3746 Nways Multiprotocol Controller
Model 950

IBM

User's Guide

3746 Nways Multiprotocol Controller
Model 950

User's Guide

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page xi.

Seventh Edition (July 1999)

This edition applies to the 3746 Nways Multiprotocol Controller Model 950.

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About this Guide

This guide applies to the IBM 3746 Nways® Multiprotocol Controller Model 950.

It combines the *Basic Operations Guide*, SA33-0177, the *Console Setup Guide* SA33-0158, and *Connection and Integration Guide*, SA33-0129.

It describes how to do the following:

- Carry out daily routine operations on the IBM 3746.

- Install, test, and customize your 3746 after installation.

- Configure user workstations to remotely control the service processor using the following:

  - DCAF[1]
  - Telnet Client
  - Java Console™

Conventions Used in this Guide

Throughout this guide the terms:

3745   Refers to the IBM 3745 Models 17A, 21A, 31A, 41A, and 61A with any 3746 Expansion Unit Models A11, A12, L13, L14 and L15 that may be installed.

3746-950   Refers to the IBM 3746 Nways Multiprotocol Controller Model 950.

3746-950 NN   Refers to the part of the 3746-950 operating as an Advanced Peer-to-Peer Networking®/High Performance Routing (APPN®/HPR) Network Node.

3746-950 IP   Refers to the part of the 3746-950 operating as an IP router.

3746   Refers to the IBM 3746 Nways Multiprotocol Controller Models 900 and 950.

Who Should Use this Guide

- Personnel without specialist knowledge carrying out daily routine operations.

- Non-IBM personnel configuring remote consoles connected to the service processor running the MOSS-E.

- Personnel creating and maintaining 3746 configurations such as:

  - Network generalists
  - System programmers
  - System service personnel
  - IBM trained service representatives

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[1] The Distributed Console Access Facility (DCAF) 1.3. (or higher) is provided by TME 10 Remote Control. However, DCAF is used throughout this guide, although it is part of a larger Tivoli product and the installation diskettes refer to TME 10 Remote Control. For more information, see Chapter 6, "Introduction to Remote Access Programs" on page 6-1.

An understanding of Advanced Peer-to-Peer Networking/High Performance Routing (APPN/HPR), IP routing, and modems would be helpful in reading this guide.

For more information, see the following:

- On-line information (help, guides, and other material) for:
  - Maintenance and Operator Sub-System - Extended (MOSS-E)
  - Controller Configuration and Management (CCM)
  - APPN/HPR and IP Control Point functions
  - Multiaccess Enclosure (MAE) management
  - DCAF installation
  - TCP/IP environment

See also the publications listed in Appendix F, "Bibliography" on page F-1.

How this Guide is Organized

This guide consists of the following chapters and appendixes:

- Chapter 1, "General Information on 3745 and 3746 Controllers," gives an overview of 3745 and 3746 controllers, with specifics on the controller panel, and additional pointers on problem solving.

- Chapter 2, "Service Processor," explains the functions of the service processor and how to connect a service processor to a remote console.

- Chapter 3, "Maintenance and Operator Sub-System-Extended (MOSS-E)," explains how to use MOSS-E and MOSS sessions for the 3746.

- Chapter 4, "Working with Network Node Processor (NNP) Functions," explains how to access the APPN/HPR control point and IP router functions of the NNP via the MOSS-E.

- Chapter 5, "Telnet IP Resource Management in CCM and MOSS-E," contains information on using CCM and the MOSS-E for Telnet commands.

- Chapter 6, "Introduction to Remote Access Programs" to Chapter 13, "APPC LAN-Attached Remote Workstation," explains how to configure remote consoles that use DCAF to monitor and control the service processor and the MOSS-E. Examples are shown of five types of connection (LAN-APPC, LAN-TCP/IP, Modem, SNA, and APPN) between a remote console and the service processor.

- Chapter 14, "Telnet-attached Remote Workstation," explains how to configure remote consoles that use Telnet Client program. Access is given to the network node processor for IP purpose only.

- Chapter 15, "Java Console Remote Access" on page 15-1 to Chapter 17, "Installing the Java Console Program" on page 17-1, describes how to configure remote workstations using the web-based or Java program-based Java Console. Example configurations are given of two types of link (switched-line, and service ring LAN) via Java Console to the target service processor.

- Appendix A, "3746 Operator Control Panel," explains how to work with the 3746 operator control panel.

- Appendix B, "Basic Service Procedures," explains how to activate, deactivate, and perform an IML for the 3746, and is designed as a reference to service procedures normally performed by service personnel.

- Appendix C, "Installing LCBs, ARCs, and Connecting Cables," describes how to connect the hardware for LICs, TICs, and communication line and service line cables.

- Appendix D, "Configuration for a Two-Target Remote Workstation," describes an example configuration of a remote workstation controlling two target service processors.

- Appendix E, "Modem Setup" on page E-1 describes the modem settings for IBM modems recommended for use with DCAF.

- Appendix F, "Bibliography," lists the available customer documentation related to the 3745 and 3746.

The following information is included at the back of this guide:

- A list of abbreviations used in this guide, on page X-1
- A glossary of terms which may be unfamiliar, on page X-3
- An index is provided on page X-7

What is New in this Guide

This revised edition gives information concerning the new functions:

- Service processor customization

- Licensed internal code (LIC) information

- CCM/Telnet user profiles management

Where to Find More Information

- "Customer Documentation for the 3746 Model 950" on page F-1.

- "Help Pull-Down Menu" on page 3-8.

- *DCAF: Installation and Configuration Guide*, SH19-4068.

- *Using the Enterprise Systems Connection Analyzer*, GA23-0386.

- *IBM 3746 APPN/HPR Implementation Guide*, SG24-2536.

- *IBM 3746 IP Implementation Guide*, SG24-4845.

- *Subarea Network to APPN Network Migration Experience*, SG24-4656.

- *IBM Networking Systems Collection*, SK2T-6012.

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http://www.networking.ibm.com
```

Year 2000 Statement

This product is Year 2000 ready. When used in accordance with its associated documentation, it is capable of correctly processing, providing, and/or receiving date data within and between the 20th and 21st centuries, provided all other products (for example, software, hardware, and firmware) used with the product properly exchange accurate date data with it.

For more information, refer to:

`http://www.ibm.com/year2000`

The 3745 and 3746 controllers require a certain level of microcode to be Year 2000 ready. For more detailed information, access the URL listed above and click **Product Readiness**.

Chapter 1. General Information on 3745 and 3746 Controllers

The IBM 3745 and 3746 Controllers Family

For nearly three decades, IBM's advanced line of communication controllers (3705, 3720, 3725, 3745, and 3746) have proved an effective solution for rapid changes in network technology. In particular, the 3745s and, more recently, the 3746-900 and the 3746-950, have proved cost effective for network evolution and adaptability to new functions.

IBM controllers include the following:

- 3745 Models 130[1], 150[1], 160[1], and 170
- 3745 Models 210[1], 310[1], 410[1], and 610[1]
- 3745 Models 17A, 21A[1], 31A, 41A[1], and 61A (3745 Models A)
- 3746 Model 900 (3746-900)
- 3746 Model 950 (3746-950)

These controllers were originally designed for the attributes and advantages of SNA. Later innovations in the same model line incorporated developments in APPN®, HPR, and IP networking technologies:

- The 3746-950 can operate simultaneously as an IP router and APPN/HPR Network Node (NN), independently of any 3745 running NCP.

- The 3746-900 can operate simultaneously as an IP router, APPN/HPR NN, and an NCP-controlled SNA subarea node or APPN composite network node (CNN).

The 3746 Models 900 and 950 form the latest generation of controllers, the *3746 Nways® Multiprotocol Controllers*. These controllers are the basis of efficient and reliable multiprotocol networks that support both SNA and TCP/IP applications.

By integrating the 3746-900 and the 3746-950 into your network, you can add the advantages of APPN/HPR and IP, while providing support for existing SNA configurations.

Figure 1-1 on page 1-2 illustrates the development of 3745 and 3746 controllers, in line with the evolution of networking technologies.

---

[1] These models are no longer manufactured.

1999
Boosted connectivity
Enhanced SNA, IP,
and APPN/HPR
Systems management

1997 - 98
Fast Ethernet, ATM
HSSI, FDDI, ESCON MPC+
TN3270E Server
Network Dispatcher
Enterprise Extender

IP^4
SNA
APPN/HPR^2

3745
Model A
NCP
3746
900
3746
950
SNA^3

Service Processor
MOSS-E

1996
IP^4, APPN/HPR^2

SNA^3
APPN^2

SNA^1

3745
Model A
NCP
3746
900
NNP

1995
SNA/DLUR^3
APPN^2

Service Processor
MOSS-E

SNA^1

3745
Model A
NCP
3746
900

1993
SNA

Service Processor
MOSS-E

SNA^1

3745
NCP

1988

MOSS
Console

1. This controller configuration supports SNA networking and the APPN CNN function along with NCP and VTAM.
2. APPN networking, using a network node processor (NNP), independent from NCP and VTAM.
3. Connectivity with SNA devices using DLUR support, and a VTAM with Dependent LU Server (DLUS).
4. IP networking using the NNP and 3746 IP routing features, independent from NCP, and TCP/IP MVS.

Figure 1-1. The Networking Evolution of IBM 3745 and 3746 Controllers

Getting Started

To operate the 3745 and 3746, you will need the following:

- Service processor, color display, pointing device (usually a mouse), and keyboard.

- 3745 operator control panel. This is operational even when the 3745 is deactivated (see Appendix B, "Basic Service Procedures" for a description of control panel displays, indicators and switches).

- The 3746 operator control panel. This is operational even when the 3746 is deactivated (see Appendix B, "Basic Service Procedures" and Appendix A, "3746 Operator Control Panel" for a description of control panel displays, indicators and switches).

Locating Processors

The service processor and network node processors are located in a controller expansion unit next to the 3746 or the 3745 Models A (see Figure 1-2).
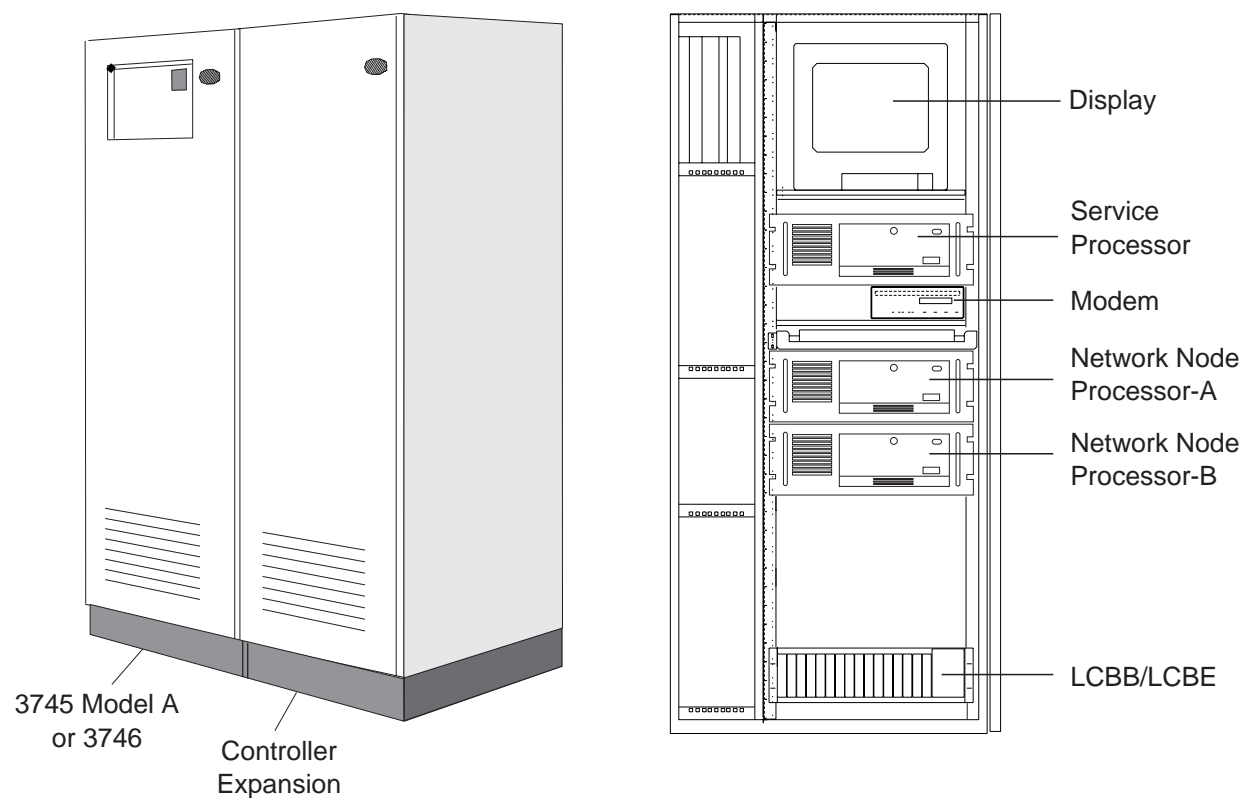
Figure 1-2. 3745 Model A or 3746 with Controller Expansion

Control Panels

The 3745 Control Panel
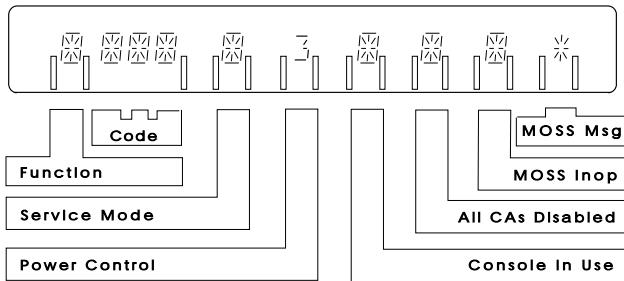
3745 control panel display.

⌐³⌐ Option 3 is selected.

※   Indicator is on.

The 3746 Control Panel
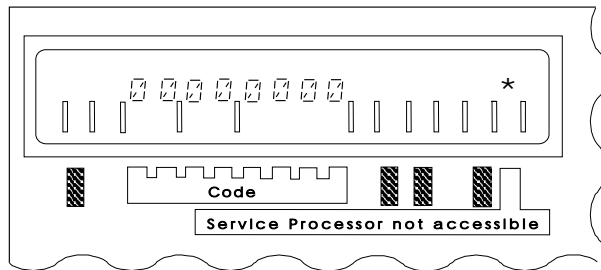
3746 control panel display. For more information on displays, see A-1.

Stop Switch for the 3745

Located on the 3745 control panel (see Figure 1-3 on page 1-5).

┌─ **Attention** ──┐

Even if the stop switch is in the OFF position, the primary power box is still connected to the electric current. To disconnect completely, do the following:

1. Turn off the main circuit breaker.
2. Remove the power plugs from supply outlets.

└──┘
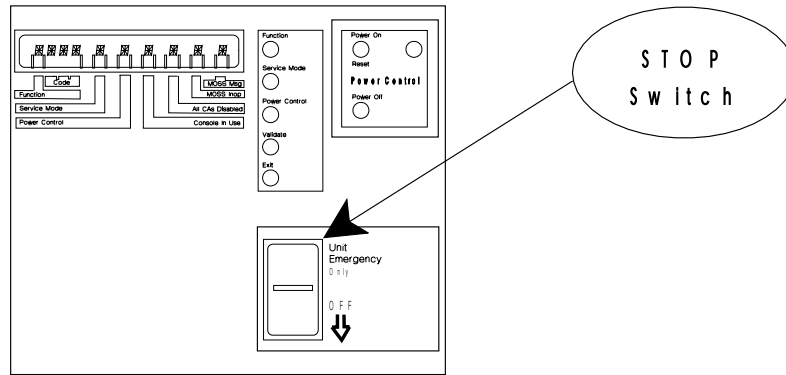
Figure 1-3. IBM 3745 Control Panel

The stop switch is meant only as a backup to the Power OFF button. If you use the stop switch to Power OFF, you will need an IBM service representative to restart the controller.

Solving Problems

There are three levels of problem resolution. If you encounter a problem, start at the first level and work down:

First Level

Use online help to solve the problem. See "Help Pull-Down Menu" on page 3-8.

Second Level

Contact the person in charge of 3745/3746 problem analysis.

```
┌─ HELP CONTACT ──────────────────────────────────┐
│                                                  │
│  Name: ...................................................  │
│                                                  │
│  Telephone: ...........................................  │
│                                                  │
└──────────────────────────────────────────────────┘
```

Third Level

Forward a report to the IBM support center. Before you do this, try levels 1 and 2 first so that you will have as much information as possible for IBM support personnel.

Alarms

Alarms in the 3745 or 3746 are indicated by a red bell icon ⌂. This appears in the **MOSS-E View**, next to the controller that produced the alarm.

If the MOSS-E window is an icon or hidden, it will automatically appear in front of any open windows, and display the red alarm bell. Double-click the ⌂ to open **Display Alarms** (see the online help for more information).

If you use IBM's remote support facility (RSF) when a problem is reported to RETAIN® (either automatically or manually), two alarms are generated, one when the call is made to RSF, and a second when IBM answers the call.

Chapter 2. Service Processor

The service processor 6275 Type 3 includes the new Pentium® II 350 MHz processor, and an improved system bus speed of 100 MHz.

Using the Service Processor

The service processor connects the 3745 to the 3746, and provides a single user interface for 3745 and 3746 operator and service functions.

The service processor runs MOSS-E to perform the following:

- Maintenance and operator subsystem (MOSS) functions in the 3745. MOSS screens are the same for the operator consoles of the 3745 Models 130, 150, 160, 170, 210, 310, 410, and 610.

- Graphic status displays of the controllers connected to the service processor.

- Maintenance and operation of the 3745 Models A and the 3746-900.

The service processor also performs the following:

- Runs Controller Configuration and Management (CCM)[1] for the following:

  - Configuring the 3746 APPN/HPR Network Node and IP Router with ESCON® Generation Assistant (EGA).

  - Displaying information about 3746 resources, for example, the current local network topology.

  - Managing multiple configurations of 3746 resources.

- Loads 3746 microcode.

- Stores information, for example, configuration data file-extended (CDF-E) files on 3746 hardware resources.

- Reports 3746 errors as alerts to NetView® and sends error codes to the IBM Remote Support Facility (RSF). Error codes are locally stored by the service processor and can be displayed by the user.

The service processor normally runs unattended and should always be operational. However, normal network operations are not affected if the service processor is temporarily disabled.

Connecting the Service Processor

The service processor communicates with the 3745 MOSS, the 3746, and the network node processor via a Service Processor Access Unit (SPAU). The SPAU can be shared with other 3745s and 3746s.

If a SPAU is connected to a 3746 network node or a 3746-950, it cannot be shared by other user stations, as it must be isolated from user traffic. Otherwise, DCAF workstations (consoles) can be connected to the SPAU for remotely controlling the service processor or operating the 3746 network node and 3746 IP router. If

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[1] CCM is also available in a stand-alone OS/2® version.

remote workstation access runs via bridges, there must be appropriate LAN filtering to protect the SPAU segment. The SPAU is packaged with a service processor and provides a LAN connection between the service processor and equipment attached to controllers 3745, 3746-900, and 3746-950.

The 3745 includes specific MOSS hardware and microcode to support communications with the service processor.

Sharing the Service Processor
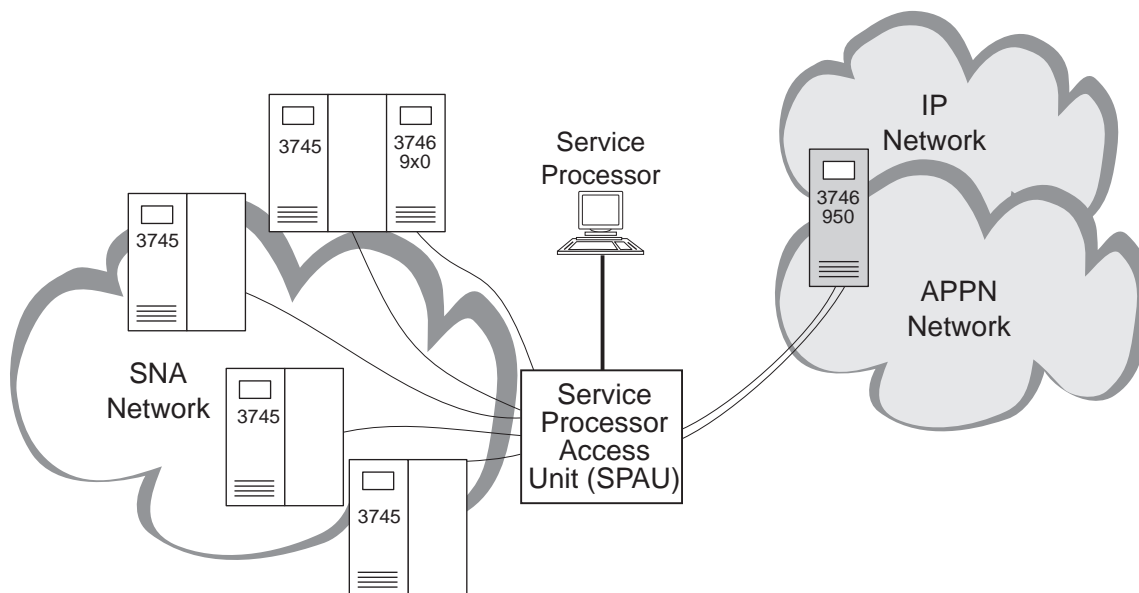
Figure 2-1. Example 1 of a Maximum Configuration. Service Processor running four 3745s, one 3746-900 (SNA), and one 3746-950 (IP, or APPN/HPR).
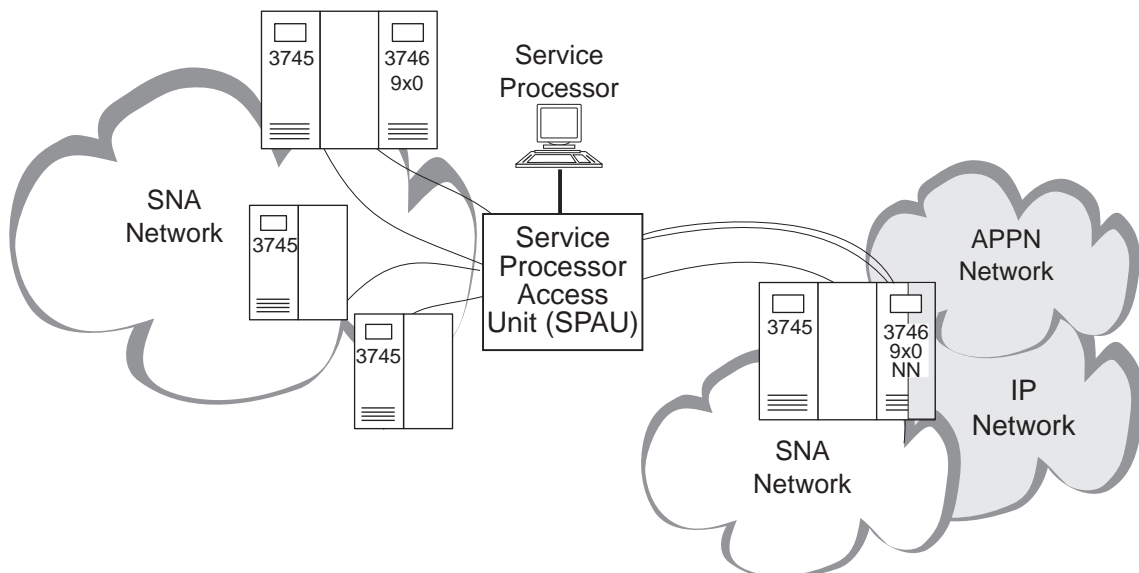
Figure 2-2. Example 2 of a Maximum Configuration. Service processor running four 3745s and two 3746-900s, one operating as an APPN/HPR network node.

A service processor can run the following controller and expansion unit combinations:

- Four 3745s and two 3746-900s operating in an SNA mode (controlled by NCP).

- Four 3745s, one 3746-900 operating in an SNA mode (controlled by NCP), and one 3746-950 (see Figure 2-1 on page 2-2).

- Four 3745s and two 3746-900s, one operating as an IP Router and APPN/HPR network node (see Figure 2-2 on page 2-2).

IBM recommends that controllers be installed in the room, within 10 m of the service processor. Connecting an additional controller to the service processor will not interfere with ones already installed.

Large installations that need more than four 3745s and two 3746-900s require several service processors and controllers. If all the groups are attached to the same token-ring LAN (either directly attached or through a token-ring bridge), then one remote DCAF workstation located at a central control point can access and control all the 3745s/3746s located in the same or different machine rooms.

Using Java Console to Remotely Log on to the Service Processor

Java Console enables a link for a remote workstation to access and control a service processor and network node processor (NNP) across the network. With a link established to the target service processor using Java Console, the user has access to the programs and utilities running on the service processor. For example, with a link activated between the service processor and a remote workstation, MOSS-E functions are available to the user.

There are two different ways of accessing Java Console:

- Via the Internet using a Java™ Applet. This requires a WEB browser on the remote workstation, for example, Microsoft Internet Explorer, Version 4.0 (or higher), or Netscape Navigator with Java Version 1.1 enabled.

- Java Console as a program running on a remote workstation.

The remote workstation is platform-independent, and can run one of the following operating systems:

- OS/2 WARP, Version 3.0 and higher
- Windows® 95, Windows NT®, and Windows 98
- AIX®/UNIX®
- Macintosh

Communication between the remote workstation and the service processor is supported over a switched PPP link or via the IP network.

In order to use Java Console, you must enable an option and customize several parameters in the MOSS-E, including IP addresses and passwords. For more information on Java Console, see *Console Setup Guide*, SA33-0158.

Communication over the IP Network

The service processor runs Java Console server configured as the TCP/IP socket 7787. Access over the IP network is possible via the 3746-9x0 network node IP, FC 5033 (TIC3, port 2080), the 3745 (using the TIC2), the MAE, or via a bridge or router connected to the service ring.

Point-to-Point Protocol Communication

The service processor runs the point-to-point protocol (PPP) server over the communication port 1 (COM 1) connected to an asynchronous modem for remote links. The remote controlling workstation communicates with the service processor via the PPP server using a switched line.

Security Features

Java Console security features include the following:

- A set of passwords that are specified in the MOSS-E
- PPP link security with the Challenge Handshake Authentication Protocol (CHAP)

Enabling and Configuring Java Console in the MOSS-E

Java Console is enabled and configured in the **SP Customization** menu of the MOSS-E.

IP addresses for the PPP server and client are required for communicating with the service processor and NNP(s) over a switched line. You are also required to customize several passwords.

Note that...

The management password is required to define or modify Java Console passwords.

Using DCAF to Remotely Log On to the Service Processor

PS/2 (or equivalent) workstations can remotely access the service processor MOSS-E and CCM functions through DCAF, an IBM licensed program. A DCAF session allows the user to either:

- Control a target service processor from a remote workstation keyboard and mouse.

- Monitor a target service processor in the DCAF window of a remote workstation.

DCAF enables the remote workstation to operate as a controlling workstation and the service processor to operate as a target workstation. When a DCAF session is established between a remote workstation and a service processor, the user of the remote workstation can perform MOSS-E functions as though seated before the service processor.

Remote Workstations (Consoles)

There are five types of remote workstation (console). These types define how the workstation is connected to the service processor.

LAN-attached

APPC type workstations that attach either:

- Directly to the same token-ring LAN as the service processor
- Indirectly through token-ring LAN bridges

LAN-attached

TCP/IP type workstations that attach to the Service Processor Access Unit (SPAU) via a bridge with filtering.

SNA-attached

Workstations that communicate with a service processor via an LU6.2 session on a backbone.

APPN-attached

Workstations that communicate with the service processor via an LU6. session on a backbone.

Modem-attached

Workstations using a public switched telephone network to access a service processor via its SDLC port and modem.

A remote workstation can be configured for many different types of network access. For example, a single workstation at a central control site LAN-attached to a local service processor, can also provide APPN and modem access to remote service processors.

For more information, see *Console Setup Guide* or the *DCAF: Installation and Configuration Guide*, SH19-4068.

Backing Up the Service Processor

Backing up the service processor requires the following:

- Setting up a backup service processor
- Saving the following configuration data:
    - Active MOSS-E to the backup hard disk
    - Active MOSS-E microcode to the backup hard disk

Setting Up a Backup Service Processor

Before you set up a backup service processor, check that the microcode levels are the same for both the backup and the primary service processor.

If the microcode levels are not the same, use one of the following methods to set the same level in both:

- Install the microcode of the active service processor onto the hard drive of the backup service processor (see "Installing Microcode to a Backup Service Processor" on page 2-7).

- Copy the active configuration onto the hard disk of the backup service processor (see "Backing Up Configurations to a Backup Service Processor" on page 2-6).

Follow the procedure below to check the microcode levels of the primary and backup service processor:

Procedure for Displaying EC level D46130x ECA 167 and Above

Step 1. Log on to the MOSS-E (see "Logging On to the MOSS-E" on page 3-4).

Step 2. Click **Help**.

Step 3. Click **About**.

Step 4. Click **Licensed Internal Code**.

Step 5. Compare the two microcode levels.

Backing Up Configurations to a Backup Service Processor

When configuration data is updated on the active service processor, you must save it on to backup diskettes (see "Backing up Controller Configurations" on page 3-18). This process takes about five minutes.

Service Processors with CD-ROM

This procedure applies to service processors with a CD-ROM drive, FC 5052. Previous versions of service processors included an Optical Disk for saving and backing up configurations.

Save new configuration data by copying it onto the hard disk of the backup service processor as follows:

Step 1. Power ON the backup service processor. This produces an error message because the backup service processor is not connected to the LAN. Cancel this message by clicking **OK**.

Step 2. Log on to the backup service processor (see "Logging On to the MOSS-E" on page 3-4).

Step 3. Open the **Service Processor** menu.

Step 4. Click **Operation Management**.
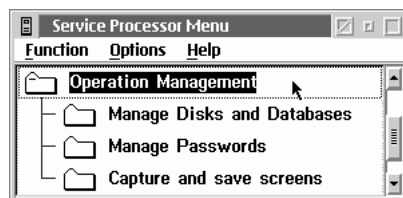
Step 5. Click **Manage Disks and Databases**.
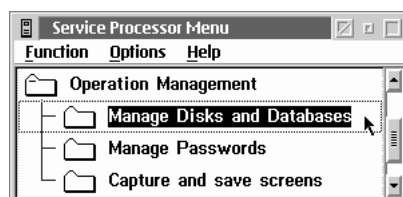
Step 6. Select **Restore databases from diskettes(s)**.

Disks and Databases Management

Select an option:

○ Optimize databases on hard disk

○ Save databases on diskette(s)

◉ Restore databases from diskette(s)

[OK]   [Cancel]   [Help]

Step 7. When you have finished, power OFF the backup service processor.

At power ON, the backup service processor automatically registers the new configuration data.

Installing Microcode to a Backup Service Processor

Use the following procedure to install microcode onto a backup service processor.

Step 1. Power ON the backup service processor. This produces an error message because the backup service processor is not connected to the LAN. Cancel this message by clicking **OK**.
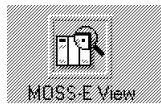
Step 2. Double-click the MOSS-E View icon.

Step 3. Type in a password and click **OK**.

MOSS-E Logon

MOSS-E is logged off, enter your password to log on:

[*******]

[OK]   [Cancel]   [Help]
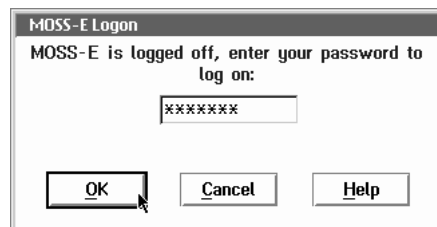
Step 4. In **MOSS-E View**, open the service processor machine menu.

Step 5. Click on **Change Management**.
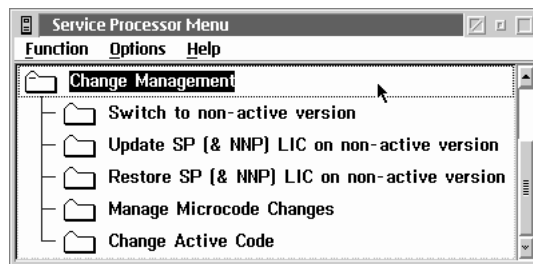
Step 6. Insert the CD with the service processor installation code into the CD-ROM.

Step 7. Double-click **Restore SP (&NNP) LIC on non-active version**.
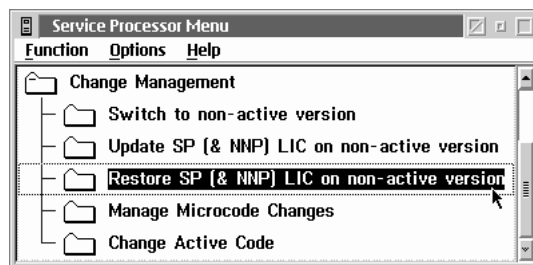
Step 8. Follow the prompts.

Installing a Backup Service Processor

If the active service processor fails, replace it with the backup service processor as follows:

Attention

Make sure the microcode and configuration levels are the same in both the primary and the backup service processor.

Step 1. Power OFF the active service processor.

Step 2. Verify that the backup service processor is powered OFF.

Step 3. Disconnect the active (failed) service processor from the token-ring LAN.

Step 4. If necessary, disconnect any RSF modem or telephone lines.

Step 5. Connect the backup service processor to the token-ring LAN.

Step 6. If necessary, connect the backup service processor to any RSF modem or telephone lines.

Step 7. Check that the service processor installation diskette is not in the backup service processor disk drive.

Step 8. Power ON the backup service processor.

Chapter 3. Maintenance and Operator Sub-System-Extended (MOSS-E)

Before you begin, make sure that the service processor is on and that **MOSS-E
View** is displayed.
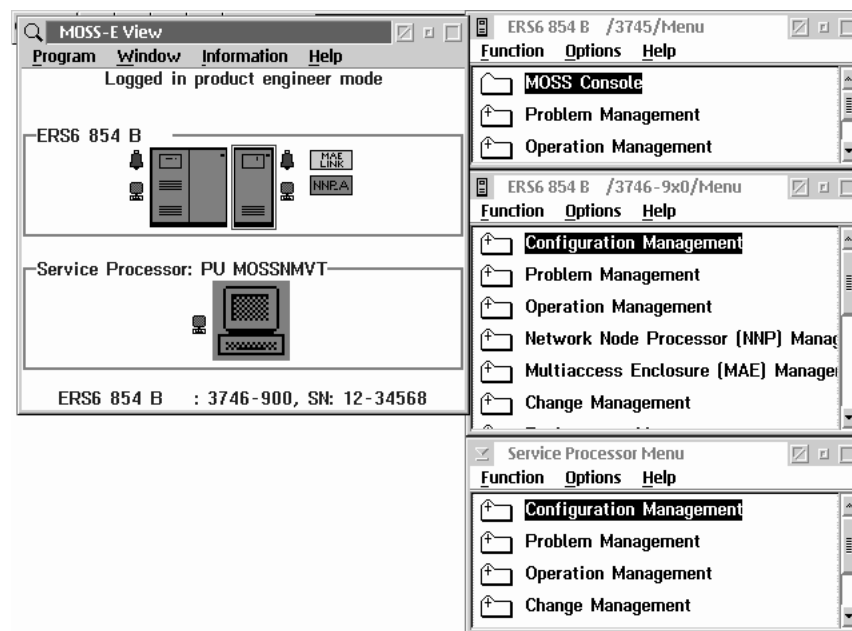
Figure   3-1. MOSS-E View Window with Machine Menus

The basic **MOSS-E View** window (left in Figure 3-1) provides access to other
windows and functions. The figure above shows a minimum configuration, with two
areas:

- For 3745 Model A, 3746, and network node processors
- For service processors

Double-click the machine icon to open a menu with associated tasks (this does not
apply to the network node processor). A ▨ next to each machine icon indicates an
open machine menu (see the right side of Figure 3-1).

The contents of the menu depends on the logon mode that you used (see "Logging
On to the MOSS-E" on page 3-4).

Select an object and click the right mouse button to display a pull-down menu.
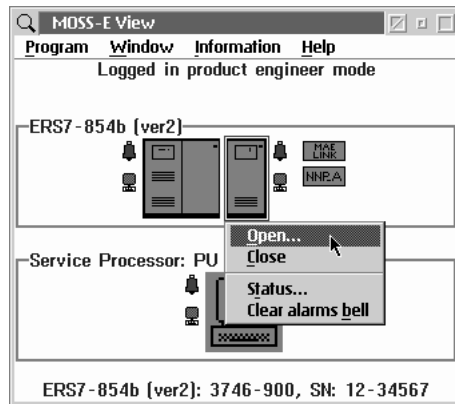
From a pull-down menu, you can do the following:

- Open a machine menu
- Close a machine menu
- Display the status of a machine (this does not apply to the service processor)
- Clear alarm bells

MOSS-E Passwords

When logging on to the MOSS-E through the **MOSS-E View** window, choose the password that corresponds to the mode and functions that you want to use.

There are four password modes for secure access to customer and maintenance functions of MOSS-E menus.

Controller customer password

> Access to operator functions in the 3746 and 3745 menus. For first level operators.

Controller maintenance password

> Access to operator and maintenance functions in the 3746 and 3745 menus. For IBM Service personnel.

Service processor customer password

> Access to operator functions in the service processor and controllers. For supervisors and system programmers.

Service processor maintenance password

> Access to functions in the service processor and controllers. Take care in distributing this password because IBM requires it for service procedures.

Note: Use 5 to 8 alphanumeric characters for passwords. Each mode must have a password unique from passwords in the other modes.

Changing Passwords

To change a password:

Step 1. Open the **Service Processor** menu.

Step 2. Select **Operation Management**.

Step 3. Select **Manage Passwords**. Enter the management password (the default is **IBM3745**) and click **OK**.

Step 4. Click **MOSS-E view passwords** and click **OK**.
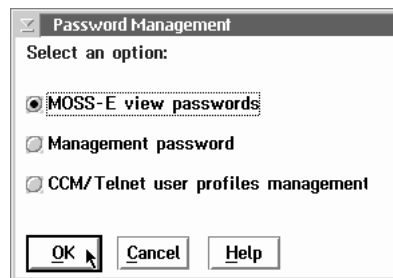
Step 5. Re-enter new passwords and click **Apply**.
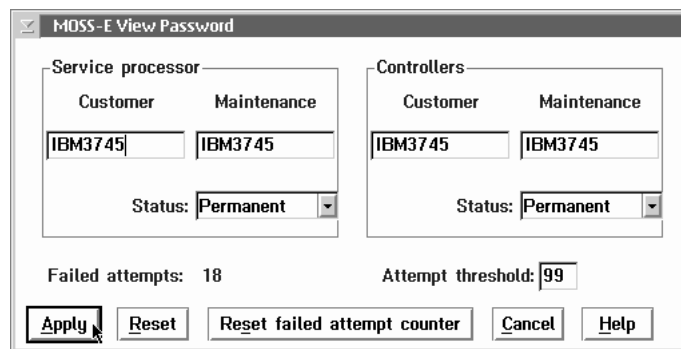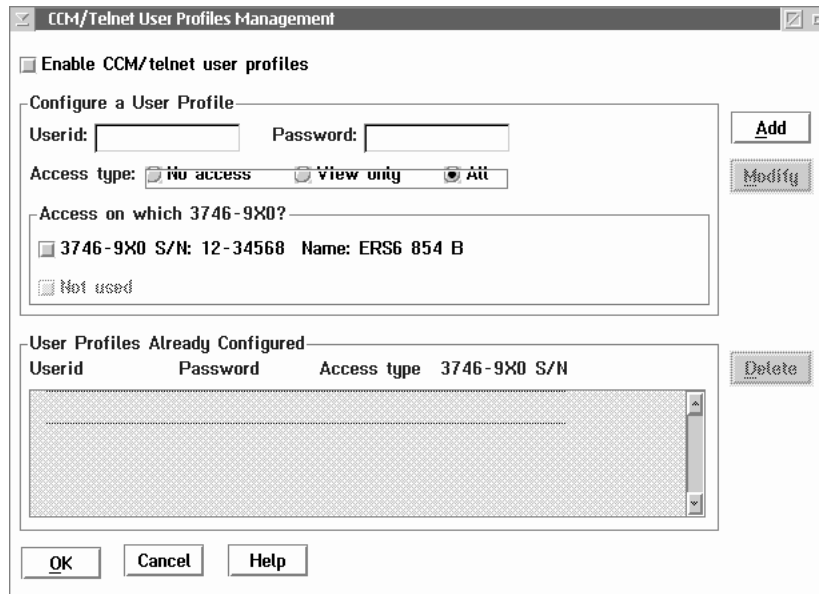
Step 6. Click **Management password** and click **OK**.

Step 7. Enter the new management password and click **Apply**.
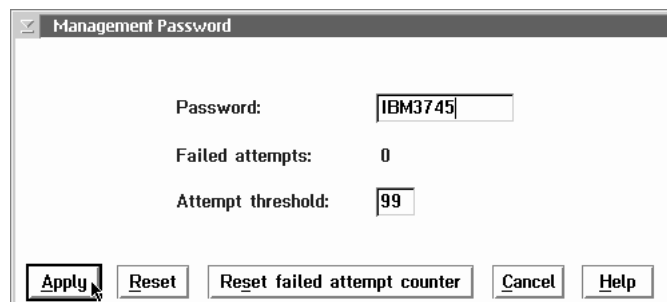
Step 8. Click **CCM/Telnet user profiles management** if you want to use CCM functions for Telnet access and IP resource management. For more information, see Chapter 5, "Telnet IP Resource Management in CCM and MOSS-E" on page 5-1.

Step   9. Enter a **Userid** and **Password** and click **OK**.

Step 10. Click **Cancel** to exit.

Logging On to the MOSS-E

Step   1. If the **MOSS-E View** window displays, go to Step 3 on page 3-5. Otherwise continue with next step.
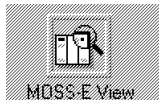
Step   2. Double-click the ▨ MOSS-E View icon. If **MOSS-E View** does not display, either:

- Press [Ctrl] [Esc] for the **Window List** and double-click **MOSS-E View**.

- See "Problems with MOSS-E or the Service Processor" on page 3-9.

Step 3. Click **Program**, then **Log on MOSS-E**.
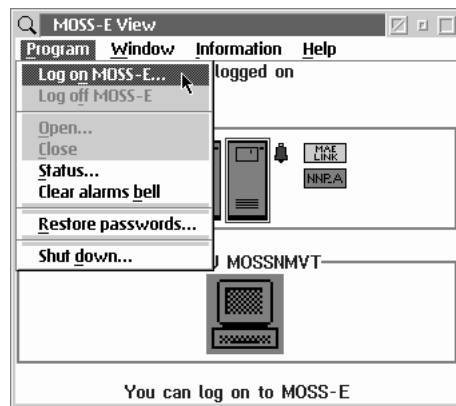
Step 4. Type in a password that corresponds to a logon mode and click **OK**.
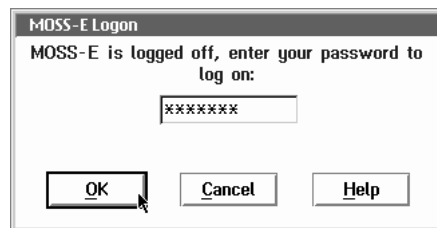
Step 5. If the logon is successful, a message at the top of the MOSS-E View
window shows the mode that you have logged into.
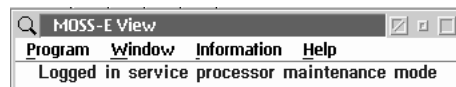
If there are problems with logging on, see one of the following:

- "Help Pull-Down Menu" on page 3-8
- "Problems with MOSS-E or the Service Processor" on page 3-9

Otherwise, contact the person in charge of 3745 and 3746 problem
analysis (see "Solving Problems" on page 1-5).

Step 6. MOSS-E menus and functions are now available (see page 3-9).

Logging Off from the MOSS-E

Step 1. Click **Program** in the **MOSS-E View** window and click **Log off MOSS-E**. Then click **OK**. A logoff is successful message displays.
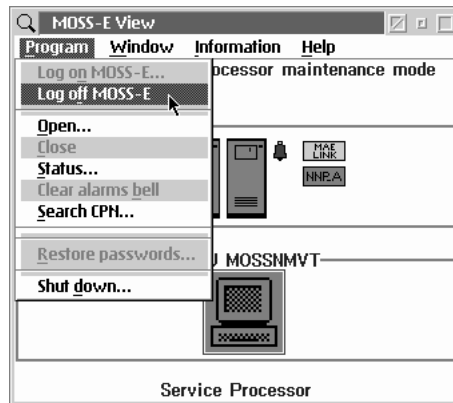
Step 2. A message at the bottom of the **MOSS-E View** window indicates that you can logon if you want.
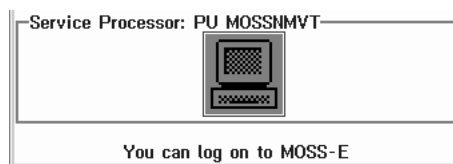
Program Pull-Down Menu
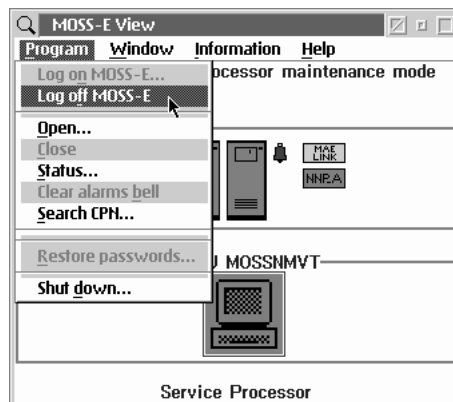
As well as logging on or off, this menu provides the following selections:

Open Opens menus for 3745, 3746, and service processor.

Close Closes a menu.

Status Displays information on 3745 or 3746.

Clear alarms bell Clears alarms with a pending status.

Search CPN	For controller maintenance by a customer engineer.
Restore Passwords	For restoring default passwords (**IBM3745** in capital letters).
Shutdown	Exits all programs and shuts down, with a message prompt to turn off or restart the system.

Window Pull-Down Menu
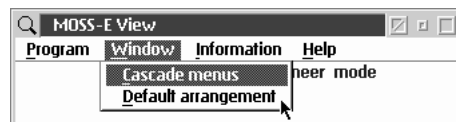
Cascade menus	Arranges the menus that you have open in a stacked formation, like index cards.
Default arrangement	Restores your own arrangement.

Information Pull-Down Menu

Note: You can work with the **Information menu** without being logged on.
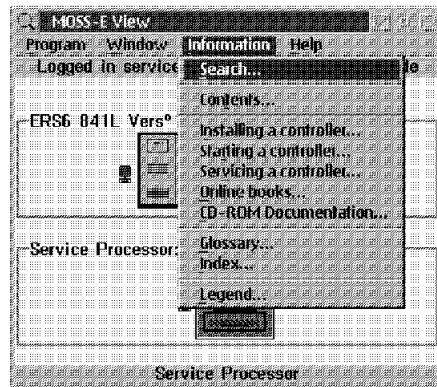
For detailed information on the 3745, 3746, and service processor.

Search	Searches for information on an entry that you make in a text box.
Contents	Lists the main tasks related to the communication controller.
Installing a controller	Information on installing a controller.
Starting a controller	Information on starting a controller.
Servicing a controller	Information on servicing a controller.
Online books	Information that can be accessed directly from the service processor, for example, *Problem Analysis Guide*.
CD-ROM Documentation	A listing of books available on CD-ROM.
Glossary	Abbreviations and definitions about the 3745 and 3746 with any diagrams of main components.

Index	An alphabetical list of subjects related to the 3745 and 3746 and any main components.
Legend	A list of colors for machine objects in the **MOSS-E View** window. Each color indicates the status or condition of the machine.

Help Pull-Down Menu

Note: You can access the **Help** menu without being logged on.
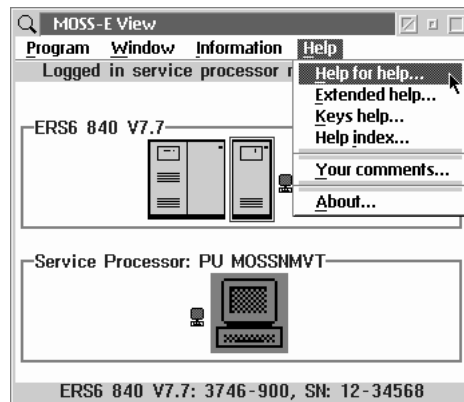
Help for help	Explains how to use Help.
Extended help	Information about the functions of the **MOSS-E View** window.
Keys help	Lists the function keys of the MOSS-E.
Help index	Lists Help items in alphabetical order.
Your comments	Information on where to send your reader's comments on MOSS-E information and usability.
About	Information on MOSS-E copyright and Licensed Internal Code.

MOSS-E Menus, Tasks, and Functions

MOSS-E menus are the link between you and MOSS-E functions. There is a MOSS-E menu for the 3745, 3746, and also for the service processor as well.

How to Use a Machine Menu

To display the menu for a machine, you must be logged on to the MOSS-E (see "Logging On to the MOSS-E" on page 3-4). After logging on, double-click a machine object to open a menu with a task list (see the following **Service Processor** menu).

```
┌─────────────────────────────────────────────────────┐
│ ▣  Service Processor Menu                   ▨ ▫ □    │
│ Function  Options  Help                              │
│ ┌─────────────────────────────────────────────────┐ │
│ │ 🖰  Configuration Management                    ▲ │ │
│ │ 🖰  Problem Management                          ▤ │ │
│ │ 🖰  Operation Management                          │ │
│ │ 🖰  Change Management                           ▼ │ │
│ └─────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────┘
```
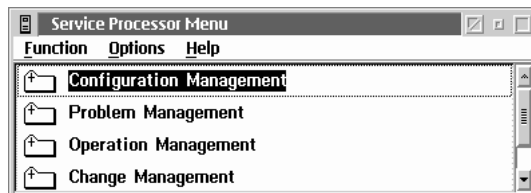
Clicking a task will displays a list of functions. Clicking an open menu closes it.

```
┌─────────────────────────────────────────────────────┐
│ ▣  Service Processor Menu                   ▨ ▫ □    │
│ Function  Options  Help                              │
│ ┌─────────────────────────────────────────────────┐ │
│ │ 🗁  Configuration Management                    ▲ │ │
│ │  ├ 🗀  SP Customization                         ▤ │ │
│ │  ├ 🗀  Customize DCAF Target Settings             │ │
│ │  ├ 🗀  Install 3746 and NNP LIC on SP hard disk   │ │
│ │  └ 🗀  [M] Manage 3745/3746-9x0 Installation/Removal ▼ │ │
│ └─────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────┘
```
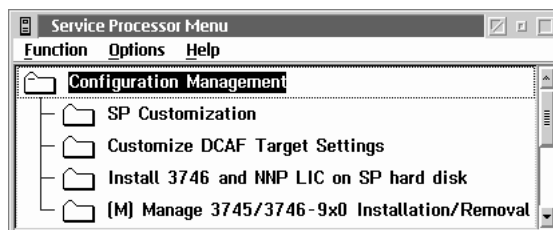
Double-clicking a function runs it. This is indicated by the color change of the function when it runs.

```
┌─────────────────────────────────────────────────────┐
│ ▣  Service Processor Menu                   ▨ ▫ □    │
│ Function  Options  Help                              │
│ ┌─────────────────────────────────────────────────┐ │
│ │ 🗁  Configuration Management                    ▲ │ │
│ │  ├ 🗀  SP Customization                         ▤ │ │
│ │  ├ 🗀  Customize DCAF Target Settings             │ │
│ │  ├ 🗀  Install 3746 and NNP LIC on SP hard disk   │ │
│ │  └ 🗀  [M] Manage 3745/3746-9x0 Installation/Removal ▼ │ │
│ └─────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────┘
```
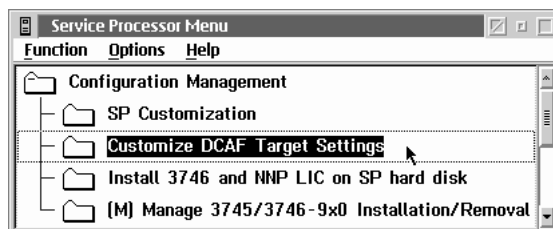
Problems with MOSS-E or the Service Processor

If the keyboard and mouse are not responding to input, the service processor may be under the control of a DCAF remote console. To regain control of the service processor, press the DCAF hotkeys ⎡Alt⎤ ⎡T⎤ together.

The following problems may occur:

- Service processor screen is dark.

- Service processor screen does not contain a **MOSS-E View** window or icon (see Figure Figure 3-1 on page 3-1).

• OS/2 or Communication Manager error message displays.

If any of the above occurs, IPL the service processor as follows:

Attention

Performing an IPL disrupts traffic. Before performing an IPL, ask the network administrator to stop traffic, or wait until the next maintenance window is available.

If your service processor is powered OFF, go to Step 1. Otherwise, go to Step 2.

Step 1. Turn on your service processor. Wait until the first **MOSS-E View** displays.

Step 2. IPL your service processor by doing the following:

- Press ⟦Ctrl⟧ ⟦Alt⟧ ⟦Del⟧. Wait until the **MOSS-E View** displays.
- Turn off the service processor, wait a few seconds and turn it on again. Wait until the **MOSS-E View** displays.

If this does not work, contact the person in charge of 3745 or 3746 problem analysis (see "Solving Problems" on page 1-5 and "Help Pull-Down Menu" on page 3-8).

MOSS Window

A MOSS window is a link between you and the MOSS running in the 3745. There is one window for each 3745 attached to the service processor.

This section provides information on the following:

- MOSS screens
- Using certain keys
- Opening a MOSS window
- Accessing MOSS functions

How to Open the MOSS Window

After you log on to the MOSS-E (see "Logging On to the MOSS-E" on page 3-4), follow the steps below:

Step 1. Double-click the 3745 in the **MOSS-E View** to display the menu.

Step 2. Double-click **MOSS Console**.
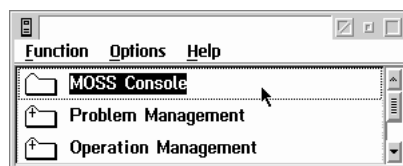
Opening a MOSS-E window for the first time displays the **FUNCTION SELECTION RULES** screen (see Figure 3-3 on page 3-13).

You can review the status of a machine in the **MOSS-E View** window by clicking **Information**, then **Legend**.

If you have problems logging on the MOSS-E, see the following:

- "Help Pull-Down Menu" on page 3-8.
- "Problems with MOSS-E or the Service Processor" on page 3-9.

If you still have a problem, contact the person in charge of 3745 and 3746 problem analysis. See "Solving Problems" on page 1-5.

Service Processor MOSS Screen Layout

See the following for an example of a service processor MOSS screen.

```
COMMCTRL ID: xxxxxxxxxxxxxxxx      3745-XXA        SERIAL NUMBER: nnnnnnn

                           Machine Status Area

------------------------------------------------------------mm/dd/yy hh:mm
FUNCTION ON SCREEN:                      FUNCTION PENDING:




                         FUNCTION AREA




===>    Message Area

          Function Keys
```

Figure   3-2. General Format of a MOSS Screen

The following is a list of definitions for text on a MOSS screen.

COMMCTRL ID	Communication controller ID. Always displayed as 16 characters.
	Note: To modify the controller ID, use the MOSS-E **Manage 3745/3746-9x0 Installation/Removal** function of the **Service Processor** menu.
3745-XXA	The machine type and model.
SERIAL NUMBER	Serial number of the 3745 (seven characters).
MACHINE STATUS AREA	Information on the Central Control Unit (CCU), scanners, and IPL. For more information, see the *Advanced Operations Guide*, SA33-0097.
FUNCTION ON SCREEN	The name of the function being displayed.
FUNCTION PENDING	The name of the function waiting to be displayed.
FUNCTION AREA	Function display and operator input.
MESSAGE AREA	Area to display messages. For more information, see the *Advanced Operations Guide*.
FUNCTION KEYS	Available function keys appear on this line.

Keyboard Terminology

As consoles may be of different types, the console keyboard may vary. For consistency, the following terminology applies to certain keys:

Enter	Sends data to the 3745. Verify that the data is correct before you use this key. This key is often called SEND.
Ctrl Pause	If you want to regain control of the service processor, pressing these keys together temporarily suspends any function that is running.
→	This key moves the cursor from one input area to another.

Common Commands and Function Keys

OFF	Enter **OFF** to logoff and close the MOSS window. If a function is active or pending, press F1 first.
F2	Closes any active functions. Menu 1 or Menu 2 displays, depending on the function that you close.
F2	Displays menu 1, menu 2, or a pending function.
F6	Displays the **Function Selection Rules** screen.

Selecting MOSS Functions

When you open a MOSS window, the **Function Selection Rules** screen displays.

For more information on the **Function Selection Rules** screen, see the *Advanced Operations Guide*.

```
 ▄▓  MOSS Console                                        ▧ ▫ ▫
COMMCTRL ID: ERS7-854d (ver1)        3745-41A        SERIAL NUMBER: 1234568
CCU-A          PROCESS MOSS-ONLINE
RUN     BYP-IOC-CHK STOP-CCU-CHK

CCU-B          PROCESS MOSS-ONLINE
RUN     BYP-IOC-CHK STOP-CCU-CHK
----------------------------------------------------------- 05/11/98 14:45

                        FUNCTION SELECTION RULES
- TO SELECT ONE OF THE MENUS, PRESS THE APPROPRIATE F KEY

- TO SELECT A FUNCTION, ENTER ITS 3-CHARACTER NAME
                      THEN PRESS ENTER (ABBREVIATED "ENTR")
- ONCE YOU HAVE SELECTED A FUNCTION FROM ONE MENU, YOU MAY SELECT
  A FUNCTION FROM THE OTHER

- TO END THE FUNCTION ON SCREEN, PRESS F1

- TO RETURN TO THE PENDING FUNCTION, PRESS F2

- TO LOG OFF, ENTER OFF THEN PRESS ENTR
===> _    DISK(ETTE) STOPPED

F1:END  F2:MENU2              F4:MENU1      F5:MENU3
KEYBOARD UNLOCKED
```

Figure 3-3. Function Selection Rules Screen

The following keys are available:

F1	Ends a function.
F2	Displays Menu 2 functions (see "Menu 1 and 2 Functions" on page 3-14).
F4	Displays Menu 1 functions (see "Menu 1 and 2 Functions" on page 3-14).

You can also enter the three-letter codes of MOSS function on the command line. For more information, see the next section "Menu 1 and 2 Functions" on page 3-14).

Menu 1 and 2 Functions

Note: Depending on the model of your 3745, some of the functions shown below may not be available.


```
 ▪ ▪  MOSS Console                                     ▨ ▫ ▯
COMMCTRL ID: ERS7-854d (ver1)        3745-41A      SERIAL NUMBER: 1234568
CCU-A          PROCESS MOSS-ONLINE
RUN      BYP-IOC-CHK STOP-CCU-CHK

CCU-B          PROCESS MOSS-ONLINE
RUN      BYP-IOC-CHK STOP-CCU-CHK
----------------------------------------------------- 05/11/98 14:46

                            MENU 1

CONFIG DATA FILE.: CDF    IML ONE SCANNER..: IMS    PORT SWAP FILE...: PSF
CONTROL PGM PROC.: CPP    IPL CCU(S).......: IPL    POWER SERVICES...: POS
DISK FUNCTIONS...: DIF    LD LINK TEST REQ.: LTQ    SCANNER I/F TRACE: SIT
DISK IPL INFO....: DII    LD LINK TEST RESP: LTS    STAND ALONE TEST.: SAT
EVENT LOG DISPLAY: ELD    LINE INTERF DSPLY: LID    TIME SERVICES....: TIM
FALLBACK.........: FBK    LINK IPL PORTS...: LKP    SWITCHBACK.......: SBK
                         MACHINE LVL TABLE: MLT    TRSS INTERF DSPLY: TID
IML MOSS.........: IML    MICROCODE FIXES..: MCF    WRAP TEST........: WTT
                         ESS INTERF DSPLY.: EID

                       ENTER OFF TO LOG OFF
===> _     DISK(ETTE) STOPPED

F1:END  F2:MENU2                        F5:MENU3     F6:RULES
KEYBOARD UNLOCKED
```

Figure 3-4. Menu 1 Functions


```
 ▪ ▪  MOSS Console                                     ▨ ▫ ▯
COMMCTRL ID: ERS7-854d (ver1)        3745-41A      SERIAL NUMBER: 1234568
CCU-A          PROCESS MOSS-ONLINE
RUN      BYP-IOC-CHK STOP-CCU-CHK

CCU-B          PROCESS MOSS-ONLINE
RUN      BYP-IOC-CHK STOP-CCU-CHK
----------------------------------------------------- 05/11/98 14:47

                            MENU 2

AC/BT PARAMETERS.: ABP    DISPLAY LONG.....: DLO    RESET IOC(S).....: RIO
BYPASS CCU CHECK.: BCK    MOSS OFFLINE.....: MOF    RESET I-STEP.....: RIS
BYPASS IOC CHECK.: BIK    MOSS ONLINE......: MON    SET ADDR COMPARE.: SAC
CA INTERF DISPLAY: CID    REPAIRED CCU.....: REP    SET BRANCH TRACE.: SBT
CCU LV3 INTERRUPT: IL3    RESET ADDR COMP..: RAC    SET I-STEP.......: SIP
CCU NORMAL MODE..: CNM    RESET BRCH TRACE.: RBT    START CCU........: STR
CCU SEL/RELEASE..: CSR    RESET CCU........: RST    STOP CCU.........: STP
CCU STATUS.......: CST    RESET CCU CHECK..: RCK    STOP ON CCU CHECK: SCK
DATA EXCHANGE....: DEX    RESET CCU/LSSD...: RCL    STOP ON IOC CHECK: SIK
DISPLAY/ALTER....: DAL
                       ENTER OFF TO LOG OFF
===> _     DISK(ETTE) STOPPED

F1:END  F2:MENU1                        F5:MENU3     F6:RULES
KEYBOARD UNLOCKED
```

Figure 3-5. Menu 2 Functions

Enter the three letter code of a function on the command line and press `Enter`.

If a function is unavailable, the following message displays on the command line:

`PRESS ENTER TO DISPLAY FUNCTION MENU`

Note: For Models 41A and 61A, enter CSR (CCU Selection and Release) on the command line to select a CCU. The selected CCU appears in the machine status area.

Switching between Menu 1 and Menu 2 Functions

Use the ⎣F2⎦ key to switch between menu 1 and menu 2. If you see ⎣F2⎦ on the bottom part of the screen, this indicates that you can switch from one menu to the other.

You can enter the three letter code of a function from either menu on the command line at any time.

Switching from a Menu 1 Function to a Menu 2 Function

Step 1. Press ⎣F2⎦ to switch from menu 1 to Menu 2.

Step 2. Enter the code letters of a function and press ⎣Enter⎦ .

Notes:

If you press ⎣F2⎦, any menu 2 functions that are running will be suspended, and any menu 1 functions that are suspended will be re-activated.

Once any active functions of menu 1 have ended, any pending menu 2 functions will be re-activated.

Switching from a Menu 2 Function to a Menu 1 Function

Step 1. Press ⎣F2⎦ to switch from menu 2 to Menu 1.

Step 2. Enter the code letters of a function and press ⎣Enter⎦ .

Notes:

If you press ⎣F2⎦, any menu 2 functions that are running will be suspended, and any menu 1 functions that are suspended will be re-activated.

Once any active functions of menu 1 have ended, any pending menu 2 functions will be re-activated.

How to Start and Stop Refresh

Press **F5** to refresh the information in a function area.

If you start a refresh and want to stop it, press ⎡Ctrl⎤ ⎡Pause⎤ together.

How to Close MOSS

You can close MOSS by doing one of the following:

- Double click the system menu icon in the upper left corner of the MOSS window.
- Enter OFF on the command line.

If you have problems closing MOSS, refer to the online help.

If you have technical problems, contact the person in charge of 3745 problem analysis (see page 1-5).

Updating the Active CDF-E

Use the procedure below to record any new hardware as part of the controller hardware configuration, for example, lines connected to a LIC11.

This procedure ensures that the following information is recorded:

- Hardware character strings
- New CDF-E configuration saved as the working CDF-E
- Backup CDF-E copied on to diskette

Step   **1**   Double-click a 3746 object icon, or select a 3746 menu in the window list (see Step 2 on page 3-4).

Step   **2**   Click **Configuration Management**, then double-click **Display/Update Active Configuration (CDF-E)**.

```
┌──────────────────────────────────────────────────┐
│ ▤  ERS6 854 B  /3746-9x0/Menu          ▨ ▫ □      │
│ Function   Options   Help                         │
│ ┌─┐ Configuration Management                    ▲ │
│ ├─┐ [M] Add/Retrieve Resources in Concurrent Mode │
│ ├─┐ [M] Remove Resources in Concurrent Mode       │
│ ├─┐ [M] Replace Resources in Concurrent Mode      │
│ ├─┐ Display/Update Active Configuration [CDF-E]   │
│ ├─┐ Display Reference CDF-E                        │
│ ├─┐ Compare Reference CDF-E with Active CDF-E      │
│ ├─┐ Save Active CDF-E as Reference CDF-E           │
│ ├─┐ Manage ESCON Processors                        │
│ ├─┐ Define Backup CLP                              │
│ ├─┐ Copy Reference CDF-E on Diskette               │
│ ├─┐ Restore Reference CDF-E from Diskette          │
│ └─┐ Create Flat Active CDF-E on Disk             ▼ │
└──────────────────────────────────────────────────┘
```

Step 3 New or changed LCBs and ARCs for each CLP are shown in the
Resource Locator screen (see the notes for Figure 3-6).

```
┌─────────────────────────────────────────────────────────────────────┐
│ ⊠  Active CDF-E Display - Resource Selector              ⊠ ▯ □       │
├─────────────────────────────────────────────────────────────────────┤
│ Select a resource:                                                    │
│ ┌─────────────────────────────────────────────────────────────────┐ │
│ │ 3746-9x0   avail.                                             ▲  │ │
│ │ CS         active                                                │ │
│ │ SPS        avail.                                                │ │
│ │ CBSP 2048 active   CBC  2048 active         TIC3  2080 active    │ │
│ │ TRP  2112 active   CBC  2112 active         TIC3  2144 active  ▤ │ │
│ │ CLP  2176 active   LIC11 2176 active LCB/ARC LIC12 2208 avail.   │ │
│ │ ESCP 2240 active   ESCC 2240 active                              │ │
│ │ TRP  2304 active   TIC3 2304 active         TIC3  2336 active    │ │
│ │ CLP  2368 avail.                                                 │ │
│ │ CLP  2432 active   LIC12 2432 avail.        LIC12 2464 avail.    │ │
│ │                    LIC11 2368 active LCB/ARC LIC12 2400 avail.   │ │
│ │      2496                                                        │ │
│ │ TRP  2560 active   TIC3 2560 active         TIC3  2592 avail.    │ │
│ │ TRP  2624 active   TIC3 2624 active         TIC3  2656 active  ▼ │ │
│ │ ◄                                                          ►     │ │
│ └─────────────────────────────────────────────────────────────────┘ │
│                                                                       │
│ ┌──────┐ ┌───────────────────┐ ┌────────────────────────┐ ┌────────┐ ┌──────┐ │
│ │ OK   │ │ Specific Selections...│ │ LCB and ARC information │ │ Cancel │ │ Help │ │
│ └──────┘ └───────────────────┘ └────────────────────────┘ └────────┘ └──────┘ │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 3-6. Resource Locator screen

Notes:

- A new LCB with an ARC is indicated by **LCB/ARC** to the right
  of the associated LIC11.
- A new LCB is indicated by **LCBB** to the right of the associated
  LIC11.
- A new LCBE will not display without an ARC installed in it, or
  until an IML procedure has been performed for the LCBE
  adapter.

Step 4 Click **LCB and ARC information**.

Step 5 Select the LCBB line, or for an LCBE, select the line just below the
associated LCB.

```
┌─────────────────────────────────────────────────────────────────────┐
│ ▤  Display and Update LCB Number / Location                          │
├─────────────────────────────────────────────────────────────────────┤
│ CLP address     LIC type      LCB type    LCB Number / Location       │
│                 LIC address                                           │
│                                                                       │
│ ┌──────────────────────────────────────────┐ ┌────────────────────┐ │
│ │CLP 2176   LIC11 2176        LCBB          │ │                    │ │
│ └──────────────────────────────────────────┘ └────────────────────┘ │
│ ┌──────────────────────────────────────────────────────────────┐ ▲  │
│ │CLP 2176    LIC11 2176        LCBB              ▶              │    │
│ │active      LIC12 2208                                        │    │
│ │CLP 2368                                                      │ ▤  │
│ │avail.                                                        │    │
│ │CLP 2432    LIC12 2432                                        │    │
│ │active      LIC12 2464                                        │    │
│ │            LIC11 2368        LCBB                            │    │
│ │                              LCBE                            │    │
│ │            LIC12 2400                                        │ ▼  │
│ └──────────────────────────────────────────────────────────────┘    │
│                                                                       │
│   ┌─────────────────┐   ┌──────┐ ┌────────┐      ┌──────┐            │
│   │ ARC information │   │ Save │ │ Cancel │      │ Help │            │
│   └─────────────────┘   └──────┘ └────────┘      └──────┘            │
└─────────────────────────────────────────────────────────────────────┘
```
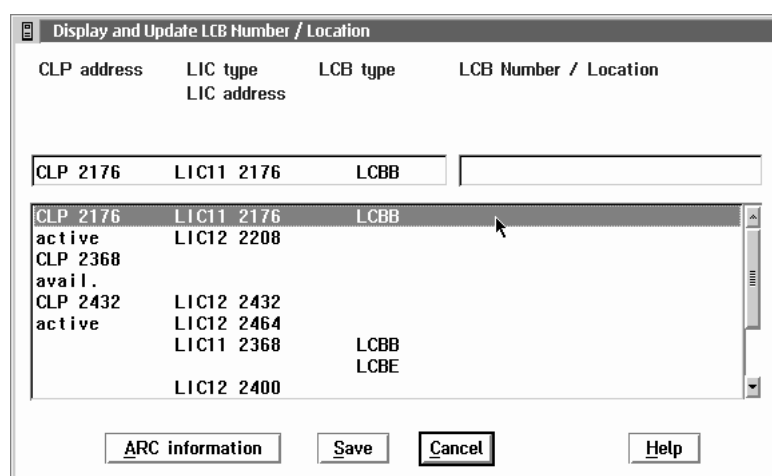
Step 6 Enter or update the **LCB Number / Location** field. You can use up to
25 alphanumeric characters to identify an LCB attached to a processor.
Existing codes should already be recorded in the *3745/3746 Planning
Series: Physical Planning*, GA27-4238.

Step 7 Press **Enter** and repeat steps 5 and 6 to identify more LCBs if you need to. Then click **Save** and **OK**.

Step 8 If you have ARCs attached to a selected LCB, click **ARC information**. Otherwise, go to step 12.

Step 9 Select an ARC, and enter or update the **Symbolic line name** field. You can use up to 8 alphanumeric characters to identify the ARC. Existing codes should already be recorded in the *3745/3746 Planning Series: Physical Planning*.

Step 10 Press **Enter** and repeat steps 5 to 11 if you want to identify more ARCs. Then click **Save** and **OK**.

Step 11 To identify ARCs on other LCBs, repeat step 9 and step 11 for each LCB.

Step 12 When you have finished with all the LCBs and ARCs, click **Cancel**.

Step 13 Double-click **Save Active CDF-E as Reference CDF-E**. Then click **OK**.

Note: It is recommended that you save the CDF-E onto diskette. For more information, see "Backing up Controller Configurations."

Backing up Controller Configurations

It is recommended that you backup the MOSS-E current controller configurations to diskette if you have done any of the following:

- Updated the CDF-E
- Customized DCAF target settings
- Managed passwords
- Configured remote operations
- Set automatic microcode download
- Updated CCM configurations

Follow the steps below for backing up the controller configuration:

Step 1. Insert the backup diskette into the drive.

Step   2. Double-click the service processor object icon, or open the service processor menu in the window list (see step 2 on page 3-4).

Step   3. Click **Operation Management**.

Step   4. Double-click **Manage Disks and Databases**.

```
┌─────────────────────────────────────────────────┐
│ ▣  Service Processor Menu          ▨ ▫ □         │
│ Function  Options  Help                          │
│ ┌───────────────────────────────────────────┐ ▲ │
│ │ ▭  Operation Management                    │   │
│ │  ├─ ▭  Manage Disks and Databases      ▶   │   │
│ │  ├─ ▭  Manage Passwords                    │ ▤ │
│ │  └─ ▭  Capture and save screens            │ ▼ │
│ └───────────────────────────────────────────┘   │
└─────────────────────────────────────────────────┘
```

Step   5. Click **Save Databases on diskette(s)**.

```
┌─────────────────────────────────────────────────┐
│ ▧  Disks and Databases Management               │
│                                                  │
│  Select an option:                               │
│                                                  │
│     ○ Optimize databases on hard disk            │
│                                                  │
│     ● Save databases on diskette(s)              │
│                                                  │
│     ○ Restore databases from diskette(s)         │
│                                                  │
│   ┌────────┐   ┌────────┐   ┌────────┐          │
│   │   OK   │   │ Cancel │   │  Help  │          │
│   └────────┘   └────────┘   └────────┘          │
│                                                  │
└─────────────────────────────────────────────────┘
```

Step   6. Click **OK**.

Step   7. Follow the prompts to save the active CDF-E onto the hard disk, and then onto diskettes.

Step   8. Click **Cancel** to exit.

Note: This procedure takes about 5 minutes and does not interfere with the operation of the service processor.

Chapter 4. Working with Network Node Processor (NNP) Functions

The NNP Type 3 includes a new Pentium II 350 MHz processor, and an improved system bus speed of 100 MHz.

Unless otherwise noted, this chapter applies to APPN/HPR and IP configurations.

Accessing NNP Functions

The APPN/HPR control point and IP router functions are located in the NNP and accessible via MOSS-E.
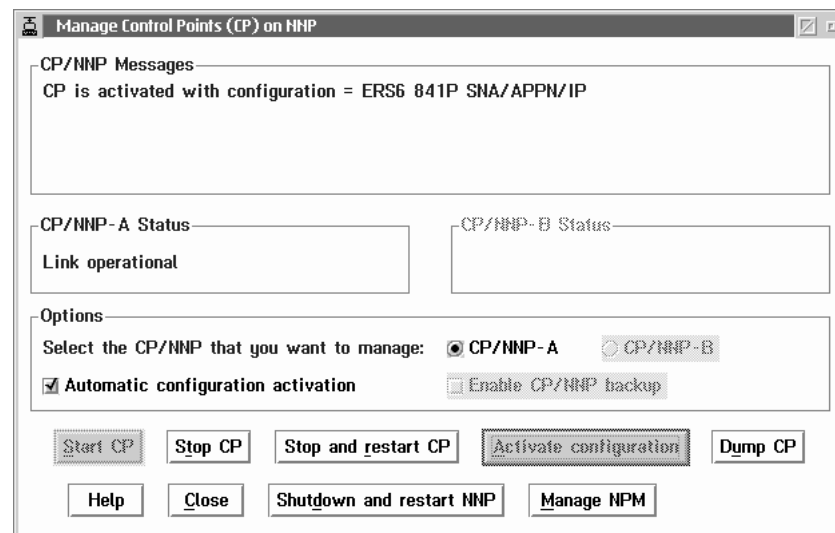
To access the functions of a NNP, follow the steps below:

Step 1. Open the 3746 menu (see "How to Use a Machine Menu" on page 3-9).

Step 2. Click **Network Node Processor (NNP) Management** to display NNP functions.
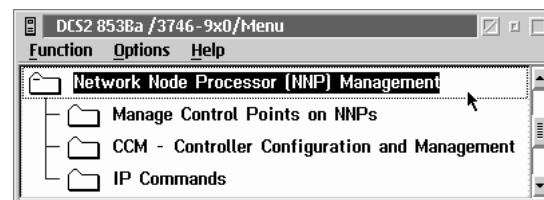
Manage Control Points on NNPs

The following describes the buttons in the **Manage Control Points (CP) on NNPs** screen.

CP/NNP Messages

This message area shows you the progress of a chosen function.

CP/NNP-A (or -B) Status

Information on the links between the service processor, network node processor, and controller. The status can be any of the following:

- Down
- Standby
- Waiting for operator activation
- Link not ready
- Link ready
- Link operational

More status information is given in "NNP Status Area Messages" on page 4-4.

CP/NNP-A

This button is for working with NNP A control point functions.

CP/NNP-B

This button is for working with the NNP B control point functions.

Automatic configuration activation

Enables automatic resource activation after a network failure (see Table 4-1).

Enable CP/NNP backup

Activates dual NNP functions (see Table 4-1).

Table 4-1. Control Point Management		
Options	**Status**	**Comments**
Automatic configuration activation	Off	Click **Stop and restart CP**, **Shutdown and restart NNP**, or an active **NNP failure** to stop all active sessions, and then restart the control point up to **Waiting for operator activation** status.
Enable CP/NNP Backup	Off	
		Click **Activate configuration** to re-activate resources.
Automatic Configuration Activation	On	• Click **Stop and restart CP**, or **Shutdown and restart NNP** to restart the control point, automatically reactivating the active configuration.
Enable CP/NNP Backup	Off	• An active **NNP failure** will drop the active sessions.
Automatic Configuration Activation	Off	• No operator action available. • An active **NNP failure** will activate the backup network node processor up to the **Waiting for operator activation** status.
Enable CP/NNP Backup	On	Then do the following: 1. Set the **Enable CP/NNP backup** option to Off. 2. Click **Activate configuration** to reactivate resources.
Automatic Configuration Activation	On	• No operator action available. • An active **NNP failure** results in the following: 1. Activates and starts the backup network node processor. 2. Activates the configuration (dropping resources temporarily). 3. Reactivates active sessions.
Enable CP/NNP Backup	On	

Start CP

Initiates the control point program after using **Stop CP**.

Stop CP

Ends the control point program without deactivating the network node resource configuration. Connecting to additional resources is no longer possible.

Stop and restart CP

Select this button to:

1. Stop control points
2. Automatically restart the control point
3. Automatically reactivate a configuration This will only work if **Automatic configuration activation** is selected (see page 4-2)

Activate configuration

Manually activates configuration of NN resources when **Automatic configuration activation** is not selected. Use this after the **Start CP** button.

Dump CP

To be used only by an IBM representative.

Help

Online information for managing the control point program.

Close

Saves changes and returns to the previous panel.

Shutdown and restart NNP

This button performs the following:

1. Stops the control point program
2. Deactivates the configuration
3. Shuts down the NNP
4. Restarts the NNP

If **Automatic configuration activation** was selected, then this button also:

1. Restarts the CP program
2. Re-activates the configuration

Manage NPM

Allows you to add, update, or remove a NetView Performance Monitor (NPM) configuration.

NNP Status Area Messages

The following describes the status of the NNP as indicated by status area messages in the **Manage Control Points (CP) on NNP** window.

> **Attention**
>
> If you select **Enable CP/NNP backup**, the configuration buttons will be unavailable. This is because priority is given to dual network node functions.
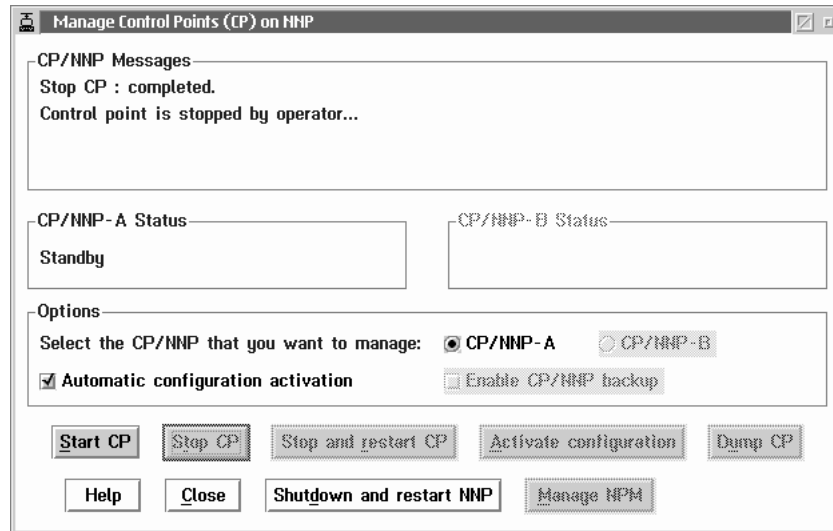
Down

The NNP icon appears grey in color in the **MOSS-E View** window. This means that the link between the service processor and NNP has failed because of one of the following problems:

- Inactive service processor
- Power OFF in the NNP
- Defective cabling between the service processor and NNP

For any of the above, see the online *Problem Analysis Guide*.

Click **Close** to exit.

Standby

```
┌─────────────────────────────────────────────────────────────────────┐
│ 🖳  Manage Control Points (CP) on NNP                        ▨  ▫     │
├─────────────────────────────────────────────────────────────────────┤
│ ┌─CP/NNP Messages──────────────────────────────────────────────────┐ │
│ │ Stop CP : completed.                                             │ │
│ │ Control point is stopped by operator...                          │ │
│ │                                                                  │ │
│ │                                                                  │ │
│ └──────────────────────────────────────────────────────────────────┘ │
│ ┌─CP/NNP-A Status────────────────┐  ┌─CP/NNP-B Status──────────────┐ │
│ │                                │  │                              │ │
│ │ Standby                        │  │                              │ │
│ └────────────────────────────────┘  └──────────────────────────────┘ │
│ ┌─Options──────────────────────────────────────────────────────────┐ │
│ │ Select the CP/NNP that you want to manage:  ⦿ CP/NNP-A  ○ CP/NNP-B│ │
│ │ ☑ Automatic configuration activation      ☐ Enable CP/NNP backup  │ │
│ └──────────────────────────────────────────────────────────────────┘ │
│                                                                       │
│   ┌─────────┐ ┌────────┐ ┌───────────────────┐ ┌──────────────────┐ ┌────────┐ │
│   │ Start CP│ │ Stop CP│ │ Stop and restart CP│ │Activate configuration│ │ Dump CP│ │
│   └─────────┘ └────────┘ └───────────────────┘ └──────────────────┘ └────────┘ │
│   ┌──────┐ ┌───────┐ ┌─────────────────────────┐ ┌─────────────┐   │
│   │ Help │ │ Close │ │ Shutdown and restart NNP │ │ Manage NPM  │   │
│   └──────┘ └───────┘ └─────────────────────────┘ └─────────────┘   │
└─────────────────────────────────────────────────────────────────────┘
```
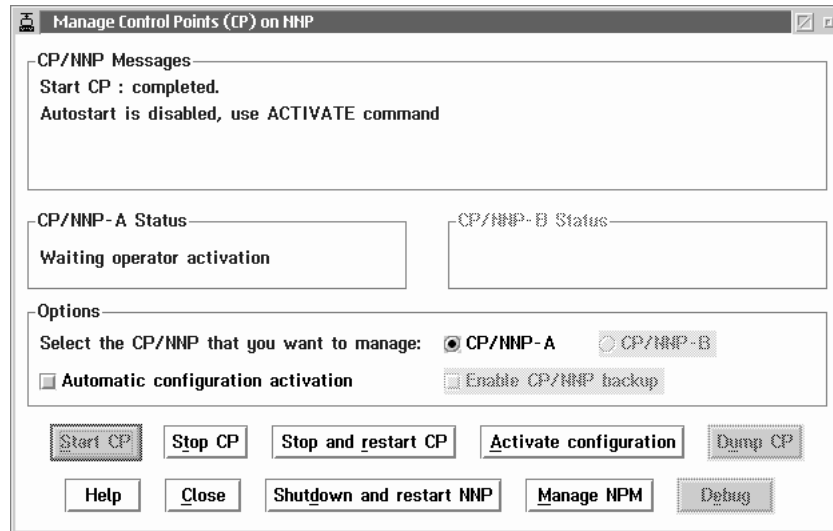
The NNP icon appears blue in color in the **MOSS-E View** window. This means that
the NNP is active and ready for input. To select automatic configuration, click one
of the following buttons:

- **Start CP** to initiate the control point program, ready for a configuration to be
  activated.

- **Shutdown and restart NNP** to:

    - Stop the control point program
    - Deactivate a configuration
    - Shut down and restart NNP
    - Restart the control point program
    - Re-activate a configuration

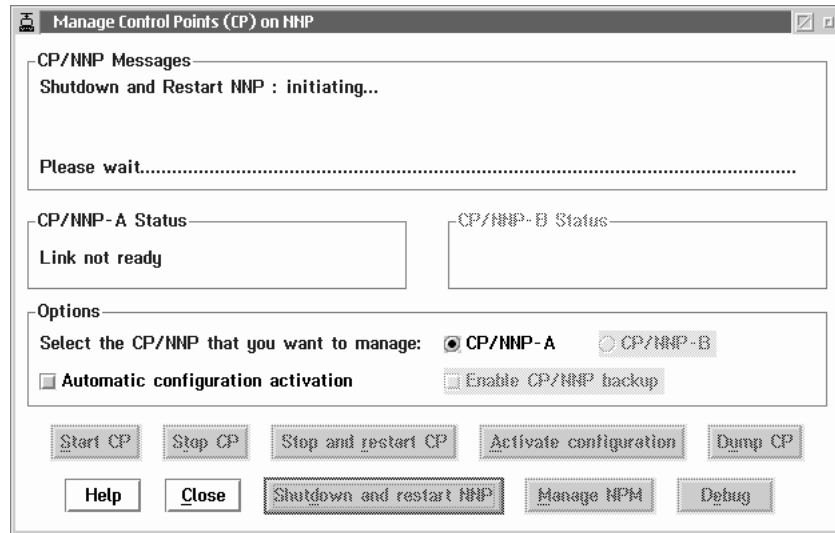- **Close** to save changes and exit.

To de-select automatic configuration, select one of the following buttons:

- **Start CP**, to initiate the control point program, ready for a configuration to be
  activated.

- **Shutdown and restart NNP** to:

    - Stop the control point program
    - Deactivate a configuration
    - Shut down and restart NNP
    - Restart the control point program
    - Re-activate a configuration

- **Close** to save changes and exit.

Waiting Operator Activation


```
Manage Control Points (CP) on NNP

CP/NNP Messages
Start CP : completed.
Autostart is disabled, use ACTIVATE command


CP/NNP-A Status                      CP/NNP-B Status
Waiting operator activation


Options
Select the CP/NNP that you want to manage:   ● CP/NNP-A    ○ CP/NNP-B
☐ Automatic configuration activation          ☐ Enable CP/NNP backup


  Start CP    Stop CP    Stop and restart CP    Activate configuration    Dump CP

   Help    Close    Shutdown and restart NNP    Manage NPM    Debug
```

The NNP icon appears pink in color in the **MOSS-E** View window. This means that the NNP and control point program are ready but the configuration has not been activated. To activate a configuration, click one of the following buttons:

- **Activate configuration** completes the **Start CP** command by activating the NN.

- **Stop CP** ends the control point program and returns to **Standby** status.

- **Stop and restart CP** activates automatic configuration by:

    - Stopping the control point program
    - Deactivating the configuration
    - Restarting the control point program
    - Re-activating the configuration

- **Stop and restart CP**. This will de-select automatic configuration by:

    - Stopping the control point program
    - Deactivating the configuration
    - Restarting the control point program
    - Waiting for you to restart the configuration

- **Close** saves changes and exits.

Link Not Ready

```
┌─────────────────────────────────────────────────────────────────────────┐
│ ▨  Manage Control Points (CP) on NNP                              ▨ ▫   │
├─────────────────────────────────────────────────────────────────────────┤
│ ┌─CP/NNP Messages─────────────────────────────────────────────────────┐ │
│ │ Shutdown and Restart NNP : initiating...                            │ │
│ │                                                                     │ │
│ │                                                                     │ │
│ │ Please wait.........................................................│ │
│ └─────────────────────────────────────────────────────────────────────┘ │
│ ┌─CP/NNP-A Status───────────────────┐ ┌─CP/NNP-B Status───────────────┐ │
│ │ Link not ready                    │ │                               │ │
│ └───────────────────────────────────┘ └───────────────────────────────┘ │
│ ┌─Options─────────────────────────────────────────────────────────────┐ │
│ │ Select the CP/NNP that you want to manage:  ◉ CP/NNP-A   ○ CP/NNP-B │ │
│ │ ▢ Automatic configuration activation       ▢ Enable CP/NNP backup  │ │
│ └─────────────────────────────────────────────────────────────────────┘ │
│                                                                          │
│   ┌ Start CP ┐ ┌ Stop CP ┐ ┌ Stop and restart CP ┐ ┌ Activate configuration ┐ ┌ Dump CP ┐ │
│                                                                          │
│   ┌ Help ┐ ┌ Close ┐ ┌ Shutdown and restart NNP ┐ ┌ Manage NPM ┐ ┌ Debug ┐ │
└─────────────────────────────────────────────────────────────────────────┘
```

The NNP icon appears grey in color in the **MOSS-E View** window. This status
means that the control point program is active and ready to be connected to the
3746.

There are no operator requirements.

Link Ready

```
┌─────────────────────────────────────────────────────────────────┐
│ ▣  Manage Control Points (CP) on NNP                    ☑ ▫      │
├─────────────────────────────────────────────────────────────────┤
│ ┌─ CP/NNP Messages ────────────────────────────────────────────┐ │
│ │ Shutdown and Restart NNP : completed.                        │ │
│ │                                                              │ │
│ │                                                              │ │
│ │                                                              │ │
│ └──────────────────────────────────────────────────────────────┘ │
│ ┌─ CP/NNP-A Status ───────────┐  ┌─ CP/NNP-B Status ──────────┐  │
│ │ Link ready                  │  │                            │  │
│ └─────────────────────────────┘  └────────────────────────────┘  │
│ ┌─ Options ────────────────────────────────────────────────────┐ │
│ │ Select the CP/NNP that you want to manage:  ◉ CP/NNP-A   ○ CP/NNP-B │
│ │ ☑ Automatic configuration activation        ☐ Enable CP/NNP backup │
│ └──────────────────────────────────────────────────────────────┘ │
│  [Start CP]  [Stop CP]  [Stop and restart CP]  [Activate configuration]  [Dump CP] │
│                                                                  │
│  [Help]  [Close]  [Shutdown and restart NNP]  [Manage NPM]       │
└─────────────────────────────────────────────────────────────────┘
```
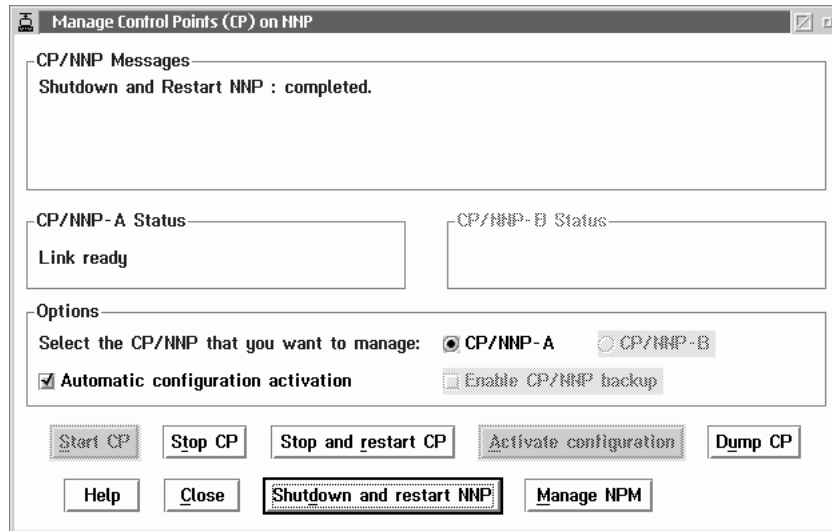
The NNP icon appears as white in color in the **MOSS-E View** window. This means that the NNP and control point are ready and the configuration is active. For further options, click the following buttons:

- **Stop CP** to end the control point program without deactivating the NN resource configuration.

- **Dump CP** is for IBM representatives only.

- Select Automatic configuration by clicking:

  - **Stop and restart CP**. This will do the following:

    - Stop and restart the 3746 control points
    - Automatically re-activate the configuration

  - **Shutdown and restart NNP**. This will do the following:

    - Stop the control point program
    - Deactivate the configuration
    - Shut down the NNP
    - Restart the NNP
    - Restart the control point program
    - Re-activate the configuration

- De-select automatic configuration by clicking:

  - **Stop and restart CP**. This will do the following:

    - Stop and restart the 3746 control points
    - Wait for your action

  - **Shutdown and restart NNP** results in the following:

    - Stops the control point program
    - Deactivates the configuration
    - Shuts down the NNP
    - Restarts the NNP
    - Waits for your action

- **Close** saves any changes and returns you to the previous panel.

Link Operational
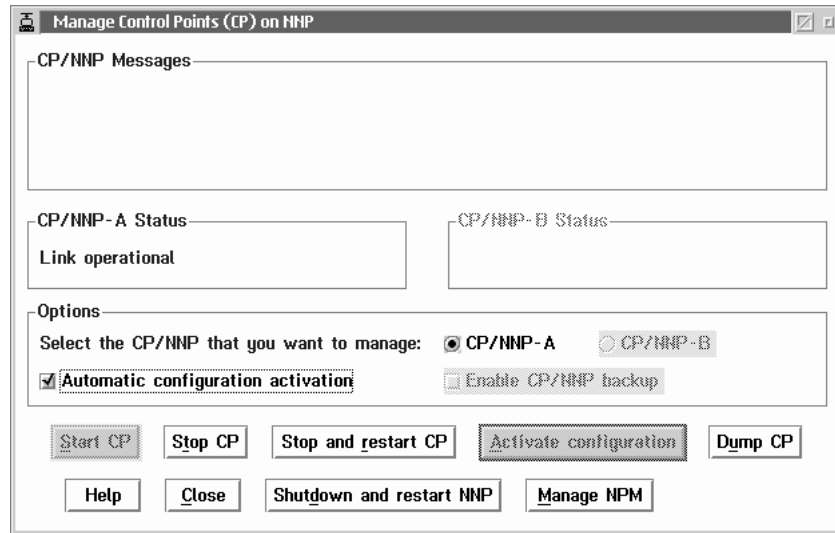
The NNP icon appears as green in color in the **MOSS-E View** window. This continues the **Link ready** status, and means that the control point is ready and the configuration is active.

Controller Configuration and Management (CCM)

For configuring and managing APPN/HPR or IP resources in an OS/2 environment.
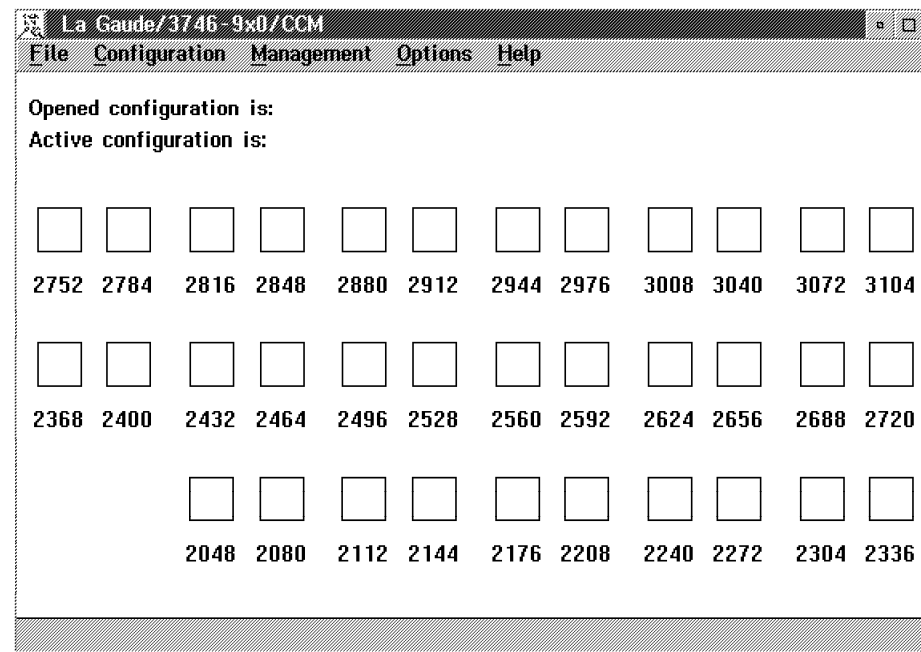
The above screen shows CCM without an open configuration.

Refer to Chapter 5, "Telnet IP Resource Management in CCM and MOSS-E" or to the *CCM: Users Guide*, SH11-3081.

IP Commands

A method of configuring and managing IP resources using Telnet commands and without using CCM. Details about these commands are in "Accessing IP Commands from the MOSS-E" on page 5-4.

Dual NNP

The 3746 can be equipped with one or two network node processors (NNPs) which provide the following:

- IP router functions.
- APPN/HPR control point functions including DLUR.
- Controller Configuration and Management (CCM) application.
- Storage utility for the network node files.
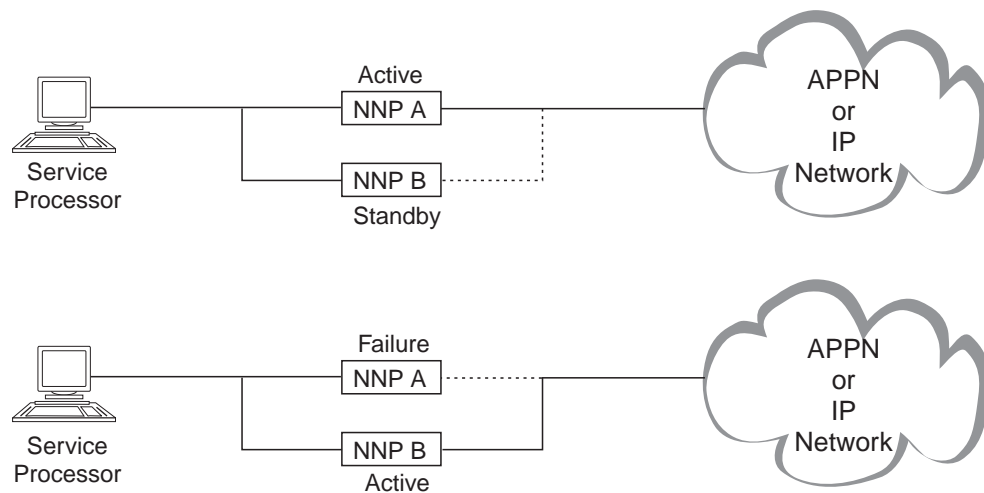
Figure   4-1. Dual Network Node Processors.   Dual NNPs in twin-standby mode for 3745 Models 41A and 61A.

To activate dual NNP, select **Enable CP/NNP backup** (see "Manage Control Points on NNPs" on page 4-1).

Each NNP (A or B) can be in **active** or **standby** mode alternatively. The active NNP runs the APPN/HPR Control Point or IP router functions. The standby NNP takes control if the active NNP fails. The service processor monitors both NNPs, and if one fails, activates the standby NNP after a 2 minute timer confirmation. Choosing automatic configuration resets and restarts traffic for the 3746 NNP (see "NNP Status Area Messages" on page 4-4). Otherwise, you must restart traffic manually.

NNP States

In twin-standby mode, the NNPs display color status messages similar to the 3746 NNP (see "Information Pull-Down Menu" on page 3-7).

Network Node Processor (NNP) Adapter Trace Function

The NNP adapter trace function collects data on the line activity of any processor (CLP, TRP, and ESCP) that you have installed on the 3746. You use the trace function if you have a problem with traffic flow through the processors.

On the service processor, you start a trace in the NNP which produces a data file. You then format the data file and view the formatted results on the service processor. You can select from three types of formatter, each one designed to read and format the data in your trace:

- APPN (but not HPR) protocols and above.
- IP protocols and above.
- DLC (this does not include PPP and ISDN) protocols, including APPN/HPR.

Running the Trace

The trace is initiated manually by you on the service processor. You have to manually stop the trace after you have encountered the problem with traffic flow.

6 MB file limit: There is a 6 MB limit on the size of the trace file. If the trace is not manually stopped, when the file reaches the 6 MB maximum, the data will wrap, replacing the original data.

Careful!

Running a trace impacts the performance of 3746 network operations.

For further reference on formatted trace file interpretation, see the standards as described in the following:

- *Token-Ring Network Architecture*, SC30-3374
- *Synchronous Data Link Control Concepts*, GA27-3093
- *SNA Formats*, GA27-3136
- *3745/3746 Planning Series: Protocols Description*, GA27-4241
- The ANSI/IEEE 802.2 standard for Token ring and Frame relay
- ITU-T recommendation X.25

You can also use a search engine on the web to access the most current RFCs on trace file interpretation.

Using the Adapter Trace Function

To use the adapter trace function, follow the steps below:

Step 1. Open the 3746 menu.

Step 2. Click **Network Node Processor (NNP) Management** to display NNP functions.
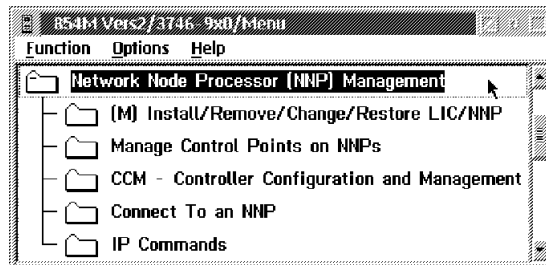
Step 3. Double-click **Connect To an NNP**.
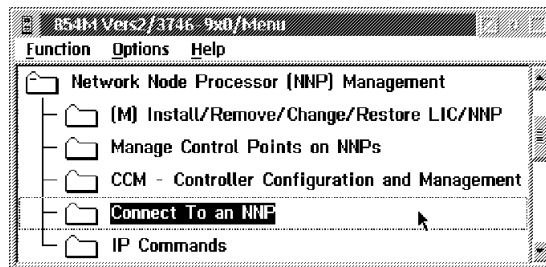
Step 4. Select the NNP and click **Connect**. (In MOSS-E, the active NNP is green in color.)
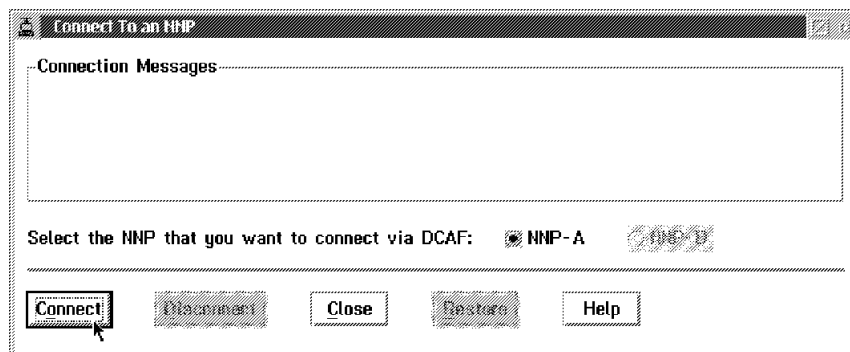
Step   5. The **State Active** screen displays with the host name for the NNP (in
Figure 4-2, this is **CA111111**) and the **Control Point APPN menu**. Click
NNP Management to initiate a DCAF session between the service
processor and the NNP.
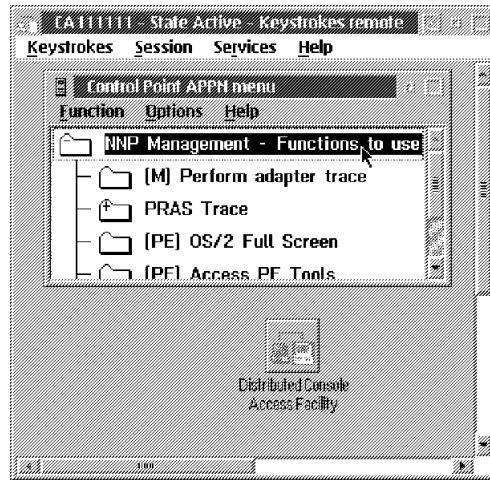
*Figure   4-2. State Active screen.   The State Active screen displays the Control Point APPN
menu.*

Step   6. Double-click **Perform adapter trace**.
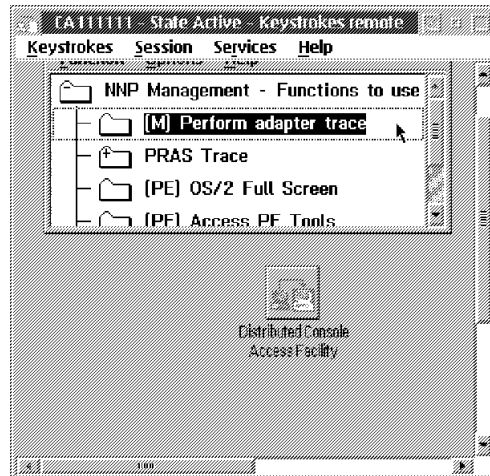
Step 7. From the **File** menu of the **Adapter Traces** screen, click **Create a new trace**.
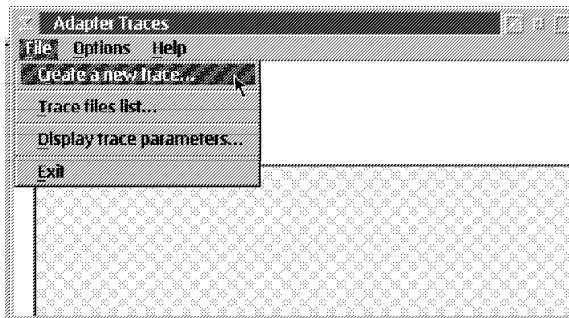
Step 8. In the **Trace Creation - Port Selection** screen, select the port name of the line that you want to trace. (You can select up to two lines.) The following options are available:

- Select **On** for **Checkpoint mode** if you are running a trace with the help of an IBM service representative. Otherwise, select **Off**.
- Click **Logical resources** if you want to run a trace on a specific station or DLCI. If you select this button, continue with Step 9 on page 4-15.
- Select **Maximum Path Information Unit data size** click **OK** and click **OK** on the following congestion warning message. Continue with Step 10 on page 4-15.

  Congestion Message: If the trace fails to produce data because of congestion, de-select this option and run the trace again.
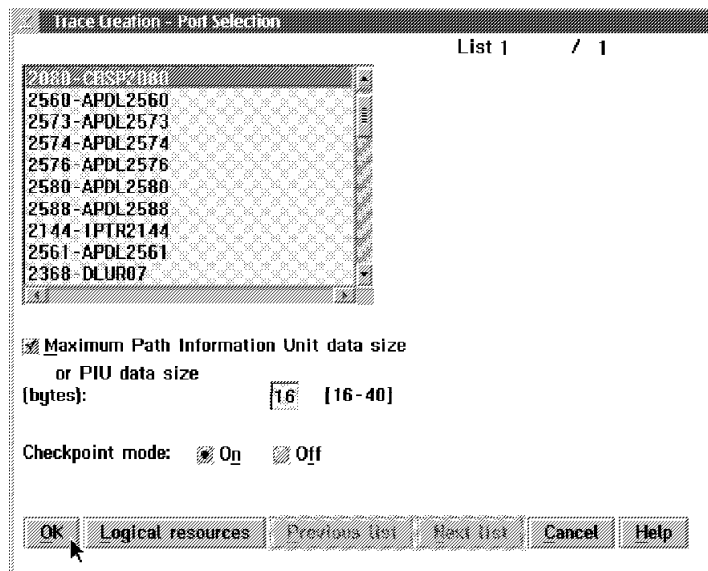
Step 9. Select a link station from the list and click **OK**.
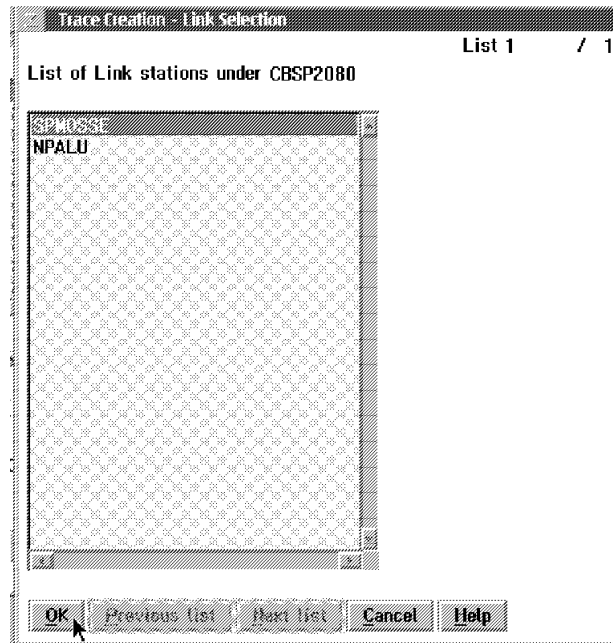
Step 10. The **Adapter Traces** screen reappears, displaying the port and adapter that you selected, and the status message of **New**.

Step 11. From the **Options** menu, click **Start trace**. The status message reads **WaitStart**, then changes to **Started**.
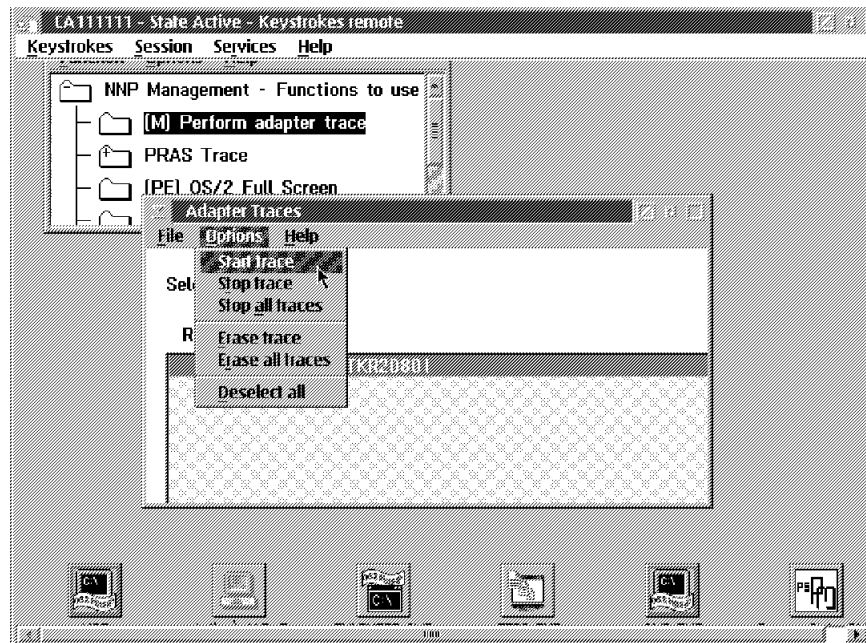
Step 12. When you have encountered the problem with the line, click **Stop trace** from the **Options** menu.
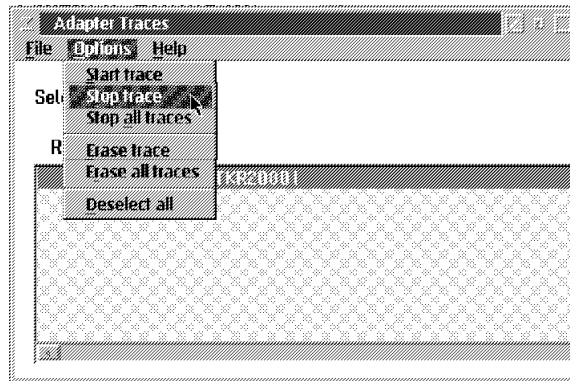
You can check that the trace is producing data by selecting **Display trace parameters** from the **File** menu. This displays the **Trace Parameters Display** screen.
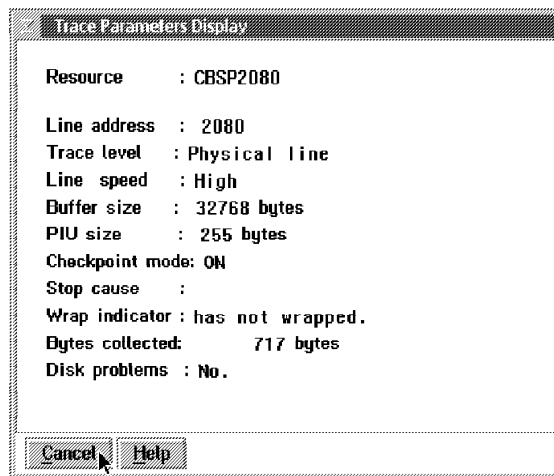
Step 13. A message indicates that trace data has been successfully stored with a file name (for example, APC00001.APC). Record the name of the file and click **OK**.

Step 14. From the **File** menu, click **Trace files list**. The **Management of Adapter Trace Files** screen displays all trace files and the new trace file.

Step 15. In the **Management of Adapter Trace Files** screen, select the `.apc` file generated from the trace. Open the **Options** menu for the following formatters:

Format APPN trace data

Use this formatter for SNA/APPN data. The file extension `.sum` indicates a full summary of data (this is recommended for viewing), `.trc` indicates an intermediary summary, and `.det` indicates full data details.

Format IP trace data

The file extension `.ip` indicates a full summary of data (this is recommended for viewing), and `.sit` indicates detailed data.

Format DLC data (FAPC)

Formatting produces a summary file with extension `.res`.
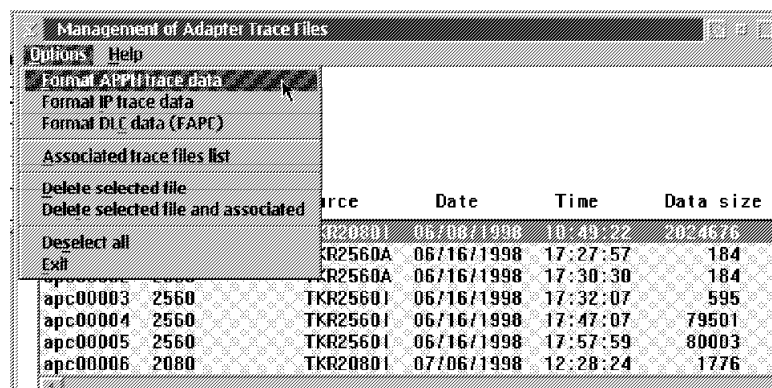
Step 16. Click **Format APPN trace data** or **Format IP trace data**. A message indicates that the format has been successful.

Step 17. From the **Options** menu, click **Associated trace files List**.
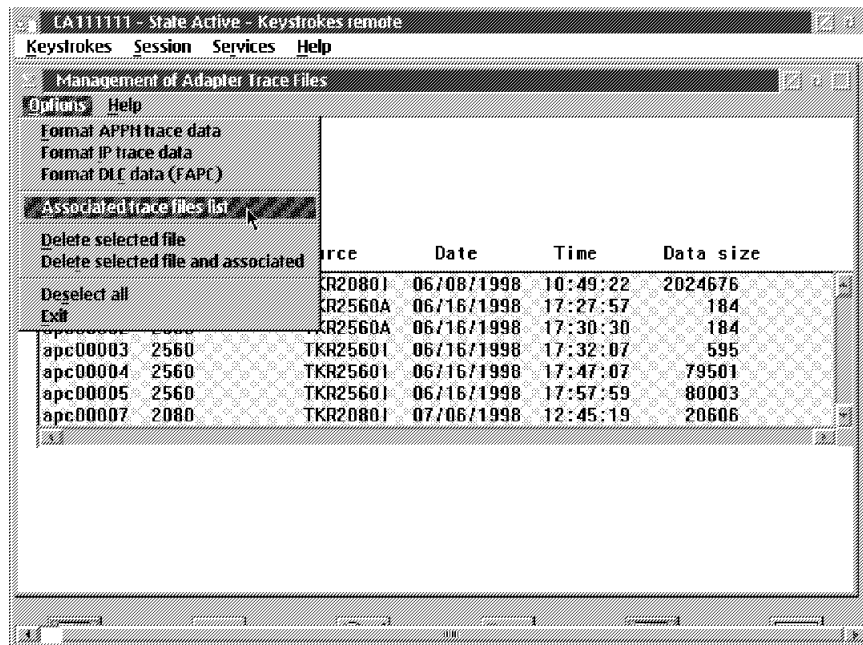
Step 18. In the **Formatted trace file list** screen, select a file, and from the **Options** menu, click **Display file**.

> **Note:** You cannot display the `.apc` file, which is the binary file result of the trace.

Go to Step 21 on page 4-20.
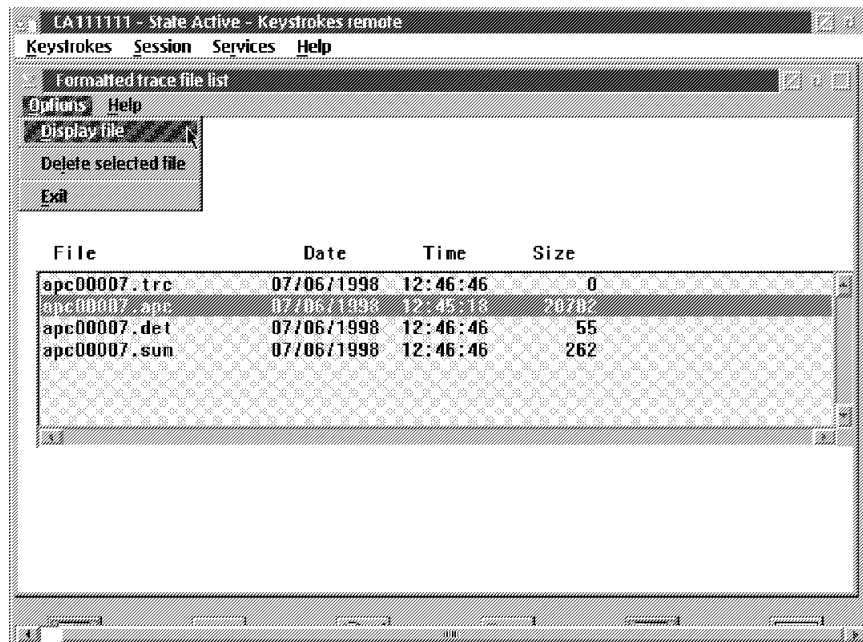
Step 19. From the **Options** menu, select **Format DLC data (FAPC)**.
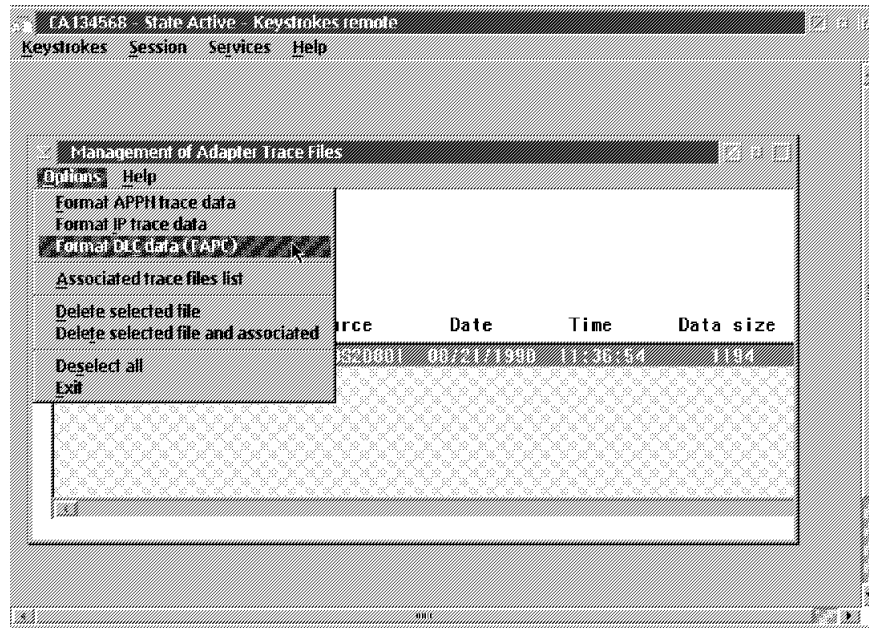
Step 20. The **FAPC** screen displays. This screen differs slightly, according to protocol. For SDLC, Token ring, and ESCON, Figure 4-3 displays. For other protocols and screen settings, see "FAPC screen buttons" on page 4-21.

When you have finished with the settings in this screen, click **Format**.
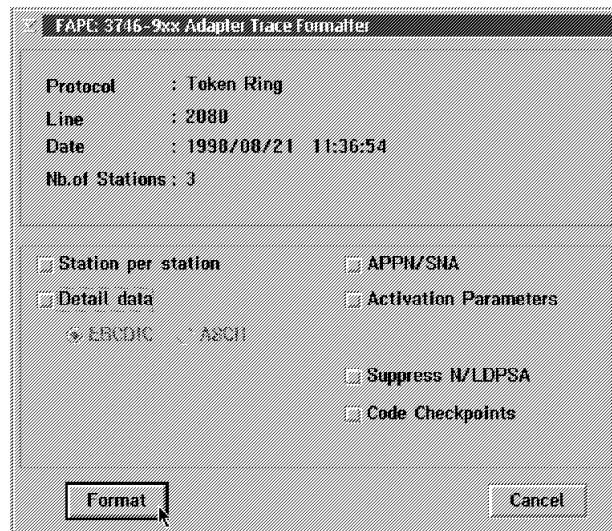
Figure 4-3. FAPC screen for SDLC, Token ring, and ESCON

Step 21. The formatted file displays in the **Browse** screen.
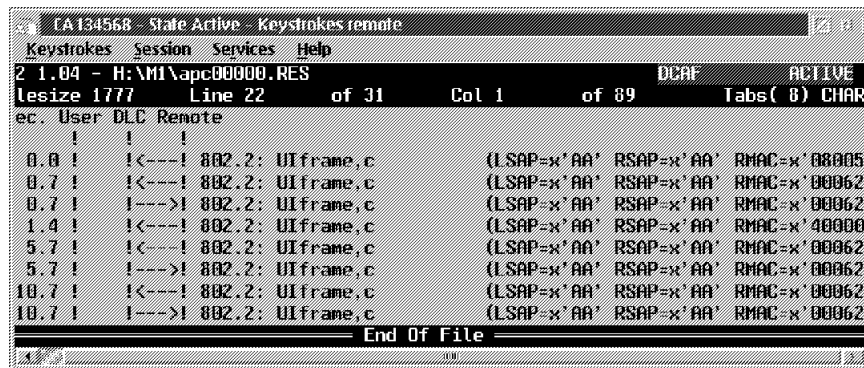
Step 22. To close the trace session, open the **Session** menu in the **State Active** screen, and click **Terminate**. This closes the DCAF session between the service processor and the NNP.
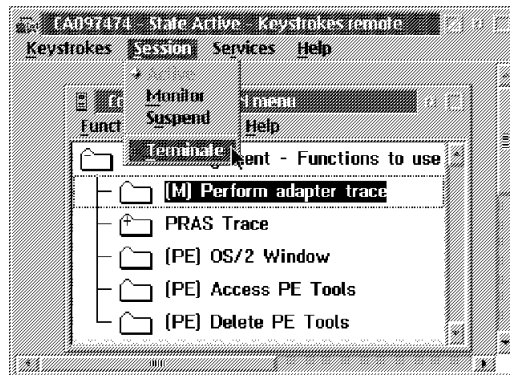
FAPC screen buttons

Station per station

The **Station per station** button is enabled if there is more than one station. Select this button if you want to format the trace data station by station. Otherwise, if there is more than one station, the formatter will include data on all stations.

Detail data

Clicking this button enables the **EBCDIC** and **ASCII** buttons.

APPN/SNA

This button includes first level format of data, for example XID (eXchange ID).

Activation Parameters

This button includes all port and station activation parameters.

Suppress N/LDPSA

This button omits all interface control point data.

Code Checkpoints

This button includes internal microcode level information. Generally used by an IBM service representative.

LAPB

The Link Access Procedure Balanced (LAPB) button displays for X.25 protocol.

LMI

The Link Management Interface (LMI) button displays for Frame relay protocol.

Chapter 5. Telnet IP Resource Management in CCM and MOSS-E

This section describes how to access and manage IP resources using Telnet commands via CCM or MOSS-E.

CCM provides menu options that access IP resources by running commands similar to Telnet (see "CCM IP Resource Management" on page 5-2).

You can also run Telnet commands for IP resources directly in MOSS-E (see "Accessing IP Commands from the MOSS-E" on page 5-4 for more information).

The advantage to directly accessing Telnet is that you do not need to use the resources of the service processor, which can then be reserved for other tasks.

For more information on CCM, see *CCM: Users Guide*, SH11-3081.

For more information on Telnet, see the *Nways Multiprotocol Routing Services*, SC30-3680 and the *Software User's Guide*, SC30-3681.

Controller Configuration and Management (CCM)

CCM runs in the service processor. You can open CCM on the service processor and use the application for the following:

- Defining configuration parameters for APPN and IP resources
- Viewing configuration parameters
- Performing management tasks

The following describes how to configure CCM to access Telnet and run Telnet commands.

CCM and Telnet User Profiles

First make sure that the MOSS-E option for configuring CCM and Telnet user profiles is enabled.

Step 1 Double-click the service processor object icon or open an **MOSS-E View** menu from the window list (see Step 2 on page 3-4).

Step 2 Click **Operation Management**.

Step 3 Double-click **Manage Passwords**. Enter the management password (the default is **IBM3745**) and click **OK**.

Step   4 Click **CCM/Telnet user profiles management**.
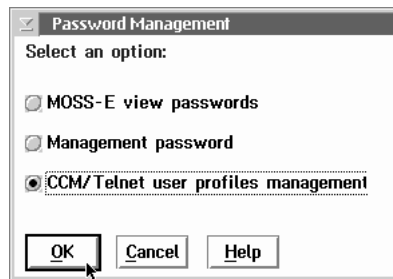
Step   5 Enter a **Userid** and **Password** and click **OK**.
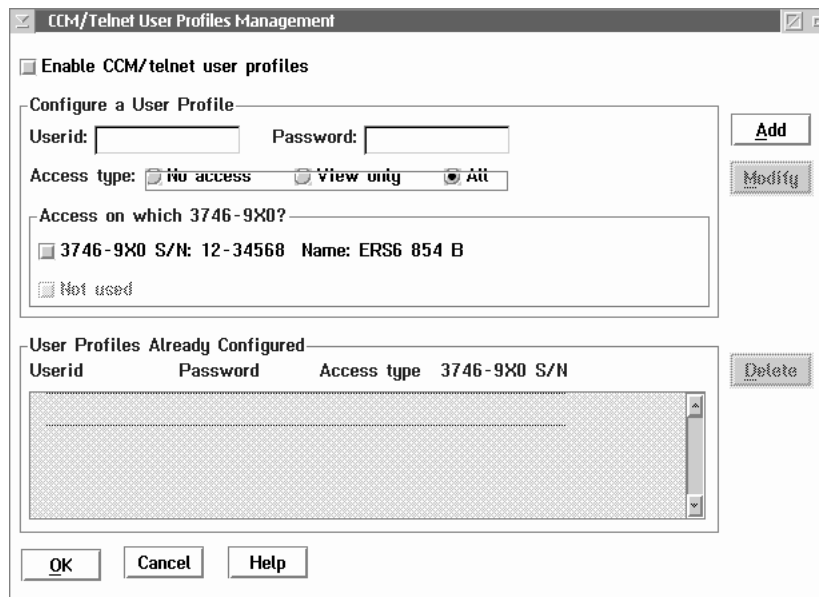
Step   6 Click **Cancel** to exit.

CCM IP Resource Management

You can configure IP resource management parameters by using the **Management** menu in CCM.

Step   1 Double-click the 3746-900 machine object icon, or open the 3746-900 menu in the window list (see Step 2 on page 3-4).

Step 2 Click **Network Node Processor (NNP) Management** then double-click **Controller Configuration and Management (CCM)**. The CCM main window displays.
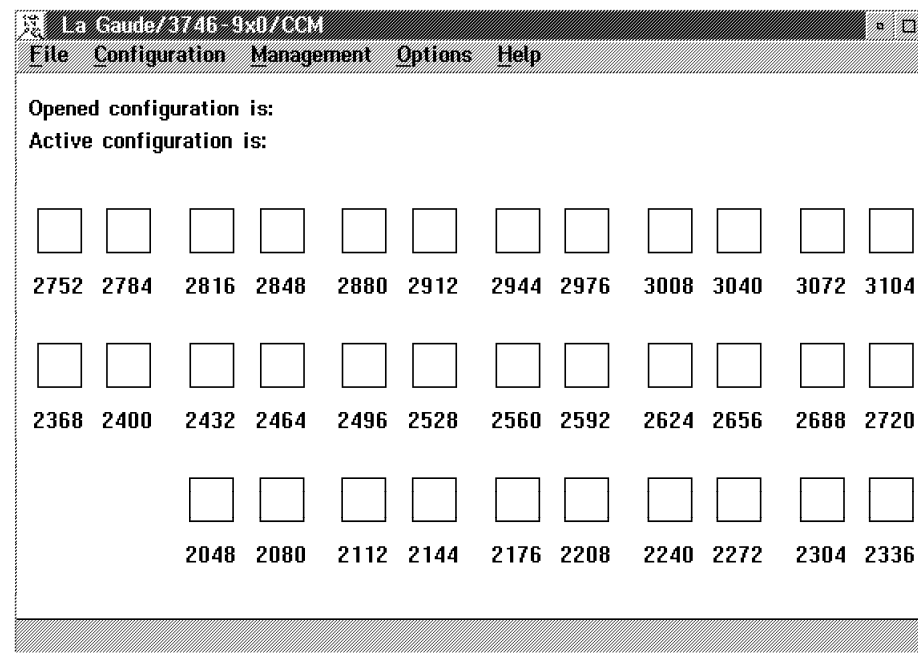
Step 3 Open the **Management** menu, and click **IP specifics**.
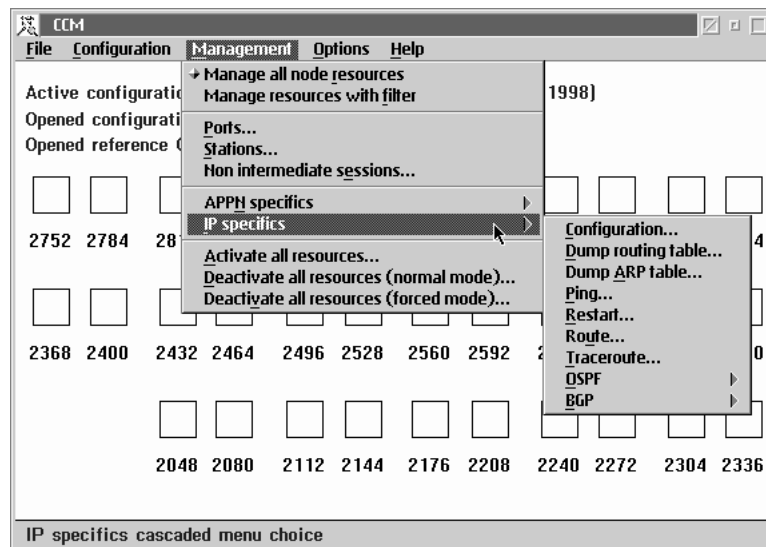
Step 4 CCM commands for IP management are listed in the **IP specifics** sub-menus. For more detailed information on using CCM commands for IP management, see the CCM online Help.

Accessing IP Commands from the MOSS-E

First make sure that the MOSS-E option for configuring CCM and Telnet user profiles is enabled (see "CCM and Telnet User Profiles" on page 5-1).

Step **1** Double-click a 3746-900 machine object icon, or open a 3746-900 menu in the window list (see Step 2 on page 3-4).

Step **2** Click **Network Node Processor (NNP) Management**, then double-click **IP Commands**.

```
┌─────────────────────────────────────────────────────┐
│ ▤  DCS2 853Ba /3746-9x0/Menu          ▨ ▫ ☐          │
│ Function  Options  Help                              │
│ ┌─ Network Node Processor (NNP) Management        ▲  │
│ │  └─ ☐ Manage Control Points on NNPs             ▤  │
│ │  └─ ☐ CCM - Controller Configuration and Management │
│ │  └─ ☐ IP Commands                    ▶         ▼   │
└─────────────────────────────────────────────────────┘
```
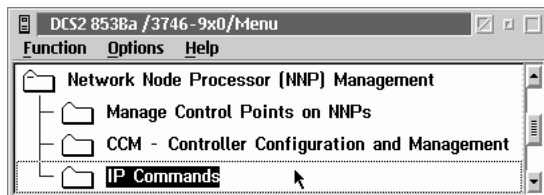
Step **3** Enter your **Userid** and **Telnet Password** to access the OPCON environment (see "Navigating in the IP Environment" for more information on OPCON).

   Note: You can enter your own Userid and password or the default Telnet values of **NNPIP** and **37469X0A**.

Step **4** At the Telnet *RANGE XXXX-YYYY ** command line, you can configure and manage available IP resources (see "Configuring Resources" on page 5-6 and "Managing Resources" on page 5-6).

Navigating in the IP Environment

IP is divided in three main environment levels (see Figure 5-1 on page 5-5).

Level 1 OPCON environment.

Level 2 CONFIG (T 6) environment for configuration, or GWCON (T 5) environment for management.

Level 3 Interfaces, features, protocols, and protocol environments (Net xxxx, P ARP, P IP, P OSPF, P BGP, F BRS).

You can configure and manage IP resources within these levels. Navigating these levels requires the following simple commands:

* Level 3 commands allow you into a specified environment.
* Typing **EXIT** returns you to the previous level.

* Pressing ⌈Ctrl⌉ and ⌈O⌉ together returns you from the environment that you are in back to OPCON (the *RANGE XXXX-YYYY ** command prompt).
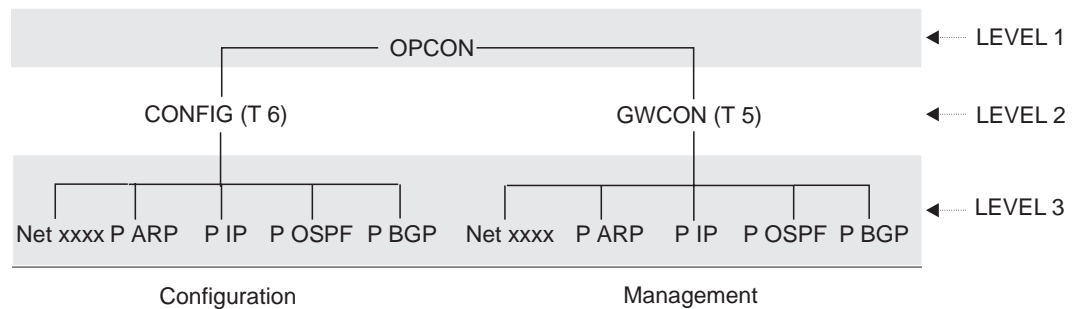
Legend

xxxx   Port number, port name, or interface number

Figure   5-1. Internet Protocol (IP) Environment

OPCON Commands

At the OPCON command prompt **RANGE XXXX-YYYY ***, enter **?** for available OPCON commands.

Logout   Exits the Telnet session without saving changes (the keyboard shortcut is pressing [Ctrl] and [C] together).

Memory   Displays information on adapter memory.

Range   Selects an adapter by specific port number.

Restart   Restarts the IP router with the current or new configuration.

Status   Displays the status of adapter processes.

Talk   For configuration (Talk 6 or T 6) or management (Talk 5 or T 5) IP.

For working on a specific processor, you can use the port number, interface number, or port name in OPCON and GWCON environments. The command prompt automatically updates to the processor that you are working on.

Commands that include a port number, interface number, or port name, take you automatically to the appropriate processor.

Some commands include a parameter for entering a port number (for example, BUFFER). If a parameter is entered, the command applies to the specified address. Otherwise, the command applies to the entire processor.

Configuring Resources

For a more detailed description on using these commands, see *Nways Multiprotocol Routing Services*, and the *Software User's Guide*.

Step 1 On the **Range XXXX-YYYY *** command line, enter **T 6** for the **Config**> command prompt.

Step 2 Enter **?** to display the list of the available configuration commands.

Exit	Returns to the previous environment level.
F BRS	For a given interface, adds deletes or changes the default class, and assigns or de-assigns a protocol or filter[1].
List	Displays the configuration and devices list.
Logout	Exits the Telnet session without saving changes (the keyboard shortcut is pressing [Ctrl] and [C] together).
Network	Enters the configuration network (port) environment.
P IP	Add, delete, or change a route (static routes), and add or remove a filter[1].
P OSPF	Add or remove a neighbor[1].
Patch	Used only by an IBM representative.
Protocol	For entering a protocol environment (IP, ARP, etc).
Set	For setting parameters.
Unpatch	Used only by an IBM representative.

Step 3 Entering **?** after a command name displays any associated sub-commands.

Pressing [Ctrl] and [0] together returns you from the environment that you are in back to OPCON (the *RANGE XXXX-YYYY ** command prompt).

Managing Resources

For detailed use of these commands, refer to the *Nways Multiprotocol Routing Services* and to the *Software User's Guide*.

Step 1 On the **Range XXXX-YYYY *** command line, enter **T 5** to display the GWCON command prompt (shown as **RANGE XXXX-YYYY** +).

Step 2 Enter **?** to display the list of the available management commands.

Range	For other adapter range addresses.
Buffer	Displays the interface buffer size and utilization.
Clear	For clearing interface statistics.
Configuration	Displays adapter protocol and interface configuration.

---

[1] These commands take effect immediately and there is no need to restart your system.

Disable	Disables adapter interfaces.
Error	Displays interface error statistics.
Interface	Displays interface statistics.
Logout	Exits the Telnet session without saving changes (the keyboard shortcut is pressing ⟦Ctrl⟧ and ⟦C⟧ together).
Memory	Displays memory information.
Network	For entering a network (or port) environment.
Protocol	For entering a protocol environment.
Queue	Displays interface queue length.
Statistics	Displays interface traffic.
Test	For enabling or verifying an adapter interface.
Uptime	Display the time statistics of an adapter.
Debug	Used by an IBM representative only.
Phdump	Used by an IBM representative only.
Trcon	Used by an IBM representative only.
Trcoff	Used by an IBM representative only.

Step   3 Enter **?** after a command name to display any available associated sub-commands.

Pressing ⟦Ctrl⟧ and ⟦0⟧ together returns you from the environment that you are in back to OPCON (the *RANGE XXXX-YYYY* * command prompt).

Single IP Control Point for the 3746 and the MAE

The 3746 and the MAE (FC 3001) share a single IP control point. You can use the **IP Commands** function of the **Network Node Processor (NNP) Management** menu to display the resources of the 3746 and the MAE. However, if you display the resources of the 3746, only the coupler assigned to the MAE is initially shown. To access the interfaces configured for the MAE, use the following procedure.

Step   1 Follow Steps 1 on page 5-4 to 3 on page 5-4.

Step   2 At the Telnet *RANGE XXXX-YYYY* * command line, type **Net xxxx** (where **xxxx** represents the coupler number of the MAE).

A warning message informs you that using the **T 6** command to modify any interface or IP address will cause the MAE to malfunction.

Step   3 Type **T 5**, then **c** to display the interfaces of the MAE. Press ⟦Enter⟧ to display information on MAE interfaces line by line. If you want to view information screen by screen, press ⟦Enter⟧ and the space-bar.

Step   4 To return to the 3746 management or configuration level, type **Range 0**.

MONITR Process

The MONITR process displays the activity inside the router and the network. To access MONITR from OPCON, type **T 2**.

Chapter 6. Introduction to Remote Access Programs

IBM Personal System/2 (or equivalent) workstations can be used to remotely access the service processor (and network node processor, if installed). These workstations access the service processor MOSS-E and Controller Configuration and Management (CCM) by using remote access programs, for example DCAF[1] and Java™ Console. The operator at a remote workstation using a remote access program can either:

- Control a target service processor with a remote workstation keyboard and mouse.

- Monitor the target service processor in a window displayed on the remote workstation.

The **remote workstation operates** as a **controlling workstation** and the **service processor** as a **target workstation**. When an active session connection is established between a remote workstation and the service processor, you can perform MOSS-E, CCM, APPN and IP functions as though seated in front of the service processor.

Chapter 6 to Chapter 17 of this guide include:

- Information about the parameters for configuring consoles as remote (controlling) workstations.

- Procedures for configuring remote (controlling) workstations.

Remote Workstations Using Java Console

Java Console can be run as a web-based or Java program-based remote access control program that allows a remote workstation to control the service processor across the network. Java Console provides the same tools for controlling remote service processors as DCAF. While DCAF is more suitable for SNA-based networking, Java Console takes advantage of the flexibility in IP networking.

Java Console can be run by the controlling workstation on any platform (OS/2, Windows® 95, Windows 98, Windows NT®, Macintosh, AIX, and UNIX).

For more information on Java Console, see Chapter 15, "Java Console Remote Access" on page 15-1.

Remote Workstations Using DCAF

Figure 6-1 on page 6-2 illustrates five types of remote workstation access to the service processor through using DCAF.

---

[1] Tivoli Management Environment (TME) 10 Remote Control contains the microcode for the Distributed Console Access Facility (DCAF) program (PN 5697RCL). However, DCAF is referred to throughout this guide.
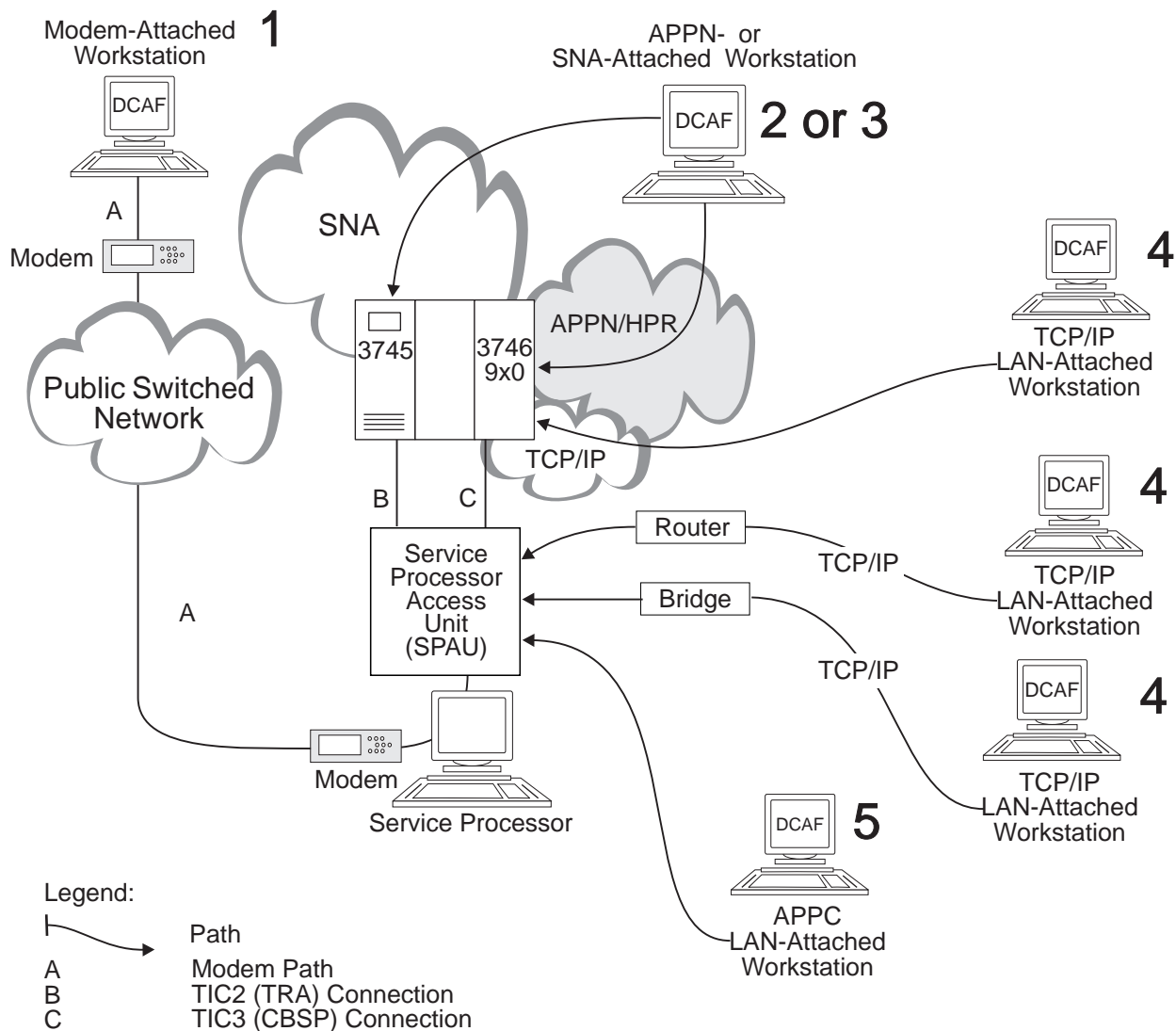
Figure 6-1. DCAF Console Attachments

The numbers in the figure above represent the following console connections to the service processor:

1, **Modem-attached** consoles that use the public switched telephone network to access the service processor via a Synchronous Data Link Control (SDLC) port and modem. For more information, see Chapter 9, "Modem-Attached Remote Workstation."

2, **APPN-attached** console communicating with the service processor via an LU6.2 session over the network backbone. For more information, see Chapter 10, "APPN-Attached Remote Workstation."

3, **SNA-attached** console communicating with the service processor via an Logical Unit (LU) 6.2 session over the network backbone. For more information, see Chapter 11, "SNA-Attached Remote Workstation."

4, **TCP/IP LAN-attached** console attached to the SPAU via a bridge or a router with appropriate filtering. For more information, see Chapter 12, "TCP/IP LAN-Attached Remote Workstation."

5 , **APPC LAN-attached** console attached directly to the Service Processor Access Unit (SPAU), or indirectly through a token-ring LAN bridge. For more information, see Chapter 13, "APPC LAN-Attached Remote Workstation."

Note: The port and modem can also be used for Remote Support Facility (RSF), Remote Technical Assistance Information Network (RETAIN), and Alert calls.

A remote console can be configured for all categories of access. This means that a single console at a central control site could be LAN-attached to a local service processor while providing APPN and modem access to other service processors.

Attention!

Sending an alert to NetView via a service processor SDLC port or calling RSF has a higher priority for the MOSS-E than DCAF, SDLC, or SNA remote sessions.

A more complex two-target (two service processors) configuration is described in Appendix D, "Configuration for a Two-Target Remote Workstation." Each target uses a LAN, a Modem, and SNA to link to the remote workstation.

Notes:

- In the parts of this guide that refer to the 3745 Models A, "console" means a "workstation."

- The keyboard and mouse of the service processor cannot be used when it is being controlled by a remote workstation. However, you can regain control of the keyboard and mouse by using DCAF hot keys, $\boxed{\text{Alt}}$ $\boxed{\text{T}}$ pressed together.

  If a service processor is not working, check if it is being controlled by a remote workstation.

- A service processor can only be controlled by one remote workstation at a time.

- A remote workstation can be configured to have access to more than one service processor.

- DCAF is a separate product from the IBM Communication Controllers. Installing DCAF on a PS/2 (or equivalent) workstation is the user's responsibility. See Chapter 7, "Program Support for Remote Workstation Access" for details.

DCAF Logon Password and Service Processor Security

To access a target service processor using a remote workstation, you must first establish a DCAF link with certain parameters unique to the target service processor. This is explained later in this guide.

Passwords provide additional security for the service processor:

1. The **DCAF target password** establishes the link for accessing the target service processor. It can be unique for each target service processor.

There is no factory default password. Press ⏎Enter when you are asked for the password. To install or change a password, use **Customize DCAF Target Settings** on the service processor **Configuration Management** menu.

2. You must enter a **local MOSS-E password** (controller or service processor password) to log onto the MOSS-E and remotely control the service processor. See the *3745/3746 Planning Series: Management Planning*, GA27-4239 for more information on these passwords.

Note: By default, the security level of the DCAF sessions between a remote console and the service processor is *non-secure* (password-only).

The security administrator and authentication components of DCAF can be used with the service processor to increase the security of the DCAF link.

Regaining Control of the Service Processor

During an active DCAF session, the remote workstation prevents the target service processor from responding to input from the keyboard or mouse.

However, the local service processor operator can use a hot key combination to override the controlling workstation and regain control of the service processor.

The default hot keys are Alt T pressed together.

Minimum Workstation (Remote Console) Configuration

This section contains an overview of the system requirements for remote workstations using DCAF. For detailed information, refer to the *DCAF Installation and Configuration Guide*, SH19-4068, provided with the DCAF installation diskettes.

Programming Requirements

You need the following minimum program levels on your workstation to remotely access the service processor:

- DCAF, Version 1.3.3 (also known as TME10 Remote Control, PN 5697RCL).

- OS/2 Version 2.1 or higher with Warp 3.x and LAPS Version 5.10, or Warp 4.x, with Multiple Protocol Transport Services (MPTS) for OS/2 4.x.

- CM/2 Version 1.11 or higher, or CS/2 Version 4.1 (with OS/2 Warp, MPTS, and TCP/IP).

- MPTS Version 2.2 or higher for LAN-attached workstations.

- Transmission Control Protocol/Internet Protocol (TCP/IP) Version 2.0 or higher for TCP/IP-attached workstations.

The following additional program support is needed for specific types of console attachment:

- For LAN-attached and SNA-attached consoles that connect to SNA networks via a LAN, Network Transport Services/2 (NTS/2).

- For access to a service processor via an SNA or APPN network backbone:

  1. DCAF remote workstations and gateway workstations are configured as physical units (PUs) type 2.1. If the DCAF workstation is downstream from a 3174 control unit, then the 3174 must have either one of the following:

- Configuration Support B plus 8Q0800 Programming Request for Price Quotation (PRPQ).
- Configuration Support C (APPN feature).

2. For 3720 and 3745 Communication Controllers on the network backbone, NCP V5 R2, operating under Virtual Telecommunications Access Method (VTAM®) V3 R2.

3. For 3725 Communication Controllers on the network backbone, NCP V4 R3, operating under VTAM V3 R2.

Later releases of these programs may be used unless otherwise stated.

Hardware Requirements and Recommendations

For remote workstations, IBM recommends using the following equipment:

- PS/2s (or equivalent) with at least a 80386 microprocessor and Video Graphics Adapter (VGA) display such as an IBM 8515 color display. A Pentium-level microprocessor is recommended.

- A hard disk of at least 80 MB and at least 10 MB of RAM.

- A pointing device (usually a mouse).

- A QWERTY keyboard. If this type of keyboard is unavailable, then the QWERTY equivalent keys must be used. For example, on an AZERTY, you must use the "q" key when you want to type an "a". To find the equivalent keys on IBM non-QWERTY keyboards, see the OS/2 documentation for keyboard layouts or codes.

The following is recommended for different types of console attachments:

- LAN-attached console (SNA or TCP/IP type), an IBM Token-Ring Network Adapter/A operating at 16 Mbps.

- Modem-attached console, a synchronous modem (such as IBM 7855, 7857, 7858, or equivalent) and a multi-protocol adapter (MPA) card.

- Modem-attached console with an asynchronous modem (for example, an IBM 7858 or equivalent) connected to the COM1 port.

Technical information on the service processor is provided in the *3745/3746 Planning Series: Management Planning*.

Chapter 7. Program Support for Remote Workstation Access

Program support for remote workstation access via DCAF is described in this chapter. For information on program support for a remote workstation via Java Console, see "Overview of Java Console" on page 15-1.

Required Program Support for DCAF

First collect the worksheets from the *3745/3746 Planning Series: Management Planning*, GA27-4239, at your workstation. These contain the parameters that are required for customizing the service processor.

Make sure that you have a workstation already installed and running OS/2 (see "Minimum Workstation (Remote Console) Configuration" on page 6-4).

Use the OS/2 command **SYSLEVEL** to verify the programs you have already installed on the workstation and the Service Pak levels you are using.

Prepare the following:

- Installation diskettes for CS/2 Version 4.1 or higher or CM/2 Version 1.11 or higher.

- LAPS Version 2.2 or higher.

- DCAF Version 1.3 or higher installation diskettes.

- TCP/IP Version 2.0 or higher installation diskettes.

- Information from the *3745/3746 Planning Series: Management Planning* worksheets.

Installing DCAF

Support for DCAF is provided by microcode level F12720 and higher. Licenses for a new installation of DCAF is provided in PID 5799-XEN (RPQ P85585). This also provides a compliance with specifications for Year 2000 for existing DCAF installations and for new DCAF licenses. The DCAF (non-secure password) component is installed by the MOSS-E in the service processor on customer request.

Warning: The DCAF secure option, once selected on the service processor, is permanent. Re-enabling the non-secure password option requires restoring the microcode from CD-ROM.

When DCAF has been installed on your remote workstation, see "Customizing CS/2 and CM/2."

Customizing CS/2 and CM/2

To enable a DCAF link between the remote workstation and the service processor, you will need to customize CS/2.

Note: Procedures for CS/2 in this Guide are the same for CM/2 unless otherwise indicated.

Customizing a CS/2 Remote Workstation

For the different types of workstation connections, see the following:

- Modem-attached, see Chapter 9, "Modem-Attached Remote Workstation."

- APPN-attached, see Chapter 10, "APPN-Attached Remote Workstation."

- SNA-attached, see Chapter 11, "SNA-Attached Remote Workstation."

- APPC LAN-attached, see Chapter 13, "APPC LAN-Attached Remote Workstation."

Configuring Data Link Control (DLC) for a Service Processor

The following is a list of recommended CM/2 and CS/2 parameters for a remote workstation, enabling it to correspond with the DLC definitions of the service processor. Although they are a guide to help you with selecting parameters, you must supply the actual values that correspond to your network.

Create or Change the Token-Ring Network DLC Adapter Profile

The parameters for this screen apply to LAN- (APPC-type), SNA-, and APPN- (via a LAN) attached consoles.

Adapter number	**0**
Load DLC	**Yes**
Maximum number of link stations	**4**
Percent of incoming calls	**50**
Free unused link	**No**
Congestion tolerance	**80**
Maximum RU size	**2024**
Send Window Count	**4**
Receive Window Count	**4**
C&SM LAN ID	(Customer defined)
Send alert for beaconing	**Yes**

Create or Change the SDLC DLC Adapter Profile

The parameters for this screen apply to modem- and SNA- (SDLC) attached consoles.

Adapter number	**0**
Load DLC	**Yes**
Free unused link	**No**
Maximum RU size	**4096**
Send Window Count	**4**
Receive Window Count	**4**
Line type	**Switched**
Link station role	**Primary**
Line mode	**Constant request to send**

NRZI	**Yes**
Modem rate	**Full speed**
Data set ready timeout	**5**
XID repoll count	**10**
Non-XID repoll count	**7**

Physical Installation

Any remote workstation or associated modem is installed by using procedures in the documentation provided with the product. For IBM 7855, 7857, 7858, or Hayes Modems, see "Configuring CS/2 Remote Workstations" on page 9-4.

Chapter 8. Using DCAF for Remote Access to the Service Processor

For more information about DCAF, see the *DCAF: Installation and Configuration Guide*, SH19-4068.

In this procedure, the service processor is the DCAF target workstation, and the remote workstation is the DCAF controlling workstation.

Starting a Session

Use the following procedure to start a DCAF session that controls the service processor and the network node processor (NNP).

Step   1. Double-click the **Distributed Console Access Facility** icon.

Step   2. Double-click the ⬛ DCAF Controller icon.

Step   3. In the **Session** pull-down menu, select **Open Workstation directory**.
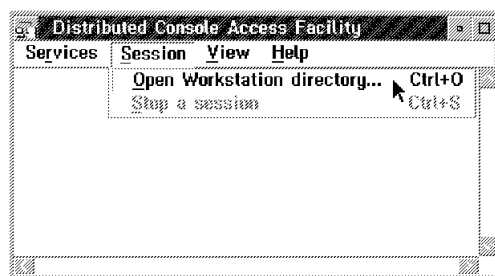
Step   4. Double-click the icon of the target service processor that you want.

Step   5. Enter the DCAF target password (defined in "DCAF Logon Password and Service Processor Security" on page 6-3). If there is no password for the target workstation, click **OK**.

Step   6. Click **Yes** if you have a non-QWERTY keyboard (see "Hardware Requirements and Recommendations" on page 6-5).

Step   7. Click **Start a session** from the **Session** pull-down menu.

Step   8. Maximize the window to see the target service processor screen.

Note: If you are using an SDLC link that seems too slow, check your modem speed. If it is not at full speed, close the DCAF session and try a new SDLC connection. A better line might reduce the target response time.

Closing a Session

From the Remote Workstation

In the **Session** pull-down menu on the DCAF window action bar, click **Stop a session**.

> **Warning!**
>
> Do not close the session by de-selecting **Enable DCAF Link/Operations** in the **Service Processor (SP) Customization** screen of the MOSS-E.

From the Target Service Processor

To close the session of the target service processor, use the DCAF hot keys,

`Alt` `T` pressed together.

> **Note**
>
> When your DCAF session is finished, make sure that SDLC link is disconnected. This frees SDLC resources for other tasks.

Chapter 9. Modem-Attached Remote Workstation
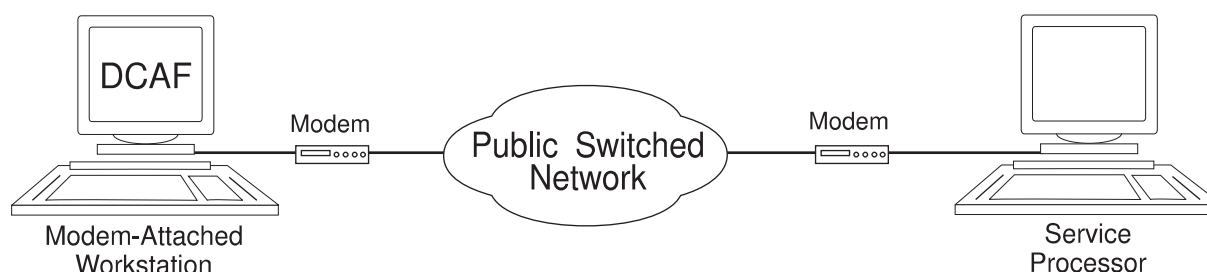
Figure 9-1. Modem-Attached Remote Workstation

This chapter describes how to configure a DCAF session for controlling the service processor (see Figure 9-1). If you have more than one target service processor, you must respect the parameter value matching rules given in Appendix D, "Configuration for a Two-Target Remote Workstation."

Configuring a Target Service Processor

Use the worksheets in the *3745/3746 Planning Series: Management Planning*, GA27-4239 to record the necessary parameter values described in this section. This section describes the following:

- The MOSS-E configuration for a DCAF link to the communication controller.

- The MOSS-E parameters required for use in the controlling workstation.

Parameter Values that Must Be the Same

Table 9-1 gives the sets of MOSS-E parameters that must have the same value in both the remote workstation and the target service processor.

Table 9-1. Identical Target and Controlling Parameters (APPN)	
Service Processor	**Remote Workstation**
Local Node Network ID (Figure 9-2 on page 9-3)	**Partner network ID** (Step 19 in the configuration procedure)
SDLC LU name (Figure 9-3 on page 9-3)	**Partner node name** (Step 19 in the configuration procedure) **Partner LU alias** (Step 19 in the configuration procedure)

Each modem configuration procedure in this chapter explains how to find these parameters in the remote workstation.

Configuring the Service Processor in MOSS-E

The following procedure explains how to find, record, and configure the service processor parameters:

Step 1. In MOSS-E, double-click the **Service Processor** object.

Step 2. Click **Configuration Management**.
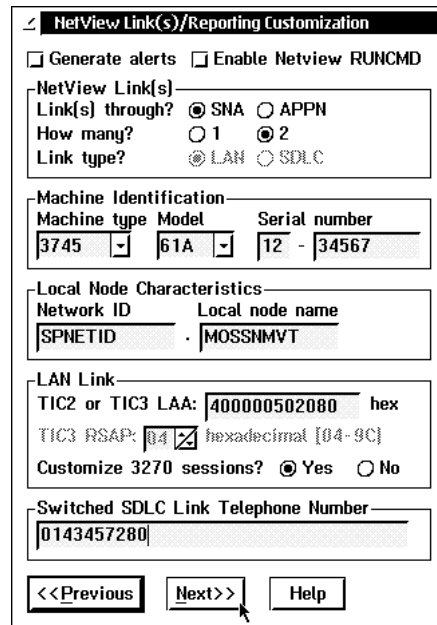
Step 3. Double-click **SP Customization**.
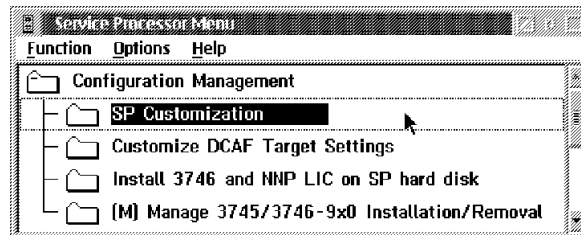
Step 4. Select **Enable DCAF Link/Operations**, **View Customize** in the parallel column, and **NetView Link/Operations**. Check that your modem is selected in the **Modem type** field and click **Next**.
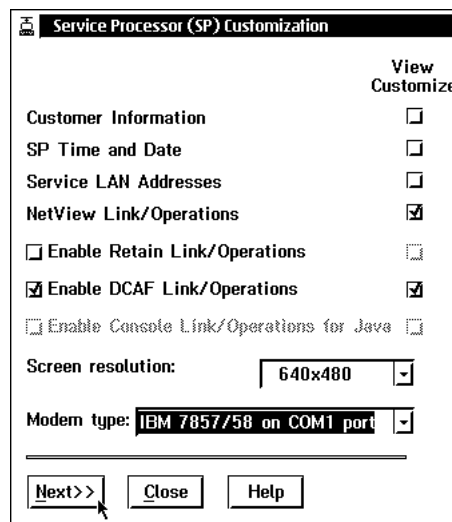
Step 5. Record the values in the **Network ID** field (see Figure 9-2 and refer to Table 9-1 on page 9-1) and click **Next** and **Next** again.
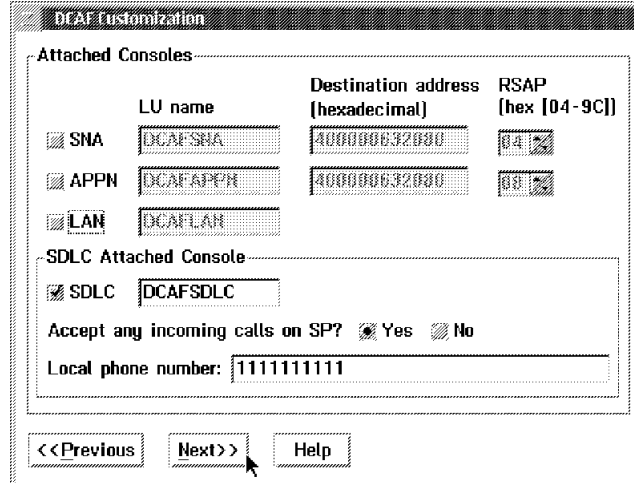
Figure 9-2. NetView Link/Reporting Customization

Step 6. Record the value in the **SDLC LU name** field.

Figure 9-3. DCAF Customization

Step 7. Set **Accept any incoming calls on SP?** to **Yes**.

Step 8. Enter the **Local phone number**, click **Next**, click **Close** and **Yes** to save the configuration.

Step 9. Shutdown and restart the service processor.

Step 10. Go to "Remote Workstation Modems" on page 9-4.

Remote Workstation Modems

Modem configurations in CS/2 (or CM/2) will not work unless your modem is set correctly. The procedures in "Configuring CS/2 Remote Workstations" and Appendix E, "Modem Setup" on page E-1 have been optimized for DCAF.

Modem Settings

If you do not have one of the recommended modems, make sure you have an equivalent modem, with the same mode settings (ASYNC) as the service RSF modem.

For each of the modems listed in Table 9-2, this guide supplies a modem setup procedure in Appendix E, "Modem Setup" on page E-1.

Table 9-2. Settings for Recommended Modems	
Modem and Mode	**Page Number**
7857 ASYNC on COM1	E-5
7858 ASYNC on COM1	E-6
Hayes ASYNC	None needed

Configuring CS/2 Remote Workstations

Important

The procedures in this section are the same in CM/2 unless otherwise indicated.

The table in this section give the page number of the procedures for configuring CS/2 (or CM/2) in your workstation. The specific procedure that you need depends on a combination of the following:

- Service processor
- Service processor modem
- Workstation modem

Configuring the Remote Workstation Modem

Table 9-3 gives the page number of the CS/2 (or CM/2) configuration procedure that corresponds to your service processor (6275, 3172, or 7585).

1. In the table, find the **row** with the service processor modem, connection type and mode.
2. Find the **column** with the remote workstation modem, connection type and mode.
3. The intersection of the **row** and **column** gives the page number of the procedure that you need to configure in CS/2 (or CM/2).

Procedures for Service Processors 6275, 3172, 7585

Table 9-3. IBM Modems for Remote Workstations and Target Service Processors 6275, 3172, and 7585

Connection Type and Mode	Modem Type	Remote Workstation Modem Type
		7855, 7857/7858[1], or Hayes Optima Modem[2]
COM1	7855	"7855 Asynchronous Modem to Service Processor 6275, 3172, and 7585" on page 9-6
	7857/7858[3]	"7857 Asynchronous Modem to Service Processor 6275, 3172, and 7585" on page 9-11
	Hayes[3]	"Hayes Asynchronous Modem to Service Processor 6275, 3172, and 7585" on page 9-16

Notes:

1. The procedure for modem 7857 is the same as for modem 7858.
2. AT® compatible modem, serial asynchronous/autosynchronous, via port connection.
3. For increased data transfer speed, IBM recommends the IBM 7858 modem or a Hayes Optima compatible modem.

7855 Asynchronous Modem to Service Processor 6275, 3172, and 7585

Step 1. Double-click the **Communications Server** icon on your desktop.

Step 2. Click **Setup**.

Step 3. Under **Directories**, double-click the CMLIB directory and double-click **I7855ASY** to display the configuration file.

Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

Step 5. Select **SDLC** (in CM/2, **SDLC using SNA Phone Connections**), **APPC APIs**, and click **Configure**.

Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.
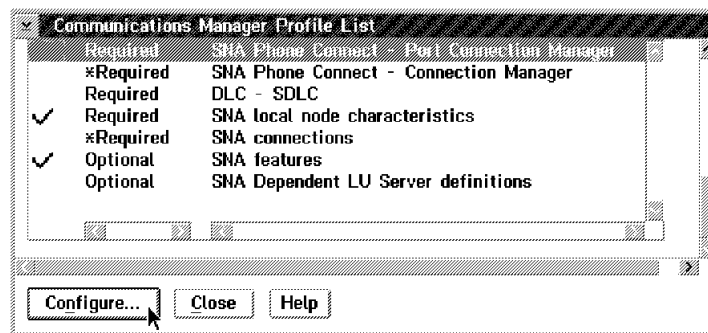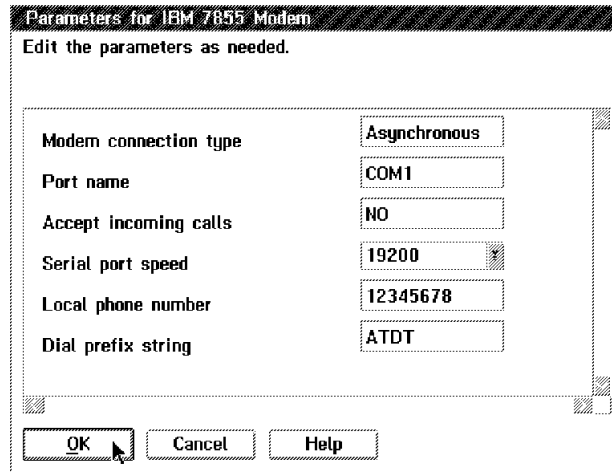
Step 7. Select **Asynchronous switched**, a 7855 modem type and click **Configure**.
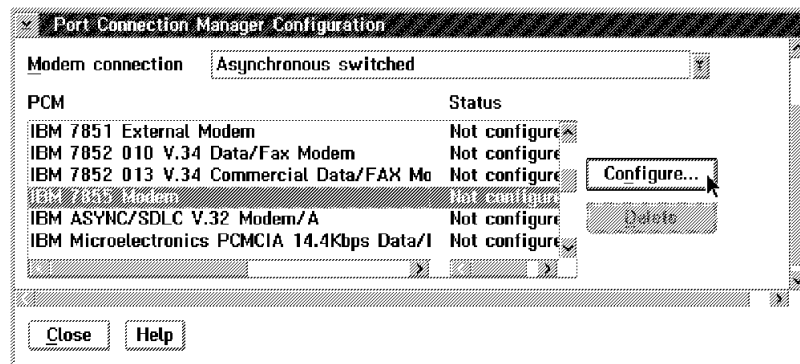
Step 8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.

Parameters for IBM 7855 Modem

Edit the parameters as needed.
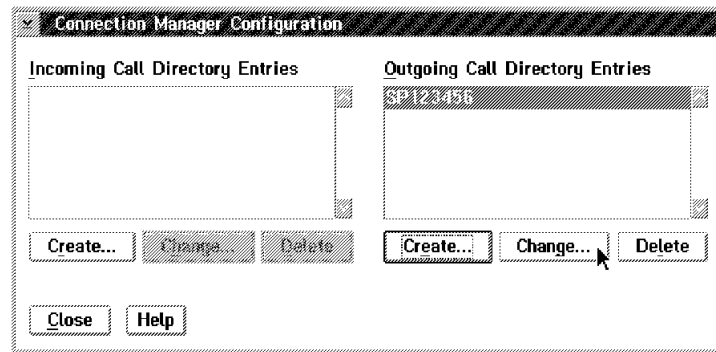
Modem connection type	Asynchronous
Port name	COM1
Accept incoming calls	NO
Serial port speed	19200
Local phone number	12345678
Dial prefix string	ATDT

[OK]   [Cancel]   [Help]

Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

Step 10. Select **SP123456** and click **Change**.

> **Note:** The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.

Connection Manager Configuration

Incoming Call Directory Entries

Outgoing Call Directory Entries

SP123456

[Create...] [Change...] [Delete]   [Create...] [Change...] [Delete]

[Close] [Help]

Step 11. Select **Modem/Line characteristics** and click **Change**.

```
┌─────────────────────────────────────────────────────┐
│ ▾  Outgoing Call Directory Entry                    │
│                                                      │
│ Entry name   │SP123456                    │         │
│                                                      │
│ Currently Configured Subfields                       │
│ ┌──────────────────────────────────┐                │
│ │ Modem/Line characteristics       │  ┌──────────┐  │
│ │                                  │  │ Change...│  │
│ │                                  │  └──────────┘ ▸│
│ │                                  │  ┌──────────┐  │
│ │                                  │  │ Delete   │  │
│ │                                  │  └──────────┘  │
│ └──────────────────────────────────┘                │
│                                                      │
│ Type of Subfield to Create                           │
│ ┌──────────────────────────────────┐                │
│ │ Modem/Line characteristics       │                │
│ │ Called party number              │                │
│ │                                  │  ┌──────────┐  │
│ │                                  │  │ Create.. │  │
│ │                                  │  └──────────┘  │
│ └──────────────────────────────────┘                │
│                                                      │
│ ┌────┐ ┌────────┐ ┌──────┐                          │
│ │ OK │ │ Cancel │ │ Help │                          │
│ └────┘ └────────┘ └──────┘                          │
└─────────────────────────────────────────────────────┘
```
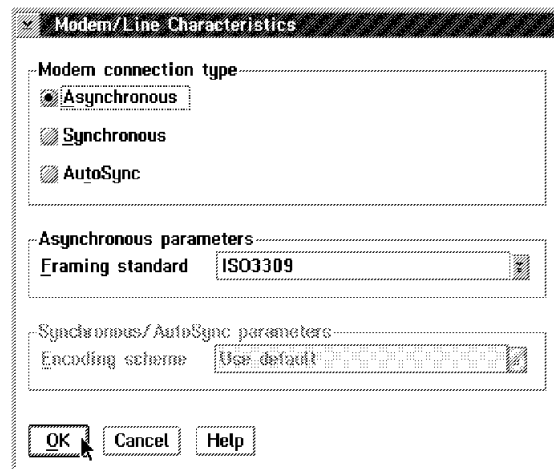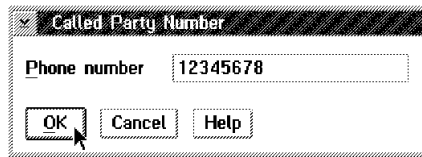
Step 12. Select **Asynchronous**, **ISO3309** as the framing standard and click **OK**.

Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.
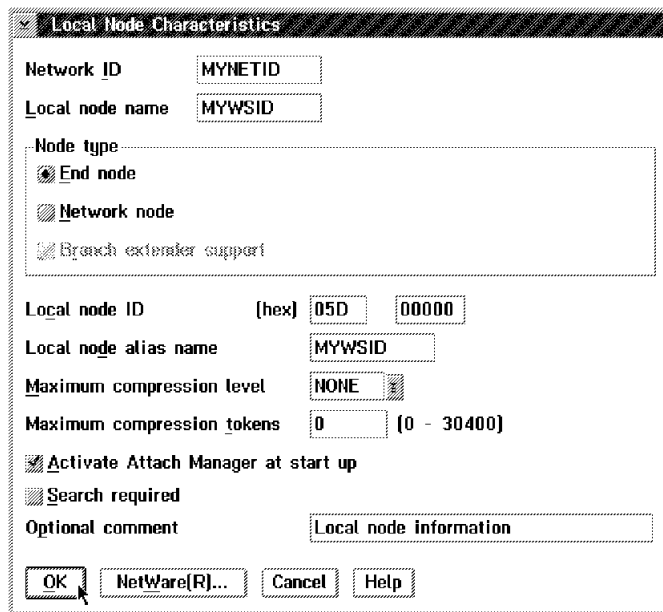
Step 14. Enter the phone-number of the service processor modem and click **OK**, then **OK** again on the subsequent screen.

```
┌──────────────────────────────────────┐
│ ▾  Called Party Number               │
│                                       │
│ Phone number  │12345678         │    │
│                                       │
│ ┌────┐ ┌────────┐ ┌──────┐           │
│ │ OK │ │ Cancel │ │ Help │           │
│ └────┘ └────────┘ └──────┘           │
└──────────────────────────────────────┘
```

Step 15. Select **SNA local node characteristics** and click **Configure** and **Continue**.

Step 16. Modify the **Network ID** and **Local node name** fields for your remote workstation and click **OK**.

```
┌─────────────────────────────────────────────────────────────┐
│ ▼ Local Node Characteristics                                │
│                                                              │
│ Network ID            MYNETID                                │
│                                                              │
│ Local node name       MYWSID                                 │
│  ┌─Node type────────────────────────────────────────────┐   │
│  │ ⦿ End node                                           │   │
│  │                                                       │   │
│  │ ○ Network node                                        │   │
│  │                                                       │   │
│  │ ☑ Branch extender support                            │   │
│  └──────────────────────────────────────────────────────┘   │
│                                                              │
│ Local node ID           (hex)  05D      00000               │
│ Local node alias name          MYWSID                        │
│ Maximum compression level      NONE                          │
│ Maximum compression tokens     0        (0 - 30400)          │
│ ☑ Activate Attach Manager at start up                       │
│ ☐ Search required                                           │
│ Optional comment               Local node information        │
│                                                              │
│ [ OK ]  [ NetWare(R)... ]  [ Cancel ]  [ Help ]             │
└─────────────────────────────────────────────────────────────┘
```
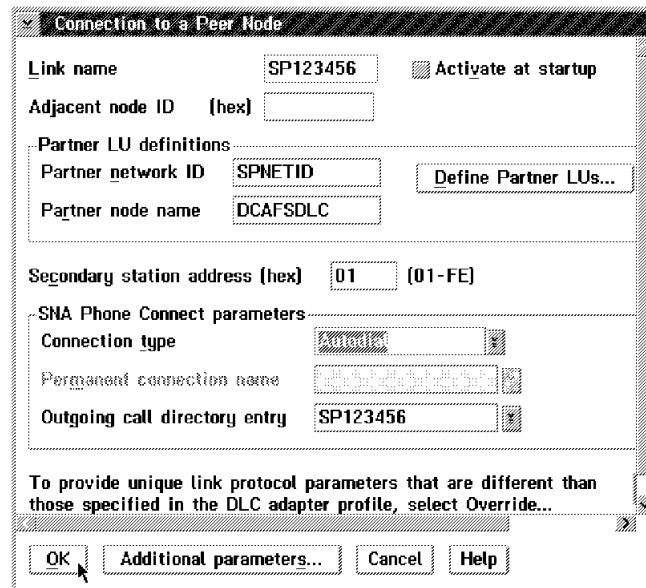
Step 17. Select **SNA connections**, click **Configure** and **Continue**.

Step 18. Select **To peer node**, the service processor link name and click **Change** and **Continue**.

```
┌─────────────────────────────────────────────────────────────┐
│ ▼ Connections List                                          │
│  ┌─Partner type─────────────────────────────────────────┐   │
│  │ ○ To network node   ⦿ To peer node   ○ To host       │   │
│  └──────────────────────────────────────────────────────┘   │
│                                                              │
│ Link                              Adapter                    │
│ Name         Adapter              Number                     │
│ DCAFLAN      Token-ring or other LAN types   0              │
│ DCAFSDLC     SDLC                             0              │
│ DCAFSNA      Token-ring or other LAN types   0              │
│ SP123456     SDLC                             0              │
│                                                              │
│ [ Create... ]  [ Change... ]  [ Delete ]  [ Close ]  [ Help ]│
└─────────────────────────────────────────────────────────────┘
```

Step 19. Check that the entries in the **Partner network ID** and **Partner node name** fields match the entries in the MOSS-E (see Table 9-1 on page 9-1). Select the service processor directory name in the **Outgoing call directory entry** field.

```
┌─────────────────────────────────────────────────────────────┐
│ ⌐ Connection to a Peer Node                                  │
│                                                              │
│ Link name            SP123456      ░ Activate at startup     │
│ Adjacent node ID   (hex)  [      ]                           │
│ ┌─Partner LU definitions──────────────────────────────────┐  │
│ │ Partner network ID   [SPNETID  ]    ┌─────────────────┐  │  │
│ │                                     │ Define Partner LUs... │  │
│ │ Partner node name    [DCAFSDLC ]    └─────────────────┘  │  │
│ └──────────────────────────────────────────────────────────┘  │
│                                                              │
│ Secondary station address (hex)  [01  ]  (01-FE)             │
│ ┌─SNA Phone Connect parameters────────────────────────────┐  │
│ │ Connection type         [Autodial        ▼]              │  │
│ │ Permanent connection name  [             ▼]              │  │
│ │ Outgoing call directory entry  [SP123456 ▼]              │  │
│ └──────────────────────────────────────────────────────────┘  │
│                                                              │
│ To provide unique link protocol parameters that are different than │
│ those specified in the DLC adapter profile, select Override... │
│                                                              │
│ [ OK ] [ Additional parameters... ] [ Cancel ] [ Help ]      │
└─────────────────────────────────────────────────────────────┘
```

Step 20. Click **OK**.

Step 21. Close the subsequent screens until you exit CS/2.

Step 22. See "Configuring DCAF for a Modem" on page 9-21 for installing a target service processor.

7857 Asynchronous Modem to Service Processor 6275, 3172, and 7585

The following procedure uses configuration file I7857ASY.
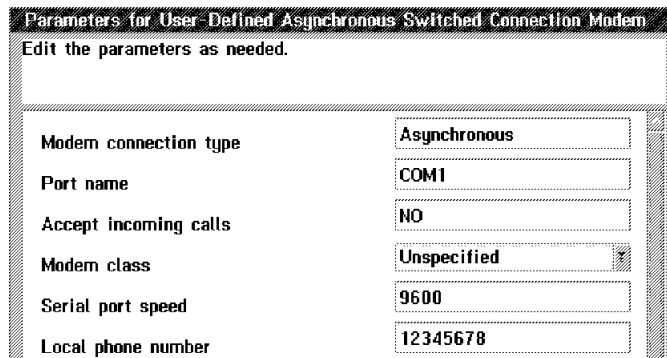
Step **1.** Double-click the **Communications Server** icon on your desktop.

Step **2.** Click **Setup**.

Step **3.** Under **Directories**, double-click the CMLIB directory and double-click **I7857ASY** to display the configuration file.

Step **4.** Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

Step **5.** Select **SDLC** (in CM/2, **SDLC using SNA Phone Connections**), **APPC APIs**, and click **Configure**.

Step **6.** Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.
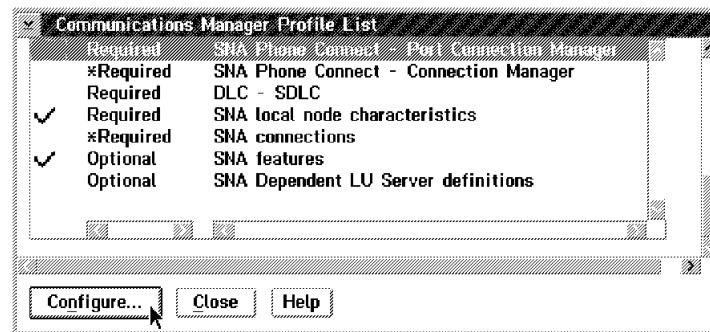
Step **7.** Select **Asynchronous switched**, **User defined** and click **Configure**.
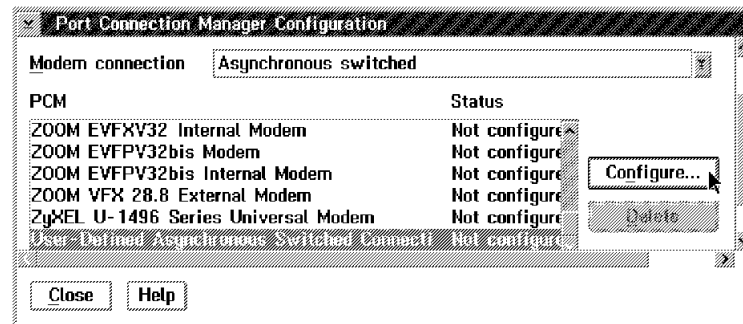
Step   8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.
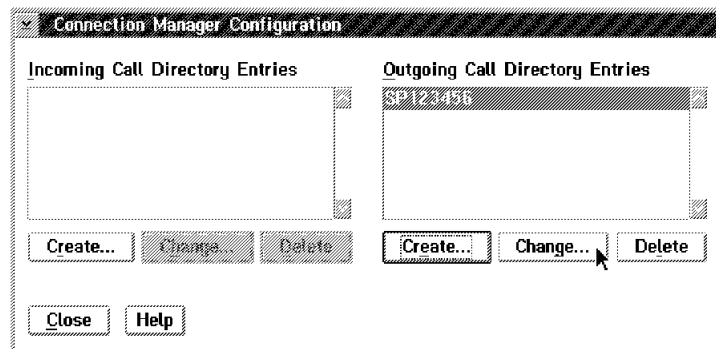
```
▓▓▓Parameters for User-Defined Asynchronous Switched Connection Modem▓▓▓
Edit the parameters as needed.
```

Modem connection type	Asynchronous
Port name	COM1
Accept incoming calls	NO
Modem class	Unspecified
Serial port speed	9600
Local phone number	12345678

Step   9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

Step 10. Select **SP123456** and click **Change**.

> **Note:** The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.

```
▓ Connection Manager Configuration ▓▓▓▓▓▓▓▓▓▓▓▓

Incoming Call Directory Entries        Outgoing Call Directory Entries

                                       SP123456


 Create...   Change...   Delete         Create...   Change...   Delete

 Close    Help
```

Step 11. Select **Modem/Line characteristics** and click **Change**.

Step 12. Select **Asynchronous**, **ISO3309** as the framing standard and click **OK**.

Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

Step 14. Enter the phone-number of the service processor modem and click **OK**, then **OK** again on the subsequent screen.

```
┌─────────────────────────────────────────────┐
│ ▨ Called Party Number                        │
├─────────────────────────────────────────────┤
│ Phone number    │12345678            │       │
│                                               │
│  ┌──────┐  ┌────────┐  ┌──────┐              │
│  │ OK   │  │ Cancel │  │ Help │              │
│  └──────┘  └────────┘  └──────┘              │
└─────────────────────────────────────────────┘
```

Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

Step 16. Modify the **Network ID** and **Local node name** fields for your remote workstation and click **OK**.

```
┌──────────────────────────────────────────────────────┐
│ ▨ Local Node Characteristics                          │
├──────────────────────────────────────────────────────┤
│ Network ID        │MYNETID    │                       │
│ Local node name   │MYWSID     │                       │
│ ┌─Node type─────────────────────────────────────────┐ │
│ │ ◉ End node                                        │ │
│ │ ▨ Network node                                    │ │
│ │ ▨ Branch extender support                         │ │
│ └───────────────────────────────────────────────────┘ │
│                                                        │
│ Local node ID          [hex] │05D │  │00000 │         │
│ Local node alias name        │MYWSID    │              │
│ Maximum compression level    │NONE    ▨│              │
│ Maximum compression tokens   │0       │ (0 - 30400)   │
│ ▨ Activate Attach Manager at start up                 │
│ ▨ Search required                                     │
│ Optional comment             │Local node information │ │
│ ┌──────┐ ┌────────────┐ ┌────────┐ ┌──────┐          │
│ │ OK   │ │ NetWare(R)..│ │ Cancel │ │ Help │          │
│ └──────┘ └────────────┘ └────────┘ └──────┘          │
└──────────────────────────────────────────────────────┘
```

Step 17. Select **SNA connections**, click **Configure** and **Continue**.

Step 18. Select **To peer node**, the service processor link name and click **Change**
and **Continue**.

Step 19. Check that the entries in the **Partner network ID** and **Partner node
name** fields match the entries in the MOSS-E (refer to Table 9-1 on
page 9-1). Select the service processor directory name in the **Outgoing
call directory entry** field.

Step 20. Click **OK**.

Step 21. Close the subsequent screens until you exit CS/2.

Step 22. See "Configuring DCAF for a Modem" on page 9-21 for installing a target
service processor.

Hayes Asynchronous Modem to Service Processor 6275, 3172, and 7585
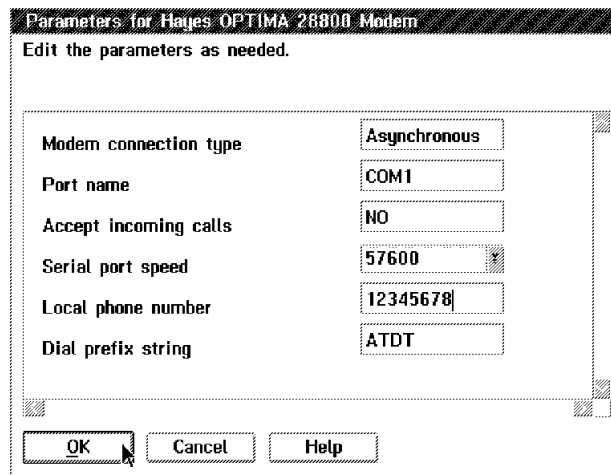
Step **1.** Double-click the **Communications Server** icon on your desktop.

Step **2.** Click **Setup**.

Step **3.** Under **Directories**, double-click the CMLIB directory and double-click **HAYESASY** to display the configuration file.

Step **4.** Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

Step **5.** Select **SDLC** (in CM/2, **SDLC using SNA Phone Connections**), **APPC APIs**, and click **Configure**.

Step **6.** Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.
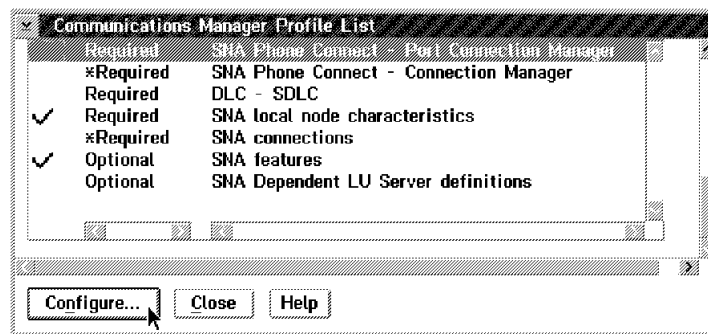
Step **7.** Select **Asynchronous switched**, a Hayes modem type and click **Configure**.
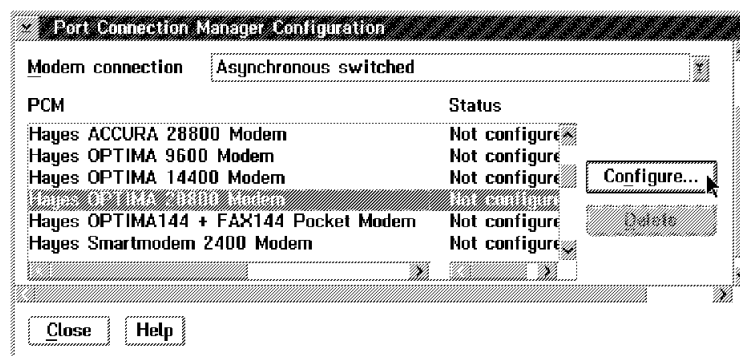
Step **8.** Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.

Parameters for Hayes OPTIMA 28800 Modem

Edit the parameters as needed.
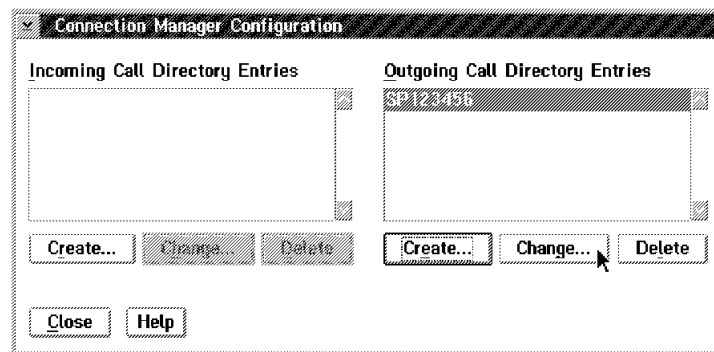
Modem connection type	Asynchronous
Port name	COM1
Accept incoming calls	NO
Serial port speed	57600
Local phone number	12345678
Dial prefix string	ATDT

OK   Cancel   Help

Step **9.** Select **SNA Phone Connect - Connection Manager** and click **Configure**.

Step 10. Select **SP123456** and click **Change**.

> **Note:** The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.

Connection Manager Configuration

Incoming Call Directory Entries

Outgoing Call Directory Entries

SP123456

Create...   Change...   Delete   Create...   Change...   Delete

Close   Help

Step 11. Select **Modem/Line characteristics** and click **Change**.

Step 12. Select **Asynchronous**, **ISO3309** as the framing standard and click **OK**.

Step 13. Select **Called party number** (in CM2, this is **SP123456**) and click **Change**.

Step 14. Enter the phone-number of the service processor modem and click **OK**, then **OK** again on the subsequent screen.

```
Called Party Number
Phone number    12345678

OK    Cancel    Help
```

Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

Step 16. Modify the **Network ID** and **Local node name** fields for your remote workstation and click **OK**.

```
Local Node Characteristics
Network ID        MYNETID
Local node name   MYWSID
Node type
  End node
  Network node
  Branch extender support

Local node ID          [hex]  05D    00000
Local node alias name        MYWSID
Maximum compression level    NONE
Maximum compression tokens   0       (0 - 30400)
Activate Attach Manager at start up
Search required
Optional comment             Local node information

OK    NetWare(R)...    Cancel    Help
```

Step 17. Select **SNA connections**, click **Configure** and **Continue**.

Step 18. Select **To peer node**, the service processor link name and click **Change** and **Continue**.

Step 19. Check that the entries in the **Partner network ID** and **Partner node name** fields match the entries in the MOSS-E (refer to Table 9-1 on page 9-1). Select the service processor directory name in the **Outgoing call directory entry** field and click **OK**.
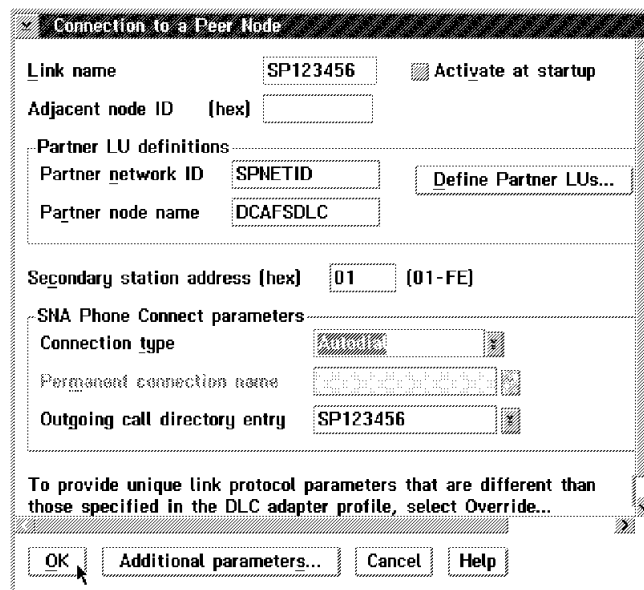
Step 20. Close the subsequent screens until you exit CS/2.

Step 21. See "Configuring DCAF for a Modem" on page 9-21 for installing a target service processor.

Configuring DCAF for a Modem

Step   1. From Desktop Manager, double-click the **Distributed Console Access Facility** icon.

Step   2. Double-click the icon.

Step   3. Select **Session** then **Open workstation directory**.

Step   4. Click **OK** for a first installation. Otherwise continue with next step.

Step   5. In the DCAF Directory window, select **Workstation** then **Add**.
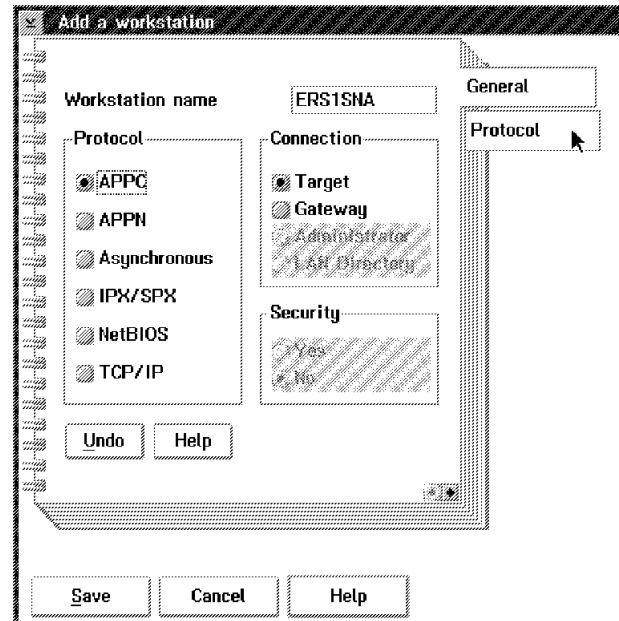
Step 6. Enter a name in the **Workstation name** field and click **Protocol**.
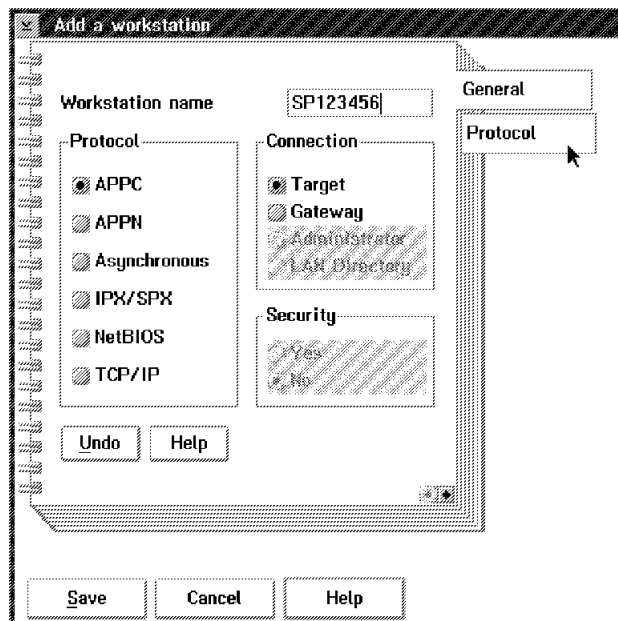
Step 7. Fill in the **Local LU alias** field, the **Partner LU alias** field (refer to Table 9-1 on page 9-1).

Enter DCAFMODE in the **Mode name** field.
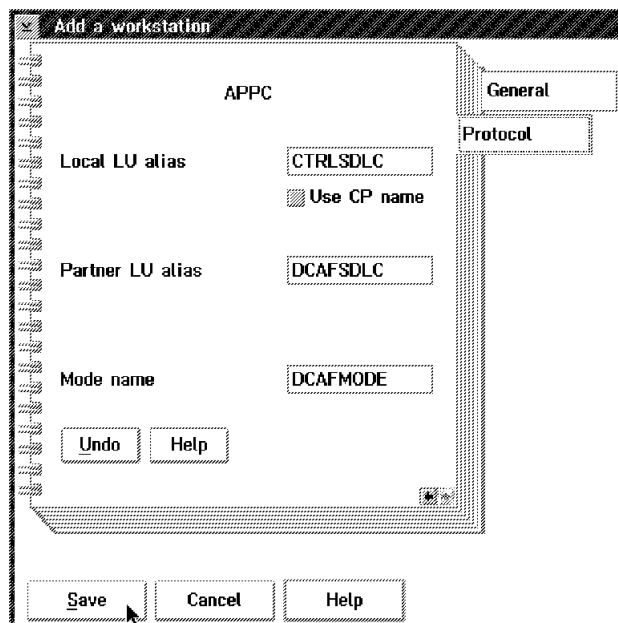
Step 8. Click **Save** and **Cancel**. The new workstation icon appears in the DCAF Directory window.

Step 9. Shutdown and restart the workstation.

Step 10. The installation is complete. For more information on using this new DCAF session, see "Using DCAF to Remotely Log On to the Service Processor."

Chapter 10. APPN-Attached Remote Workstation
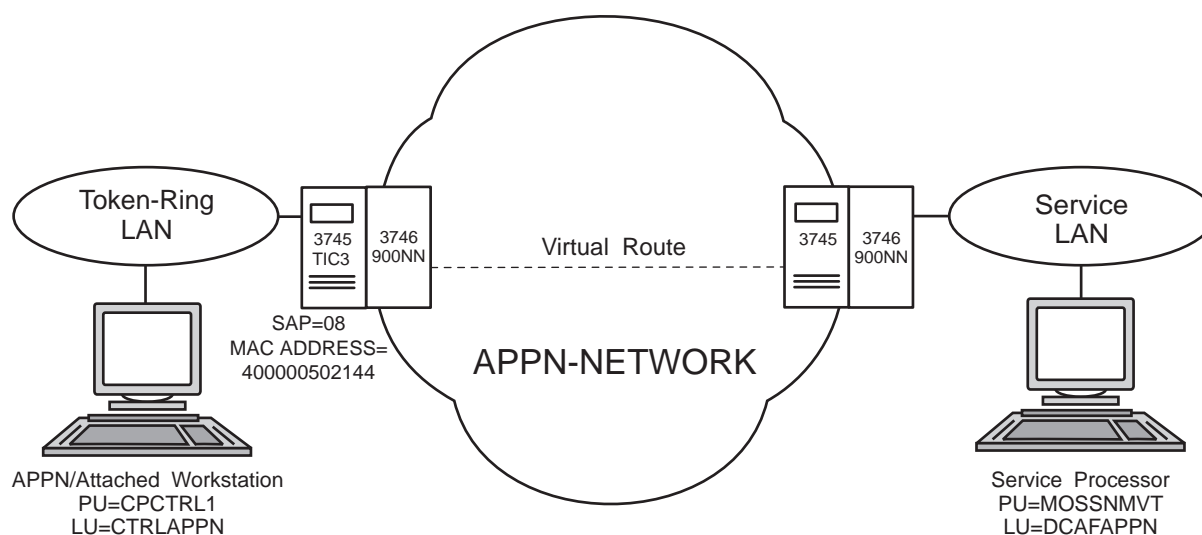
Figure 10-1. APPN Remote Workstation

This chapter describes how to configure a DCAF session for controlling the service processor (see Figure 10-1). If you have more than one target service processor, you must respect the parameter value matching rules in Appendix D, "Configuration for a Two-Target Remote Workstation."

Configuring a Target Service Processor

Use the worksheets in the *3745/3746 Planning Series: Management Planning*, GA27-4239 to record the necessary parameter values described in this section. This section describes the following:

- The MOSS-E configuration for a DCAF link to the communication controller.

- The MOSS-E parameters required for use in the controlling workstation.

Parameter Values that Must Be the Same

Table 10-1 gives the sets of MOSS-E parameters that must have the same value in both the remote workstation and the target service processor.

Table 10-1. Identical Target and Controlling Parameters (APPN)	
Service Processor	**Remote Workstation**
APPN LU name (Figure 10-2 on page 10-3)	**LU name** (Step 13 on page 10-7)
APPN Destination address (Figure 10-2 on page 10-3)	**LAN Destination address** (Step 13 on page 10-7)
RSAP (Figure 10-2 on page 10-3)	**Remote SAP** (Step 13 on page 10-7)

The configuration procedure in this chapter explains how to find these parameters in the remote workstation.

Configuring the Service Processor in MOSS-E

The following procedure explains how to find, record, and configure the service processor parameters:

Step   **1.** In MOSS-E, double-click the **Service Processor** object.

Step   **2.** Click **Configuration Management**.

Step   **3.** Double-click **SP Customization**.
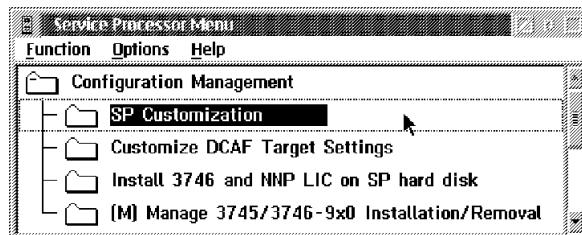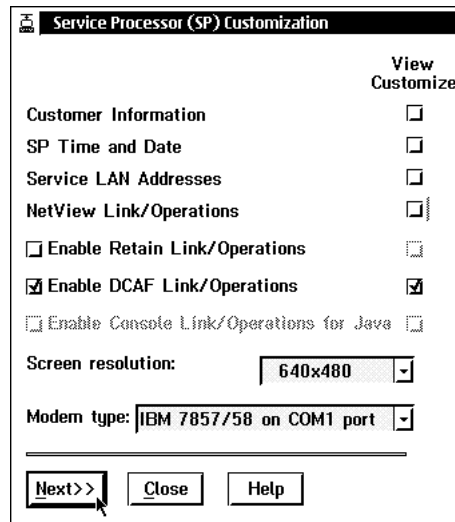
Step 4. Select **Enable DCAF Link/Operations** and the **View Customize** button in the parallel column, and click **Next**.

Step 5. Record the value in the **APPN LU name** and **APPN Destination address** fields (refer to Table 10-1 on page 10-2). You will need them in Step 13 on page 10-7.

Figure 10-2. DCAF Customization

Step 6. Click **Next**, click **Close** and **Yes** to save the configuration.

Step 7. From Desktop Manager, shutdown and restart the service processor.

Step 8. Go to "Configuring an APPN-Attached Remote Workstation."

Configuring an APPN-Attached Remote Workstation

The following procedure shows you how to establish a link between a controlling workstation and the target service processor.

Configuring CS/2

┌─ **Important** ───┐
│   │
│ The procedure below is the same in CM/2 unless otherwise indicated. │
│   │
└──┘

Step   1. From **Desktop Manager**, double-click the **CS/2** icon.

Step   2. Double-click the [Communications Manager Setup] icon.

Step   3. Click **Setup**.

Step   4. Select a configuration from the **Configurations** list, and click **OK**.

Step   5. Select **Additional definitions**, **Token-ring or other LAN types**, and **APPC APIs (and 3270 support)**, then click **Configure**.
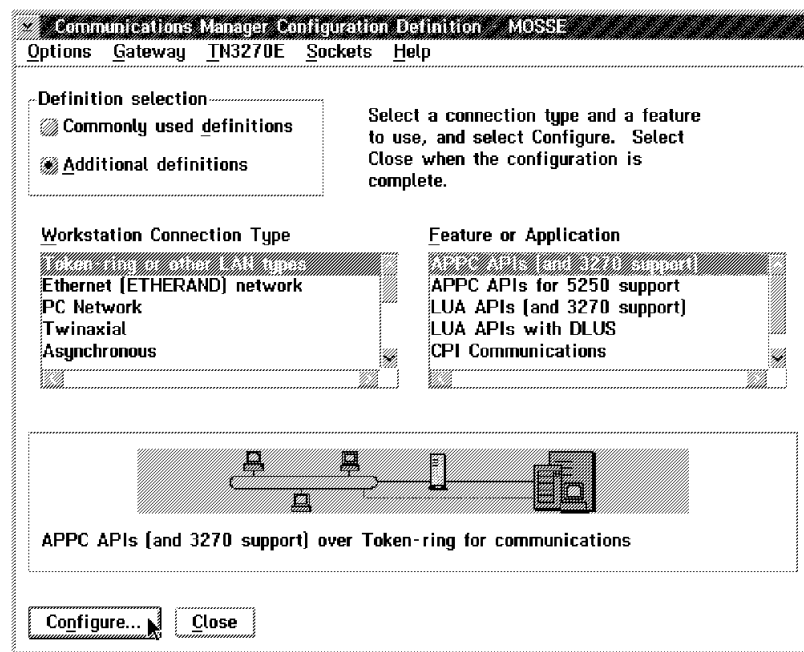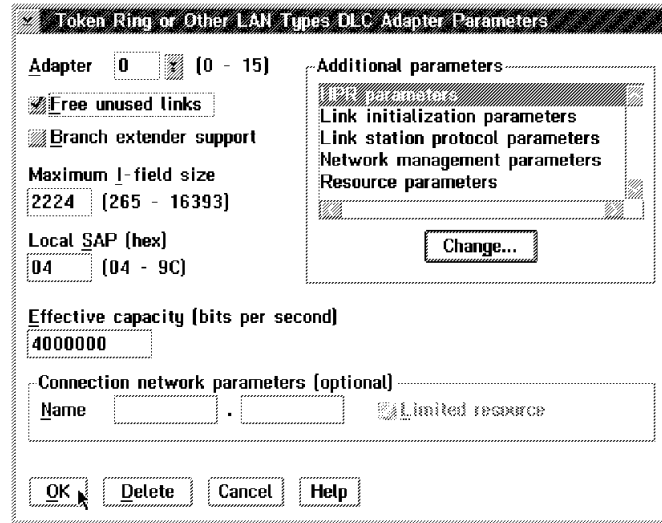
Step   6. Select **DLC - Token-ring or other LAN types** and click **Configure**.
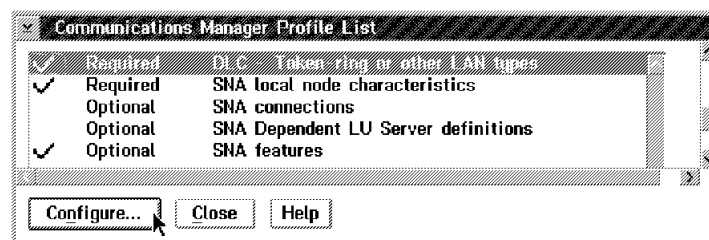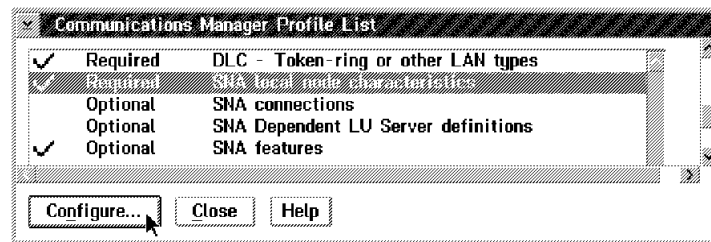
Step 7. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following using the **Change** button.

- Select **HPR parameters** and de-select **HPR support**.
- Check that the defaults apply to **Link station protocol parameters**, **Network management parameters**, and **Resource parameters**.
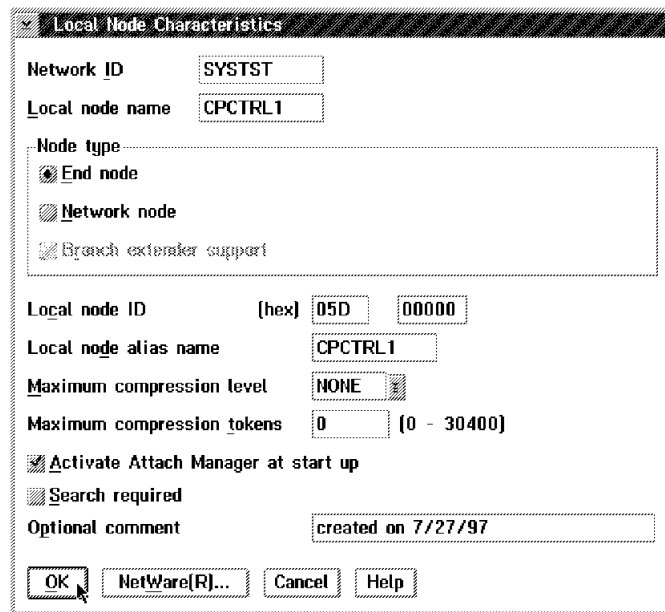
Then click **OK**.

Step 8. Select **SNA local node characteristics** and click **Configure**.
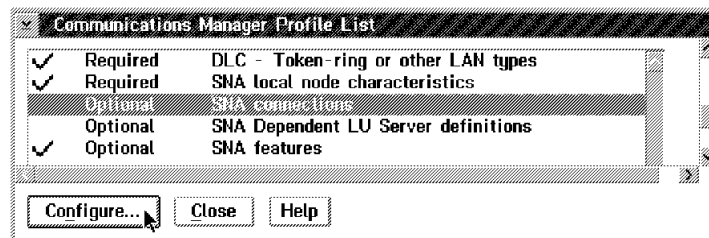
Step 9. Enter `SPNETID` in the **Network ID** field, and the name that you are using for the local node in the **Local node name** field. Select **End node** and click **OK**.

Step 10. Select **SNA connections** and click **Configure**.

Step 11. Select **To network node**, **DCAFAPPN** in the **Link name** list, and click **Change**.

Step 12. Select **Token-ring or other LAN types** and click **Continue**.

Adapter List

Select the local adapter to be used for this connection.

Adapter Type

> Token-ring or other LAN types
> Ethernet (ETHERAND) network
> PC Network
> Twinaxial
> SDLC
> SDLC multipoint primary server

Configured   Yes

Adapter number   [0] ▢ (0-15)   [Configure DLC...]

[Continue...] [Cancel] [Help]
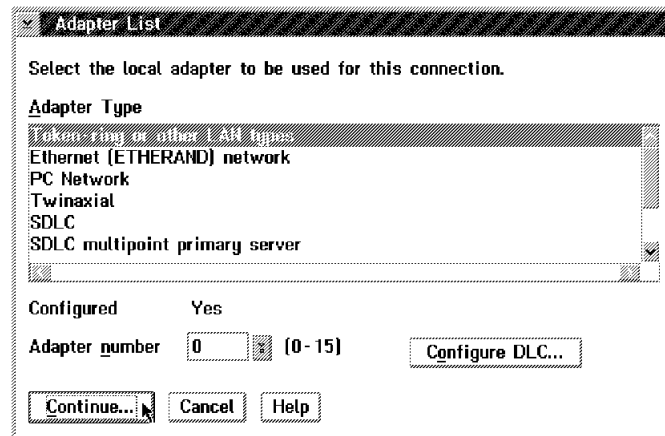
Step 13. Refer to Table 10-1 on page 10-2 and fill in the **Link name**, **LAN destination address**, and **Remote SAP** fields. Then click **OK**.

Connection to a Network Node

Link name   DCAFAPPN   ☑ Activate at startup

Adjacent node ID   (hex)

─Partner LU definitions─
Partner network ID   SPNETID   [Define Partner LUs...]

Partner node name   DCAFAPPN

─Destination information for network node─
LAN destination address (hex)   Address format   Remote SAP (hex)

400000502080   Token-Ring   ▾   08

To provide unique link protocol parameters that are different than   [Override...]
those specified in the DLC adapter profile, select Override...

[OK] [Additional parameters...] [Cancel] [Help]

Step 14. Click **Close** on the intermediate window.

Step 15. Select **SNA features** and click **Configure**.

Communications Manager Profile List

> ✓ Required   DLC - Token-ring or other LAN types
> ✓ Required   SNA local node characteristics
>   Optional   SNA connections
>   Optional   SNA Dependent LU Server definitions
> ✓ Optional   SNA features

[Configure...] [Close] [Help]
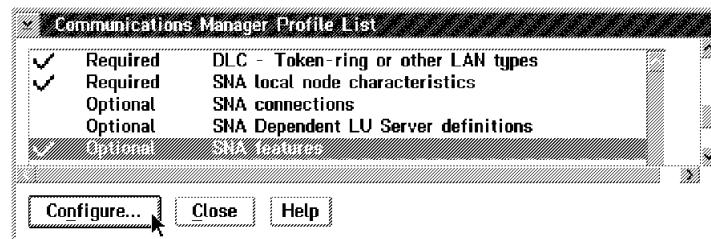
Step 16. Select **Local LUs** in the **Features** list, **CTRLAPPN** in the **Definition** list, and click **Change**.
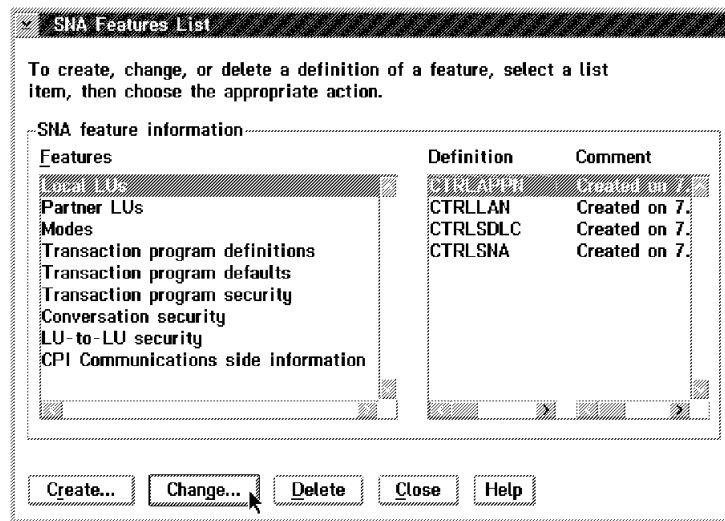
Step 17. Modify the **LU name** and **Alias** fields and select **use this local LU as default local LU alias**. Then select **Independent LU** and click **OK**.
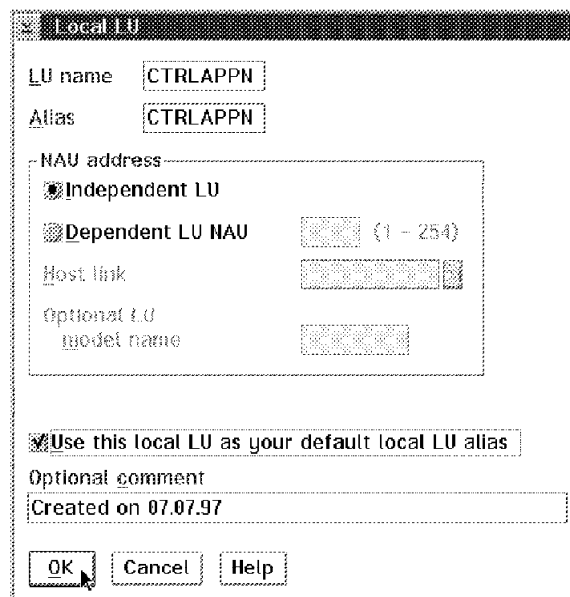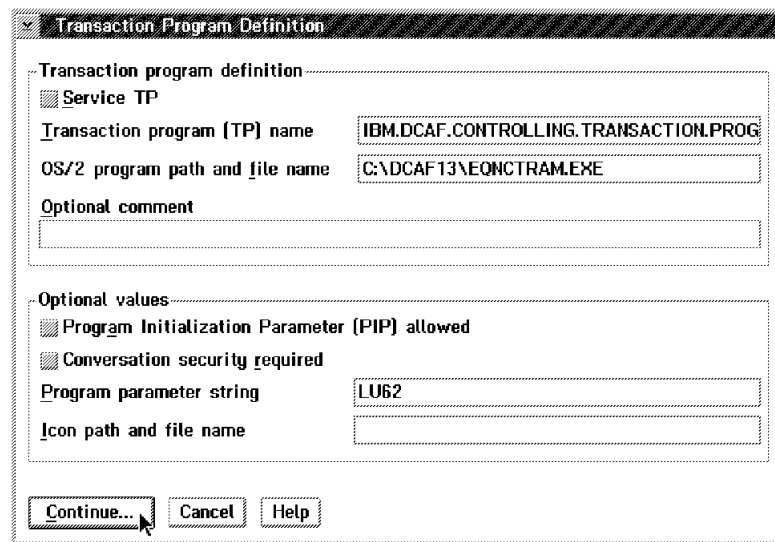
Step 18. Select **Modes** and verify that **DCAFMODE** is in the **Definition** list. If you do not find **DCAFMODE**, add it to the list with the **Create** button.

Step 19. Select **Transaction program definitions** from the **SNA Features List** and click **Create**.

Step 20. Enter the command line in the **Transaction program (TP) name** field, the path of the DCAF directory in the **OS/2 program path and file name** field, and click **Continue**.

Step 21. Click **Close** on the subsequent screens until you exit CS/2.

Step 22. Continue with "Configuring DCAF for APPN."

Configuring DCAF for APPN

Step 1. From **Desktop Manager**, double-click the **Distributed Console Access Facility** icon.

Step 2. Double-click the icon.

Step 3. Click **Session**, then **Open workstation directory**.

Step 4. Click **OK** for a first installation. Otherwise continue with next step.

Step 5. From the DCAF Directory window, click **Workstation**, then on **Add**.

Step 6. Fill in the **Workstation name** field, select **APPN**, **Target**, and click **Protocol**.
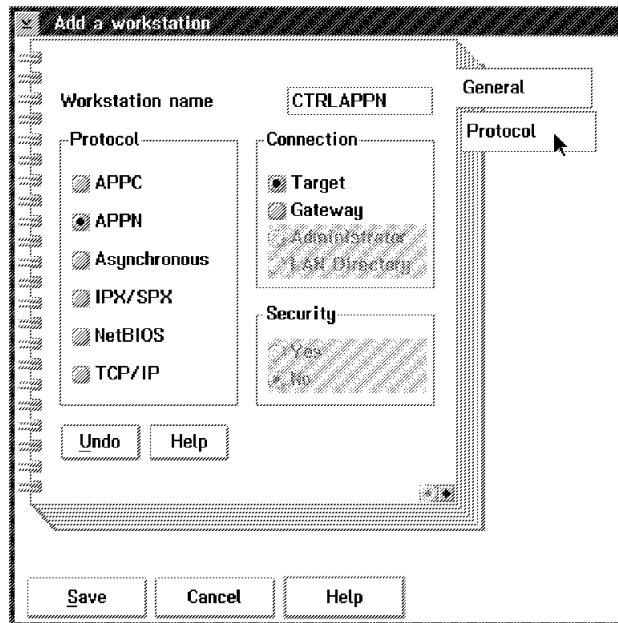
Step 7. Fill in the **Local LU alias** (see Step 17 on page 10-8), and the **Fully qualified PLU**. Make sure the first field matches the **Local Node Network ID** in Step 9 on page 10-6, and that the second field matches the **APPN LU name** in Figure 10-2 on page 10-3.
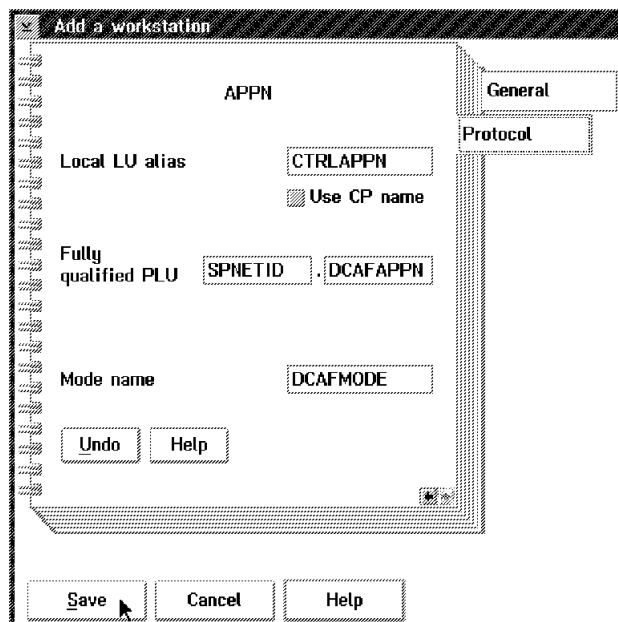
Step 8. Enter DCAFMODE in the **Mode name** fields.

Step 9. Click **Save**, **OK** (on the subsequent window), and then **Cancel**.

Step 10. Shutdown and restart the workstation.

Step 11. The installation is complete. For more information on using this new DCAF session, see "Using DCAF to Remotely Log On to the Service Processor."

Chapter 11. SNA-Attached Remote Workstation
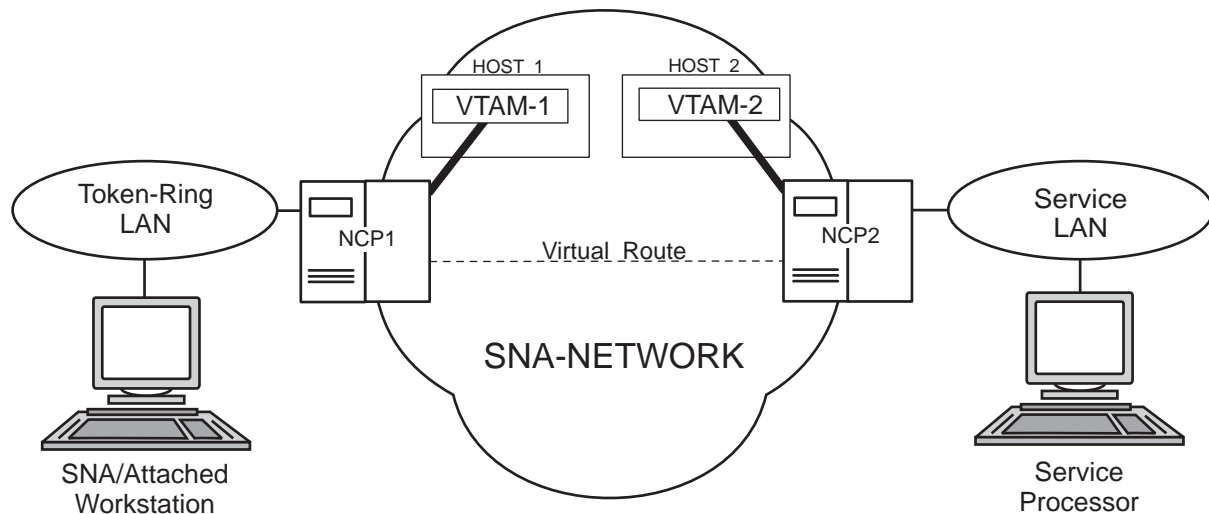
Figure 11-1. SNA-Attached Remote Workstation

This chapter describes how to configure a DCAF session for controlling the service processor (see Figure 11-1). If you have more than one target service processor, you must respect the parameter value matching rules given in Appendix D, "Configuration for a Two-Target Remote Workstation."

Configuring a Target Service Processor

Use the worksheets in the *3745/3746 Planning Series: Management Planning*, GA27-4239 to record the necessary parameter values described in this section. This section describes the following:

- The MOSS-E configuration for a DCAF link to the communication controller.

- The MOSS-E parameters required for use in the controlling workstation.

Parameter Values that Must Be the Same

Table 11-1 gives the sets of MOSS-E parameters that must have the same value in both the remote workstation and the target service processor.

Table 11-1. Identical Target and Controlling Parameters (SNA)	
Service Processor	**Remote Workstation**
Local Node Network ID (Figure 11-2 on page 11-3)	**Partner network ID** (Step 9 on page 11-7) and **Network ID** (Step 10 on page 11-8)
SDLC LU name (Figure 11-3 on page 11-4)	**Partner node name** (Step 9 on page 11-7) and **LU name** (Step 10 on page 11-8) and **Partner LU alias** (Step 7 on page 11-11)
TIC2 or TIC3 LAA (Figure 11-2 on page 11-3)	**LAN Destination address** (Step 9 on page 11-7)
TIC3 RSAP (Figure 11-2 on page 11-3)	**Remote SAP** (Step 9 on page 11-7)

The configuration procedure in this chapter explains how to find these parameters in the remote workstation.

Configuring the Service Processor in MOSS-E

The following procedure explains how to find, record, and configure the service processor parameters:
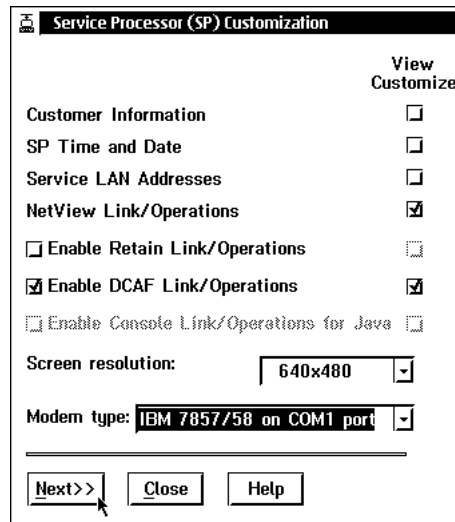
Step 1. In MOSS-E, double-click the **Service Processor** object.

Step 2. Click **Configuration Management**.

Step 3. Double-click **SP Customization**.
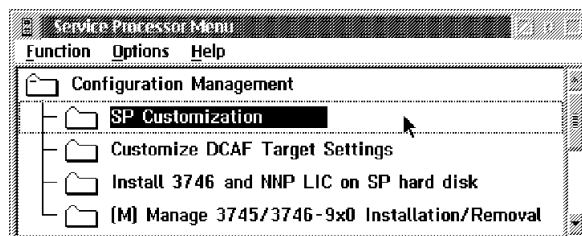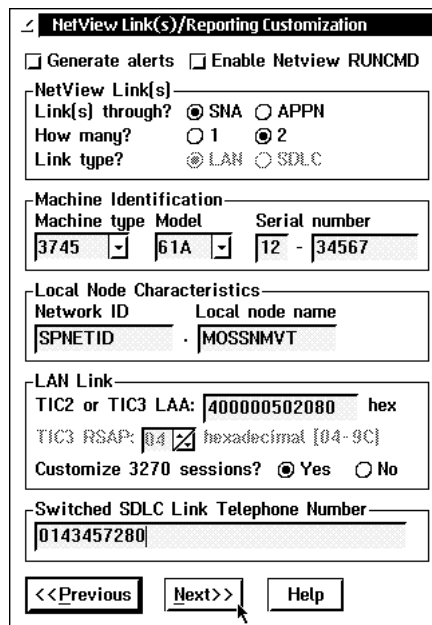
Step 4. Select **Enable DCAF Link/Operations**, the adjacent **View Customize**, and **NetView Link/Operations**. Then click **Next**.

Step 5. Record the values in the **Local Node Network ID**, **TIC2 or TIC3 LAA**, and **TIC3 RSAP** fields (see Figure 11-2 and refer to Table 11-1 on page 11-2). Then click **Next**.

Figure 11-2. NetView Link/Reporting Customization

Step   6. Record the value in the **SNA LU name** and **SNA Destination address** fields (refer to Table 11-1 on page 11-2). You will need them for Step 9 on page 11-7.

Figure 11-3. DCAF Customization

Step   7. Click **Next**, click **Close** and **Yes** to save the configuration.

Step   8. Shutdown and restart the service processor.

Step   9. Go to "Configuring a SNA-Attached Remote Workstation."

Configuring a SNA-Attached Remote Workstation

The following procedure shows you how to establish a link between the controlling workstation and the target service processor.

Configuring CS/2

Important

The procedure below is the same in CM/2 unless otherwise indicated.

Step   1. Perform Steps 1 to 5 on page 10-4.

Step 2. Select **DLC - Token-ring or other LAN types** and click **Configure**.

```
┌──────────────────────────────────────────────────────────┐
│  Communications Manager Profile List                     │
├──────────────────────────────────────────────────────────┤
│ ✓  Required    DLC - Token-ring or other LAN types       │
│ ✓  Required    SNA local node characteristics            │
│    Optional    SNA connections                           │
│    Optional    SNA Dependent LU Server definitions       │
│ ✓  Optional    SNA features                              │
├──────────────────────────────────────────────────────────┤
│  Configure...    Close    Help                           │
└──────────────────────────────────────────────────────────┘
```

Step 3. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following, using the **Change** button.

- Select **HPR parameters** and de-select **HPR support**.
- Check that the defaults apply to **Link station protocol parameters**, **Network management parameters**, and **Resource parameters**.

Then click **OK**.

```
┌──────────────────────────────────────────────────────────┐
│  Token Ring or Other LAN Types DLC Adapter Parameters    │
├──────────────────────────────────────────────────────────┤
│ Adapter  [0]  (0 - 15)    ┌─Additional parameters────────┐│
│                           │ HPR parameters               ││
│ ☑ Free unused links       │ Link initialization parameters││
│                           │ Link station protocol parameters││
│ ▧ Branch extender support │ Network management parameters ││
│                           │ Resource parameters          ││
│ Maximum I-field size      │                              ││
│ [2224]  (265 - 16393)     │                              ││
│                           │         Change...            ││
│ Local SAP (hex)           └──────────────────────────────┘│
│ [04]   (04 - 9C)                                          │
│                                                           │
│ Effective capacity (bits per second)                      │
│ [4000000]                                                 │
│ ┌─Connection network parameters (optional)──────────────┐│
│ │ Name  [        ] . [        ]      ☑ Limited resource  ││
│ └───────────────────────────────────────────────────────┘│
│                                                           │
│  OK    Delete    Cancel    Help                          │
└──────────────────────────────────────────────────────────┘
```

Step 4. Select **SNA local node characteristics** and click **Configure**.

```
┌──────────────────────────────────────────────────────────┐
│  Communications Manager Profile List                     │
├──────────────────────────────────────────────────────────┤
│ ✓  Required    DLC - Token-ring or other LAN types       │
│ ✓  Required    SNA local node characteristics            │
│    Optional    SNA connections                           │
│    Optional    SNA Dependent LU Server definitions       │
│ ✓  Optional    SNA features                              │
├──────────────────────────────────────────────────────────┤
│  Configure...    Close    Help                           │
└──────────────────────────────────────────────────────────┘
```

Step 5. Fill in the **Network ID** and **Local node name** fields, select **End node** and click **OK**.

```
┌─────────────────────────────────────────────────────────┐
│ ▾ Local Node Characteristics                            │
├─────────────────────────────────────────────────────────┤
│                                                         │
│  Network ID          ┌SYSTST    ┐                       │
│                                                         │
│  Local node name     ┌CPCTRL1   ┐                       │
│                                                         │
│  ┌─Node type──────────────────────────────────────┐    │
│  │ ◉ End node                                      │    │
│  │                                                 │    │
│  │ ◌ Network node                                  │    │
│  │                                                 │    │
│  │ ▨ Branch extender support                       │    │
│  └─────────────────────────────────────────────────┘   │
│                                                         │
│  Local node ID          [hex] ┌05D ┐   ┌00000 ┐         │
│                                                         │
│  Local node alias name        ┌CPCTRL1      ┐           │
│                                                         │
│  Maximum compression level    ┌NONE    ▨┐               │
│                                                         │
│  Maximum compression tokens   ┌0        ┐  (0 - 30400)  │
│                                                         │
│  ▨ Activate Attach Manager at start up                  │
│                                                         │
│  ▨ Search required                                      │
│                                                         │
│  Optional comment        ┌created on 7/27/97         ┐  │
│                                                         │
│  ┌ OK  ┐  ┌ NetWare(R)... ┐  ┌ Cancel ┐  ┌ Help ┐       │
│                                                         │
└─────────────────────────────────────────────────────────┘
```

Step 6. Select **SNA connections** and click **Configure**.
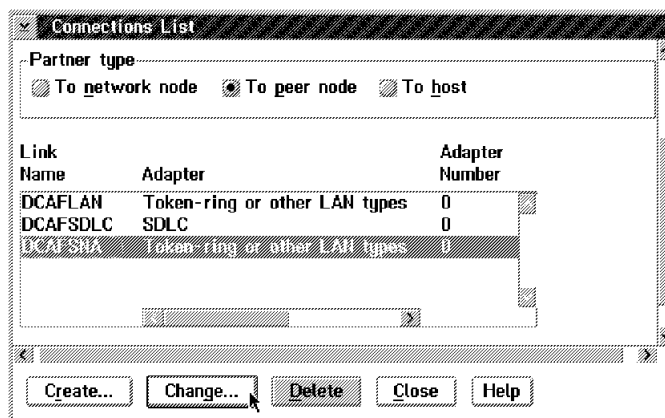
```
┌─────────────────────────────────────────────────────────┐
│ ▾ Communications Manager Profile List                   │
├─────────────────────────────────────────────────────────┤
│  ✓  Required    DLC - Token-ring or other LAN types     │
│  ✓  Required    SNA local node characteristics          │
│     Optional    SNA connections                         │
│     Optional    SNA Dependent LU Server definitions     │
│  ✓  Optional    SNA features                            │
│                                                         │
│  ┌ Configure... ┐  ┌ Close ┐  ┌ Help ┐                  │
└─────────────────────────────────────────────────────────┘
```

Step 7. Click **To peer node**, select **DCAFSNA** from the list and click **Change**.

```
┌─────────────────────────────────────────────────────────┐
│ ▾ Connections List                                      │
├─────────────────────────────────────────────────────────┤
│  ┌─Partner type──────────────────────────────────────┐  │
│  │ ◌ To network node   ◉ To peer node   ◌ To host    │  │
│  └────────────────────────────────────────────────────┘ │
│                                                         │
│  Link                               Adapter             │
│  Name       Adapter                 Number              │
│  DCAFLAN    Token-ring or other LAN types    0          │
│  DCAFSDLC   SDLC                              0          │
│  DCAFSNA    Token-ring or other LAN types    0          │
│                                                         │
│  ┌ Create... ┐ ┌ Change... ┐ ┌ Delete ┐ ┌ Close ┐ ┌ Help ┐ │
└─────────────────────────────────────────────────────────┘
```

Step 8. Select **Token-ring or other LAN types** and click **Continue**.

Step 9. Refer to Table 11-1 on page 11-2 and fill in the **Partner network ID** (the network that contains the target processor), the **Partner node name**, **LAN destination address** (the MAC address of the target service processor), and **Remote SAP** fields. Then click **Define Partner LUs**.

Step 10. Refer to Table 11-1 on page 11-2 and fill in the **Network ID**, **LU name** (service processor LU name), and **Alias** fields. Then click **Add** and **OK**.

Step 11. Click **OK** on the intermediate window and **Close**.

Step 12. Select **SNA features** and click **Configure**.

Step 13. Select **Local LUs**, **CTRLSNA** and click **Change**.
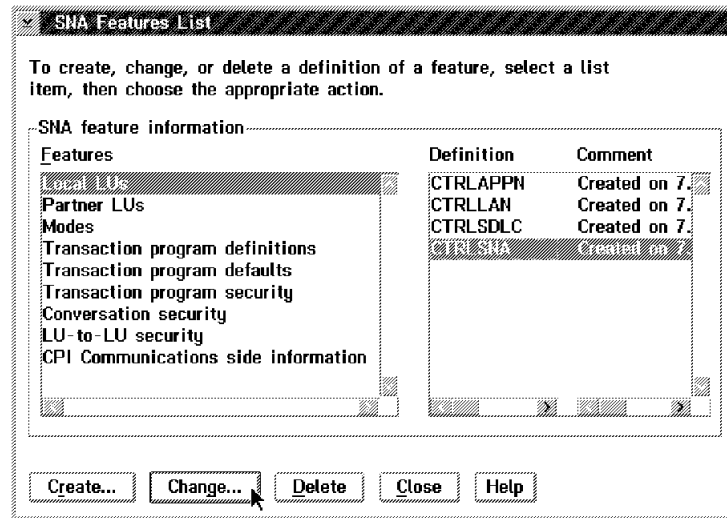
Step 14. Fill in the **LU name** and **Alias** fields, select **use this local LU as your default local LU alias** and click **OK**.
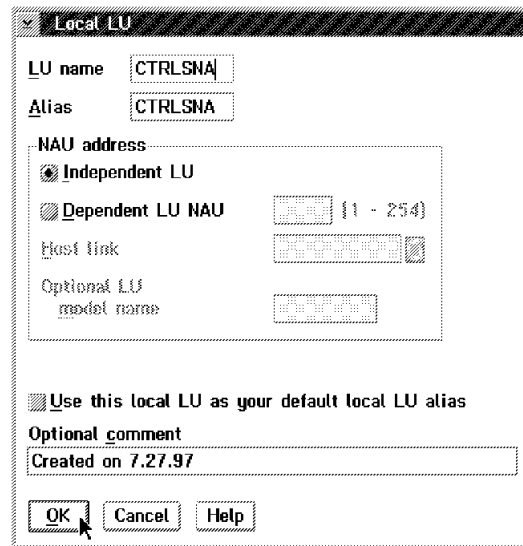
Step 15. Click **Close** on each subsequent screen until you exit CS/2.

Step 16. Continue with "Configuring DCAF for SNA" on page 11-10.

Configuring DCAF for SNA

Step **1.** From Desktop Manager, double-click the **Distributed Console Access Facility** icon.

Step **2.** Double-click the ![DCAF Controller icon] DCAF Controller icon.

Step **3.** Click **Session** and **Open workstation directory**.

Step **4.** Click **OK** for a first installation, otherwise continue with next step.

Step **5.** Click **Workstation**, then **Add**.

Step **6.** Fill in the **Workstation name** field (see Step 14 on page 11-9), select **APPC**, **Target**, and click **Protocol**.
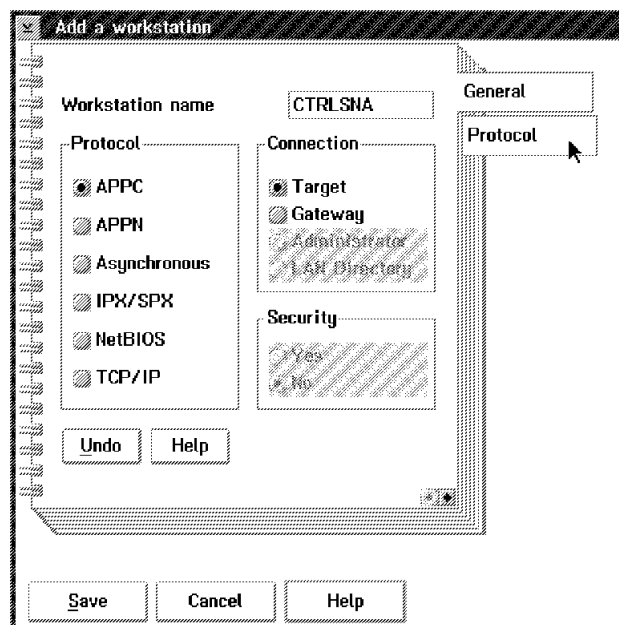
Step 7. Fill in the **Local LU alias** field, the **Partner LU alias** field (refer to Table 9-1 on page 9-1), and enter `DCAFMODE` in the **Mode name** field. Then click **Save**, **OK** (on the subsequent window), and **Cancel**.
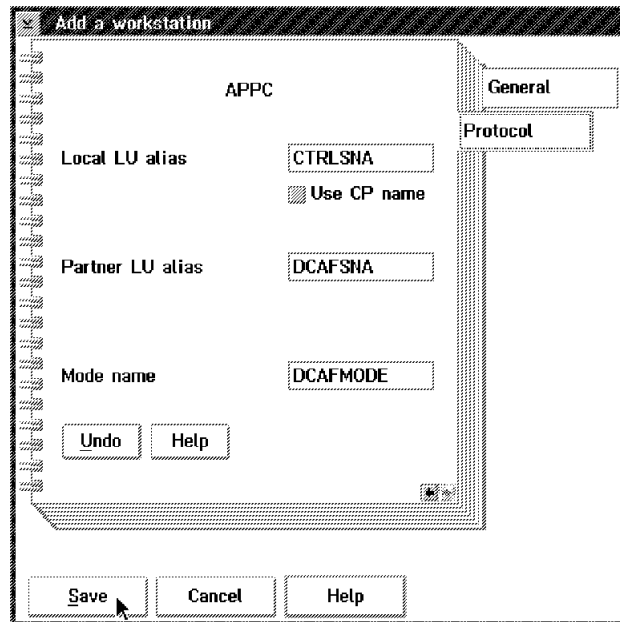
Step 8. Shutdown and restart the workstation.

Step 9. The installation is complete. For more information on using this new DCAF session, see "Using DCAF to Remotely Log On to the Service Processor."

NCP Definitions

The definitions in this section apply to NCP Version 6 Release 2.

All NCP generations attached to LUs that support LU 6.2 DCAF sessions must contain the following statement:

```
LUDRPOOL NUMILU=(any number > 0)
```

Remote Controlling Workstation

The following definitions apply to NCP1 between the controlling workstation LAN and the SNA network (see Figure 11-1 on page 11-1).

The address must be the same as defined in Step 9 on page 11-7.

1. Physical line and physical PU:

```
            .
            .
     *----------------------------------------------------------------------*
     * TIC3 BNN/INN:  PORT 2144                                            *
     *----------------------------------------------------------------------*
     K23C2144 LINE  ADDRESS=(2144,FULL),PORTADD=0,LOCADD=400000232144      *
                    MAXTSL=16732,LSPRI=PU,PUTYPE=1,ANS=CONTINUE,           *
                    ADAPTER=TIC3,TRSPEED=16,TRANSFR=254                    *
     S23C2144 PU    ADDR=01,                                              *
                    INNPORT=YES
            .
            .
```

2. Logical group with at least one LINE/PU to be used by the service processor:

```
            .
            .
     ************************************************************************
     *                                                                      *
     *   TIC3        GROUP L23G2144: LAN  LOGICAL  DEFINITIONS FOR 37CS    *
     *                                                                      *
     *                                                                      *
     ************************************************************************
     L23G2144 GROUP DIAL=YES,LNCTL=SDLC,TYPE=NCP,ECLTYPE=(LOGICAL,PER),   *
                    CALL=INOUT,PHYSRSC=S23C2144,                          *
                    LINEAUT=YES,                                          *
                    MAXPU=1,                                              *
                    NPACOLL=NO,                                           *
                    PUTYPE=2,                                             *
                    RETRIES=(6,0,0,6)
     R23A0001 LINE
     Z23A0001 PU
            .
            .
```

Target Service Processor

The following definitions apply to NCP2 between the service LAN and the SNA
network (see Figure 11-1 on page 11-1).

1. Physical line and physical PU:

```
            .
            .
     *----------------------------------------------------------------------*
     * TIC3 BNN/INN:  PORT 2080 ATT TO CONTROLLER FF  PORT 1092 - PHYSICAL *
     *----------------------------------------------------------------------*
     K50C2080 LINE  ADDRESS=(2080,FULL),PORTADD=[0] [P],LOCADD=400000502080,*
                    MAXTSL=16732,LSPRI=PU,PUTYPE=1,ANS=CONTINUE,           *
                    ADAPTER=TIC3,TRSPEED=16,TRANSFR=254
     S50C2080 PU    ADDR=01,*
                    INNPORT=YES
            .
            .
```

2. Logical group with at least one LINE/PU to be used by the service processor:

```
                   .
                   .
          *************************************************************************
          *                                                                       *
          *   TIC3       GROUP L78G2080: LAN  LOGICAL  DEFINITIONS FOR 37CS       *
          *                                                                       *
          *                                                                       *
          *************************************************************************
          L50G2080  N  GROUP DIAL=YES,LNCTL=SDLC,TYPE=NCP,ECLTYPE=(LOGICAL,PER), *
                       CALL=INOUT,PHYSRSC=S50C2080,                              *
                       LINEAUT=YES,                                             *
                       MAXPU=1,                                                 *
                       NPACOLL=NO,                                              *
                       PUTYPE=2,                                                *
                       RETRIES=(6,0,0,6)
          R50A0001 LINE
          Z50A0001 PU
                   .
                   .
                   .
```

VTAM Definitions

The VTAM definitions in this section are for Version 3 Release 4.1.

Start Definitions

The following VTAM start definitions must be used in both VTAM1 and VTAM2, as shown in Figure 11-1 on page 11-1:

```
*
*                VTAM START DEFINITIONS
*
HOSTSA=10,SSCPID=10,MAXSUBA=63,
CONFIG=10,NETID= SYSTST   A ,SSCPNAME=CDRM12,

XNETALS=YES,DYNLU=YES,

NOPROMPT,DLRTCB=32,SUPP=NOSUP,NOTNSTAT,NOTRACE,TYPE=VTAM,
LPBUF=(120,,0,,60,60),        LARGE GENERAL PURPOSE _ PAGEABLE
LFBUF=(96,,0,,24,10),         LARGE GENERAL PURPOSE _ FIXED
SFBUF=(128,,0,,32,10),        SMALL GENERAL PURPOSE _ FIXED
CRPLBUF=(160,,13,,80,80),     RPL_COPY _ PAGEABLE
IOBUF=(256,256,34,,68,68)     I/O BUFFERS _ FIXED (NP & PP BUF REMOVED)
```

Logmode Table

The following VTAM logmode table must be used in both VTAM1 and VTAM2 as shown in Figure 11-1 on page 11-1:

```
            SOCMOTAB  [M]  MODETAB
            DCAFMODE MODEENT LOGMODE=DCAFMODE  [I] ,
                            TYPE=0,
                            FMPROF=X'13',
                            TSPROF=X'07',
                            PRIPROT=X'B0',
                            SECPROT=X'B0',
                            COMPROT=X'50B1',
                            SSNDPAC=X'08',
                            SRCVPAC=X'08',
                            RUSIZES=X'8787',
                            PSNDPAC=X'08',
                            PSERVIC=X'060200000000000000002F00'
                    MODEEND
                    END   SOCMOTAB
```

Major Node Definitions

Remote Workstation

The following VTAM major node definitions must be used in VTAM1 as shown in
Figure 11-1 on page 11-1:

```
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                     *
*      MAJNODE FOR CONNECTION :  Remote console <==> VTAM V3R4        *
*                                                                     *
*                                                                     *
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
NTVCTRL   VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1
*---------------------------------------------------------------------*
CTRL      PU     ADDR=04,PUTYPE=2,NETID=SYSTST [E] ,CPNAME=CPCTRL [F]    X
                 MAXPATH=8,MAXDATA=265,MAXOUT=1,                        X
                 DISCNT=NO,
CTRL1     LU     LOCADDR=0,MODETAB=SOCMOTAB [M]
```

Target Service Processor

The following VTAM major node definitions must be used in VTAM-2, shown in
Figure 11-1 on page 11-1:

```
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                     *
*      MAJNODE FOR CONNECTION :  MOSS-E  <==> VTAM V3R4               *
*                                                                     *
*                                                                     *
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
NTVMOSSE  VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1
*---------------------------------------------------------------------*
MOSSE     PU     ADDR=04,PUTYPE=2,NETID= SYSTST  [A] ,CPNAME= MOSSNMVT    X [C]
                 MAXPATH=8,MAXDATA=265,MAXOUT=1,                        X
                 DISCNT=NO,
PATHMOSS PATH  DIALNO= [P]  00 04 400000000007  [D] ,GRPNM=L50G2080 [N]
   DCAFSNA  [B]  LU    LOCADDR=0,MODETAB=SOCMOTAB [M]
```

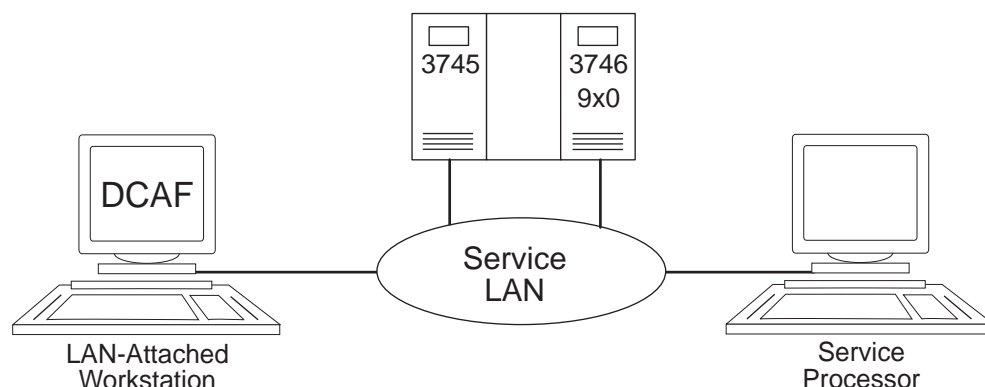# Chapter 12. TCP/IP LAN-Attached Remote Workstation
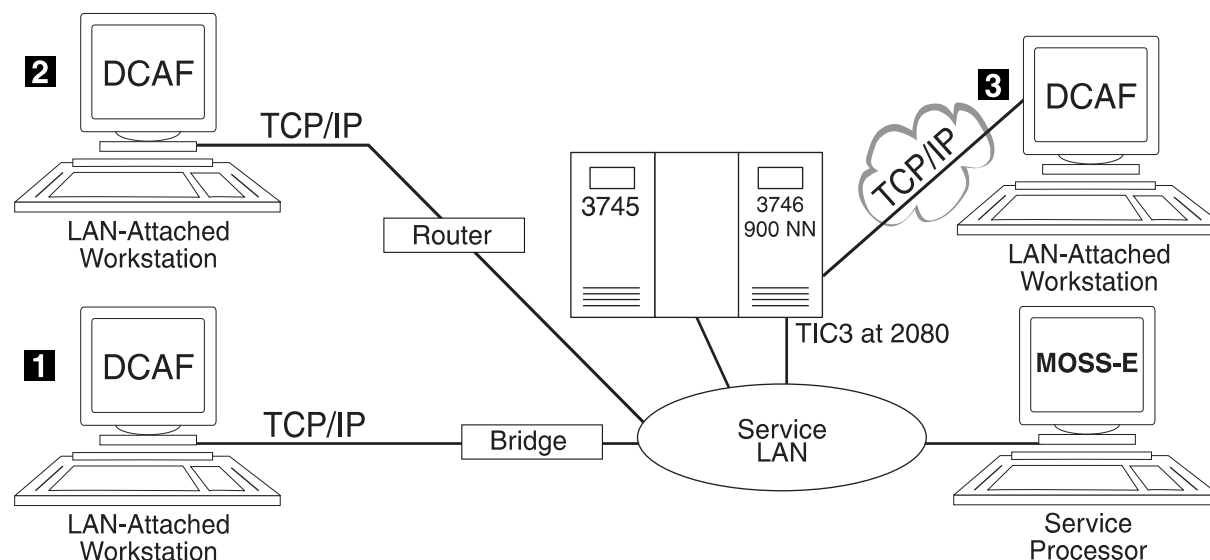
Figure 12-1. Types of TCP/IP Service LAN-Attached Remote Workstations

This chapter describes how to configure a DCAF session for controlling a target service processor. The path between the controlling workstation and the service processor can be either through:

- A **bridge** with filtering to the service LAN (see **1** in Figure 12-1).

- A **router** to the service LAN, which can be either:

  - A **non-3746** router (see **2** in Figure 12-1)
  - The **3746** router (see **3** in Figure 12-1)

  A controlling workstation can be connected as in **2** or **3**, but you cannot have both types of connections at the same time.

Configuring a Target Service Processor

Use the worksheets in the *3745/3746 Planning Series: Management Planning*, GA27-4239 to record the necessary parameter values described in this section.

The following procedure configures the MOSS-E to answer a controlling workstation:

Step 1. Open the **Service Processor Menu**.

Step 2. Click **Configuration Management**.

Step   3. Double-click **SP Customization**.
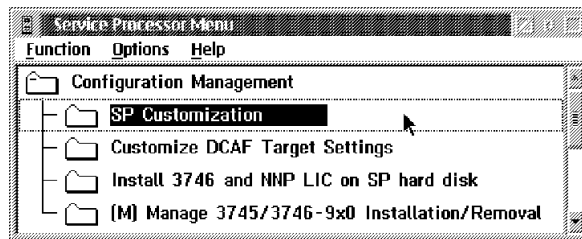
Step   4. Select **Service LAN Addresses** in the **View Customize** button list. Click
Next to display the **Service LAN Addresses** screen.
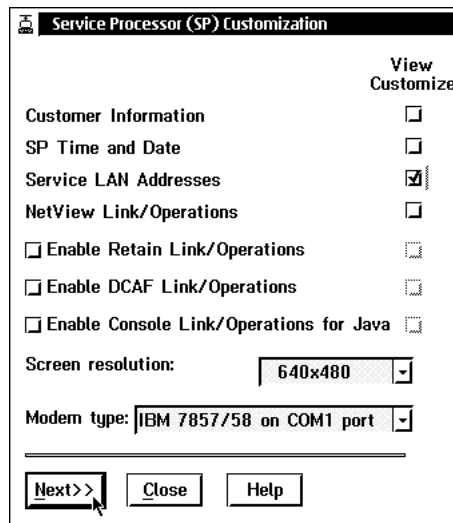
Step 5. Record the **Service Processor IP address** (this will be used in Step 7 on page 12-4). If you have a link through the 3746 (see **3** in Figure 12-1 on page 12-1), enter the **TIC3 2080** address in the **SP default router** field and click **Next** and **Close**.

Otherwise, click **Next**, **Close** and **Yes** to save the configuration.

```
╔══════════════════════════════════════════════════════════════╗
║ Service LAN Addresses                                          ║
║                                                                ║
║                    IP address      Subnet mask    Hostname  UAA/LAA  ║
║ Service Processor: 9.100.77.71     255.255.255.0  SP11111   400000631111 ║
║                                                                ║
║ NNP-A:             9.100.77.72     255.255.255.0  CA097474   ║
║                                                                ║
║ NNP-B:             not installed                              ║
║                                                                ║
║ TIC3 2080:         9.100.77.73     255.255.255.0             ║
║                                                                ║
║ SP default router: 9.100.77.1                                ║
║                                                                ║
║ MAE:               9.100.77.74     255.255.255.0   DA097474  ║
║                                                                ║
║  ┌LAN Manager─────────────────────────────────────────────┐  ║
║  │ Do you have a LAN manager?  ▨ Yes  ◉ No   C&SM LAN ID: MOSSE │  ║
║  └────────────────────────────────────────────────────────┘  ║
║                                                                ║
║  [<<Previous]   [Next>>]   [Help]                            ║
╚══════════════════════════════════════════════════════════════╝
```

Step 6. Go to "Configuring a TCP/IP LAN-Attached Remote Workstation" for using this new DCAF session.

Configuring a TCP/IP LAN-Attached Remote Workstation

The following procedures shows you how to establish a link between a controlling workstation and the target service processor.

Configuring DCAF for TCP/IP

The following procedure configures a service processor in the remote DCAF.

Step 1. From Desktop Manager, double-click the **Distributed Console Access Facility** icon.

Step 2. Double-click the ▦ DCAF Controller icon.

Step 3. Click **Session**, then **Open workstation directory**.

```
╔══════════════════════════════════════════════════════════════╗
║ Distributed Console Access Facility                      ▫ □  ║
║ Services  Session  View  Help                                ║
║           ┌───────────────────────────────────┐             ║
║           │ Open Workstation directory... Ctrl+O│            ║
║           │ Stop a session               Ctrl+S│            ║
║           └───────────────────────────────────┘             ║
║                                                                ║
║                                                                ║
╚══════════════════════════════════════════════════════════════╝
```
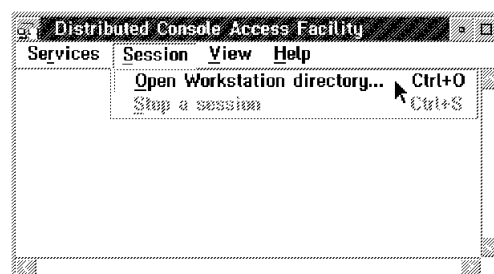
Step 4. Click **OK** for a first installation. Otherwise continue with next step.

Step 5. From the DCAF Directory window, click **Workstation** then on **Add**.

Step **6.** Fill in the **Workstation name** field, select **TCP/IP** and click **Protocol**.
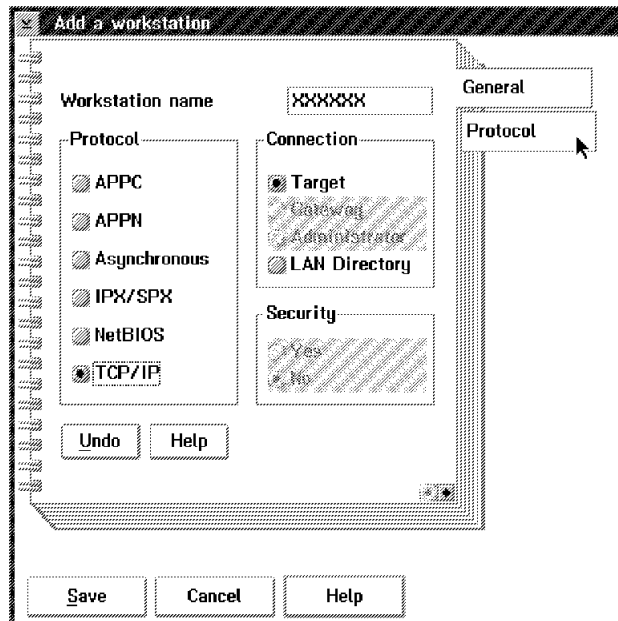
Step **7.** Fill in the **Remote host name** (the IP address of the target service processor recorded in Step 5 on page 12-3) and **Port number** fields. Then click **Save** and **Cancel**.
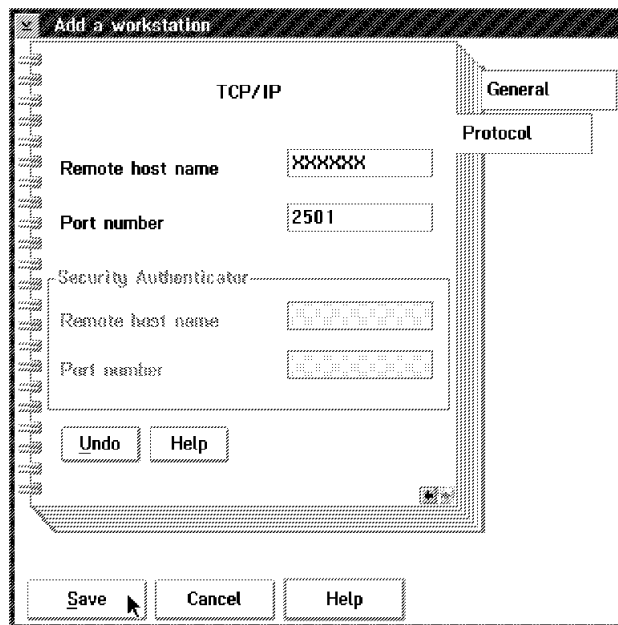
Step **8.** Continue with "Configuring TCP/IP" on page 12-5.

Configuring TCP/IP

The following procedure adds a service processor in the remote workstation TCP/IP.

Step 1. Double-click the **TCP/IP Configuration** icon on your desktop.

TCP/IP Configuration

Step 2. Click **Host names**, open **page 2**, and click **Add**.

> **Note:** If you are using an earlier version of TCP/IP, click **Services** and select page **3 of 3**.
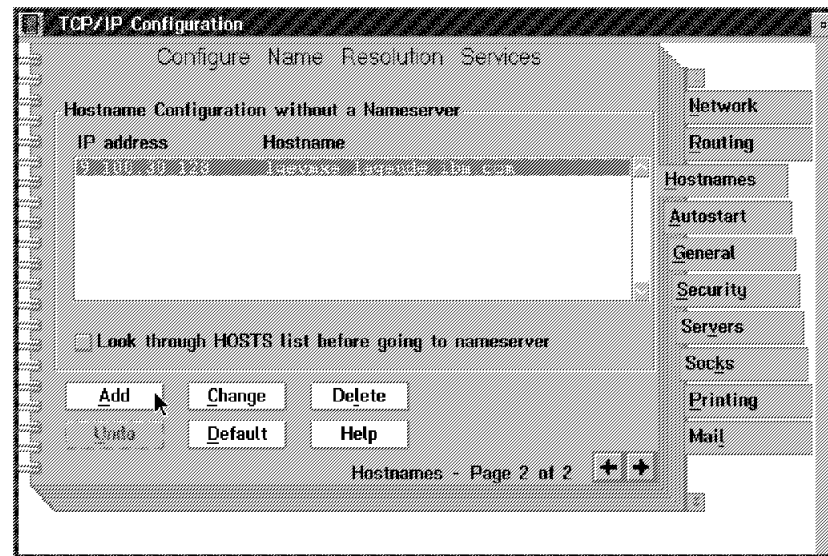
Step 3. Fill in the **IP address** field of the target workstation (the IP address of the TIC 2080), the **Host name** field (optional) and click **Add**.
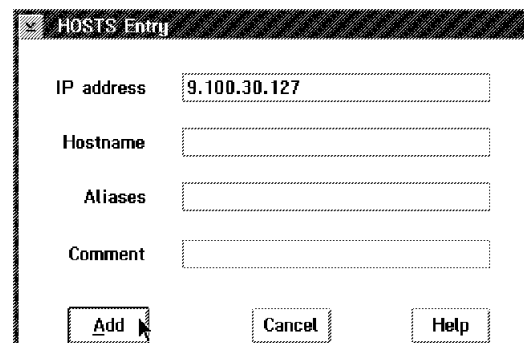
Step 4. Close the TCP/IP window.

Step 5. Click **Save**.

Step 6. The installation is complete. For more information on using this new DCAF session, see "Using DCAF to Remotely Log On to the Service Processor."

Chapter 13. APPC LAN-Attached Remote Workstation

Figure 13-1. APPC Service LAN-Attached Remote Workstation

This chapter describes how to configure a DCAF session for controlling a target service processor (see Figure 13-1). If you have more than one target service processor, you must respect the parameter value matching rules given in Appendix D, "Configuration for a Two-Target Remote Workstation."

Configuring a Target Service Processor

Use the worksheets in the *3745/3746 Planning Series: Management Planning*, GA27-4239 to record the necessary parameter values described in this section. This section describes the following:

- The MOSS-E configuration for a DCAF link to the communication controller.

- The MOSS-E parameters required for use in the controlling workstation.

Parameter Values that Must Be the Same
Table 13-1 on page 13-2 gives the sets of MOSS-E parameters that must have the same value in both the remote workstation and the target service processor.

Table 13-1. Identical Target and Controlling Parameters (APPC LAN)	
Service Processor	**Remote Workstation**
Local Node Network ID (Figure 13-2 on page 13-3)	**Partner network ID** (Step 9 on page 13-8) and **Network ID** (Step 10 on page 13-8)
SDLC LU name (Figure 13-3 on page 13-4)	**Partner node name** (Step 9 on page 13-8) and **Partner LU alias** (Step 7 on page 13-11) and **LU name** (Step 10 on page 13-8)
TIC2 or TIC3 LAA (Figure 13-2 on page 13-3)	**LAN Destination address** (Step 9 on page 13-8)
TIC3 RSAP (Figure 13-2 on page 13-3)	**Remote SAP** (Step 9 on page 13-8)

The workstation configuration procedure in this chapter explains how to find these parameters in the remote workstation.
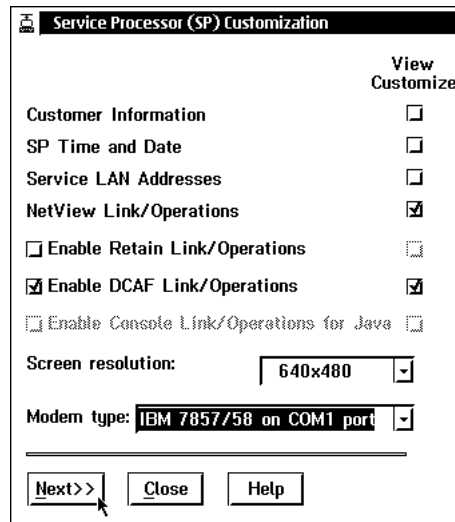
Configuring the Service Processor in MOSS-E

The following procedure explains how to find, record, and configure service processor parameters:

Step   **1.** In MOSS-E, double-click the **Service Processor** object.

Step   **2.** Click **Configuration Management**.

Step   **3.** Double-click **SP Customization**.
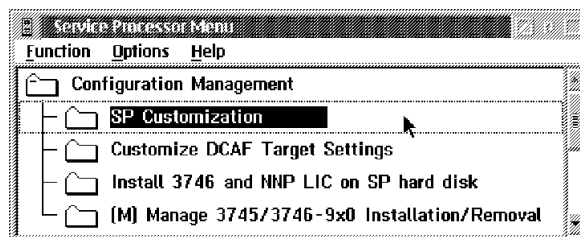
Step 4. Select **Enable DCAF Link/Operations** and **NetView Link/Operations** in the **View Customize** button list. Click **Next**.

Step 5. Record the values in the **Network ID**, **TIC2 or TIC3 LAA**, and **TIC3 RSAP** fields (see Figure 13-2 and refer to Table 13-1 on page 13-2). Then click **Next** and **Next** again.

Figure 13-2. NetView Link/Reporting Customization

Step   6. Record the value in the **SDLC LU name** field, select **Yes** to **Accept any incoming calls on SP?** and fill in the **Local phone number** field.

Figure 13-3. DCAF Customization

Step   7. Click **Next**, click **Close** and **Yes** to save the configuration.

Step   8. Shutdown and restart the service processor.

Step   9. Go to "Configuring an APPC LAN-Attached Remote Workstation."

Configuring an APPC LAN-Attached Remote Workstation

The following procedure shows you how to establish a link between the controlling workstation and a service processor, via an APPC type LAN environment.

Configuring CS/2

> **Important**
>
> The procedure below is the same in CM/2 unless otherwise indicated.

Step   1. Perform steps 1 to 5 on page 10-4.

Step   2. Select **DLC - Token-ring or other LAN types** and click **Configure**.

Step 3. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following, using the **Change** button.

- Select **HPR parameters** and de-select **HPR support**.
- Check that the defaults apply to **Link station protocol parameters**, **Network management parameters**, and **Resource parameters**.

Then click **OK**.

Token Ring or Other LAN Types DLC Adapter Parameters

Adapter 0 (0 - 15)

☑ Free unused links

░ Branch extender support

Maximum I-field size
2224 (265 - 16393)

Local SAP (hex)
04 (04 - 9C)

Additional parameters

    HPR parameters
    Link initialization parameters
    Link station protocol parameters
    Network management parameters
    Resource parameters

    [Change...]

Effective capacity (bits per second)
4000000

Connection network parameters (optional)
Name [   ] . [   ]   ☑ Limited resource

[OK] [Delete] [Cancel] [Help]

Step 4. Select **SNA local node characteristics** and click **Configure**.

Communications Manager Profile List

✓	Required	DLC - Token-ring or other LAN types
✓	Required	SNA local node characteristics
	Optional	SNA connections
	Optional	SNA Dependent LU Server definitions
✓	Optional	SNA features

[Configure...] [Close] [Help]

Step 5. Modify the **Network ID** and **Local node name** fields, select **End node** and click **OK**.

Step 6. Select **SNA connections** and click **Configure**.

Step 7. Click **To peer node**, select **DCAFLAN** from the list and click **Change**.

```
┌─────────────────────────────────────────────────────────┐
│▨ Connections List                                        │
├─────────────────────────────────────────────────────────┤
│                                                          │
│ Choose the type of node to change or create connections  │
│ to nodes of that type.                                   │
│                                                          │
│ Selecting a partner type will display connections to     │
│ nodes of that type in the list.                          │
│                                                          │
│ ┌─Partner type────────────────────────────────────────┐  │
│ │  ◌ To network node   ◉ To peer node   ◌ To host    │  │
│ └─────────────────────────────────────────────────────┘  │
│                                                          │
│ Link                                       Adapter        │
│ Name         Adapter                       Number         │
│ ▨DCAFLAN▨▨▨▨▨Token-ring or other LAN types▨ 0▨            │
│ DCAFSDLC     SDLC                           0             │
│ DCAFSNA      Token-ring or other LAN types  0             │
│                                                          │
│              ◁▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▷                            │
│                                                          │
│ Comment                                                  │
│                                                          │
│ [ Create... ] [ Change... ] [ Delete ] [ Close ] [ Help ]│
└─────────────────────────────────────────────────────────┘
```

Step 8. Select **Token-ring or other LAN types** and click **Continue**.

```
┌─────────────────────────────────────────────────────────┐
│▨ Adapter List                                            │
├─────────────────────────────────────────────────────────┤
│                                                          │
│ Select the local adapter to be used for this connection. │
│                                                          │
│ Adapter Type                                             │
│ ▨Token-ring or other LAN types▨▨▨▨▨▨▨▨▨▨▨▨▨▨              │
│ Ethernet (ETHERAND) network                              │
│ PC Network                                               │
│ Twinaxial                                                │
│ SDLC                                                     │
│ SDLC multipoint primary server                           │
│                                                          │
│ Configured       Yes                                     │
│                                                          │
│ Adapter number   [ 0  ]▨ (0-15)    [ Configure DLC... ]  │
│                                                          │
│ [ Continue... ] [ Cancel ] [ Help ]                      │
└─────────────────────────────────────────────────────────┘
```

Step 9. Refer to Table 13-1 on page 13-2 and fill in the **Partner network ID** (the network name), the **Partner node name** (the network of the target service processor), the **LAN destination address** (the address of the service processor), and the **Remote SAP** fields. Then click **Define Partner LUs**.

Step 10. Refer to Table 13-1 on page 13-2 and fill in the **Network ID** and **LU name** fields. Fill in the **Alias** field, click **OK** and then **Close**.

Step 11. Select **SNA features** and click **Configure**.
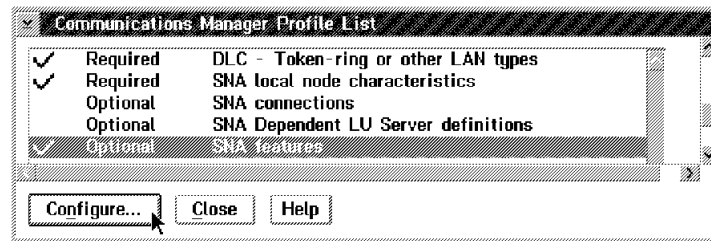
Step 12. Click **Add** and **OK**.

Step 13. Select **Local LUs** and **CTRLLAN**, then click **Change**.
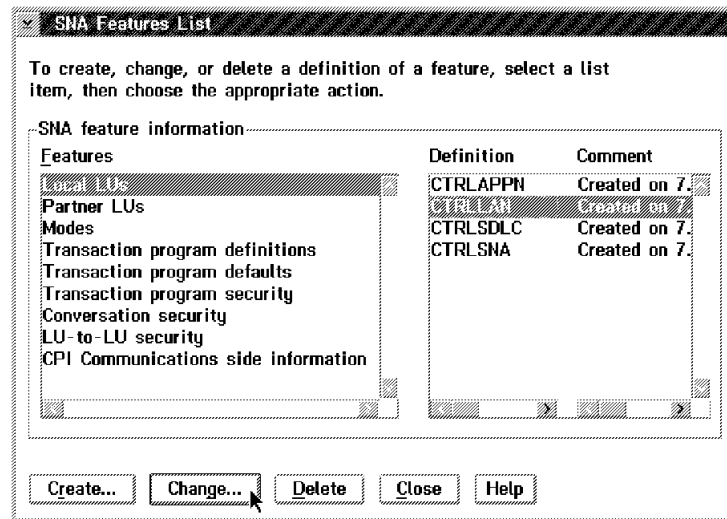
Step 14. Refer to Table 13-1 on page 13-2 and fill in the **LU name** and **Alias** fields. Select **use this local LU as your default local LU alias** and click **OK**.

Step 15. Click **Close** on each subsequent screen until you exit CS/2.

Step 16. Continue with "Configuring DCAF for APPC."

Configuring DCAF for APPC

Step 1. On your desktop, double-click the **Distributed Console Access Facility** icon.

Step 2. Double-click the icon.

Step 3. Click **Session**, then **Open workstation directory**.

Step 4. Click **OK** for a first installation. Otherwise, continue with next step.

Step 5. Click **Add** in the **Workstation** directory.

Step   6. Fill in the **Workstation name** field (refer to **Local LU name** in Step 14 on page 13-10), select **APPC**, **Target**, and click **Protocol**.
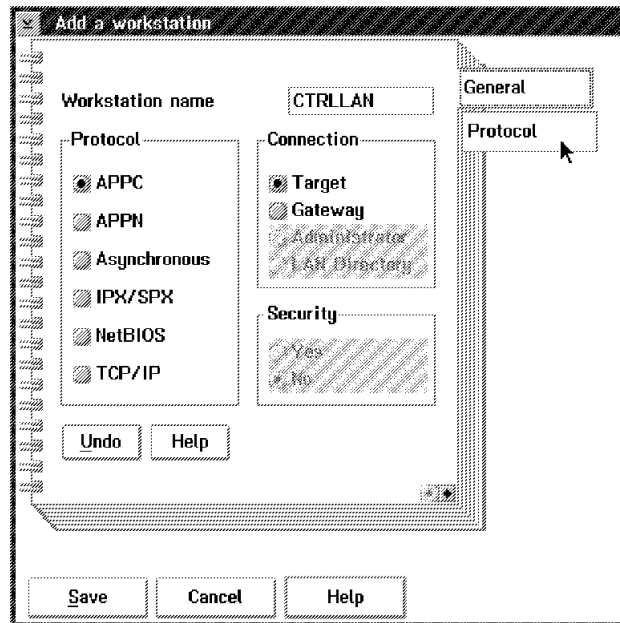
Step   7. Fill in the **Local LU alias** field (refer to **Local LU name** in Step 14 on page 13-10), and **Partner LU alias** field (refer to Table 13-1 on page 13-2). Enter DCAFMODE in the **Mode name** field.
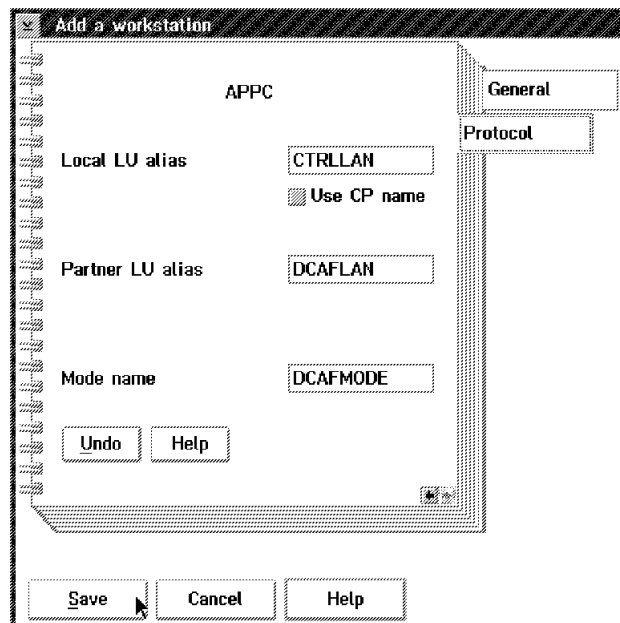
Step   8. Click **Save** and **Cancel**. The new workstation icon appears in the DCAF Directory window.

Step   9. Shutdown and restart the workstation.

Step 10. The installation is complete. For more information on using this new DCAF session, see "Using DCAF to Remotely Log On to the Service Processor."

Chapter 14. Telnet-attached Remote Workstation

Introduction

Any workstation that runs the Telnet Client program can remotely access the IP functions of a Network Node Processor (NNP). You can use Telnet on a remote workstation to configure and manage IP functions without disturbing the operations of the service processor.

However, when using Telnet:

- You cannot access the MOSS-E functions
- Only one remote workstation can access a NNP at a time

Any remote workstation can access a NNP via Telnet.

Notes:

> TCP/IP and Telnet Client programs are separate products from IBM applications for Communication Controllers. See the documentation that comes with these products for information on installation procedures.

Consoles
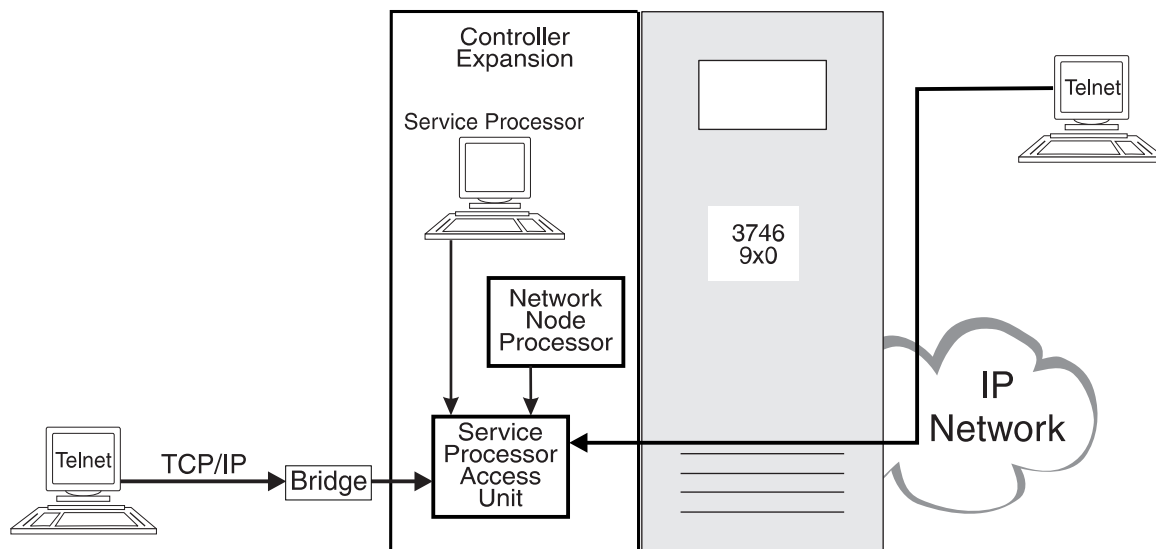
Figure 14-1. Telnet Workstation Configuration

A Telnet remote console can be attached to the service LAN (the Service Processor Access Unit in Figure 14-1) via a bridge with appropriate filtering, or via an IP network using resources controlled by the target Network Node Processor (NNP). See Figure 14-1 above.

These workstation attachments can be through either:

- LAN (Token-ring, Ethernet)
- WAN links (Frame-relay, Point-to-Point Protocol)

Logon Password

Telnet passwords are defined for access to the service processor during the installation of the NNP. If you have problems, see your network administrator.

Programming Requirements

For remote access to the functions of a NNP, your workstation must have an operating system (OS/2, for example) that can run TCP/IP.

Hardware Requirements and Recommendations

Any remote workstation can be used that supports IP and runs the Telnet Client program.

Installation

Before you begin the installation procedure for the network node processor, make sure that your workstation can run TCP/IP.

For installing or upgrading the TCP/IP application including the Telnet Client program, refer to the TCP/IP installation guide that comes with the product.

Using Telnet to Remotely Log On to the Network Node Processor

Starting a Session

Step **1.** Open an operating system window (OS/2, for example).

Step **2.** On the command line, type `telnet` followed by the IP address or nickname of the network node processor.

Step **3.** Enter the Telnet password. The Telnet user session starts automatically.

Step **4.** Enter one of the following:

- T 6 to configure
- T 5 to manage.

For more information, refer to the *Basic Operations Guide*, SA33-0177.

Closing a Session

To close the session, press ⌊Ctrl⌋ and ⌊C⌋ together.

Chapter 15. Java Console Remote Access

Overview of Java Console

Communications

Java Console supports communications using TCP/IP protocol over the following:

- Asynchronous cable and modem
- LAN

Flexibility Support

Java Console can run on the workstation as an Applet in a web browser, or as a Java program.

Programming Requirements

Requires microcode level F12720 or higher on the service processor. Java Console runs on OS/2 Warp (versions 3 and 4), Windows (95, 98, and NT), AIX, UNIX, and Macintosh workstations, with TCP/IP protocol installed, via a web browser or Java application program.

The Java Runtime Environment (JRE) program must be installed on your workstation. The JRE program is platform dependent, and available at no charge from the following websites:

WARP 4

http://ncc.hursley.ibm.com/javainfo/JREsite.html

Windows 95, Windows 98, and Windows NT 4.0

http://java.sun.com/products/jdk/1.1/jre/download-jre-windows.html

Sun Solaris

http://www.sun.com/solaris/jre/index.html

If you are using AIX, JRE is part of the Java Development Kit (JDK).

Network browsers

Java Console has been tested with the following network browsers:

- Internet Explorer Version 4.01 for Windows 95
- Netscape Communicator Version 4.04 for Windows 95
- Netscape Explorer Version 2.02 with Java Version 1.1 for OS/2 Warp.

Mouse and Keyboard

Both the mouse and keyboard remain active for the remote workstation and the service processor during a session.

Remote Access with Java Console

Java Console enables a link for a remote workstation to access and control a service processor and network node processor (NNP) across the network. With a link established to the target service processor using Java Console, the user has access to the programs and utilities running on the service processor. For example, with a link activated between the service processor and a remote workstation, MOSS-E functions are available to the user.

Java Console File Transfer

Java Console provides a utility for file transfer, for example, CCM configuration files, between the service processor and the remote workstation.

With Java Console running as an Applet (web browser-based), this function downloads files from the service processor to the remote workstation. However, to upload files from the workstation to the service processor, the Java Console program has to be installed onto your workstation hard disk. For more information on installing Java Console on your remote workstation, see "Installing Java Console as a Program on a Remote Workstation" on page 17-1.

Workstation Access to a Service Processor

There are three possible ways to access the service processor from a remote workstation:

Remote Access Via Switched-Line (Modem)

In this scenario, the service processor is configured to run PPP server over a COM1 port attached to an asynchronous modem. Using Java Console, a remote workstation asynchronous modem connects to the service processor with PPP dial-up client.

The configuration for this type of link is described in "Remote Workstation Access Via Switched Line (Modem)" on page 16-2.

Local Access Via the Service Ring

In this scenario, Java Console directly connects to the service ring for TCP/IP communication with the service processor.

The configuration for this type of link is described in "Remote Workstation Access Via Service LAN" on page 16-12.

Remote Access Via the User Network

In this scenario, the network provides IP access to the service processor via a router or a bridge connected to the service ring of the 3745/3746. If the 3746 is the router providing this connection (via a TIC 3 port), it must run the IP Routing FC 5033.

Note: Java Console can establish a connection to one 3745/3746 service processor and then use this connection to access other service processors. The other service processors can be accessed through the following:

- Service ring, if connected to the same service ring.

- IP network, as long as there is IP connectivity, bridged or routed, between the first service processor and the other service processors.

Configuring Java Console

Support for Java Console (either as an Applet or as a program) and for DCAF is provided by microcode level F12720 and higher. When the new level of microcode is installed, you have the option of retaining support for DCAF or selecting Java Console for remote access.

The procedure for making this selection is described in "Procedure for Configuring the Service Processor" on page 15-3.

To install Java Console as a program on your workstation, see Chapter 17, "Installing the Java Console Program" on page 17-1.

Procedure for Configuring the Service Processor

Use the following procedure to select Java Console after the new microcode upgrade on your service processor.

Step 1. In MOSS-E, double-click the **Service Processor** object.

Step 2. Click **Configuration Management**.

Step 3. Double-click **SP Customization**.
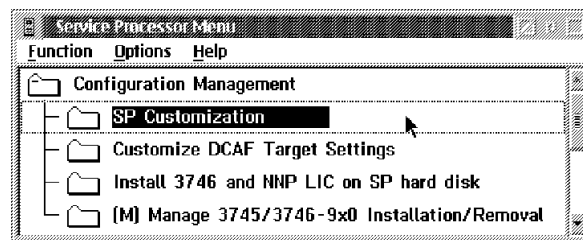
Step 4. In the **Service Processor (SP) Customization** screen, de-select **Enable DCAF Link/Operations** if it is enabled, and select **Enable Console Link/Operations for Java** and **View Customize** in the parallel column. Select a modem from the **Modem type** field and click **Next**.
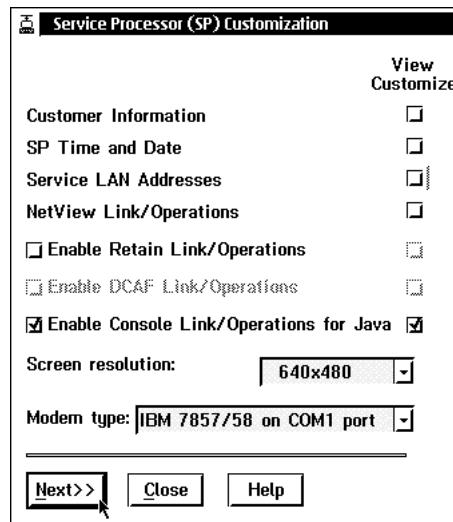
Step 5. In this Step, you need to assign IP addresses for the PPP Server and PPP Client. (These are different from the IP address of the service processor and the remote workstation.)

Customizing the PPP Server on the service processor

Fill in the **PPP Server**[1] with an IP address for the Server assigned within the same subnet range as the IP address of the service processor.

Customizing the PPP Client on the service processor

Fill in the **PPP Client** field with an IP address for the Client assigned within the same subnet range as the IP address of the service processor.

Select **Incoming calls** and enter the modem phone number in the **Phone number** field. Enter the speed of workstation communication port in the **DTE Speed** field.

DTE speeds: For modem 7858, enter 115200. For modem 7857, enter 19200. If you have a problem with these settings, select a lower speed.

Enter a value in the **MRU Size**[2] field. (You can also leave the default values.)

Click **View/Change Passwords**.

Figure 15-1. Point-to-Point Protocol Configuration Screen

---

[1] You can assign any IP address in this field, but if you want to access other devices connected to the service processor (the NNP, for example), then assign a number within the same subnet range.

[2] MRU stands for maximum request/reply unit, and any value entered into this field must fall within the range 476-1500. If you have performance problems, specify a lower value.

Step   6. Enter your management password and click **OK**.
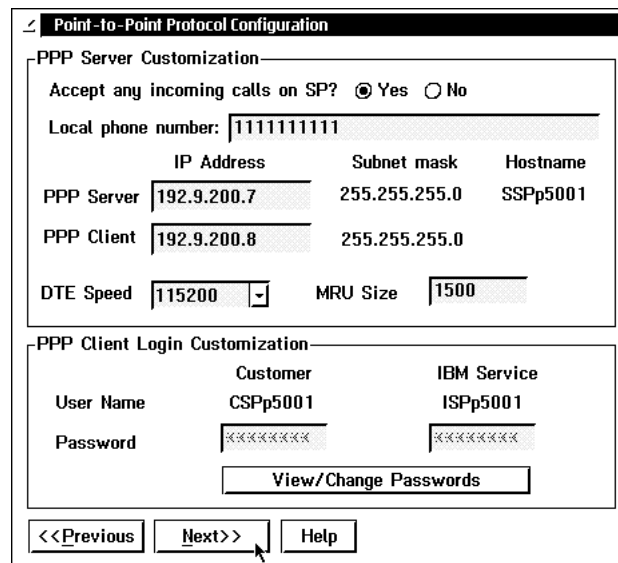
> **Management Password:**   The management password is the same as the one assigned to the service processor in MOSS-E. The default is **IBM3745**.

Step   7. If there are any passwords, they are now visible in the **Customer** and **IBM Service** field. Modify or enter new passwords for you and the IBM service representative and click **Next**. Passwords must be in uppercase and up to 8 alphanumeric characters in length. New passwords appear as asterisks in the field.

> **Note:**   It is recommended that you provide new passwords for additional security over the network. The default passwords are **IBM3745C** for you, and **IBM3745I** for the IBM service representative. However, these passwords are only needed if you are configuring or using a switched line (modem) connection between the service processor and the remote workstation.

Figure 15-2. Entering Customer and IBM Service Passwords

Step 8. In this Step, you can change the Login IDs and assign passwords to the service processor and the NNP (A and B).

Customizing Java Console Remote Access

The entries for the service processor and the both NNPs under the **Login** field are the default. For the service processor, the default login is:

- `SPxxxxx`
  where `SP` indicates the service processor, and `xxxxx` indicates the last five digits of the service processor serial number.

For the NNP, the default login is:

- `CA1xxxxx` (or `CB1xxxxx` for the backup NNP)
  where `CA1` indicates the NNP, and `xxxxx` indicates the last five digits of the NNP serial number.

Change the Login IDs if you need to. If you want to enter or modify a password for the service processor or an NNP, click **View/Change Passwords** (see Figure 15-2 on page 15-5). The default is no password.

Figure 15-3. Console Configuration for Java Screen

Step 9. Click **Next**, **Close**, and **Yes** to save the configuration.

Step 10. Go to Chapter 16, "Using Java Console to Remotely Access a Service Processor with a Web Browser" on page 16-1.

Chapter 16. Using Java Console to Remotely Access a Service Processor with a Web Browser

Java Console on a remote workstation (as an Applet or as a program) provides a link for controlling a service processor across the network. Java Console can access the service processor over two types of network connection:

- Using a modem on the remote workstation to connect across a switched line to a modem of the service processor[1].

- Using the workstation to connect to a service processor across a LAN.

This section includes procedures for configuring the Java Console link using a web browser. Procedures include the following:

- Configuring the Java Console link between the remote workstation and the service processor (either through modem or on a LAN).

- Initiating a configured link between the remote workstation and the service processor using a web browser.

The procedure for initiating a link with Java Console are the same unless otherwise noted. However, the procedures for configuring a remote workstation and service processor are different according to the type of link established on the network. To proceed, see one of the following:

Remote Workstation Requirements

Java Console runs on the following platforms:

- OS/2 Warp (version 3.0 and higher)
- Windows 95, NT, and 98
- AIX/UNIX
- Macintosh

With any of the platforms listed above, the workstation requires a web browser, and Java 1.1 (or higher). Recommended web browsers include the following:

- Netscape 2.02 (for OS/2 Warp)
- Internet Explorer 4.01 (for Windows 95)
- Netscape Communicator 4.04 (for Windows 95)

---

[1] Service processors 3172, 7585, and 6275 are shipped with an asynchronous modem. However, if you are using a service processor with an integrated modem, you will not be able to configure a workstation modem for Java Console access.

Remote Workstation Access Via Switched Line (Modem)
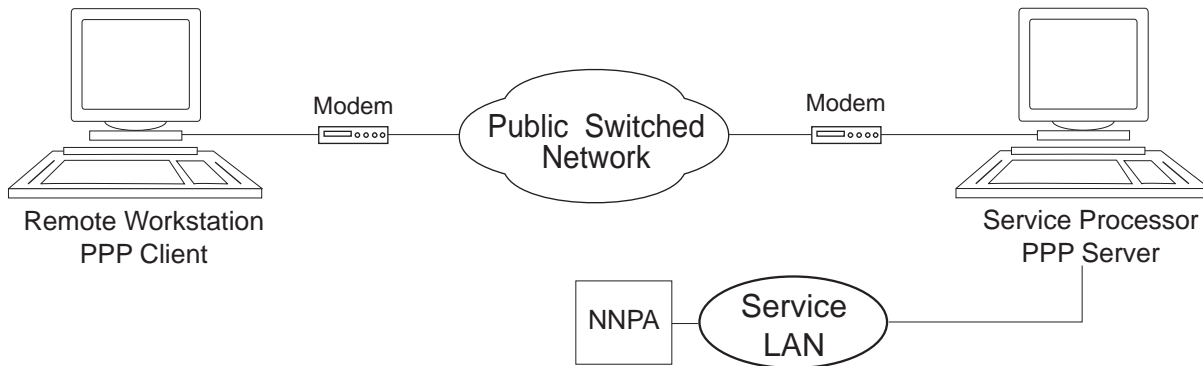
Figure 16-1. Modem-Attached Remote Workstation Using Java Console

This section contains the following example procedures for two different remote workstation platforms:

- In "Configuring the Remote Workstation in Windows 95."

- In "Configuring the Remote Workstation in OS/2 Warp" on page 16-8.

Configuring the Remote Workstation in Windows 95

It is assumed that the TCP/IP network component and workstation modem is correctly installed and configured.

Step 1. Click **My Computer** and double-click the **Dial-Up Networking** folder.

Step 2. Double-click **Make New Connection**. Enter a name for the configuration, check that your modem is displayed, then click **Configure**.
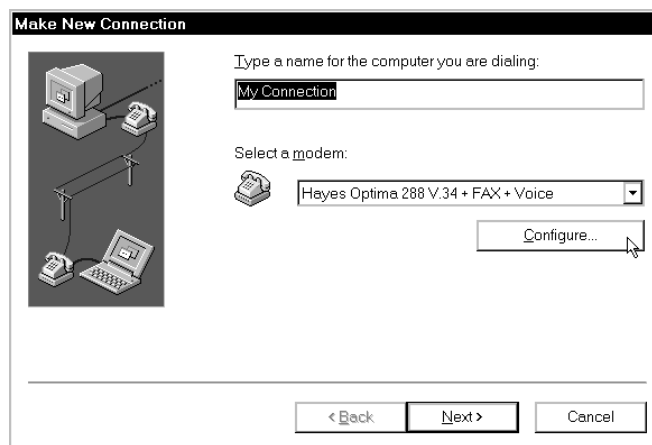
Step   3. Enter the COM port of the modem, the modem speed (the maximum
speed, for example, 115200 for modem 7858, or 19200 for modem 7857),
and click the **Connection** tab.
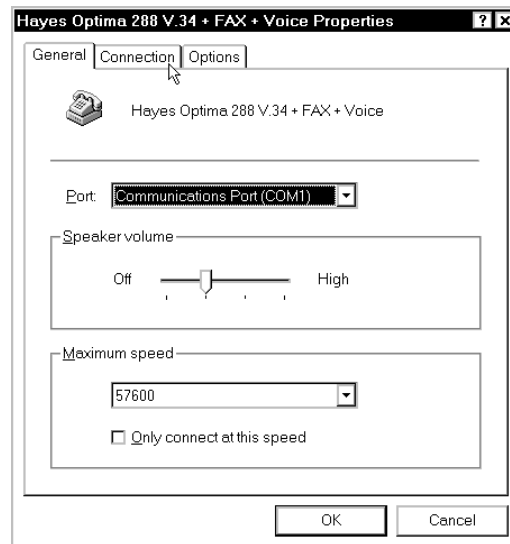
Step   4. Enter 8 in **Data bits**, None in **Parity** and 1 in **Stop bits**. Check **Wait for
dial tone before calling** and **Cancel the call if not connected within 60
seconds**, then click the **Advanced** button.
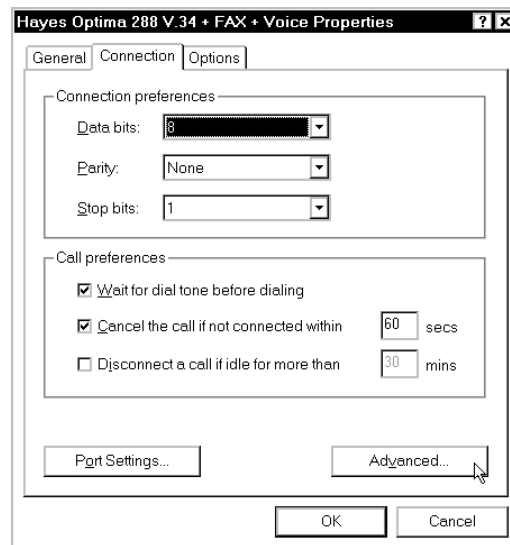
Step   5. Select **Use flow control** and **Hardware (RTS/CTS)** and click **OK**.
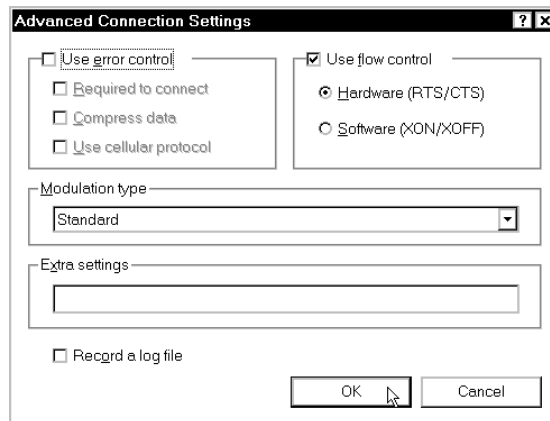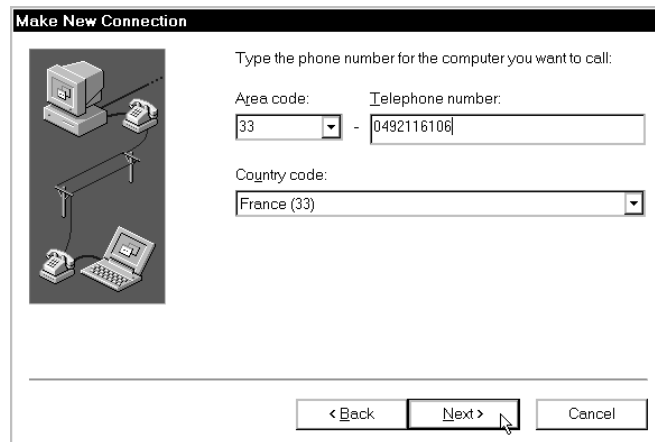
Step   6. Select the **Options** tab, select **Display modem status** and click **OK**. Then click **Next**.
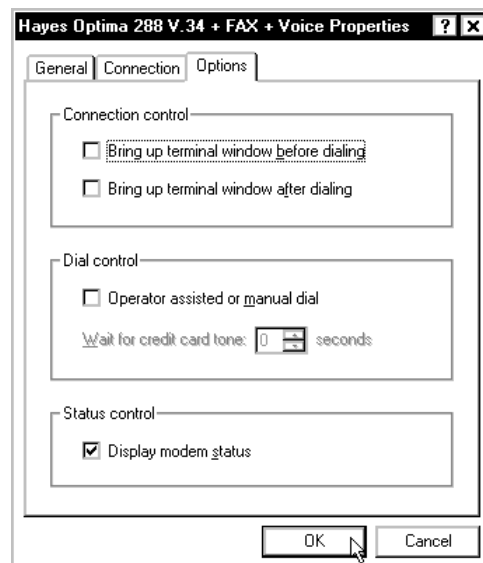
Step 7. Enter the phone number of the service processor modem. Click **Next**
then **Finish**.
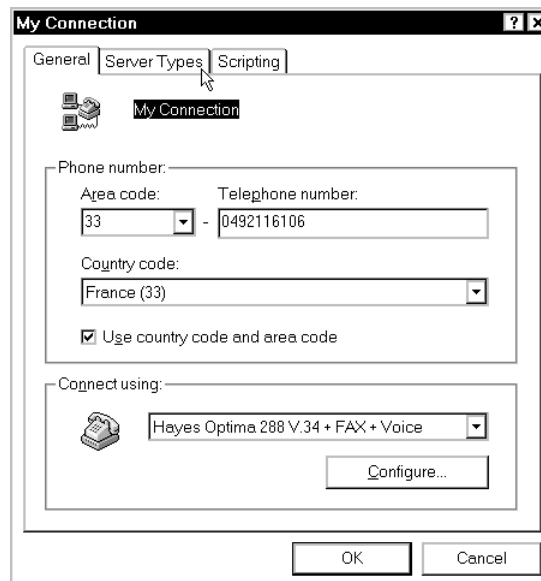
Step 8. The new configuration displays in the **Dial-Up Networking** folder.

Step 9. Click the new configuration file once with the right mouse button and
select **Properties**.

Step 10. Click the **Server Types** tab.

Step 11. In the **Type of Dial-Up Server** list, select **PPP:Windows95, Windows NT, Internet**, select **Log on to network**, disable **NetBEUI** and select **TCP/IP**. Then click the **TCP/IP Settings** button.
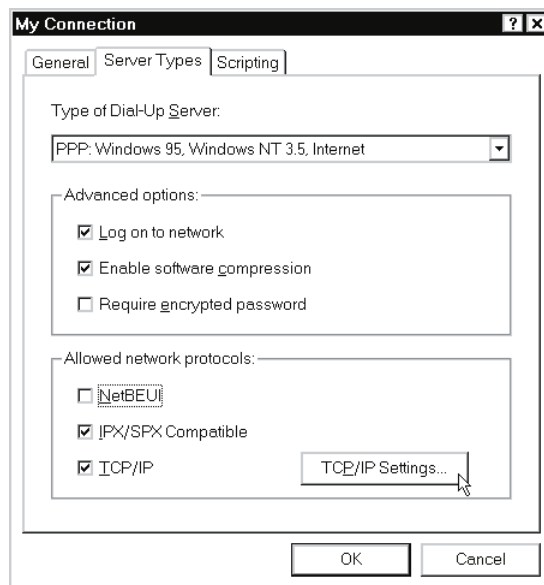
Step 12. Select **Server assigned IP address**, **Server assigned name server addresses**, and **Use default gateway on remote network**. Then click **OK** until the **Dial-Up Networking** folder displays.
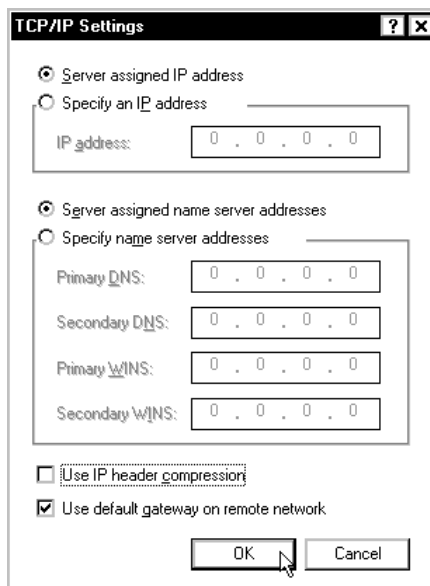
Step 13. Go to "Initiating a PPP Switched Line Connection in Windows 95" on page 16-7.

Initiating a PPP Switched Line Connection in Windows 95

Step   **1.** Open the **Dial-Up Networking** folder, and double-click your configuration file (see Step 2 on page 16-2).

Step   **2.** Check the entry in the **User name** field and enter a password. Then click **Connect**.

```
┌─────────────────────────────────────────────────┐
│ ▤ Connect To                            ? X      │
├─────────────────────────────────────────────────┤
│  ▤▧                                              │
│  ▤⌇      My Connection                           │
│  ─────────────────────────────────────────────  │
│                                                  │
│  User name:     ┌───────────────────────┐        │
│                 │CSPXXXXX               │        │
│  Password:      ┌───────────────────────┐        │
│                 │∗∗∗∗∗∗∗∗               │        │
│                                                  │
│                 ☐ Save password                  │
│  ─────────────────────────────────────────────  │
│  Phone number:  ┌───────────────────────┐        │
│                 │0492116106             │        │
│  Dialing from:  ┌───────────────────┬─┐ ┌──────────────┐ │
│                 │Default Location   │▼│ │Dial Properties...│ │
│  ─────────────────────────────────────────────  │
│              ┌──────────────┐  ┌──────────────┐  │
│              │   Connect    │  │   Cancel     │  │
│              └──────────────┘  └──────────────┘  │
└─────────────────────────────────────────────────┘
```
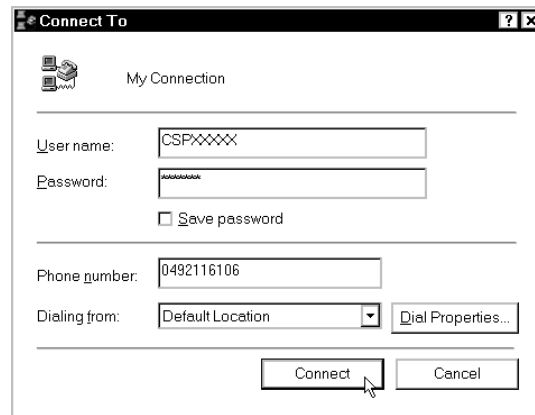
Step   **3.** A status message displays. Wait until the message indicates a successful connection.
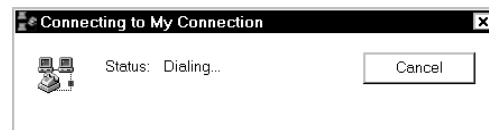
```
┌─────────────────────────────────────────────────┐
│ ▤ Connecting to My Connection            X       │
├─────────────────────────────────────────────────┤
│  ▤▤                                              │
│  ▤⌇   Status:  Dialing...     ┌──────────────┐   │
│                               │   Cancel     │   │
│                               └──────────────┘   │
└─────────────────────────────────────────────────┘
```

Step   **4.** Go to "Initiating a Remote Workstation Connection to the Service Processor" on page 16-12.

Step   **5.** When you are finished with the connection, click **Disconnect**.

```
┌─────────────────────────────────────────────────┐
│ ▤ Connected to My Connection      _ □ X          │
├─────────────────────────────────────────────────┤
│  ▤▧   Connected at 28800 bps   ┌──────────────┐  │
│  ▤⌇   Duration: 000:01:08      │ Disconnect   │  │
│                                └──────────────┘  │
│                                ┌──────────────┐  │
│                                │ Details >>   │  │
│                                └──────────────┘  │
└─────────────────────────────────────────────────┘
```
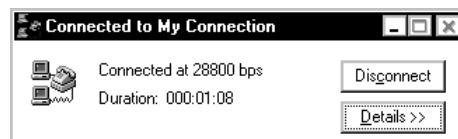
Configuring the Remote Workstation in OS/2 Warp

It is assumed that the TCP/IP network component is correctly installed and configured.

This procedure requires a network dialer program.

Network Dialer Program

The location of a network dialer program depends on the version of OS/2 you have running on your workstation. For example:

- IBM TCP/IP for OS/2
    - **OS/2 System** folder
    - **TCP/IP** file
    - **Network Dialer** icon.

Configuring the Network Dialer Program in OS/2 Warp

Step **1.** Double-click Network Dialer .

Step **2.** In the **IBM Dial-Up for TCP/IP** screen, click **Add Entry**.
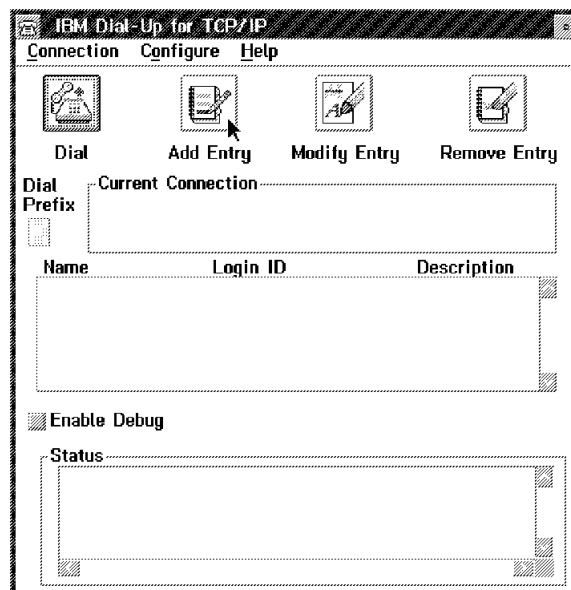
Step 3. Fill in the **Name** and **Description** fields. Enter the name of the service processor in the **Login ID** field. Enter a password in the **Password** field. Enter the phone number of the service processor in the **Phone Number** field. Click the **PPP** button, and then click the arrow button on the lower right to advance to the next page.

Step 4. Make sure the **VJ Compression** box is not checked. Enter the name of your domain server in the **Domain Nameserver** field, and the name of your domain in the **Your Domain Name** field. Then click the arrow button twice on the lower right to advance to the last page.

Step 5. Select a modem type from the **Modem Type** field (if your modem type is not available, select **Hayes Compatible**). Select the COM port of your modem in the **Com Port** field, the DTE port rate in the **Speed (Baud)** field, select 8 in the **Data Bits** field, and **NONE** in the **Parity** field. When you have finished, close the screen.

Step 6. Click **Save**.

Step 7. Go to "Initiating a Switched Line Connection in OS/2 Warp."

Initiating a Switched Line Connection in OS/2 Warp

Step 1. On your workstation, double-click Network Dialer .

Step 2. In the **IBM Dial-Up for TCP/IP** screen, select the name entry for the controller (see 3 on page 16-9) and click **Dial**. The **Status** field displays connecting information.
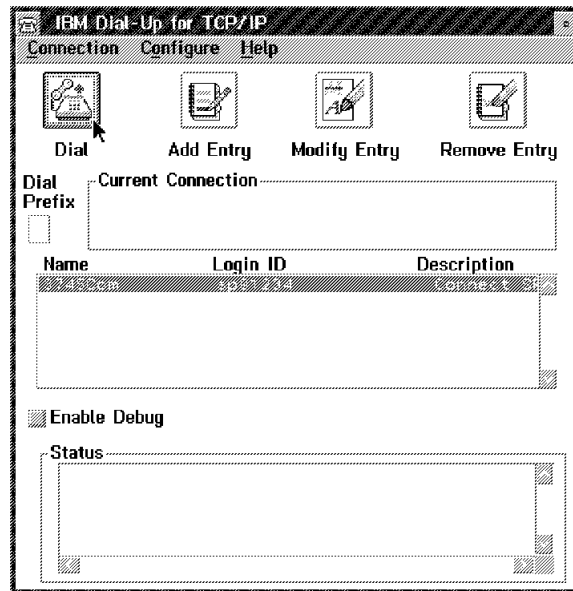
Step 3. If you are prompted, enter your password.

Step 4. Go to "Initiating a Remote Workstation Connection to the Service Processor" on page 16-12.

Step 5. When you have finished with the connection, click **Hang-Up**.

Remote Workstation Access Via Service LAN

Controller[1]

IP
Network

Service
LAN

Bridge

Remote Workstation

Service Processor

NNP
(A and B)

1. Any of the following:
   3745 (IP)
   3746 (IP)
   MAE (IP).
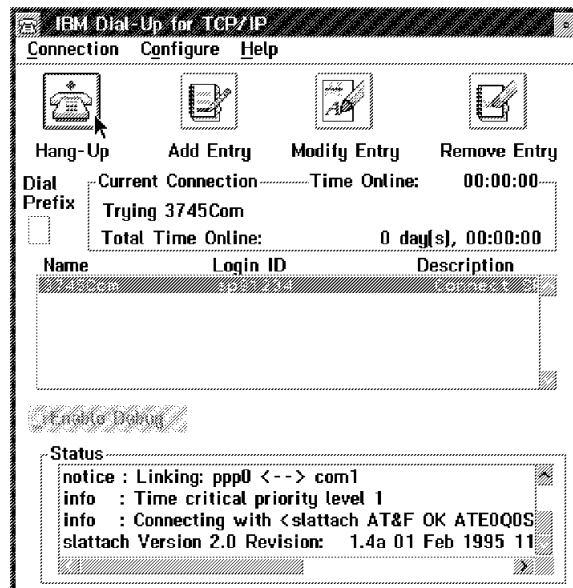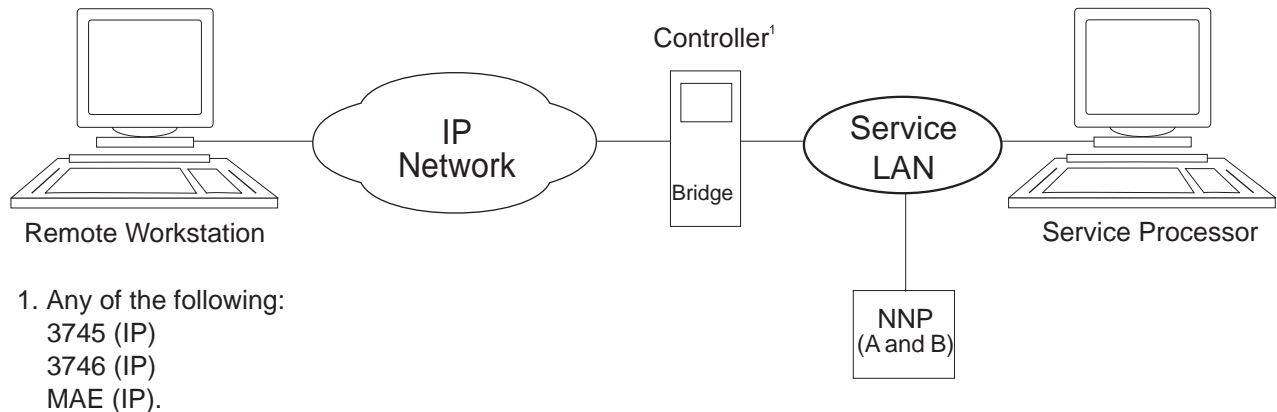
Figure 16-2. LAN-Attached Remote Workstation Using Java Console

Configuring the Remote Workstation on a LAN

An IP-attached remote workstation can connect to a service processor via a 3746, 3745, Multiaccess Enclosure (MAE), bridge, or router. The connection to the 3746 is made over the TIC3 and the connection for a 3745 is made through a TIC2.

Go to "Initiating a Remote Workstation Connection to the Service Processor."

Initiating a Remote Workstation Connection to the Service Processor

It is assumed that you have established a connection between a remote workstation and a target service processor either via modem or across the LAN. This section describes how to connect to the target service processor with the web browser on your workstation. The procedure is the same for the following scenarios:

- Java Console is running as an Applet on a modem-attached workstation.
- Java Console is running as an Applet on a LAN-attached workstation.

Step   1. Open the web browser on your workstation (in the following procedure, Netscape[2] is used as an example).

Step   2. Type the URL `http://1.2.3.4:7787/java`

where `1.2.3.4` is the IP address of the service processor and `7787` is the TCP/IP socket. Then press `Enter`.

---

[2] Configure your browser without a proxy connection to the network. In Netscape, for example, select **No proxies** in the options for **Network Preferences**.

Step   3. In the Java Client screen, enter the Userid and password for the service processor (see Step 8 on page 15-6) and click **OK**.

> **Important!:**   Make sure you enter the Userid and password in uppercase.
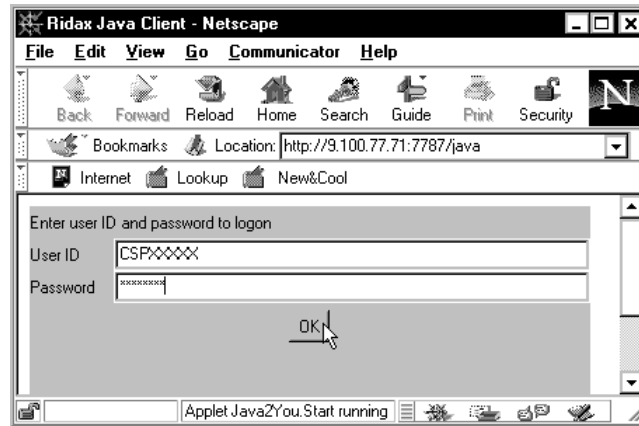
Step   4. The **MOSS-E View** screen displays.
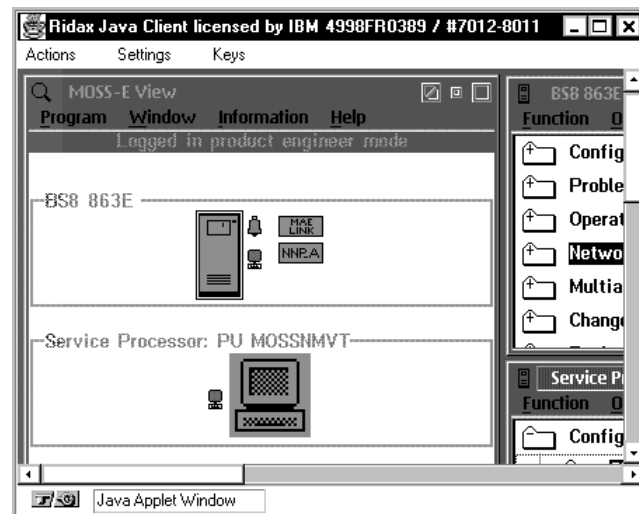
Step   5. To end the Java Console session, click **Disconnect** from the **Actions** menu.
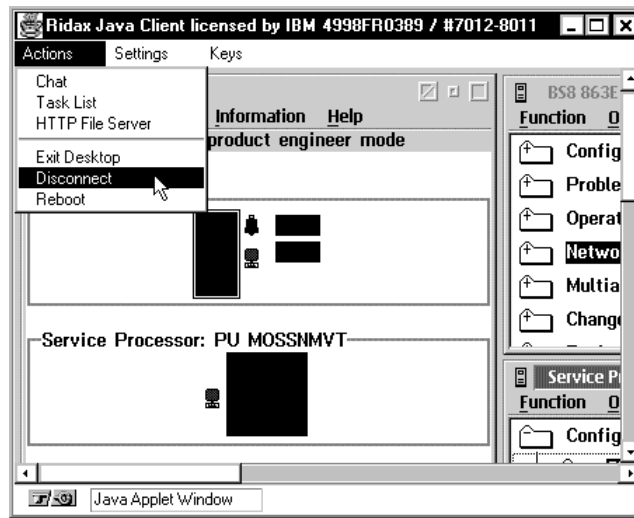
Step   6. If you are connected via modem, click **Disconnect**.
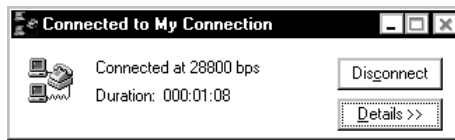
Initiating a Remote Workstation Connection to the NNP

Java Console can also connect a remote workstation to an NNP (A or B). Enabling this type of connection requires setting the service processor in MOSS-E. There are two methods for connecting your remote workstation to the NNP (A or B) on the 3746.

- "Connecting to the NNP in MOSS-E"
- "Connecting to the NNP from a Web Browser" on page 16-15.

Connecting to the NNP in MOSS-E

Step   1. Follow Steps 1 on page 16-12 to 4 on page 16-13.

Step   2. In **MOSS-E View**, open the 3746 menu.

Step   3. Click **Network Node Processor (NNP) Management**.

Step   4. Double-click **Connect To an NNP**.
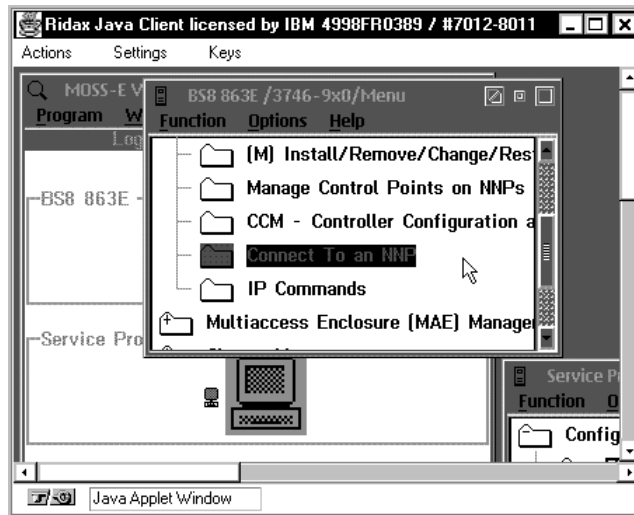
Step   5. When you have finished working with the NNP, click **Disconnect** from the **Actions** menu.
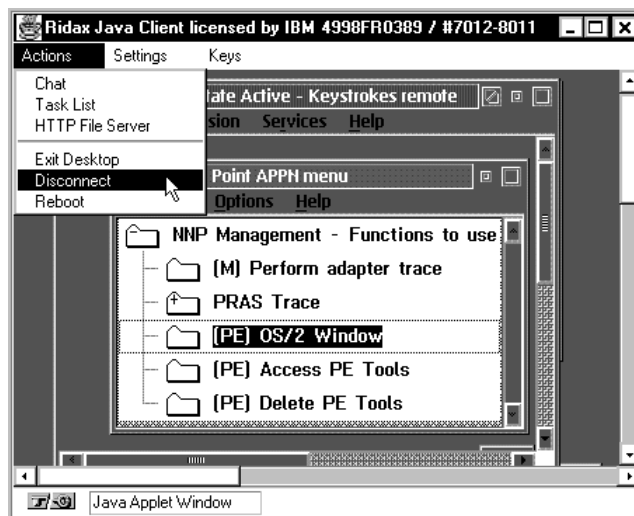
Connecting to the NNP from a Web Browser

Step   1. Open the web browser on your workstation (in the following procedure, Netscape is used as an example).

Step   2. Type the URL `http://1.2.3.4:7787/java`

where `1.2.3.4` is the IP address of the NNP and `7787` is the TCP/IP

socket. Then press ⟦Enter⟧.

Step   **3.** In the Java Client screen, enter the Userid and password (in uppercase) for the NNP (see Step 8 on page 15-6) and click **OK**.
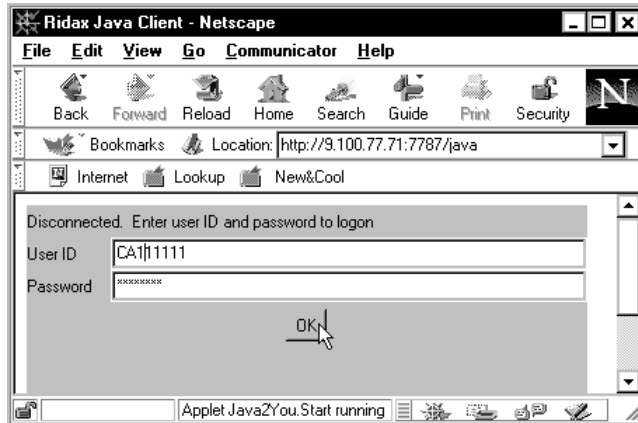
Step   **4.** The **Java Client** screen displays with the **Control Point APPN menu**.

Step   **5.** To close the session with the NNP, click **Disconnect** from the **Actions** menu.
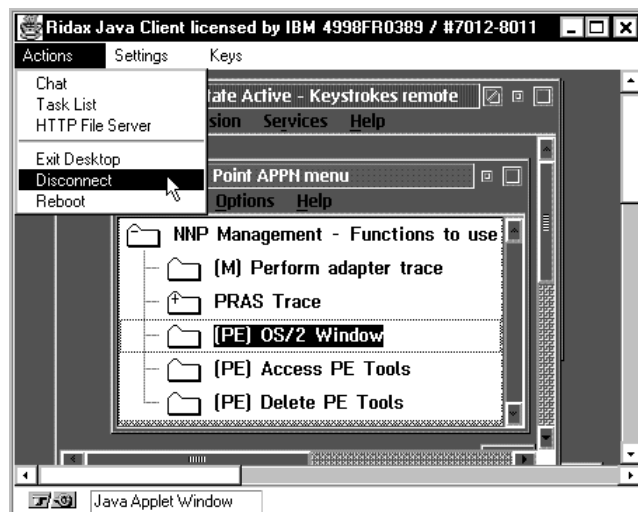
Java Console Menus

The following text describes some Java Console menu functions. These are mainly the same if Java Console is running as an Applet in a web browser or installed as a program on the remote workstation. The only exception is **HTTP File Server** in the Java Console Applet which displays as **File Manager** in the Java Console program. For more information, see "Java Console File Manager" on page 17-6.

Actions Menu
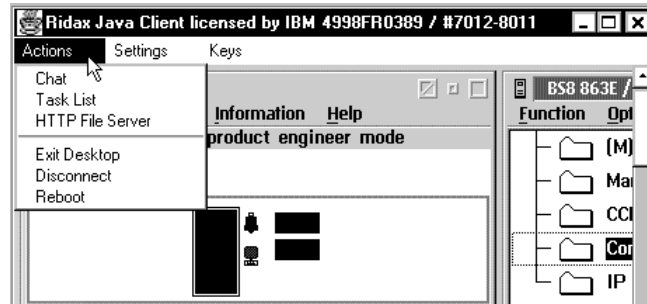
Chat
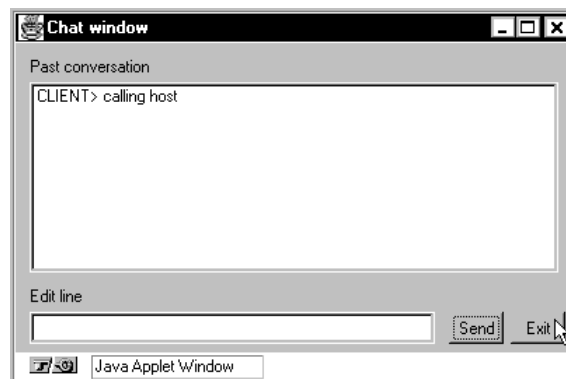
A **Chat window** opens on the remote workstation and the service processor. Type your message into the **Edit line** field and click **Send**. Your message, prefixed by CLIENT>, appears in the **Past conversation** window. Any response of the operator at the service processor appears in the **Past conversation** window prefixed by HOST>. Click **Exit** to close the window.

Task List

Displays the **Window List** with all the current programs running on the processor.

Exit Desktop

Closes Java Console.

Reboot

Reboots the service processor from the remote workstation.

Settings Menu
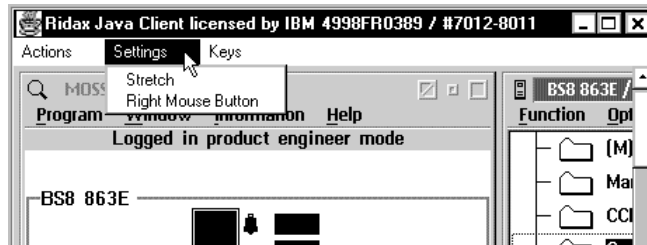
Stretch

Adjusts the desktop displayed of the service processor to the screen size of the remote workstation.

Keys Menu

This menu contains enables the function keys and keyboard short cuts assigned to service processor for use by the remote workstation.
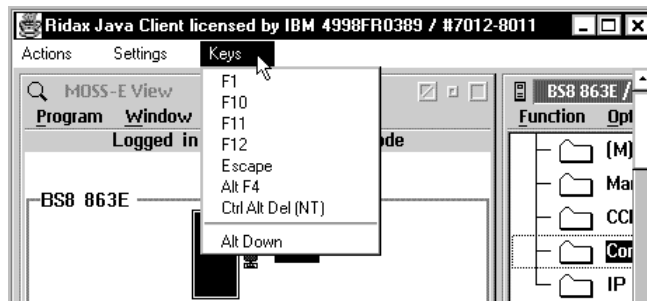
F1

Opens help screens on the service processor.

Chapter 17. Installing the Java Console Program

Java Console can be run on the remote workstation as an application installed on your hard disk.

Installing Java Console as a Program on a Remote Workstation

Microcode F12720 and above on the service processor supports running the Java Console program on your remote workstation. The following procedure describes how to download the Java Console program file from the service processor to the hard disk of the remote workstation.

Remote Workstation Requirements for Java Console

To install Java Console as an application on your workstation, make sure you have the software support as specified in "Overview of Java Console" on page 15-1.

Procedure for Installing the Java Console Program

The procedure is as follows:

Step **1.** Make sure you have a link established (modem or LAN) between the remote workstation and the service processor (see "Procedure for Configuring the Service Processor" on page 15-3).

Step **2.** Using your web browser (Netscape 2.02, for example) and with the Java 1.1 Applet running, type in the following:

`http://1.2.3.4:7787/java` where `1.2.3.4` is the IP address of the service

processor, and `7787` is the TCP/IP socket. Then press `Enter`.

Step 3. In the main Java Console window, open the **Actions** menu and click
HTTP File Server.
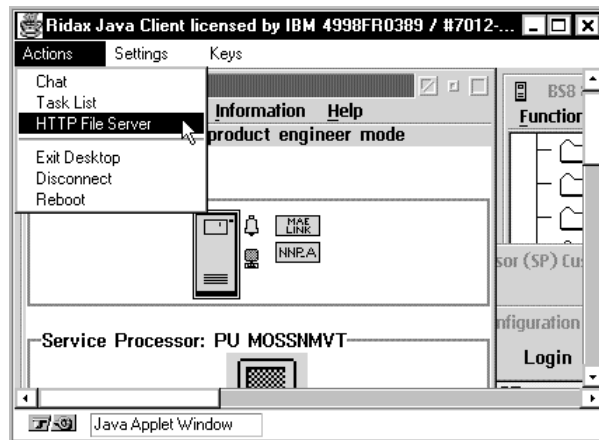
Step 4. In the **File Transfer Web Server** window, select the OS2YOU directory
on the service processor (drive K). You can check that the path and
drive letter are correct in the URL field on your browser. Then click the
file `Java2You.jar`.
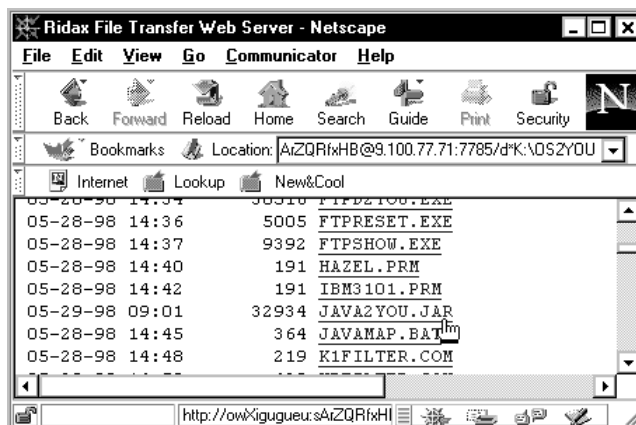
Step 5. Download the file to the `LIB` directory in the main Java directory on your workstation. If your workstation is running OS/2, for example, this would be `C:\JAVAXXX\LIB` (where `XXX` represents the version of OS/2). If your workstation is running the JRE program, for example, this would be `C:\Program Files\JavaSoft\JRE\1.1\lib\Java2You.Jar`. The file is 32 Kb.
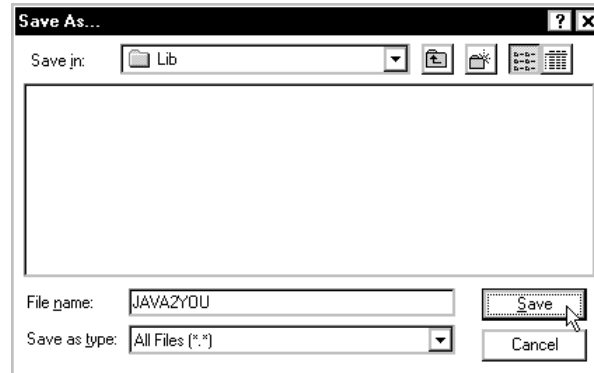
Step 6. Go to "Remote Workstation Settings for Java Console."

Remote Workstation Settings for Java Console

Depending on your workstation platform, you must configure some workstation settings to enable the Java Console program.

Important!

The information under this heading, "Remote Workstation Settings for Java Console," and the following, "Running the Java Console Program in Windows" on page 17-4, give example configurations for enabling the transfer of data between the workstation and the service processor. For this to occur, the JRE program must be installed on your workstation. The JRE program is platform dependent, and available at no charge from the following websites:

WARP 4

> http://ncc.hursley.ibm.com/javainfo/JREsite.html

Windows 95, Windows 98, and Windows NT 4.0

> http://java.sun.com/products/jdk/1.1/jre/download-jre-windows.html

Sun Solaris

> http://www.sun.com/solaris/jre/index.html

If you are using AIX, JRE is part of the Java Development Kit (JDK).

The following workstation settings apply to Windows 95 and OS/2 Warp.

Windows 95
Step 1. Create a batch file (.bat) and enter the following:

```
@echo OFF
jre -cp "C:\Program Files\JavaSoft\JRE\1.1\lib\Java2You.Jar" Java2You.Start %1
```

where `%1` represents the IP address of the service processor or the NNP.

> **Note:** Make sure you enter the path and file name as it appears in the example (with the mix of upper- and lower-case lettering).

Step 2. Save and close the new batch file.

OS/2 Warp

Step 1. Create a command file (.CMD) and enter the following:

```
@echo OFF
java Java2You.Start %1
```

where %1 represents the IP address of the service processor or NNP.

Step 2. Save and close the new batch file.

> **Note:** Make sure the Java2You.jar file is correctly allocated in your CONFIG.SYS file.

Running the Java Console Program in Windows

For a connection between the remote workstation and the service processor across a PPP switched line, initiate the modem connection first (see "Initiating a PPP Switched Line Connection in Windows 95" on page 16-7 for Windows, and "Initiating a Switched Line Connection in OS/2 Warp" on page 16-10 for OS/2). Then continue with the procedure below.

To use the Java Console program for a connection between the remote workstation and the service processor across a LAN, continue with the following procedure.

Step 1. On your desktop, click the right mouse button.

Step 2. Select **New** and **Shortcut** from the menu.
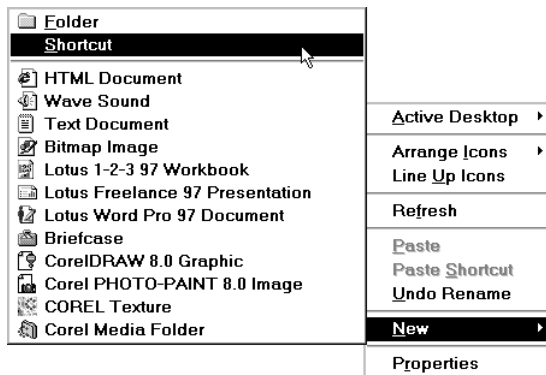
Step 3. The **Create Shortcut** window displays. Type the following in the
Command line field:

```
jrew -cp "C:\Program Files\JavaSoft\JRE\1.1\lib\Java2You.Jar" Java2You.Start
```
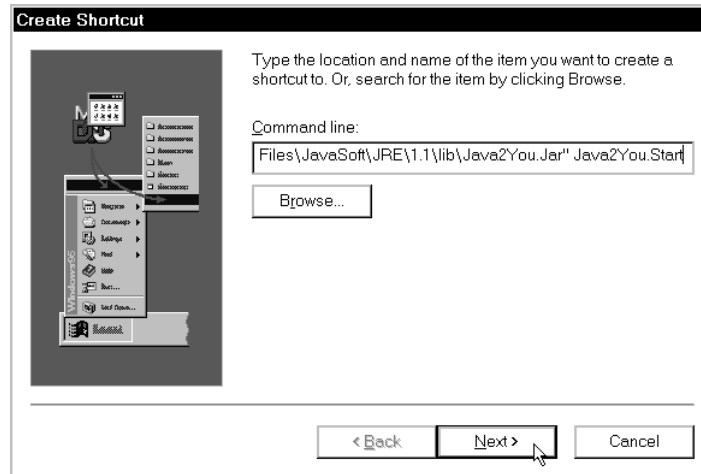

Step 4. Click **Next**.

Step 5. Enter a name for the shortcut and click **Finish**.
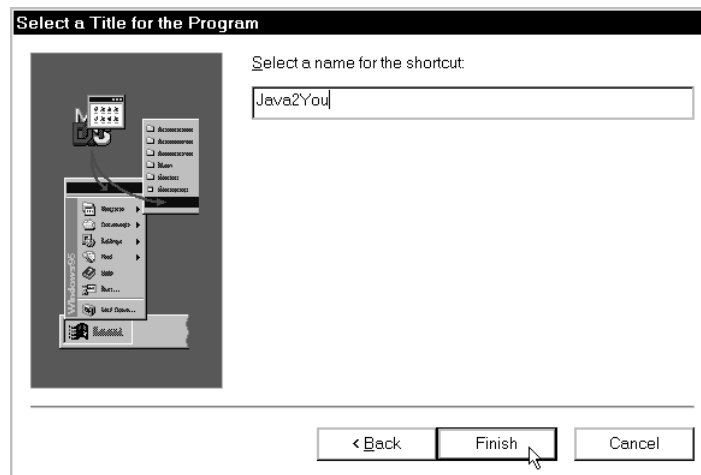
Step 6. A new icon appears on your desktop. Double-click the icon.

Step 7. Enter the IP address of the service processor in the **Host** field. Enter the
User ID and password if necessary (in uppercase), then click **OK**.

Running the Java Console Program in OS/2

Step   1. In an OS/2 window, type in the name of the command file followed by the

IP address of the service processor or the NNP. Then press ⌜Enter⌝.
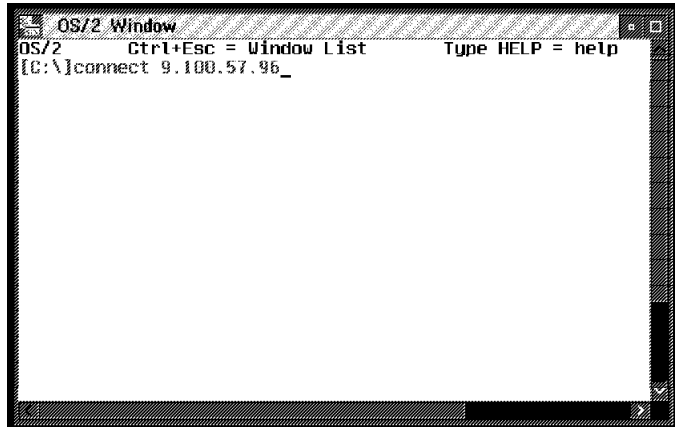
Step   2. Enter the Userid and password for the service processor and click **OK**.
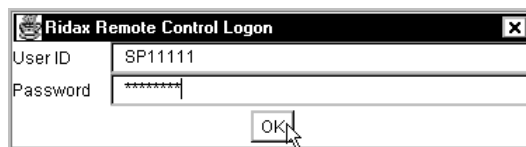
Step   3. To close the session with the service processor, click **Disconnect** from
the **Actions** menu.

Java Console File Manager

When Java Console has been installed on your workstation, you can use **File
Manager** to upload files from the workstation to the service processor, for example,
CCM configuration files.

For more information on CCM configuration files, see the *CCM: Users Guide*,
SH11-3081.

Uploading Files to the Service Processor

Step 1. In the **Java Client** window, click **File Manager** from the **Actions** menu.
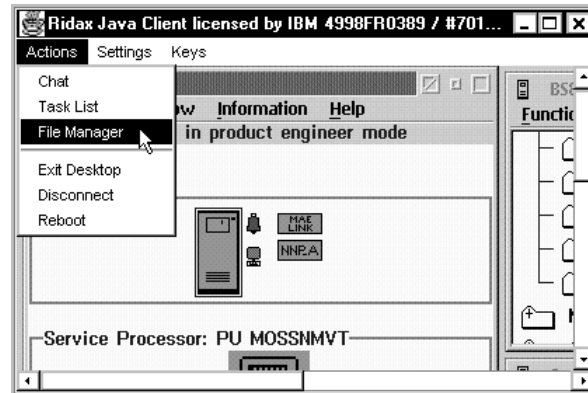
Step 2. Select the directory of the file on your remote workstation. Select the destination for the file in a service processor directory. Locate the directory of the file that you want to upload on the workstation and double-click the file. The file transfer takes place immediately.
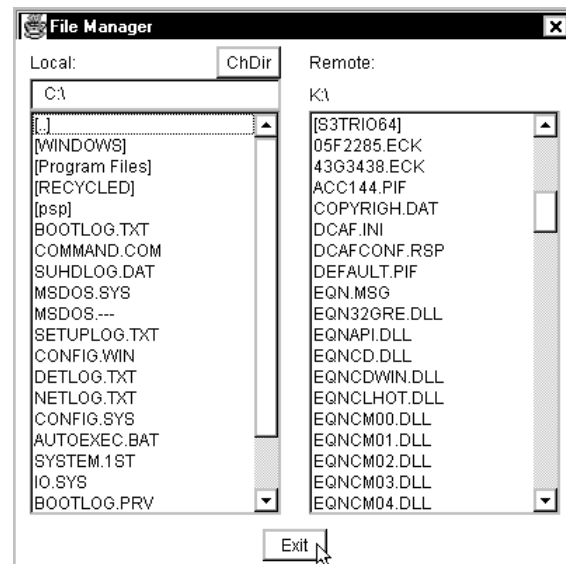
Step 3. When the file upload is successfully completed, click the **Exit** button to close **File Manager**.

Downloading Files from the Service Processor

Step 1. In the **Java Client** window, click **File Manager** from the **Actions** menu.
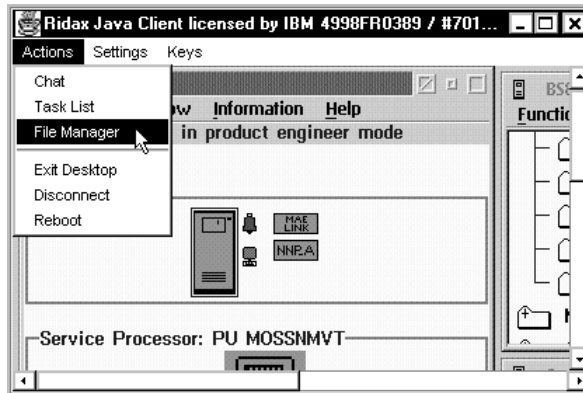
Step 2. Select the directory of the file on the service processor. Select the destination for the file in the remote workstation directory. Locate the directory of the file that you want to download on the workstation and double-click the file. The file transfer takes place immediately.
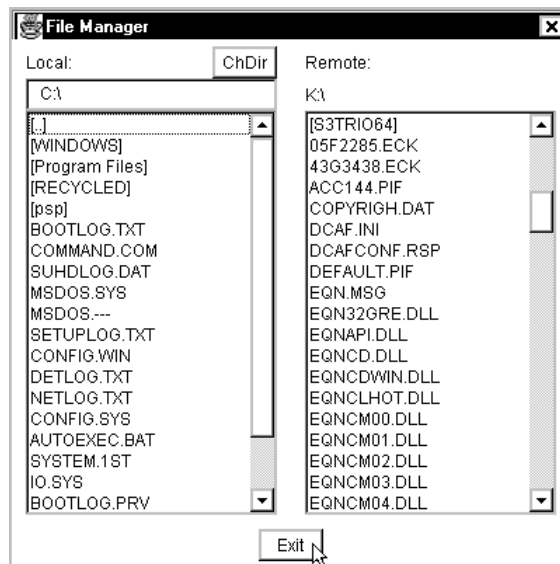
Step 3. When the file upload is successfully completed, click the **Exit** button to close **File Manager**.

Appendix A. 3746 Operator Control Panel
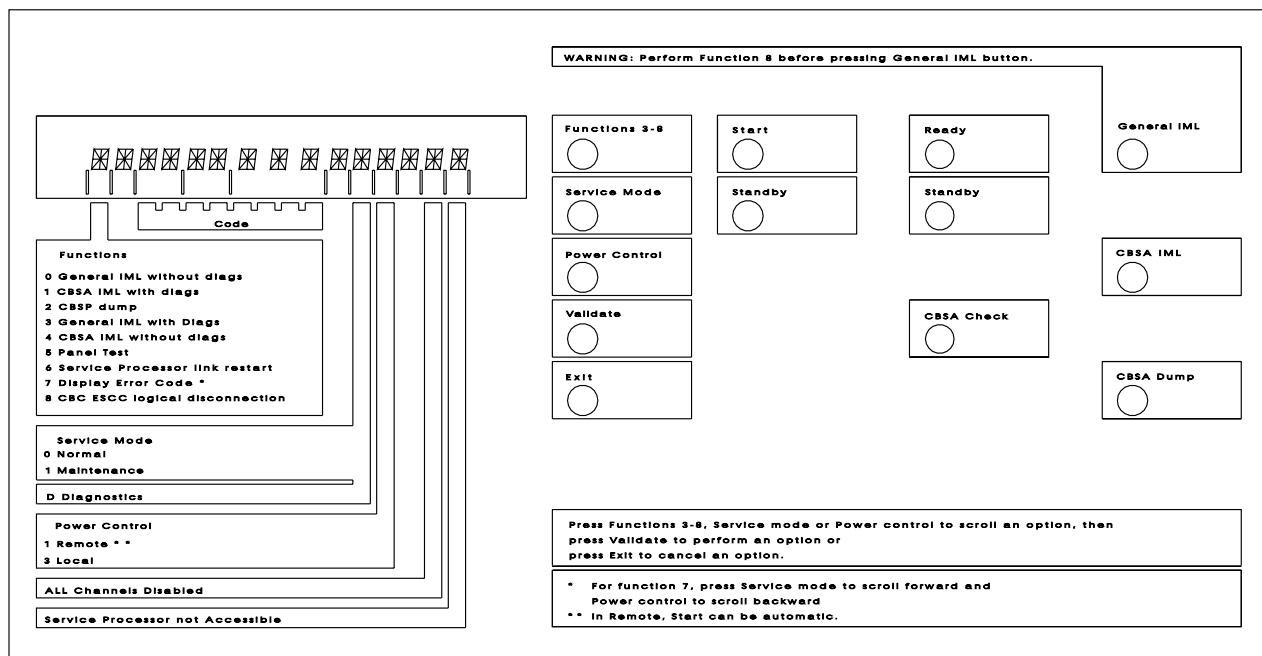
Figure   A-1. 3746 Control Panel

Function Display
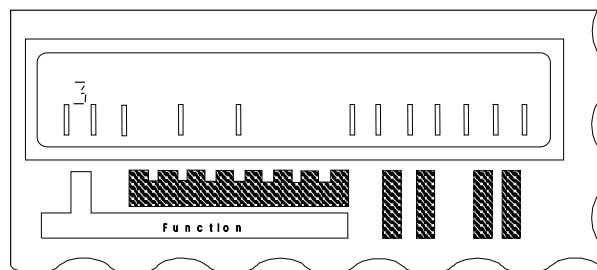
> **Note**
>
> The same control panel numbers on the 3746 and the 3745 do not always share the same function.

Specific Button Selections

Functions 0, 1, and 2 are enabled by the **Function** button on the display panel, and also display automatically when you press the corresponding control panel buttons (**General IML**, **CBSA IML**, and **CBSP Dump**). Functions 3 to 8 are also enabled by the **Function** button on the display panel.

0 - General IML

Resets and performs an IML for all 3746 processors.

Attention

You must perform function "8 - CBC/ESCC logical disconnection" on page A-3 before running function 0.

Use this function after one of the following:

- Power ON.
- In an emergency, when the MOSS-E function **Perform a general IML** does not run. For more information, see "Activation and IML from the 3746 Operator Control Panel" on page B-9.

1 - CBSA IML with Diags

Runs a diagnostics and IML for the CBSA (Controller Bus and Service Adapter).

Note: Mainly used by an IBM service representative.

2 - CBSP Dump

Transfers a CBSP dump to the MOSS-E on the service processor disk.

Note: Mainly used by the an IBM service representative.

Selections Using the Function Button

To select functions 3-8, perform the following:

1. Press **Function** repeatedly until the number of the function that you want displays on the control panel.
2. Press **Validate** to start the function.

3 - General IML with Diags

Performs an IML and diagnostics for all 3746 processors.

Note: Mainly used by an IBM service representative.

4 - CBSA IML

Performs an IML for the CBSA (Controller Bus and Service Adapter).

Note: Mainly used by an IBM service representative.

5 - Panel Test

Runs a diagnostics of the control panel. Before you can use this function, make sure that **Service Mode 1** is selected (see "Service Mode" on page A-3).

Note: Mainly used by an IBM service representative.

6 - Console Link Restart

Re-establishes the link between the 3746 and the service processor.

Note: Only used by an IBM service representative.

7 - Display Error Code

Displays error codes.

Note: Only used by an IBM service representative.

8 - CBC/ESCC logical disconnection

Press this before using function 0, **General IML without diags**.

Hexadecimal Codes

Hexadecimal codes display on the control panel during the following processes:

IML and IPL progression codes

Track the different phases of a process and indicate when a process is complete.

Error codes

Blink on the display and indicate a problem with normal operations.

Standby codes

Indicate the status of the machine when it is not totally activated.

More information on hexadecimal codes is contained online, in the *Problem Analysis Guide*.

Service Mode
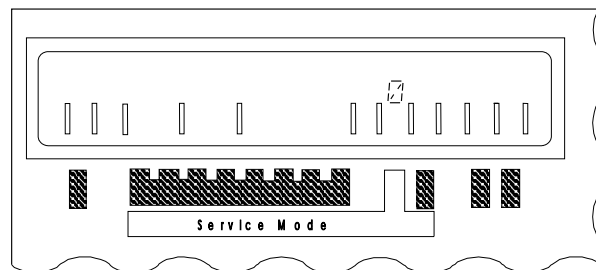
0 - Normal

The mode for normal operations.

1 - Maintenance

Used only by an IBM service representative.

D - Diagnostics

You cannot select this from the control panel. Displays only when certain diagnostics are run by the service representative.

Power Control
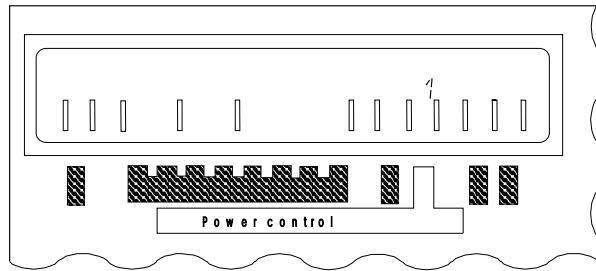
1 - Remote

Mode for normal operations. In normal mode, you can perform the following:

- Activate and deactivate the 3746 from:
  – Attached host
  – 3745
  – Service processor
- Automatic power ON restart, and IML if ac power is lost and restored.
- For a remote 3746, deactivation from a VTAM remote power OFF command (RPO).

3 - Local

Used only by an IBM service representative.

All ESCON Channel Adapters Disabled
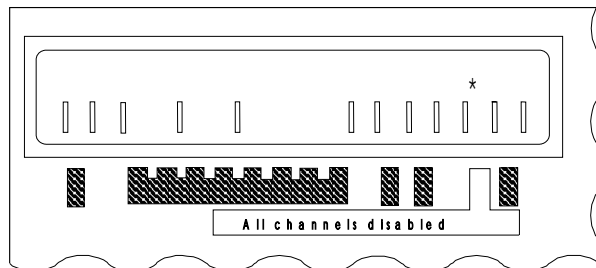
The display is blank if at least one channel adapter (CA) is enabled.

* All CAs are disabled.

Service Processor Inaccessible

Service Processor not accessible
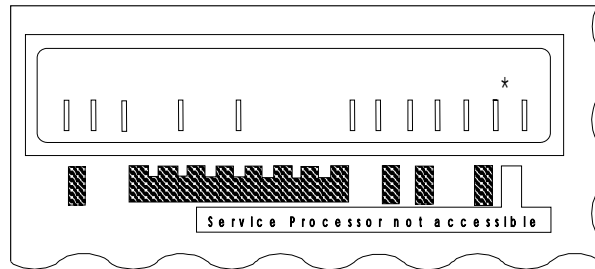
The display is blank if the MOSS-E console is accessible.

* MOSS-E console is inaccessible. This means that the link between the MOSS-E in the service processor and the 3746 has failed or was not established. The MOSS-E can run, but it cannot exchange data with the 3746.

Other codes briefly display during power ON, IML or when there is a problem. If you want more details on these characters, see the *Problem Analysis Guide*.

Appendix B. Basic Service Procedures

3745 MOSS IML from the Service Processor

Before you begin, make sure that you have a MOSS window open on the service processor (see page 3-10).

Step 1

Type **IML** then press Enter.

The screen on the right displays. →

```
┌─────────────────────────────────────┐
│                                     │
│                                     │
│                                     │
│                                     │
│     IML REQUESTED - TERMINAL DISCONNECTED │
│                                     │
│                                     │
│   ─────────────────────────────     │
│                                     │
│                                     │
└─────────────────────────────────────┘
```
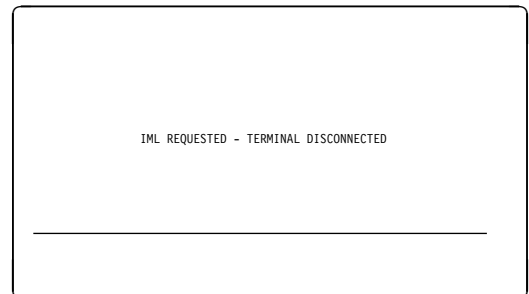
1. Wait until **MOSS-E View** displays. IML is complete when the 3745 icon turns pink in color.
2. Double-click **MOSS Console** in the MOSS-E 3745 menu.
3. Enter the three letter code of the MOSS function you want to use.

```
----------------------------------------------------- mm/dd/yy hh:mm

                         FUNCTION SELECTION RULES
- TO SELECT ONE OF THE MENUS, PRESS THE APPROPRIATE F KEY

- TO SELECT A FUNCTION, ENTER ITS 3-CHARACTER NAME THEN PRESS SEND
             THEN PRESS ENTER (ABBREVIATED "ENTR")
- ONCE YOU HAVE SELECTED A FUNCTION FROM ONE MENU, YOU MAY SELECT
  A FUNCTION FROM THE OTHER

- TO END THE FUNCTION ON SCREEN, PRESS F1

- TO RETURN TO THE PENDING FUNCTION, PRESS F2

- TO LOG OFF, ENTER OFF THEN PRESS SEND
===>

F1:END  F2:MENU2  F3:ALARM   F4:MENU1
```

3745 Scanner (Line Adapter) IML

Step 1

Make sure a MOSS window is open on the service processor (see page 3-10).

The screen on the lower right displays.

Step 2

A or **B** on the screen shows the MOSS status of the CCU, attached to a scanner.

Is the MOSS online?		
Yes	Go to Step 3.	
No	Is the MOSS off-line?	
	Yes	1. Type **CSR**, then **1**, or **2** to select a CCU, then press ⌨Enter. 2. Type **MON** and press ⌨Enter to bring the MOSS online. 3. Go to Step 3.
	No	1. Load the control program on to the CCU by performing an IPL. Then go to the next step.

```
COMM CTRL ID:xxxxxxxx        3745-XXX         SERIAL NUMBER:nnnnnnn
CCU-A           PROCESS MOSS-ONLINE  A
RUN

CCU-B           PROCESS MOSS-OFFLINE B
RUN
─────────────────────────────────────────────── mm/dd/yy hh:mm

                       FUNCTION SELECTION RULES
 - TO SELECT ONE OF THE MENUS, PRESS THE APPROPRIATE F KEY

 - TO SELECT A FUNCTION, ENTER ITS 3-CHARACTER NAME THEN PRESS SEND
                      THEN PRESS ENTER (ABBREVIATED "ENTR")
 - ONCE YOU HAVE SELECTED A FUNCTION FROM ONE MENU, YOU MAY SELECT
   A FUNCTION FROM THE OTHER

 - TO END THE FUNCTION ON SCREEN, PRESS F1

 - TO RETURN TO THE PENDING FUNCTION, PRESS F2

 - TO LOG OFF, ENTER OFF THEN PRESS SEND
===>

F1:END  F2:MENU2  F3:ALARM   F4:MENU1   F5:MENU3
```

Step 3

To IML a scanner, type **IMS** and press ⌨Enter.

The screen on the right displays. →

```
COMM CTRL ID:xxxxxxxx        3745-XXX         SERIAL NUMBER:nnnnnnn
CCU-A        PROCESS MOSS-ONLINE
RUN

CCU-B        PROCESS MOSS-OFFLINE
RUN
─────────────────────────────────────────────── mm/dd/yy hh:mm
FUNCTION ON SCREEN: IML ONE SCANNER


        - ENTER:

             THE SCANNER NUMBER PRECEDED BY S (S1 TO S32)
              OR                                              ==>
             THE LINE ADDRESS (000 TO 1071)
             (0 TO 895 FOR TSS    )
             (1024 TO 1039 FOR HPTSS)
             (1056 TO 1071 FOR ESS  )


===>

F1:END  F2:MENU2  F3:ALARM
```

Step 4

1. Enter either the scanner (line adapter) number or the address of a line attached to the scanner at **A** .

2. Type **SX** or **SY** and press ⟦Enter⟧ (where **X** equals the scanner number, and **Y** equals the line address).

   The IML begins when the following message displays:
   IML FOR SCANNER xx IN PROGRESS.

If the message INVALID INPUT displays, restart this step.

If the following message displays:
SCANNER CANNOT BE IMLED: MOSS IS NOT ONLINE, set the MOSS online by performing Step 2.

If any other messages display, contact the person in charge of 3745 problem analysis (see page 1-5).

```
COMM CTRL ID:xxxxxxxx           3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A      PROCESS MOSS-ONLINE
RUN

CCU-B      PROCESS MOSS-OFFLINE
RUN
                                                    mm/dd/yy hh:mm
FUNCTION ON SCREEN: IML ONE SCANNER


        - ENTER:

            THE SCANNER NUMBER PRECEDED BY S (S1 TO S32)
             OR                                            ==> A
            THE LINE ADDRESS (000 TO 1071)
            (0 TO 895 FOR TSS     )
            (1024 TO 1039 FOR HPTSS)
            (1056 TO 1071 FOR ESS  )

===>    IML FOR SCANNER xx IN PROGRESS

F1:END  F2:MENU2  F3:ALARM
```

Step 5

Wait approximately one minute. If the IML is successful, the following message displays:

IML FOR SCANNER xx COMPLETED:
SCANNER IS CONNECTED. →

```
COMM CTRL ID:xxxxxxxx           3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A      PROCESS MOSS-ONLINE
RUN

CCU-B      PROCESS MOSS-OFFLINE
RUN
                                                    mm/dd/yy hh:mm
FUNCTION ON SCREEN: IML ONE SCANNER


        - ENTER:

            THE SCANNER NUMBER PRECEDED BY S (S1 TO S32)
             OR                                            ==>
            THE LINE ADDRESS (000 TO 1071)
            (0 TO 895 FOR TSS     )
            (1024 TO 1039 FOR HPTSS)
            (1056 TO 1071 FOR ESS  )

===>    IML FOR SCANNER xx COMPLETED: SCANNER IS CONNECTED

F1:END  F2:MENU2  F3:ALARM
```

Step 6

Press ⟦F1⟧ to end the procedure.

MOSS IML from the 3745 Control Panel

If you have a problem with this step, see the online *Problem Analysis Guide*.

Step 1

Is **Service Mode** set to **0**? →	
Yes	Go to Step 2.
No	1. Press **Service Mode** repeatedly until **0** displays.
	2. Press **Validate**.
	3. Go to step 2.

Service Mode

Step 2

Is the **Power Control** set to **3**? →	
Yes	Go to Step 3.
No	1. Note the **Power Control** setting; you will need to reset it at the end of this procedure.
	2. Press **Power Control** repeatedly until **3** displays.
	3. Press **Validate** and go to Step 3.
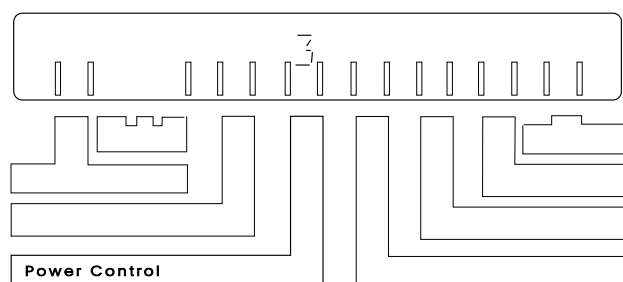
Power Control

> **Note**
>
> **Power Control 3** (local mode) is intended for service procedures and is not recommended for normal operations. If the controller is left in local mode and there is a power failure, you will have to manually power ON.
>
> Also, if there is a power failure, the power control must be set to **1** (remote mode) for the 3746 to automatically re-start.

Step 3

Is **Function** set to **1**? →	
Yes	Go to Step 4.
No	1. Press **Function** repeatedly until **1** displays.
	2. Go to Step 4.

Function
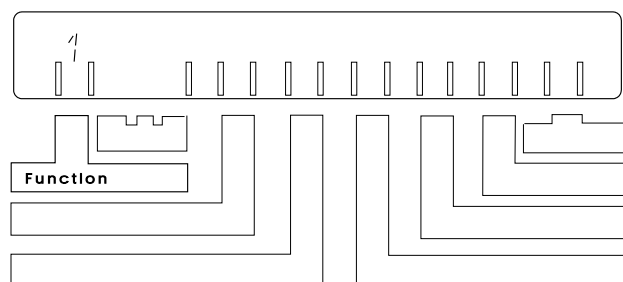
Step 4

Press **Validate**.

The MOSS IML begins. You can see the progress of the IML on the hex display.
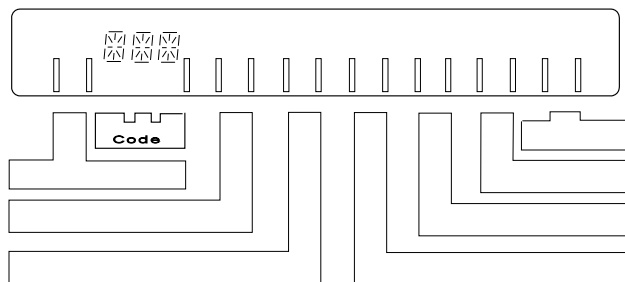
Step 5

Wait for about 3 minutes until you see one of the following on the display:

– F0E indicating the MOSS, without NCP loaded.
– F0F indicating that the MOSS is offline, or that the IPL has completed in diskette mode.

To change the status of the MOSS, refer to the *Advanced Operations Guide*, SA33-0097.
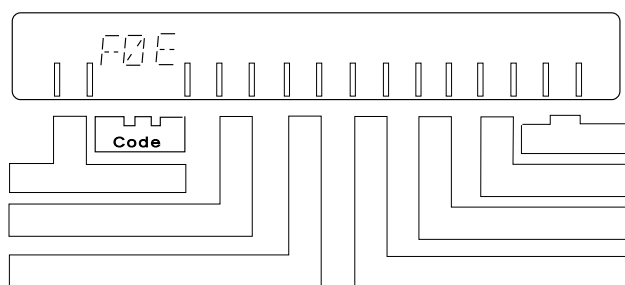
3746 Power State

When the main switch is on and connected to the main power supply, the 3746 has two power states (this applies to the entire 3745/3746 family). The power state can be either:

* Activated (IML complete, ready to work)
* Deactivated (only the main power box and the operator control panel are active)

Power Control Mode Switching

This section describes changing from one power mode to the other (whether the 3746 is activated or de-activated). To switch between local and remote mode from the control panel, perform the following:

Step   1. Press **Power Control** repeatedly until a **1** or a **3** displays, blinking. (**1** means remote and **3** means local.)
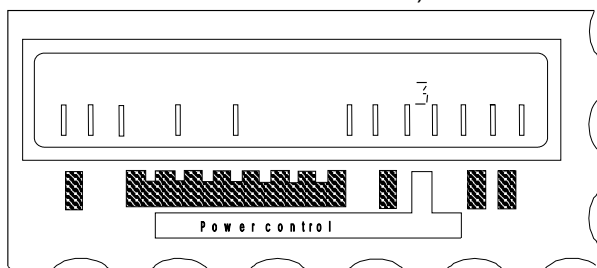
Step   2. Press **Validate**.

Notes:

You can activate or deactivate the 3746 from the control panel when it is in **local** mode (see "Activation and IML from the 3746 Operator Control Panel" on page B-9).

The power state of the 3746 in **remote** mode depends on external power commands received from the following:

- 3745 base frame.
- Service Processor (see "Activation/Deactivation from the Service Processor").
- Host via the External Power On (EPO) cable (see "Activation/Deactivation from a Host" on page B-8).

Any one of the above sending a power ON command will activate the 3746.

Any one of the above sending a power OFF command will de-activate the 3746.

Switching from Remote to Local (1 to 3)

The power state does not change.

Switching from Local to Remote (3 to 1)

The power state depends on the initial settings of the 3746, and any pending power commands.

The 3746 is activated if the following applies:

- The 3745 is powered ON
- A power ON command is pending from a connected host

Otherwise, the 3746 remains deactivated.

The 3746 is deactivated if the following applies:

- The 3745 is powered OFF
- No power ON command pending from a connected host
- No power ON command pending from the service processor

Otherwise, the 3746 remains active.

Activation/Deactivation from the Service Processor

Before activating or de-activating the 3746 from the service processor, make sure the Power Control is set to **1 (Remote)** mode. If necessary, change the power control setting as follows:

Step   1. Press **Power Control** repeatedly until **1** blinks.

Step   2. Press **Validate**.

Activation

Before activating the 3746, make sure the **Standby** light on the control panel is ON.

Step   1. Open a MOSS-E menu to activate the 3746 (see to "MOSS-E Menus, Tasks, and Functions" on page 3-9).

Step   2. Click **Operation Management**.

Step   3. Double-click **Manage MOSS-E/3746-9x0 Power Dependency**.

```
┌─────────────────────────────────────────────────────┐
│ ▣  ERS6 854 B  /3746-9x0/Menu              ▨ ▫ □ │
│ Function   Options   Help                          │
│ ┌─────────────────────────────────────────────── ▲│
│ ▭  Operation Management                          ▤│
│   ├─ ▭  Perform General IML                     ▦│
│   └─ ▭  Manage MOSS-E/3746-9x0 Power Dependency ▼│
└─────────────────────────────────────────────────────┘
```
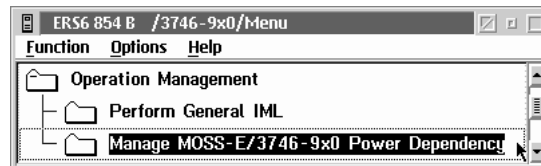
Step   4. Click **Set Power Dependency** and click **OK**.

```
┌───────────────────────────────────┐
│ ▨  Power Dependency        ▨ ▫ │
│                                   │
│   ◯ Reset Power Dependency        │
│                                   │
│   ⦿ Set Power Dependency          │
│                                   │
│   ┌──────┐  ┌────────┐  ┌──────┐  │
│   │  OK  │  │ Cancel │  │ Help │  │
│   └──────┘  └────────┘  └──────┘  │
└───────────────────────────────────┘
```
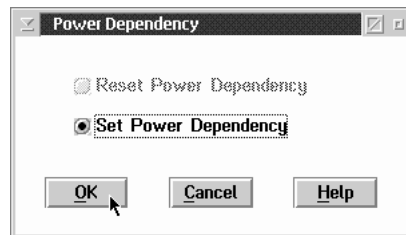
The 3746 is activated. If there are errors, see the **Display Alarms** function, or the online help for more information.

Deactivation

Before de-activating the 3746-900, make sure the Ready light is ON, but not blinking.

Step   1. Open a MOSS-E menu to de-activate the 3746 (see "MOSS-E Menus, Tasks, and Functions" on page 3-9).

Step   2. Click **Operation Management**.

Step   3. Double-click **Manage MOSS-E/3746-9x0 Power Dependency**.

Step   4. Click **Reset power dependency**.

Step   5. Click **OK**.

The 3746 remains active if any of the following applies:

- Activation locally or from a network mode
- Power ON request from a connected host
- 3745 is powered ON

The 3746 is deactivated if any of the following applies:

- 3745, 3746, and connected hosts powered OFF

  Attempt to activate the 3746 in remote mode when there is no power ON request from a connected host.

If there are errors, see the **Display Alarms** function, or online help for more information.

Activation/Deactivation from a Host

This section describes the results of power ON/OFF commands from a host connected to the 3746 via the external power off (EPO) cable. Results may differ, depending on whether the power mode is local or remote.

Power ON Command

Make sure the Standby light is ON, but not blinking.

When the host generates a Power ON command, the 3746 is inactivated in local mode, and activated in remote mode.

The Ready light blinks and stays ON.

If an error occurs, call the IBM representative (see "Solving Problems" on page 1-5).

Power OFF Command

The Ready light must be ON, but not blinking.

When the host generates a Power OFF command, the following occurs:

- The 3746 stays active in local mode.
- In remote mode:
    - 3746 stays active if the following applies:
        - 3745 is powered ON.
        - Service processor requests activation (see "Activation" on page B-7).
        - Power ON command is generated by another host connected to the 3746 via an EPO cable.
    - The 3746 is deactivated if the following applies:
        - 3745 is powered OFF.
        - Service processor requests deactivation (see "Deactivation" on page B-7).
        - No power ON commands from other hosts connected to the 3746 via EPO cable.

The **Standby** light begins to blink and then goes ON.

If an error occurs, call the IBM representative (see "Solving Problems" on page 1-5).

VTAM Remote Power OFF Command

A remote power OFF (RPO) command can be sent to a remote 3745 and attached 3746 from VTAM. The remote 3746 powers OFF only if the following applies:

- 3745 Power Control is in a network mode
- 3746 Power Control is in remote mode

Activation and IML from the 3746 Operator Control Panel

Note: For more information about the 3746 control panel, see Appendix A, "3746 Operator Control Panel."

To activate the 3746, use the following procedure:

Step 1

Is the **Ready** light ON or blinking?	
Yes	Go to Step 4.
No	Go to Step 2.

Step 2

Is the **Power Control** set to **3**? →	
Yes	Go to Step 3.
No	1. Press **Power Control** repeatedly until **3** is blinking. 2. Press **Validate** and go to Step 3.

Note

Power Control 3 (local mode) is intended for service procedures and is not recommended for normal operations. If the controller is left in local mode and there is a power failure, you will have to manually power ON.

Also, if there is a power failure, the Power Control must be set to **1** (remote mode) for the 3746 to automatically re-start.

Step 3

Do you want to do an IML with diagnostics?		
Yes	Does **Function** display **3**? →	
	Yes	Press **Validate** and go to Step 5.
	No	1. Press **Function** repeatedly until **3** is blinking.
		2. Press **Validate**.
		3. Go to Step 5.
No	Does **Function** display **8**?	
	Yes	1. Press **Validate**.
		2. Press **General IML**.
		3. Go to Step 5.
	No	1. Press **Function** repeatedly until **8** is blinking.
		2. Press **Validate**.
		3. Press **General IML**.
		4. Go to Step 5.

Step 4

Do you want to do an IML with diagnostics?		
Yes	Does **Function** display **3**?	
	Yes	1. Press **Validate**.
		2. Go to Step 6.
	No	1. Press **Function** repeatedly until **3** is blinking.
		2. Press **Validate**.
		3. Go to Step 6.
No	Does **Function** display **8**?	
	Yes	1. Press **Validate**.
		2. Press **General IML**.
		3. Go to Step 6.
	No	1. Press **Function** repeatedly until **8** is blinking.
		2. Press **Validate**.
		3. Press **General IML**.
		4. Go to Step 6.

Step 5

Wait until the hex code **05 28 2806** displays and the **Standby** light remains ON.	
Yes	1. Press **Start** on the control panel. The 3746 activates and begins an IML. The **Ready** light starts blinking and the **Standby** light goes OFF. 2. Go to Step 6.
No	1. Check the 3746 link with the MOSS-E. If * is not displayed in the **Service not accessible** field, see "Service Processor Inaccessible" on page A-5. 2. Start again from Step 3. 3. If the problem persists, refer to the progress codes in the online *Problem Analysis Guide*.

Step 6

After a few minutes, check the following:	
• Is the hex code **00 00 0000** displaying? • Is the **Ready** light remaining ON, without blinking?	
Yes	IML is finished and the 3746 is ready for operation.
No	Is there another code displaying and the **Ready** light blinking?

	Yes	1. Restart from Step 4. 2. If the problem persists, see the progress codes in the online *Problem Analysis Guide*.
	No	Contact the person in charge of 3746 problem analysis, (see page 1-5).
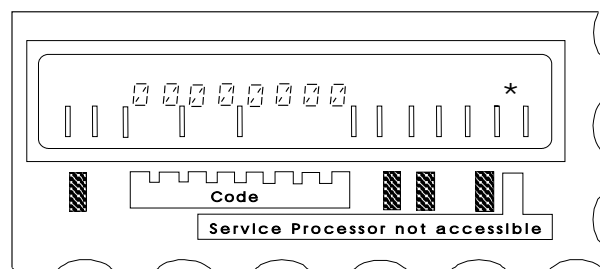
Deactivation from the 3746 Operator Control Panel

To deactivate the 3746 from the control panel, use the following procedure:

Step 1

Is **Power Control** set to **3**? →
Yes   Go to Step 2.
No   1. Press **Power Control** repeatedly until **3** is blinking.   2. Press **Validate**.   3. Go to Step 2.
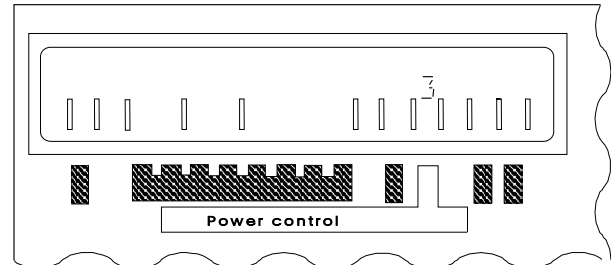
> **Note**
>
> **Power Control 3** (local mode) is intended for service procedures and is not recommended for normal operations. If the controller is left in local mode and there is a power failure, you will have to manually power ON. Also, if there is a power failure, the power control must be set to **1** (remote mode) for the 3746 to automatically re-start.

Step 2

Press **Standby**. After a few seconds, the **Ready** light changes from ON to OFF, and the **Standby** light blinks and then goes ON.

Auto-Restart after a Power Failure

The 3746 automatically powers ON and performs an IML (the same as the 3745).

If there is a total power failure, the 3746 goes into standby mode. When power is restored, the 3746 automatically performs an IML. However, IML is only automatic if the following applies:

If a power failure occurs while the 3746 is activated:

- 3746 goes into power OFF state.

- When power is restored, the 3746 goes on standby and continues to perform an IML up to the ready state, and the following applies:

  - 3745 is powered ON.

  - Power ON commands are pending from a host attached to the 3746 via EPO cable.

  - The 3746 is activated by the power dependency function (see "Activation" on page B-7).

If the power failure occurs while the machine is on standby:

- The machine goes into power OFF state.
- When power is restored, the 3746 returns to standby status until:
  - Power ON command is received from a host attached to the 3746 via EPO cable.
  - Power ON command is received from the service processor.
  - 3745 is powered ON.

Appendix C. Installing LCBs, ARCs, and Connecting Cables

You can leave the 3746-950 powered ON during these procedures.

Attention

It is very important that you touch the plate on the inside face of the frame door before you handle anything inside the unit. Otherwise, you may give off electrostatic discharges (ESD) that cause errors in system operation, or damage the equipment.
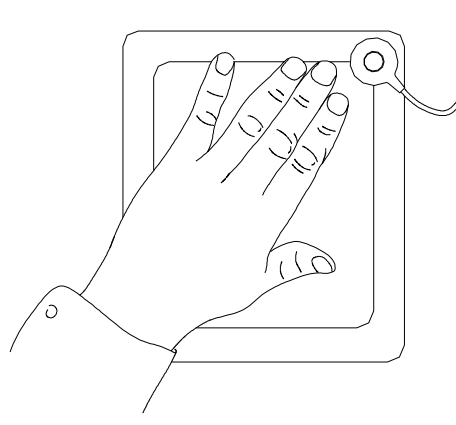
ESD Plate

Connection Tasks

This chapter describes the connection procedures for the following:

- Ethernet Bridge.
- Multiaccess Enclosure (MAE).
- Token-Ring Interface Coupler (TIC3).
- Line Interface Coupler (LIC11 and LIC12).
- Line Connection Box (LCB and LCBE).
- Active Remote Connector (ARC) assembly A, with permanent cable.
- ARC assembly B, with separate cable.

   Note: The color of the ARC is **light grey**.

ARC Assembly A   ARC Assembly B
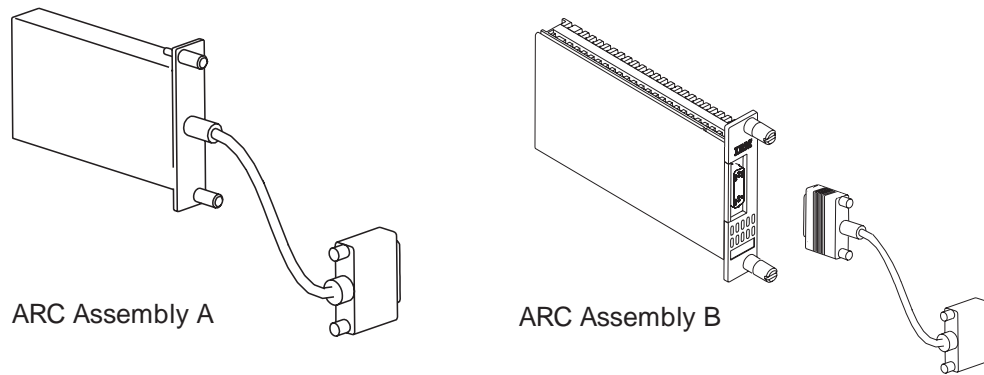
Figure   C-1. ARC Assemblies A and B

You can install LCBs and ARCs in a 3746-950 base-frame, a controller expansion,
or in a stand-alone 19 inch rack. An ethernet bridge and an MAE can be installed
in either a controller expansion or a stand-alone 19 inch rack. See Figure C-2 on
page C-3 and Figure C-4 on page C-4 for a typical base-frame mounted
configuration.

Connection Procedures

> **Labels**
>
> Before you begin, label all the external cables from DTEs/DCEs to the
> 3746-950. Do not forget to add or change labels if you make later
> modifications.

Step   1 Review the necessary plugging sheets from the *Planning Guide*
GA33-0457.

If you are not working with 3746-950 base frame, see the following
sections for the items that you need to install:

• "Unplugging or Plugging In Ethernet LAN Cables" on page C-8.

• "Unplugging or Plugging In Multiaccess Enclosure (MAE) Cables" on
page C-11.

• "Installing LCBs" on page C-13.

• "Removing or Installing ARC Assembly A and B" on page C-17.

Otherwise, continue with the next step.

Step   2 Open the rear door with the key by pushing in and turning the screws in
the upper and lower corners of the door.

Step   3 Locate a coupler slot.
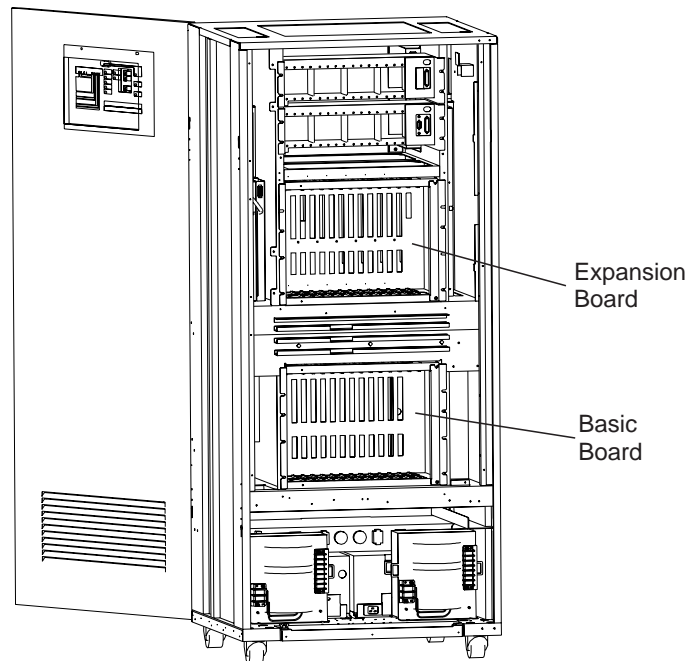
Figure   C-2. 3746-950 Rear View Configuration (Coupler Side)

Enclosure slots are labeled with slot addresses. Each coupler slot is labeled according to their address range (see the figure below):
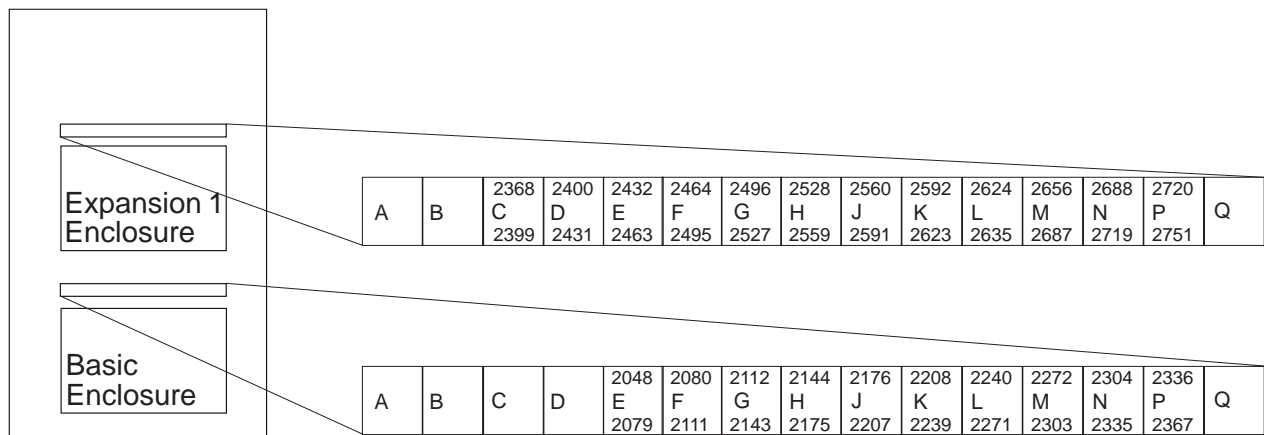
Rear View

Figure   C-3. Enclosure Addresses

After you have located a coupler slot, see any of the following as needed:

- "Unplugging or Plugging In TIC3 Cables" on page C-4.

- "Unplugging or Plugging In LIC Cables" on page C-7.

Otherwise, go to the next step for locating an LCB.

Step   4 Locate the LCBs.
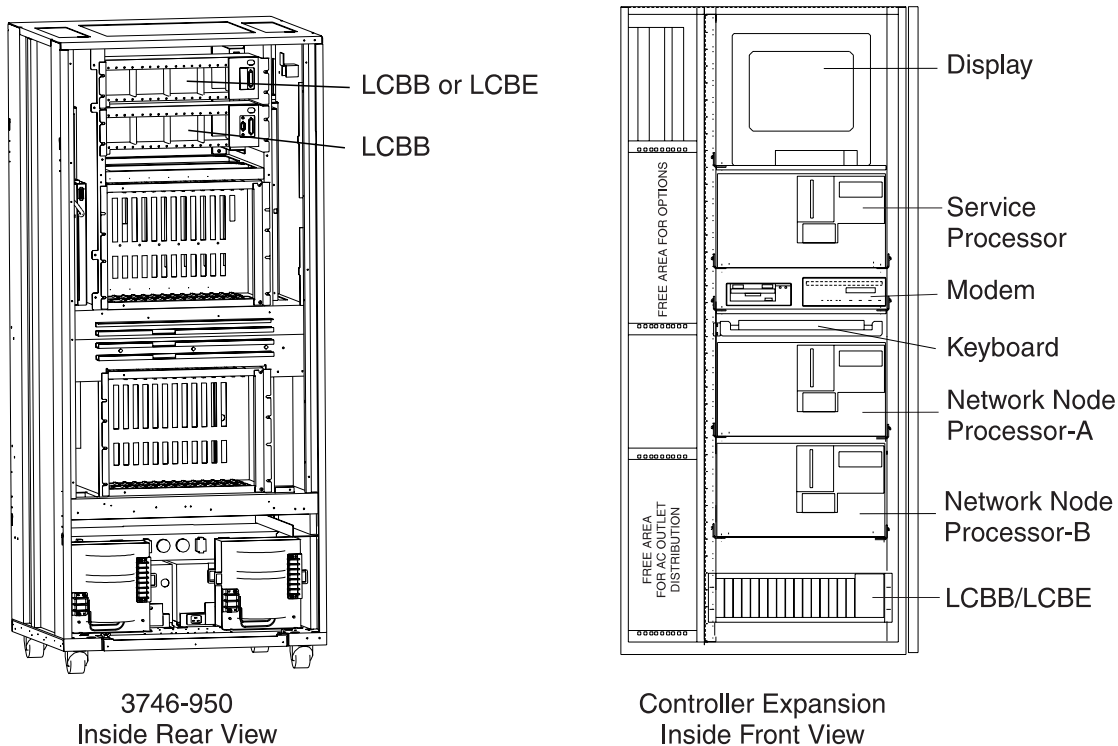
Figure C-4. 3746-950 LCB Locations in a Base Frame and a Controller Expansion

After you have located an LCB, see "Removing or Installing ARC Assembly A and B" on page C-17.

Unplugging or Plugging In TIC3 Cables

Before you start

First see the "Connection Procedures" on page C-2.
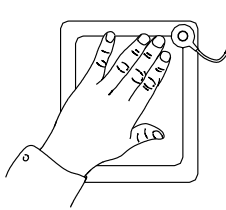
There are two types of cable for a TIC3:

- Token-ring shielded twisted pair (STP) cable, only available from IBM.
- Untwisted pair (UTP) cable, through a Token-Ring MAU Media Filter, unavailable from IBM.

Attention

This section does not apply to TIC3 cables for an ethernet bridge or for a Service Processor Access Unit (SPAU).

If you are unplugging an attachment cable, start at Step 1 on page C-5. Otherwise, see the following step references for different types of cable:

- Plugging in an attachment cable, Step 1 on page C-5.
- Unplugging a UTP cable, Step 1.
- Plugging in a UTP cable, Step 1 on page C-6.

Unplugging Attachment Cables

Step   1 To unplug an attachment cable, first ask the network operator to deactivate the line.

Step   2 Loosen the retaining screws and pull out the connector. Repeat this step for every attachment cable that you need to unplug.

TIC 3
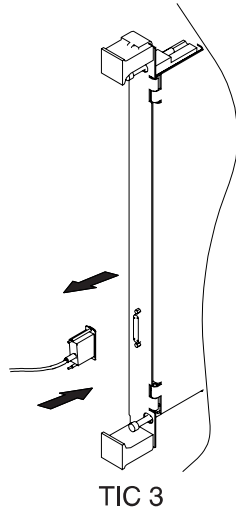
Figure   C-5. Installing or Removing a Token-Ring Attachment Cable

Step   3 Update the plugging sheets, and to integrate the changes that you have made, go to "Updating the Active CDF-E" on page 3-16.

Plugging in Attachment Cables

Step   1 To plug in an attachment cable, check that the cable is correctly labeled at both ends.

Step   2 Push in the connector and tighten the retaining screws (see Figure C-5). Repeat this step for every cable that you need to plug in.

Step   3 Ask the network operator to activate the lines of any newly installed or replaced cables. If activation does not work, see "Solving Problems" on page 1-5.

Unplugging UTP Cables

Step   1 To unplug a UTP cable, ask the network operator to deactivate it.

Step   2 Pinch the UTP cable connecter and pull it out (see A in Figure C-6 on page C-6).
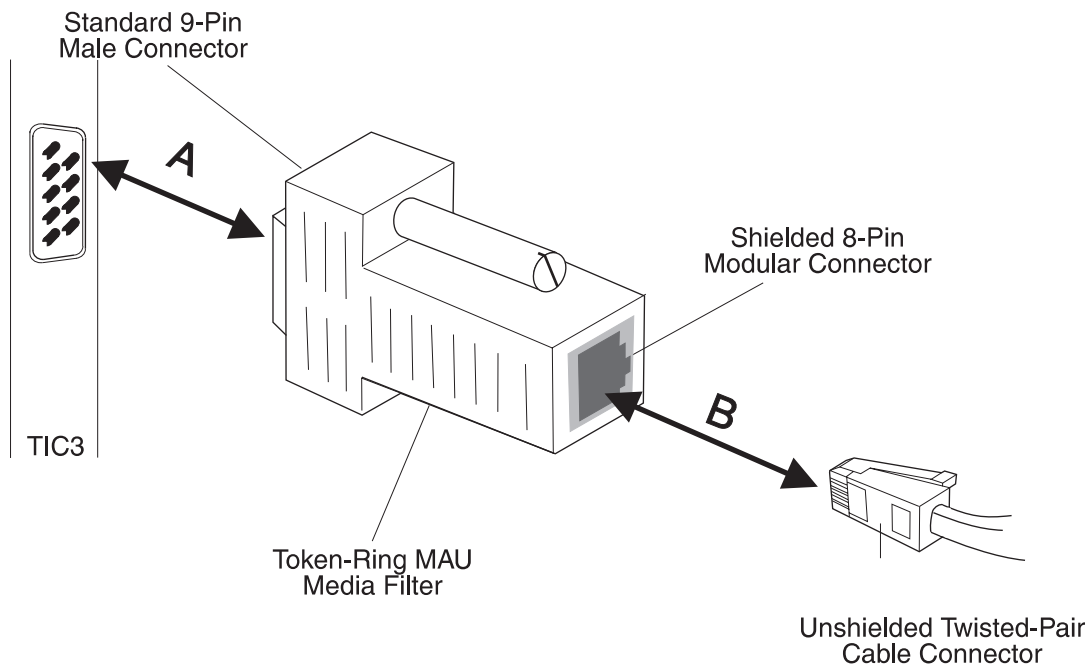
Figure C-6. Installing or Removing a Token-Ring UTP Cable and Media Filter

Unplugging Token-Ring UTP Media Filter

Step **1** To unplug a token-ring UTP media filter, ask the network operator to
deactivate it.

Step **2** Loosen the retaining screws and pull out the media filter (see A in
Figure C-6).

Step **3** Update the plugging sheets, and to integrate the changes that you have
made, go to "Updating the Active CDF-E" on page 3-16.

Plugging in Token-Ring UTP Media Filter

Step **1** To plug in a token-ring UTP media filter, check that the cable is
correctly labeled at both ends.

Step **2** Insert the media filter into the TIC3 connector and tighten the retaining
screws (see A in Figure C-6).

Plugging in UTP Cables

Step **1** To plug in a UTP cable, push the connector into the media filter socket
until it clicks into place (see B in Figure C-6).

Step **2** Ask the network operator to activate the lines of any new or replaced
cables. If activation does not work, see "Solving Problems" on
page 1-5.

Unplugging or Plugging In LIC Cables

Before you start

First see the "Connection Procedures" on page C-2.
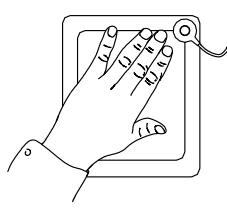
Unplugging Coupler Cables

Step   1   To unplug a coupler cable, ask the network operator to deactivate the appropriate lines.

Step   2   Loosen the retaining screws and pull out the connector.
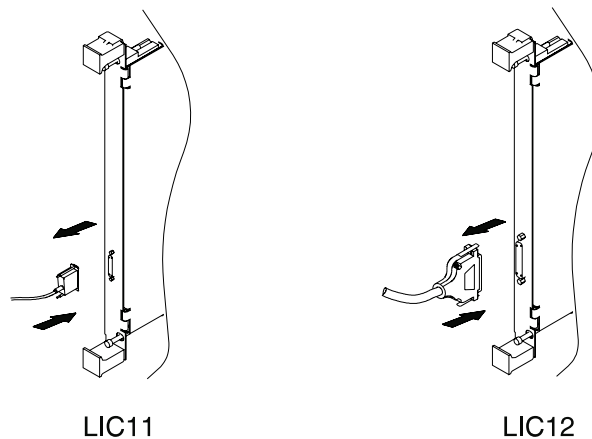
LIC11   LIC12

Figure   C-7. LIC11, LIC12, and their Cables

Step   3   Update the plugging sheets, and to integrate the changes that you have made, see "Updating the Active CDF-E" on page 3-16.

Plugging in Coupler Cables

Step   1   To plug in a coupler cable, first make sure that any cables are correctly labeled at both ends.

Step   2   Push in the connector and tighten the retaining screws (see Figure C-7).

Note: If you connect a LIC 12 to DTE equipment for RLSD signal propagation (for example, a 2210 router), the DCE side of the cable must be connected to the LIC 12, and the DTE side of the cable to the router.

Unplugging or Plugging In Ethernet LAN Cables

Important: read this before you start

Please consult the *Safety Information*, GA33-0400 before you install any AUI cables. Also, please take into consideration the following:

* To attach your controller to an ethernet LAN, the SQE TEST switch on the Access Unit must be set to ENABLE. Otherwise, ethernet LAN operations may be interrupted.

* If you need to replace an AUI cable with a 10BASE-T cable, contact your IBM service representative.

Unplugging AUI Cables

Before you start

First see the "Connection Procedures" on page C-2.

Step 1 To unplug an AUI cable, first ask the network operator to deactivate the appropriate line.

Step 2 Unlock the AUI connector latch by pushing it to the left.

> **Note:**   The locking latch is sometimes difficult to move.

Locking Latch
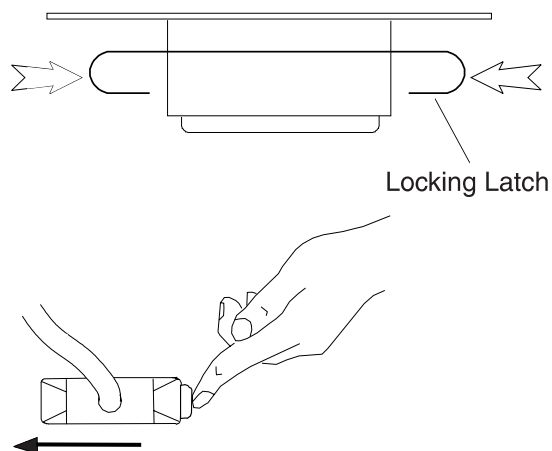
Step 3 Pull out the plug.

Step 4 Close and lock the door with the key.

Plugging in AUI cables

Step 1 Make sure that all cables are correctly labeled at both ends. Repeat this step for every AUI that you need to plug in.

Step 2 Locate a port that matches the label on the cable.

Step 3 Slide the latch to the left.
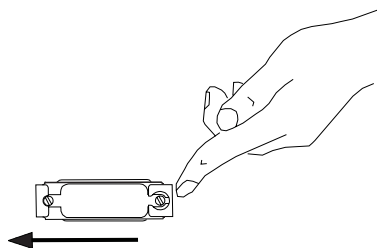
Step   4 Hold the cable connector with the longest side up.
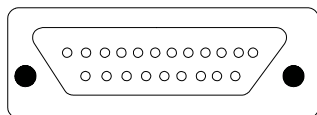
Step   5 Push the plug firmly into the port connector.
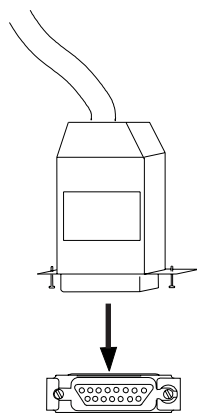
Step   6 Push the locking latch right to lock it.
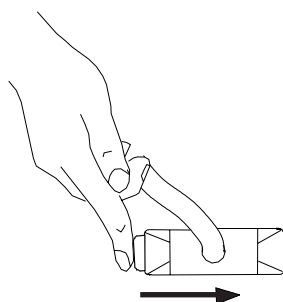
Step 7 Check that the cable is locked in place by gently moving the cable connector from side-to-side as you try to pull it out of the connector. Do not jerk the cable.

Step 8 Ask the network operator to activate the new lines.

> **Note:** The line number is the TIC3 address to the ethernet attachment.

Step 9 Close and lock the door with the key.

Unplugging 10BASE-T cables

```
┌─ Before you start ──────────────────────────────────────────────┐
│                                                                  │
│  First see the "Connection Procedures" on page C-2.              │
│                                                                  │
└──────────────────────────────────────────────────────────────────┘
```

Step 1 The 10BASE-T connector is located next to the AUI connector on the ethernet bridge.
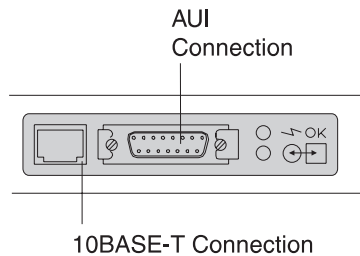
Step 2 To unplug a 10BASE-T cable, first ask the network operator to deactivate the appropriate lines.

Step 3 Push the latch left to unlock it.

Step 4 Pull out the plug.

Step 5 Close and lock the door with the key.

Plugging In 10BASE-T Cables

Step 1 To plug in a 10BASE-T cable, first make sure that all the cables are correctly labeled at both ends.

Step 2 Locate a port that matches the label on a cable.

Step 3 Slide the latch to the left.

Step 4 Push the plug into the port connector until it clicks into place.

Step 5 Close and lock the door with the key.

Step 6 Ask the network operator to activate the new lines.

Unplugging or Plugging In Multiaccess Enclosure (MAE) Cables

> **Before you start**
>
> First see the "Connection Procedures" on page C-2.
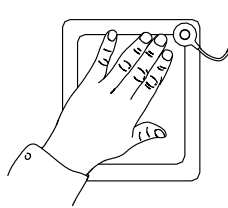
Unplugging Multiaccess Enclosure (MAE) Cables

Step   1 Locate the MAE cables between the MAE and the controller expansion.

Step   2 In **MOSS-E View**, open the **3746-9x0 Menu** and click **Multiaccess Enclosure (MAE) Management**.
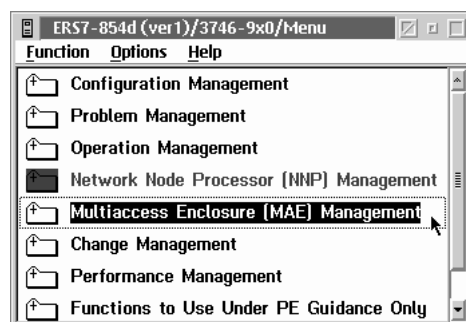
Step   3 Double-click **(M) MOS Console**.
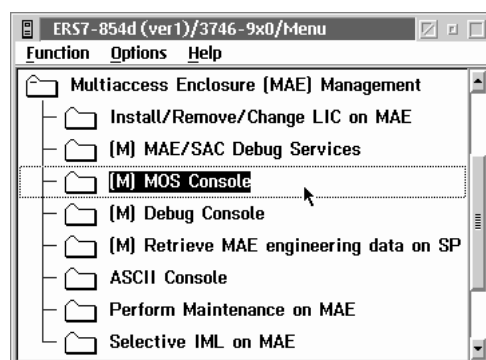
Step   **4**   Type **T 6** then press **Enter** to display a **Config**> prompt.

Step   **5**   Type **list device** to display the interface number of the cable (shown as `ifc x`).

Step   **6**   Type **disable interface ifc x**.

Step   **7**   Type **write** to save your changes.

Step   **8**   Unplug the cable.

Plugging In Multiaccess Enclosure (MAE) Cables

Step   **1**   To plug in an MAE cable, first make sure that all cables are correctly labeled at both ends.

Step   **2**   Plug a cable into the appropriate connector.

Step   **3**   Follow Steps 2 on page C-11 to 4.

Step   **4**   Type **T 6** then press **Enter** to display a **Config**> prompt.

Step   **5**   Type **enable interface ifc x** where **x** is the number of the cable.

Step   **6**   Type **write** to save your changes.

Step   **7**   Press **Ctrl** and **P** together.

Step   **8**   Type **reload**.

           Note: During the reload process, MAE traffic will be interrupted.

Step   **9**   After reloading has finished, type **yes** or wait for the next maintenance period.

Installing LCBs
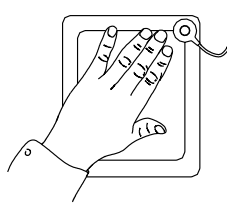
Line connection boxes (LCBs) can house up to 15 ARCs, each one having a communication line multiplexed to the same LIC11. Two LCBs can connect to the same LIC11 for a total of 30 lines.

There are two types of LCBs:

Line Connection Box Base (LCB base or LCBB)
> Connects to the LIC11 and contains slots for 15 lines labeled 0 through 14.

Line Connection Box Expansion (LCB expansion or LCBE)
> Connects to the LCB base and contains slots for 15 lines labeled 16 through 30.

Recommendations for LCB Installation

Before using an LCB, make sure it is properly fastened to a steady surface. It is recommended that you install LCBs in a 3746-950 base frame, a 19 inch rack, or in a controller expansion (see Figure C-2 on page C-3 and Figure C-4 on page C-4).

You can install LCBs into a 19 inch rack or controller expansion, but only an IBM service representative can install LCBs in the 3746-950 base frame.

Use the following procedure to install LCBs:

Step 1 Identify the LCB types.

> The two types of LCBs (*bases* and *expansions*) are identified by the different numbering of the ARC slots, and by the connectors on the right side of the chassis front.

> The LCB base (LCBB) is numbered in the following way:

> - ARC slots, labeled +0 through +14.
> - Two connectors for cables to LIC11 and LCB expansion.

LCCB
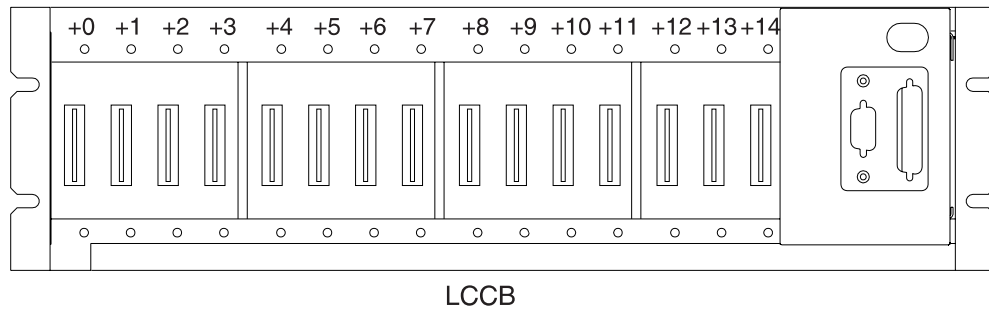
Figure   C-8. LCB Base (LCBB)

The LCB expansion (LCBE) is numbered in the following way:

- ARC slots labeled +16 through +30
- Cable connector to the LCB base.
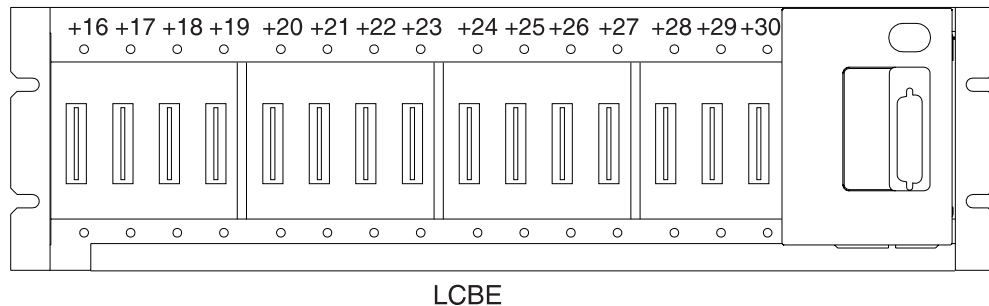
LCBE

Figure   C-9. LCB Expansion (LCBE)

Step   **2** Label the LCBs, and verify that the following information from the plugging sheet is on the LCB label (Part Number 63F2503):

- 3746-950 name
- LCB number
- LCB location
- Range of LIC11 addresses.

Step   **3** Put the label on the inner left side of the LCB (see **2** in Detail A of Figure C-10 on page C-15).

If a label already exists, put the new one on top of the old label.
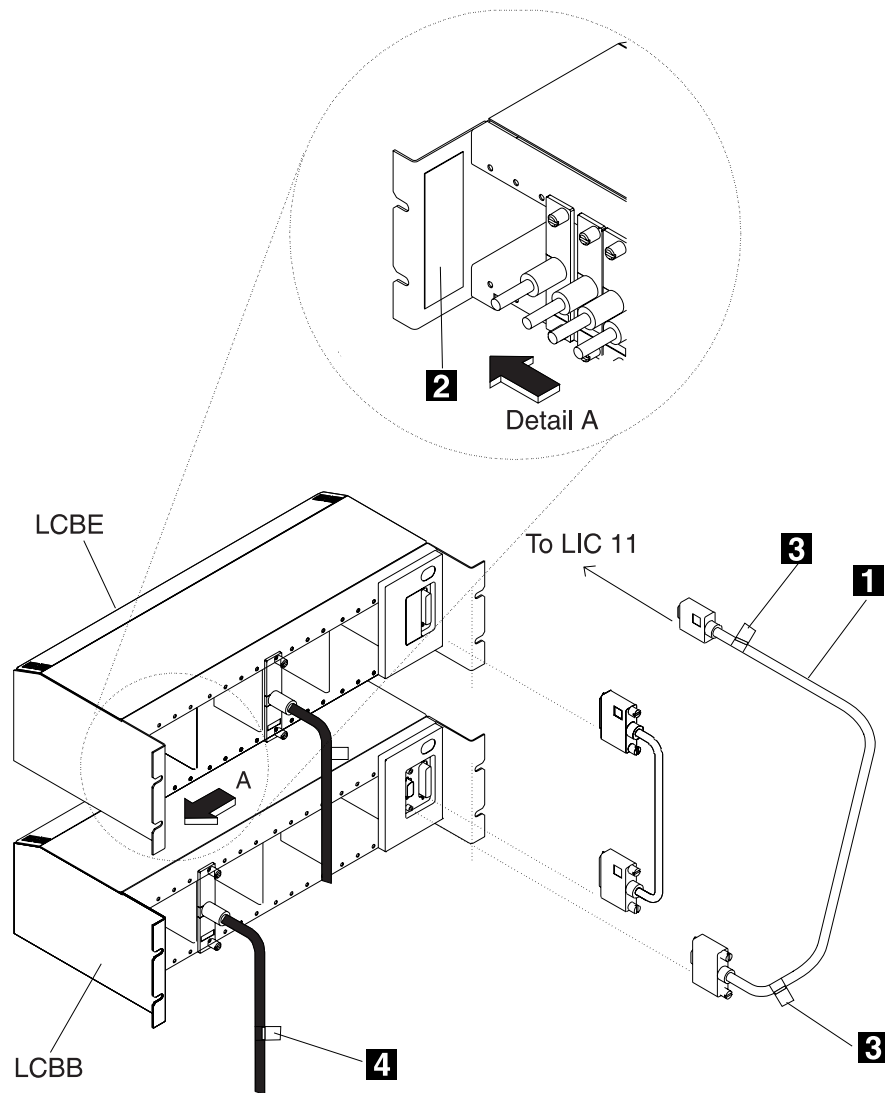
Figure   C-10. LCBB and LCBE Connections (Installed with ARC Assembly A)

Step   **4**   Install the LCBs (this includes LCBBs and LCBEs), making sure that an LCBE is installed **above** the LCBB to which it will be attached.

Future expansion

Leave a 4U space[1] above each LCBB. This will make future installation of LCBEs easier.

If you are installing the LCB on to a table or the floor, continue with Step 7 on page C-16.

If you are installing an LCB in to a controller expansion or a 19 inch rack, proceed with the next step.

Step   **5**   Insert each LCB firmly into the rack.

---

[1] One international unit for height (1U) equals 44.45 mm or 1.75 inches.

Step 6 Secure the LCB with the four screw sets supplied with the unit. If you are installing an LCBE, go to 8 on page C-16.

Step 7 Ground the LCB.

If you install an LCB onto a table or a floor, you must also install a ground wire to ensure the connection. See Figure C-11 below.

Bottom View

Ground
Wire

to Premises
Grounding
System
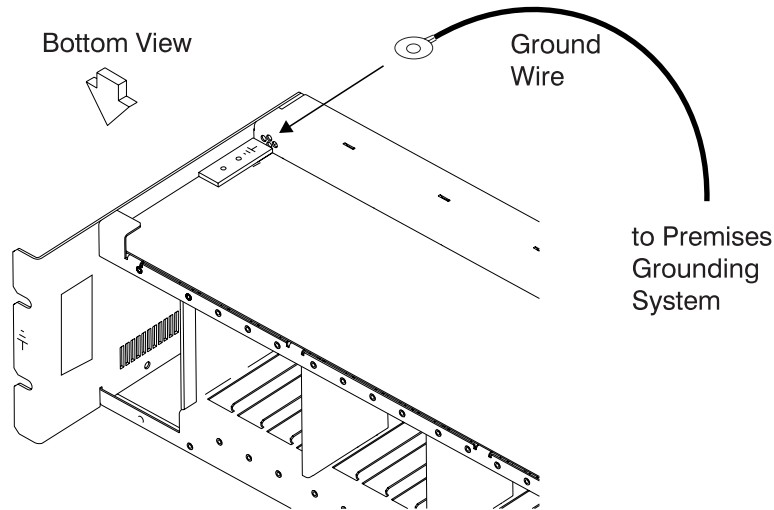
Figure   C-11. LCB Grounding

To insure good grounding, it is recommended that you use the following items:

- AWG 12 wire (minimum 2.5 square millimeter).
- 5 mm diameter screw, length from 6 mm to 10 mm (see Figure C-12).

Note: IBM does not provide these items.

Screw M5

Lock Washer

Star Washer

Ground
Wire

LCB
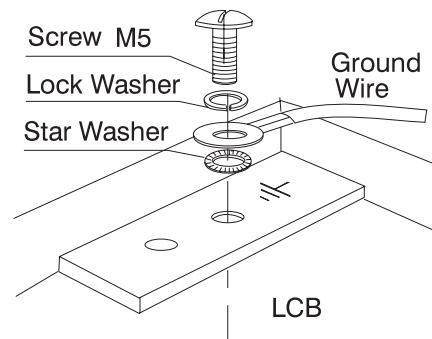
Figure   C-12. Standard Grounding Connection

Step 8 Connect the LCBE cable to the LCBB. It does not matter which end of the cable you use.

Step 9 Tighten the retaining screws of the cable connector.

Step 10 Label LIC11 cables with the two LIC11 labels (Part Number 63F2504). Record the following information from the plugging sheets onto the labels:

- 3746-950 name

* LCB number
* LCB location
* Range of LIC11 addresses.

Step 11 Put two identical labels at both ends of the cable (see the two **3** s in Figure C-10 on page C-15).

Step 12 Connect the LIC11 cable to the LCB base and tighten the cable plug retaining screws (see "Unplugging or Plugging In LIC Cables" on page C-7 for details, and also **1** in Figure C-10 on page C-15).

Removing or Installing ARC Assembly A and B

Before you start

First see the "Connection Procedures" on page C-2.
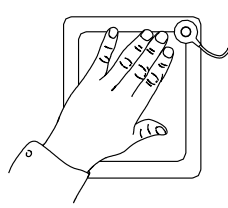
Removing ARC Assembly A and B

Step 1 Ask the network operator to deactivate the communication lines of the ARC that you wish to unplug.

Step 2 Unplug the ARC cable from the DTE/DCE or 3745-type connector.

When you disconnect a 3745-type connector:

a. Hold the connectors with both hands.
b. Squeeze the side levers and at the same time pull the connectors apart with a side-to-side rocking motion.
c. Store the connecting seal with the ARC for future use.
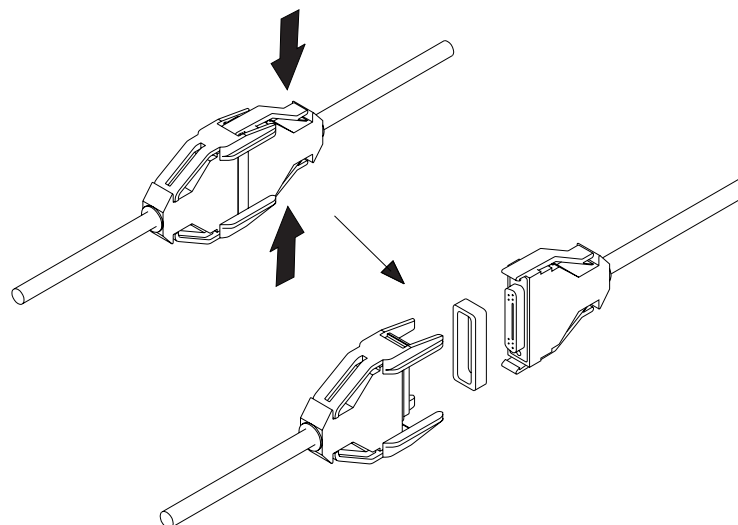
Step   3 Loosen the retaining screws and pull the ARC from the LCB. Repeat Steps 2, and 3 for every ARC you want to remove.

ARC Label

ARC Label
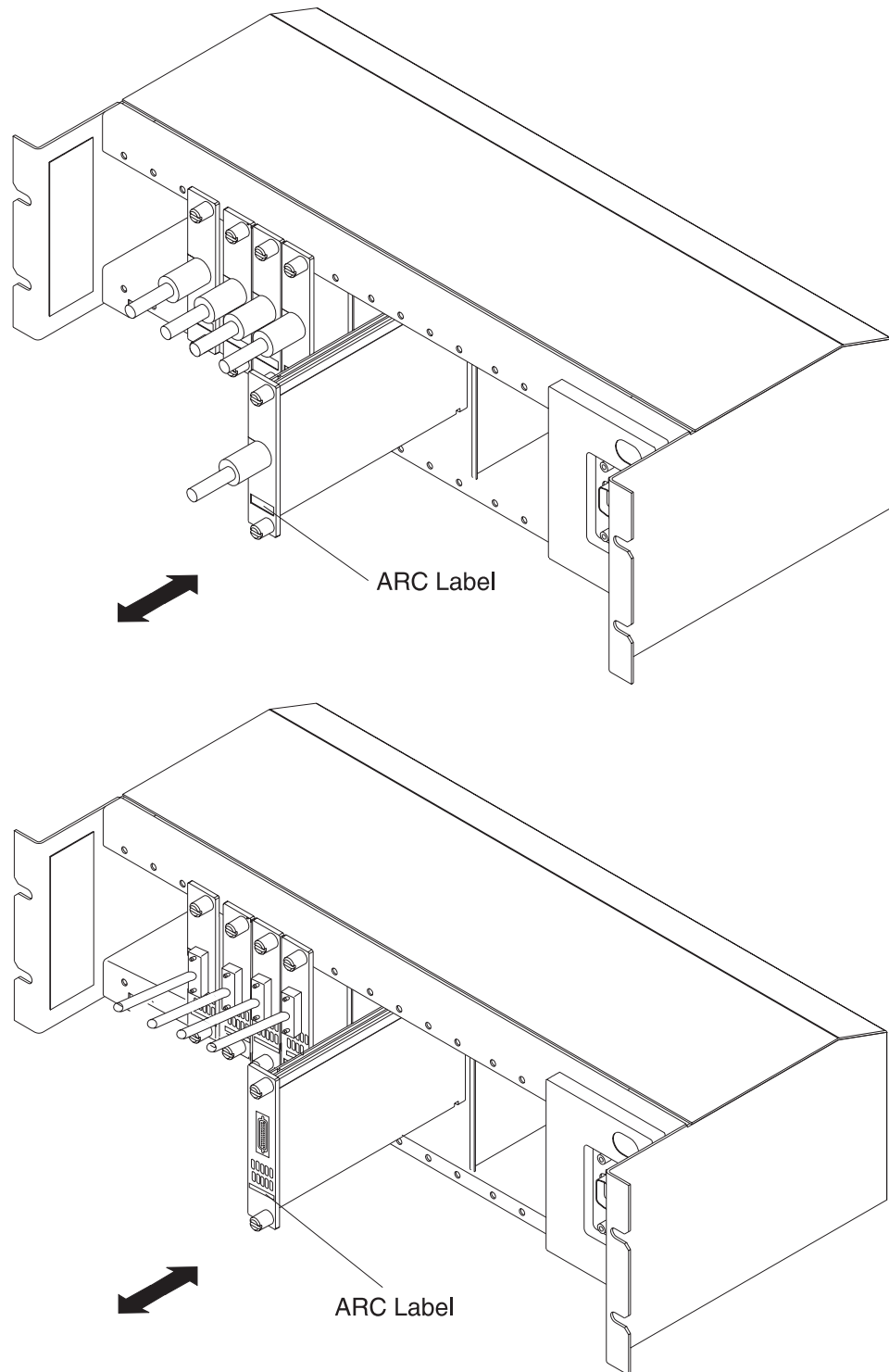
Figure   C-13. ARC Assembly A (top) and ARC Assembly B (bottom) in an LCB

Step   4 Update the plugging sheets as necessary.

Installing ARC Assembly A and B

Use the following procedures to install ARC assembly A or B:

Step 1 Identify the ARC assembly from the following description:

- ARC assembly A is light grey in color, with a permanently attached cable and connector corresponding to the physical interface of the ARC.
- ARC assembly B is light grey in color, with a separate cable and connector corresponding to the physical interface of the ARC.

ARC Assembly A   ARC Assembly B
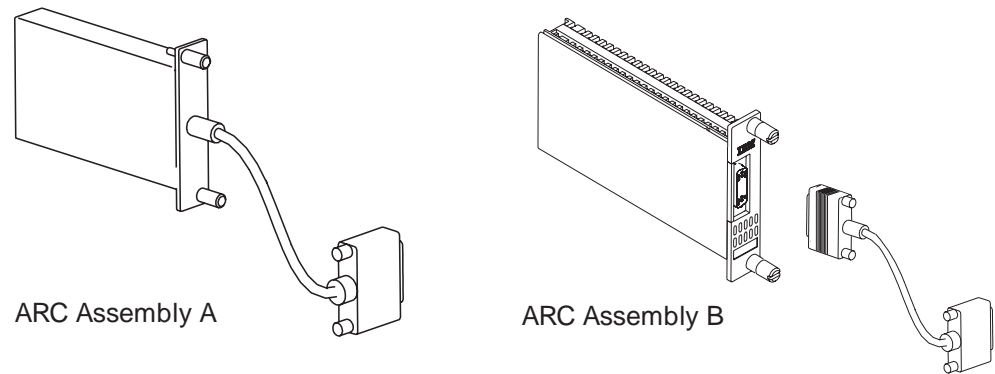
Figure   C-14. ARC Assembly A and B

For details on available cable lengths, see the *Planning Guide*.

Step 2 Locate the ARC slot in the LCB. An LCB pair, the base (LCBB) and expansion (LCBE), contain a total of 30 slots (see the figures below).

LCBE

+16 +17 +18 +19 +20 +21 +22 +23 +24 +25 +26 +27 +28 +29 +30

LCCB

+0 +1 +2 +3   +4 +5 +6 +7   +8 +9 +10 +11 +12 +13 +14
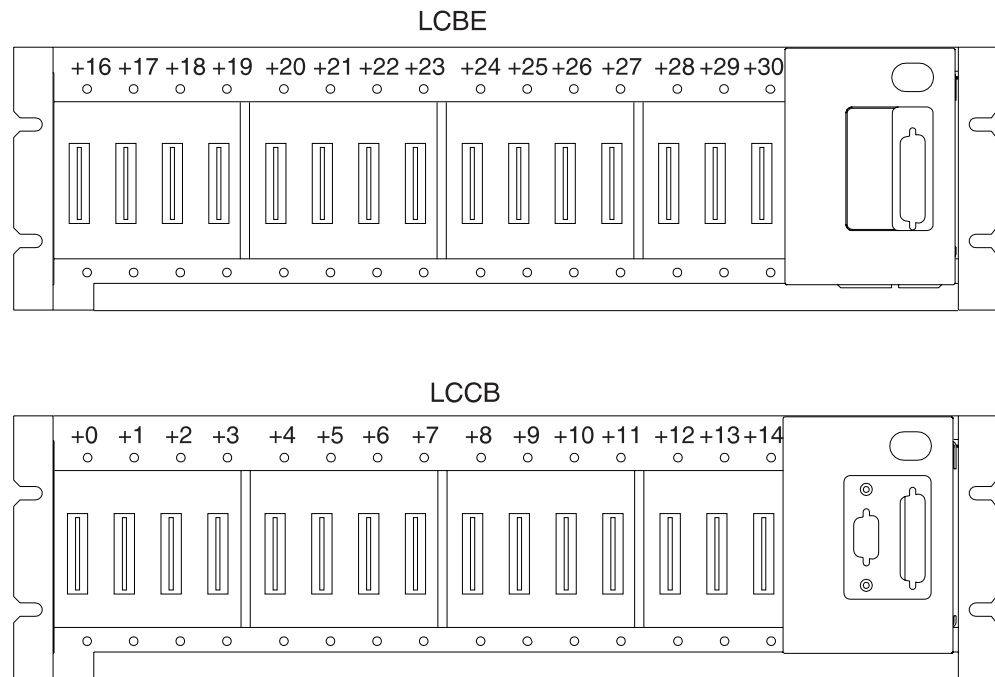
Step 3 Identify the ARC physical interface type from one of the following connectors:

- 3745 type

- ITU-T interface type, V.24, V.35, and X.21.

A label on the front of the ARC identifies the ITU-T interface type. See Figure C-15 below for the different type of ARC cable connectors.

ARC   Assembly A

V.24   IBM 3745

X.21   V.35
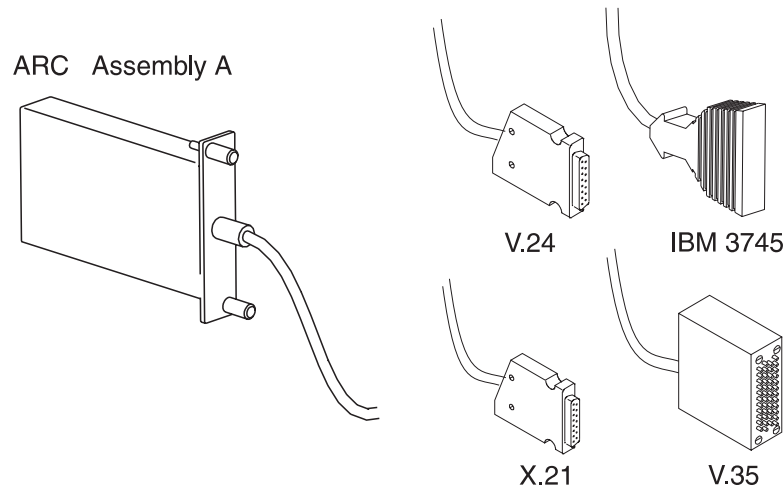
Figure   C-15. ARC Assembly A and Connector Types

ARC Assembly B

V.24   IBM 3745

X.21   V.35
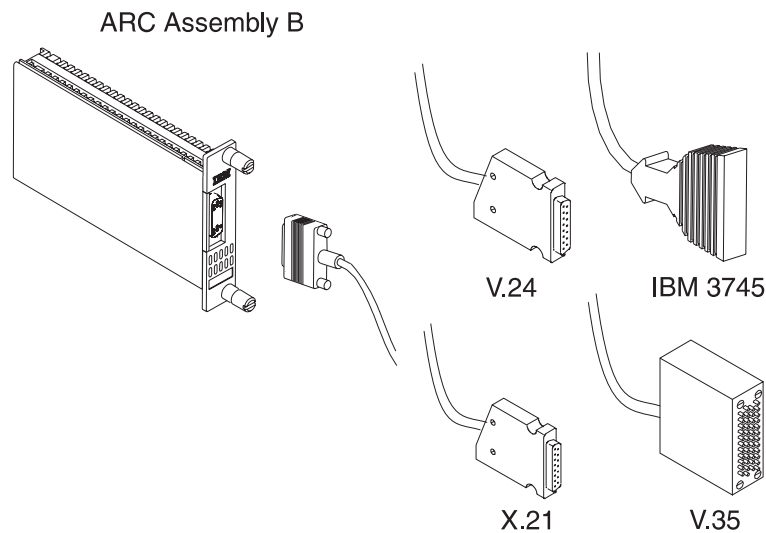
Figure   C-16. ARC Assembly B and Connector Types

Step   4 Label the ARC cable with the following information from the corresponding plugging sheets (Part Number 63F2505):

- LCB number
- LCB location
- IBM 3746-950 name
- Range of LIC11 addresses
- Connector slot position (+0 to +14 or +16 to +30)
- Symbolic line name.

Step   5 Put ARC labels at both end of the cable (see **4** in Figure C-10 on page C-15). Remove any old labels first.

Step   6 Repeat Steps 3 and 4 for each ARC that you install.

Step   7 Insert the ARC, pushing it until the front ARC touches the LCB, then tighten the two retaining screws (see Figure C-13 on page C-18).

The guide rails of the LCB help you to install the ARC correctly (with the ARC type label below the cable).

Step   8 Connect the ARC cable to a DTE or DCE using the following guidelines:

- If you are using a V.24, V.35, or X.21 ARC, plug the cable interface connector into the DTE or DCE connector and tighten the retaining screws.
- If you are using an ARC with a 3745 cable connector, use the following procedure:
    - a. Place the connecting seal on one of the connectors.
    - b. Hold a connector in each hand.
    - c. Ensure that the pins are correctly aligned with the holes in the female connector. Push the two connectors firmly together.
    - d. Make sure the side levers *click* into place.
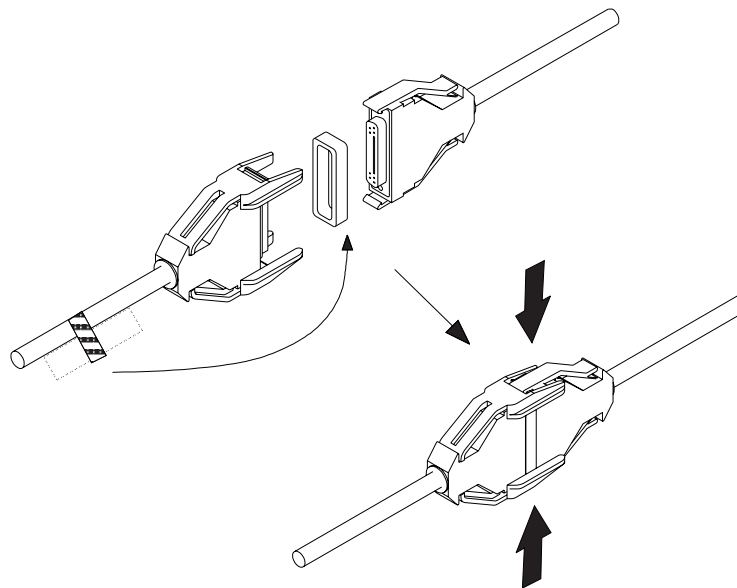
Figure   C-17. IBM 3745-Type Connector

Step   9 Repeat Steps 7 and 8 for each ARC that you install.

Step   10 If you have a V.35 connection to a French modem, go to Step 11. If you have a V.35 connection to a French terminal, go to Step 12. Otherwise, go to Step 13.

Step 11 Connect the V.35 DCE adapter between the ARC cable and the French modem.
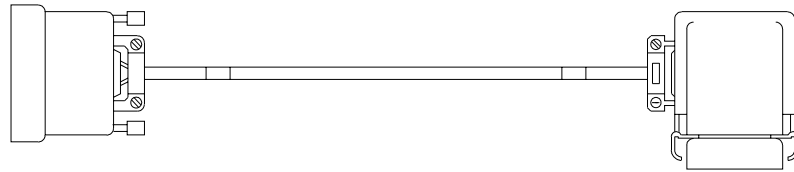
To the ARC Cable   To the Modem

Figure   C-18. French V.35 DCE Adapter

Step 12 Connect the V.35 DTE adapter between the ARC cable and the French terminal.

To the ARC Cable   To the Terminal

Figure   C-19. French V.35 DTE Adapter

Step 13 Ask the network operator to activate the line for the new or changed ARC. If activation does not work, see "Solving Problems" on page 1-5.

Step 14 Update the plugging sheets, if necessary.

Step 15 To integrate the changes that you have made, go to "Updating the Active CDF-E" on page 3-16.

Appendix D. Configuration for a Two-Target Remote Workstation

The following example shows the configuration for a remote workstation controlling two target service processors, ERS1 and BS12 (see Figure D-1 below).
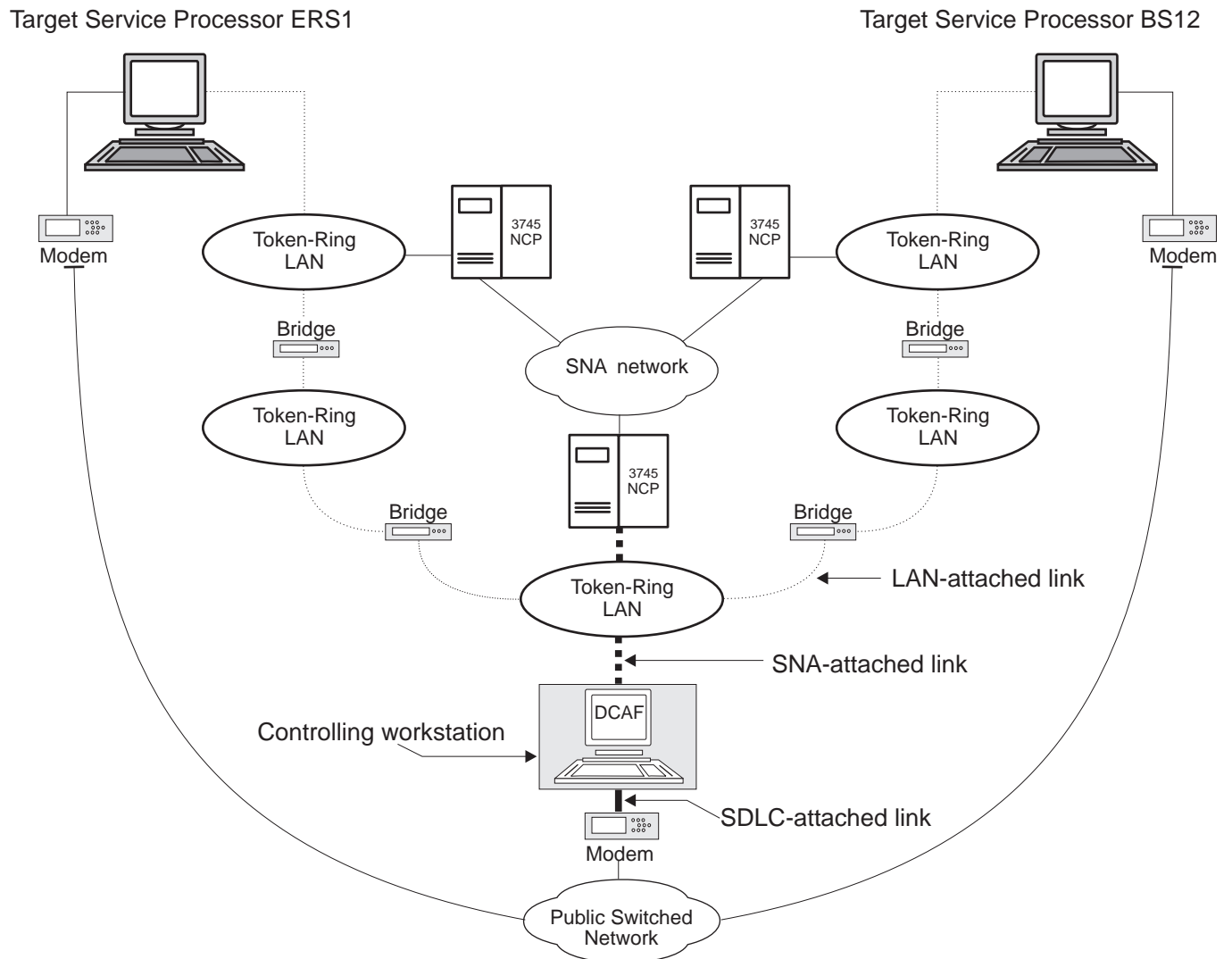
Figure   D-1. A Two-Target Configuration

The example in Figure D-1 on page D-1 assumes that the workstation is running:

- CS/2 or CM/2
- NCP Version 6, Release 2 or higher with 3746-900 features
- VTAM Version 3, Release 4.1

NCP Definitions

NCP must contain definitions for the TIC2 or TIC3. These ports are used to attach the controlling workstation and the two service processors to token-ring LANs.

The only other requirement is to manage dynamic LUs by entering the following definition:

```
LUDRPOOL NUMILU=(a number > 0)
```

VTAM Definitions

Start List

The VTAM start list below should contain the XNETALS=YES statement to enable the cross-network SSCP-PU session activation (without SNI), and the statement DYNLU=YES to handle dynamic LUs (see the example below).

```
HOSTSA=10,SSCPID=10,MAXSUBA=63
CONFIG=10,NETID=SYSTST,SSCPNAME=CDRM20,
XNETALS=YES,DYNLU=YES,
NOPROMPT,DLRTCB=32,SUPP=NOSUP,NOTNSTAT,NOTRACE,TYPE=VTAM,
LPBUF=(120,,0,,60,60), LARGE GENERAL PURPOSE_PAGEABLE
LFBUF=(96,,0,,24,10), LARGE GENERAL PURPOSE_FIXED
LFBUF=(128,,0,,32,10), SMALL GENERAL PURPOSE_FIXED
CRPLBUF=(160,,13,,80,80), RPL_COPY_PAGEABLE
IOBUF=(256,256,34,,68,68) I/O BUFFERS_FIXED (NP&PP BUF REMOVED)
```

Logmode Table

The logmode table below is called SOCMOTAB:

```
DCAFMODE MODEENT LOGMODE=DCAFMODE 22 ,
                 TYPE = 0,
                 FMPROF = X'13',
                 TSPROF = X'07',
                 PRIPROT = X'B0',
                 SECPROT = X'B0',
                 COMPROT = X'50B1',
                 SSNDPAC = X'08',
                 SRCVPAC = X'08',
                 RUSIZES = X'8787',
                 PSNDPAC = X'08',
                 PSERVIC = X'0602000000000000000002F00'
```

Switched Major Nodes

```
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                       *
*      MAJNODE FOR CONNECTION :  CONTROLLING  <==> NETVIEW V2R3         *
*                                                                       *
*                                                                       *
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
DCAFCTRL VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1
*----------------------------------------------------------------------*
CPCTRL   PU    ADDR=04,PUTYPE=2,NETID=SYSTST 1 ,CPNAME=CPCTRL 2 ,    X
               MAXPATH=8,MAXDATA=265,MAXOUT=1,                        X
               DISCNT=NO
CTRL1    LU    LOCADDR=0,MODETAB=SOCMOTAB


*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                       *
*      MAJNODE FOR CONNECTION :  MOSS-E ERS1  <==> NETVIEW V2R3         *
*                                                                       *
*                                                                       *
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
NTVERS1  VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1
*----------------------------------------------------------------------*
CPERS1   PU    ADDR=04,PUTYPE=2,NETID=SYSTST 10 ,CPNAME=CPERS1 23 ,  X
               MAXPATH=8,MAXDATA=265,MAXOUT=1,                        X
               DISCNT=NO
PATHERS1 PATH  DIALNO=0204400000761111,GRPNM=L76G2080
MOSSERS1 LU    LOCADDR=0,MODETAB=SOCMOTAB


*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                       *
*      MAJNODE FOR CONNECTION :  MOSS-E BS12  <==> NETVIEW V2R3         *
*                                                                       *
*                                                                       *
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
NTVBS12  VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1
*----------------------------------------------------------------------*
CPBS12   PU    ADDR=04,PUTYPE=2,NETID=SYSTST 10 ,CPNAME=CPBS12 22 , X
               MAXPATH=8,MAXDATA=265,MAXOUT=1,                      X
               DISCNT=NO
PATHBS12 PATH  DIALNO=0204400000761112,GRPNM=L76G1088
MOSSBS12 LU    LOCADDR=0,MODETAB=SOCMOTAB
```

DCAF Remote Workstation Configuration

Step 1. From Desktop Manager, double-click the Distributed Console Access Facility icon.

Step 2. Double-click the DCAF Controller icon.

Step 3. Click **Session**, then **Open workstation directory**.

Step 4. Click **OK** for a first installation. Otherwise continue with next step.

Step 5. From the DCAF Directory window, click **Workstation** then **Add**.

Step 6. Enter ERS1SNA in the **Workstation name** field and click **Protocol**.

Step 7. Fill in the **Local LU alias, Partner LU alias, and Mode name** fields respectively with `CTRL1`, `ERS1SNA`, `DCAFMODE`, and click **Save**.

Step 8. Repeat Step 6 and Step 7 by entering the following in the **Workstation name** and **Partner LU alias** fields:

    a. `ERS1SDLC`, then click **Save**.

    b. `ERS1LAN`, then click **Save**.

    c. `BS12SNA`, then click **Save**.

    d. `BS12SDLC`, then click **Save**.

    e. `BS12LAN`, then click **Save**.

Step 9. Click **Cancel** to finish.

Step 10. Run the EQNSFPAR program to verify link records.

Appendix E. Modem Setup

Modems for 3745 Models 130 to 160

The following is a list of modems that can be set up to operate between the remote console and the 3745:

In the U.S.A.:

- IBM 5841 Modem
- IBM 5842 Modem

In the U.S.A., Canada, and Japan:

- IBM 5853 Modem (set to half speed)
- Equivalent compatible with Bell 212 A or ITU-T V.22 (1200 bps)

In other countries:

- Modems compatible with ITU-T V.22 alternative B (1200 bps)

For information about setting up RSF modems, refer to "RSF Modems" on page E-7.

Setting Up

For the modem to be compatible between the remote console and the 3745, refer to the modem's documentation and set the following modem characteristics:

- Switched line connection
- Duplex operation
- Asynchronous operation
- 1200 bps speed
- 3745 modem set to auto-answer
- Remote console modem set to manual dialing

Notes:

1. Review the modem documentation to ensure compatibility with the 3745. In particular, check the following:

   - Error Checking Link (ECL) is disabled.

   - If the modem has a 'Test Mode', turn it off at the 3745 end.

   - If the modem is programmable, set the control of the Data Set Ready (DSR) signal to normal, so that it does not get raised by the Data Terminal Ready (DTR).

2. Some IBM PC modems disconnect from the switched network when the carrier signal drops. To prevent this, set the modem at the PC end to RTS Permanent. For more information, refer to your modem documentation.

Switch Settings for IBM Modems 5841, 5842, and 5853

IBM 5841 Modem
Set the modem switches of the remote console as follows:

1. Set back panel DIP switches SW7 and 8 DOWN, all others UP.
2. Set all front panel switches OUT.

Set the modem switches of the 3745 as follows:

1. Set back panel DIP switches SW7 and 8 DOWN, all others UP.
2. Set all front panel switches OUT.

IBM 5842 Modem
Set the switches at the remote console site as follows:

1. Set back panel DIP switches SW7 and 8 DOWN, all others UP.
2. Set front panel switches FS IN, all others OUT.

Set the switches at the 3745 site as follows:

1. Set back panel DIP switches SW7 and 8 DOWN, all others UP.
2. Set front panel switches FS IN, all others OUT.

IBM 5853 Modem
Set the switches at the 3745 site as follows:

1. Set back panel DIP switches to UP.
2. Set front panel switches FS IN, all others OUT.

Set the switches at the remote console site as follows:

1. Set back panel DIP switches to UP.
2. Set front panel switches FS IN, all others OUT.

Note: Before you set any modem configurations, make sure that both modems have been initialized and then do the following:

1. Push in all the front panel switches.
2. Turn power ON and wait five seconds.
3. Turn power OFF.
4. Set the front panel switches as described above.
5. Turn power ON again.

Modems for the 3746
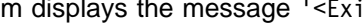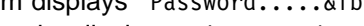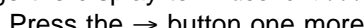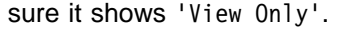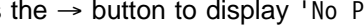
The procedures in this section explain how to manipulate the IBM modems recommended for DCAF.

Note: The Hayes modem does not need to be set manually.

Setting the IBM 7855 Modem

1. Press both the ← and → buttons on the front panel of the modem. The modem displays the message '`<Exit     Enter>`'.

2. Press the → button. If the modem displays `View Only`, go to Step 3. If the modem displays '`Password.....&fb.`', use the → and the ↑ buttons to change the display to '`Password....B293`' by changing one character at a time. Press the → button one more time, and then check the display again to make sure it shows '`View Only`'.

3. Press and release the ↑ or ↓ button as needed to change the display to '`First Setup`'.

4. Press the → button **once**, press and release the ↑ or ↓ button to change the display to '`Reset to Factory`'.

5. Press the ← button. The lights on the front panel flash briefly.

6. Set the modem speed to 12000 bps by doing the following:

   a. Press both the ← and → buttons. The modem displays: '`<Exit Enter>`'.

   b. Press and release the → button. The modem displays: '`View Only`'.

   c. Press the ↓ button **twice**. The modem displays: '`Quick Customize`'.

   d. Press the → button. The modem displays: '`DTE interface`'.

   e. Press the ↓ button **twice**. The modem displays: '`PSN Telco speed`'.

   f. Press the → button. The modem displays: '`PSN Bps 9600`'.

   g. Press the ↓ button. The modem displays: '`PSN Bps 12 000`'.

   h. Press the ← button **6 times**. The modem displays: '`SYNC INT 12 000`'.

7. Turn the modem off.

Setting and Saving the Target Service Processor Phone Number

1. Press both the ← and → buttons on the front panel of the modem. The modem displays the message '`<Exit     Enter>`'.

2. Press the → button. If the modem displays '`View Only`', go to Step 3. If the modem displays '`Password.....&fb.`', use the → button and the ↑ button to change the display to '`Password....B293`' by changing one character at a time. Press the → button one more time, and then check the display again to make sure it shows '`View Only`'.

3. Press and release the ↑ or ↓ button as needed to change the display to '`Directories`'.

4. Press the → button to display '`No Password`'. If the display shows '`Password needed`', use the ↑ button and the ↑ button once to change the display to '`Local Pass B293`' by changing one character at a time.

5. Press the → button to display 'Store and View'.

6. Press the → button to display 'Directories xx'.

7. Set the target service processor phone number with the ↑ and ↓ buttons. Switch to the next number with the → button.

8. Press the ← button 8 times to exit.

Setting the IBM 7857 Modem Connected to MPA Card (SYN)

1. Press the ↓ key until the 'CONFIG' message displays at the top of the screen.

2. Press the → key until the 'Sel Factory' message displays at the bottom of the screen.

3. Press **Enter**.

4. Press the ↑ key until '3' displays.

5. Press **Enter** to load the predefined factory configuration 3.

6. Press the ↑ key until 'U1' displays at the top of the screen.

7. Press the → key until 'Sync mode 3' displays. Press **Enter** to validate.

8. Press the ↑ key until 'U2' displays.

9. Press the → key until 'Internal' displays. Press **Enter** to validate.

10. Press the ↑ key until 'U3' displays.

11. Press the → key until 'Autobaud' displays. Press **Enter** to validate.

12. Press the ↑ key until 'U4' displays.

13. Press the → key until 'CCITT' displays. Press **Enter** to validate.

14. Press the ↑ key until 'U5' displays.

15. Press the → key until '9600 V32 TRE' displays. Press **Enter** to validate.

16. Press the ↑ key until 'U6' displays.

17. Press the → key until 'V42Bis/MNP5 Enabled' displays. Press **Enter** to validate.

18. Press the ↑ key until 'U7' displays.

19. Press the → key until 'Auto Reliable/V42/MNP' displays. Press **Enter** to validate.

20. Press the ↑ key until 'U8' displays.

21. Press the → key until 'Xon/Xoff passed' displays. Press **Enter** to validate.

22. Press the ↑ key until 'U9' displays.

23. Press the → key until 'Xon/Xoff' displays. Press **Enter** to validate.

24. Press the ↑ key until 'U10' displays.

25. Press the → key until 'C108/2' displays. Press **Enter** to validate.

26. Press the ↑ key until 'U11' displays.

27. Press the → key until 'C106 Always follow C105' displays. Press **Enter** to validate.

28. Press the ↑ key until 'U12' displays.

29. Press the → key until 'C107/C109 Normal Mode' displays. Press **Enter** to validate.

30. Press the ↑ key until 'U13' displays.

31. Press the → key until 'C107 Follow C109(CD)' displays. Press **Enter** to validate.

32. Press ↓ until 'Mode' displays.

33. Press → until the message 'V25HDLC NRZIASC' displays.

34. Press **Enter**.

The modem is now in ITU-T V.25 bis synchronous mode. See "Saving the Modem Configuration" below.

Setting the 7857 Modem Connected to COM1 (ASYN)

1. Power OFF the modem

2. Press and hold the ↑ key while power ON the modem.

3. The modem is set to Factory 0 in AT command mode.

See "Saving the Modem Configuration" below.

Setting the 7857 Modem Connected to MPA Card on COM2 (ASYN)

1. Power OFF the modem

2. Press and hold the ↑ key while power ON the modem.

3. The modem is set to Factory 0 in AT command mode.

See "Saving the Modem Configuration" below.

Saving the Modem Configuration

1. Press the ↓ key until the 'CONFIG' message displays at the top of the screen.

2. Press the → key until the 'Store User Conf' message displays at the bottom of the screen.

3. Press **Enter**.

4. Press the ↑ key, to select the User Configuration Location (0 to 9) where you want to save the configuration.

5. Press **Enter** to save the current modem configuration.

The defined configuration is now active and saved. Every time the modem is reset (powered ON), this configuration is loaded.

Transmission Speed The IBM 7857 uses an adaptive line rate facility which can automatically decrease or increase the modem's transmission speeds. This means that if telecommunication line conditions deteriorate, the modem can still function at the highest possible efficiency.

Setting and Saving the Target Service Processor Phone Number

1. Press the ↓ key until 'Store phone number' displays at the top of the screen.

2. Press the → key to select the first location number.

3. Press **Enter**.

4. Press the ↑ key to select a digit. Press the → key to move to the next position (↓ key can be used for backspacing).

5. Press **Enter** twice to save the target service processor's phone number.

Setting the IBM 7858 Modem Connected to MPA Card (SYN)

1. Press the ↓ key until the `'CONFIG'` message displays at the top of the screen.

2. Press the → key until the `'Sel Factory'` message displays at the bottom of the screen.

3. Press **Enter**.

4. Press the ↑ key until `3` displays.

5. Press **Enter** to load the predefined factory configuration 3.

6. Press the ↑ key until `'U4'` displays at the top of the screen.

7. Press the → key until `'9600bps V32'` displays. Press **Enter** to validate.

8. Press the ↑ key until `'U7'` displays.

9. Press the → key until `'Xon/Xoff Passed'` displays. Press **Enter** to validate.

10. Press the ↑ key until `'U8'` displays.

11. Press the → key until `'Xon / Xoff'` displays. Press **Enter** to validate.

12. Press the ↑ key until `'U10'` displays.

13. Press the → key until `'Forced on'` displays. Press **Enter** to validate.

14. Press the ↑ key until `'U12'` displays.

15. Press the → key until `Follow CD` displays. Press **Enter** twice to select this option.

16. Press ↓ until `'Mode'` displays.

17. Press → until the message `'V25HDLC NRZIASC'` displays.

18. Press **Enter** twice.

The modem is now in V.25 bis synchronous mode. See "Saving the Modem Configuration" on page E-7 below.

Setting the 7858 Modem Connected to COM1 (ASYN)

1. Power OFF the modem

2. Press and hold the ↑ key while power ON the modem.

3. The modem is set to Factory 0 in AT command mode.

See "Saving the Modem Configuration" on page E-7 below.

Setting the 7858 Modem Connected to MPA Card on COM2 (ASYN)

1. Power OFF the modem

2. Press and hold the ↑ key while power ON the modem.

3. The modem is set to Factory 0 in AT command mode.

See "Saving the Modem Configuration" on page E-7 below.

Saving the Modem Configuration

1. Press the ↓ key until the `'CONFIG'` message displays at the top of the screen.

2. Press the → key until the `'Store User Conf.'` message displays at the bottom of the screen.

3. Press **Enter**.

4. Press the ↑ key, to select the User Configuration Location (0 to 9) where you want to save the configuration.

5. Press **Enter** to save the current modem configuration.

The defined configuration is now active and saved. Every time the modem is reset (powered ON), this configuration is loaded.

Transmission Speed The IBM 7858 uses an adaptive line rate facility which can automatically decrease or increase the modem's transmission speeds. This means that if telecommunication line conditions deteriorate, the modem can still function at the highest possible efficiency.

Setting and Saving the Target Service Processor Phone Number

1. Press the ↓ key until `'Store phone number'` display at the top of the screen.

2. Press the → key to select the first location number.

3. Press **Enter**.

4. Press the ↑ key to select a digit. Press the → key to move to the next position (↓ key can be used for backspacing).

5. Press **Enter** twice to save the target service processor's phone number.

RSF Modems

This chapter applies to **3745 Models 130** to **610**. It does not apply to **Model A**.

If you have an RSF link to the Remote Technical Assistance Information Network (RETAIN), your IBM service representative will install the RSF modem.

If a RSF modem is not provided with the 3745, follow the installation procedure below for compatibility with ITU-T V.23. This will set your modem in half-duplex mode, with BSC protocol set at 1200 bps, and without clocking.

Note: Operating characteristics for RSF modems are country-dependent.

IBM 5858 Modem

1. Set the rear panel switches for a V.23 modem as below:

```
┌─┬─┬─┬─┬─┬─┬─┬─┐   ┌─┬─┬─┬─┬─┬─┬─┬─┐
│U│ │ │U│U│ │ │U│   │ │U│U│U│U│U│U│U│
├─┼─┼─┼─┼─┼─┼─┼─┤   ├─┼─┼─┼─┼─┼─┼─┼─┤
│ │D│D│ │ │D│D│ │   │D│ │ │ │ │ │ │ │
└─┴─┴─┴─┴─┴─┴─┴─┘   └─┴─┴─┴─┴─┴─┴─┴─┘
 1 2 3 4 5 6 7 8     1 2 3 4 5 6 7 8
```

2. Set all the front panel switches to OUT.

IBM 7855 Modem

Refer to "Setting the 7857 Modem Connected to COM1 (ASYN)" on page E-5.

IBM 7857 Modem

Refer to "Modems for 3745 Models 130 to 160" on page E-1.

Appendix F. Bibliography

Customer Documentation for the 3746 Model 950

Table F-1 (Page 1 of 5). Customer Documentation for the 3746 Model 950
This customer documentation has the following formats:

Finding Information	
	3745 Models A and 3746 Books All of the books in the 3745 Models A and 3746 library are available on the CD-ROM that contains the Licensed Internal Code (LIC) for the machine.
Preparing for Operation	
GA33-0400	***IBM 3745 Communication Controller All Models[1]*** ***IBM 3746 Expansion Unit Model 900*** ***IBM 3746 Nways Multiprotocol Controller Model 950*** ***Safety Information[2]*** Provides general safety guidelines.
Evaluating and Configuring	
GA33-0180	***IBM 3745 Communication Controller Models A and 170[3]*** ***IBM 3746 Nways Multiprotocol Controller*** ***Models 900 and 950*** ***Overview*** Gives an overview of connectivity capabilities within SNA, APPN, and IP networking.
GA27-4234	***IBM 3745 Communication Controller Models A[2]*** ***IBM 3746 Nways Multiprotocol Controller*** ***Models 900 and 950*** ***Planning Series:*** ***Overview, Installation, and Integration*** Provides information for: • Overall 3746 planning • Installation and upgrade scenarios • Controller and service processor network integration • Related MOSS-E and CCM worksheets for these tasks.
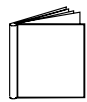
GA27-4235

**IBM 3745 Communication Controller Models A[2]
IBM 3746 Nways Multiprotocol Controller
Models 900 and 950**

**Planning Series:
Serial Line Adapters**

Provides information for:

- Serial line adapter descriptions
- Serial line adapter line weights and connectivity
- Types of SDLC support
- Configuring X.25 lines
- Performance tuning for frame-relay, PPP, X.25, and NCP lines.
- ISDN adapter description and configuration.
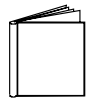
GA27-4236

**IBM 3745 Communication Controller Models A[2]
IBM 3746 Nways Multiprotocol Controller
Models 900 and 950**

**Planning Series:
Token Ring and Ethernet**

Provides information for:

- Token-ring adapter description and configuration
- Ethernet adapter description and configuration.

GA27-4237

**IBM 3745 Communication Controller Models A[2]
IBM 3746 Nways Multiprotocol Controller
Models 900 and 950**

**Planning Series:
ESCON Channels**

Provides information for:

- ESCON adapter descriptions
- ESCON configuration and tuning information
- ESCON configuration examples.

GA27-4238

**IBM 3745 Communication Controller Models A[2]
IBM 3746 Nways Multiprotocol Controller
Models 900 and 950**

**Planning Series:
Physical Planning**

Provides information for:

- 3746 and MAE physical planning details
- 3746 and MAE cable information
- Explanation of installation sheets
- 3746 plugging sheets.

Table F-1 (Page 3 of 5). Customer Documentation for the 3746 Model 950		
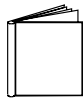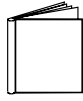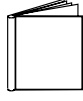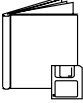
	GA27-4239	**IBM 3745 Communication Controller Models A[2]** **IBM 3746 Nways Multiprotocol Controller** **Models 900 and 950** **Planning Series:** **Management Planning** Provides information for: • Overview for 3746 • 3746 APPN/HPR, IP router, and X.25 • NetView Performance Monitor (NPM), remote consoles, and RSF • MAE APPN/HPR management.
	GA27-4240	**IBM 3745 Communication Controller Models A[2]** **IBM 3746 Nways Multiprotocol Controller** **Models 900 and 950** **Planning Series:** **Multiaccess Enclosure Planning** Provides information for: • MAE adapters details • MAE ESCON planning and configuration • ATM and ISDN support.
	GA27-4241	**IBM 3745 Communication Controller Models A[2]** **IBM 3746 Nways Multiprotocol Controller** **Models 900 and 950** **Planning Series:** **Protocols Description** Provides information for: • Overview and details about APPN/HPR and IP.
	On-line information	**IBM 3745 Communication Controller Models A[2]** **IBM 3746 Nways Multiprotocol Controller** **Models 900 and 950** **Planning Series:** **Controller Configuration and Management Worksheets** Provides planning worksheets for ESCON, Multiaccess Enclosure, serial line, and token-ring definitions.

Table F-1 (Page 4 of 5). Customer Documentation for the 3746 Model 950

Operating and Testing

| | SA33-0356 | **IBM 3746 Nways Multiprotocol Controller Model 950** |

User's Guide[2]

Explains how to:

- Carry out daily routine operations on Nways controller
- Install, test, and customize the Nways controller after installation
- Configure user's workstations to remotely control the service processor using:
  – DCAF program
  – Telnet client program
  – Java Console support.

On-line information   **Controller Configuration and Management Application**

Provides a graphical user interface for configuring and managing a 3746 APPN/HPR network node and IP Router, and its resources.
It is also available as a stand-alone application, using an OS/2 workstation.
Defines and explains all the 3746 Network Node and IP Router configuration parameters through its on-line help.

SH11-3081   **IBM 3746 Nways Multiprotocol Controller Models 900 and 950**

Controller Configuration and Management: User's Guide[2]

Explains how to use CCM and gives examples of the configuration process.

GA33-0479   **IBM 3745 Communication Controller Models A
IBM 3746 Nways Multiprotocol Controller Models 900 and 950**

**NetView Console
APPN Command Reference Guide**

Explains how to use the RUN COMMAND from the NetView S/390 Program and gives examples.

Managing Problems

On-line information   **Problem Analysis Guide**

An on-line guide to analyze alarms, events, and control panel codes on:

- IBM 3745 Communication Controller Models A[3]
- IBM 3746 Nways Multiprotocol Controller Models 900 and 950.

SA33-0175   **IBM 3745 Communication Controller Models A[3]
IBM 3746 Expansion Unit Model 900
IBM 3746 Nways Multiprotocol Controller Model 950**

Alert Reference Guide

Provides information about events or errors reported by alerts for:

- IBM 3745 Communication Controller Models A[3]
- IBM 3746 Nways Multiprotocol Controller Models 900 and 950.

Table F-1 (Page 5 of 5). Customer Documentation for the 3746 Model 950	F-5
¹ Models 130 to 61A. ² Documentation shipped with the 3746-950 ³ 3745 Models 17A to 61A.	

List of Abbreviations

ac	Alternating Current		**ESCON**	Enterprise System Connection
ACF	Advanced Communications Functions		**ESD**	Electrostatic Discharge
APPC	Advanced Program-to-Program Communication		**FCC**	Federal Communications Commission
			FP	Focal Point
APPN	Advanced Peer to Peer Networking		**GWCON**	Gateway Console (IP)
ARC	Active Remote Connector		**HPR**	High Performance Routing
ARP	Address Resolution Protocol		**IBM**	International Business Machines Corporation
AUI	Attachment Unit Interface			
BGP	Border Gateway Protocol		**ID**	Identifier
bps	bits per second		**IDF**	Internet Protocol Definition File
Bps	Bytes per second		**IML**	Initial Microcode Load
CA	Channel Adapter		**IP**	Internet Protocol
CBSA	Controller Bus and Service Adapter		**IPL**	Initial Program Load
CBSP	Controller Bus and Service Processor		**ISDN**	Integrated Services Digital Network
CCM	Controller Configuration and Management		**ITU-T**	International Telecommunications Union-Telecommunications
CCITT	Comité Consultatif International Télégraphique et Téléphonique			(Formerly: CCITT)
	The International Telegraph and Telephone Consultative Committee		**LAA**	Locally Administered Address
			LAN	Local Area Network
	(Now: ITU-T)		**LAPS**	LAN Adapter Protocol Support
CDF-E	Configuration Data File-Extended		**LCB**	Line Connection Box
CLP	Communication Line Processor		**LCBB**	Line Connection Box Base
CM	Communications Manager		**LCBE**	Line Connection Box Extension
CP	Control Point		**LEN**	Low Entry Networking
CSD	Corrective Service Diskette		**LIC**	Line Interface Coupler
DCAF	Distributed Console Access Facility		**LU**	Logical Unit
DCE	Data Circuit-terminating Equipment		**m**	meter; 1.09 yards; 3.28 feet; 39.37 inches
DLC	Data Link Control			
DLUR	Dependent LU Requester		**MAC**	Medium Access Control
DOS	Disk Operating System		**MAE**	Multiaccess Enclosure
DTE	Data Terminal Equipment		**MAU**	Multistation Access Unit
EC	Engineering Change		**Mbps**	Megabits per second; 1 048 476 bits per second
ELS	Event Logging System		**MOSS**	Maintenance and Operator Subsystem
EPO	External Power ON		**MOSS-E**	Maintenance and Operator Subsystem-Extended
ES	Extended Services			

NCP	Network Control Program	**SNA**	Systems Network Architecture
NDF	Network Definition File	**SNMP**	Simple Network Management Parameters
NN	Network Node		
NNP	Network Node Processor	**SPAU**	Service Processor Access Unit
NPM	NetView Performance Monitor	**SRC**	Service Reference Code
NTS	Network Transport Services	**STP**	Shielded Twisted Pair
OPCON	Operator Console (IP)	**TCP/IP**	Transmision Control Protocol/Internet Protocol
OS	Operating System		
OSPF	Open Shortest Path First	**TIC**	Token-ring Interface Coupler
PE	Product Engineer	**UEPO**	Unit Emergency Power OFF
PPP	Point-to-Point Protocol	**URL**	Uniform Resource Locator
PU	Physical Unit	**UTP**	UnTwisted Pair
RETAIN	Remote Technical Assistance Information Network	**VCCI**	Japanese Voluntary Control Council for Interference
RIP	Routing Information Protocol	**VTAM**	Virtual Telecommunications Access Method
RLSD	Received Line Signal Detector		
RPO	Remote Power OFF	**WRS**	WAN Restoral
RSF	Remote Support Facility	**3746-900**	IBM 3746 Nways Multiprotocol Controller Model 900
SA	Subarea		
SDLC	Synchronous Data Link Control	**3746-950**	IBM 3746 Nways Multiprotocol Controller Model 950

Glossary

This glossary defines all new terms used in this manual. It also includes terms and definitions from the *IBM Dictionary of Computing,* SC20-1699.

Address Resolution Protocol (ARP). One of the protocol provided by TCP/IP that dynamically maps between Internet addresses, baseband adapter addresses, X.25 addresses, and token-ring adapter addresses on a local area network.

Advanced Communication Function (ACF). A group of IBM licensed programs. principally VTAM programs. TCAM, NCP, and SSP, that use the concepts of Systems Network Architecture (SNA), including distribution of function and resource sharing.

addressing. A technique where the control station selects, among the DTEs that share a transmission line, the DTE to which it is going to send a message.

Advanced Program-to-Program Communication (APPC). An implementation of the SNA/SDLC LU6.2 protocol that allows interconnected systems to communicate and share the processing of programs.

advanced peer-to-peer networking (APPN). An extension of SNA featuring: (a) greater distributed network control that avoids critical hierarchical dependencies, thereby isolating the effects of single point failure; (b) dynamic exchange of network topology information to foster ease of connection reconfiguration, and adaptive route selection; (c) dynamic definition of network resources; and (d) automated resource registration and directory lookup. APPN extends the LU 6.2 peer orientation for end-user services to network control and supports multiple LU types, including LU 2, LU 3, and LU 6.2.

alarm. A message sent to the MOSS operator console. In case of an error, a reference code identifies the nature of the error.

alert. A message sent to the host console. In case of an error, a reference code identifies the nature of the error.

channel adapter (CA). A communication controller hardware unit used to attach the controller to a host processor.

channel interface. The interface between the controller and the host processors.

communication controller. A device that directs the transmission of data over the data links of a network; its operation may be controlled by a program executed in a processor to which the controller is connected or it may be controlled by a program executed within the device. Examples are the IBM 3705, IBM 3720/3725/3726, IBM 3745 models 130 to 61A, and IBM 3746 models 900/950.

communications manager. A function of the OS/2 that lets a workstation connect to a host computer and use the host resources as well as the resources of the other personal computers to which the workstation is attached, either directly or through a host system.

configuration data file (CDF). A 3745 MOSS file that contains a description of all the hardware features (presence, type, address, and characteristics).

configuration data file - extended (CDF-E). A 3746 MOSS-E file that contains a description of all the hardware features (presence, type, address, and characteristics).

control panel. A panel that contains switches and indicators for the customer's operator and service personnel.

control point (CP). A collection of tasks, which provide directory and route selection functions for APPN. An end node control point provides its own configuration, session, and management services with assistance from the control point in its serving network node. A network node control point provides session and routing services.

control program. A computer program designed to schedule and to supervise the execution of programs of the controller.

X-3

Customer engineer. See: *IBM service representative*.

data circuit-terminating equipment (DCE). The equipment installed at the user's premises that provides all the functions required to establish, maintain, and terminate a connection, and the signal conversion between the data terminal equipment (DTE) and the line. For example, a modem is a DCE.

data link control (DLC). In SNA, a set of rules used by two nodes on a data link to accomplish an orderly exchange of information. Synonymous with line control.

data terminal equipment (DTE). That part of a data station that serves as a data source, data link, or both, and provides for the data communication control function according to protocols. For example, the IBM 3745 can be a DTE.

dependent logical unit (DLU). Any logical unit (LU) that is made active by a command from the host system over a data link. Such logical units can be used only as secondary logical units, and can have only one active LU-to-LU session at a time. Contrast with independent logical unit.

direct attachment. The attachment of a DTE to another DTE without DCE.

disk operating system (DOS). An operating system for computer systems that use disks and diskettes for auxiliary storage of programs and data.

diskette. A thin, flexible magnetic disk, and its protective jacket, that records diagnostics, microcode, and communication controller files.

diskette drive. A mechanism that reads and writes diskettes.

Distributed Console Access Facility (DCAF). (1) This program product provides a remote console function that allows a user at one programmable PS/2 workstation to remotely control the keyboard input and monitor the display of output of another programmable workstation. The DCAF program does not affect the application programs that are running on the workstation that is being controlled. (2) An icon that represents the Distributed Console Access Facility.

dump. (1) To record, at a particular instant, the contents of all or part of one storage device in another storage device. Dumping is usually the purpose of debugging. (T) (2) Data that as been dumped. (T) (3) To copy data in a readable format from main or auxiliary storage onto an external medium such as tape, diskette, or printer. (4) To copy the contents of all or part of virtual storage for collecting error information.

Enterprise System Connection (ESCON). A set of IBM products and services that provides a dynamically connected environment within an enterprise.

ESCON channel. A channel having an Enterprise System Connection channel to control-unit I/O interface that uses optical cables as a transmission medium.

focal point (FP). An APPN network node that is the destination of alerts. A focal point allows a customer to centrally manage a network.

host processor. (1) A processor that controls all or part of a user application network. (2) In a network, the processing unit in which the access method for the network resides. (3) In an SNA network, the processing unit that contains a system services control point (SSCP). (4) A processing unit that executes the access method for attached communication controllers. Also called *host*.

IBM service representative. An individual in IBM who carries out maintenance services for IBM products or systems. Also called the *Customer engineer*.

initial microcode load (IML). The process of loading the microcode into an adapter.

initial program load (IPL). The initialization procedure that causes the 3745 control program to begin operation. Also available for the service processor.

integrated services digital network (ISDN). A digital end-to-end telecommunication network that supports multiple services including, but not limited to, voice and data.

International Telecommunication Union (ITU). The specialized telecommunication agency of the

United Nations, established to provide standardized communication procedures and practices, including frequency allocation and radio regulations worldwide. (Formerly CCITT).

Internet Protocol (IP). In TCP/IP, a protocol that routes data from its source to its destination in an Internet environment.

line interface coupler (LIC). A circuit that attaches up to four transmission cables to the controller (from DTEs, DCEs, or telecommunication lines).

local area network (LAN). A computer network located on a user's premises within a limited geographical area. Communication within a LAN is not subject to external regulation; however, communication across the LAN boundary may be subject to some form of regulation.

logical unit (LU). In SNA, a port through which an end user accesses the SNA network in order to communicate with another end user and through which the end user accesses the functions provided by system services control points (SSCPs). An LU can support at least two sessions, one with an SSCP and one with another LU, and may be capable of supporting many sessions with other logical units.

log OFF. To end a session. Synonymous with log out.

logoff. The procedure by which a user ends a terminal session.

log ON. To initiate a session. Synonymous with log in

logon. The procedure by which a user begins a terminal session.

low-entry networking (LEN). In SNA, a capability in type 2.1 nodes allowing them to be directly attached to one another using peer-to-peer protocols and allowing them to support multiple and parallel sessions between logical units (LU).

maintenance and operator subsystem - extended (MOSS-E). The licensed internal code loaded on the service processor hard disk to provide maintenance and operator facilities to the user and IBM service representative.

medium access control (MAC). For LAN, the method of determining which device has access to the transmission medium at any time.

microcode. A program that is loaded in a processor (for example, the MOSS-E processor) to replace a hardware function. The microcode is not accessible to the customer.

mouse. (1) A hand-held locator operated by moving it on a flat surface. (2) The pointer moving on the screen.

multistation access unit (MAU). In the IBM token-ring network, a wiring concentrator that connect up to eight lobes to a ring.

NetView Performance Monitor (NPM). An IBM licensed program that collects, monitors, analyses, and displays data relevant to the performance of a VTAM telecommunication network. It runs as an on-line VTAM application program.

network. See *user application network*.

Network Control Program (NCP). An IBM licensed program that provides communication controllers supports for single-domain, multiple domain, and interconnected network capability.

network node processor (NNP). The processor that is attached to the 3746-950 via a token-ring LAN, running the APPN Network Node functions.

object. (1) In computer security, anything to which access is controlled; for example, a file, a program. (2) A passive entity that contains or receives data. Access to an object implies access to the information it contains. (3) Something that a user works with to perform a task.

on-line information and help. Information stored in a computer system than can be displayed, used, and sometimes modified in an interactive manner without any need to obtain a hard copy.

physical unit (PU). In SNA, the component that manages and monitors the resources, such as attached links and adjacent link stations, associated with a node, as requested by an SSCP via an SSCP-PU session. An SSCP activates a session with the physical unit in order to indirectly manage, through the PU, resources of the node

such as attached links. This term applies to type 2.0, type 4, and type 5 nodes only.

pull-down menu. (1) On the display screen, a menu that emerges in a downward direction from a point or line at or near the top of the screen; for example a menu that appears when the user selects a particular display element or points to a line in another menu by using a device such as a mouse. (2) A list of choices extending from a selected menu-bar choice that gives users access to actions, routings, and settings related to an object.

received line signal detector (RLSD). A signal defined in the EIA-232 standard that indicates to the data terminal equipment (DTE) that it is receiving a signal from the remote data circuit-terminating equipment (DCE).

remote console. A PS/2 attached to the IBM 3746-950 either by a switched line (with modems) or by one of communication lines of the user network.

remote support facility (RSF). RSF provides IBM maintenance assistance when requested via the public switched network. It is connected to the IBM RETAIN database system.

service processor. The processor that is attached to the 3746-950 via a token-ring LAN, running the MOSS-E functions.

shutdown. The process of ending a operation of a system or subsystem, following a defined procedure.

subarea network. Connected subareas, their directly attached peripheral nodes, and the lines that connect them.

Synchronous Data Link Control (SDLC). A discipline for managing synchronous, code transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or nonswitched links. The configuration of the link

connection may be point-to-point, multipoint, or loop. SDLC conforms to subsets of the Advanced Data Communication Control Procedures of the American National Standards Institute and High-Level Data Link Control (HDLC) of the International Standard Organization (ISO).

time out. The interval allotted for certain operations to occur.

token ring. A network with a ring topology that passes tokens from one attaching device to another.

token-ring adapter (TRA). Line adapter for IBM Token-Ring Network, composed of one token-ring processor card (TRP), and two token-ring interface couplers (TICs).

token-ring interface coupler type 3 (TIC3). A circuit that attaches an IBM Token-Ring network to an IBM 3746-900 or 3746-950.

transmission interface. The interface between the controller and the user application network.

transmission line. The physical means for connecting two or more DTEs (via DCEs). It can be nonswitched or switched. Also called a *line*.

user application network. A configuration of data processing products, such as processors, controllers, and terminals, for data processing and information exchange. This configuration may use circuit-switched, packet-switched, and leased-circuit services provided by carriers or the PTT. Also called *user network*.

Virtual Telecommunication Access Method (VTAM). A set of programs that maintain control of the communication between terminals and application programs running under DOS, OS/1, and OS/2 operating systems.

V.24 and V35. ITU-T recommendations on transmission interfaces.

X.21. ITU-T recommendations on transmission interfaces.

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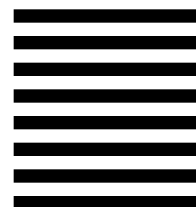
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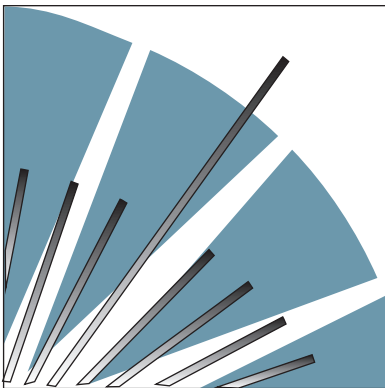Fold and Tape   **Please do not staple**   Fold and Tape

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