option, or migrated by HSM. This would result in an empty Checkpoint file and Connect:Express would not be able to start.

---

- C. Keep the Stage 2 JCL that was generated in the SYSPUNCH data set. You may need to run some steps again if there is a problem with the Checkpoint file (\*SYSCHK\*) or the log file (\*SYSLOG\*). Possible problems are listed below. In all of these cases, you have to format the file again by repeating step 13, the stage 2 JCL.
  - ♦ Changing the device for \*SYSLOG\*, \*SYSCHK\*, etc.
  - ♦ If the checkpoint file is empty after HSM migration of the file, Connect:Express cannot start.
  - ♦ Erroneous FREE operation of the checkpoint file. In this case, the file is emptied and Connect:Express cannot start.

<p><b>Note:</b> JES3 users should refer to the notes in the Stage 2 output header shown in the following screen.</p>
--

The following screen shows the information provided in the Stage 2 output JCL. This file is generated automatically and should not be changed.

```
//PSR4ST2N JOB (532,AINF),06496S.TYL,CLASS=C,
//          NOTIFY=PSR0004,MSGCLASS=V,REGION=0M,
//          COND=(0,NE)          ,RESTART=XXXX
//*
//* Connect:Express TOMV420 *** INSTALLATION ***
//* 00/12/22 15.07
//*
//* GENERATE OPTION      : PRIMARY
//* SUBSYSTEM NAME     : TOM3
//*
//* 'POST-SMP-APPLY STAGE CUSTOMIZATION'
//* '-----'
//* '*** ONLY AFTER SMP PROCESS'
//*
//*****
//* WARNING IF UPGRADING Connect:Express TO A NEW RELEASE :
//*
//* 1/ YOU MAY HAVE TO START Connect:Express TWICE,
//*    BECAUSE OF AUTOMATIC FORCED CSA RELOAD
//* 2/ CHECK/UPDATE SYSIN/JCL PARAMETERS CHANGES
//*    FOR Connect:Express -ANM-APM-AFM-EAS FROM NEW DOCUMENTATION
//* 3/ SAVE USER MODIFICATIONS OF TABLES T1...
//*    OR YOU WILL HAVE TO REGENERATE THEM AFTER INSTALLATION
//*    BY USING Connect:Express ISPF -3.T- MENUS
//*
//*****
//* JES3 USER: RUN SEPARATE IDCAMS 'DEFINE' FIRST.
//*           : THEN ADD A 'DELETE' BEFORE EACH 'DEFINE'.
//*           : CHANGE 'DISP=OLD' BY 'DISP=OLD,UNIT=(, ,DEFER)'
//*           : AND SUBMIT WHOLE STAGE2.
//*****
//* RE-ALLOCATING SOME MONITOR FILES TO NEW VOLUMES :
//*
//* YOU MUST USE ALLOCATION/INITIALIZATION STEPS OF STAGE-2.
//* FOR EXAMPLE : MIGRATION OF *SYSRCY* FILE TO A NEW VOLSER.
//* EXCEPTIONS  : USE -REPRO- FOR VSAM FILES.
//*
//*****
//* WARNING : SYSJCL/SYSPRM/PARMLIB
//* COPIED FROM OLD ALLOCATED SMP TGT TO NEW Connect:Express OWNED FILE
//* FROM PSR$TST. Connect:Express V412 TO NEW PSR$TST.TOM3V412
//*
//*
//*.....
Please see the Stage2 generated JCL in the punch member.
```

### Step 13 Check and Modify Startup JCL

During Stage 1 and Stage 2 processing, the JCL for starting CONNECT:Express is created and placed into the libraries that you designated. Now you can check and modify the startup JCL.

---

**Note:** CONNECT:Express can be started as a JOB or as a started task (STC). If Connect:Express executes as a started task, it is assigned an RACF userid by the system team. If it executes as a job, it is assigned the RACF authority of the job submitter.

---

The CONNECT:Express Monitor or TOM can submit jobs and these jobs will have the same authorization as the TOM. Be aware that starting the CONNECT:Express Monitor also starts at least two Procedures (PROCs), the ANM PROC and the APM PROC. They are placed in the PROCLIB specified during Stage 2 processing. The CONNECT:Express Monitor is the main JOB or task to start. After this JCL is started, the Monitor automatically starts the ANM, APM, AFM, and EAS Procedures. To check and modify the startup JCL, complete the following steps:

- A. Check and modify the member, \$TOMJOB?, found in the data set, index1.TOMV420.INSTLIB, and move it to a system-defined PROCLIB to execute Connect:Express as a started task (STC).
- B. Check and modify the members you specified in Stage 1 for the ANM, APM, AFM, and EAS procedures. They were copied to the PROCLIB you specified in step 12.

---

**Note:** No ATM procedure is created during installation: check and modify the member, £ATMPRC, found in the data set, index1.TOMV420.INSTLIB, and move it to a system-defined PROCLIB to execute the ATM as a started task (STC).

---

### Check and Modify the \$TOMJOB

The following three screens apply to step 14-A and show an example of the Connect:Express Monitor - STC. It is placed in the Connect:Express OS/390 \*INSTLIB\* data set as member \$TOMJOB and may need further modification depending on your site.

Connect:Express Monitor – STC Example (Screen 1)

```
//TOM3MON JOB...
//*          Connect:Express  Monitor PROCEDURE
//*          to be put as started-task.
/*-----
/* Note : if Connect:Express  LOADLIB and SYSLIB are in LINKLIST
/*          the following //STEPLIB or //SYSLIB DD cards
/*          can be suppressed for V412 MONITOR and ANM procedures.
/*          But the APM needs always a SYSLIB.
/*-----
//TOMV420  PROC OUT=X,
//          RUN=C,SSN=TOM3,PLEX=N,XRF=N,XCFGROUP=$TOM3$   ←See Note 1
/*--- OPTIONAL STEP TO RESTORE JNL POINTER, IF PREVIOUS Connect:Express  CRASH.
/*--- SYSJNL must be SHR (CICS/TSO/... usage).
/*--- refer *SAMPLIB(EXF992)
//JNLCHK  EXEC PGM=P1B2P992,PARM=UPD,REGION=0M
//STEPLIB DD  DISP=SHR,DSN=index1.TOMV420.LOADLIB
//SYSUDUMP DD  SYSOUT=&OUT
//SYSJNL  DD  DISP=SHR,DSN=index1.TOMV420.SYSJNL
//SYSCHK  DD  DISP=OLD,DSN=index1.TOMV420.SYSCHK
//SYSUDUMP DD  SYSOUT=&OUT
/*
.
.
.
```

1. In the example above, the RUN=C setting specifies a cold start when Connect:Express starts. Transfers that were executing are not restarted. All Connect:Express OS/390 control blocks are rebuilt. The first time you start Connect:Express OS/390 after installation, start it with RUN=C, then change it to RUN=H (hot start). If advised in the installation cover letter, start it with RUN=C after the PTF is applied, then change it to RUN=H (hot start). You can back up requests before the cold start by using the P1B2P800/P1B2P802 utilities. Refer to the Administration Guide for information about planning for a cold start.  
SSN=TOM3 specifies the subsystem name that you have assigned to Connect:Express OS/390 in member IEFSSNxx in SYS1.PARMLIB. The SSN is related to the Connect:Express OS/390 Monitor which

intercepts all subsystem requests. The parameters, PLEX=, XRF=, and XCFGROUP=, are discussed in the Chapter 1 of the Administration Guide, *Sysplex Environment*.

### Connect:Express Monitor – STC Example (Screen 2)

```

/*--- OPTIONAL STEP TO SAVE RCT REQUESTS, IF COLD START.
/*--- refer *SAMPLIB($CKOFLOD)
//OFFCHK EXEC PGM=P1B2P800,REGION=0M
//STEPLIB DD DISP=SHR,DSN=index1.TOMV420.LOADLIB
//SYSCHK DD DISP=OLD,DSN=index1.TOM3V412.SYSCHK
//SYSUT2 DD DISP=OLD,DSN=index1.TOM3V412.SYSUT2
//SYSUT3 DD DISP=OLD,DSN=index1.TOM3V412.SYSUT3
//SYSMSG DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
/*
/*--- OPTIONAL STEP TO SAVE RECOVERY REQUESTS, IF COLD START.
/*--- refer *SAMPLIB($RCOFLOD)
//OFFRCY EXEC PGM=P1B2P802,REGION=0M
//STEPLIB DD DISP=SHR,DSN=index1.TOMV420.LOADLIB
//SYSRCY DD DISP=OLD,DSN=index1.TOM3V412.SYSRCY
//SYSUT4 DD DISP=OLD,DSN=index1.TOM3V412.SYSUT4
//SYSRINT DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
/*
//TOMV420 EXEC PGM=P1B2P000,REGION=0M,TIME=1439,DPRTY=(15,15),
// PARM='RUN=&RUN,SSN=&SSN,PLEX=&PLEX,XRF=&XREF,XCFGROUP=&XCFGROUP'
// DYNAMNBR=32 ← ADVISED FOR 2APM*16EFF
/*-----
/*--- IF CONCATENATED WITH OTHER APF LIBRARY, FIRST STEPLIB MUST BE
/* ONLY: Connect:Express BASE+OPTIONS OR CUSTOMER MODIFIED TABLES.
//STEPLIB DD DISP=SHR,DSN=index1.TOMV420.LOADLIB
/*-----
/*--- SYSLIB CAN BE CONCATENATED TO OTHER APF CUSTOMER FILES
//SYSLIB DD DISP=SHR,DSN=index1.TOMV420.LOADLIB
/* DD DISP=SHR,DSN='APF-CUSTOMER-USER-EXITS'
/****** OUT : *****
//SNAPDUMP DD SYSOUT=&OUT ← PSR DEBUGGING
//SYSDUMP DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT,FREE=CLOSE ← ONLY FIRST DUMP TAKEN
//SYSDMP DD SYSOUT=&OUT
//SYSMSG DD SYSOUT=&OUT
//SYSPRT DD SYSOUT=&OUT
//SYSPCH DD SYSOUT=(,INTRDR)
/*SYSOUT DD SYSOUT=&OUT ←see Note 2
/*SYSPAPS DD SYSOUT=&OUT ←see Note 3
/*
/*SYSLOG IS ADVISED TO BE ON JES2 SYSOUT.
//SYSLOG DD SYSOUT=&OUT
/*SYSLOG ON DISK MUST NOT BE MIGRATED BUT RECREATED (stage-2 STEPS)
/*SYSLOG DD DISP=SHR,DSN=index1.TOM3V412.SYSLOG
/****** IN/OUT : *****
/*SYSCHK MUST NOT BE MIGRATED BUT RECREATED (stage-2 STEPS)
//SYSCHK DD DISP=SHR,DSN=index1.TOM3V412.SYSCHK
/*SYSCHK2 DD DISP=SHR,DSN='DUPLICATE-CHECKPOINT-2'
/*
//SYSRCY DD DISP=SHR,DSN=index1.TOM3V412.SYSRCY
//SYSJCL DD DISP=SHR,DSN=index1.TOM3V412.SYSJCL ←see Note 4
//SYSJNL DD DISP=SHR,DSN=index1.TOM3V412.SYSJNL
//SYSANM DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(SYSANMX)

```

2. You need the \*SYSOUT\* data set if you are implementing Language Environment functionality.

3. The \*SYSPAPS\* data set is a trace file. Should any problem occur with the asset protection file, you can activate this DD card and send the trace to support.
4. In the screen above, the \*SYSJCL\* library is a partitioned data set that contains the JCL that is submitted to the OS/390 internal reader when PDS/VSAM/user UNLOAD/RELOAD transfers and RJE data transfers are executed.

#### Connect:Express Monitor – STC Example (Screen 3)

```

//***** IN : *****
//SYSEVT DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(EVENTX)
//SYSPRM DD DISP=SHR,DSN=index1.TOM3V412.SYSPRM ←See Note 5
//SYSFIL DD DISP=SHR,DSN=index1.TOM3V412.SYSFIL
//SYSPAR DD DISP=SHR,DSN=index1.TOM3V412.SYSPAR
//SYSIN DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(PARMTOMX) ←See Note 6
//CXPLEX DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(MANAGER) ←See Note 7

//SYSPRTX DD SYSOUT=&OUT
//***** IN (OPTIONAL) : Connect:Express
//*SYSSNA DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(SYSSNAX)
//*SYSX25 DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(SYSX25X)
//***** IN (OPTIONAL) : L1B2PDIX
//*SYSINEXT DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(SYSEXTX)
/*----- option: SECURITY
//*RSAPARM DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(RSAPARMX)
/*----- option: REXX
//*SYSEXEC DD DISP=SHR,DSN=index1.TOMV420.ISPCLIB
/* DD DISP=SHR,DSN=index1.TOMV420.REXXUSER user-rexx
//*SYSTSPRT DD SYSOUT=&OUT
/*----- option: DIF (diffusion with PC DOS/OS2)
/*DIFJNL DD DISP=SHR,DSN=... 'journal'
/*DIFMBX DD DISP=SHR,DSN=... 'mailbox'
/*----- option: TCP-IP
//*SYSTCP DD DISP=SHR,DSN=index1.TOM3V412.PARMLIB(SYSTCPX)
/*
/*
/* FOLLOWING CARDS TO BE REMOVED IF TO BE PUT IN PROCLIB (STC)
// PEND
/*
//TOM3MON EXEC TOMV420
/*

```

5. The \*SYSPRM\* data set is a partitioned data set that contains members for special processing. The EVENT member of \*SYSPRM\* is used to schedule data transfers in Connect:Express.
6. SYSIN DD is an important card for starting Connect:Express OS/390. A member is placed in the Connect:Express PARMLIB during Stage 2 of the installation process. The member contains a number of parameters that define your local Connect:Express environment.
7. CXPLEX DD is the card used for SYSPLEX configuration. The SYSPRTX DD card must be present.

## Check and Modify the Members for the ANM, APM, AFM, and EAS

The following four screens refer to step 14-B and show an example of the ANM, the APM, the AFM, and the EAS.

### Auxiliary Network Manager – STC Example

```
//TOM3ANM      PROC OUT=X
//TOMV420      EXEC PGM=PLANM000,REGION=0M,TIME=1440,
// PARM=('SSN=&SSN','MSN=&MSN','LHM=&LHM','HSS=&HSS','ISN=&ISN') ← See Note 1
/*-----

/** perform group must be the same as VTAM (for X25 treatment).

/** region must be at least : (effectors count x 68k)
/**                               (32 x 68k) = 2200k
/** region size must be increased if using large buffer size.
/*-----
/**          ANM PROCEDURE (AUXILIARY NETWORK MANAGER)
/**
/** Note : if Connect:Express LOADLIB is in LINKLIST
/**         the following //STEPLIB card
/**         can be suppressed for ANM procedure.
/**         But the APM needs always a SYSLIB.
/*-----
//BPXTCAF     EXEC PGM=BPXTCAFF,PARM=LCTCPB2← See Note 2
/*-----
//STEPLIB    DD  DISP=SHR,DSN=index1.TOMV420.LOADSSL
//           DD  DISP=SHR,DSN=index1.TOMV420.LOADLIB
//SYSUDUMP   DD  SYSOUT=&OUT
//SYSDUMP    DD  SYSOUT=&OUT
//SYSMSG     DD  SYSOUT=&OUT
//SYSLOG     DD  SYSOUT=&OUT
//SYSPRINT   DD  SYSOUT=&OUT
//SYSIN      DD  DISP=SHR,DSN=index1.TOM3V412.PARMLIB(PARMANM3) IN
//SYSTCPD    DD  DISP=SHR,DSN=SYS.TCPIP.PARMS(TCPDATA)← See Note 3
//CEEDUMP    DD  SYSOUT=&OUT ← See Note 4
//CEEMOUT    DD  SYSOUT=&OUT
//CEEMSG     DD  SYSOUT=&OUT
//ENVIRON    DD  DSN=index1.TOMV420.SSLTCFG,DISP=SHR ← See Note 5
```

1. The Connect:Express ANM is automatically started by the Connect:Express Monitor. The PARM= card gets its values from the Monitor and the SYSIN parameters come from the Connect:Express PARMLIB. The Connect:Express OS/390 ANM JCL is created as a Procedure and is placed in a specified PROCLIB library during Stage 1 and Stage 2 of the installation process. Ensure that this procedure is placed in a system Procedure library because the Connect:Express OS/390 Monitor issues the OS/390 command to start the ANM Procedure.
2. BPXTCAFF is used to select the TCP/IP stack when using the SOE interface.
3. The SYSTCPD is used for DNS addressing.
4. Language environment sysouts are active with SSL handler.
5. Language environment configuration file: GSK\_TRACE and GSK\_TRACE\_FILE parameters are used to enable the z/OS SLL trace.

## Auxiliary Protocol Manager – STC Example

```

//TOM3APM      PROC SSN=TOM3,OUT=X,
//              APMCKI1= Connect:Express
// Connect:Express 411 EXEC PGM=PlAPM001,REGION=0M,TIME=1440,
//  PARM=('APM=&APM','SSN=&SSN','MSG=&MSG','EFF=&EFF','ETC=&ETC', ←See Note 3
//              USD='uuuuuuuu','SRV=L1APMSRV','TMX=60','BRX=1')

/*-----
/*          APM (AUXILIARY PROTOCOL MANAGER)
/*
/*          region size must be increased if using large user exits.
/*
/* Note : if Connect:Express LOADLIB is in LINKLIST
/*          the following //STEPLIB card
/*          can be suppressed for APM procedure.
/*          But the APM needs always a SYSLIB.
/*-----
/* DO NOT CHANGE data set NAMES
/*-----
//STEPLIB DD      DISP=SHR,DSN=index1.TOMV420.LOADLIB
//SYSLIB DD      DISP=SHR,DSN=index1.TOMV420.LOADLIB
/*          DD      DISP=SHR,DSN=index1.TOMV420.SYSLIB user-exit
//CHKMODEL DD    DISP=OLD,DSN=&APMCKI1..&SSN.AP&APM..CHKMODEL
/*SYSLOG DD      DISP=SHR,DSN=&APMCKI1..&SSN.AP&APM..SYSLOG
//SYSLOG DD      SYSOUT=&OUT
//SYSMSG DD      SYSOUT=&OUT
//SNAPDUMP DD    SYSOUT=&OUT          ← PSR DEBUGGING
//SYSUDUMP DD    SYSOUT=&OUT
/*----- optional ETEBAC3 parameters (France only)
/*PARMETB3 DD    DISP=SHR,DSN=index1.TOM3V412.PARMLIB(PRMETB33)
/*----- sample EX#FDUP table for duplicate files
/*T1USRDUPL DD    DISP=SHR,DSN=...          IN-OUT
/*----- option: REXX
/*SYSEXEC DD     DISP=SHR,DSN=index1.TOMV420.ISPCLIB←See Note 4
/*          DD     DISP=SHR,DSN=index1.TOMV420.REXXUSER user-rexx
/*SYSTSPRT DD    SYSOUT=&OUT
/*----- option: MBO (mailbox with PC DOS/OS2)
/*MBOMBX DD     DISP=SHR,DSN=... 'mailbox'
/*MBORTG DD     DISP=SHR,DSN=... 'routing'
/*----- option: DIF (diffusion with PC DOS/OS2)
/*DIFJNL DD     DISP=SHR,DSN=... 'journal'
/*DIFMBX DD     DISP=SHR,DSN=... 'mailbox'
/*DIFRTG DD     DISP=SHR,DSN=... 'routing'
/*----- option: PAC
/*SYSUE1 DD     DISP=SHR,DSN=index1.tom3.PARMLIB(SYSUE1X) ←See Note 5
/*SYSPRINT DD    SYSOUT=&OUT
/*SYSPR20 DD    SYSOUT=&OUT

```

6. The Connect:Express APM is automatically started by the Connect:Express Monitor. The PARM= '&' card gets its values from the Monitor and the SYSIN parameters come from the Connect:Express PARMLIB. USD= 1 to 8 characters of data passed to user exits through the UEXPRMAD and PEXPRMAD fields of the structures (DSECTS) D1B2RUEX, and D1B2RPEX given in the Connect:Express MACLIB. SRV= Name of general application server. If L1APMSRV is set in this field, the T1APMSRT table is processed. Refer to the Administration Guide for more information.
- TMX= the maximum number of seconds a user exit is expected to work. Default is no timer.
- BRX= Refers to the way user exits are branched, and if the timer is activated or not for the middle of transfer exit. The default is 1.
- 1 = CALL and if TMX= is given, no timer is activated for middle exit.
- 2 = CALL and if TMX= is given, the timer is activated for middle exit.
- 3 = ATTACH beginning and end of transfer exits and if TMX= is given, no timer is activated for middle

exit.

4 = ATTACH beginning, middle, and end of transfer exits + if TMX= is given, timer is activated for middle exit.

7. The SYSEXEC DD card is used for executing user exits and REXX procedures.
8. SYSUE1 DD is a card used for the Utilities Package. This is the parameter file for the general user exit, L1GFIUE1. SYSPRINT and SYSPR20 DD cards must be present. See the Utilities Guide for more information about L1GFIUE1.

The Connect:Express OS/390 APM JCL is created as a procedure and is placed in a specified library during Stage 1 and Stage 2 of the installation process. Ensure that this procedure is placed in a system Procedure library because the CONNECT:Express Monitor issues the OS/390 command to start the APM procedure.

### Auxiliary FTP Manager – STC Example

```
//TOM3AFM PROC OUT=X
//TOMV420 EXEC PGM=P1AFM000,REGION=0M,TIME=1440,
// PARM=(T222,&SSN)                                     ← See Note 6
/*-----
/*-----
/* AFM PROCEDURE (AUXILIARY FTP MANAGER)
/*
/* Note: if Connect:Express LOADLIB is in LINKLIST
/* the following //STEPLIB card
/* can be suppressed for AFM procedure.
/*-----
//STEPLIB DD DISP=SHR,DSN=index1.TOMV420.LOADLIB
//SYSUDUMP DD SYSOUT=&OUT
//SYSDUMP DD SYSOUT=&OUT
//SYSMSG DD SYSOUT=&OUT
//SYSLOG DD SYSOUT=&OUT
//AFMLOG DD SYSOUT=&OUT
//SYSPRINT DD SYSOUT=&OUT
//SYSPARM DD DISP=SHR,DSN=index1.tom3.PARMLIB(PARMAFM3) IN
//MIFPARM DD DISP=SHR,DSN=index1.tom3.PARMLIB(MIFTOM3) IN
//SYSTCPD DD DISP=SHR,DSN=SYS.TCPIP.PARMS(TCPDATA)      ← See Note 7
```

9. The Connect:Express AFM is automatically started by the Connect:Express Monitor. The PARM= card gets its values from the Monitor and the SYSPARM parameters come from the Connect:Express PARMLIB.

The Connect:Express OS/390 JCL is created as a Procedure (PROC) and placed in a specified PROCLIB during Stage 1 and Stage 2 of the installation process. Ensure that the Procedure is put in a system procedure library because the Connect:Express OS/390 monitor issues the command to start the AFM procedure. The FTP manager configuration is discussed in the FTP Guide.

10. The SYSTCPD is used for DNS addressing.



## FTP Effector Address Space – STC Example

```

//TOM3AS PROC OUT=X
//TOMV420 EXEC PGM=P1AFM090,REGION=0M,TIME=1440,
// PARM=&PRM                                     ← See Note 8
//*-----
//*-----
//* AFM PROCEDURE (AUXILIARY FTP MANAGER)
//*
//* Note : if Connect:Express LOADLIB is in LINKLIST
//* the following //STEPLIB card
//* can be suppressed for EAS procedure.
//*-----
//STEPLIB DD DISP=SHR,DSN=index1.TOMV420.LOADLIB
//SYSUDUMP DD SYSOUT=&OUT
//SYSDUMP DD SYSOUT=&OUT
//SYSOUT DD SYSOUT=&OUT
//*SYSEXEC DD DISP=SHR,DSN=index1.TOMV420.ISPCLIB      ← See Note 9
//*----- option: PAC
//*SYSUE1 DD DISP=SHR,DSN=index1.tom3.PARMLIB(SYSUE1X) ← See Note 10
//*SYSPRINT DD SYSOUT=&OUT
//*SYSPR20 DD SYSOUT=&OUT
//*PARMFTPL DD DSN=index1.tom3.(LISTFRTP), DISP=SHR    ← See Note 11

```

11. The FTP EAS is automatically started by the Connect:Express AFM. The PARM= card gets its values from the AFM.
12. The SYSEXEC is used for executing user exits and REXX procedures.
13. SYSUE1 is a card used for the Utilities Package. This is the parameter file for the general user exit, L1GFIUE1. SYSPRINT and SYSPR20 DD cards must be present. See the Utilities Guide for more information about L1GFIUE1.

The Connect:Express OS/390 FTP EAS JCL is created as a Procedure and is placed in a specified library during stage 1 and stage 2 of the installation process. Ensure that this Procedure is placed in a system Procedure library because the Connect:Express AFM issues the OS/390 macro to create the EAS. The EAS configuration is discussed in the FTP Guide.

14. PARMFTPL is a card used to customize the FTP list. See the FTP Guide for more information about PARMFTPL. An example is in the \*PARMLIB\* £PRMFTPL member.

## Step 14 Check and Modify SYSIN Parameters

- A. Check and modify parameters in the member, PARMTOMx, in the Connect:Express \*PARMLIB\* library. An example of the SYSIN parameters is shown on page 2-18. Refer to Appendix D in the Administration Guide for more information about parameters.
- B. Modify the SYSIN member to use site-specific parameters. Examples of SYSIN are in the \*PARMLIB\* £PARMTOM member. For some users, the symbol £ may display with a different symbol such as the #. For example, some users may need to look for the \*PARMLIB\* #PARMTOM member.

These parameters are coded in 80-character records. The optional and required parameters are described in Appendix D of the Administration Guide. You can change the SYSIN parameter values before a hot or cold start of the Connect:Express Monitor. The following parameters, however, can only be changed before a cold start:

- ♦ DPCSID
- ♦ DPCPSW
- ♦ RQEMAX
- ♦ MAJIND
- ♦ CMDPRE
- ♦ DAPMxx Cards added or deleted
- ♦ APLNUM

---

**Note:** The APLNUM parameter is used during a cold or hot start only if an OS/390 IPL has occurred or a "\$LOAD\$" command was issued in the previous Connect:Express session.

---

### **Modify the SYSIN Parameters**

The following two screens show examples of SYSIN parameters.

## Connect:Express OS/390 – SYSIN Parameters Example (Screen 1)

```

*           DEFINE Connect:Express GLOBAL PARAMETERS
*
DPCSID=PSRTOM3           8 MONITOR NAME
DPCPSW=PSRTOM3           8 PASSWORD
RQEMAX=0256              4 REQUEST QUEUE ELEM.
*SYSCHK=Y                1 N=NO CHECKPOINT=>RUN=C
MAXSRQ=24                2 MAX SIMUL. REQUEST
                          17 INDEX FOR U/R DSN
MAJIND=index1.TOM3V412.wrk
WRKUNT=SYSALLDA or $SMS$  8 WORK UNIT
SMSSDB=N                 1 RESERVED, FUTURE USE
MSGPRX=TOM3              4 MESSAGE PREFIX
MSGINI=OPERATOR-MESSAGE(OPERATOR-UPDATE-BY:F_TOM3?,MSG=?) OPERATOR MSG
UEXJNL=NONE              8 JNL USER EXIT
*UEXFTE=L1GFIUE1        8 TRANS.START DEFAULT EXIT
*UEXFTE=L1GFIUE1        8 TRANS.END   DEFAULT EXIT
*UEXFRS=L1GFIUE1        8 RECEP.START DEFAULT EXIT
*UEXFTE=L1GFIUE1        8 RECEP.END   DEFAULT EXIT
ACTEXT=CONT              4 USER EXIT ACTION
RMFLOG=N                 1 RMF LOGGING
SMFREC=000               3 SMF REC NUMBER ←See Note below
RACFCN=Y                 1 RACF CONTROL N/Y/S
RACFUD=DEFUSER           8 PART. RACF DEFAULT USER
ADHOCN=N                 1 ADHOC CONTROL N/Y/U
UPRFCT=Y                 1 USER COMMAND IN FCT Y/N
LRECLT=Y                 1 LRECL CONTROL   Y/N
RECFMT=Y                 1 RECFM CONTROL   Y/N
STIMEV=(01,01)          7 STIMER VALUE
STIMOC=10                2 TIMER OCCURS
APLNUM=(2,08)            1 CONNECTED APPL NB (cics...)
FCTADD=20                2 NB OF OVERFLOW ENTR
PCTADD=20                2 NB OF OVERFLOW ENTR
CMDPRE=                  1 SSN COMMAND PREFIX OR BLANK
*
*           DEFINE LOCAL VALUES
TOMACB=NONE              8 Connect:Express APPLNAME (1)
TOMLCL=00                2 NB OF LOCAL Connect:Express (1)
*
*           DEFINE PROCEDURES NAMES
UPRCPI=NONE              8 USER PROC POST INIT
UPREND=NONE              8 USER PROC NORMAL END
UPRABE=NONE              8 USER PROC ABNORMAL END
APMPRC=TOM3APM           8 APM PROCNAME
ANMPRC=TOM3ANM           8 ANM PROCNAME
*
*           DEFINE AUXILIARY PROTOCOL MANAGERS
DAPM01=(E/16/ABCDEF)    14 DEFINE APM1 START
DAPM02=(H/16/RSTUVWX)  14 DEFINE APM2 HELD
*
*

```

**Note:** If the Connect:Express initialization parameters include SMFREC=nnn, you must create an SMF record with the specified number. 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.

The SMF record is shown on page 2-23, *Create the Event Extract Record*.

## Connect:Express OS/390 – SYSIN Parameters Example (Screen 2)

```

*          DEFINE AUXILIARY FTP MANAGERS, IF OPTION USED :
*          IF UNUSED, COMMENT AFMXXX PARMS.
*AFMPRC=TOM3AFM                H? 8 AFM PROCNAME                ← See Note 1
*EAS PROCEDURE NAME MUST BE CHECKED IN AFM SYSPARM MEMBER
*AFMCLS=(A/010/008/002)        H?14 AFM(CLASS/TOTAL/IN/OUT)
*AFMCLS=(B/016/000/016)        H?14 AFM(CLASS/TOTAL/IN/OUT)
*AFMPRF=XXXXXXXXX              H? 8 AFM FTP FILE DEFAULT PROFILE
*AFMALL=N                       H? 1 Y/N TO LIST '$$ALL$$' FILES
*
*          AUTHORIZATION NUMBER GIVEN (VARIABLE LENGTH)
*
AUTHDS=AP.KEY

*
*          DEFINE AUXILIARY NETWORK MANAGER PARAMETERS
*
APLPFX=ANM1T3                    6 VTAM APLNAME PREFIX
*
STDMSG=08                        2 ANM BUFFER
MAXEXT=(12,28)                   7 ANM BUFFER
*
* IF TCP-IP USED -----
*
*TCPORG=(HPNS,TCPIP)
*
*TCPprt=7000
*
* X25 USED -----
*
MCHNBR=02                        2 NUMBER OF MCH
*
MCHRTR=(99,01)                   7 MCH RETRIES
*
MCHNAM=MCH130                    8 MCH NAME
MCHLUN=XU13032                   8 LU NAME
MCHWDS=02                        2 WINDOW SIZE
MCHVCN=008                      3 NUMBER OF VC
MCHPKS=0128                      4 PACKET SIZE
MCHMSC=E                         1 MCH PHYSICAL ID
MCHXLA=12345                     1 MCH LOCAL ADDR
MCHTYP=D                         1 MCH TYPE
*
MCHNAM=MCH230                    8 MCH NAME
MCHLUN=XU23022                   8 LU NAME
MCHWDS=03                        2 WINDOW SIZE
MCHVCN=016                      3 NUMBER OF VC
MCHPKS=0256                      4 PACKET SIZE
*MCHMSC=                          NO MCH PHYSICAL ID
*MCHXLA=                          NO MCH LOCAL ADDR
MCHTYP=G                         1 MCH TYPE

```

1. The AFM Keywords are disabled at installation. If you are going to use the FTP Optional features, you must enable them before starting the monitor.

## Define ANM Parameters

The following three screens show examples of ANM parameter definitions.

### ANM Parameters – Example 1: SNA

```
APLPFX=APPANM
```

### ANM Parameters – Example 2: X.25

```
APLPFX=APPANM
MCHNBR=02
*-----
MCHNAM=MCH1
MCHLUN=MCH1LU
MCHWDS=03
MCHVCN=016
MCHPKS=0256
MCHXLA=123456789
MCHTYP=D
MCHMSC=A
*-----
MCHNAM=MCH2
MCHLUN=MCH2LU
MCHWDS=02
MCHVCN=008
MCHPKS=0128
MCHTYP=G
```

### ANM Parameters – Example 3: SNA + X.25 + TCP/IP

```
APLPFX=APPANM
*-----
TCPORG=(HPNS,TCPIP)
TCPprt=7000
*-----
MCHNBR=01
*-----
MCHNAM=MCH3
MCHLUN=MCH3LU
MCHWDS=02
MCHVCN=008
MCHPKS=0128
MCHTYP=G
```

## Define AFM Parameters

The following two screens show examples of AFM Parameters.

### AFM SYSPARM Parameters – Example

```

TCPORG=(HPNS,TCPIP)          TCP/IP STACK ORIGIN
SRVRPN=4110                  SERVER PORT NUMBER
SRVPDN=5400                  SERVER PORT NUMBER (DATA SESSION)
*
* TIMCNX AND TIMTRF MUST BE DECLARED BEFORE THE FTPEAS PARAMETERS
*
TIMCNX=300                   TIMER CONNECTION IN SECOND
TIMTRF=300                   TIMER TRANSFERT IN SECOND
MAXASN=06                    MAXIMUM A/S NUMBER ←See Note 1
SRVMS2='LINE 2 CHANGED'      WELCOME MESSAGE
FTPEAS=(TOM3AS,E,B,E5,X04,T001)  FTP EFFECTOR'S A/S DESCRIPTION ←See Note 2
FTPEAS=(TOM3AS,E,A,E2,X02,T001)  FTP EFFECTOR'S A/S DESCRIPTION
*      !      ! ! ! !      !
*      !      ! ! ! !      !
*      !      ! ! ! !      Temporization (minutes): server inactivity
*      !      ! ! !      Number of servers for that definition
*      !      ! !      Number of effectors for one server
*      !      !      Transfer class
*      !      Active/inactive at initialization
*      Server procedure name root: must be in PROCLIB
*      2 numeric characters are added to identify the procedure name
*      EX: TOM3AS01, TOM3AS02( TOM3AS in PROCLIB). (TCP/IP Applications)

```

### AFM MIFPARM Parameters – Example

```

API=SC20
APX=L0XASPB1
APN=L1B2P072

```

The AFM parameters are discussed in the FTP Guide.

1. The MAXASN parameter defines the total number of possible EAS address spaces. This number must match the total of Xnn parameters defined in the FTPEAS cards. *nn* refers to the number of address spaces.
2. The FTPEAS card describes a procedure profile and the number of procedures (Xnn) for this profile.

## Create the SMF Event Extract Record

The following two screens show examples of the assembler DSECT which you can use to create the event record.

### Assembler DSECT (Screen 1)

```

                MACRO
                D1B2PSMF
*
*****
* SMF RECORD
*****
*
D1B2PSMF DSECT
*-----
* SYSTEM PREFIX
*-----
Z07PREFIX DS 0CL18
Z07PRLEN DS F RECORD DESCRIPTION WORD
Z07RSYSI DS X SYSTEM INDICATOR
Z07RTYPE DS X RECORD TYPE
Z07RTIME DS XL4 TIME SINCE MIDNIGHT SEC 1/100
Z07RDATE DS PL4 DATE 00YYDDDS
Z07SMFID DS CL4 SYSTEM ID
*
Z07ENTRY EQU *
*-----
* FILE FIELD
*-----
Z07FILEN DS CL8 SYMBOLIC FILE NAME
Z07DSNAM DS CL44 DATA SET NAME
Z07FILTY DS CL1 FILE TYPE (S,V,P)
Z07DIREC DS CL1 DIRECTION (T,R)
Z07TRPRT DS XL1 PRIORITY
Z07PPRNB DS XL1 PRESENTATION PROTOCOL NB
*
Z07FPSIT EQU *
Z07PSTYP DS CL5 PeSIT FILE TYPE
Z07PSNAM DS CL5 PeSIT FILE NAME
Z07FILR1 DS CL2 RESERVED
*-----
* PARTNER FIELD
*-----
Z07PARTN DS CL8 SYMBOLIC PARTNER NAME
Z07PARTY DS CL1 PARTNER TYPE (T,O,J,1,2,3,5,A)
Z07PARLK DS CL1 PARTNER LINK (X,S,N,O,T,C)
Z07PARTX DS CL1 PARTNER TAX. RULE (1,2,3,4)
Z07PARVP DS XL1 PeSIT VERSION
Z07PARST DS CL1 PARTNER STATUS (R,S)
Z07PARSP DS XL1 SESSION PROTOCOL NB
*
Z07PPSIT EQU *
Z07LOTYP DS CL1 LOCAL PeSIT TYPE
Z07LOAPN DS CL5 LOCAL PeSIT APPL NB
Z07PATYP DS CL1 PARTNER PeSIT TYPE
Z07PAAPN DS CL5 PARTNER PeSIT APPL NB
Z07FILR2 DS CL13 FUTURE USE
        ORG Z07PPSIT
Z07PODET DS CL25 ODETTE FIELD

```

## Assembler DSECT (Screen 2)

```

*-----
* REQUEST FIELD
*-----
Z07REQNB DS CL8 REQUEST NUMBER
Z07REQID DS CL8 REQUESTOR ID
Z07REQRS DS XL2 NUMBER OF RESTART
Z07REQCL DS CL1 REQUEST CLASS
Z07REQPR DS CL1 REQUEST PRTY
*
Z07DATEB DS PL4 BEGIN DATE OYMMDDF
Z07HOURB DS PL4 BEGIN TIME OHMMSSF
Z07DATEE DS PL4 END DATE OYMMDDF
Z07HOUR E DS PL4 END TIME OHMMSSF
Z07TIMET DS PL4 TIME ELAPSE OHMMSSF
*
Z07BYTTN DS XL4 NUMBER OF BYTES WITH PROTOCOL
Z07BYTEN DS XL4 NUMBER OF BYTES FOR THE FILE
Z07RECDN DS XL4 NUMBER OF RECORDS
Z07SDRVN DS XL4 NUMBER OF S/R
*
Z07ABNCD DS XL4 ABEND CODE
Z07SSABN DS XL4 SESSION CODE
*
Z07INTYP DS XL1 INTERRUPTION TYPE
Z07FTRID DS XL3 FILE TRF ID
*
Z07SPSTN DS XL1 SESSION TABLE NUMBER
Z07SSNAM DS XL4 SUB-SYSTEM NAME
Z07FILR4 DS XL1 FUTURE USE
Z07LENG1 EQU *-Z07ENTRY
*-----
* SYSJNL FIELD(L'508) to be mapped by D1B2PJNLDSECT
*-----
Z07JNLEN DS (Z45LENGT)X JOURNAL RECORD
*
Z07LENGT EQU *-Z07ENTRY
MEND

```

## Step 15 Add VTAM Major Node (Optional)

Verify the parameters for NCP/X.25NPSI, if necessary.

If you use X.25 or SNA, you can add VTAM resources for Connect:Express including, an application major node, a logmode, a switched major node for X.25, or an interpret table for transparent PAD. See Appendix E in the Administration Guide, *Definition of VTAM Resources*, for more information.

## Customize the TSO/ISPF

## Step 16 Customize TSO/ISPF

Refer to the \$\$\$ISPF member in the \*INSTLIB\* for information about how to display the Connect:Express main screen. You can display it using a selection panel (recommended), a clist, a macro, or a special command table. There is also information about a special clist TOMLIB for dynamic Connect:Express files allocation and security information. You can lock subsystem-name and critical data set names for users. In any case, you will have to change your logon procedure as follows:

- A. From \*ISPCLIB\*, copy the CLIST members TOMLIB and TOMLOCK to your SYSPROC under a new name such as, TOMLIB41 and TOMLOC41. You can customize TOMLIB for INDEX1, INDEX2,



ALTLIBO, SSNLOCK, and OPT. Do **not** customize TOMLOCK, which is called by TOMLIB if SSNLOCK (TOMx) is used. You can execute the TSO interactive command: %TOMLIB (%TOMLIB41) from the ISPF menu or command. Calling the TOMLIB from your logon procedure is the best way because no change in the logon procedure is required if any change is made to Connect:Express files.

- B. Change your logon procedures (JCL/CLIST) so that when you enter an ISPF session, the correct Connect:Express ISPF libraries are already allocated.
- C. Restrict access of TSO users to predefined Connect:Express resources (see \*INSTLIB\* \$\$\$\$SEC) and for Connect:Express ACS usage (3.T.ACS menu+help).

The \$\$\$\$SEC member in the \*INSTLIB\* provides information about how to restrict commands for either a TSO or Batch Connect:Express user. The monitor security component, ACS, enables you to restrict access to Connect:Express directories or monitor controls without interfaces to system security such as, RACF, ACF2, and TOP SECRET.

## Check Security and JCL Skeletons

### Step 17 Customize Security

Connect:Express OS/390 provides interfaces with RACF, CA-ACF2 and CA-TOP SECRET. Using these products, you can define authorized users by creating separate files for common and restricted functions, and you can restrict Panel access or program access.

Start the Connect:Express Monitor (TOM) address space as a started-task. Connect:Express ASIDs, such as the TOM, ANM, APMs, AFM and EAS, must be enabled 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 \$\$\$RACF, \$\$\$ACF2, and \$\$\$TOPS members in the \*INSTLIB\* provide information about how Connect:Express manages security, which parameter is set to activate/deactivate security, and how to define users. These members also provide the following information for each security product:

- ❖ Connect:Express JOBS and Start commands authority
- ❖ Files and related components (access must be authorized)
- ❖ Macros (use must be authorized)

### Step 18 Check SYSJCL members

The SYSJCL library contains JCL skeletons that you can use for UNLOADING or RELOADING files like PDS or VSAM files. These skeletons have been customized for the following automatic procedures:

- ❖ \$JOBUNL1 and \$JOBREL1 (associated with \$UNLOAD1 and \$RELOAD1) are used for PDS files.
- ❖ \$JOBUNL2 and \$JOBREL2 (associated with \$UNLOAD2 and \$RELOAD2) are used for VSAM files.
- ❖ \$JOBUNL3 and \$JOBREL3 (associated with \$UNLOAD3 and \$RELOAD3) are used for user-defined procedures.
- ❖ \$JOBUNL4 and \$JOBREL4 (associated with \$UNLOAD4 and \$RELOAD4) are used for SYSOUT files.

## Complete the Installation Process

After you have completed the four parts of the installation process, you must start and stop Connect:Express. Then the final step is to verify the installation by initiating a transfer. This is discussed in the next chapter.

## Step 19 Start and Stop CONNECT:Express

- A. Start the Monitor. This starts the ANM and APM procedures. If you activate the AFM Keywords in the SYSIN file, one AFM will also be started.

---

**Caution:** If you are getting the message: dtsm020E INVALID AUTH FILE, CALL SUPPORT, verify that the Asset protection file was transferred correctly from your PC to the mainframe. The two files must be identical.

If there is no difference, you can activate the SYSPAPS DD card in the TOM JCL, restart Connect:Express, and send the trace file to support.

---

- B. Stop CONNECT:Express by stopping the CONNECT:Express Monitor JOB or started task. When you stop the monitor it also stops any tasks that it started, such as the ANM, APM, and AFM tasks.

---

# 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.

---

## 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.

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

Using the Initialization Panel, you can update files for each Connect:Express monitor or subsystem.

- A. Start Connect:Express.
- B. Select option **0** (zero) from the Main Menu to display the Initialization screen.
- C. 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.
- D. Type the correct data set name of the ISPLLIB file. The 'ISPLLIB ===>' dsn is not in the Connect:Express batch procedure.
- E. Type the correct temporary work unit, that is 'SYSDA' or '3390', but not 'VIO'.

---

**Note:** When you refresh the screen, some of the fields with the '->' symbol are left blank because they are not used.

---

The following screen shows an example of the Initialization Screen.

```

TOM4200----- INITIALIZATION -----
OPTION ==>>                2000/11/15 01:33:35 X EXIT, -PF3- END
'Operator message if any from the Sysin file or a modify command'
      ? MONITOR ==>> TOM4 NAMES INITIALIZATION ( AUTOMATIC ---> YES ).
      TEMPORARY WORK-UNIT ==>> SYSDA      , JES2-INTERFACE ---> ISF
      L LOGON-PROCEDURE, O OPTIONS, V ISPF INSTALLATION CHECKING.
V----- S : CHECKING FILES OF 'jobname' 'system name' 'status' 'GLOBAL/LOCAL'
_ ISPLLIB      ==>> INDEX1.TOM4V412.ISPLLIB
_ LOADLIB      --->> INDEX1.TOM4V412.LOADLIB
_ FILES        -> INDEX1.TOM4.SYSFIL
_ PARTNERS     -> INDEX1.TOM4.SYSPAR
_ PARAMETERS   -> INDEX1.TOM4.SYSPRM
_ JCL MODELS   -> INDEX1.TOM4.SYSJCL
_ JOURNAL      -> INDEX1.TOM4.SYSJNL
_ SYSLOG       -> SYSOUT
_ SYSIN        -> INDEX1.TOM4.PARMLIBPARMTOM4)
_ CXPLEX       -> INDEX1.TOM4.PARMLIB(MANAGER)
_ SYSEVT       -> INDEX1.TOM4.SYSPRM(SYSEVT)
_ SYSSNA       -> INDEX1.TOM4.SYSPRM(LSNA)
_ SYSX25       -> INDEX1.TOM4.SYSPRM(LX25)
_ SYSTCP       -> INDEX1.TOM4.SYSPRM(LTCP)
_ RSAPARM      -> INDEX1.TOM4.PARMLIB(RSAPRM)
_ ET5PID       ->
_ ET5FID       ->

```

### Run the Installation Verification Program (IVP)

- F. 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 five screens show examples of running the IVP.

## Connect:Express IVP (Screen 1)

```

*-----*

+++ TOM SSN="TOM4" IVP : INSTALLATION VALIDATION PROCEDURE

ISPFV>2-ZENVIR : ISPF 5.0MVS      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 :

```

## Connect:Express IVP (Screen 2)

```

::CLIST/'SYSPROC'
OK

::PROGRAM-'ISPLLIB'/'LINKLIST'
OK

::MESSAGE-'ISPMLIB'
OK

::PANEL-'ISPPLIB'
OK

::TABLE-'ISPTLIB>-->ISPTABL'
OK
*-----*

--- TESTING FILE ACCESS FOR OPTIONAL OVERRIDE :
--- (DSNAMES IF GIVEN MUST BE SAME AS IN 'TOM' JOB)

::FILES DIR.-'SYSFIL'

```

### Connect:Express IVP (Screen 3)

```
OK

::PARTNERS DIR.-'SYSPAR'
OK

::JOURNAL-'SYSJNL'
OK

::LOG-'SYSLOG'
'SYSLOG' TO SYSOUT

::LOADLIB-'STEPLIB'/'LINKLIST'
OK

::PARAMETERS-'PRMPDS'
OK

::OPTIONAL : ISPF LIBDEF...
+++ 'LIBDEF' IS POSSIBLE

*-----*

--- TESTING TOM MANDATORY TABLES AND COMPATIBILITY OF LEVEL.
```

### Connect:Express IVP (Screen 4)

```
--- LOADLIB/LINKLIST DSN : INDEX1.TOM4V412.LOADLIB

*-----*
+++ WHEN A PANEL IS DISPLAYED, ALWAYS EXIT WITH '-PF3-'
+++ IF ANY ERROR OCCURS, ALWAYS '-PF1-'
*-----*

::T2B2PACS-'ISPLLIB'/'LINKLIST'
IF TOM MODULE IS IN LINKLIST : 'REFRESH' AFTER MODIFICATION ...
```

## Connect:Express IVP (Screen 5)

```

DONE

::T1B2PP04-'LOADLIB'/'LINKLIST'
IF TOM MODULE IS IN LINKLIST : 'REFRESH' AFTER MODIFICATION ...

DONE

::T1B2PSLD-'LOADLIB'/'LINKLIST'
IF TOM MODULE IS IN LINKLIST : 'REFRESH' AFTER MODIFICATION ...

DONE

::T1B2PS30-LOADLIB'/'LINKLIST'
IF TOM MODULE IS IN LINKLIST : 'REFRESH' AFTER MODIFICATION ...

DONE

::T1B2PS31-LOADLIB'/'LINKLIST'
IF TOM MODULE IS IN LINKLIST : 'REFRESH' AFTER MODIFICATION ...

DONE

::T1B2PS32-LOADLIB'/'LINKLIST'
IF TOM MODULE IS IN LINKLIST : 'REFRESH' AFTER MODIFICATION ...

DONE

::T1B2PVOL-LOADLIB'/'LINKLIST'
IF TOM MODULE IS IN LINKLIST : 'REFRESH' AFTER MODIFICATION ...

DONE

::JES-INTERFACE, ISF/SAM CHOICE 0 = ISF

DONE

+++ THESE TESTS ARE CORRECT

+++ END TOM IVP , 11/14/00 , 11:24:32
*-----*
```

## Check Available Options

- G. Type the letter **O** in the option field and press <Enter> to check the Connect:Express Options that you can use. Your authorization code (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.

## Connect:Express Options Screen

```

TOM4200----- OPTIONS ----- NAMES INITIALIZED !
OPTION ==> ? X EXIT, -PF3- END

MONITOR => TOM4 / JOBTOM4 CSGB ACTIVE GLOBAL
          AP BROWSE ASSET-PROTECTION. RACFCN= S ADHOCN= Y UPRFCT= Y
          0=OPTION NOT AUTHORIZED, CPUID=002294BA2064

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.
TCP-IP   15 : 1 LINK VIA TCP-IP.
          14 : 0
          20 : 0

```

## Asset Protection Screen

The Asset Protection file name is initialized from the AUTHDS= parameter of the SYSIN file. You can use the following OS/390 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 ACB6B8B1BEABAAADBAFEE6CF079100881D8143AF45DA9F31F53E6B7FD5FDB9002736E4F925
***** Bottom of Data *****

```



## Display the Logon Procedure

- H. 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.

### Logon Procedure Screen

```

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

----- B BROWSE, E EDIT
!  FILE          DSNAME
V
-  STEPLIB      -      INDEX1.USER1.LOADLIB
                        8HAG03

-  STEPLIB      1      USER12.COMMON.ISPLLIB
                        USER12

-  STEPLIB      2      INDEX1.SPF.ISPLLIB
                        8HAG03

-  STEPLIB      3      INDEX1.TOM4V412.ISPLLIB
                        8HAG03

-  STEPLIB      3      INDEX1.TOM4V412.LOADLIB
                        8HAG03

```

## Step 2 Check your Local Connect:Express OS/390 System

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:

- A. 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.
- B. 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.
- C. 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.
- D. 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 OS/390 SNA Partner, a UNIX X.25 Partner, and an NT TCP/IP Partner.

### OS/390 SNA Partner Definition

```

TOM4200 PARTNER OF TOM4 TO VIEW (2/4)
OPTION ==> -ENTER- : GO ON, -PF3- : CANCEL X : EXIT
TYPE: TOM,PESIT-E
MOD: USER1 00/03/14 09:24:28 1
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 RSA-DES SECURITY T. : -
AUTOMATIC RESTART : YES

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

SNA: LUNAME : ANM4AP01 LOGMODE : - LOGDATA : - DISC : N
X25: MCHMSC : - REM.ADDR. : - LOC.ADDR. : -
GFA : - UDF : - CHARGE : -
FACILITIES : -
IP : ADDR. : - PORT : - FTP PASV : - PROF. : -
HOST : - 'S': - RIGHTS : -
NOTE : OS/390 PARTNER VIA SNA

```

In the example above, the OS/390 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

```

TOM4200 PARTNER OF TOM4 TO VIEW (2/4)
OPTION ==> -ENTER- : GO ON, -PF3- : CANCEL X : EXIT
TYPE: TOM,PESIT-E
MOD: USER1 00/06/07 09:24:28 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 RSA-DES SECURITY T. : -
AUTOMATIC RESTART : YES

LINK TYPES : X : - ADJACENT PARTNER : -
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. : -
GFA : - UDF : - CHARGE : 1
FACILITIES : -
IP : ADDR. : - PORT : - FTP: PASV : - RIGHTS : -
HOST : - PROFILE : -
NOTE : UNIX PARTNER VIA X25

```

## NT TCP/IP Partner Definition

```

TOM4200 PARTNER OF TOM4 TO VIEW (2/4)
OPTION ==> -ENTER- : GO ON, -PF3- : CANCEL X : EXIT
TYPE: TOM,PESIT-E
MOD: USER1 00/11/15 11:36:55 1
SYMBOLIC NAME : CXNT DPCSID ALIAS :
TOM PASSWORD : CXNT DPCPSW ALIAS :
INITIAL STATE : E APM RECEPTION CLASS : A
RACF USER : TOMUSR RACF GROUP : -

PARTNER TYPE : T
SESSION PROT.NUM.-T. : 5 : 2 RSA-DES SECURITY T. : -
AUTOMATIC RESTART : YES

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

SNA: LUNAME : - LOGMODE : - LOGDATA : - DISC : -
X25: MCHMSC : - REM.ADDR. : - LOC.ADDR. : -
GFA : - UDF : - CHARGE : -
FACILITIES : -
IP : ADDR. : - PORT : - FTP: PASV : - RIGHTS : -
HOST : - PROFILE : -
NOTE : WINDOWS NT PARTNER VIA TCP/IP

```

## 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:

- A. Select option 1.2 (Files) from the Main Menu to display the File Attributes (1/5) screen.
- B. 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.
- C. 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
- D. Enter all necessary information about the File and press <Enter> to display the File Attributes (4/5) screen.
- E. Use this screen for a user exit, if applicable. Press <Enter> to reach the File Attributes (5/5) screen.
- F. 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

```

TOM4200----- FILES ATTRIBUTES (2/5) -----
OPTION ==>>

SYMBOLIC NAME           : FILE1           MODE: NORMAL

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

DIRECTION .....        : T               T:TRANSMIT R:RECEIVE *:TRANS./REC.
RECEIVING PARTNER ..... : UNIX           'NAME', FLIST, */$ALL$$ OR $$API$$
SENDING PARTNER .....   :                'NAME', FLIST, */$ALL$$ OR $$API$$

PRIORITY .....         : 1              0:URGENT 1:FAST 2:NORMAL 3:SLOW
DSN DEFINITION TYPE ... : F              D:DYNAMIC F:FIXED
ALLOCATION RULE .....    : 1              1:PREALL. 2:TO CREATE 3:EXIT A:AP

FILE TYPE .....        : S              S/M/P/PU/V/VU/UU/SU
PRESENTATION PROTOCOL . : 04             COMPRESS.,DATA TYPE (01-16)
UNLOAD/RELOAD MEMBER .. : -              OPTIONNAL
SECURITY TABLE .....   : -              OPTIONNAL

OPTION   : VIEW                UPDATE: 00/08/17 06:26 USR8
-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

```

TOM4200----- FILES ATTRIBUTES (3/5) -----
OPTION ==>

SYMBOLIC NAME           : FILE1           DEF.: D   ALL.: 2   TYPE: S   DIR.: *

FILE NAME (DSNAME) .... : TOM4.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'

REMOTE DSN (FTP) ..... : -
TYPE/STRUCTURE/MODE ... : -             -             EN/AN/I,F/R,B/C/S
UNIQUE .....           : N             Y/N
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

```

TOM4200----- FILES ATTRIBUTES (4/5) -----
OPTION ==>>

SYMBOLIC NAME          : FILE1    DEF.: D    ALL.: 2    TYPE: S    DIR.: *
                        :          UPRFCT=Y

--- 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: 00/08/17 06:26 USR8
-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 OS/390 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

- A. 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.
- B. 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 DSNNAME on the File Attributes screens press <Enter> to submit the request.

---

- C. In the Direction field, type T for transmit.
- D. In the Partner field, type the symbolic Partner name you have already defined.
- E. In the DSNNAME field, type the name of a data set already cataloged and press <Enter>.

---

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

---

- F. 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.
- G. 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)

```

TOM4200      NORMAL TRANSFER                                E: CLEAR, R: REPEAT  !
OPTION ==>>                                         SYSA

SUB-SYSTEM . ==>> TOM4
FILE ..... : FILE1
DIRECTION .. : (T/R)
PARTNER .... :
DSNAME .... :

TYPE ..... : N (N/H/I/K/U)
MODE ..... : I (I/D)
LINK ..... : ( /C/I/S/T/X) SNA-AP/AP
CLASS ..... : A (A-Z/*)
PRIORITY ... : 1 (0-3)
MEMBER ..... : (BFX) -
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)

```

TOM4200      NORMAL TRANSFER                -ENTER- / -PF3-      !
OPTION =====>                               SYSA
DSN: OK
411-DEV-TSOA

SUB-SYSTEM . =====> TOM4
FILE ..... : FILE1                          ENABLED
DIRECTION .. :                               (T/R)          T
PARTNER .... :                               UNIX           52      ENABLED

DSNAME .... :                               FIXED
                                TOM4.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 ..... :           (BFX)              -
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 First Transfer

```

START OF A.N.M IN ASID: 00196 RC=00
START OF A.P.M 01 IN ASID: 00409 RC=00
TOM (GLOBAL) INITIALIZATION COMPLETE 412-PTF0 RUN=(C)
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

```

The screen above shows the entries about your transfer in the logging file.

## 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.



## BATCH Request Example

```

/*-----
/* 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) -
/*
/*      A DD CARD //RETPDNNN DD DUMMY ADDED TO JCL TRANSMIT A
/*      RETENTION DELAY = NNN TO THE RECEIVER
/*
/*-----
//STEP01 EXEC PGM=PLB2PREQ,
//      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.TOMV420.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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