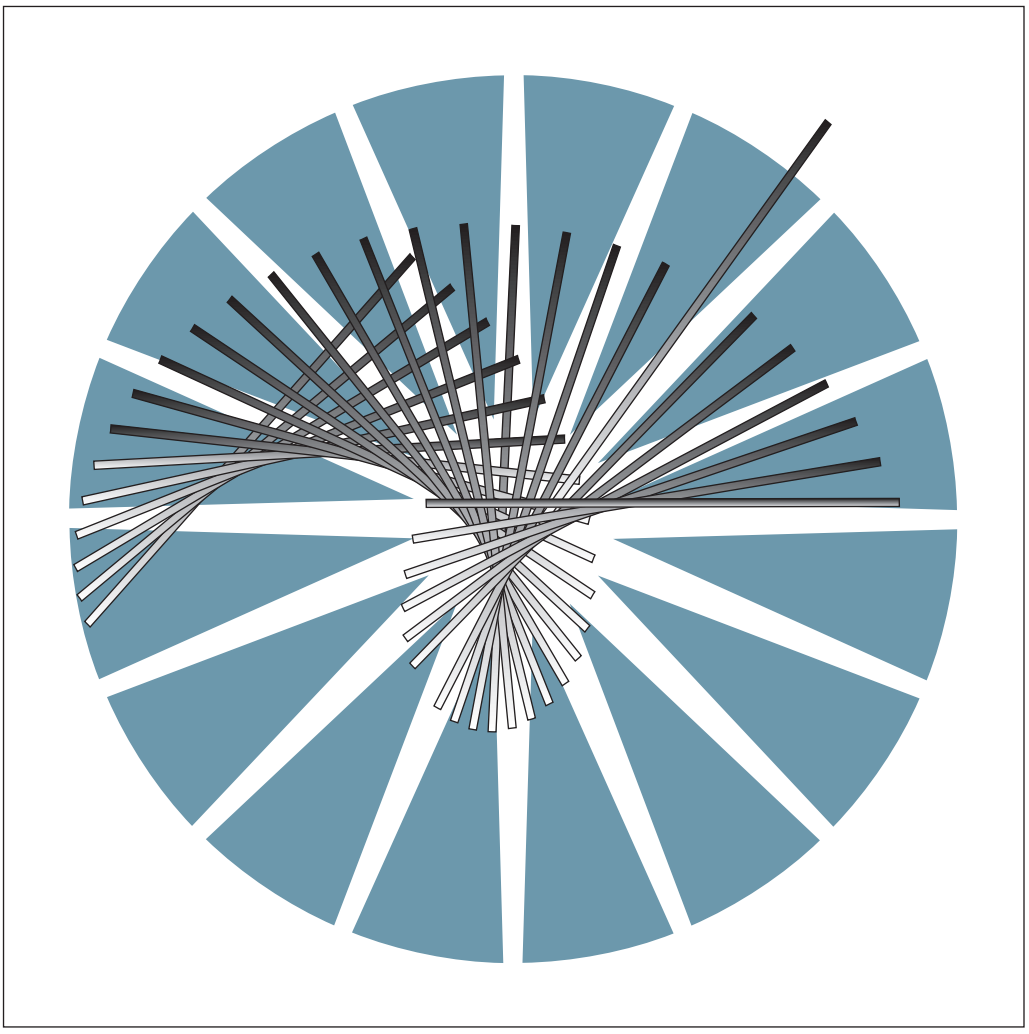
3746 Nways Multiprotocol Controller
Model 950

User's Guide



SA33-0356-05

3746 Nways Multiprotocol Controller
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Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page xi.

Sixth Edition (October 1998)

The information contained in this manual is subject to change from time to time. Any such changes will be reported in later revisions.

Changes have been made throughout this edition, and this manual should be read in its entirety.

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Read the instructions for correct handling.

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CCM	MOSS-E	RETAIN
DCAF	NetView	TCP/IP
ESCON	Nways	TME 10 Remote Control

The following terms, denoted by a double asterisk (**), used in this publication, are trademarks of other companies:

Console for Java	Windows 98
Macintosh	Windows NT
Windows 95	UNIX

Safety

This product meets IBM* Safety standards.

For more information, see the *Safety Information*, GA33-0400.

Safety Notices for United Kingdom

1. The IBM 3746 Nways Multiprotocol Controller Model 950 is manufactured according to the International Safety Standard EN 60950 and as such is approved in the UK under the General Approval Number NS/G/1234/J/100003 for indirect connection to the public telecommunication network.
2. The network adapter interfaces housed within the IBM 3746 Nways Multiprotocol Controller Model 950 are approved separately, each one having its own independent approval number. These interface adapters, supplied by IBM, do not use or contain excessive voltages. An excessive voltage is one that exceeds 42.4 V peak ac or 60 V dc. They interface with the IBM 3746 Nways Multiprotocol Controller Model 950 using Safety Extra Low Voltages (SELV) only. In order to maintain the separate (independent) approval of the IBM adapters, it is essential that other optional cards, not supplied by IBM, do not use mains voltages or any other excessive voltages. Seek advice from a competent engineer before installing other adapters not supplied by IBM.

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.
  - Console for Java**.

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.

[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 additonal 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 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, “Console for Java Remote Access” on page 15-1 to Chapter 17, “Installing Console for Java Program” on page 17-1, describes how to configure remote workstations using the web-based or Java program-based Console for Java. Example configurations are given of two types of link (switched-line, and service ring LAN) via Console for Java 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 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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You can access the latest news and information about IBM network products, customer service and support, and microcode upgrade via Internet at the URL:

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Chapter 1. General Information on 3745 and 3746 Controllers

The IBM 3745 and 3746 Controllers Family

For more than two 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 communication controllers include the following:

- 3745 Models 130, 140, 150, 160, and 170[1].
- 3745 Models 210, 310, 410, and 610[1].
- 3745 Models 17A, 21A, 31A, 41A, and 61A (3745 Models A).
- 3746 Model 900 (3746-900).
- 3746 Model 950 (3746-950).

These communication controllers were originally designed for the attributes and advantages of SNA. Later innovations in the same line incorporated developments in APPN, HPR, and IP. The following illustrates the adaptability of these controllers to advances in networking technology:

- The 3746-950 can operate as an IP router and APPN/HPR Network Node (NN), independent from any 3745 running a Network Control Program (NCP).
- The 3746-900 supports the same routing functions as the 3746-950.
- The 3746-900 can operate as an IP router and APPN/HPR NN, and simultaneously operate as an NCP-controlled SNA subarea node or APPN composite network node (CNN).

The 3746 Models 900 and 950 form a new generation of controllers, the *3746 Nways Multiprotocol Controllers*. These controllers form the basis of efficient and reliable multiprotocol networks that support both SNA applications 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, and still support your 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.

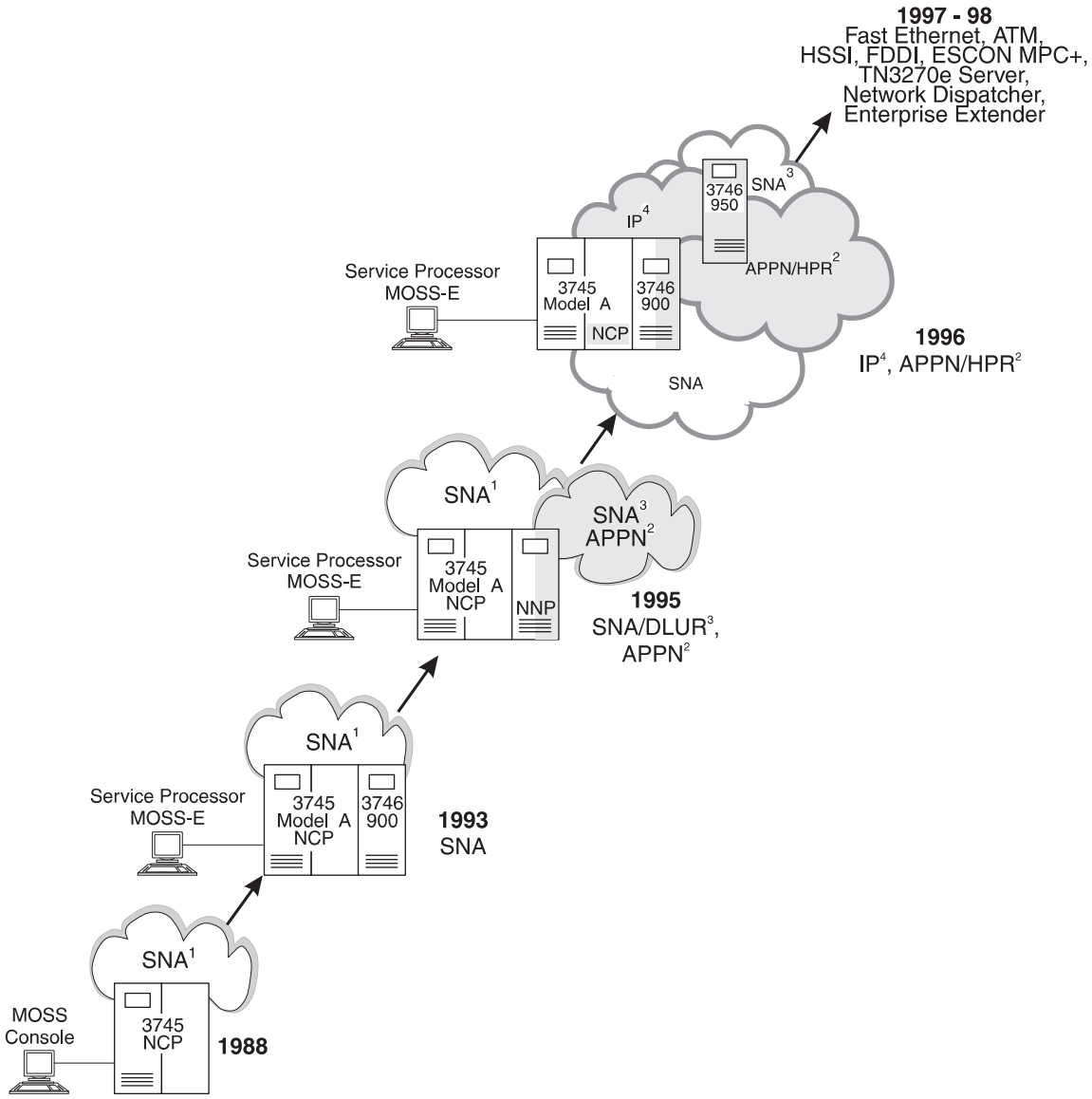


Figure 1-1. The Networking Evolution of IBM 3745 and 3746 Controllers

Notes:

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 the Dependent Logical Unit Requester support (DLUR), 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.

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).

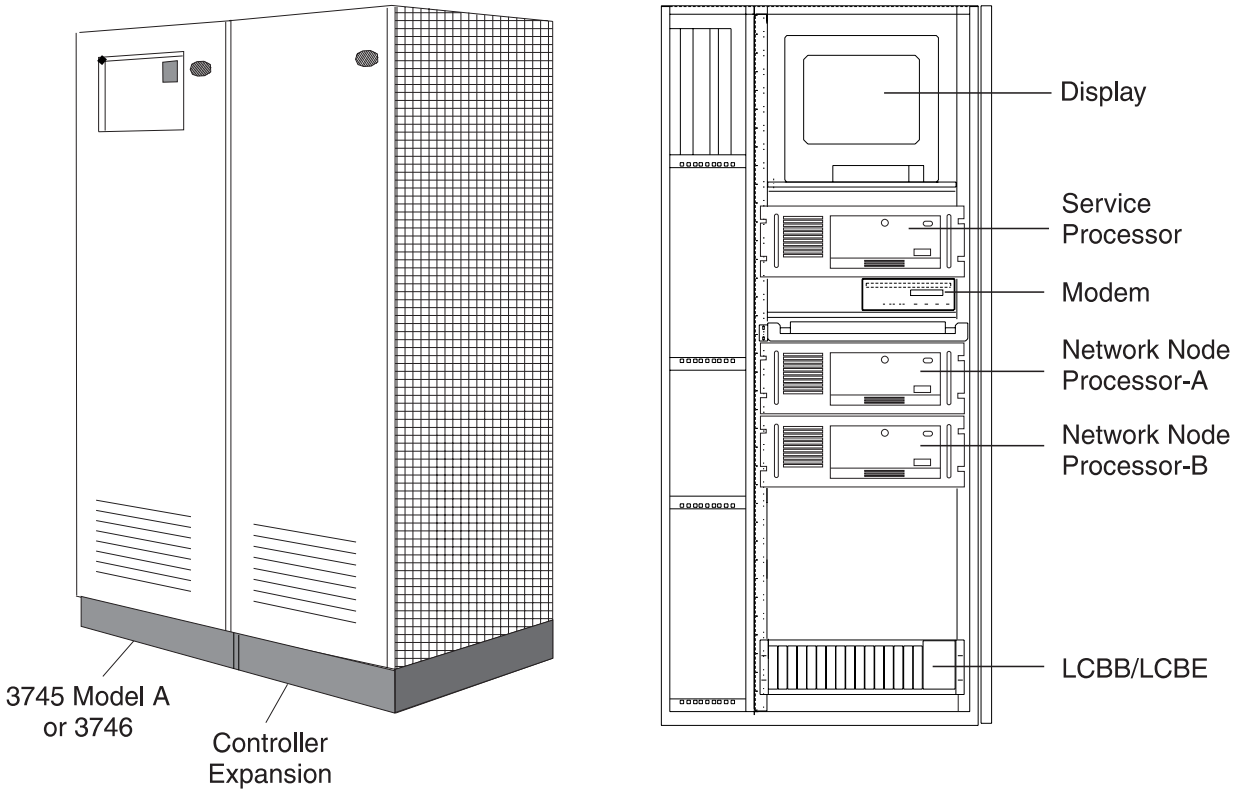


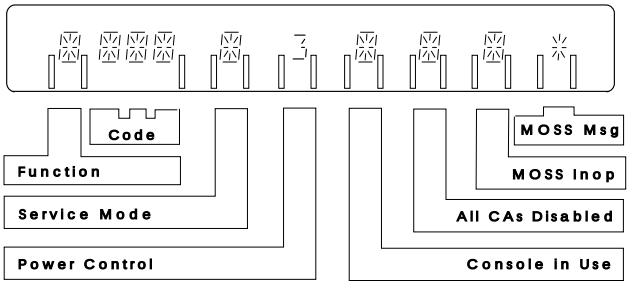
Figure 1-2. 3745 Model A or 3746 with Controller Expansion

Control Panels

Note

The same control panel numbers on both the 3745 and 3746 do not always indicate the same function.

The 3745 Control Panel

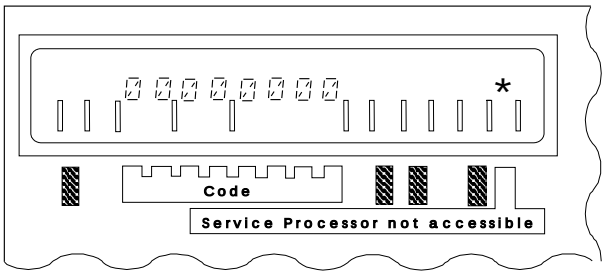


3745 control panel display.

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.

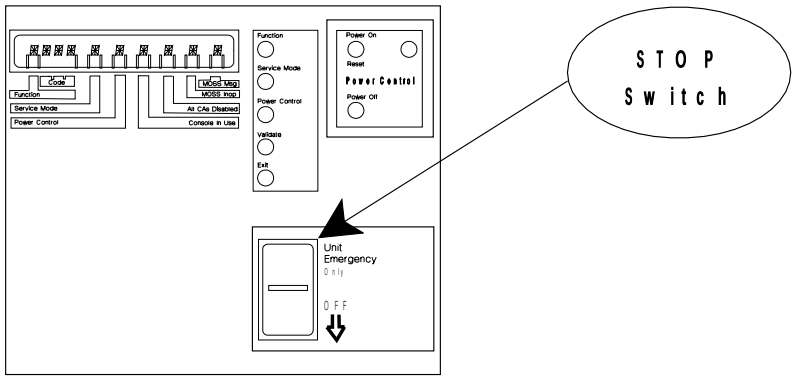


Figure 1-3. IBM 3745 Control Panel

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:

1. First Level

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

2. Second Level

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

   HELP CONTACT

   Name: .....

   Telephone: .....

3. 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 newly released 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 consoles can be connected to the SPAU for remotely controlling the service processor or operating the 3746 network node and 3746 IP router. If remote console 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

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

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

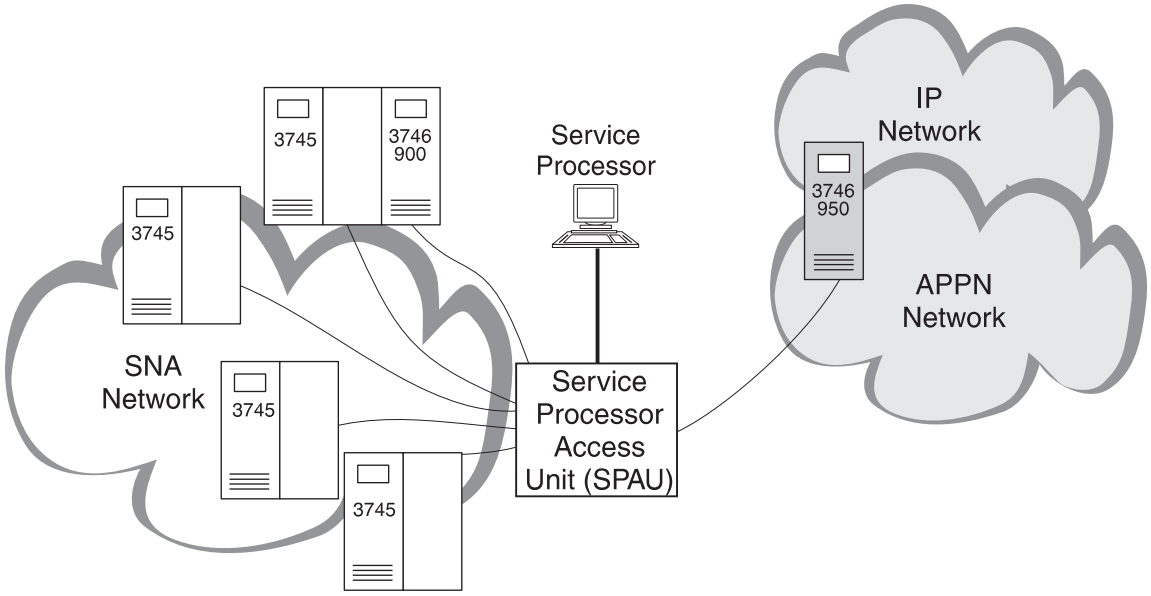


Figure 2-1. Example 1 of a Maximum Configuration. Service Processor running four 3745s, one 3746-900 (SNA), and one 3746-950 (IP, or APPN/HPR).

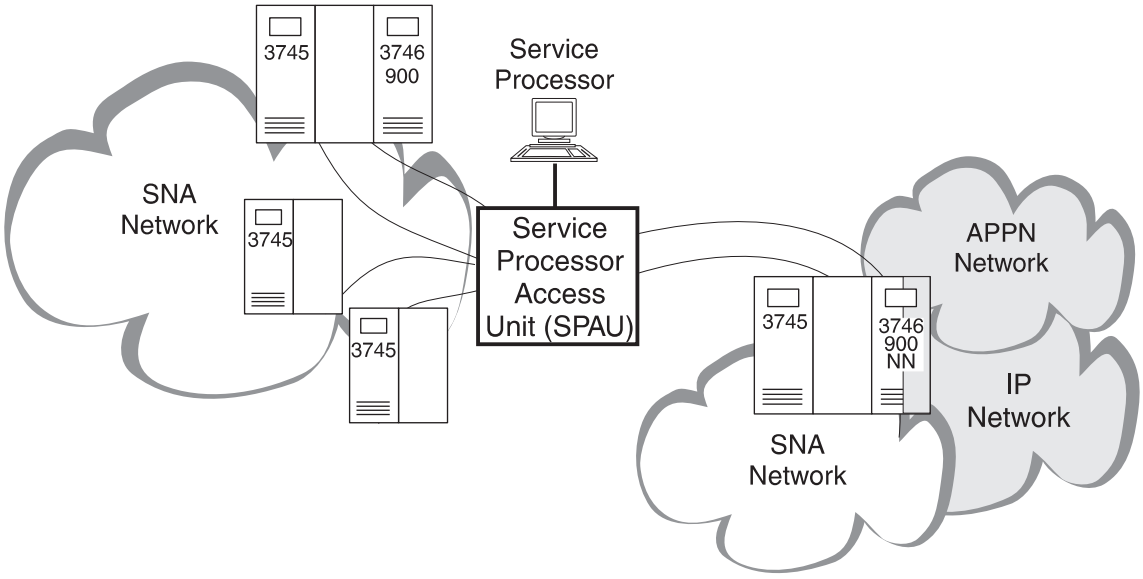


Figure 2-2. Example 2 of a Maximum Configuration. Service processor running four 3745s and two 3746-900s, one operating as an APPN/HPR network node.

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 console located at a central control point can access and control all the 3745s/3746s located in the same or different machine rooms.

Using Console for Java to Remotely Log on to the Service Processor

Console for Java is a program that enables the user to control the service processor and the NNP(s) from a remote workstation. Microcode level &f12. supports Console for Java on the service processor.

There are two different ways of accessing Console for Java:

- Via the Internet using a Java Applet. This requires on the remote workstation to have a WEB browser like the *Microsoft Internet Explorer version 4.0 and higher* or *Netscape Navigator* with the *Java 1.1* version enabled.
- Console for Java 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 (WIN95) and Windows NT (WIN NT), 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 Console for Java, you must enable an option and customize several parameters in the MOSS-E, including IP addresses and passwords. For more information on Console for Java, see *Console Setup Guide*, SA33-0158.

Communication over the IP Network

The service processor runs the Console for Java server configured as the TCP/IP socket 7787. Access over the IP network is possible via the 3746-9x0 network node IP, feature code 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

Console for Java 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 Console for Java in the MOSS-E

Console for Java 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 Console for Java 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 Consoles

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

LAN-attached

APPC type consoles 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 consoles that attach to the Service Processor Access Unit (SPAU) via a bridge with filtering.

SNA-attached
Consoles that communicate with a service processor via an LU6.2 session on a backbone.

APPN-attached
Consoles that communicate with the service processor via an LU6.2 session on a backbone.

Modem-attached
Consoles using a public switched telephone network to access a service processor via its SDLC port and modem.

A remote console can be configured for many different types of network access. For example, a single console 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 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, feature code 5052. Previous versions of service processors included an Optical Disk for saving and backing up configurations.

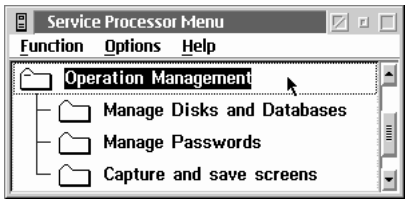
Save new configuration data by copying it onto the hard disk of the backup service processor as follows:

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**.

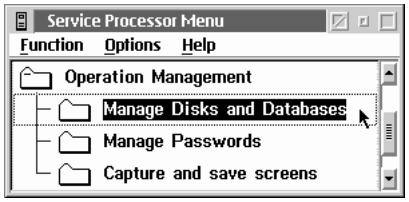
Step 2. Log on to the backup service processor (see “Logging On to MOSS-E” on page 3-4).

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

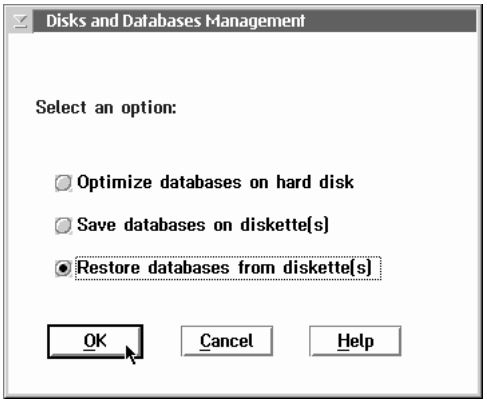
Step 4. Click **Operation Management**.



Step 5. Click **Manage Disks and Databases**.



Step 6. Select **Restore databases from diskettes(s)**.



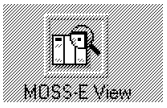
Step 7. When you have finished, power OFF the backup service processor.

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**.

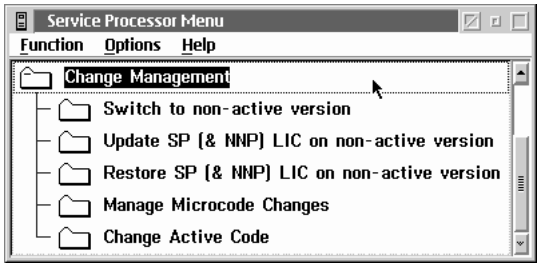
Step 2. Double-click the 

icon.

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

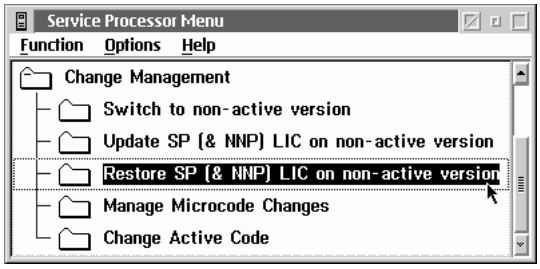
Step 4. In **MOSS-E View**, open the service processor machine menu.

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)

Beginners should read this...

The following procedures assume that you know how to operate a mouse in a windows environment.

Before you begin, make sure that the service processor is on and that **MOSS-E View** is displayed.

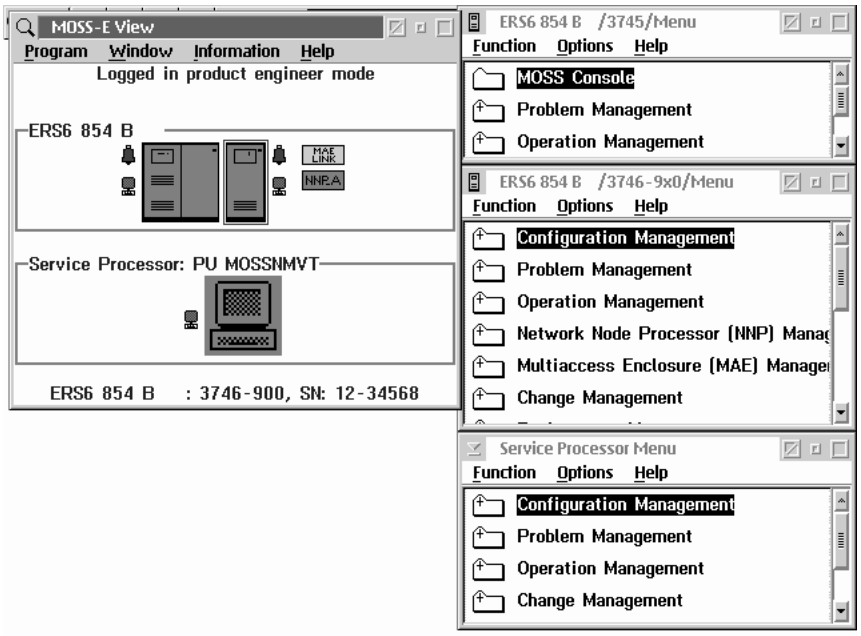


Figure 3-1. MOSS-E View Window with Machine Menus

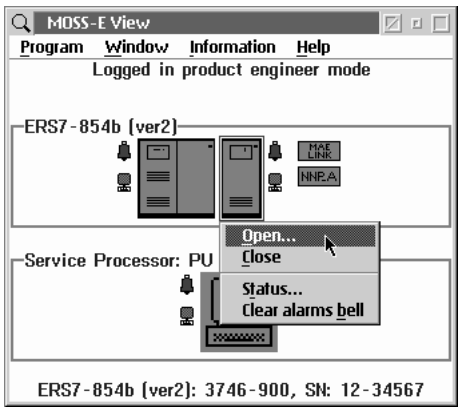
The basic **MOSS-E View** window (left in Figure 3-1) provides access to other windows and functions. The figure above shows a minimum configuration, with two areas:

- 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 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

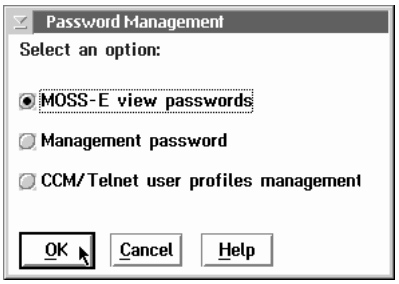
To change a password:

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

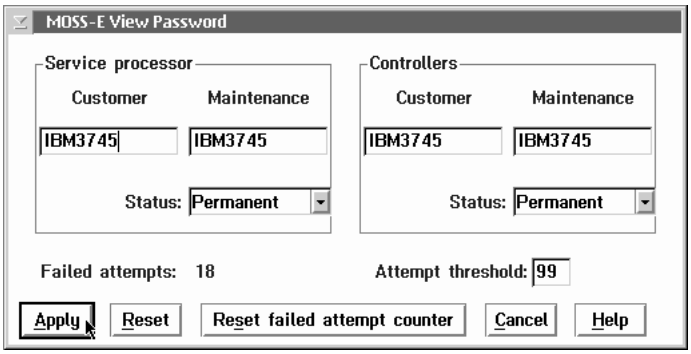
Step 2. Select **Operation Management**.

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**.

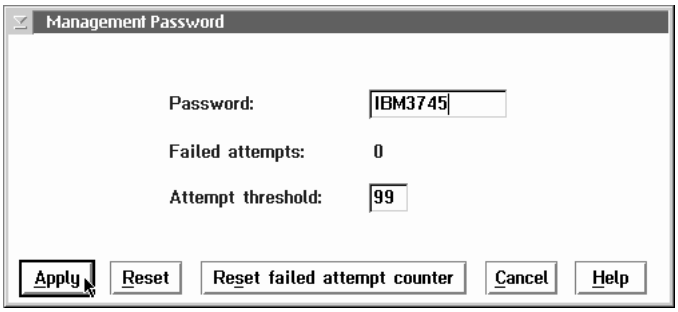


Step 5. Re-enter new passwords and click **Apply**.



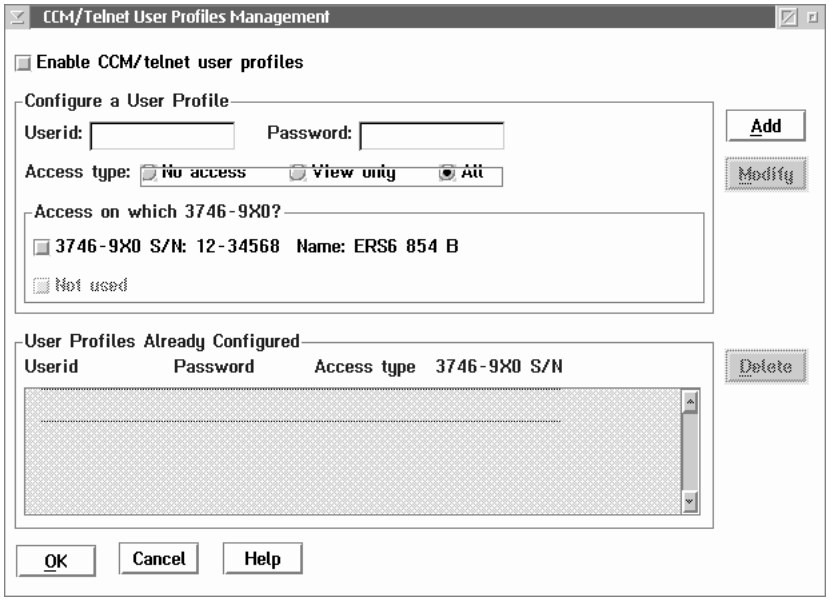
Step 6. Click **Management password** and click **OK**.

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.

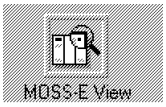
Step 9. Enter a **Userid** and **Password** and click **OK**.



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

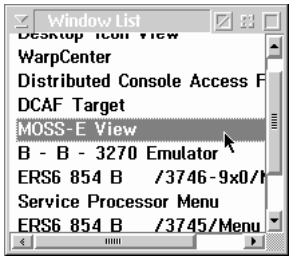
Logging On to MOSS-E

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 

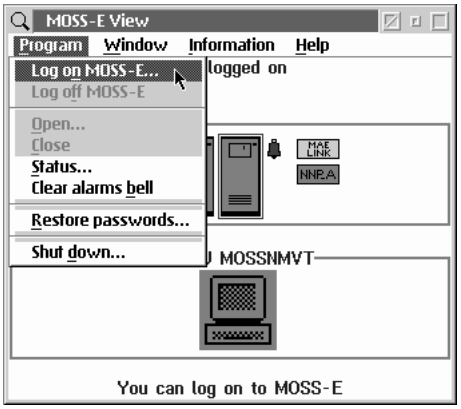
icon. If **MOSS-E View** does not display, either:

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



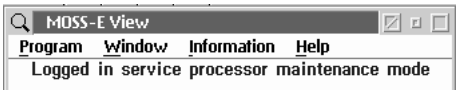
- See “Problems with MOSS-E or the Service Processor” on page 3-9.

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:

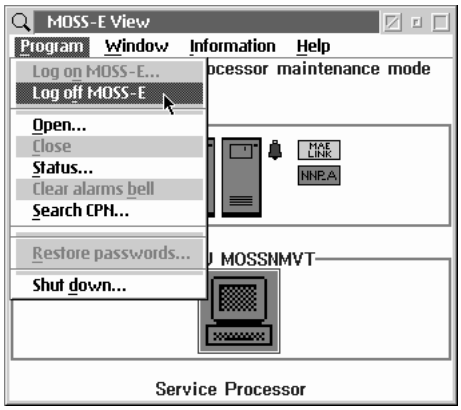
- “Help Pull-Down Menu” on page 3-8.
- “Problems with MOSS-E or the Service Processor” on page 3-9.

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

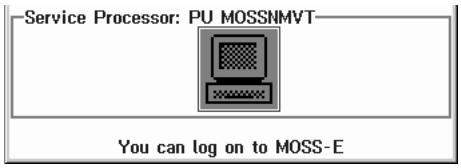
Step 6. MOSS-E menus and functions are now available (see page 3-8).

Logging Off the MOSS-E

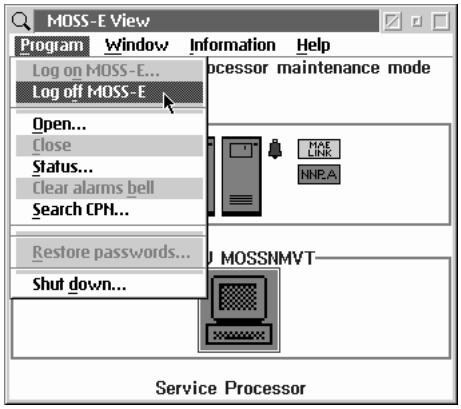
Step 1. Click **Program** in the **MOSS-E View** window and click **Log off MOSS-E**. Then click **OK**. A logoff is successful message displays.



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:

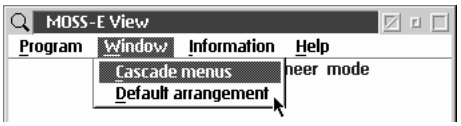
Open	Opens menus for 3745, 3746, and service processor.
Close	Closes a menu.
Status	Displays information on 3745 or 3746.
Clear alarms bell	Clears alarms with a pending status.

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

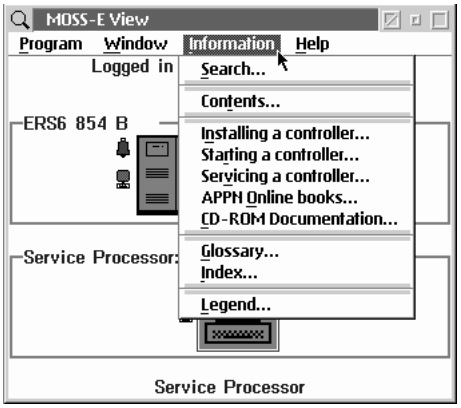


Cascade menus Arranges the menus that you have open in a stacked formation, like index cards.

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.

APPN Online books Information that can be accessed directly from the service processor, for example, *Problem Analysis Guide*.

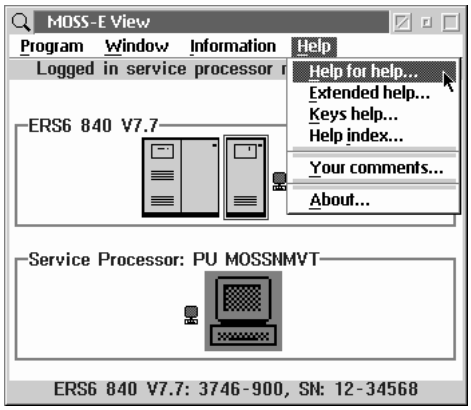
CD-ROM Documentation A listing of books available on CD-ROM.

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.



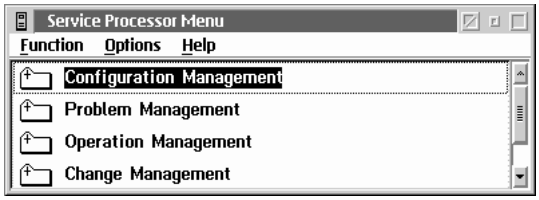
Help for help	Explains how to use Help.
Extended help	Information about the functions of the **MOSS-E View** window.
Keys help	Lists the function keys of the MOSS-E.
Help index	Lists Help items in alphabetical order.
Your comments	Information on where to send your reader's comments on MOSS-E information and usability.
About	Information on MOSS-E copyright and Licensed Internal Code.

MOSS-E Menus, Tasks, and Functions

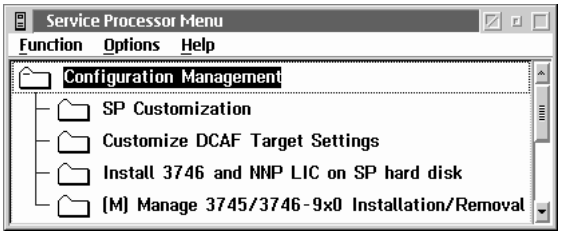
MOSS-E menus are the link between you and MOSS-E functions. There is a MOSS-E menu for the 3745, 3746, and also for the service processor as well.

How to Use a Machine Menu

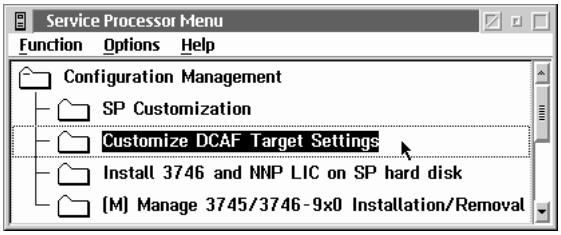
To display the menu for a machine, you must be logged on to the MOSS-E (see “Logging On to MOSS-E” on page 3-4). After logging on, double-click a machine object to open a menu with a task list (see the following **Service Processor** menu).



Clicking a task will displays a list of functions. Clicking an open menu closes it.



Double-clicking a function runs it. This is indicated by the color change of the function when it runs.



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 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:

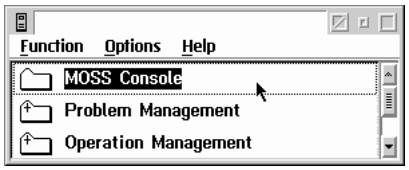
- MOSS screens
- Using certain keys
- Opening a MOSS window
- Accessing MOSS functions.

How to Open the MOSS Window

After you log on to the MOSS-E (see 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.

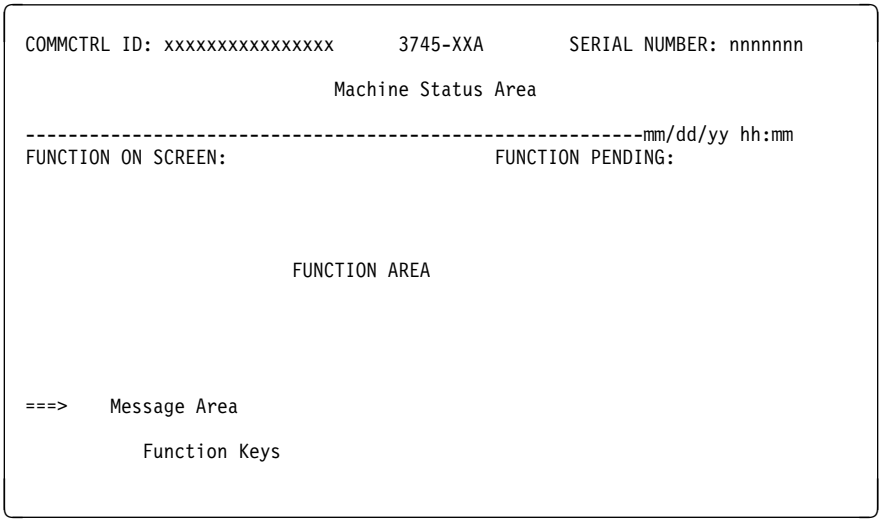


Figure 3-2. General Format of a MOSS Screen

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:

Sends data to the 3745. Verify that the data is correct before you use this key. This key is often called SEND.

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 

first.

Closes any active functions. Menu 1 or Menu 2 displays, depending on the function that you close.

Displays menu 1, menu 2, or a pending function.

Displays the **Function Selection Rules** screen.

Selecting MOSS Functions

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

More information on the **Function Selection Rules** screen is shown in the *Advanced Operations Guide*.

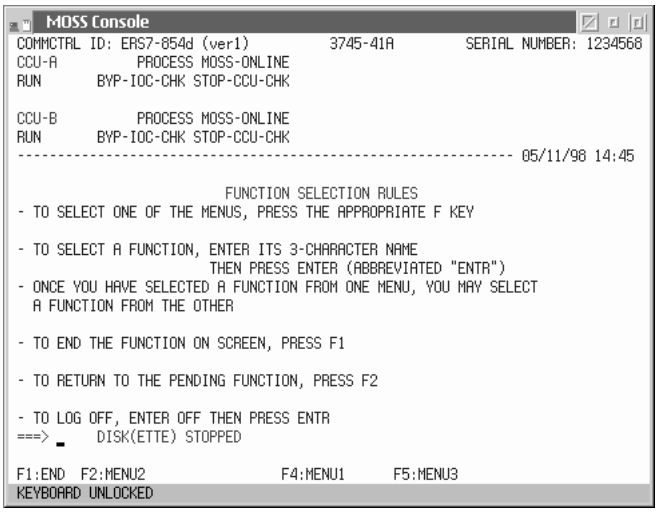


Figure 3-3. Function Selection Rules Screen

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.

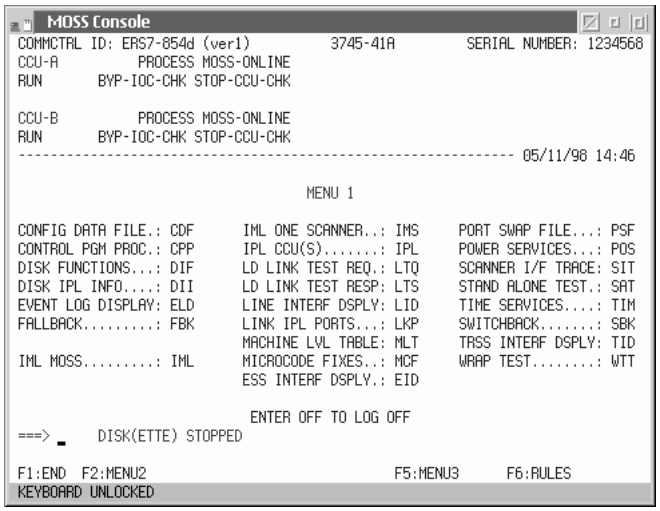


Figure 3-4. Menu 1 Functions

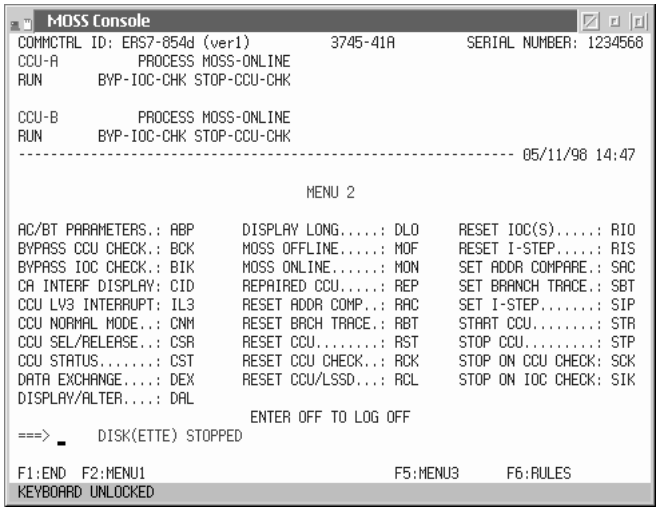


Figure 3-5. Menu 2 Functions

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

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.

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

```
PRESS ENTER TO DISPLAY FUNCTION MENU
```

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

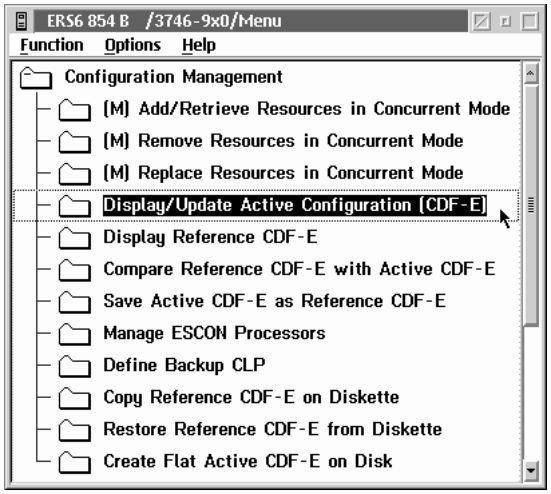
Use the procedure below to record any new hardware as part of the controller hardware configuration, for example, lines connected to a LIC11.

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)**.



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).

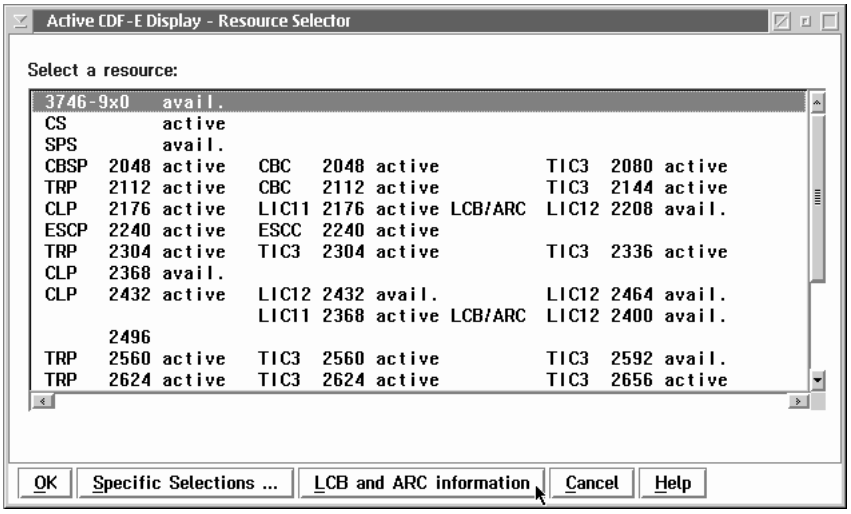


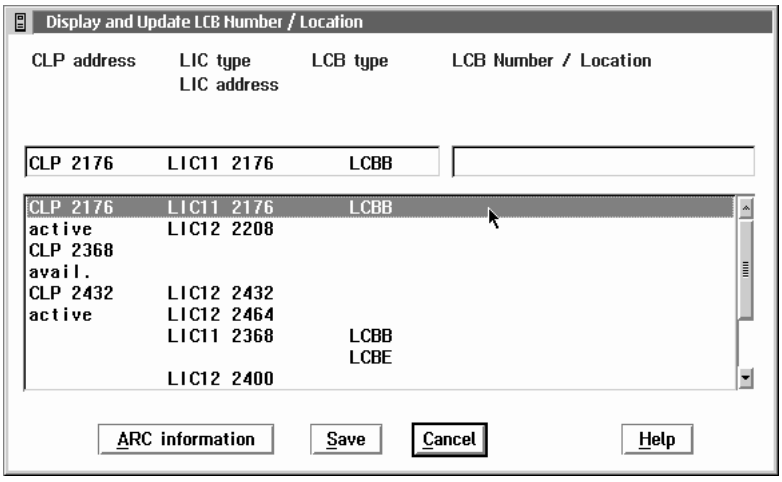
Figure 3-6. Resource Locator screen

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.

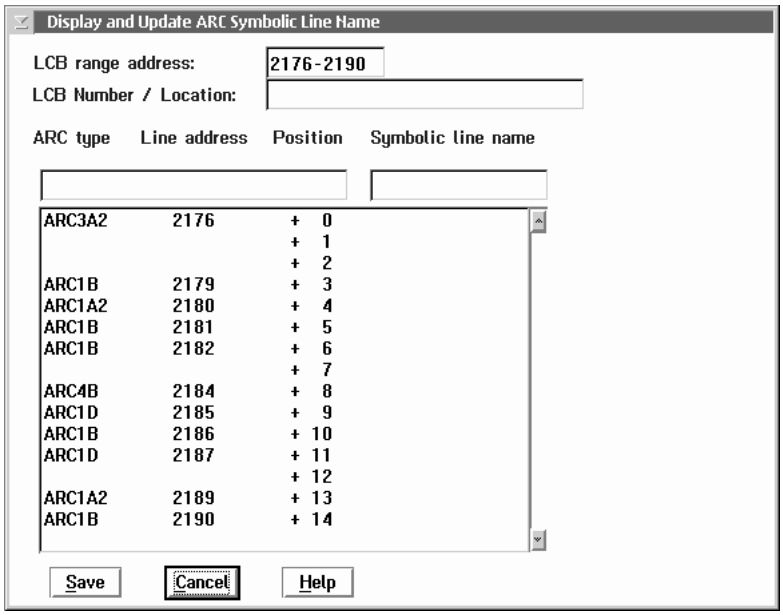


Step 6 Enter or update the **LCB Number / Location** field. You can use up to 25 alphanumeric characters to identify an LCB attached to a processor. Existing codes should already be recorded in the *Planning Guide*, GA33-0457.

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 *Planning Guide*.



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.

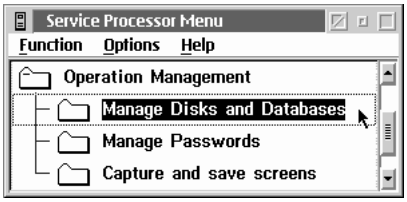
Follow the steps below for backing up the controller configuration:

Step 1. Insert the backup diskette into the drive.

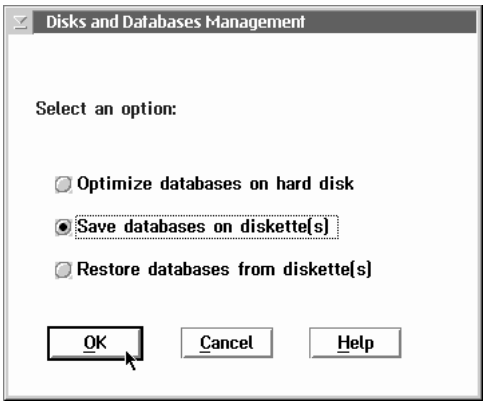
Step 2. Double-click the service processor object icon, or open the service processor menu in the window list (see step 2 on page 3-4).

Step 3. Click **Operation Management**.

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



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



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 newly released network node processor 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.

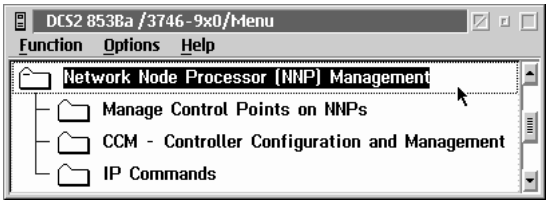
Accessing NNP Functions

The APPN/HPR control point and IP router functions are located in the NNP and accessible via MOSS-E.

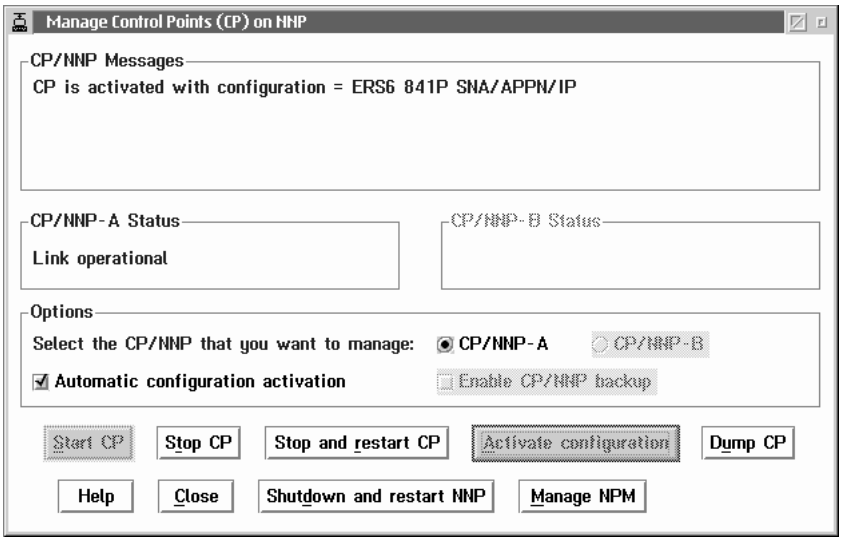
To access the functions of a NNP, follow the steps below:

Step 1. Open the 3746 menu (see “How to Use a Machine Menu” on page 3-8).

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 for NNPs** window.

CP/NNP Messages Area
The message shows you the progress of a chosen function.

CP/NNP-A (or -B) Status Areas
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” on page 4-4.

CP/NNP-A Radio Button
For working with NNP A control point functions.

CP/NNP-B Radio Button
For working with the NNP B control point functions.

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

Enable CP/NNP Backup Option
Activates dual NN functions (see Table 4-1).

Table 4-1. Control Point Management

Options	Status	Comments
Automatic Configuration Activation	Off	Click **Stop and restart**, **Shutdown and restart**, or an active **NNP failure** to stop all active sessions, and then restart the control point up to **Waiting for operator activation** status. Click **Activate configuration** to re-activate resources.
Enable CP/NNP Backup	Off	
Automatic Configuration Activation	On	• Click **Stop and restart** or **Shutdown and restart** to restart the control point, automatically reactivating the active configuration. • An active **NNP failure** will drop the active sessions.
Enable CP/NNP Backup	Off	
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. Then do the following: 1. Set the **Enable CP/NNP backup** option to Off. 2. Click **Activate configuration** to reactivate resources.
Enable CP/NNP Backup	On	
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 Button
Initiates the control point program after using **Stop CP**.

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

Stop and Restart CP Button
Select this button to:

1. Stop control points.
2. Automatically restart the control point.
3. Automatically reactivates a configuration. This will only work if **Automatic configuration activation** is selected (see “Automatic Configuration Activation Option” on page 4-2).

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

Dump CP Button
To be used only by an IBM representative.

Help Button
Online information for managing the control point program.

Close Button
Saves changes and returns to the previous panel.

Shutdown and Restart NNP Button
Use this button to:

1. Stop the control point program and deactivate the configuration.
2. Shut down the NNP.
3. Restart the NNP.

   Then, if **Automatic configuration activation** is selected:
4. Restart the CP program.
5. Re-activate the configuration.

Manage the NPM Push-Button
Allows you to add, update, or remove a NetView Performance Monitor (NPM) configuration.

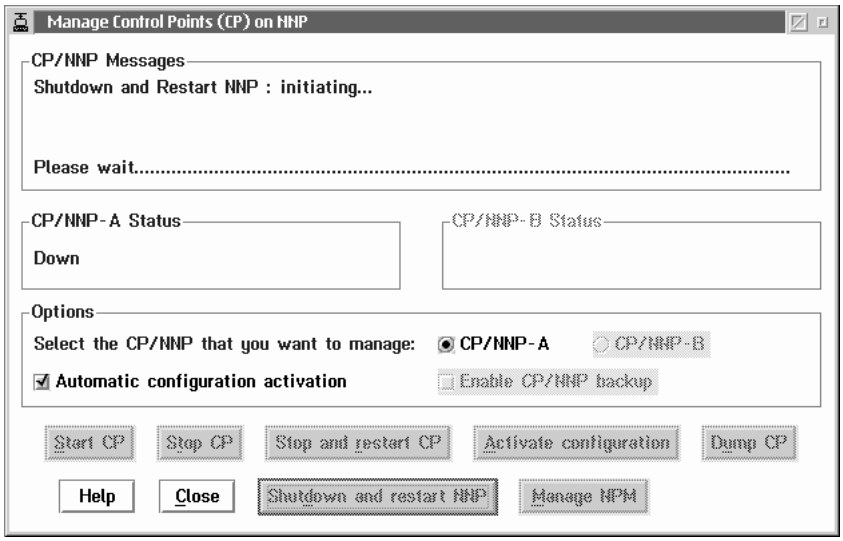
NNP Status

The following describes the status of the NNP as indicated 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 Status



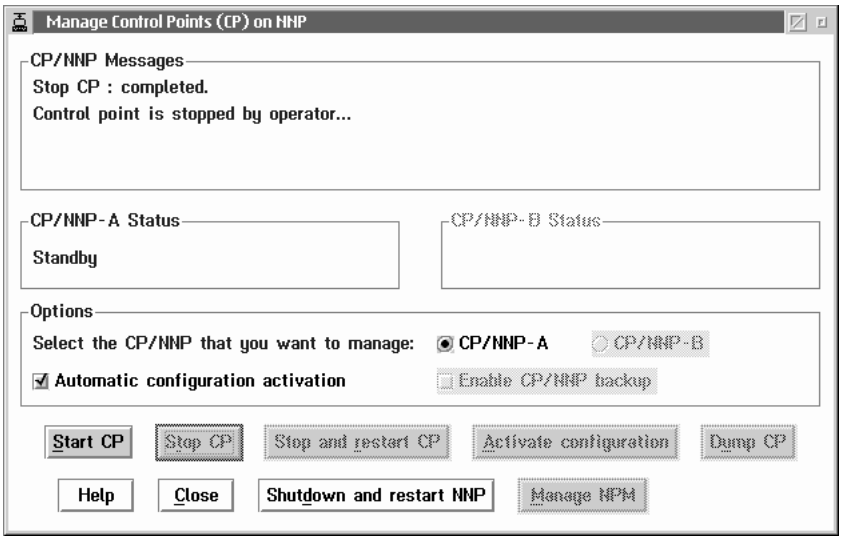
The NNP icon appears grey in color in the **MOSS-E View** window. This means that the link between the service processor and NNP has failed because of one of the following problems:

- 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 Status



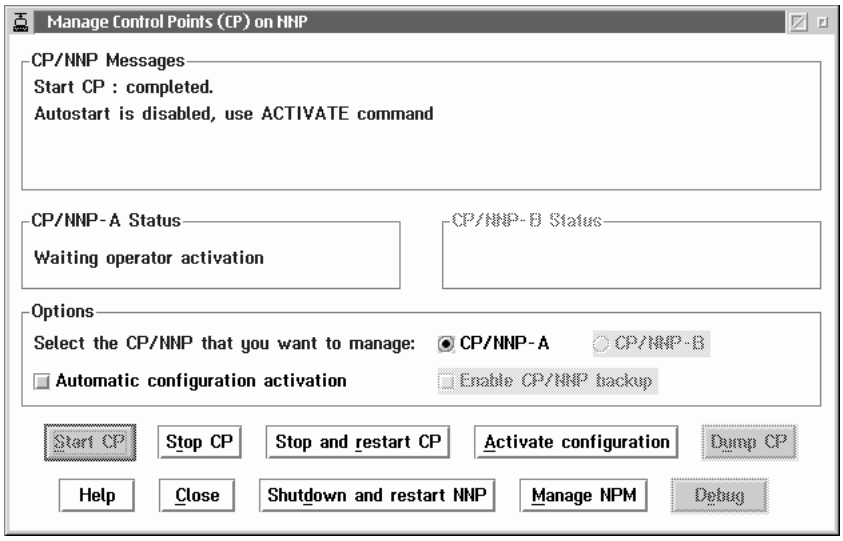
The NNP icon appears blue in color in the **MOSS-E View** window. This means that the NNP is active and ready for input. To select automatic configuration, click one of the following buttons:

- **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.

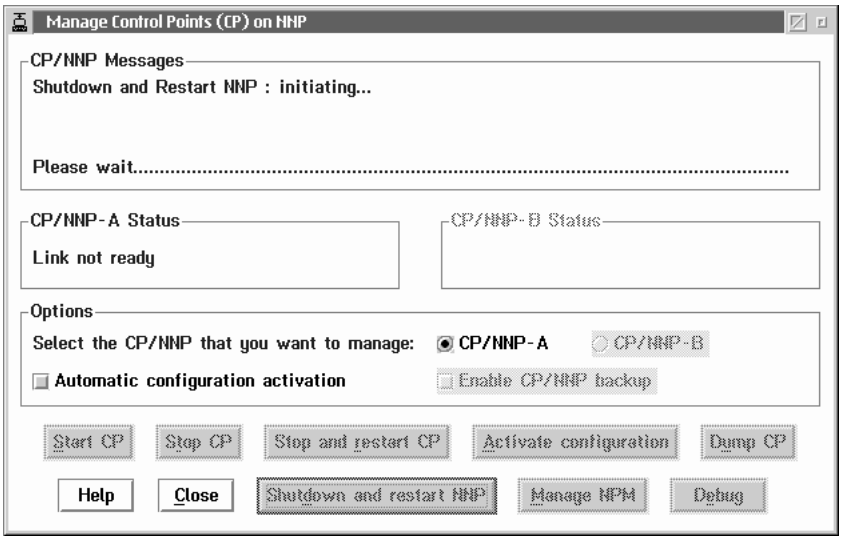
Waiting Operator Activation Status



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.

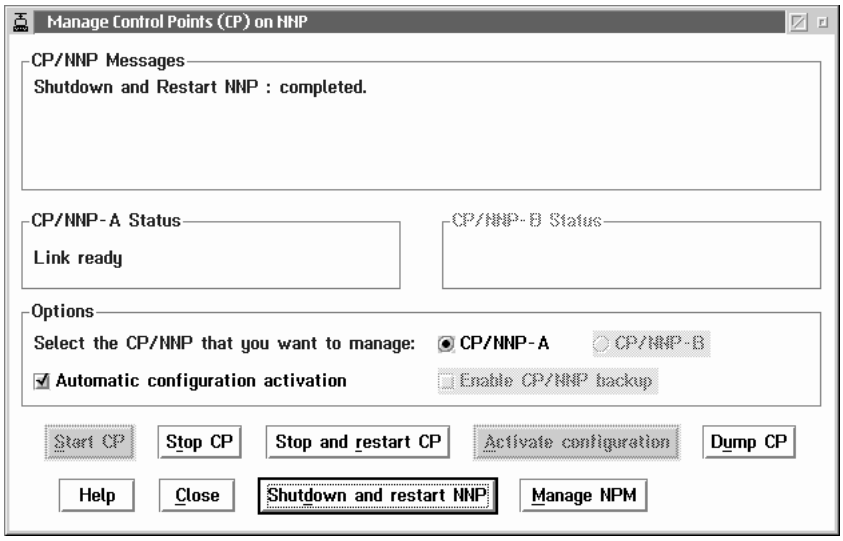
Link Not Ready Status



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.

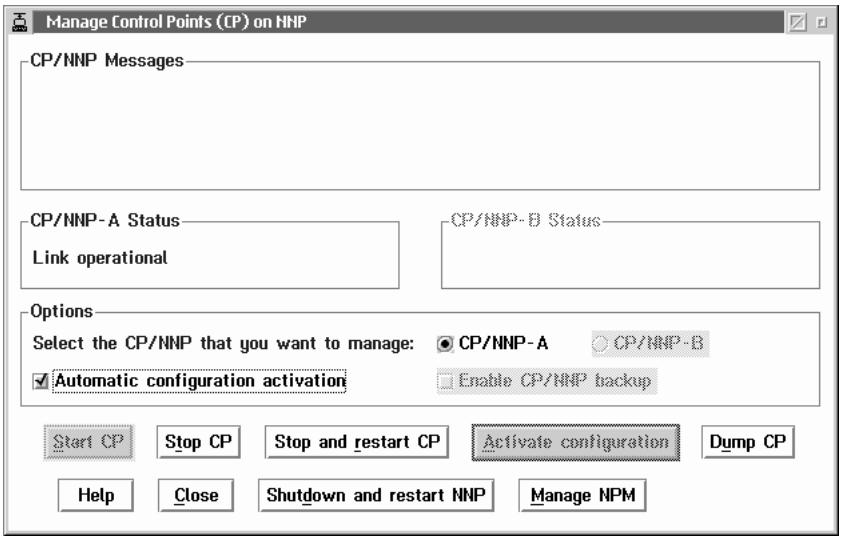
Link Ready Status



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.

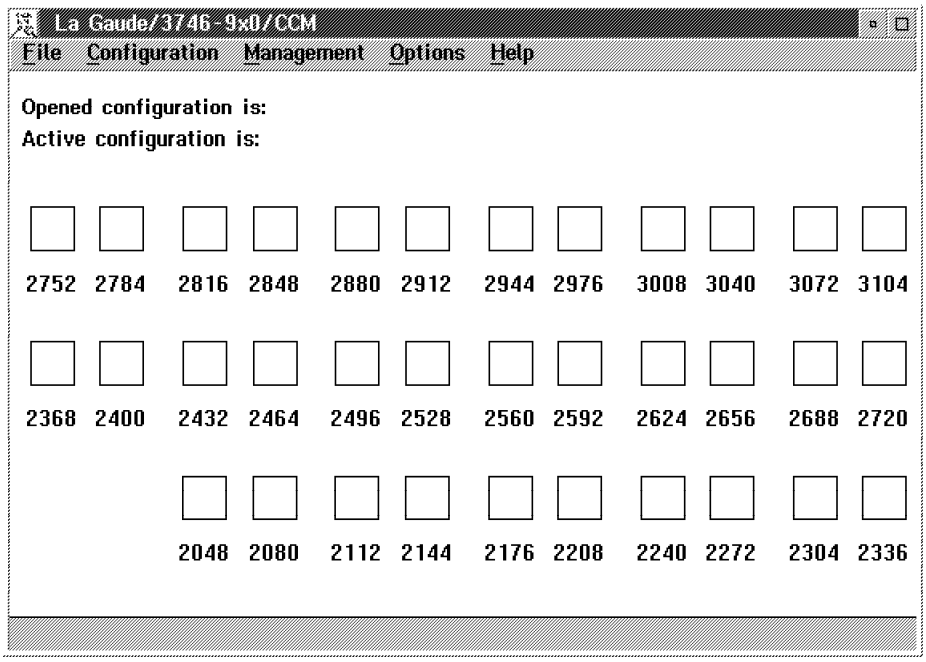
Link Operational Status



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.

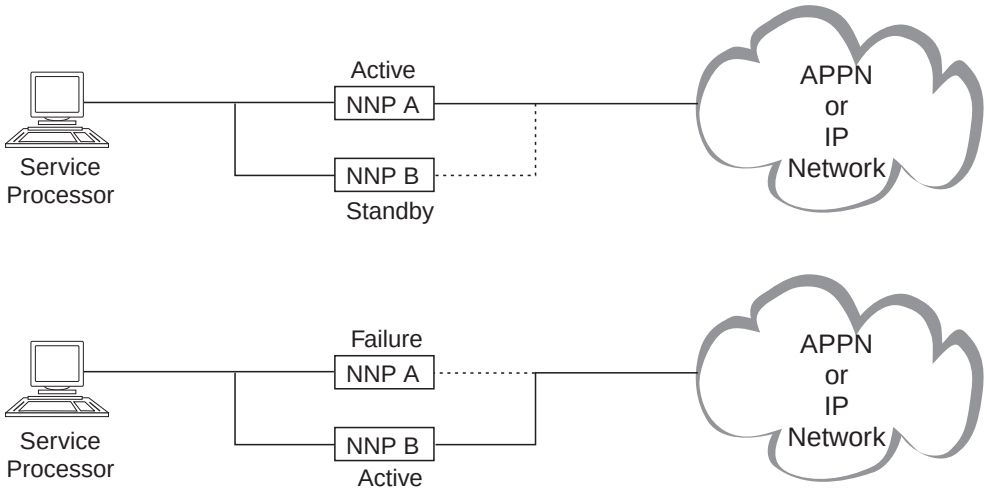


Figure 4-1. Dual Network Node Processors. Dual NNPs in twin-standby mode for 3745 Models 41A and 61A.

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” 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.
- *Planning Guide*, GA33-0457.
- The ANSI/IEEE 802.2 standard for Token ring and Frame relay.
- ITU-T recommendation X.25.

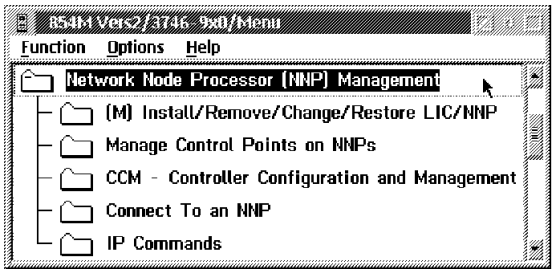
You can also use a search engine on the web to access the most current RFCs on trace file interpretation.

Using the Adapter Trace Function

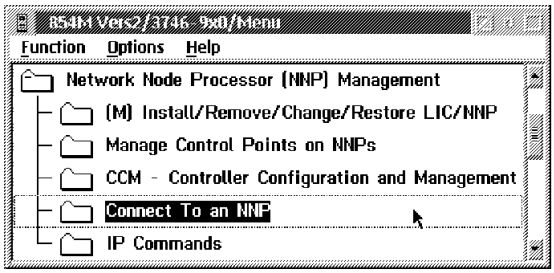
To use the adapter trace function, follow the steps below:

Step 1. Open the 3746 menu.

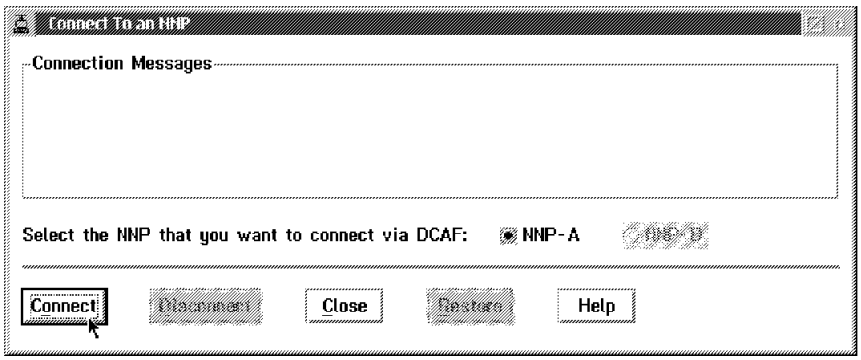
Step 2. Click **Network Node Processor (NNP) Management** to display NNP functions.



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 colour.)



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.

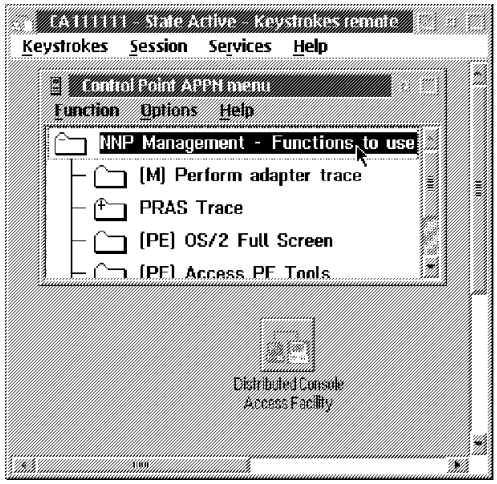
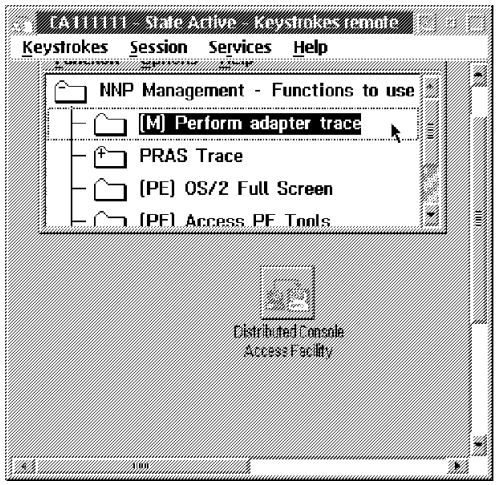
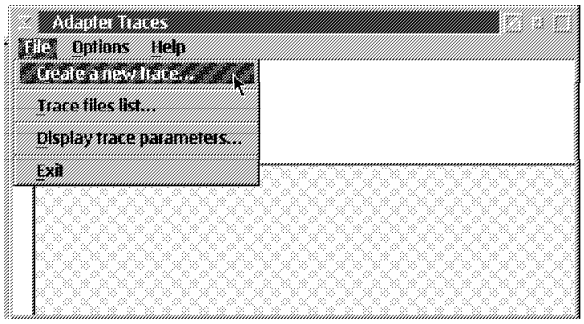


Figure 4-2. State Active screen. The State Active screen displays the Control Point APPN menu.

Step 6. Double-click **Perform adapter trace**.



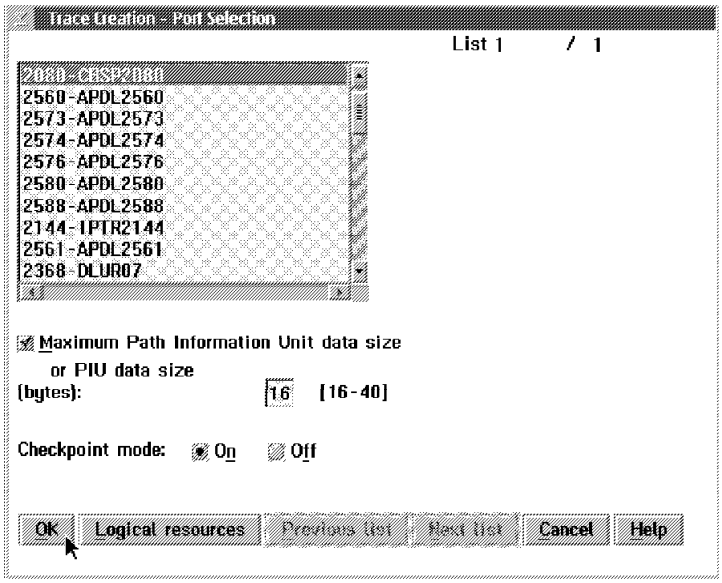
Step 7. From the **File** menu of the **Adapter Traces** screen, click **Create a new trace**.



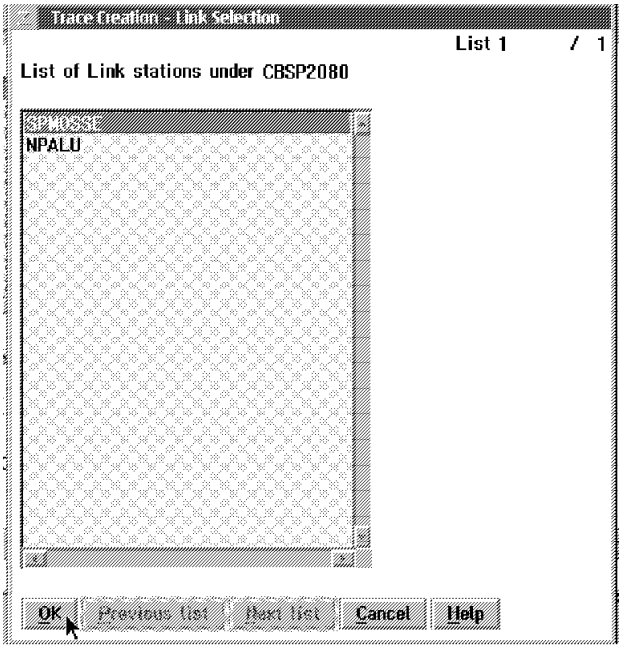
Step 8. In the **Trace Creation - Port Selection** screen, select the port name of the line that you want to trace. (You can select up to two lines.) The following options are available:

- 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.

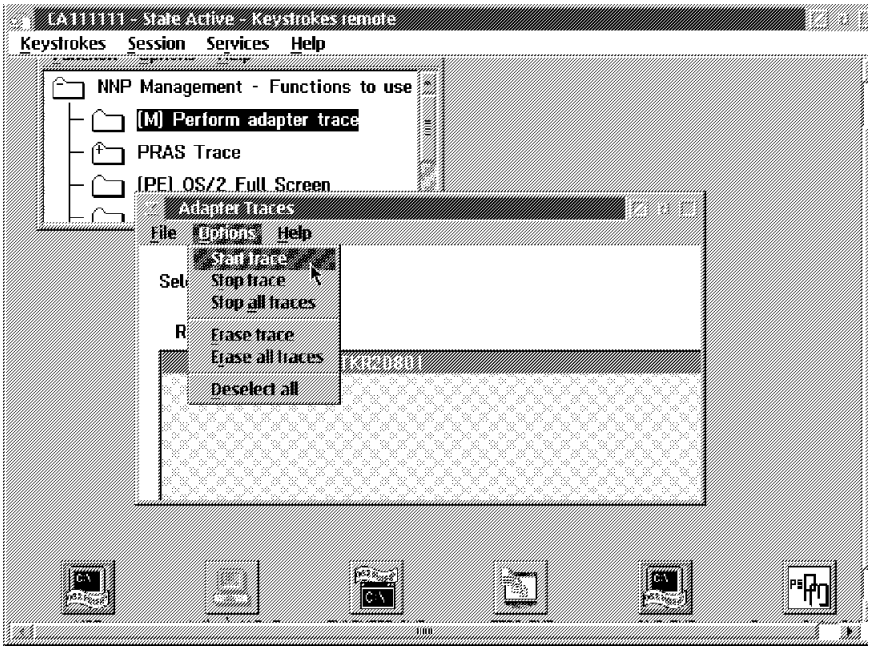


Step 9. Select a link station from the list and click **OK**.

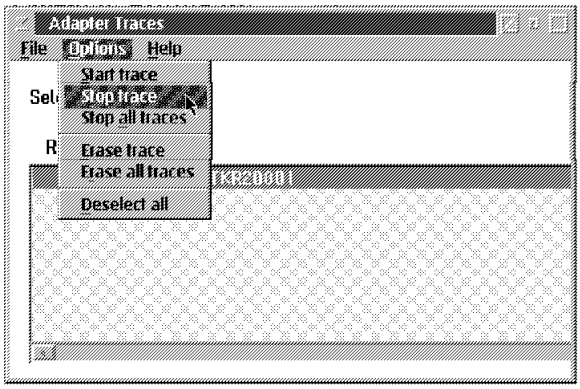


Step 10. The **Adapter Traces** screen reappears, displaying the port and adapter that you selected, and the status message of **New**.

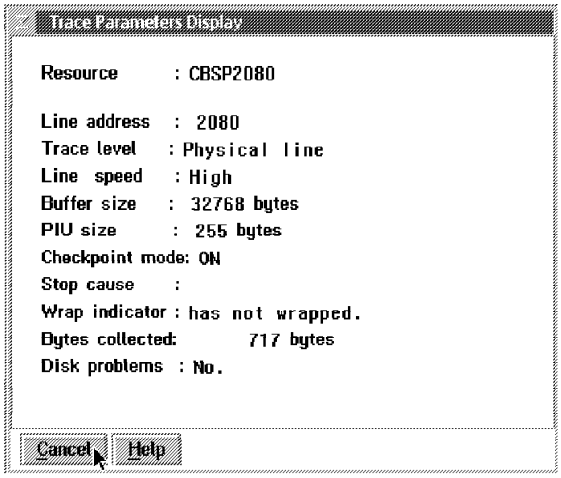
Step 11. From the **Options** menu, click **Start trace**. The status message reads **WaitStart**, then changes to **Started**.



Step 12. When you have encountered the problem with the line, click **Stop trace** from the **Options** menu.

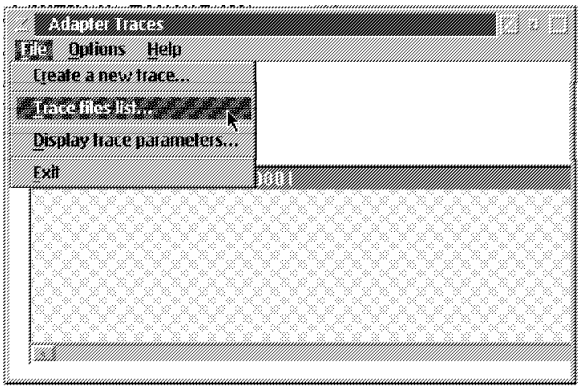


You can check that the trace is producing data by selecting **Display trace parameters** from the **File** menu. This displays the **Trace Parameters Display** screen.



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.

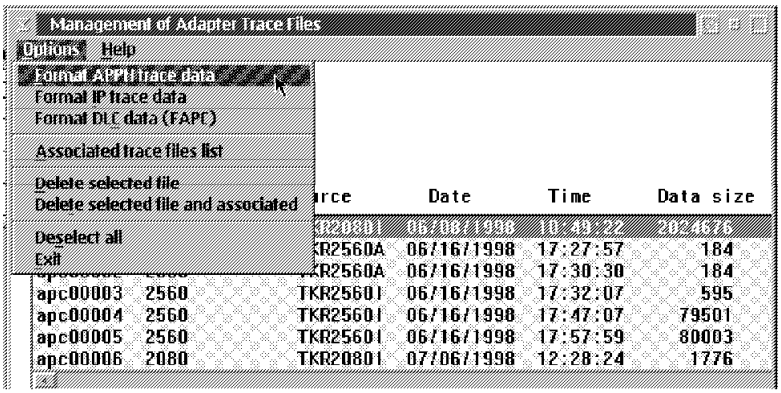
Format IP trace data

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

Format DLC data (FAPC)

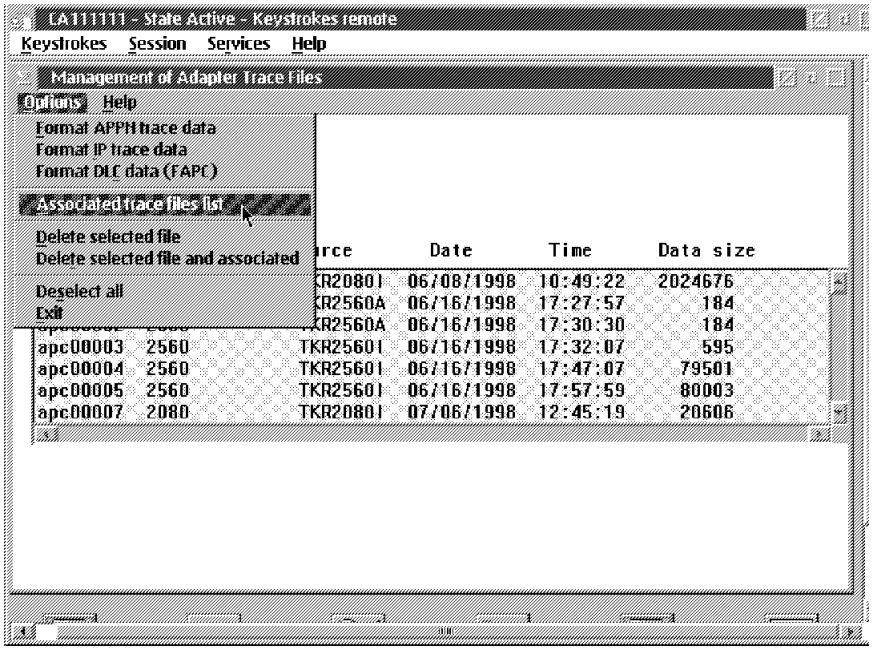
Formatting produces a summary file with extension `.res`.

To format APPN or IP trace data, continue with Step 16 on page 4-18.
To format DLC trace data, continue with step 19 on page 4-19.



Step 16. Click **Format APPN trace data** or **Format IP trace data**. A message indicates that the format has been successful.

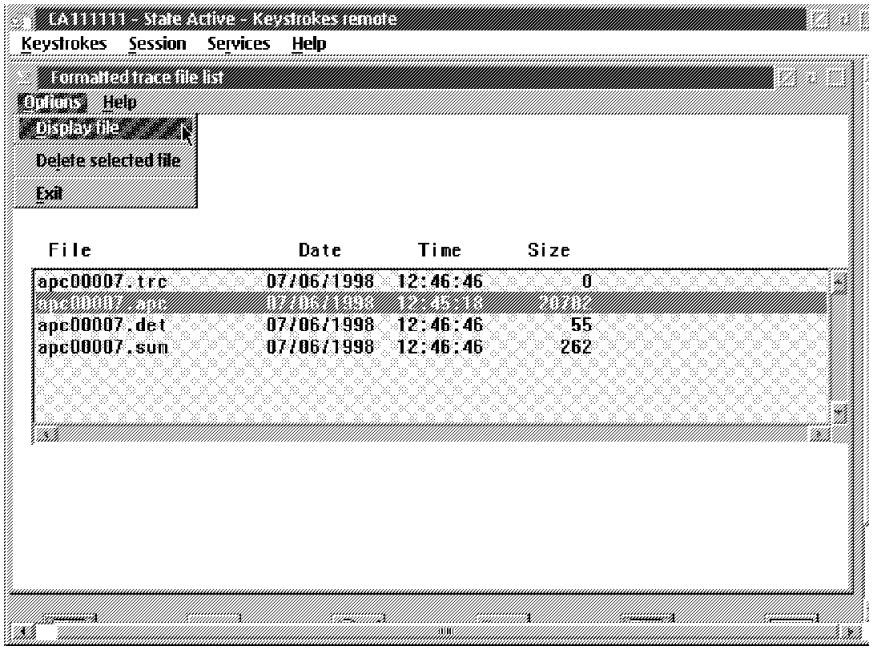
Step 17. From the **Options** menu, click **Associated trace files List**.



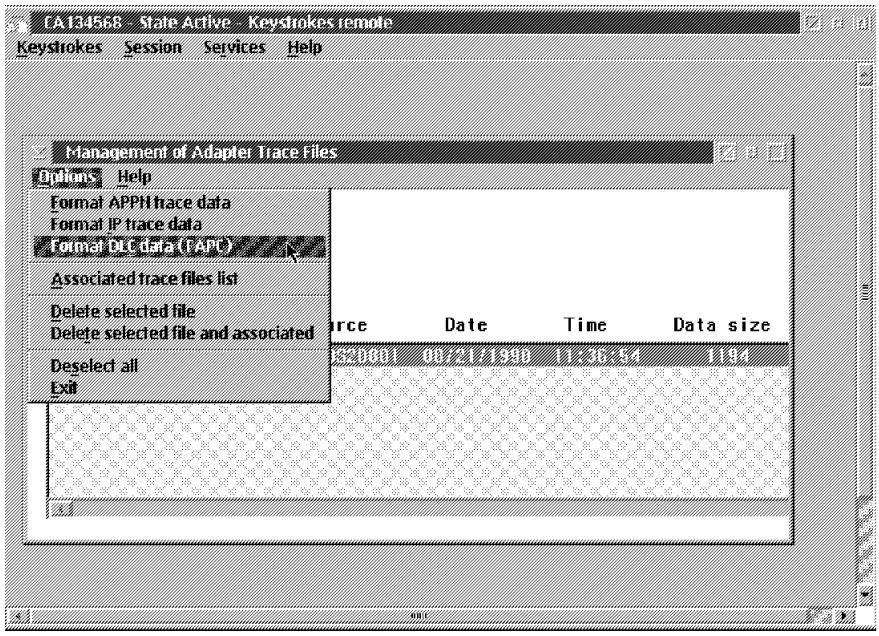
Step 18. In the **Formatted trace file list** screen, select a file, and from the **Options** menu, click **Display file**.

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**.

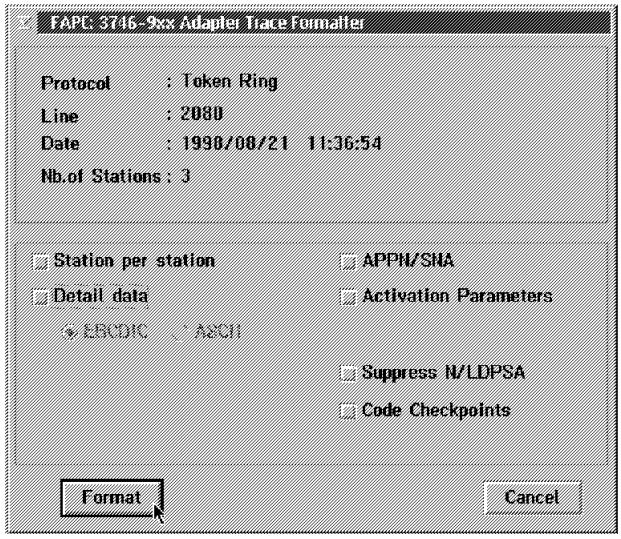
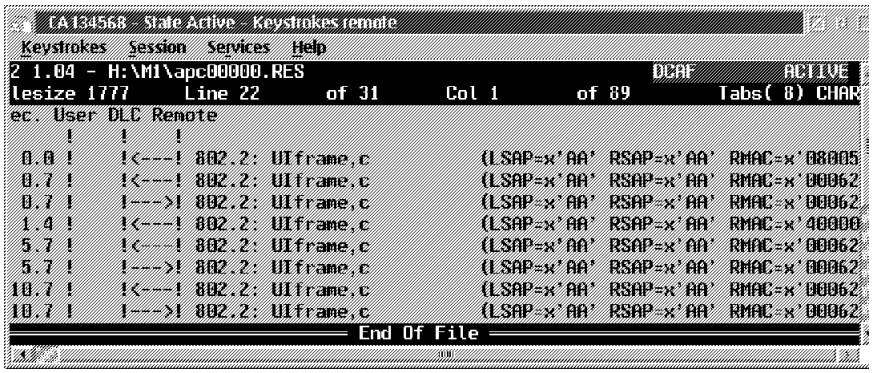
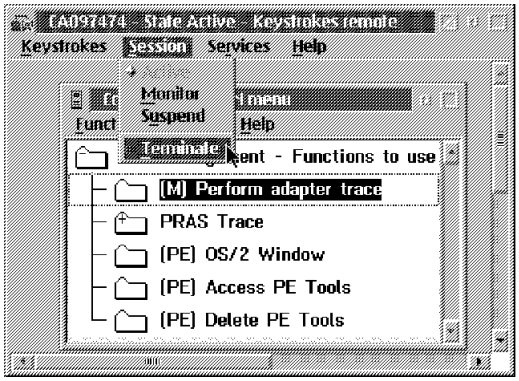


Figure 4-3. FAPC screen for SDLC, Token ring, and ESCON

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 network node processor (NNP). 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

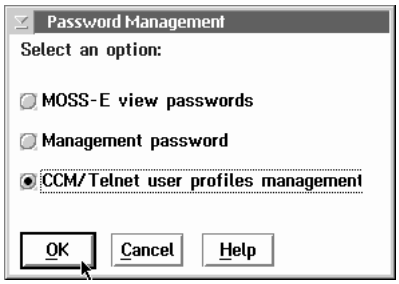
First make sure that the MOSS-E option for configuring CCM and Telnet user profiles is enabled.

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).

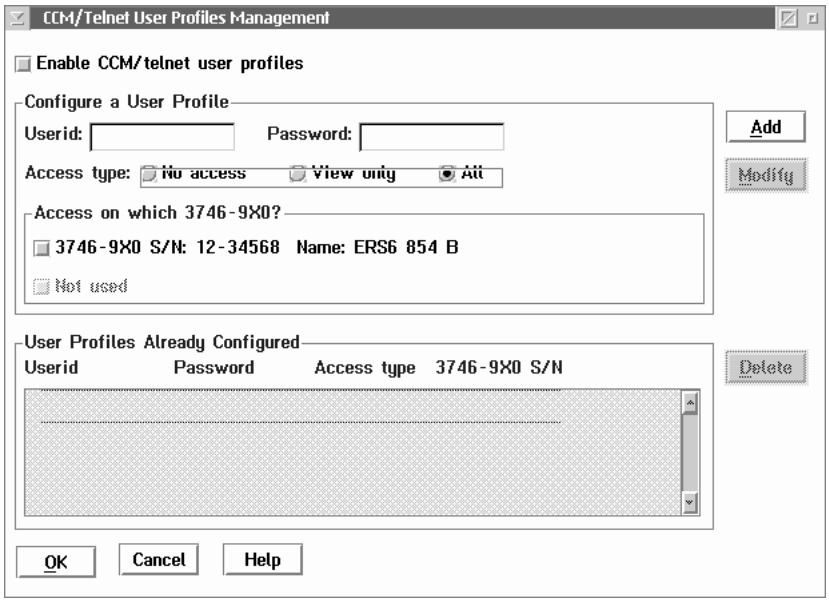
Step 2 Click **Operation Management**.

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.

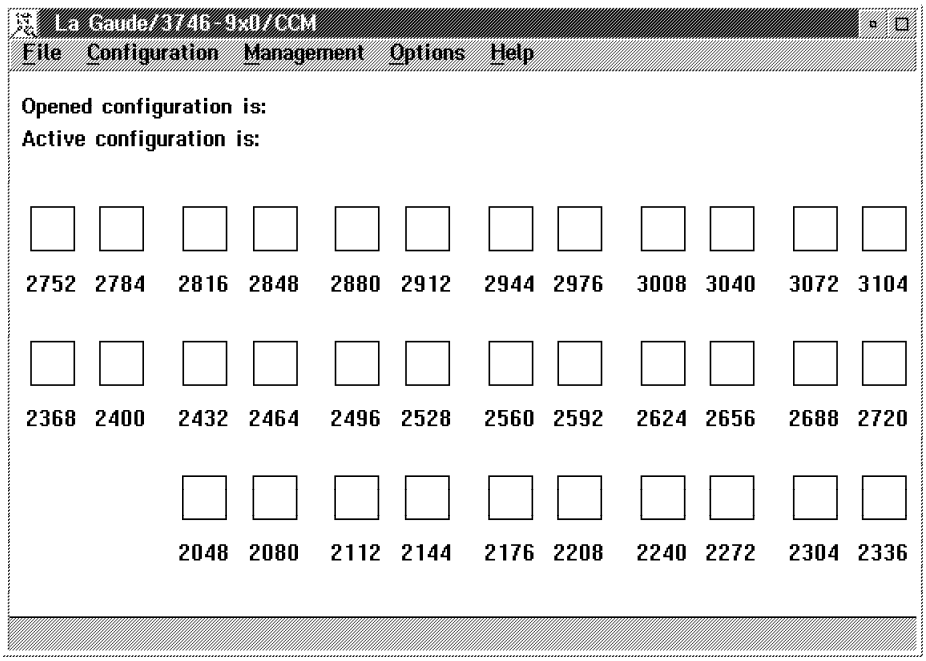
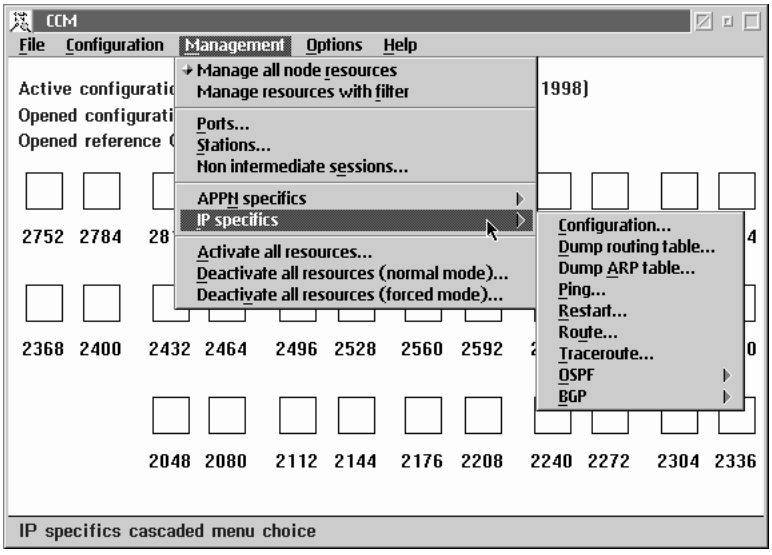


Figure 5-1. Controller Configuration and Management (CCM) Main Window

Step 3 Open the **Management** menu, and click **IP specifics**.



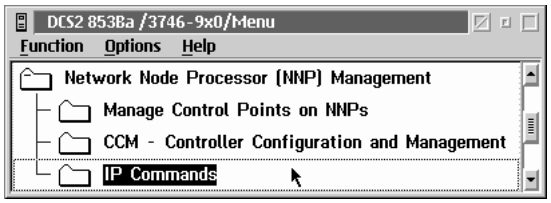
Step 4 CCM commands for Telnet functions are listed in the **IP specifics** sub-menus. For more detailed information on using CCM commands for IP management, see the *Planning Guide*, GA33-0457.

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**.



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 5-5 and “Managing Resources” on page 5-6).

Navigating in the IP Environment

IP is divided in three main environment levels (see Figure 5-2 on page 5-5).

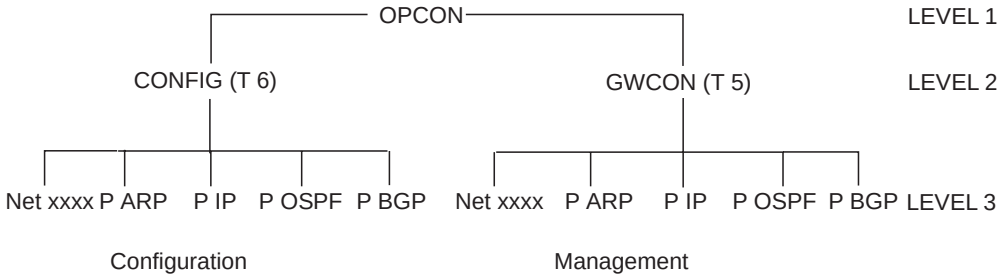
Level 1 OPCON environment.

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

Level 3 Protocol environments (Netxxxx, P ARP, P IP, P OSPF, P BGP).

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



Legend

xxxx Port number

Figure 5-2. 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.

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.
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 O 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.
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 **</u> command prompt).

Single IP Control Point for the 3746 and the MAE

The 3746 and the MAE (feature code 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 **</u> command line, type **T 5**.

Step 3 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 4 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 5 To return to the previous 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

PS/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 Console for Java. 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 needed to configure consoles as remote (controlling) workstations
- Procedures for configuring remote (controlling) workstations.

Remote Workstations Using Console for Java

Console for Java 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. Console for Java provides the same tools for controlling remote service processors as DCAF. While DCAF is more suitable for SNA-based networking, Console for Java takes advantage of the flexibility in IP networking.

Console for Java can be run by the controlling workstation on any platform (OS/2*, Windows 95**, Windows 98**, Windows NT**, Macintosh**, and AIX*/UNIX**) and can control both graphic based programs (OS/2 Presentation Manager), and character mode programs (OS/2 and DOS terminals).

Microcode Support Options for Console for Java

Microcode level &f12. installed in the service processor supports DCAF or Console for Java remote control access.

[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.

Remote Workstations Using DCAF

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

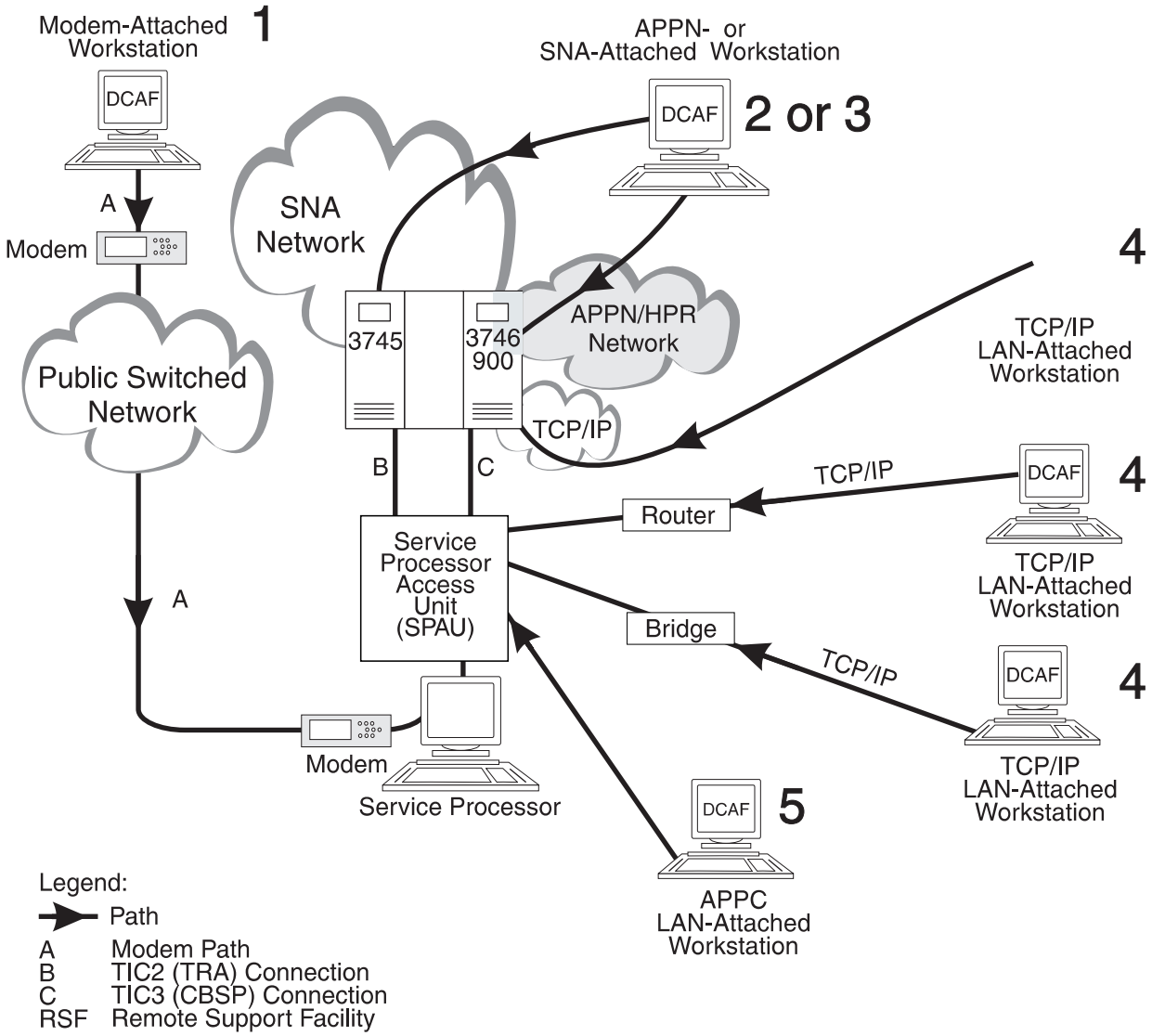


Figure 6-1. DCAF Console Attachments

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 Configuration.”

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.

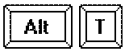
A remote console can be configured for all categories of access. This means that a single console at a central control site could be LAN-attached to a local service processor while providing APPN and modem access to other service processors.

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 3746 Models A, “console” means an “OS/2 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, 

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 customer'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 *Planning Guide*, GA33-0457 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:

- Network Transport Services/2 (NTS/2) for LAN-attached and SNA-attached consoles that connect to SNA networks via a LAN.
- To access the service processor via an SNA or APPN network backbone, check that the following programming support is available:
  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. NCP V5 R2, operating under Virtual Telecommunications Access Method (VTAM*) V3 R2 for 3720 and 3745 Communication Controllers on the network backbone.
  3. NCP V4 R3, operating under VTAM V3 R2 for 3725 Communication Controllers on the network backbone.

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

Hardware Requirements and Recommendations

For remote workstations, IBM recommends using the following items:

- 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).

  To find the equivalent keys on IBM non-QWERTY keyboards, refer to 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 *Planning Guide*.

Chapter 7. Program Support for Remote Workstation Access

Required Program Support

First collect the worksheets from the *Planning Guide*, GA33-0457, 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 *Planning Guide* worksheets.

Installing DCAF

Support for DCAF is provided in microcode level &f12.. 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 (or CM/2).

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

Customizing a CS/2 Remote Workstation

This procedure applies to the following type of workstation connections to a network:

- Modem-attached.
- APPN-attached
- SNA-attached
- APPC LAN-attached

Depending on the workstation you are configuring, see:

- Chapter 9, “Modem-Attached Remote Workstation Configuration”
- Chapter 10, “APPN-Attached Remote Workstation.”
- Chapter 11, “SNA-Attached Remote Workstation”
- 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**

Installing TCP/IP

Follow the procedures in the TCP/IP installation procedure that come with the product that you are using.

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

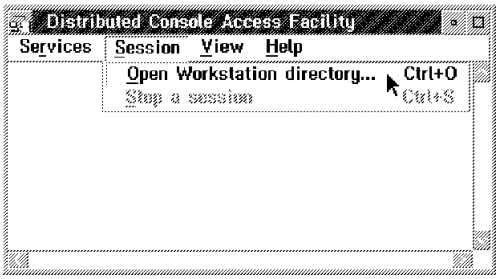
Use the following procedure to start a DCAF session that controls the service processor and the network node processor (NNP).

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

Step 2. Double-click the 

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 at “DCAF Logon Password and Service Processor Security” on page 6-4. 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

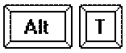
In the **Session** pull-down menu on the DCAF window action bar, click **Stop a session**.

Attention

Do not close the session by de-selecting “Enable DCAF Link/Operations” from the “SP Customization” function.

From the Target Service Processor

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



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 Configuration

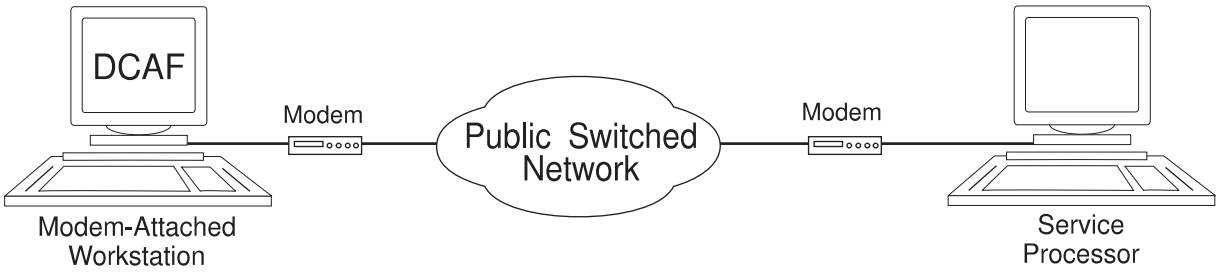


Figure 9-1. Modem-Attached Remote Workstation

This chapter shows you 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

Important

You can use the worksheets in the *Planning Guide*, GA33-0457 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)

In Service Processor	In 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.

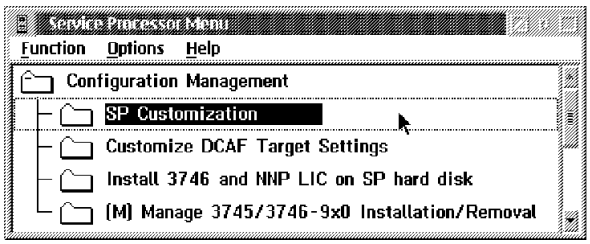
Configuring the Service Processor in MOSS-E

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

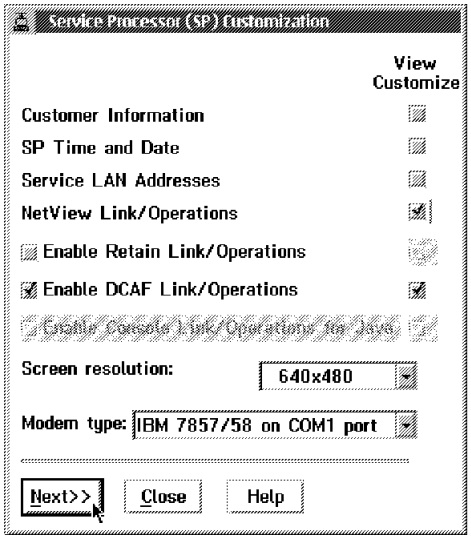
Step 1. In MOSS-E, double-click the **Service Processor** object.

Step 2. Click **Configuration Management**.

Step 3. Double click **SP Customization**.



Step 4. Select **Enable DCAF Link/Operations** and select **View Customize** in the parallel column, **NetView Link/Operations** 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.

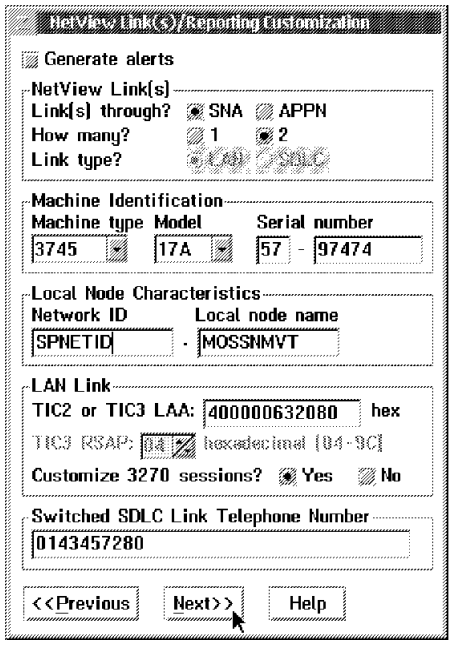


Figure 9-2. NetView Link/Reporting Customization

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

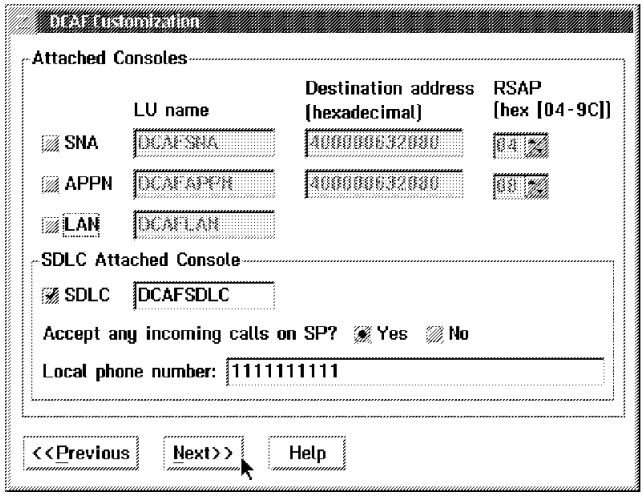


Figure 9-3. DCAF Customization

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

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

Remote Workstation Modems

Important!

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	**Settings 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 on page 9-5 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

Service Processor Connection Type and Mode	Service Processor Modem Type	Remote Workstation Modem Type			
		IBM 7857, 7858[1], or Hayes[1] AT Compatible Modem Serial Asynchronous Port Connection			
COM1	7857	9-6	9-6	9-6	9-6
	7858[1]	9-6	9-6	9-6	9-6
	Hayes[1]	9-11	9-11	9-11	9-11

Notes:

1. For increased data transfer speed, IBM recommends the IBM 7858 modem or a Hayes compatible modem.

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

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

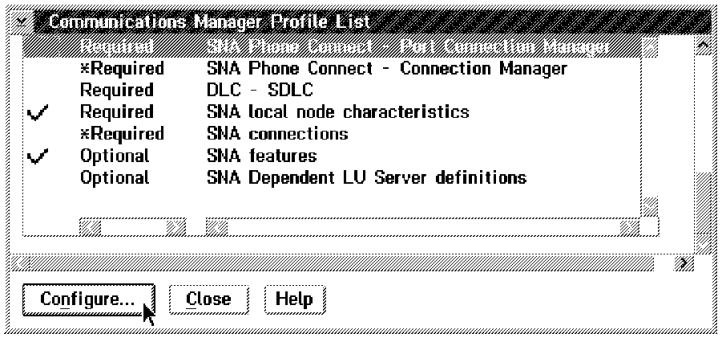
Step 2. Click **Setup**.

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

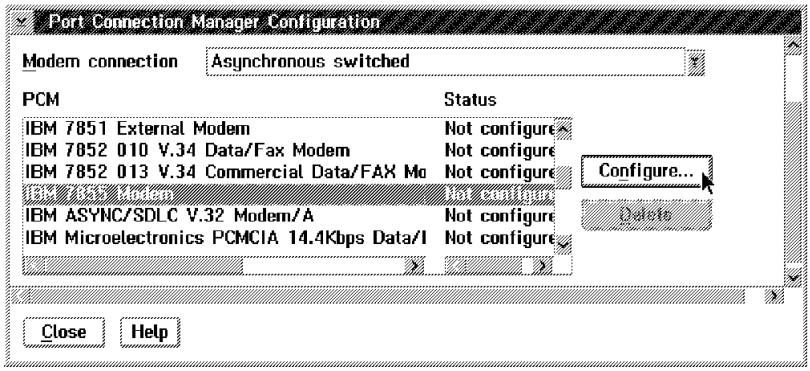
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

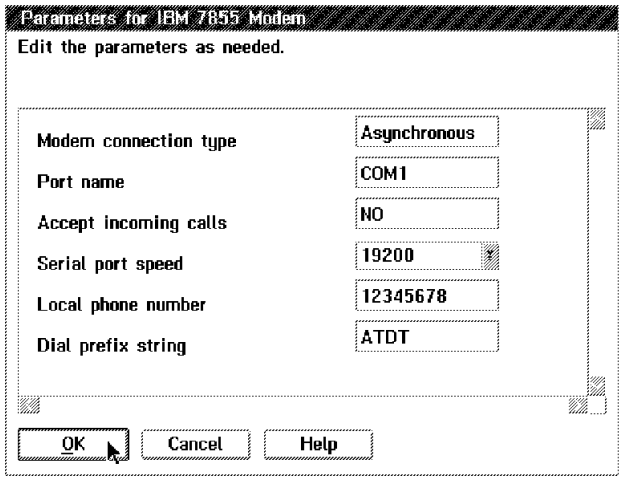
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



Step 7. Select **Asynchronous switched**, a 7855 modem type and click **Configure**.



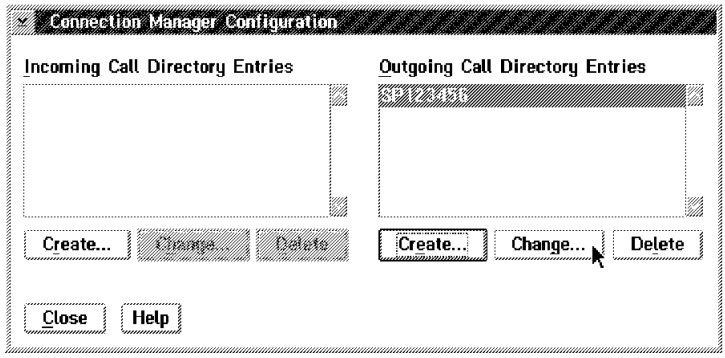
Step 8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



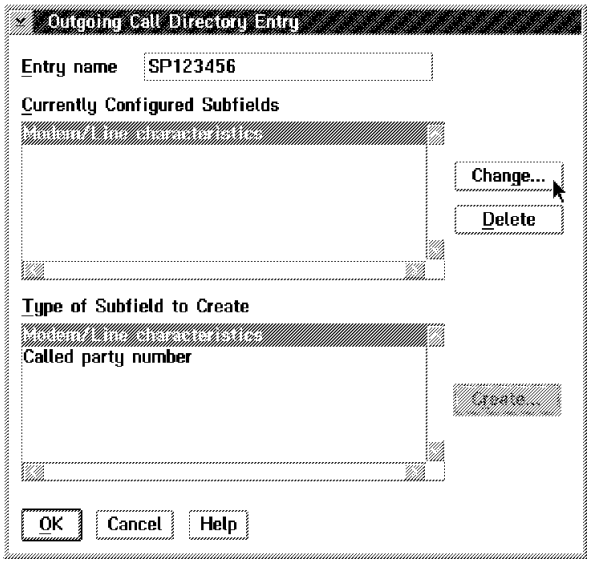
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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.



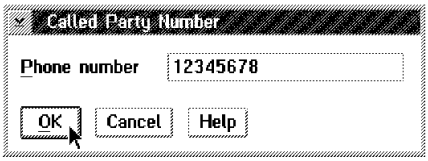
Step 11. Select **Modem/Line characteristics** and click **Change**.



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

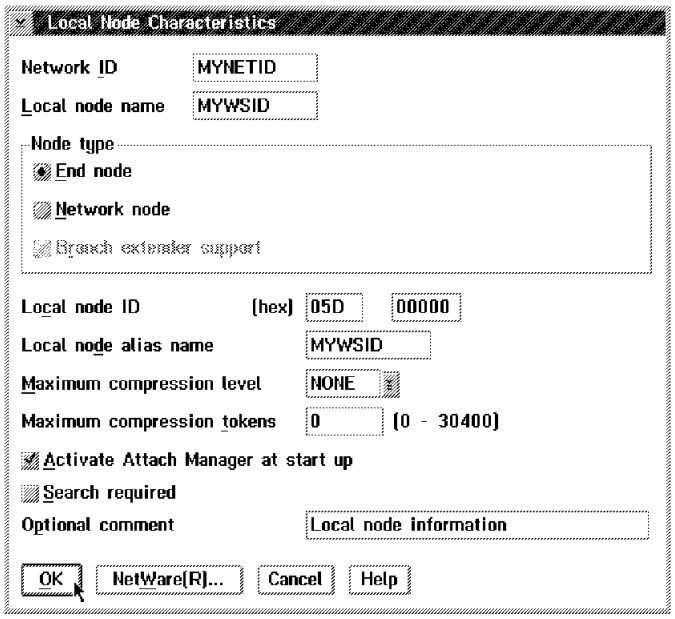
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



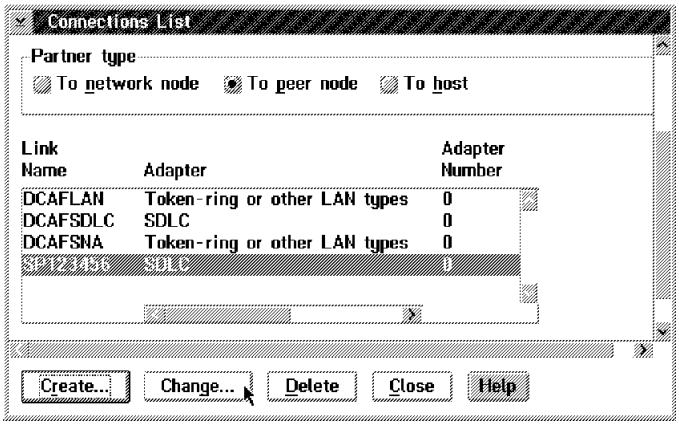
Step 15. Select **SNA local node characteristics** and click **Configure** and **Continue**.

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

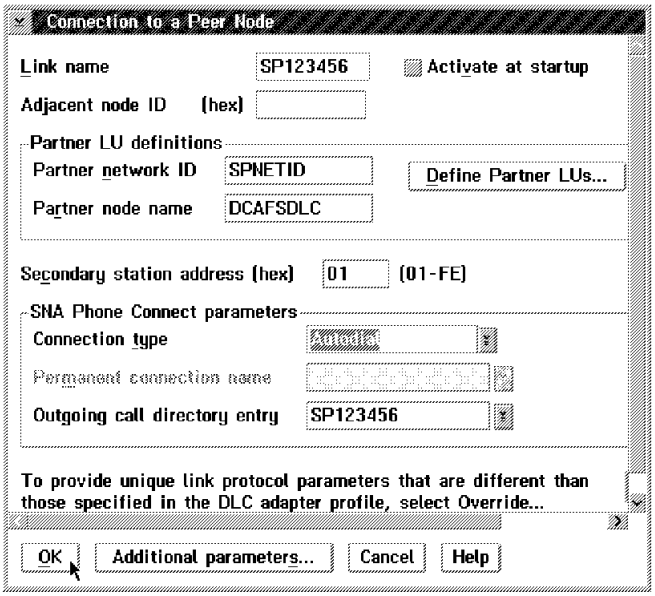


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 (see 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.

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.

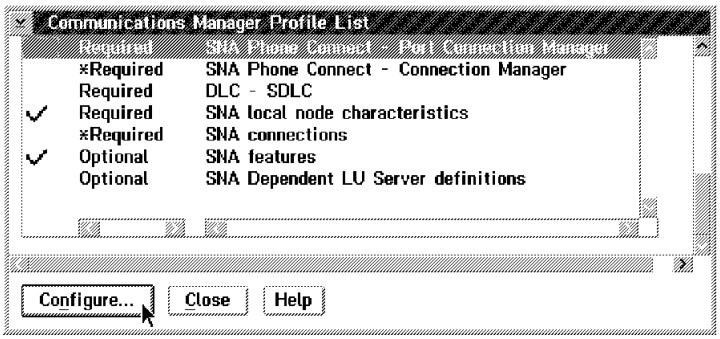
Step 2. Click **Setup**.

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

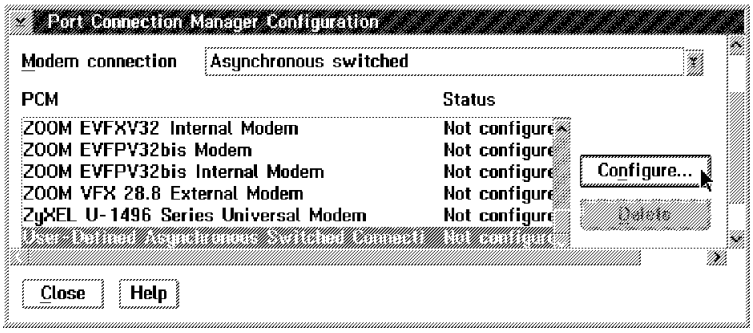
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

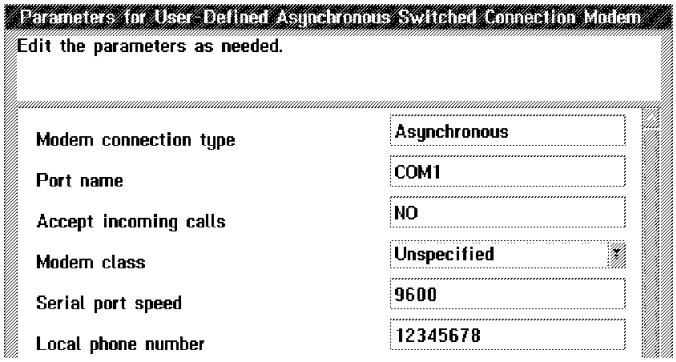
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



Step 7. Select **Asynchronous switched**, **User defined** and click **Configure**.



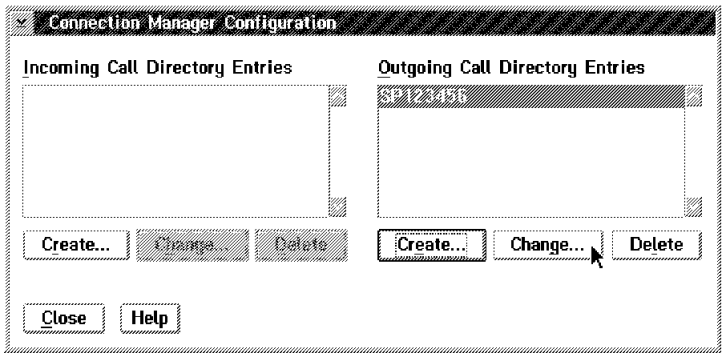
Step 8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



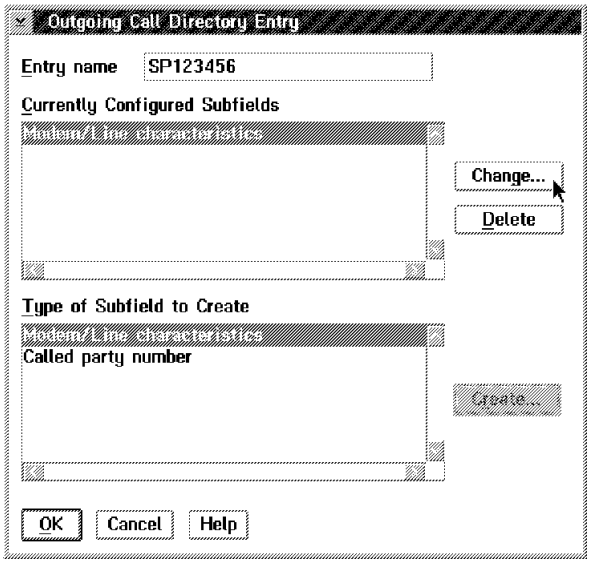
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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

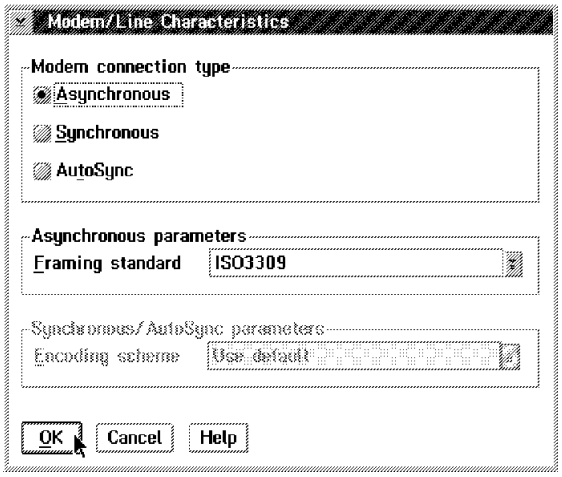
Note: The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.



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

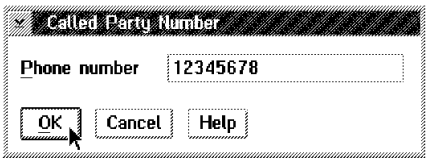


Step 12. Select **Asynchronous**, **ISO3309** as the framing standard and click **OK**.



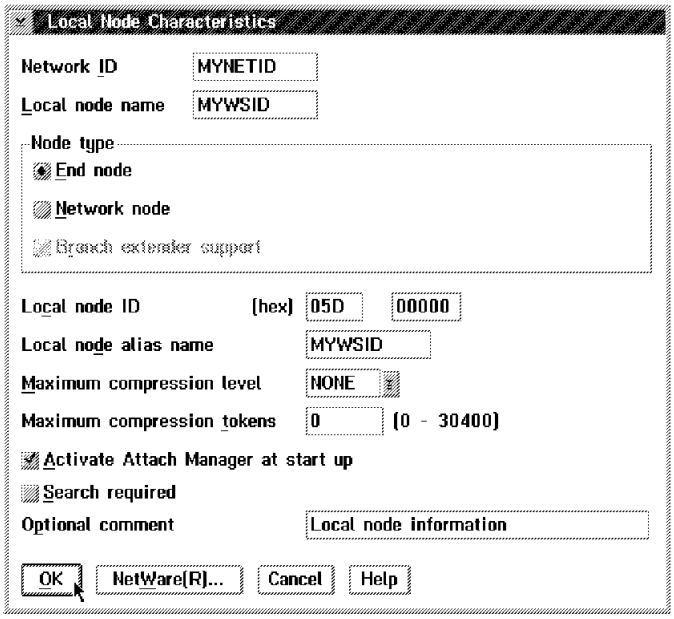
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



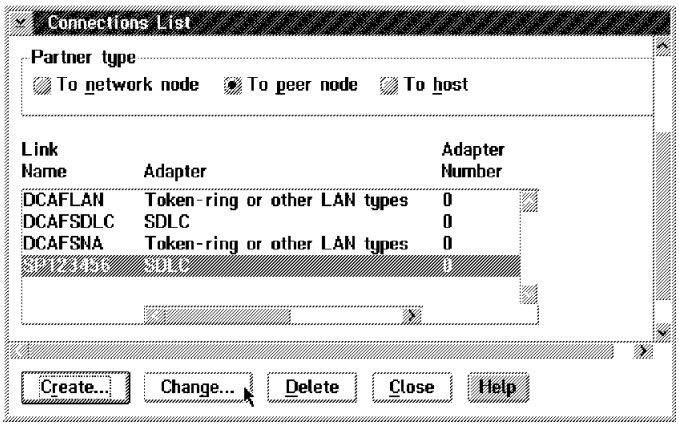
Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

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

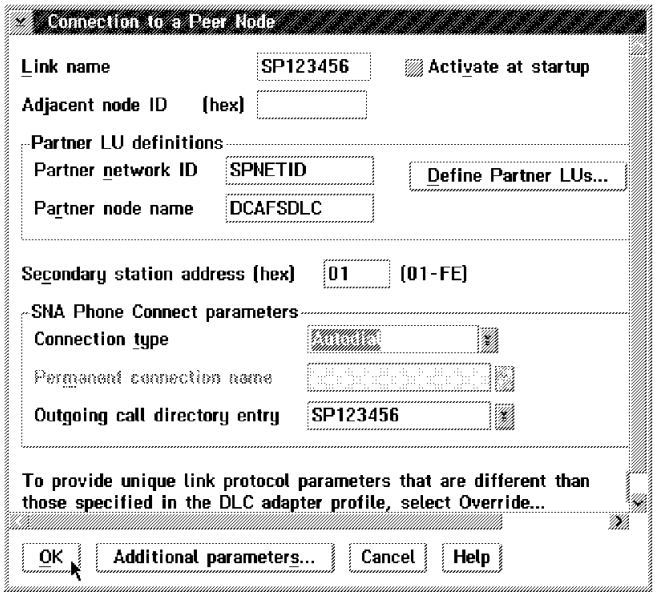


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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.

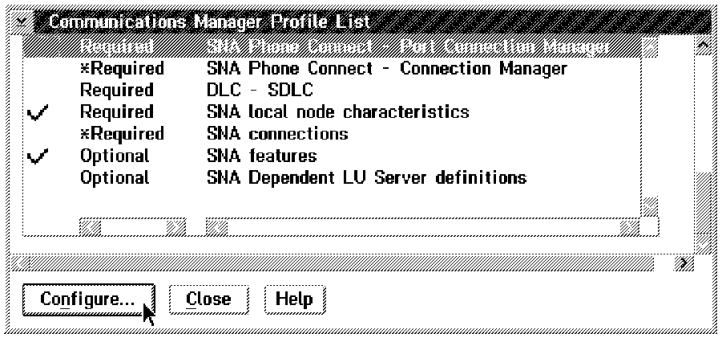
Step 2. Click **Setup**.

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

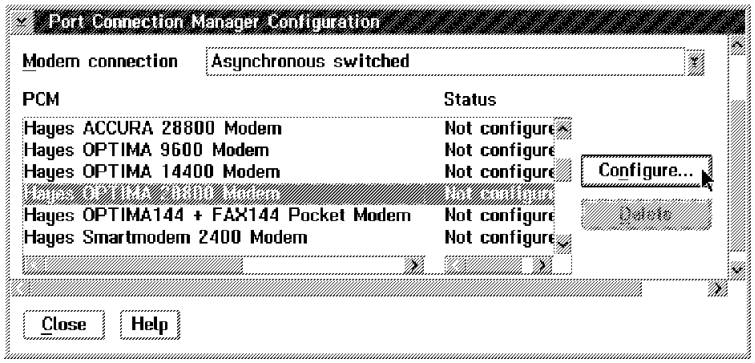
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

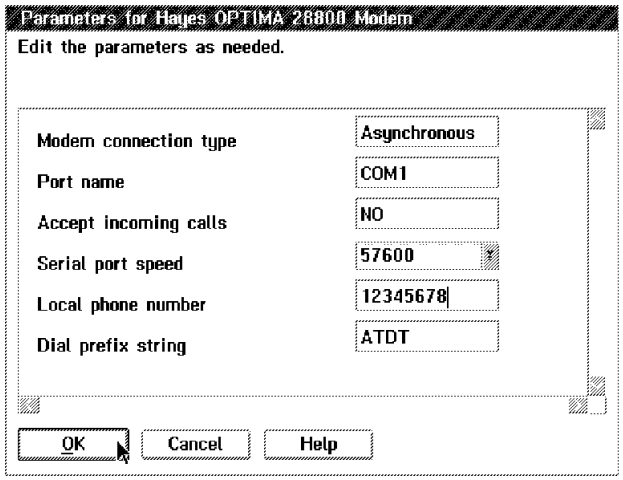
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



Step 7. Select **Asynchronous switched**, a Hayes modem type and click **Configure**.



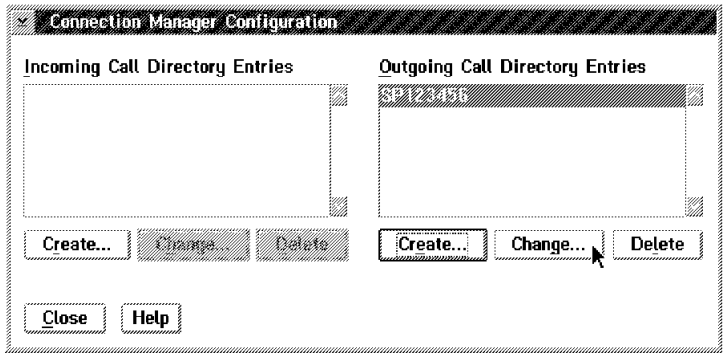
Step 8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



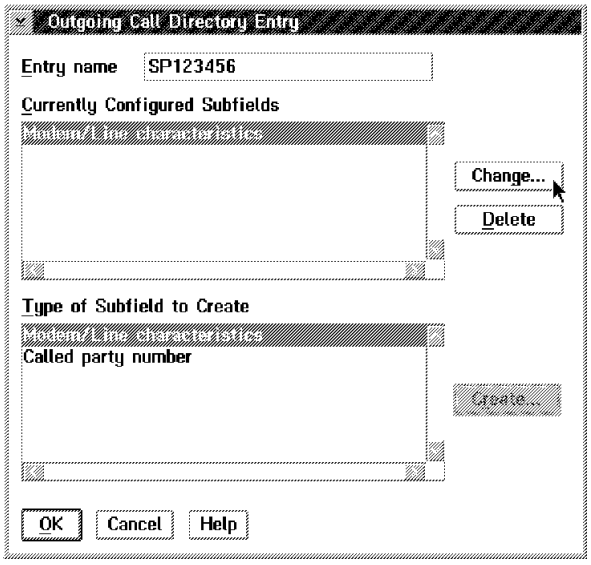
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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

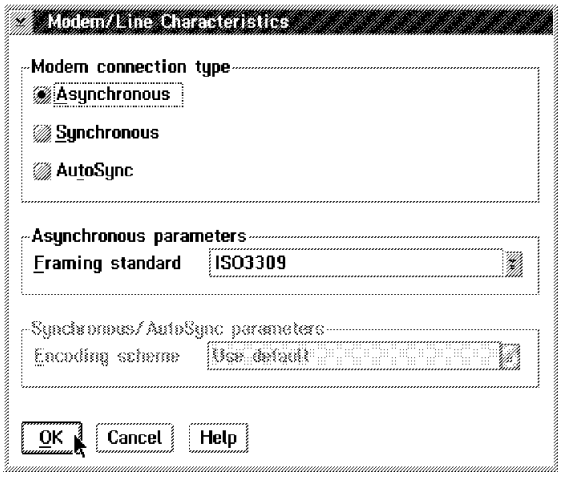
Note: The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.



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

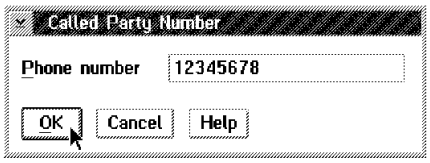


Step 12. Select **Asynchronous**, **ISO3309** as the framing standard and click **OK**.



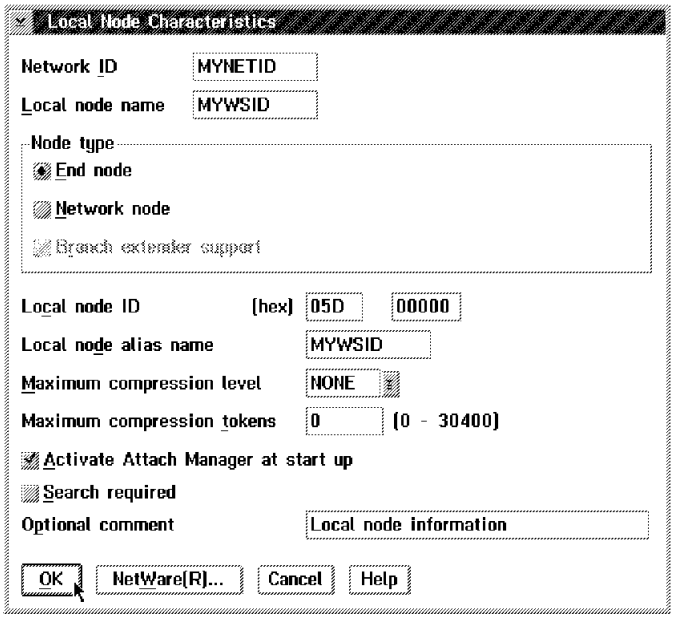
Step 13. Select **Called party number** (in CM2, this is **SP123456**) and click **Change**.

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



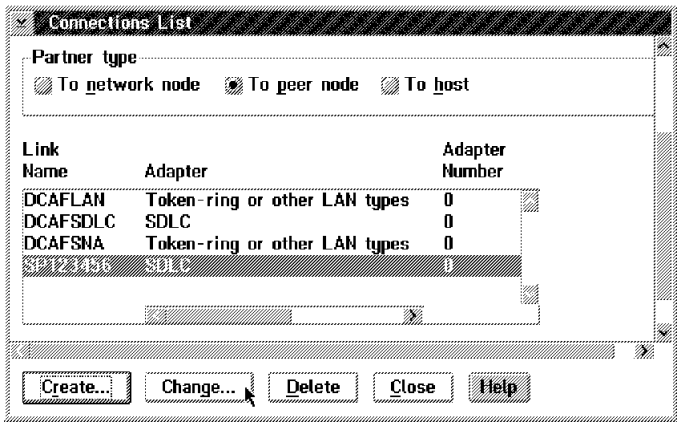
Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

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

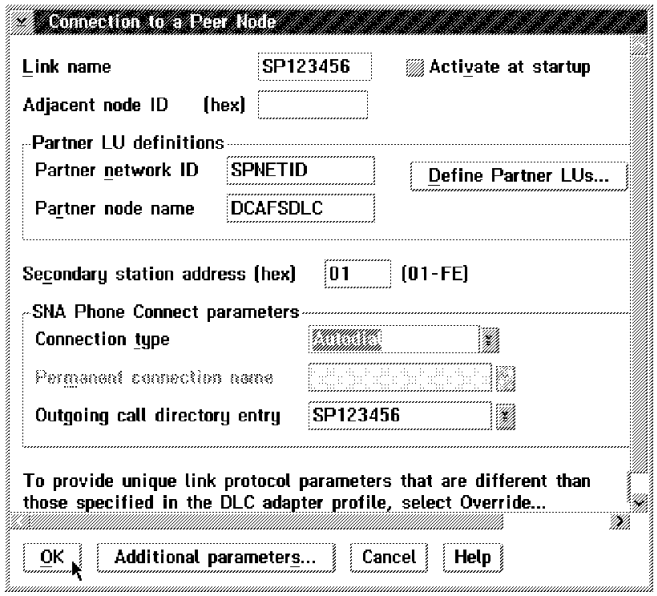


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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.

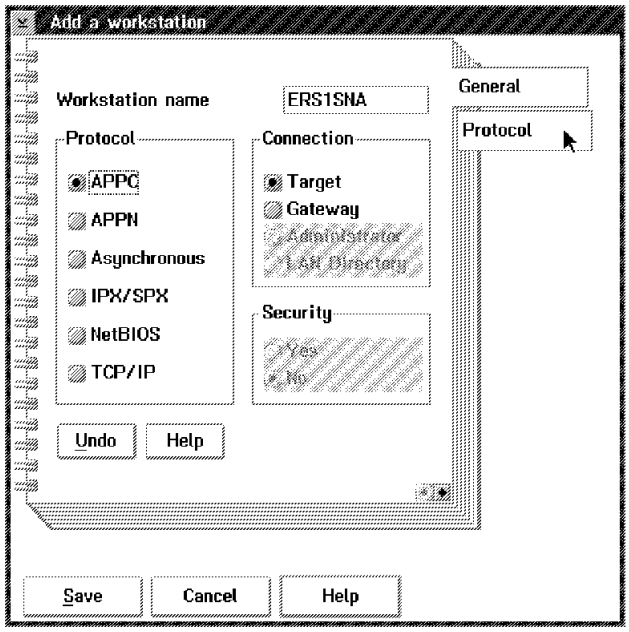
Step 2. Double-click the 

icon.

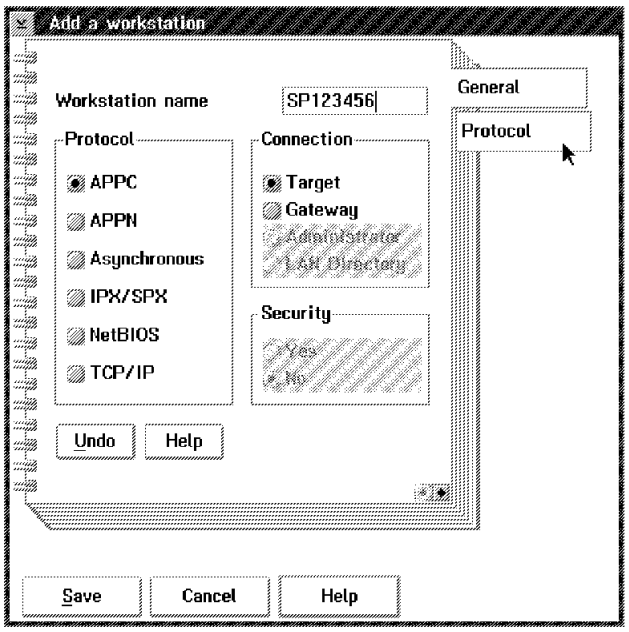
Step 3. Select **Session** then **Open workstation directory**.

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

Step 5. In the DCAF Directory window, select **Workstation** then **Add**.

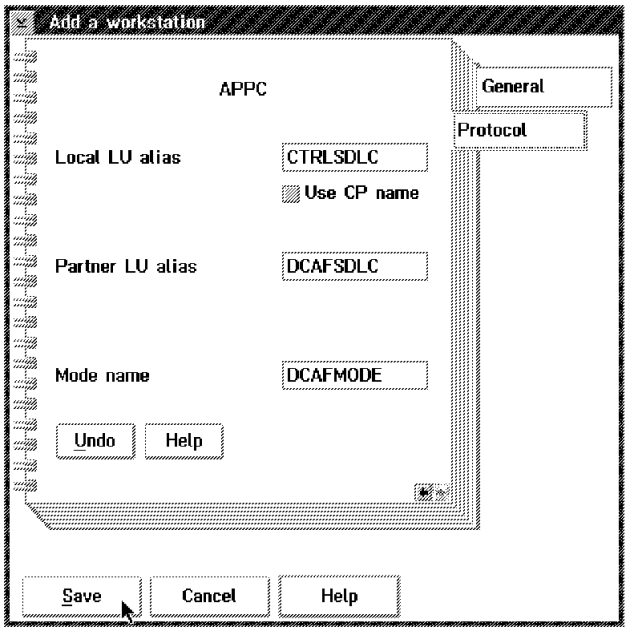


Step 6. Enter a name in the **Workstation name** field and click **Protocol**.



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. From Desktop Manager, shutdown and restart the workstation.

Step 10. The installation is complete. Go to Chapter 8, “Using DCAF for Remote Access to the Service Processor” for using this new DCAF session.

Chapter 10. APPN-Attached Remote Workstation

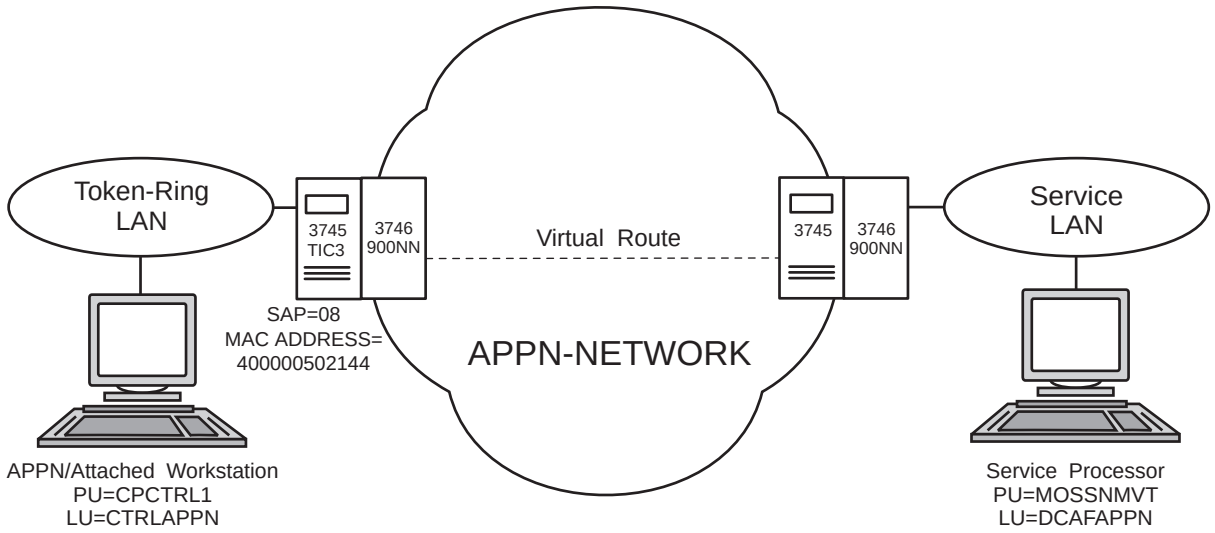


Figure 10-1. APPN Remote Workstation

This chapter shows you how to configure a DCAF session for controlling the service processor (see Figure 10-1 above).

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

Important

You can use the worksheets in the *Planning Guide*, GA33-0457 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)

In the Service Processor	In the Remote Workstation
APPN LU name (Figure 10-2 on page 10-3)	**LU name** (Step 9 on page 10-6)
APPN Destination address (Figure 10-2 on page 10-3)	**LAN Destination address** (Step 9 on page 10-6)
RSAP (Figure 10-2 on page 10-3)	**Remote SAP** (Step 9 on page 10-6)

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

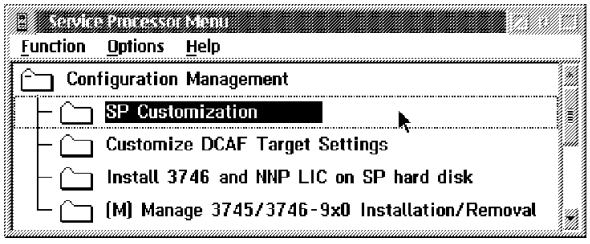
Configuring the Service Processor in MOSS-E

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

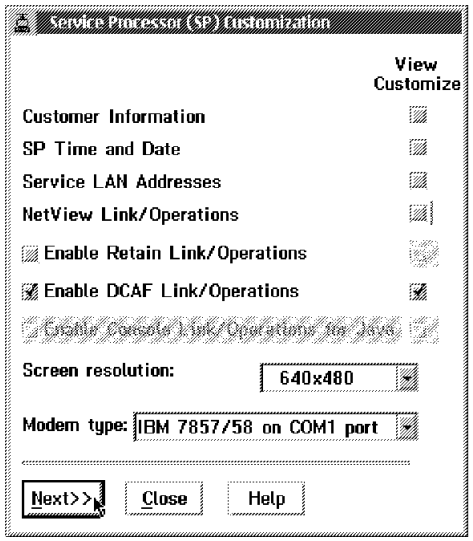
Step 1. In MOSS-E, double-click the **Service Processor** object.

Step 2. Click **Configuration Management**.

Step 3. Double click **SP Customization**.



Step 4. Select **Enable DCAF Link/Operations**, **View Customize**, 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 9 on page 10-6.

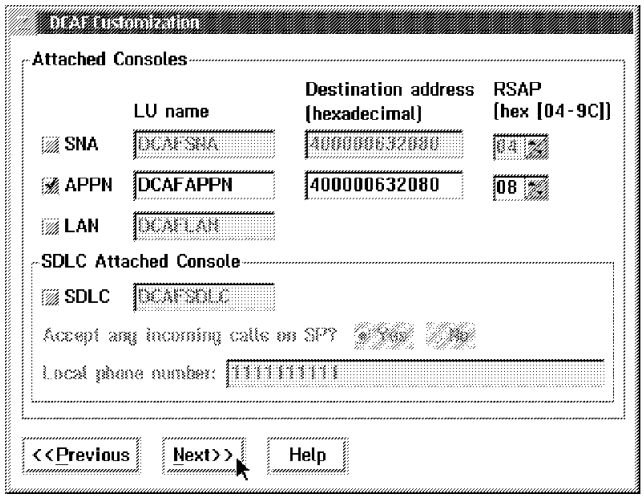


Figure 10-2. DCAF Customization

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.

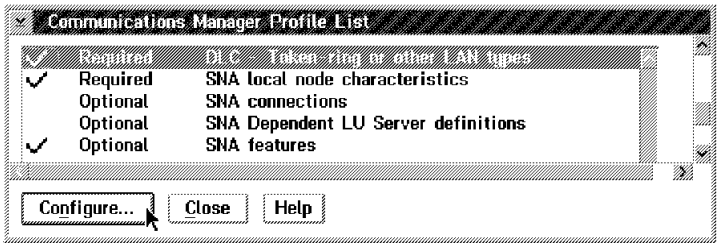
Configuring CS/2

Important

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

Step 1. Perform steps 1 to 5 on page 13-4

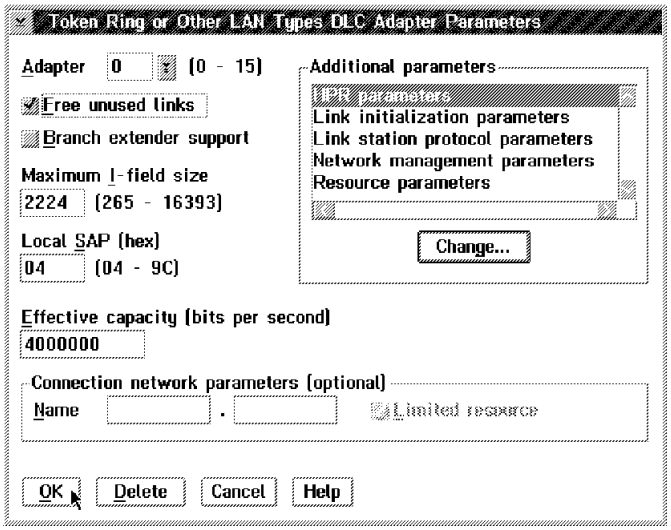
Step 2. Select **DLC - Token-ring or other LAN types** and click **Configure**.



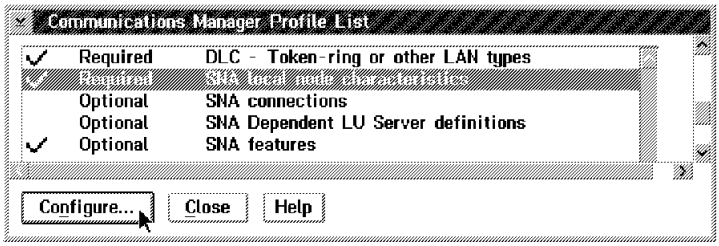
Step 3. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following using the **Change** button.

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

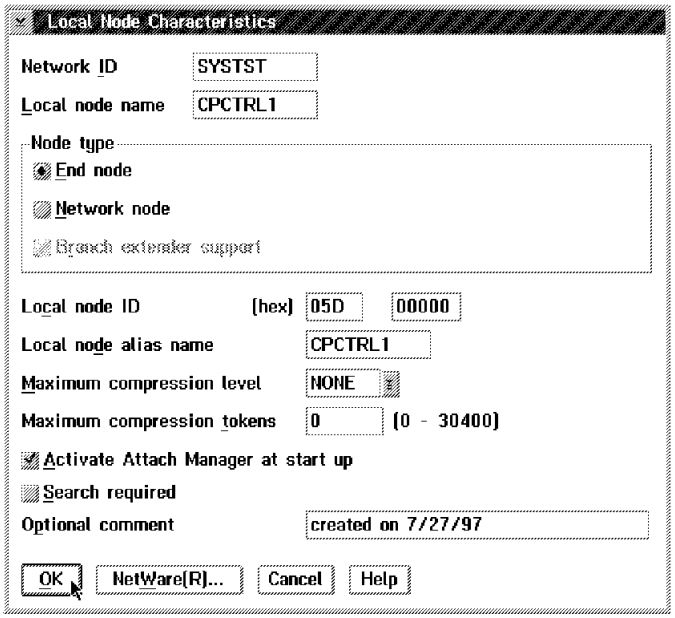
Then click **OK**.



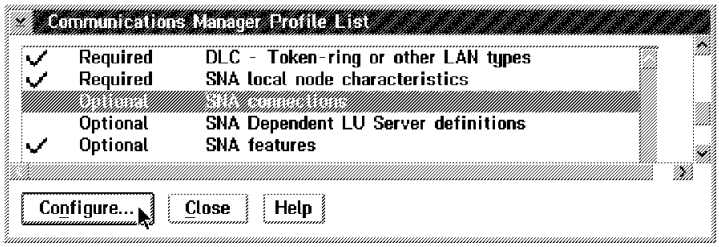
Step 4. Select **SNA local node characteristics** and click **Configure**.



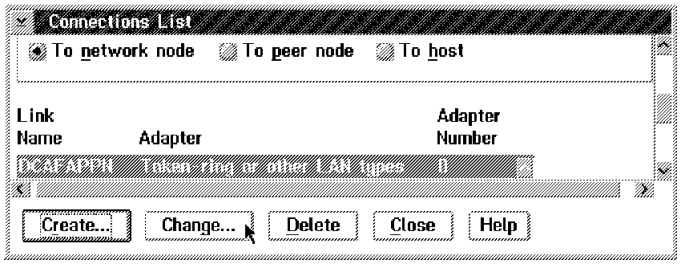
Step 5. Enter `SPNETID` in the **Network ID** field, and the name that you are using for the local node in the **Local node name** field. Select **End node** and click **OK**.



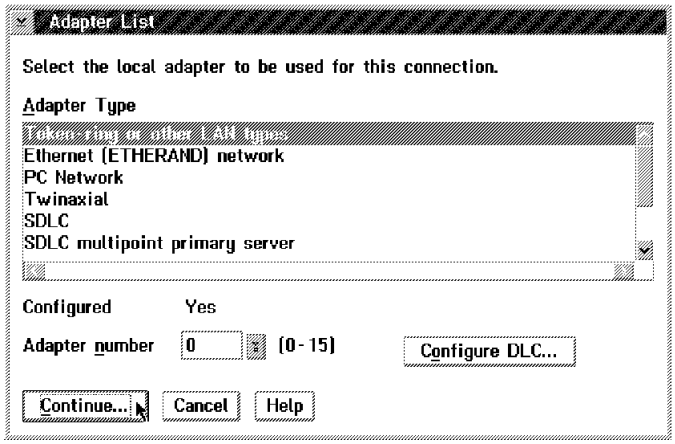
Step 6. Select **SNA connections** and click **Configure**.



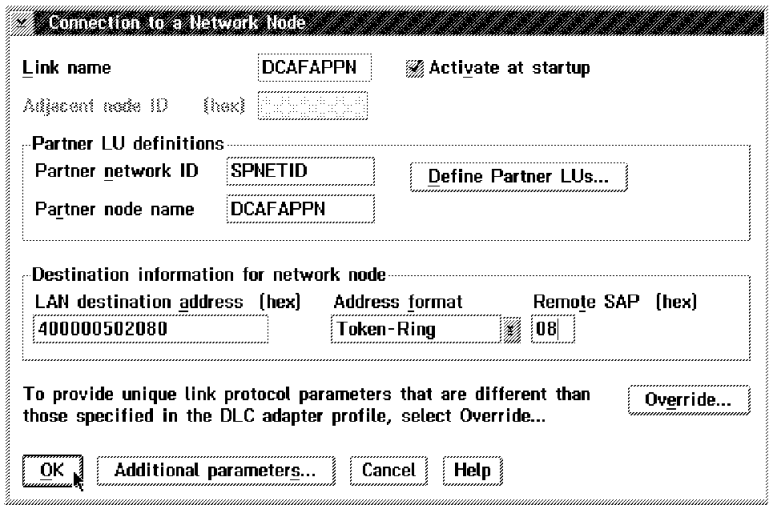
Step 7. Select **To network node**, **DCAFAPPN** in the **Link name** list, and click **Change**.



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

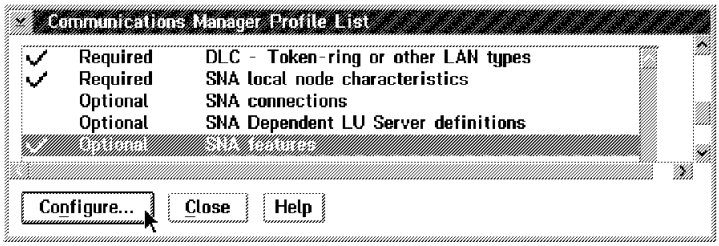


Step 9. Refer to Table 10-1 on page 10-2 and fill in the **Link name**, **LAN destination address**, and **Remote SAP** fields. Then click **OK**.

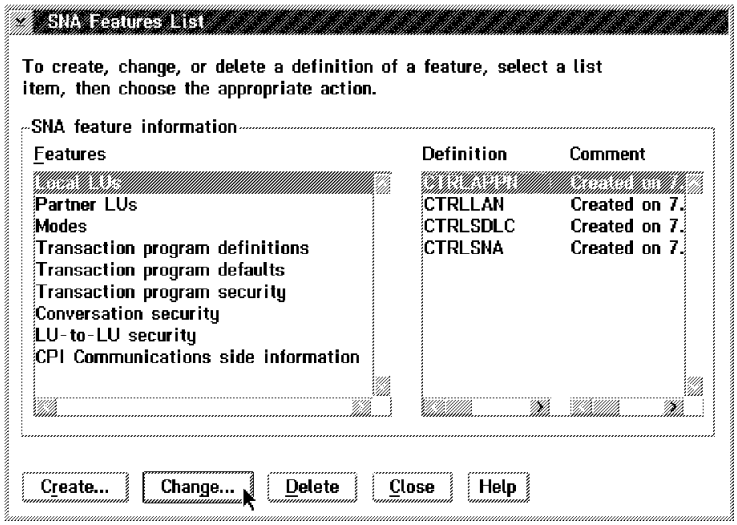


Step 10. Click **Close** on the intermediate window.

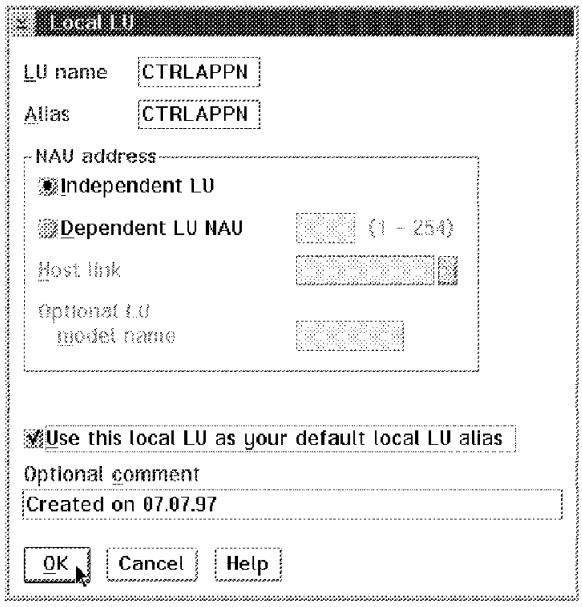
Step 11. Select **SNA features** and click **Configure**.



Step 12. Select **Local LUs** in the **Features** list, **CTRLAPPN** in the **Definition** list, and click **Change**.



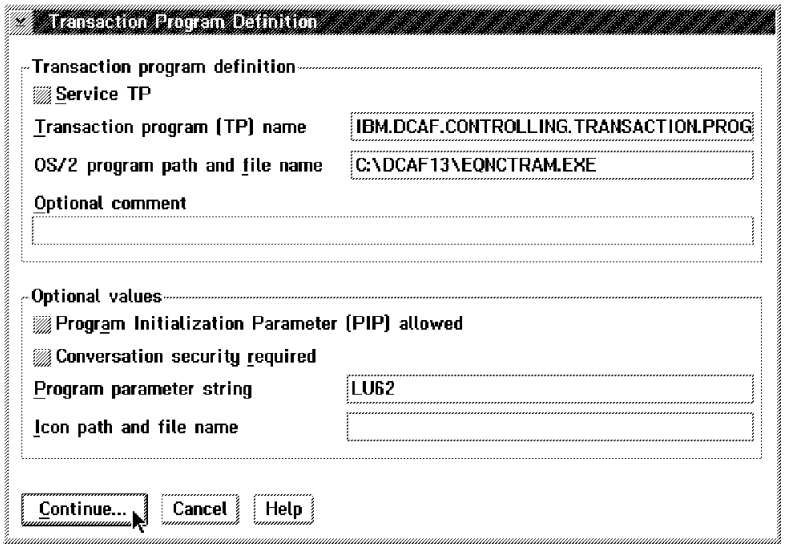
Step 13. Modify the **LU name** and **Alias** fields and select **use this local LU as default local LU alias**. Then select **Independent LU** and click **OK**.



Step 14. 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 15. Select **Transaction program definitions** from the **SNA Features List** and click **Create**.

Step 16. 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 17. Click **Close** on the subsequent screens until you exit CS/2.

Step 18. 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 

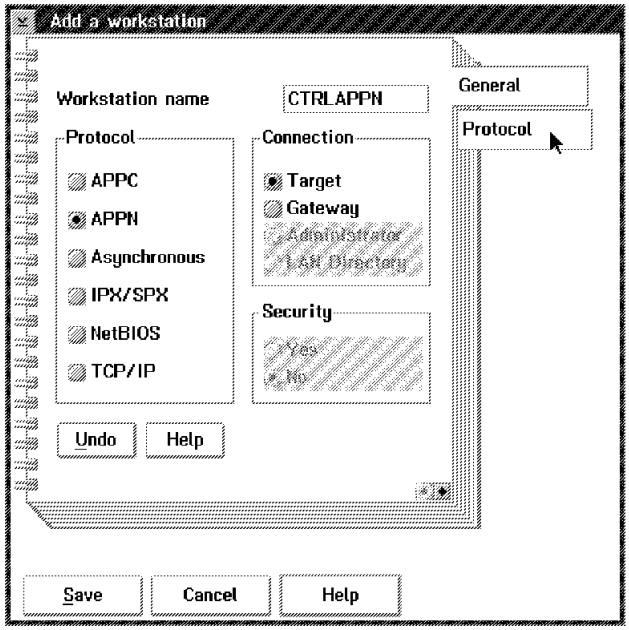
icon.

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**.

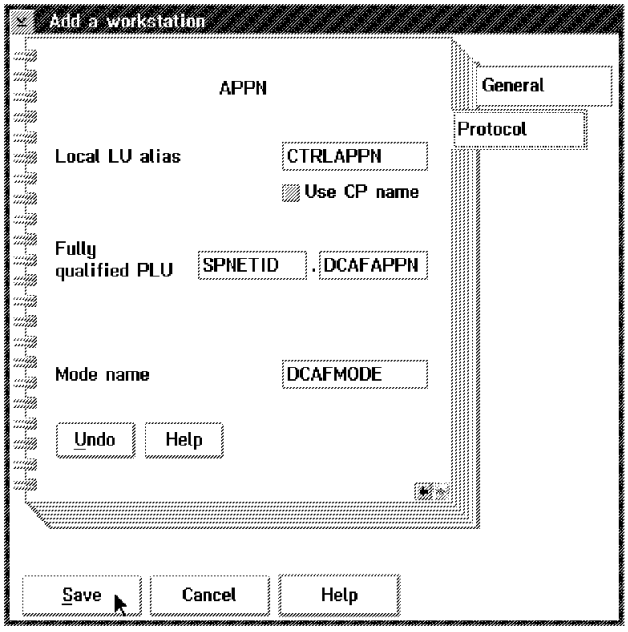
Step 6. Fill in the **Workstation name** field, select **APPN**, **Target**, and click **Protocol**.



Step 7. Fill in the **Local LU alias** (see Step 13 on page 10-8), and the **Fully qualified PLU**:

a. First field matches the **Local Node Network ID** in Step 5 on page 10-5

b. 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. In **Desktop Manager**, shutdown and restart the workstation.

Step 11. Go to Chapter 8, “Using DCAF for Remote Access to the Service Processor.”

Chapter 11. SNA-Attached Remote Workstation

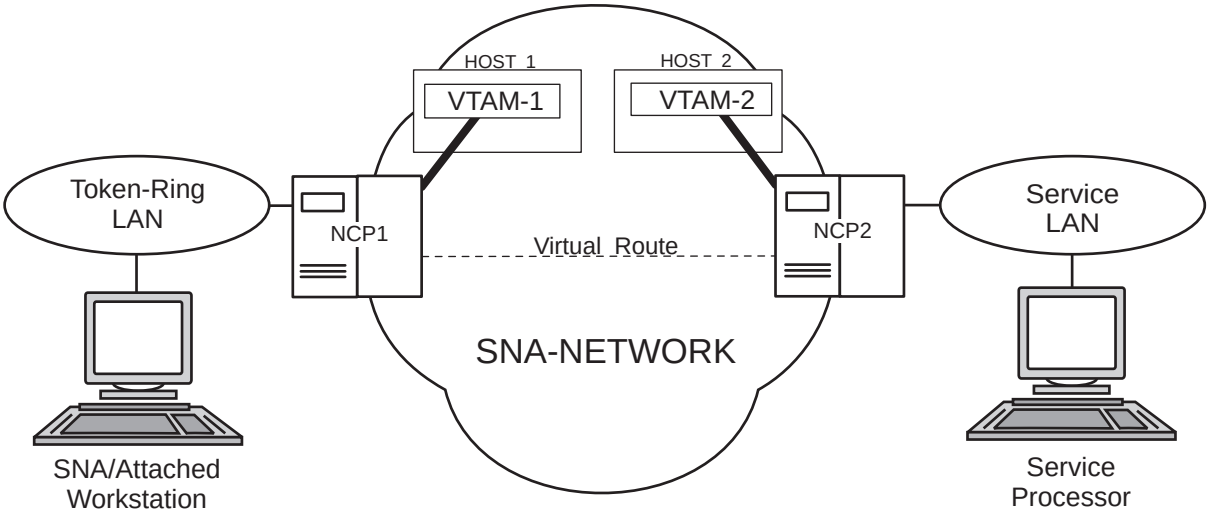


Figure 11-1. SNA-Attached Remote Workstation

This chapter shows you 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

Important

You can use the worksheets in the *Planning Guide*, GA33-0457 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)

In the Service Processor	In the 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.

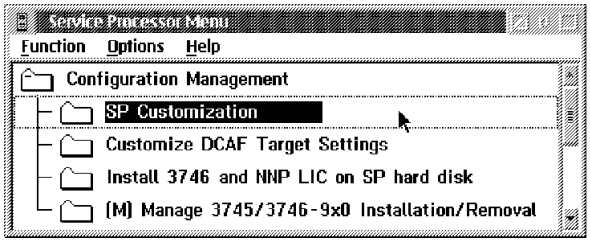
Configuring the Service Processor in MOSS-E

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

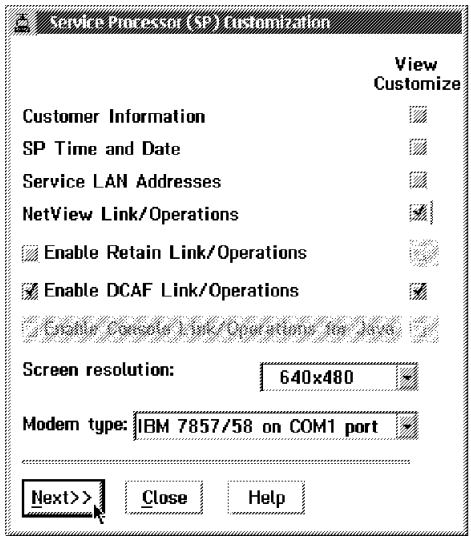
Step 1. In MOSS-E, double-click the **Service Processor** object.

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**.

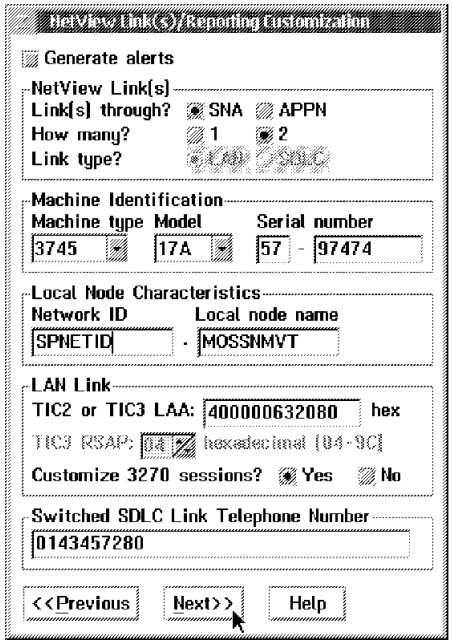


Figure 11-2. NetView Link/Reporting Customization

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.

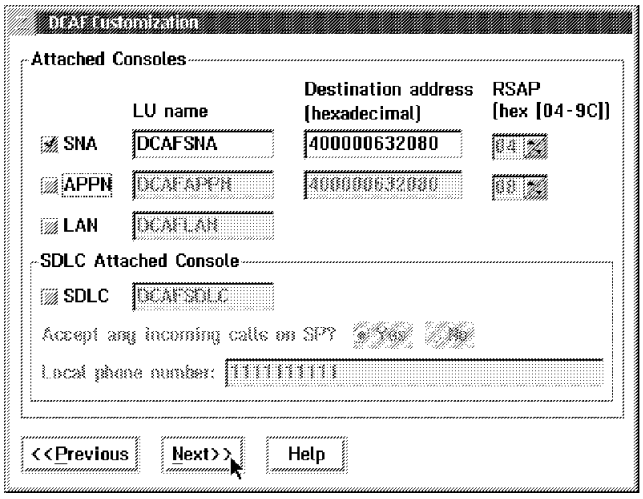


Figure 11-3. DCAF Customization

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.

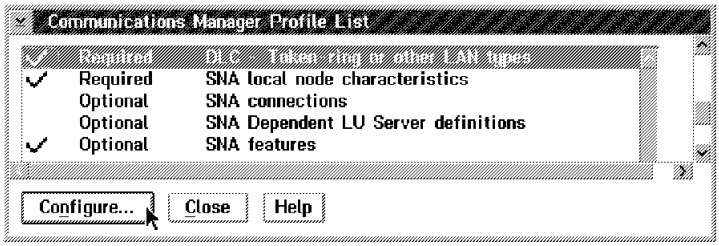
Configuring CS/2

Important

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

Step 1. Perform Steps 1 to 5 on page 13-4.

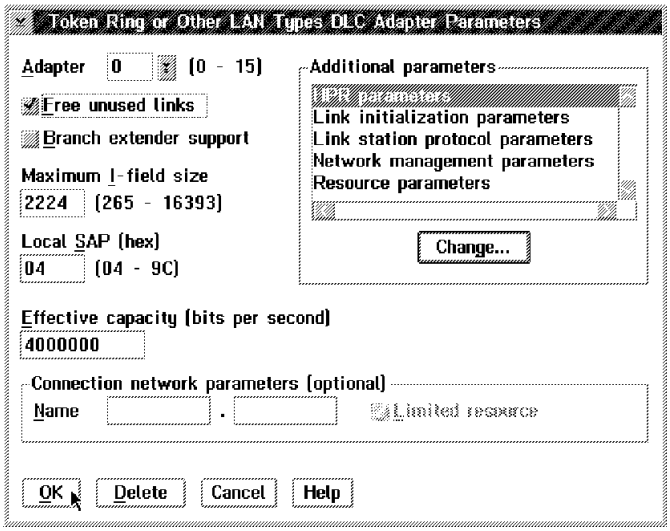
Step 2. Select **DLC - Token-ring or other LAN types** and click **Configure**.



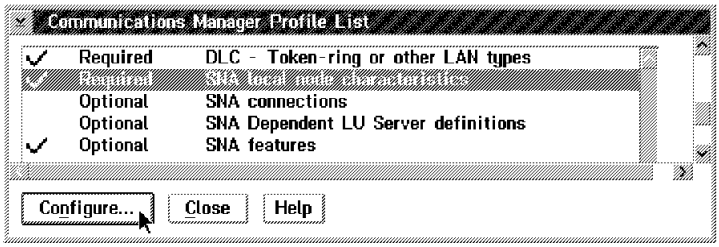
Step 3. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following, using the **Change** button.

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

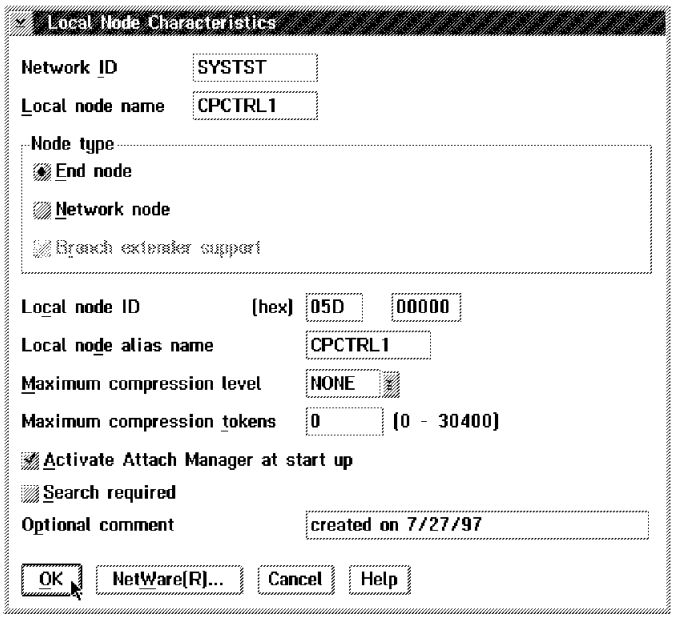
Then click **OK**.



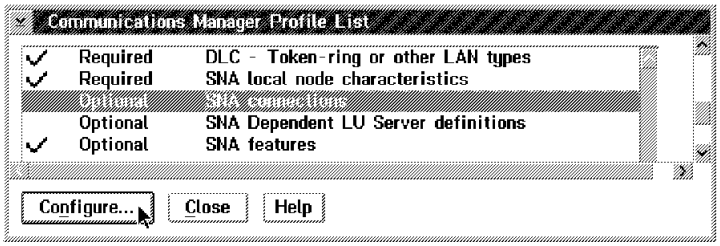
Step 4. Select **SNA local node characteristics** and click **Configure**.



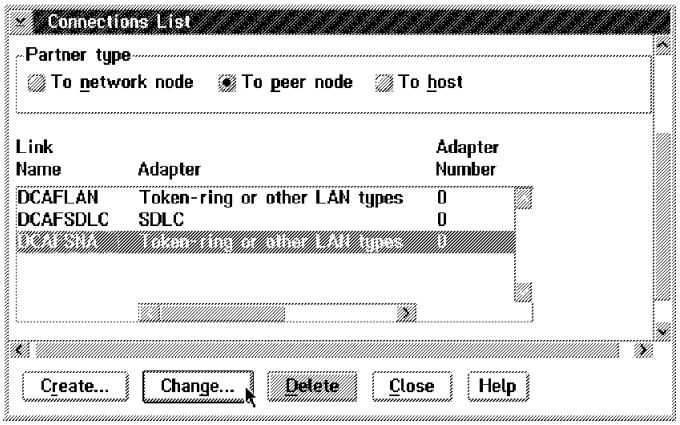
Step 5. Fill in the **Network ID** and **Local node name** fields, select **End node** and click **OK**.



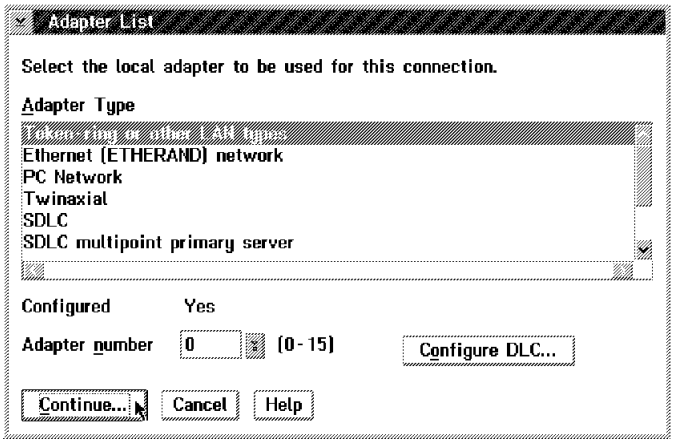
Step 6. Select **SNA connections** and click **Configure**.



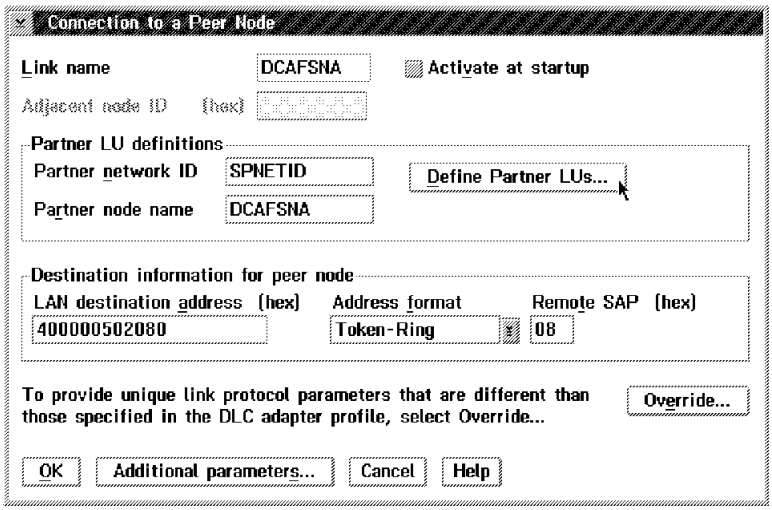
Step 7. Click **To peer node**, select **DCAFSNA** from the list and click **Change**.



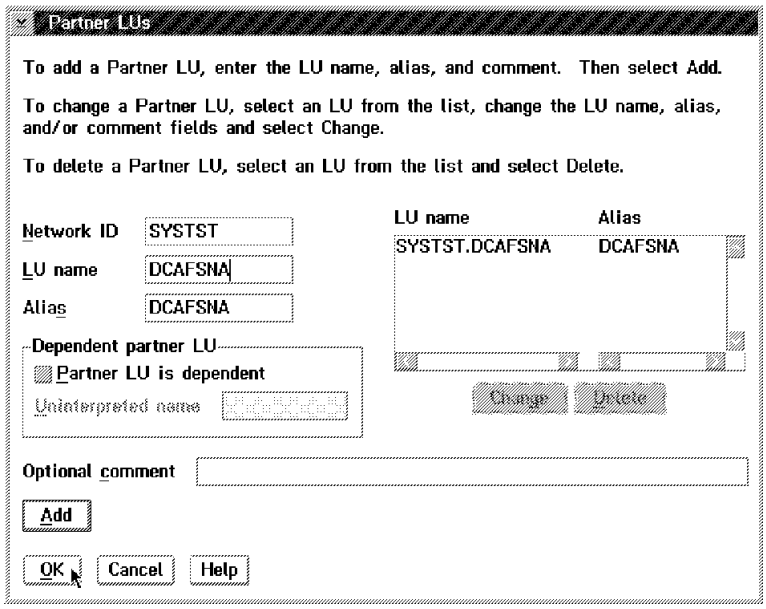
Step 8. Select **Token-ring or other LAN types** and click **Continue**.



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**.

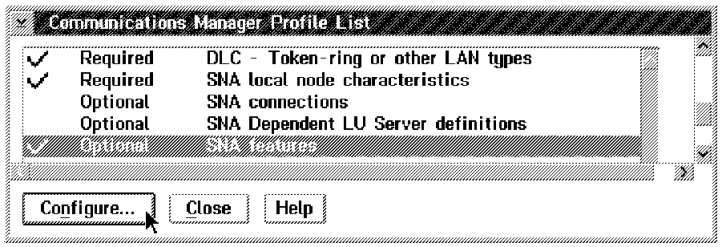


Step 10. Refer to Table 11-1 on page 11-2 and fill in the **Network ID**, **LU name** (service processor LU name), and **Alias** fields. Then click **Add** and **OK**.

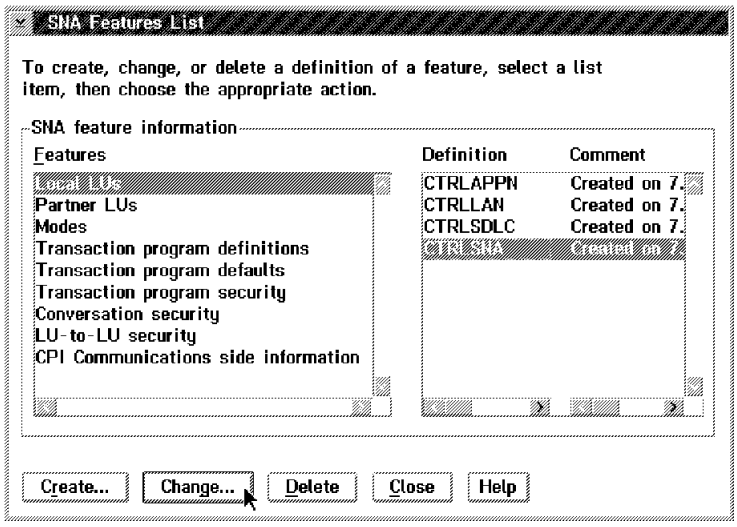


Step 11. Click **OK** on the intermediate window and **Close**.

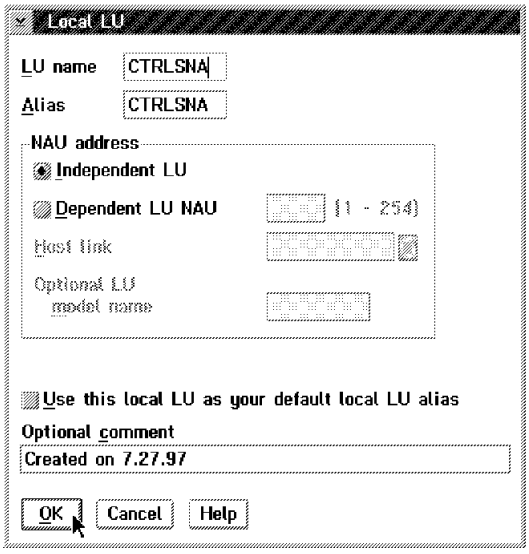
Step 12. Select **SNA features** and click **Configure**.



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 

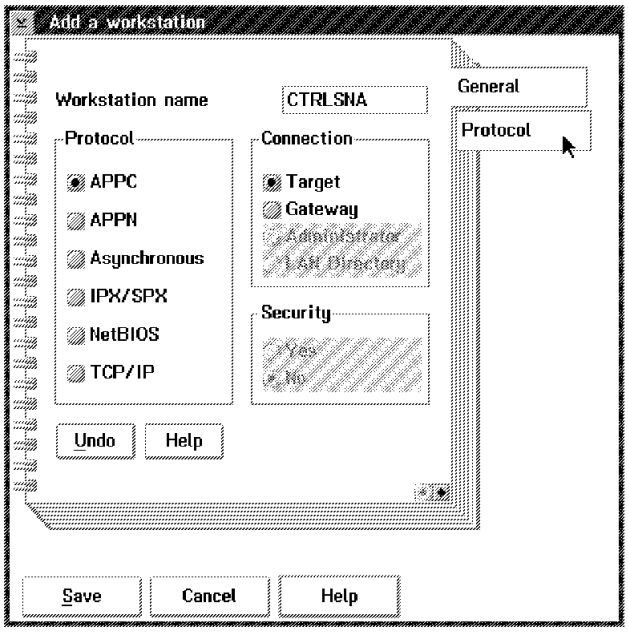
icon.

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

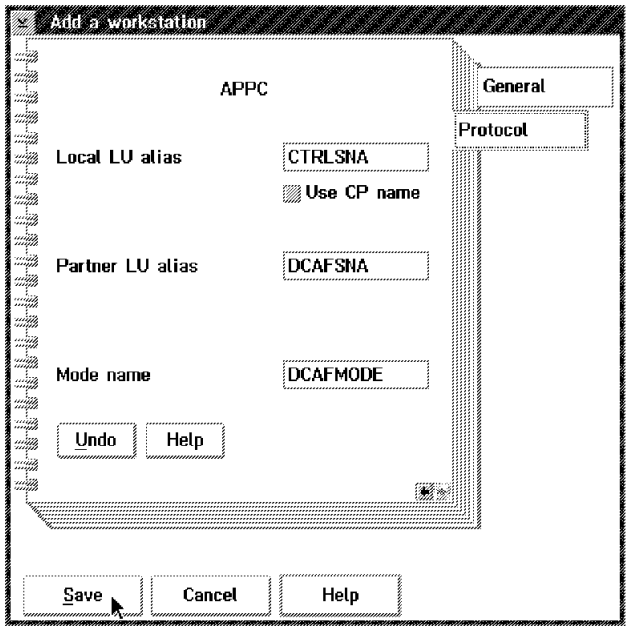
Step 4. Click **OK** for a first installation, otherwise continue with next step.

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. From **Desktop Manager**, shutdown and restart the workstation.

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

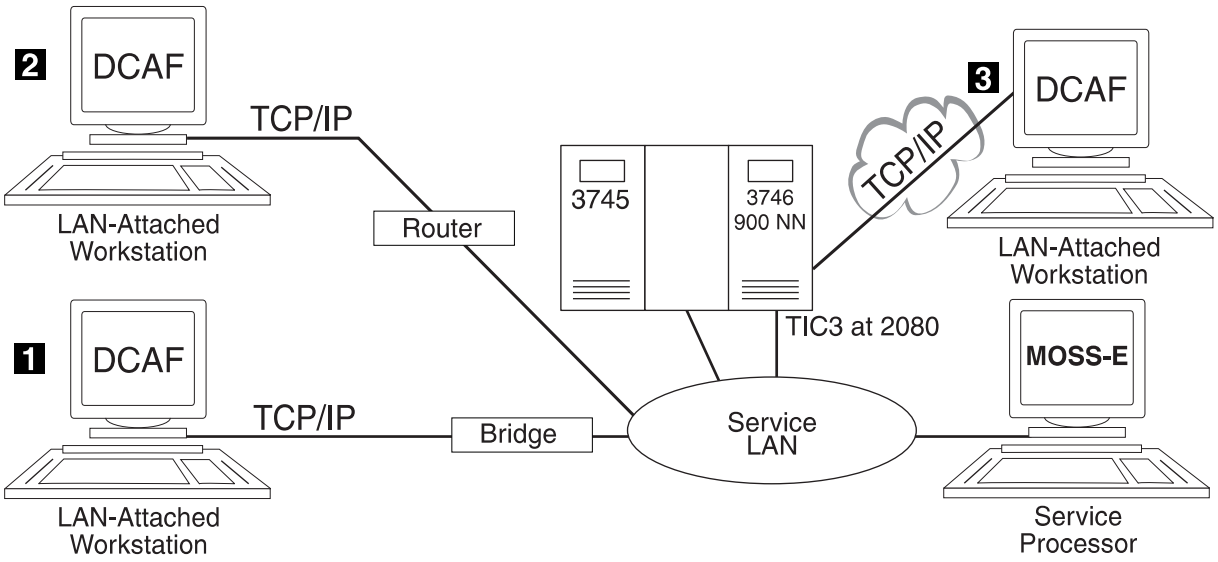


Figure 12-1. Types of TCP/IP Service LAN-Attached Remote Workstations

This chapter shows you 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

Important

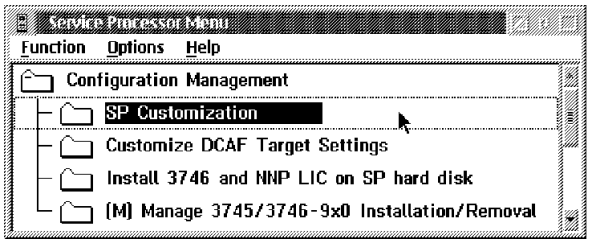
You can use the worksheets in the *Planning Guide*, GA33-0457 to record the necessary parameter values described in this section.

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

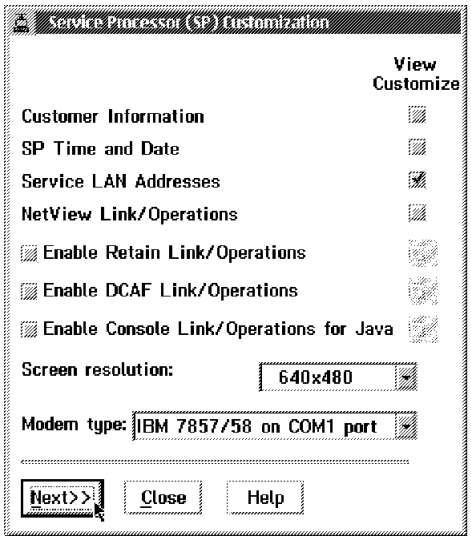
Step 1. Open the **Service Processor Menu**.

Step 2. Click **Configuration Management**.

Step 3. Double-click **SP Customization**.

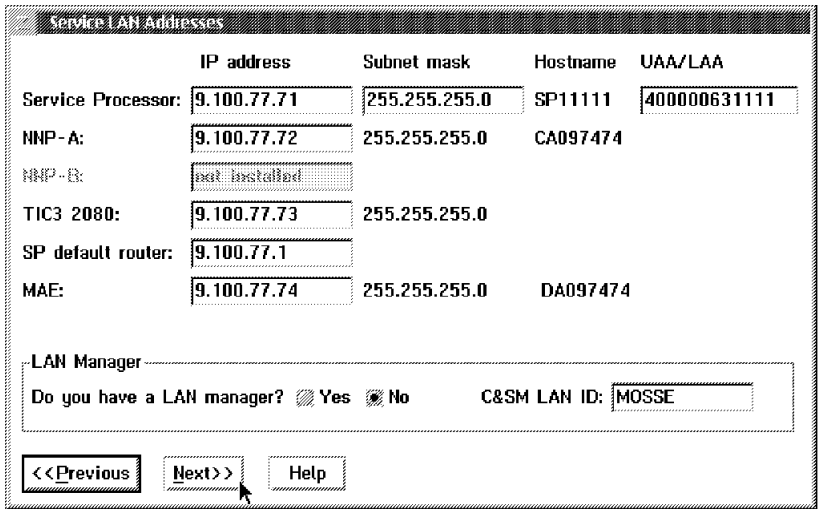


Step 4. Select **Service LAN Addresses** in the **View Customize** button list. Click **Next** to display the **Service LAN Addresses** screen.



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.



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

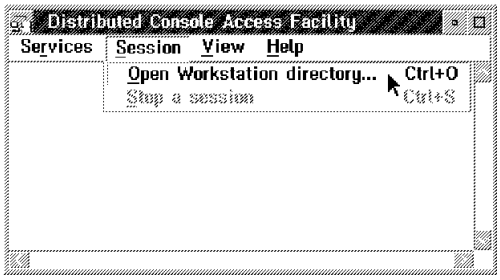
The following procedure configures a service processor in the remote DCAF.

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

Step 2. Double-click the 

icon.

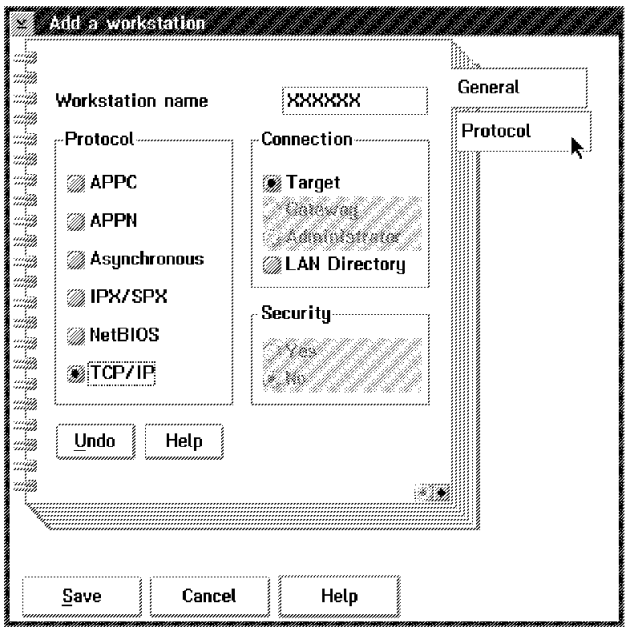
Step 3. Click **Session**, then **Open workstation directory**.



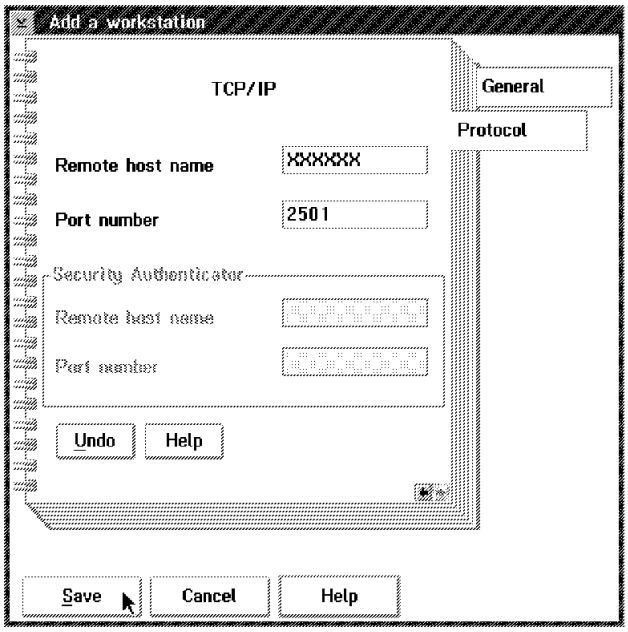
Step 4. Click **OK** for a first installation. Otherwise continue with next step.

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

Step 6. Fill in the **Workstation name** field, select **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.

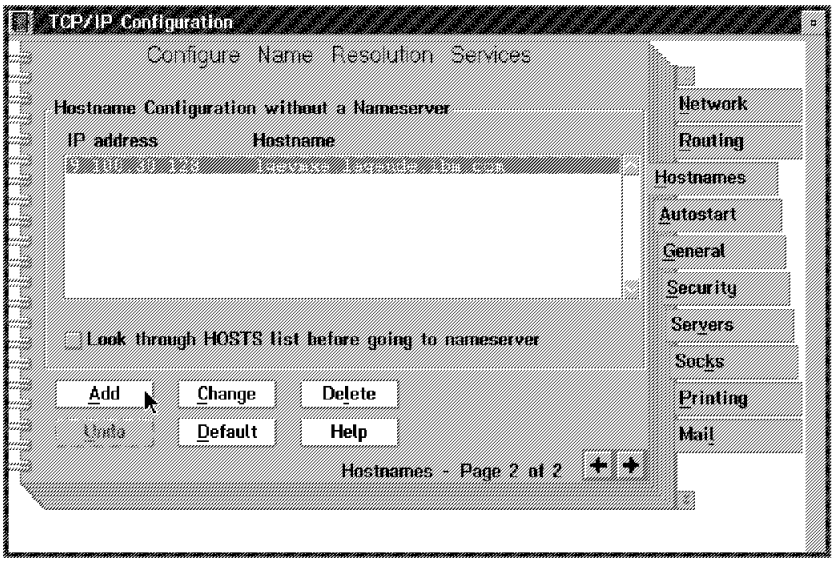
Configuring TCP/IP

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

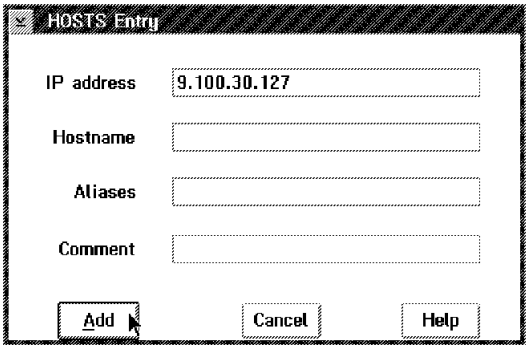
Step 1. Double click the **TCP/IP Configuration** icon on your desktop.

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. Go to Chapter 8, “Using DCAF for Remote Access to the Service Processor” for using this new DCAF session.

Chapter 13. APPC LAN-Attached Remote Workstation

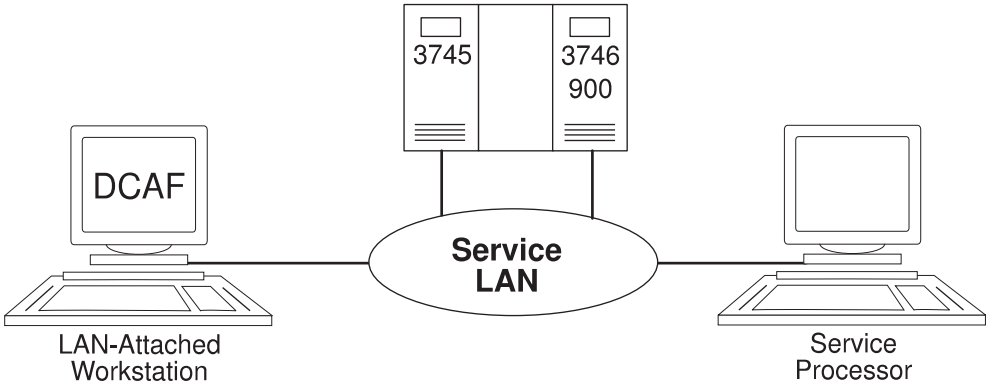


Figure 13-1. APPC Service LAN-Attached Remote Workstation

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

Important

You can use the worksheets in the *Planning Guide*, GA33-0457 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)	
In the Service Processor	**In the Remote Workstation**
Local Node Network ID (Figure 13-2 on page 13-3)	**Partner network ID** (Step 13 on page 13-9) and **Network ID** (Step 14 on page 13-9)
SDLC LU name (Figure 13-3 on page 13-4)	**Partner node name** (Step 13 on page 13-9) and **Partner LU alias** (Step 7 on page 13-12) and **LU name** (Step 14 on page 13-9)
TIC2 or TIC3 LAA (Figure 13-2 on page 13-3)	**LAN Destination address** (Step 13 on page 13-9)
TIC3 RSAP (Figure 13-2 on page 13-3)	**Remote SAP** (Step 13 on page 13-9)

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

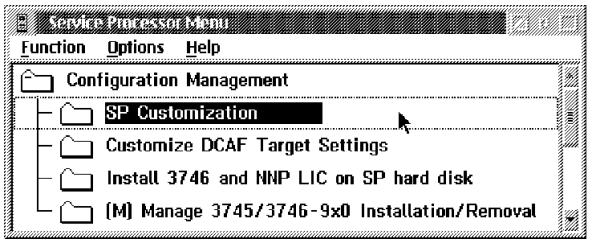
Configuring the Service Processor in MOSS-E

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

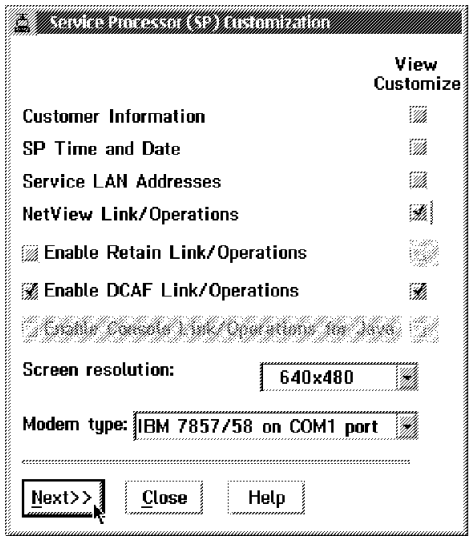
Step 1. In MOSS-E, double-click the **Service Processor** object.

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** and **Next** again.



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**.

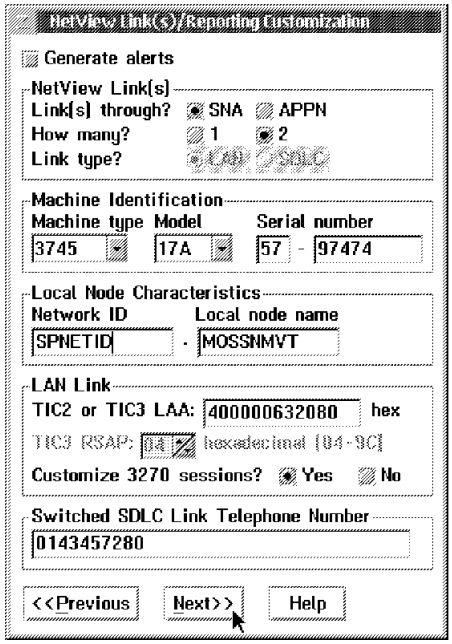


Figure 13-2. NetView Link/Reporting Customization

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.

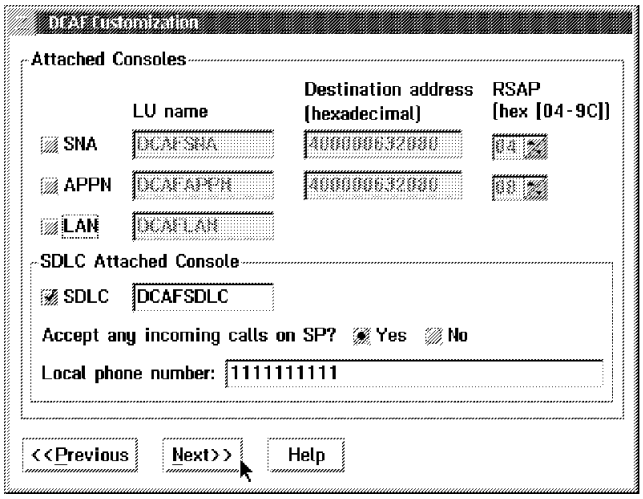


Figure 13-3. DCAF Customization

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 a APPC LAN-Attached Remote Workstation.”

Configuring a 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. From **Desktop Manager**, double-click the **CS/2** icon.

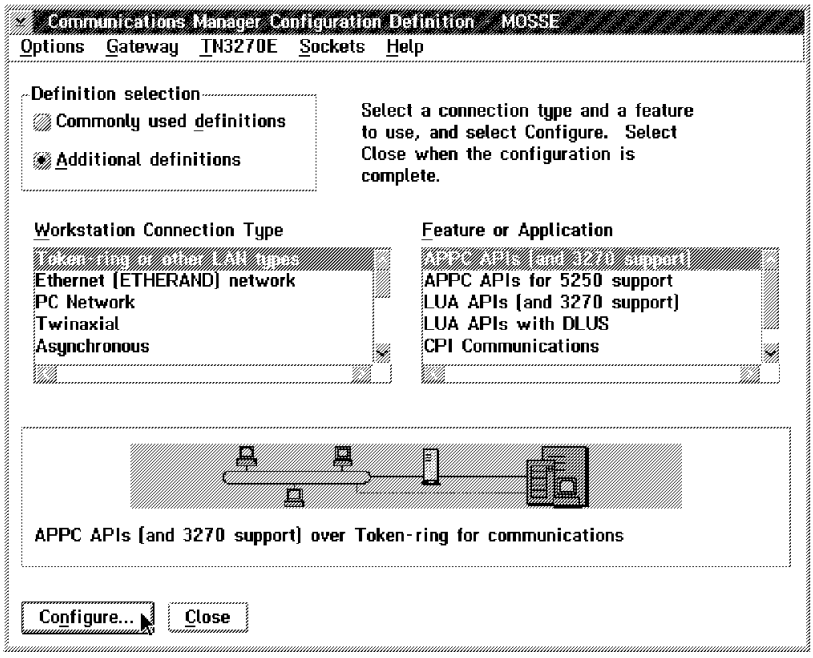
Step 2. Double-click the 

icon.

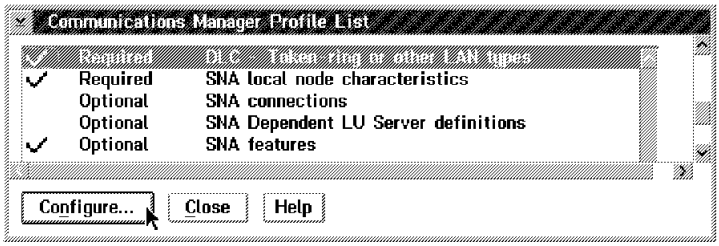
Step 3. Click **Setup**.

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**, then click **Configure**.



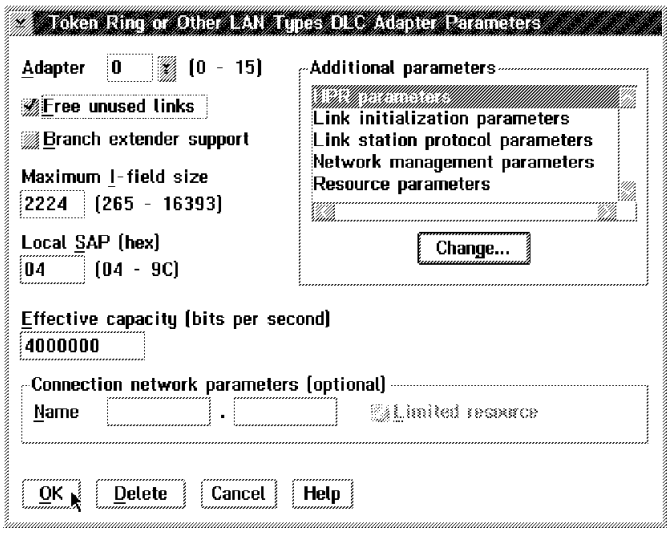
Step 6. Select **DLC - Token-ring or other LAN types** and click **Configure**.



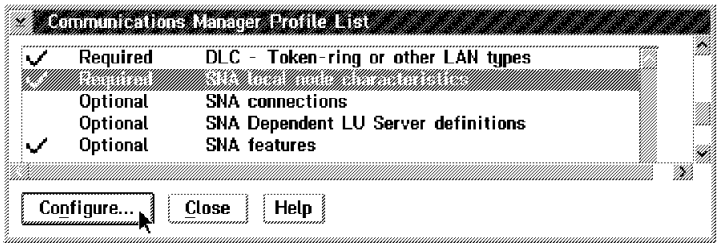
Step 7. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following, using the **Change** button.

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

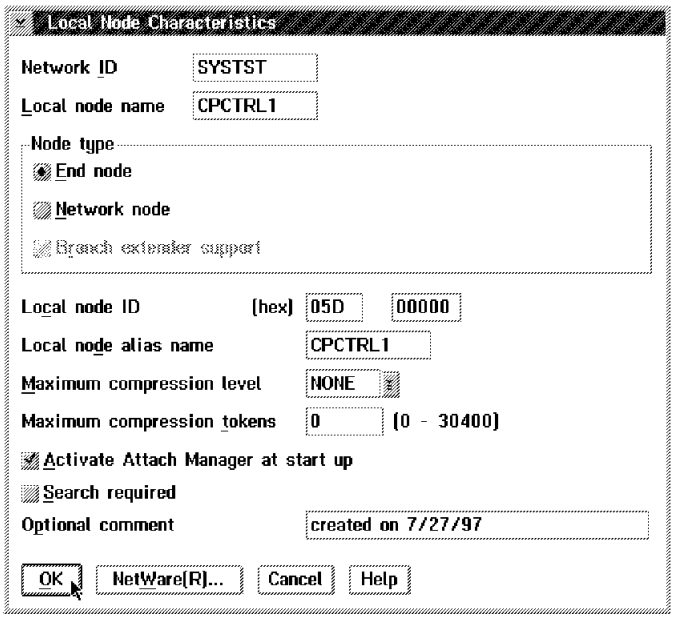
Then click **OK**.



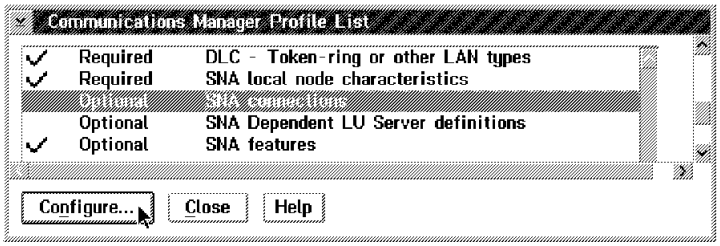
Step 8. Select **SNA local node characteristics** and click **Configure**.



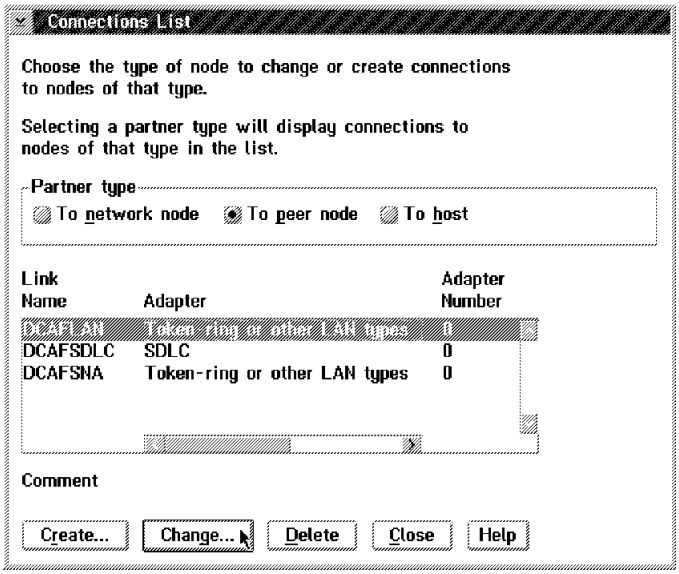
Step 9. Modify the **Network ID** and **Local node name** fields, select **End node** and click **OK**.



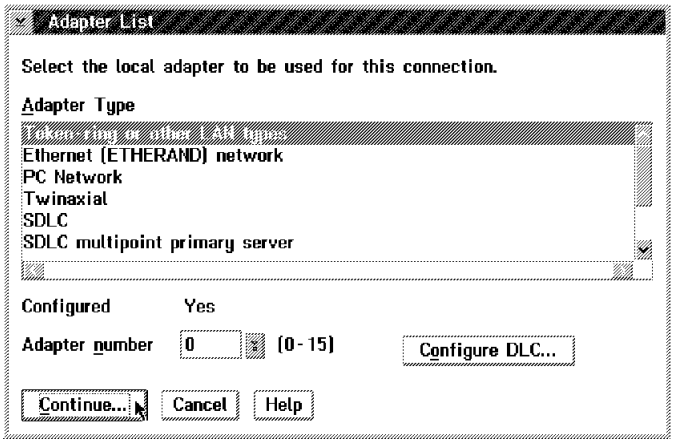
Step 10. Select **SNA connections** and click **Configure**.



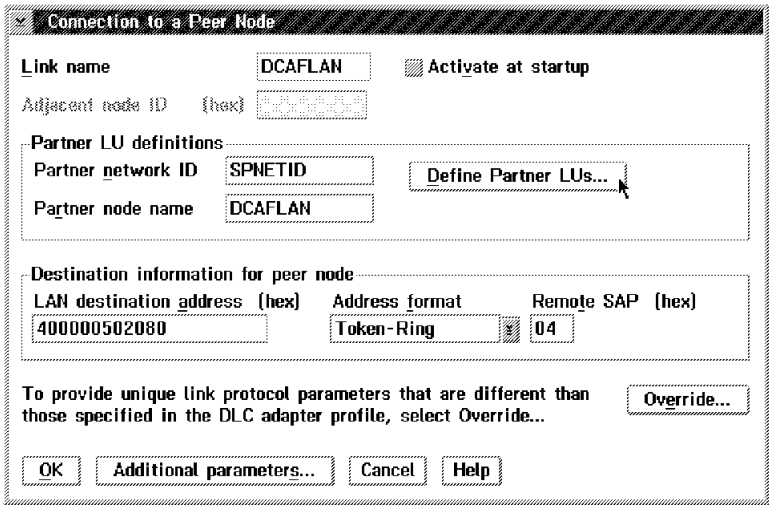
Step 11. Click **To peer node**, select **DCAFLAN** from the list and click **Change**.



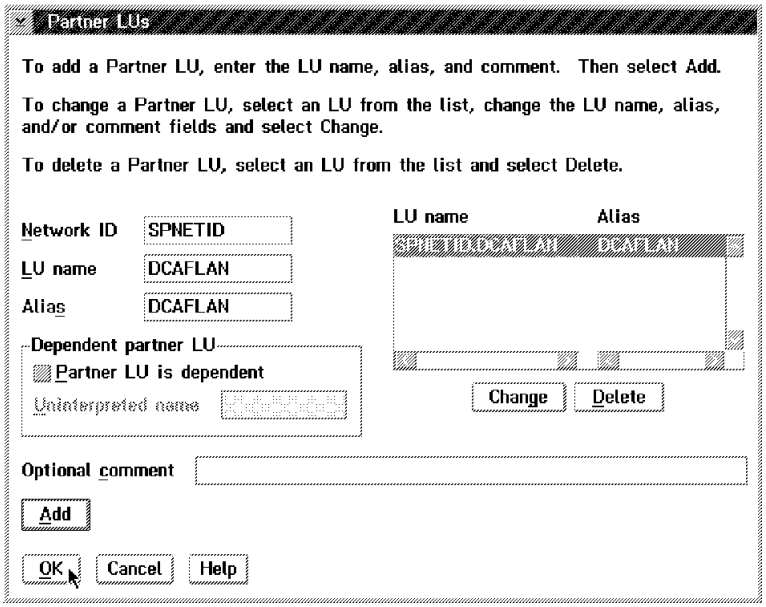
Step 12. Select **Token-ring or other LAN types** and click **Continue**.



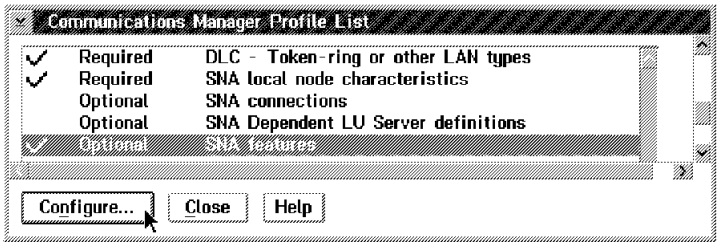
Step 13. Refer to Table 13-1 on page 13-2 and fill in the **Partner network ID** (the network name), the **Partner node name** (the network of the target service processor), the **LAN destination address** (the address of the service processor), and the **Remote SAP** fields. Then click **Define Partner LUs**.



Step 14. 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**.

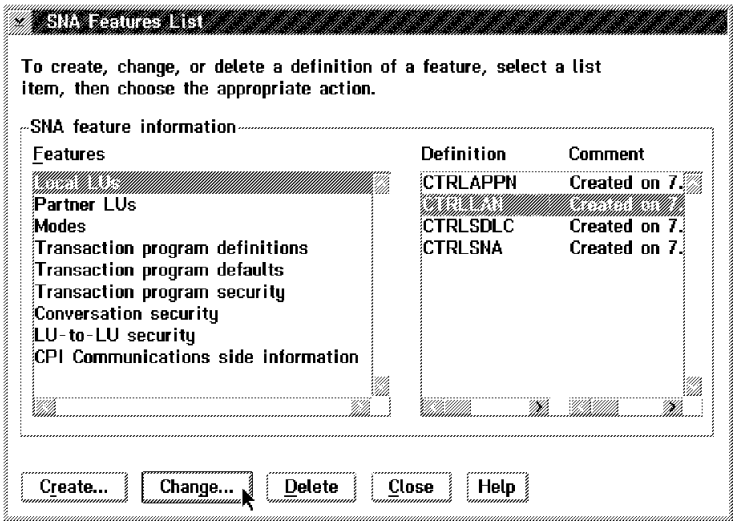


Step 15. Select **SNA features** and click **Configure**.

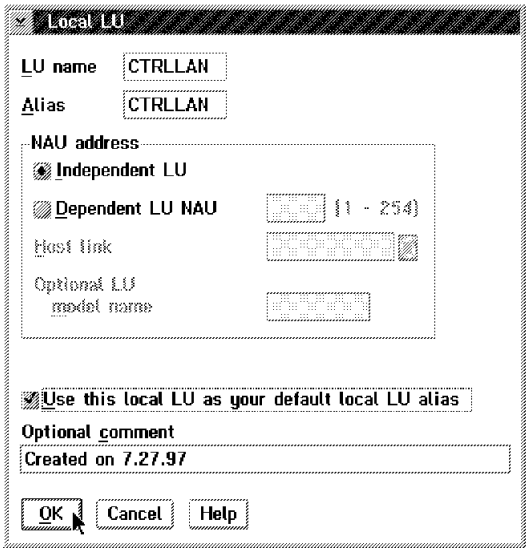


Step 16. Click **Add** and **OK**.

Step 17. Select **Local LUs** and **CTRLLAN**, then click **Change**.



Step 18. 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 19. Click **Close** on each subsequent screen until you exit CS/2.

Step 20. Continue with “Configuring DCAF for APPC.”

Configuring DCAF for APPC

Step 1. On your desktop, double-click the **Distributed Console Access Facility** icon.

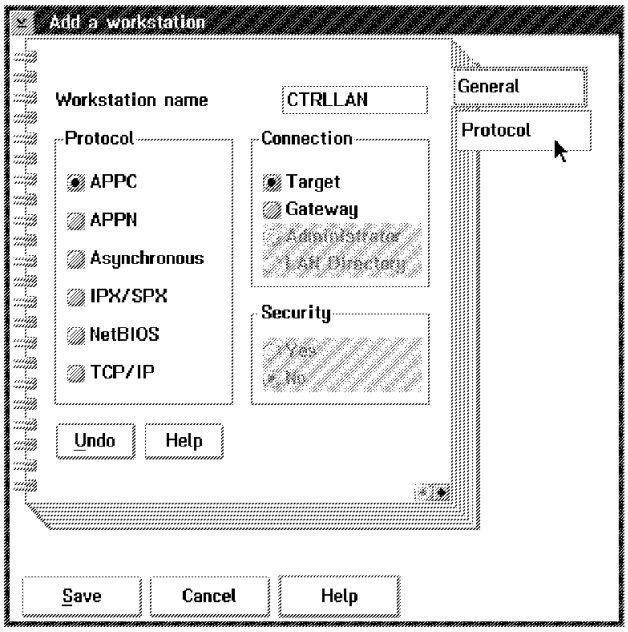
Step 2. Double-click the  icon.

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

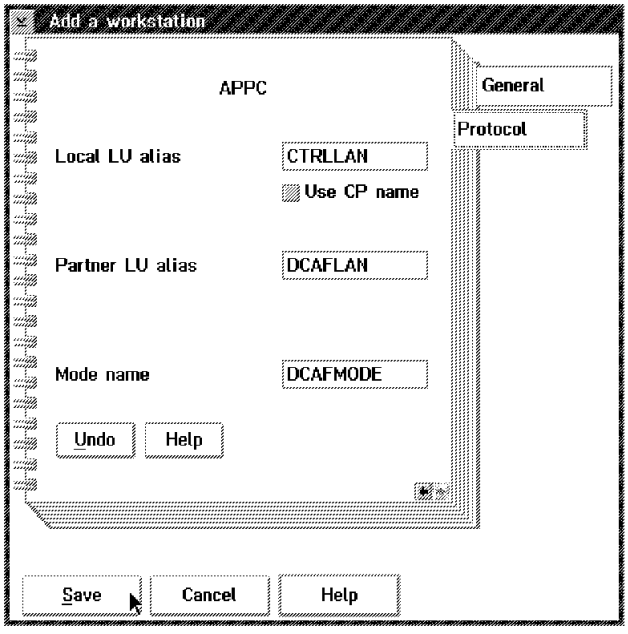
Step 4. Click **OK** for a first installation. Otherwise, continue with next step.

Step 5. Click **Add** in the **Workstation** directory.

Step 6. Fill in the **Workstation name** field (refer to **Local LU name** in Step 18 on page 13-11), select **APPC**, **Target**, and click **Protocol**.



Step 7. Fill in the **Local LU alias** field (refer to **Local LU name** in Step 18 on page 13-11), 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. Go to Chapter 8, “Using DCAF for Remote Access 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

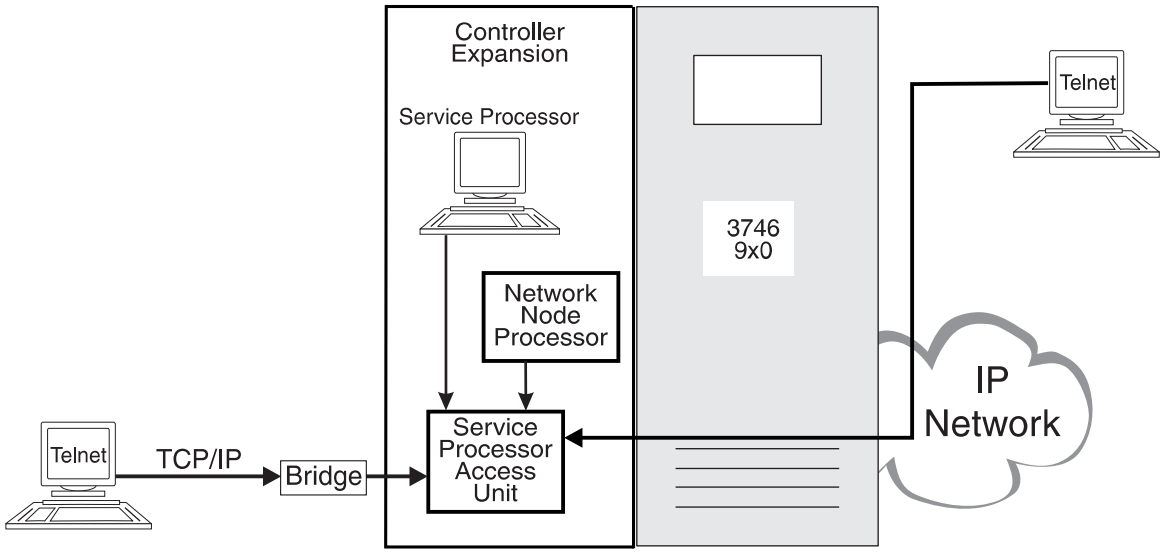


Figure 14-1. Telnet Workstation Configuration

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 *3745 Communication Controller Models A, 3746 Nways Multiprotocol Controller Model 900: Basic Operations Guide*, SA33-0177.

Closing a Session

To close the session, press 

and 

together.

Chapter 15. Console for Java Remote Access

Overview of Console for Java

Communications

Console for Java supports communications using TCP/IP protocol over the following:

- Asynchronous cable and modem
- LAN.

Flexibility Support

Console for Java can run on the workstation as an Applet in a web browser, or as a Java program.

Programming Requirements

Requires microcode level &f12. on the service processor. Console for Java 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.

Network browsers

Console for Java 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 Console for Java

Console for Java can enable a remote workstation to access and control a service processor and network node processor (NNP) across the network. When a link has been established to the target service processor using Console for Java, you can run and control the programs and utilities running on the service processor. For example, with a link activated between the service processor and a remote workstation, you can monitor controller operations in MOSS-E. Console for Java also provides a utility for file transfer between the service processor and the remote workstation, for example, CCM configuration files.

Note: You can download files from the service processor to the remote workstation with Console for Java running as an Applet (web browser-based). However, to upload files from the workstation to the service processor, you need to install the Console for Java program onto your workstation hard disk.

For more information on installing Console for Java on your remote workstation, see “Installing Console for Java as a Program on a Remote Workstation” on page 17-1.

Remote Workstation Access to a Service Processor

There are two possible links between the remote workstation and the service processor:

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 Console for Java, a remote workstation asynchronous modem can connect with PPP dial-up client to the service processor and other devices on the service ring, including other service processors and NNPs.

The configuration for this type of link is described in “Remote Workstation Access Via Switched Line (Modem)” on page 16-2.

Remote Access Via the Service LAN

In this scenario, the remote workstation connects to the service processor through the TIC 3 2080 port of the 3746, or the TIC 2 port of a 3745, or via a bridge or router installed on the service ring.

Prerequisite: The TIC 3 2080 port on the 3746 requires 3746 IP Routing, feature code 5033.

The configuration for this type of link is described in “Remote Workstation Access Via Service LAN” on page 16-12.

Configuring Console for Java

Support for Console for Java (either as an Applet or as a program) and for DCAF is provided by microcode level &f12.. When the new level of microcode is installed, you have the option of retaining support for DCAF or selecting Console for Java for remote access.

The procedure for making this selection is described in “Procedure for Configuring the Service Processor.”

To install Console for Java as a program on your workstation, see Chapter 17, “Installing Console for Java Program” on page 17-1.

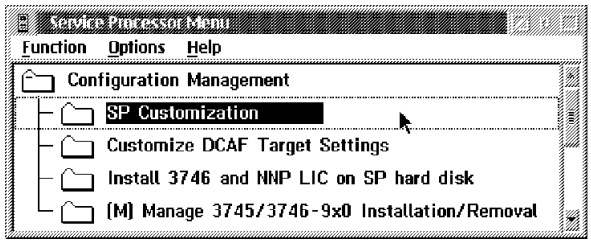
Procedure for Configuring the Service Processor

Use the following procedure to select Console for Java after the new microcode upgrade on your service processor.

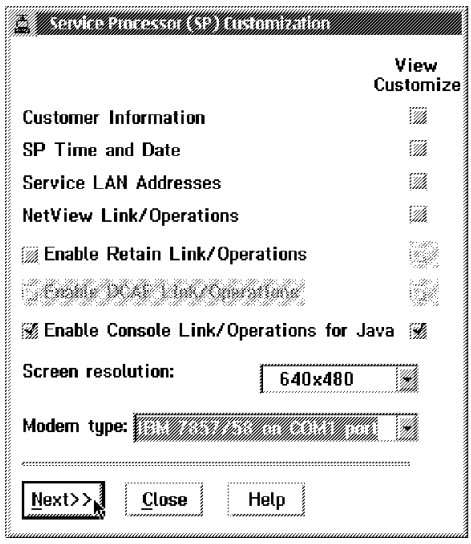
Step 1. In MOSS-E, double-click the **Service Processor** object.

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**.

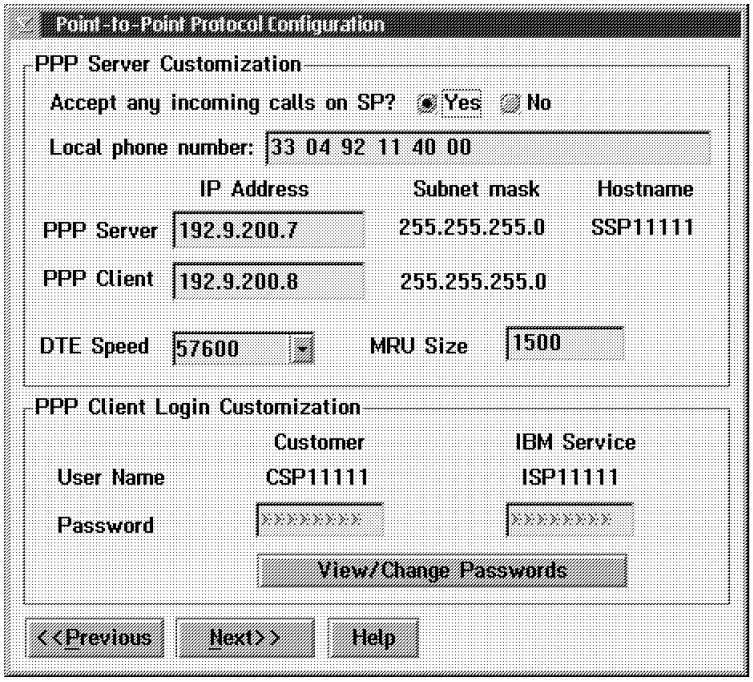


Figure 15-1. Point-to-Point Protocol Configuration Screen

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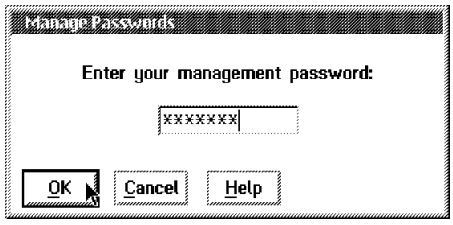
1 You can assign any IP address in this field, but if you want to access other devices connected to the service processor (the NNP, for example), then assign a number within the same subnet range.

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 upper case and up to 8 alphanumeric characters in length. New passwords appear in the fields in asterisk format.

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, you will only need these passwords if you are configuring or using a switched line (modem) connection between the service processor and the remote workstation.

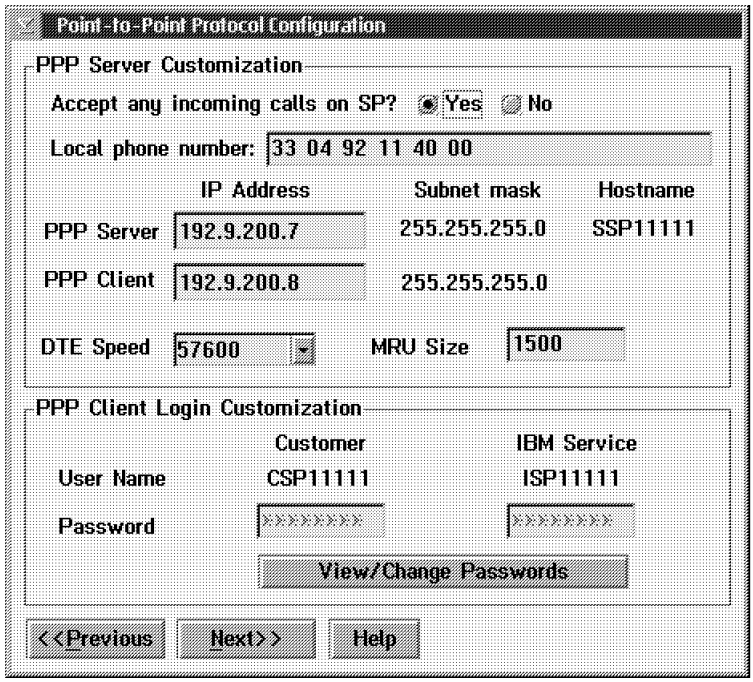


Figure 15-2. Entering Customer and IBM Service Passwords

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 Console for Java 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.

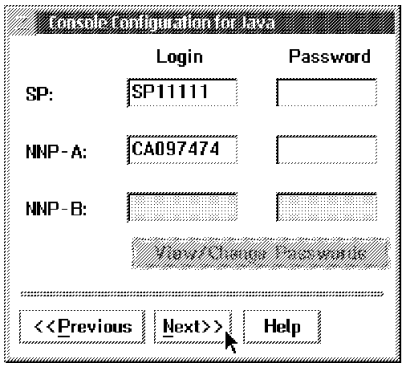


Figure 15-3. Console Configuration for Java Screen

Step 9. Click **Next**, **Close**, and **Yes** to save the configuration.

Step 10. Go to Chapter 16, “Using Console for Java to Remotely Access a Service Processor with a Web Browser” on page 16-1.

Chapter 16. Using Console for Java to Remotely Access a Service Processor with a Web Browser

Running Console for Java on a remote workstation either as an Applet or as a program, you can access and control a service processor across the network. Console for Java 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 Console for Java link using a web browser. Procedures include the following:

- Configuring the Console for Java 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 Console for Java 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 Access Via Switched Line (Modem)" on page 16-2.
- "Remote Workstation Access Via Service LAN" on page 16-12.

For the procedure on installing Console for Java as a program on your workstation, see "Installing Console for Java as a Program on a Remote Workstation" on page 17-1.

Remote Workstation Requirements

Console for Java 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 Console for Java access.

Remote Workstation Access Via Switched Line (Modem)

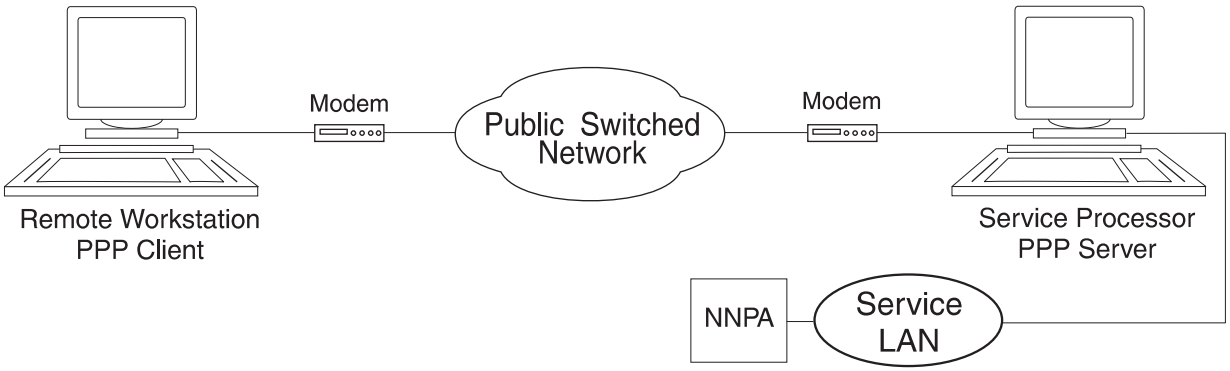


Figure 16-1. Modem-Attached Remote Workstation Using Console for Java

This section contains the following example procedures for two different remote workstation platforms:

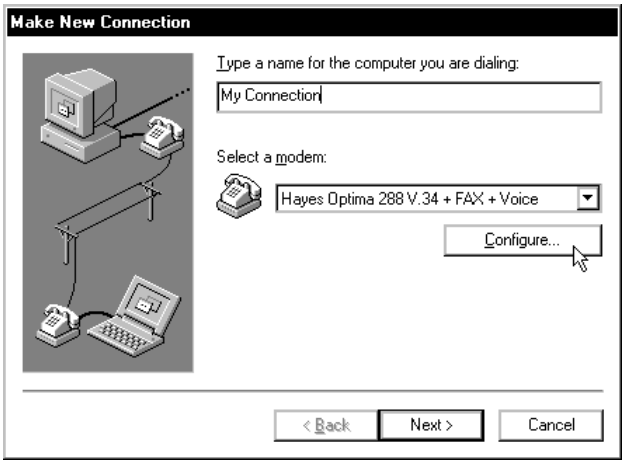
- In “Configuring the Remote Workstation in Windows 95.”
- In “Configuring the Remote Workstation in OS/2 Warp” on page 16-8.

Configuring the Remote Workstation in Windows 95

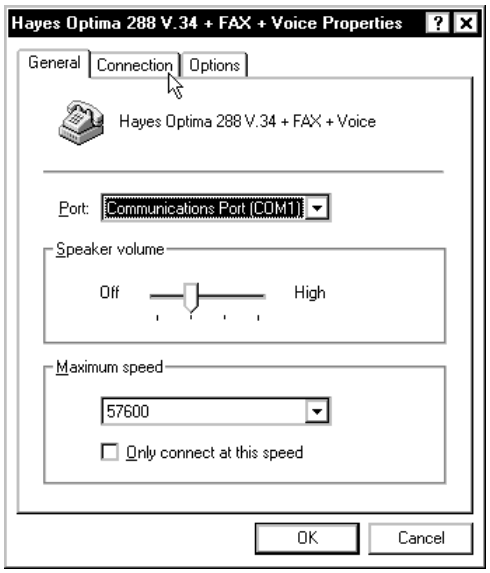
It is assumed that the TCP/IP network component and workstation modem is correctly installed and configured.

Step 1. Click **My Computer** and double-click the **Dial-Up Networking** folder.

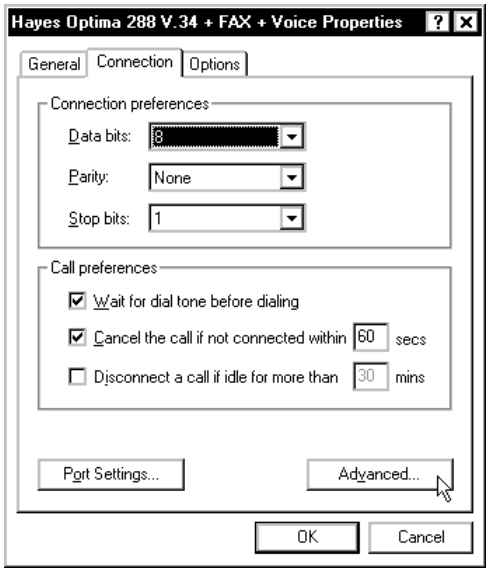
Step 2. Double click **Make New Connection**. Enter a name for the configuration, check that your modem is displayed, then click **Configure**.



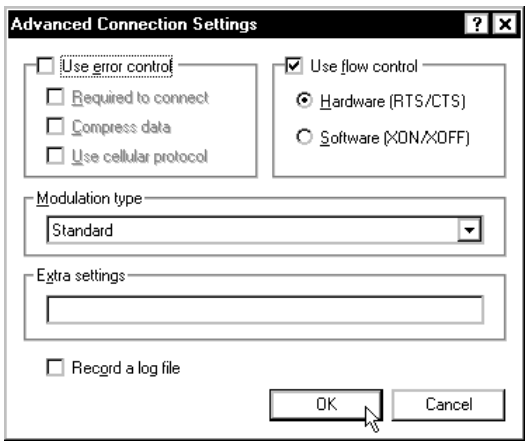
Step 3. Enter the COM port of the modem, the modem speed (the maximum speed, for example, 115200 for modem 7858, or 19200 for modem 7857), and click the **Connection** tab.



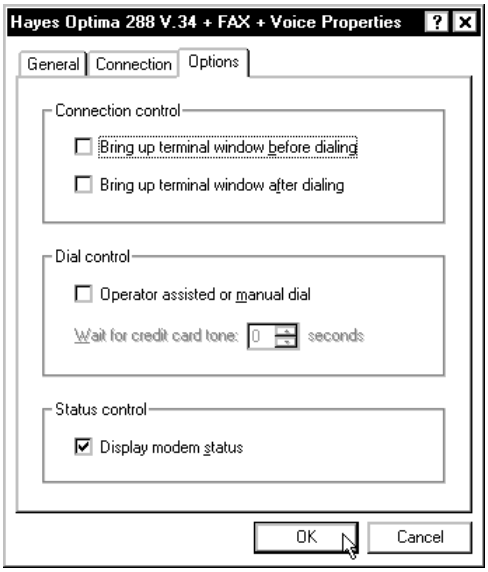
Step 4. Enter 8 in **Data bits**, None in **Parity** and 1 in **Stop bits**. Check **Wait for dial tone before calling** and **Cancel the call if not connected within 60 seconds**, the click the **Advanced** button.



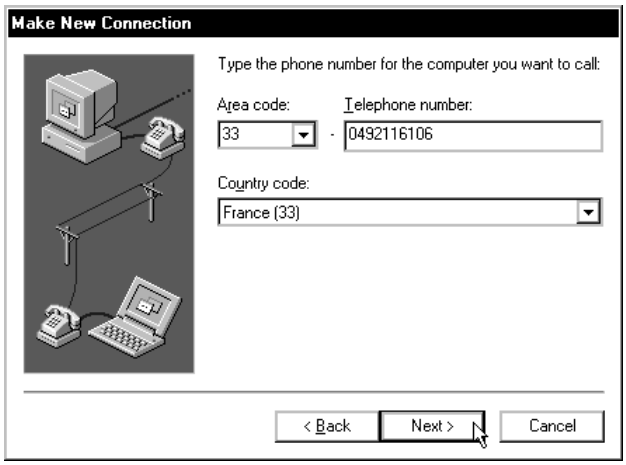
Step 5. Select **Use flow control** and **Hardware (RTS/CTS)** and click **OK**.



Step 6. Select the **Options** tab, select **Display modem status** and click **OK**. The click **Next**.



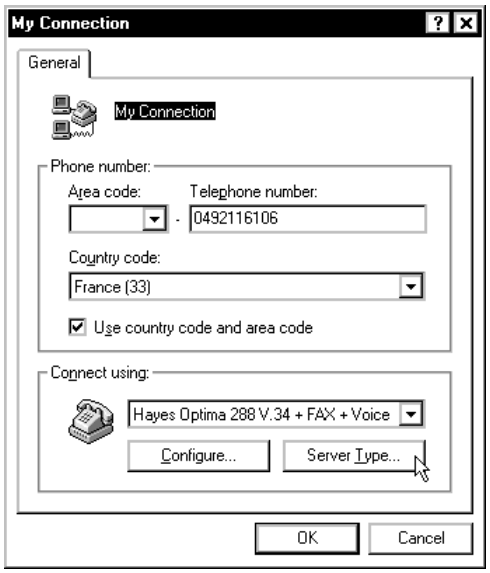
Step 7. Enter the phone number of the service processor modem. Click **Next** then **Finish**.



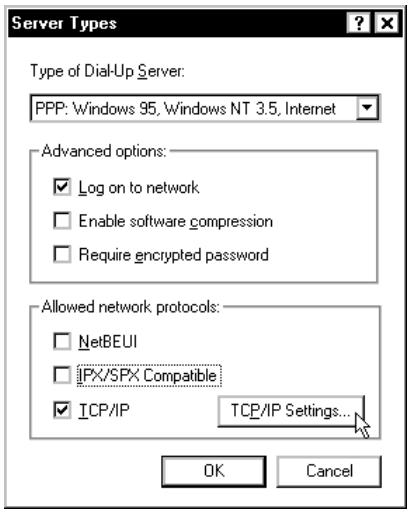
Step 8. The new configuration displays in the **Dial-Up Networking** folder.

Step 9. Click the new configuration file once with the right mouse button and select **Properties**.

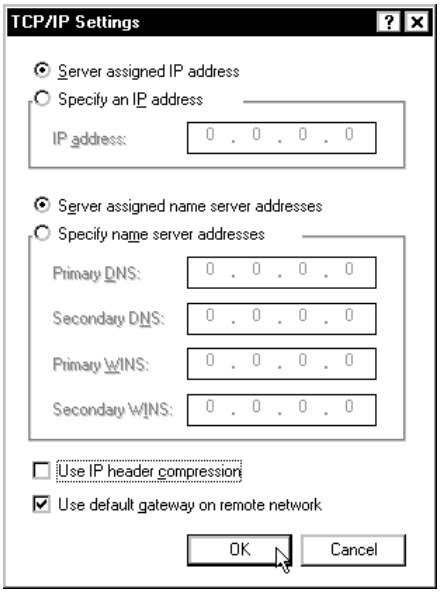
Step 10. Click **Server Type**.



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.

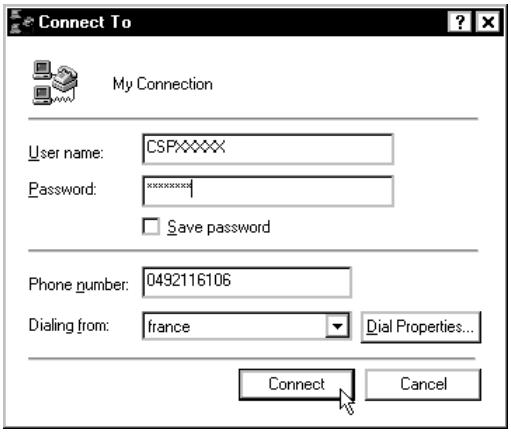


Step 13. Go to “Initiating a Switched Line Connection in Windows 95” on page 16-7.

Initiating a 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).

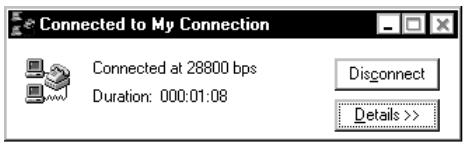
Step 2. Check the entry in the **User name** field and enter a password. Then click **Connect**.



Step 3. A status message displays. Wait until the message indicates a successful connection.

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**.



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

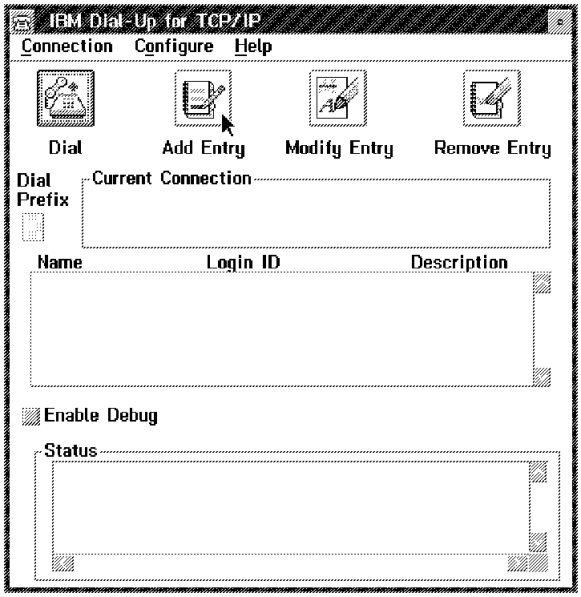
The location of a network dialer program depends on the version of OS/2 you have running on your workstation. For example:

- IBM TCP/IP for OS/2
  - **OS/2 System** folder
  - **TCP/IP** file
  - **Network Dialer** icon.

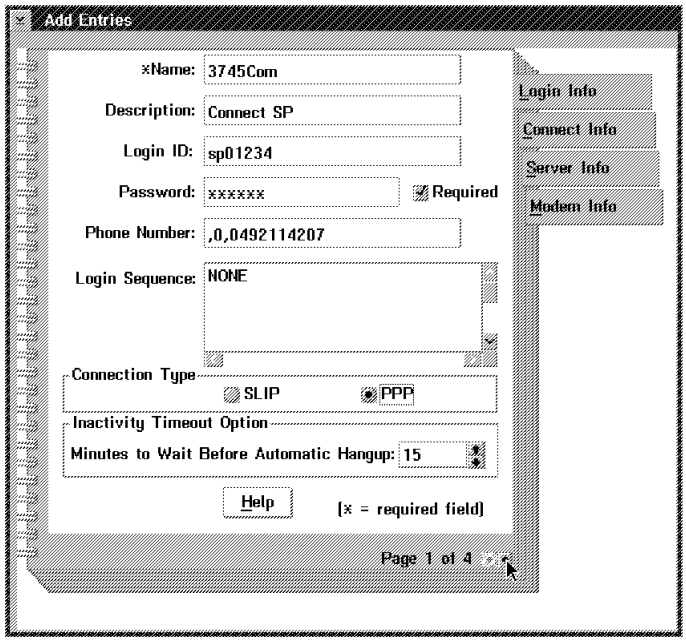
Configuring the Network Dialer Program in OS/2 Warp

Step 1. Double click Network Dialer.

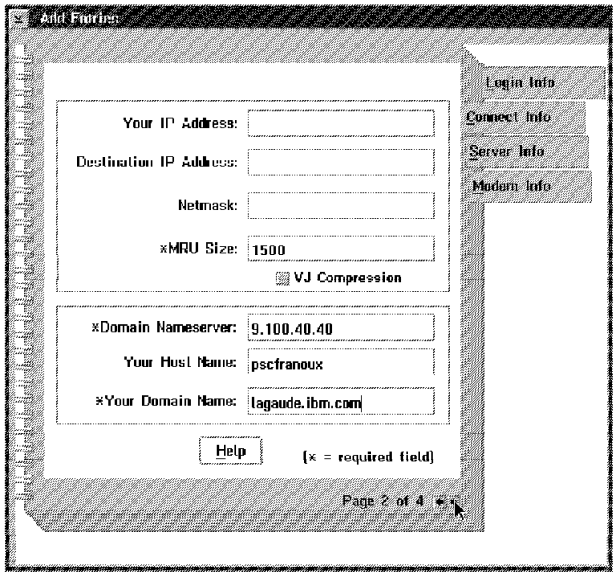
Step 2. In the **IBM Dial-Up for TCP/IP** screen, click **Add Entry**.



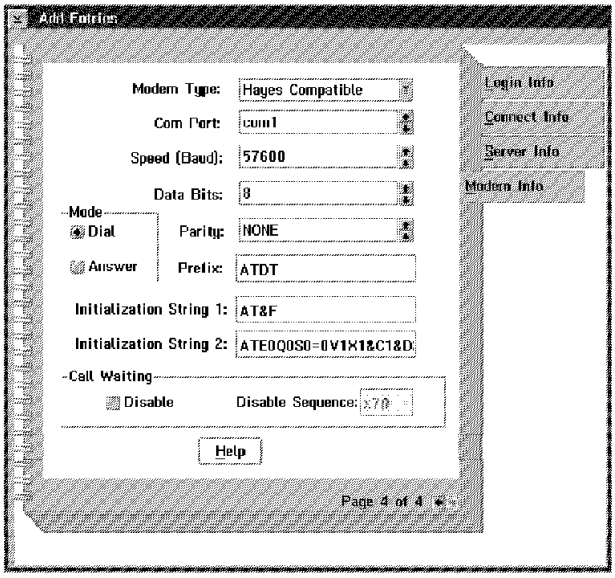
Step 3. Fill in the **Name** and **Description** fields. Enter the name of the service processor in the **Login ID** field. Enter a password in the **Password** field. Enter the phone number of the service processor in the **Phone Number** field. Click the **PPP** button, and then click the arrow button 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**.

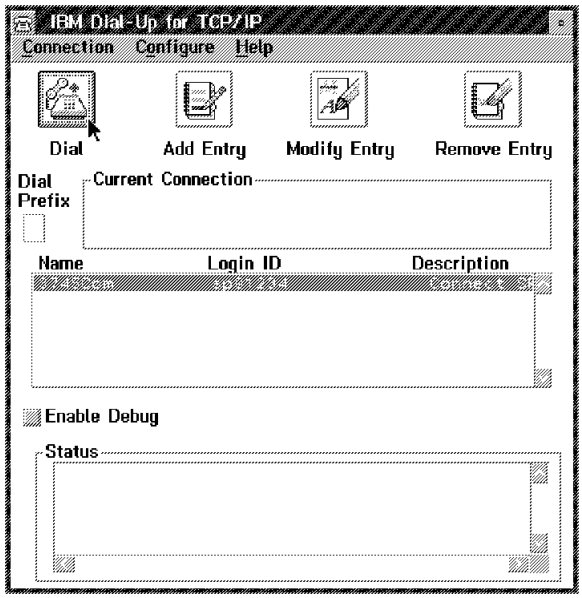
Step 7. Go to “Initiating a Switched Line Connection in OS/2 Warp.”

Initiating a Switched Line Connection in OS/2 Warp

Step 1. On your workstation, double-click 

.

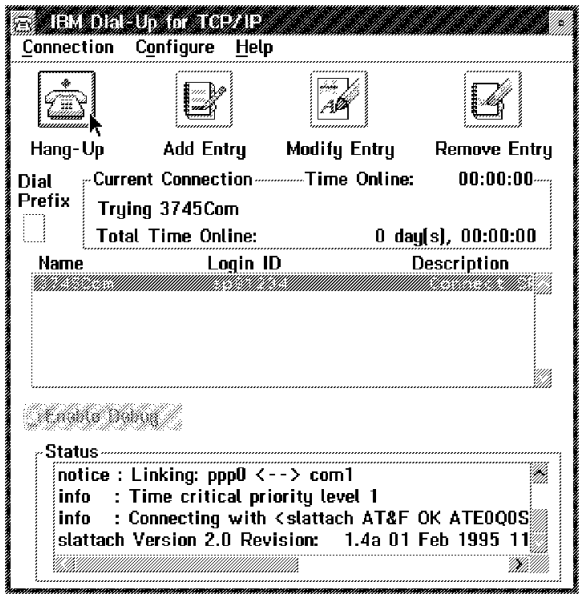
Step 2. In the **IBM Dial-Up for TCP/IP** screen, select the name entry for the controller (see 3 on page 16-9) and click **Dial**. The **Status** field displays connecting information.



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

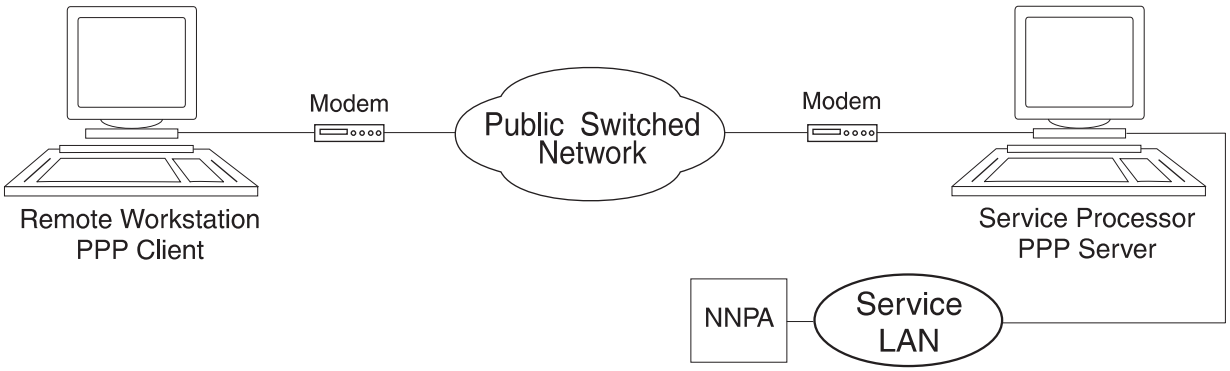


Figure 16-2. LAN-Attached Remote Workstation Using Console for Java

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:

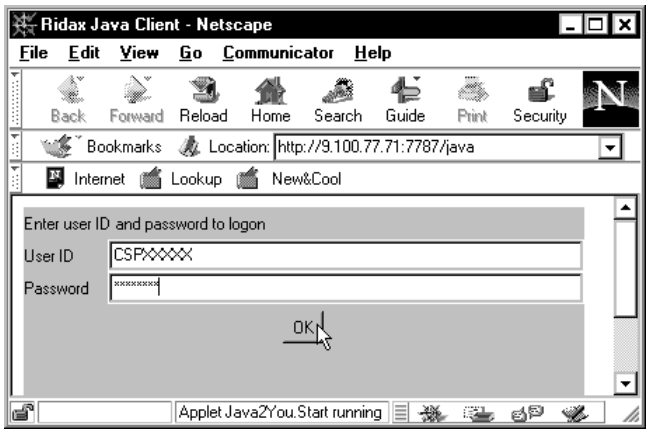
- Console for Java is running as an Applet on a modem-attached workstation.
- Console for Java is running as an Applet on a LAN-attached workstation.

Step 1. Open the web browser on your workstation (in the following procedure, Netscape is used as an example).

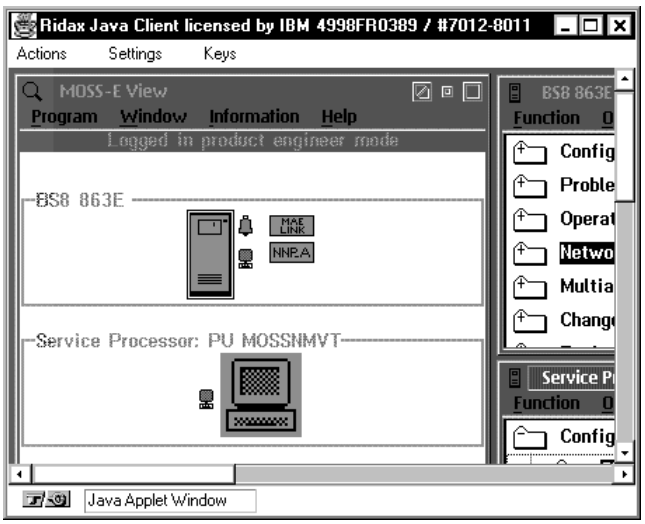
Step 2. Type the URL `http://1.2.3.4:7787/java`

where `1.2.3.4` is the IP address of the service processor and `7787` is the TCP/IP socket. Then press Enter.

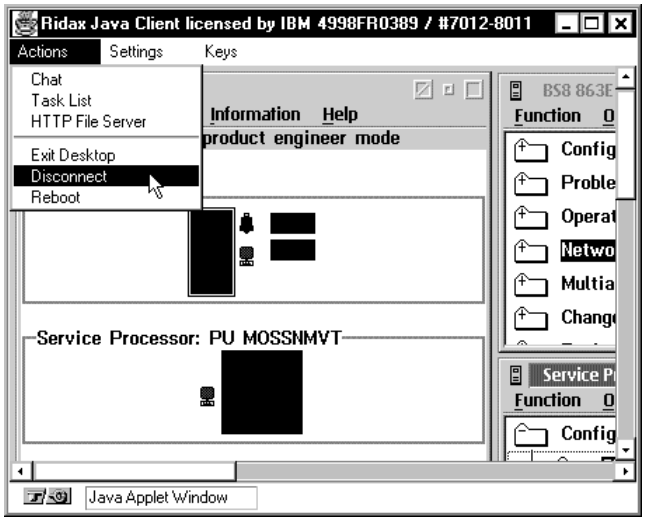
Step 3. In the Java Client screen, enter the Userid and password for the service processor (see Step 8 on page 15-6) and click **OK**.



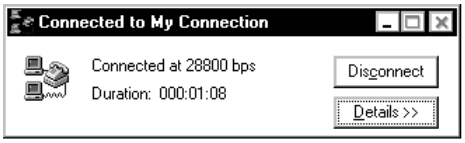
Step 4. The **MOSS-E View** screen displays.



Step 5. To end the Console for Java 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

Console for Java 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.

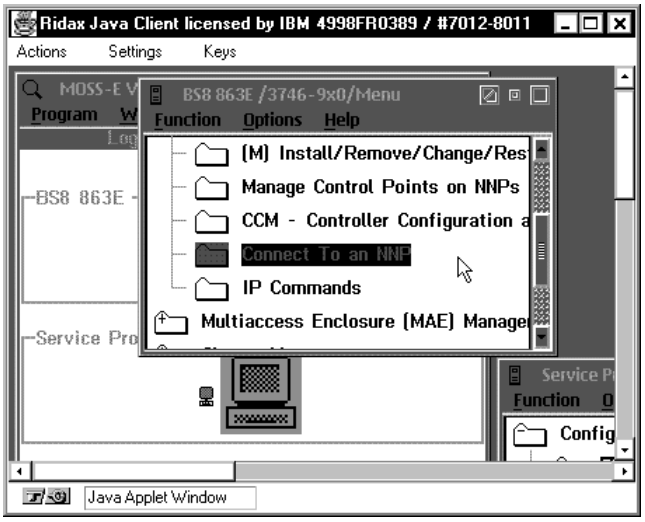
Connecting to the NNP in MOSS-E

Step 1. Follow Steps 1 on page 16-12 to 4 on page 16-13.

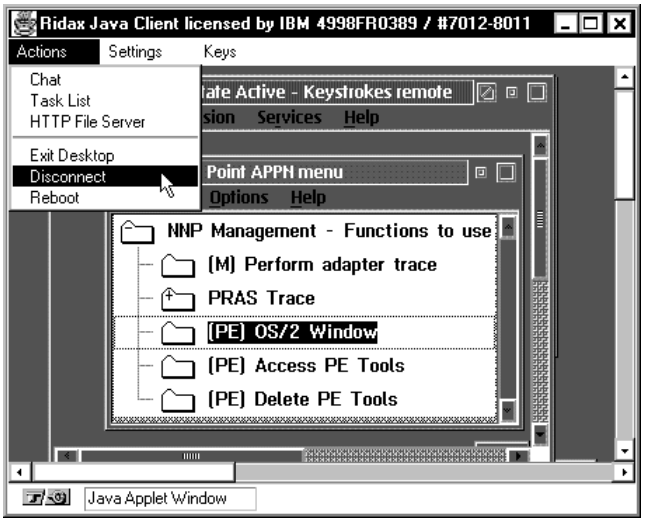
Step 2. In **MOSS-E View**, open the 3746 menu.

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.



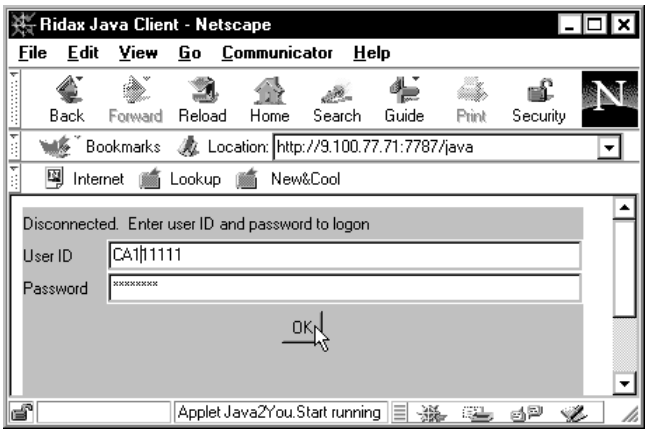
Connecting to the NNP from a Web Browser

Step 1. Open the web browser on your workstation (in the following procedure, Netscape is used as an example).

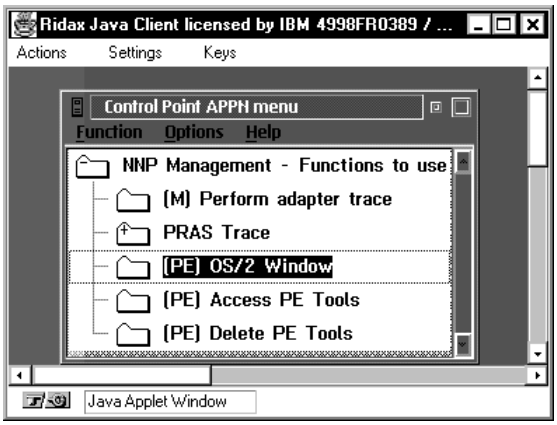
Step 2. Type the URL `http://1.2.3.4:7787/java`

where `1.2.3.4` is the IP address of the NNP and `7787` is the TCP/IP socket. Then press Enter.

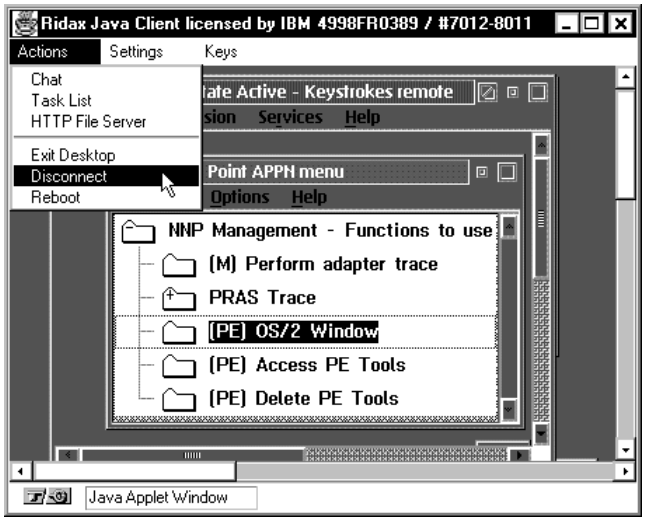
Step 3. In the Java Client screen, enter the Userid and password for the NNP (see Step 8 on page 15-6) and click **OK**.



Step 4. The **Java Client** screen displays with the **Control Point APPN menu**.



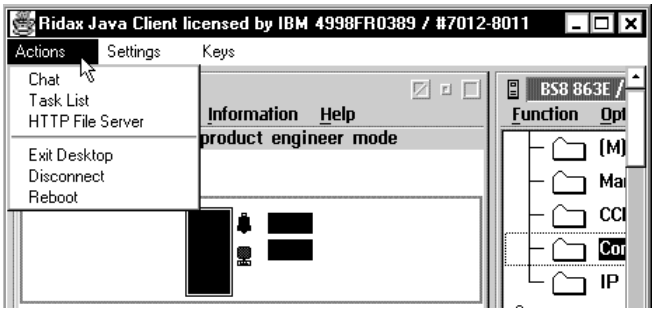
Step 5. To close the session with the NNP, click **Disconnect** from the **Actions** menu.



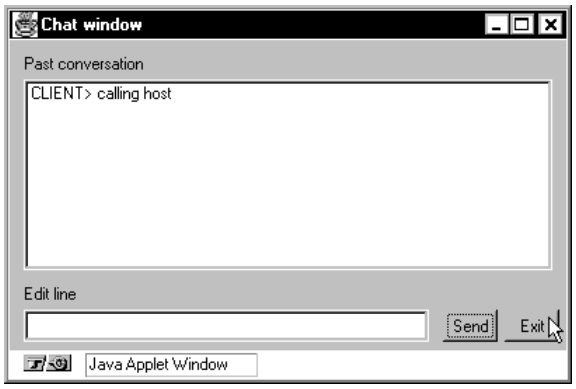
Console for Java Menus

The following text describes some Console for Java menu functions. These are mainly the same if Console for Java 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 Console for Java Applet which displays as **File Manager** in the Console for Java program. For more information, see “Console for Java File Manager” on page 17-5.

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.

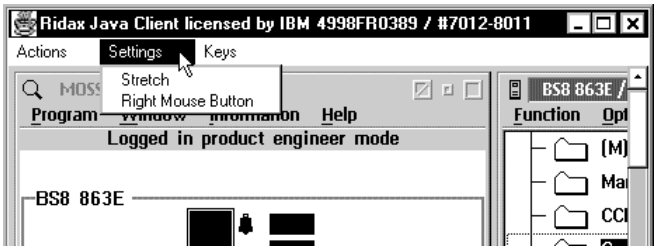
Exit Desktop

Closes Console for Java

Reboot

Reboots the service processor from the remote workstation.

Settings Menu

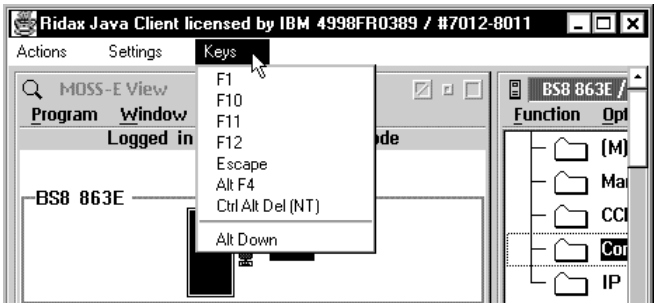


Stretch

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 Console for Java Program

Console for Java can be run on the remote workstation as an application installed on your hard disk.

Installing Console for Java as a Program on a Remote Workstation

Microcode &f12. installed on the service processor supports running the Console for Java program on your remote workstation. The following procedure describes how to download the Console for Java program file from the service processor to the hard disk of the remote workstation.

Remote Workstation Requirements for Console for Java

To install Console for Java as an application on your workstation, make sure you have the software support as specified in “Overview of Console for Java” on page 15-1.

Procedure for Installing the Console for Java Program

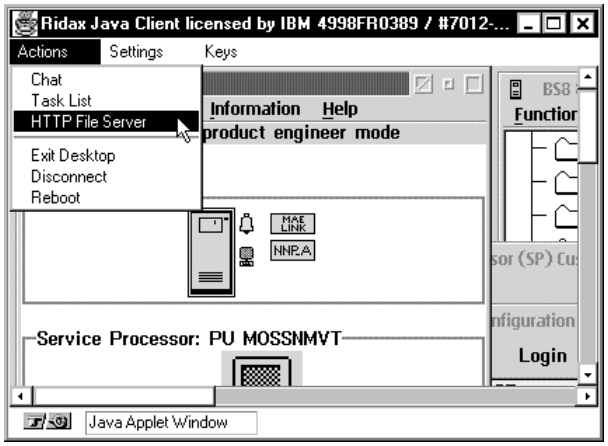
The procedure is as follows:

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 15-2).

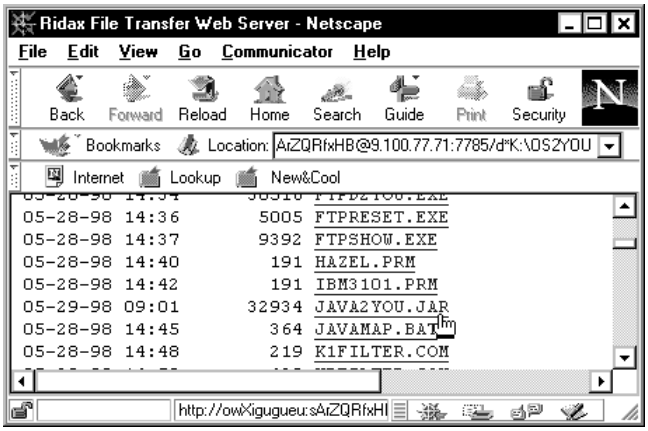
Step 2. Using your web browser (Netscape 2.02, for example) and with the Java 1.1 Applet running, type in the following:

`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.

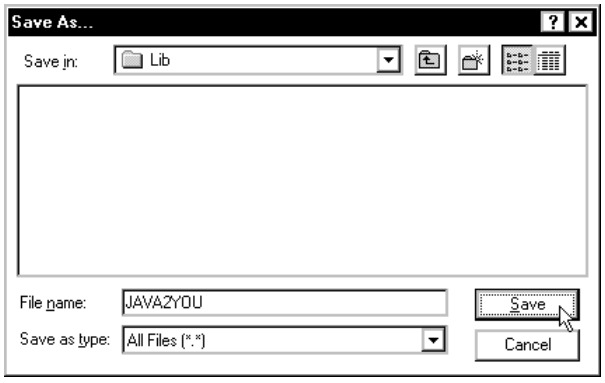
Step 3. In the main Console for Java window, open the **Actions** menu and click **HTTP File Transfer**.



Step 4. In the **File Transfer Web Server** window, select the hard disk of the service processor (drive K), the OS2YOU directory, and click the file `Java2You.jar`.



Step 5. Download the file to the `LIB` directory in the main Java directory on your workstation. In OS/2, this is would be `C:\JAVAOS2\LIB`. (The file size is 32 Kb.)



Step 6. Go to "Remote Workstation Settings for Console for Java."

Remote Workstation Settings for Console for Java

Depending on your workstation platform, you must configure a few workstation settings to enable the Console for Java program.

The following workstation settings apply to Windows 95 and OS/2 Warp.

Important!

These settings are intended as examples only, and you must supply the actual values that apply to your workstation.

Windows 95

Step 1. Create a batch file (.bat) and enter the following:

```
@echo OFF
jre -cp "C:\Program Files\Java\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 .jar file name as it appears in the example (uppercase `J` and `Y`).

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.

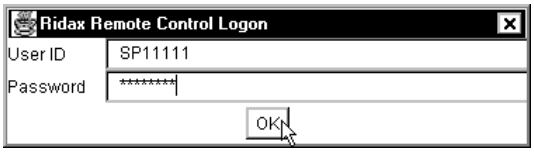
Running the Console for Java Program in Windows

For a connection between the remote workstation and the service processor across a PPP switched line, initiate the modem connection first (see “Initiating a 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 Console for Java program for a connection between the remote workstation and the service processor across a LAN, continue with the following procedure.

Step 1. In a DOS window, type in the name of the batch file (`connect` in the following example) followed by the IP address of the service processor (or NNP). Then press Enter.

Step 2. Enter the Userid and password for the service processor and click **OK**.

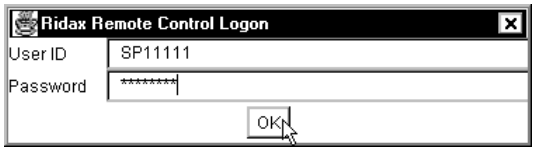


Step 3. To close the session with the service processor, click **Disconnect** from the **Actions** menu.

Running the Console for Java 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.

Console for Java File Manager

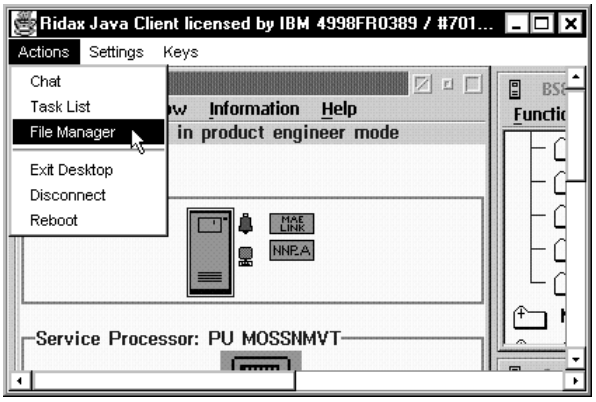
When Console for Java has been installed on your workstation, you can use **File Manager** to upload files from the workstation to the service processor, for example, CCM configuration files.

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

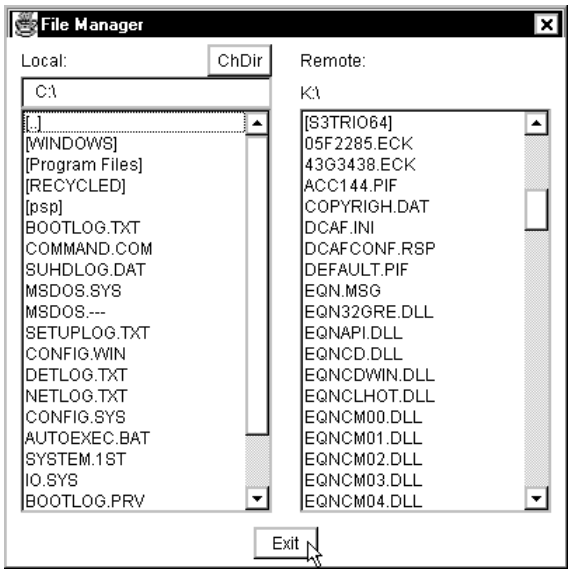
Go to “Uploading Files to the Service Processor” on page 17-6.

Uploading Files to the Service Processor

Step 1. In the **Java Client** window, click **File Manager** from the **Actions** menu.



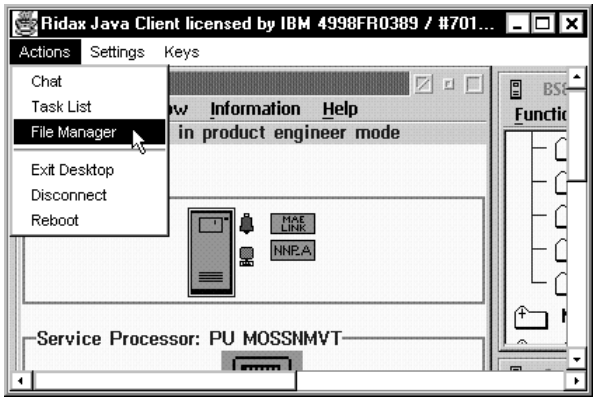
Step 2. Select the directory of the file on your remote workstation. Select the destination for the file in a service processor directory. Locate the directory of the file that you want to upload on the workstation and double-click the file. The file transfer takes place immediately.



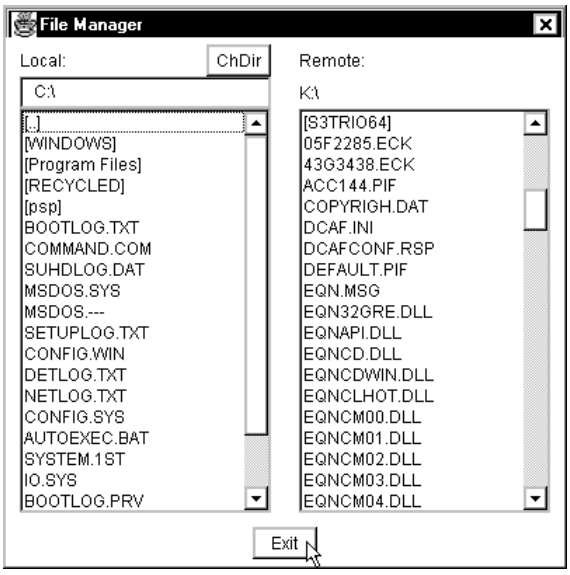
Step 3. When the file upload is successfully completed, click the **Exit** button to close **File Manager**.

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

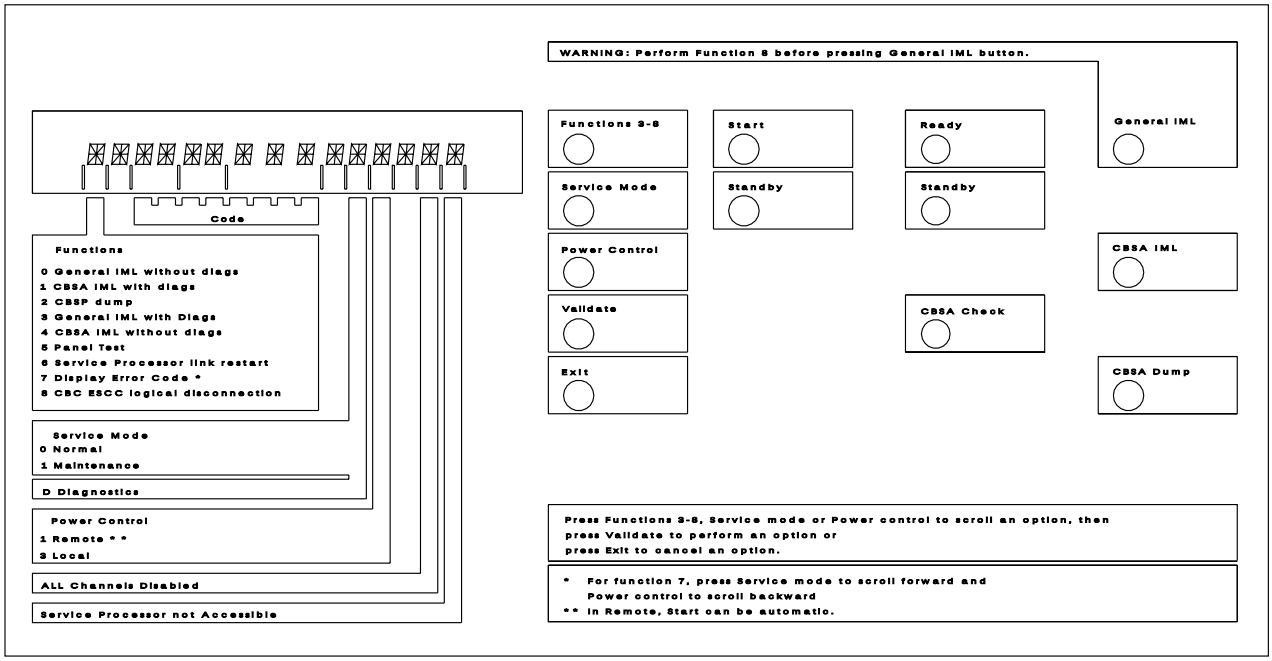
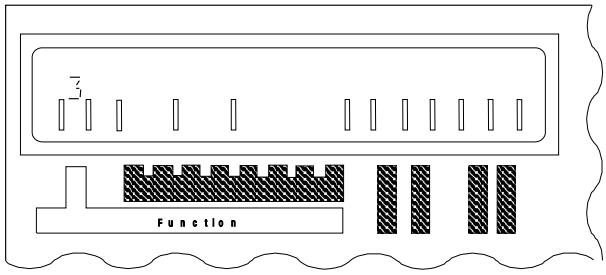


Figure A-1. 3746 Control Panel

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-10.

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:

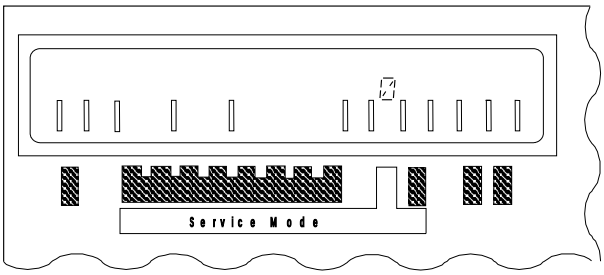
IML and IPL progression codes
: Track the different phases of a process and indicate when a process is complete.

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

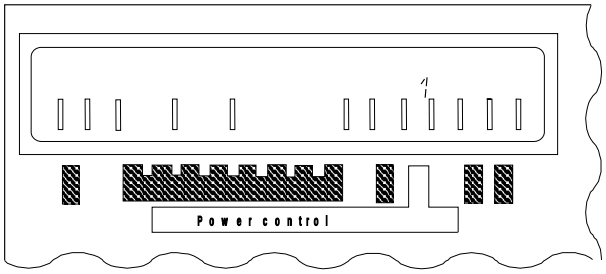


0 - Normal
: The mode for normal operations.

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

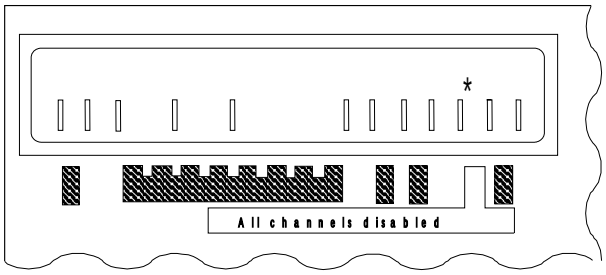
Mode for normal operations. In normal mode, you can perform the following:

- 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.

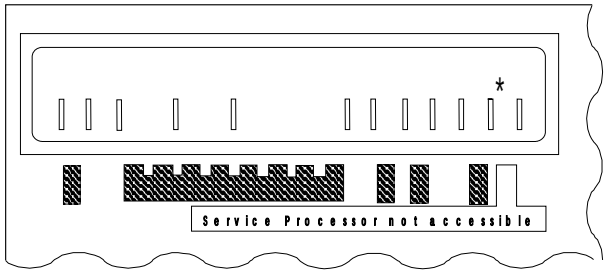
All ESCON Channel Adapters Disabled



The display is blank if at least one channel adapter (CA) is enabled.

***** All CAs are disabled.

Service Processor Inaccessible



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

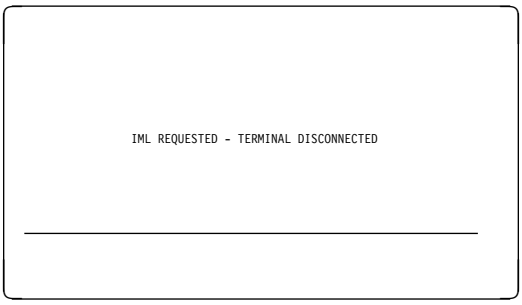
3745 MOSS IML from the Service Processor

Before you begin, make sure that you have a MOSS window open on the service processor (see page 3-10).

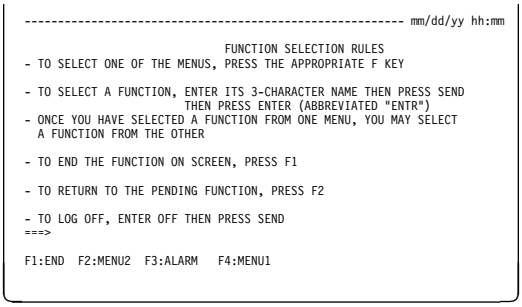
Step 1

Type **IML** then press Enter.

The screen on the right displays. →



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.



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

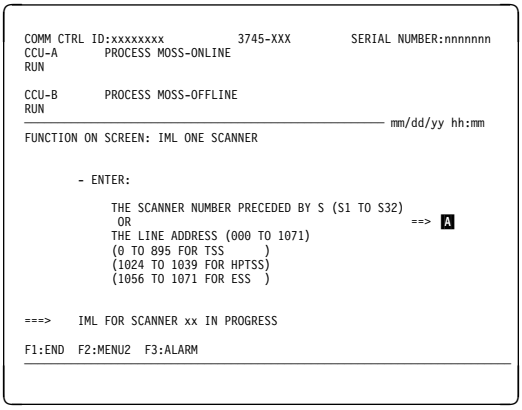
1. Enter either the scanner (line adapter) number or the address of a line attached to the scanner at **A** .
2. Type **SX** or **SY** and press Enter (where **X** equals the scanner number, and **Y** equals the line address).

   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.

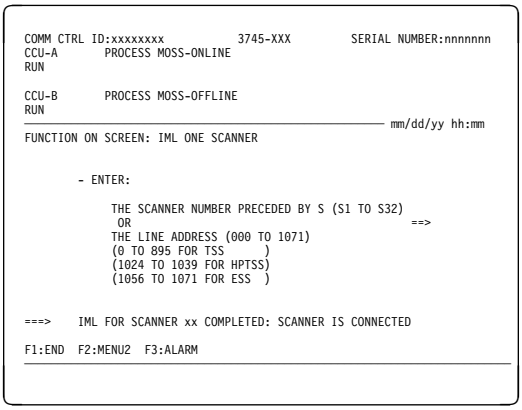
If any other messages display, contact the person in charge of 3745 problem analysis (see page 1-5).



Step 5

Wait approximately one minute. If the IML is successful, the following message displays:

`IML FOR SCANNER xx COMPLETED: SCANNER IS CONNECTED.` →



Step 6

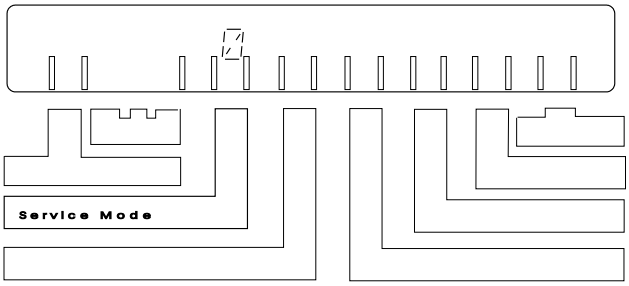
Press F1 to end the procedure.

MOSS IML from the 3745 Control Panel

If you have a problem with this step, see the online *Problem Analysis Guide.*

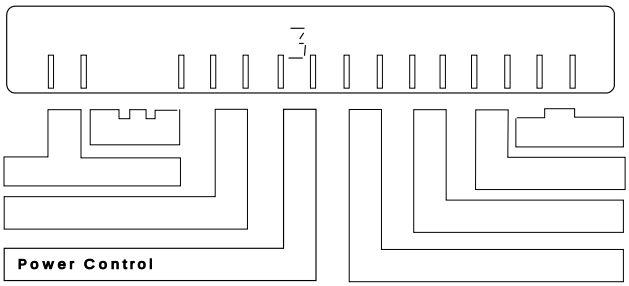
Step 1

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.



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.



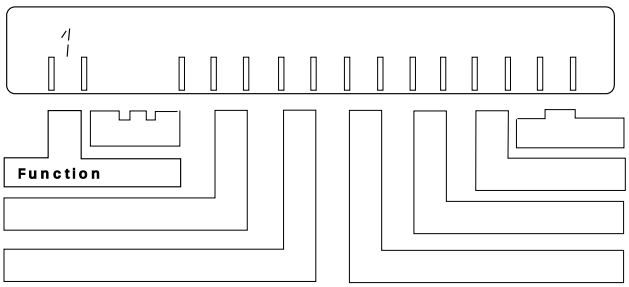
Note

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

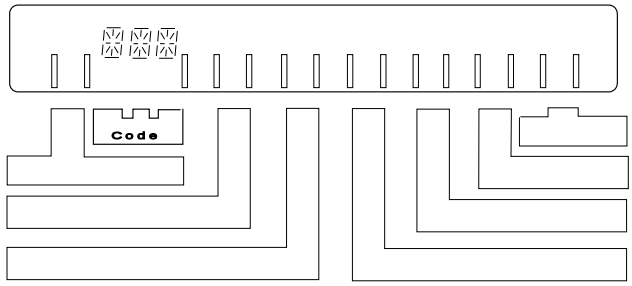
Is **Function** set to **1**?	
Yes	Go to Step 4.
No	1. Press **Function** repeatedly until **1** displays. 2. Go to Step 4.



Step 4

Press **Validate**.

The MOSS IML begins. You can see the progress of the IML on the hex display.

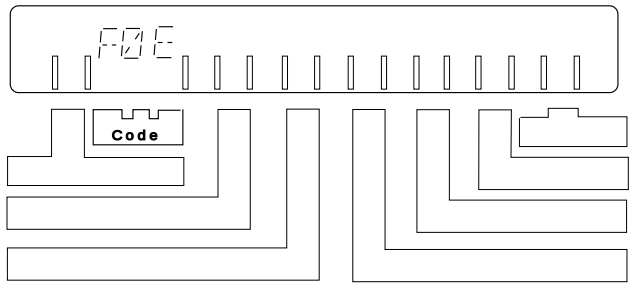


Step 5

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:

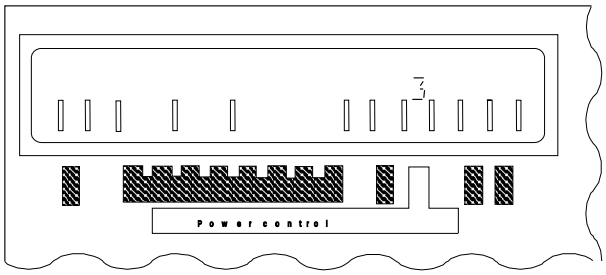
- Activated (IML complete, ready to work).
- Deactivated (only the main power box and the operator control panel are active).

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-10).

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” on page B-7).
- Host via the External Power On (EPO) cable (see “Activation/Deactivation from a Host” on page B-9).

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**.

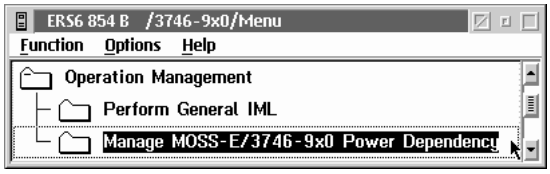
Activation

Before activating the 3746, make sure the **Standby** light on the control panel is ON.

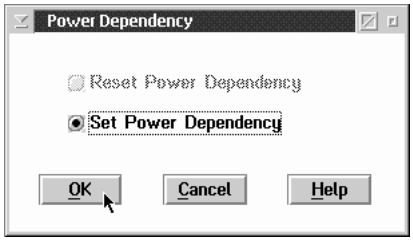
Step 1. Open a MOSS-E menu to activate the 3746 (see to “MOSS-E Menus, Tasks, and Functions” on page 3-8).

Step 2. Click **Operation Management**.

Step 3. Double-click **Manage MOSS-E/3746-9x0 Power Dependency**.



Step 4. Click **Set Power Dependency** and click **OK**.



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 3-8).

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-8).
    - 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."

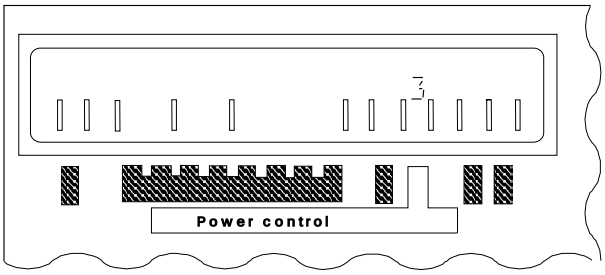
To activate the 3746, use the following procedure:

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.



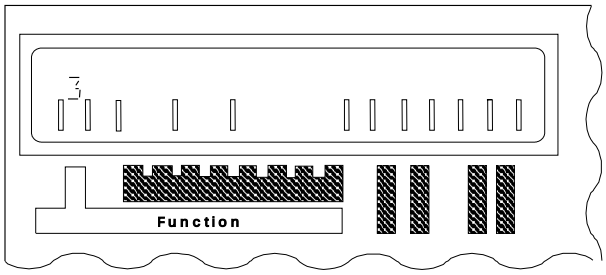
Note

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.

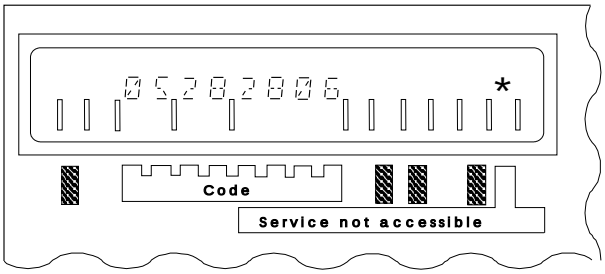


Step 4

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.

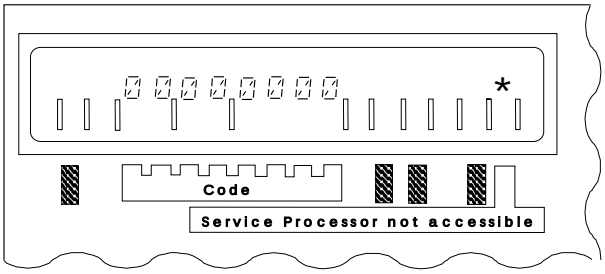
Step 5

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).

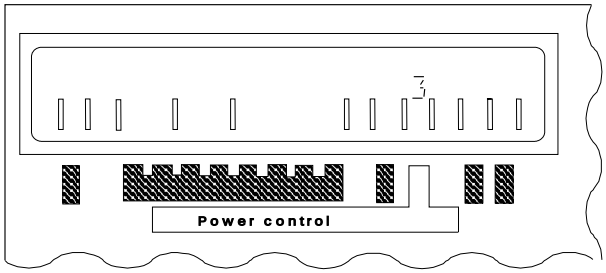


Deactivation from the 3746 Operator Control Panel

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:

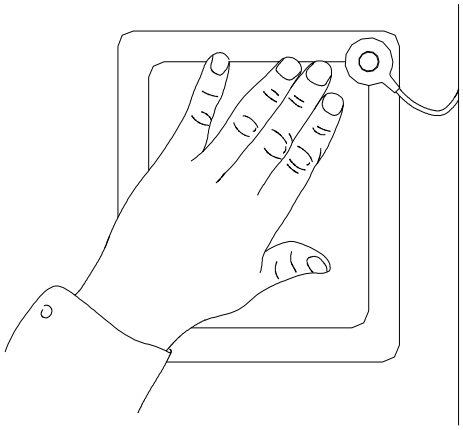
- The machine goes into power OFF state.
- When power is restored, the 3746 returns to standby status until:
  - Power ON command is received from a host attached to the 3746 via EPO cable.
  - Power ON command is received from the service processor.
  - 3745 is powered ON.

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**.

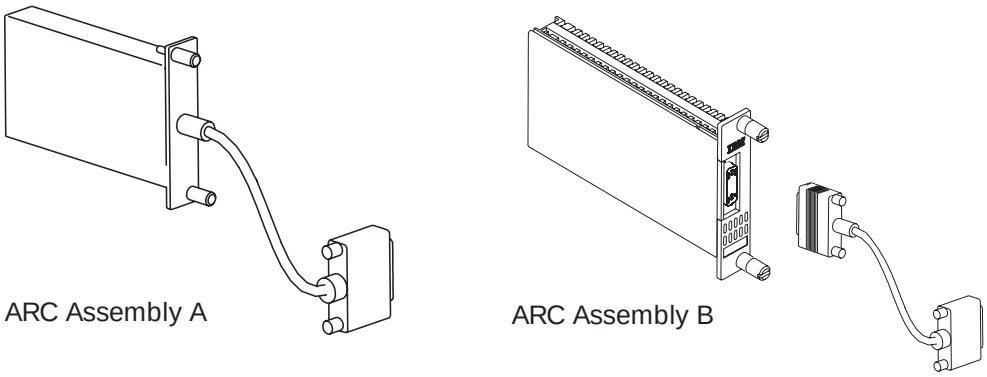


Figure C-1. ARC Assemblies A and B

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.

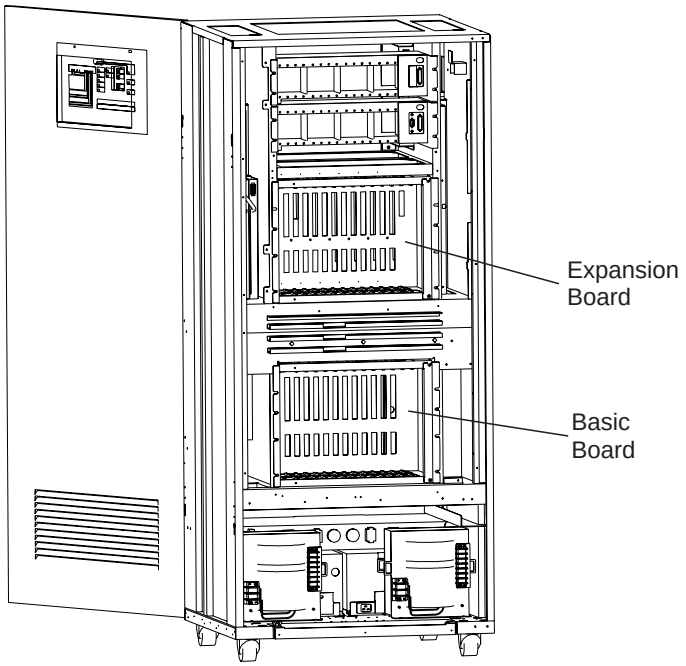


Figure C-2. 3746-950 Rear View Configuration (Coupler Side)

Enclosure slots are labeled with slot addresses. Each coupler slot is labeled according to their address range (see the figure below):

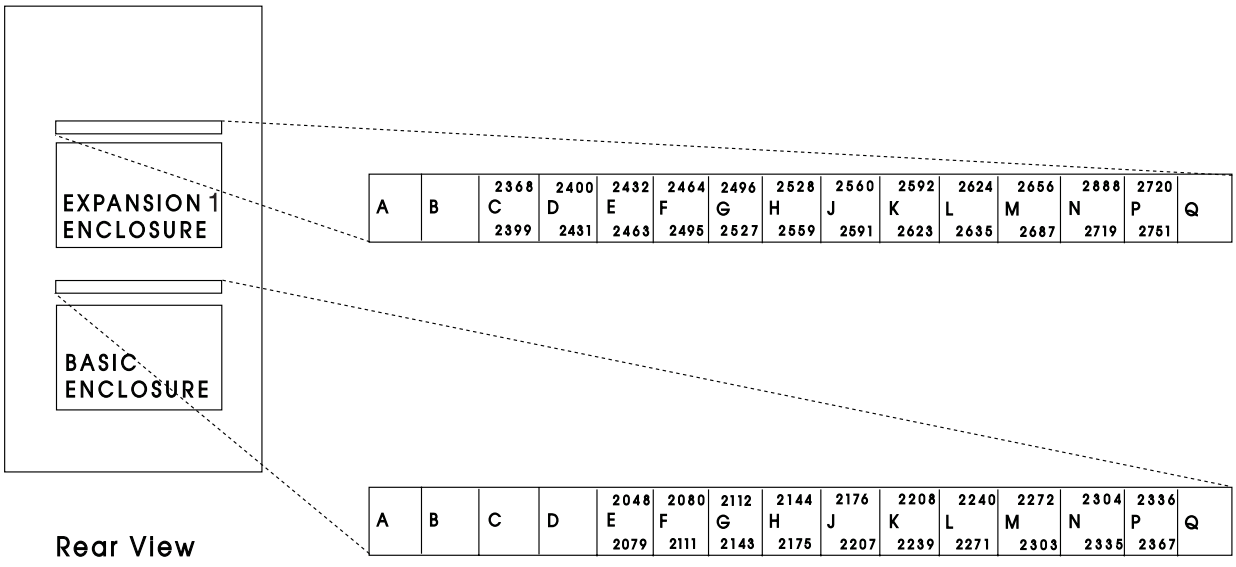


Figure C-3. Enclosure Addresses

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.

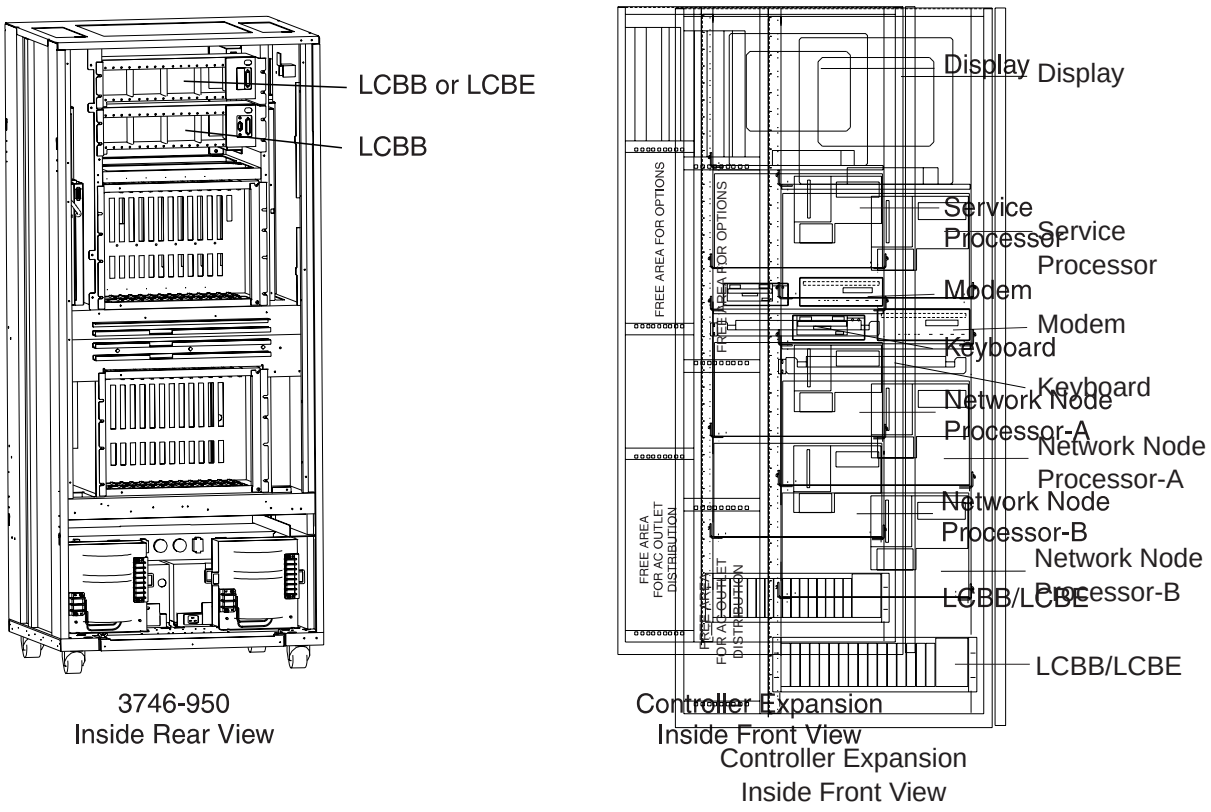


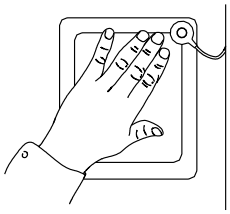
Figure C-4. 3746-950 LCB Locations in a Base Frame and a Controller Expansion

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.
- 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.

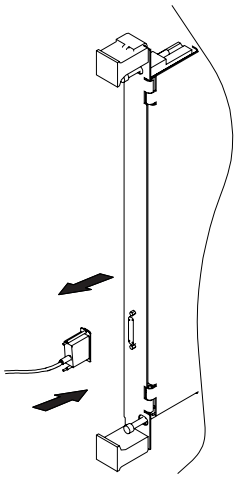


Figure C-5. Installing or Removing a Token-Ring Attachment Cable

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).

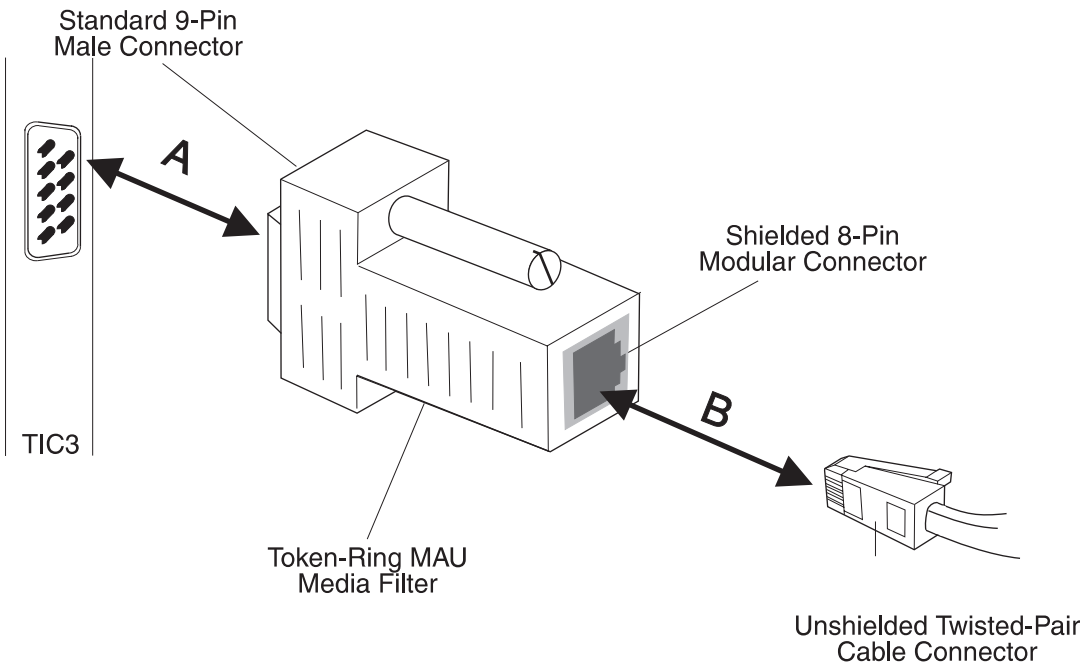


Figure C-6. Installing or Removing a Token-Ring UTP Cable and Media Filter

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

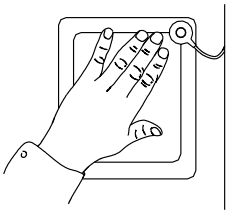
Step 1 To plug in a UTP cable, push the connector into the media filter socket until it clicks into place (see B in Figure C-6).

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.

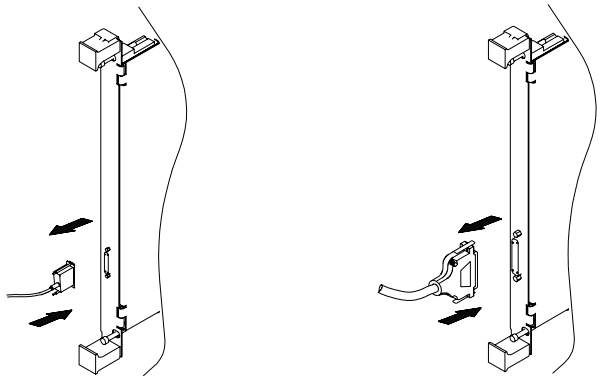


Figure C-7. LIC11, LIC12, and their Cables

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

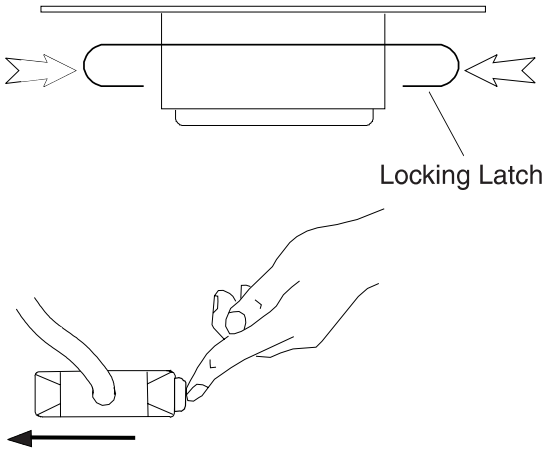
Before you start

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.



Step 3 Pull out the plug.

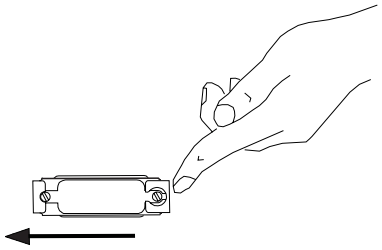
Step 4 Close and lock the door with the key.

Plugging in AUI cables

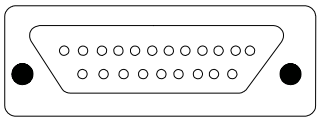
Step 1 Make sure that all cables are correctly labeled at both ends. Repeat this step for every AUI that you need to plug in.

Step 2 Locate a port that matches the label on the cable.

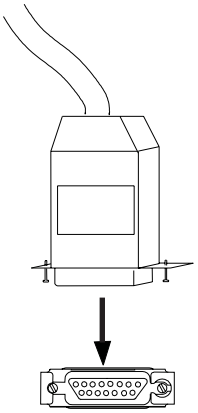
Step 3 Slide the latch to the left.



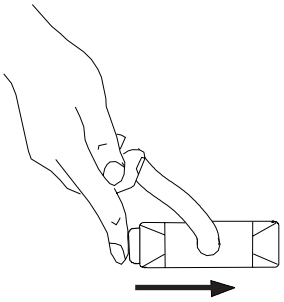
Step 4 Hold the cable connector with the longest side up.



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.

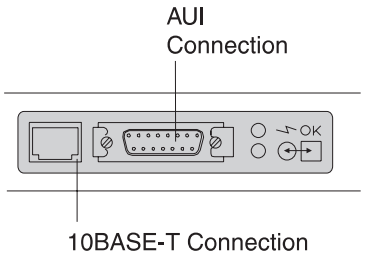
Step 9 Close and lock the door with the key.

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.

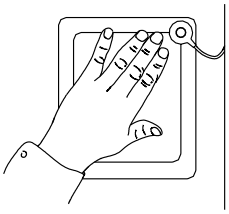
Step 5 Close and lock the door with the key.

Step 6 Ask the network operator to activate the new lines.

Unplugging or Plugging In Multiaccess Enclosure (MAE) Cables

Before you start

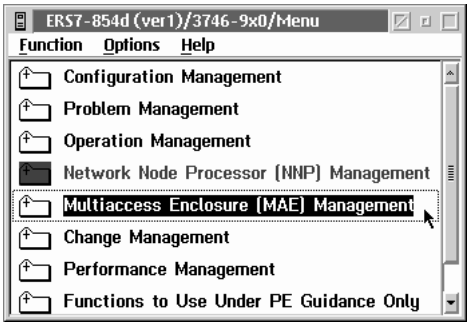
First see the “Connection Procedures” on page C-2.



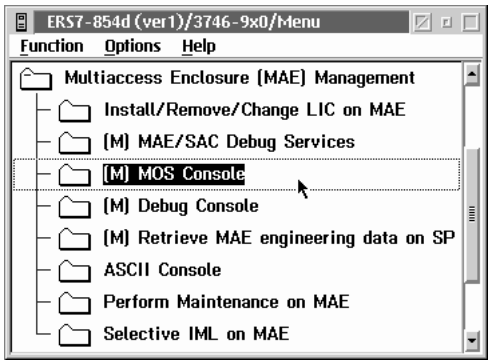
Unplugging Multiaccess Enclosure (MAE) Cables

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**.

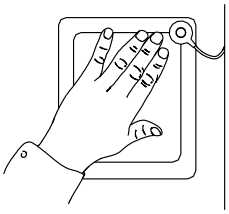
Note: During the reload process, MAE traffic will be interrupted.

Step 9 After reloading has finished, type **yes** or wait for the next maintenance period.

Installing LCBs

Before you start

First see the “Connection Procedures” on page C-2.



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.

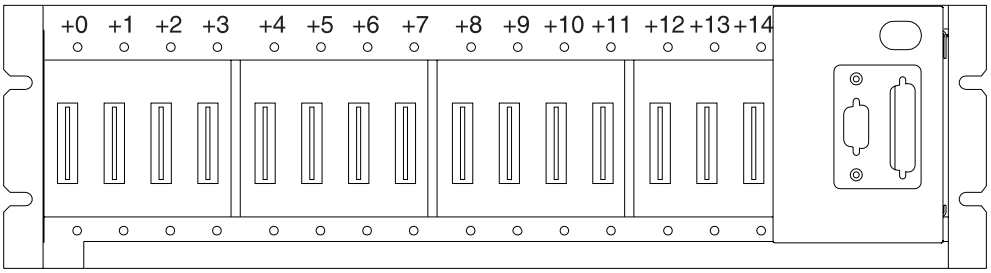


Figure C-8. LCB Base (LCBB)

The LCB expansion (LCBE) is numbered in the following way:

- ARC slots labeled +16 through +30
- Cable connector to the LCB base.

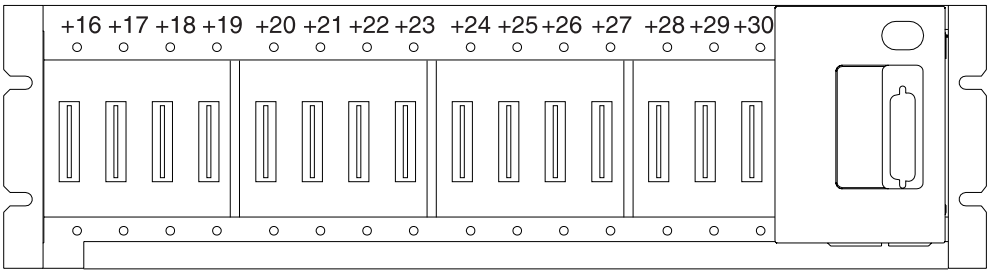


Figure C-9. LCB Expansion (LCBE)

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 **3** 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.

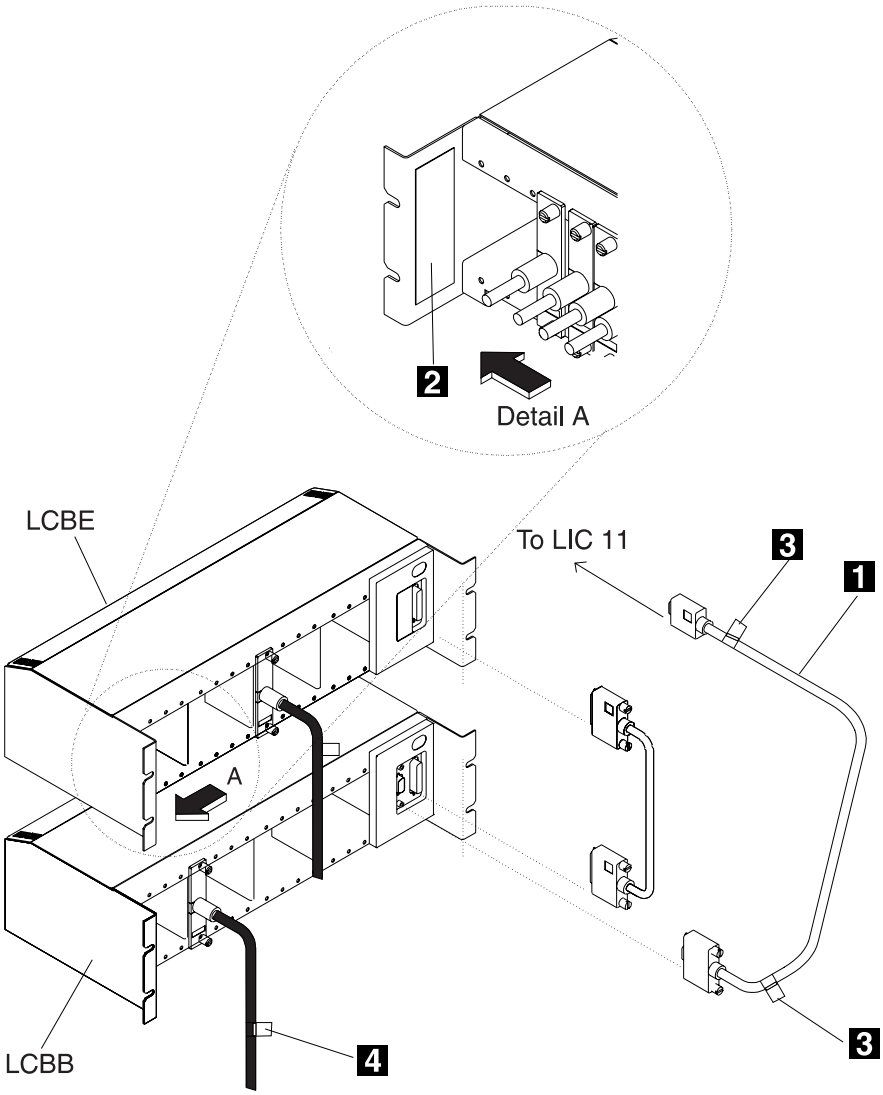


Figure C-10. LCBB and LCBE Connections (Installed with ARC Assembly A)

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.

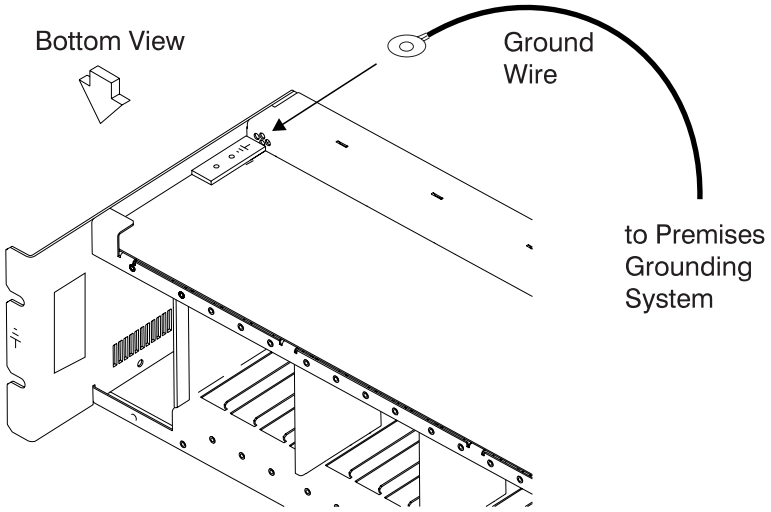


Figure C-11. LCB Grounding

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.

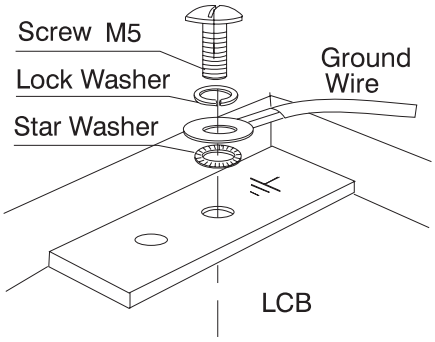


Figure C-12. Standard Grounding Connection

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.

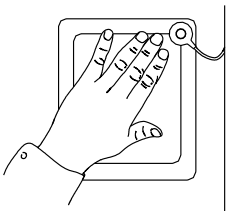
Step 11 Put two identical labels at both ends of the cable (see the two **4** s in Figure C-10 on page C-15).

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 **2** 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.



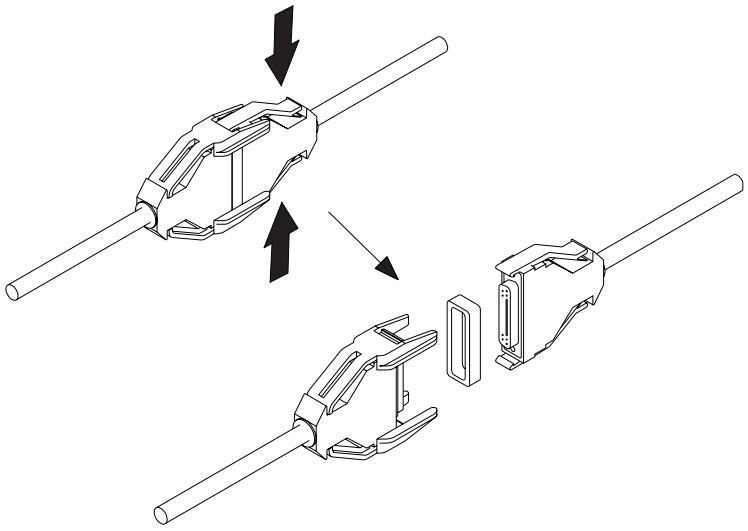
Removing ARC Assembly A and B

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.

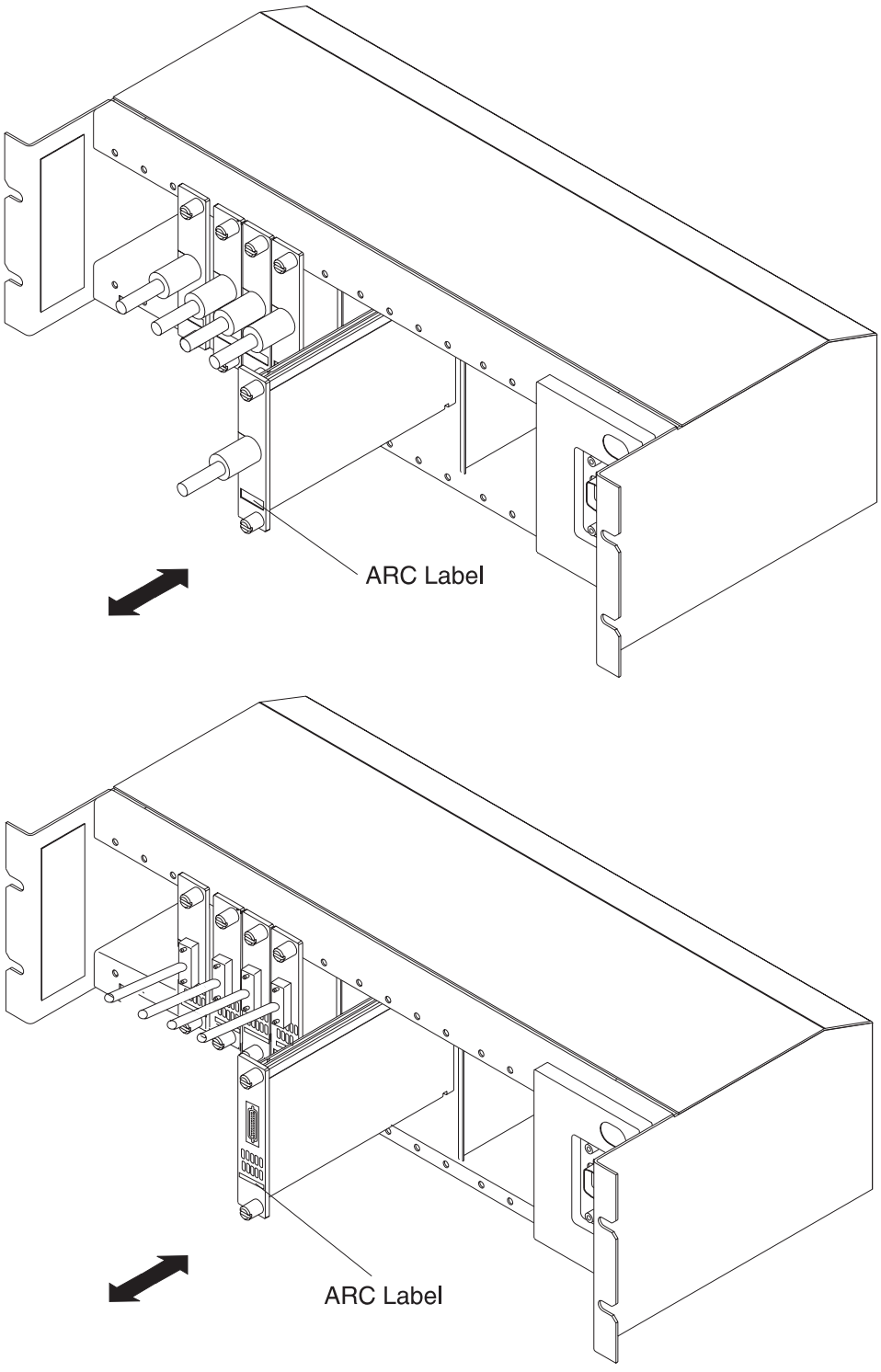


Figure C-13. ARC Assembly A (top) and ARC Assembly B (bottom) in an LCB

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.

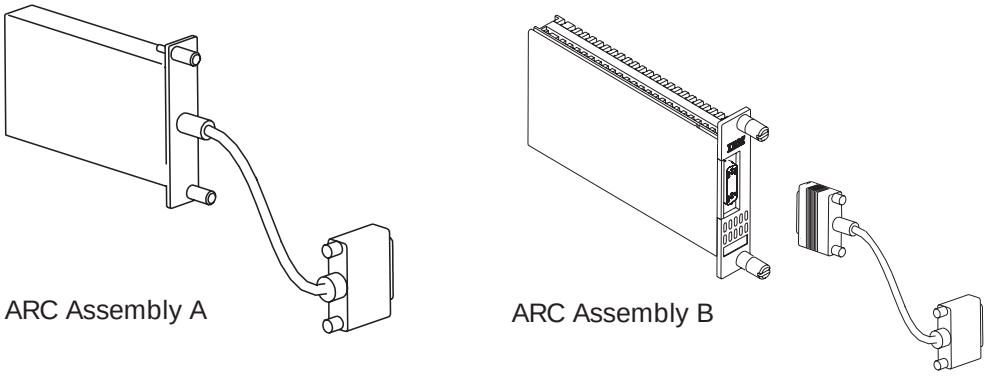
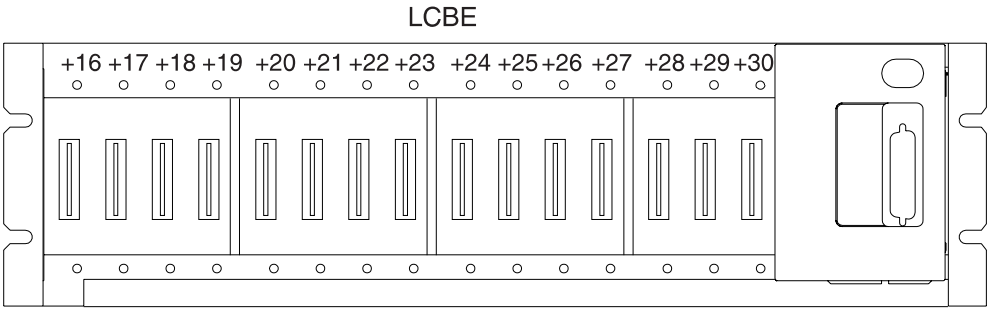
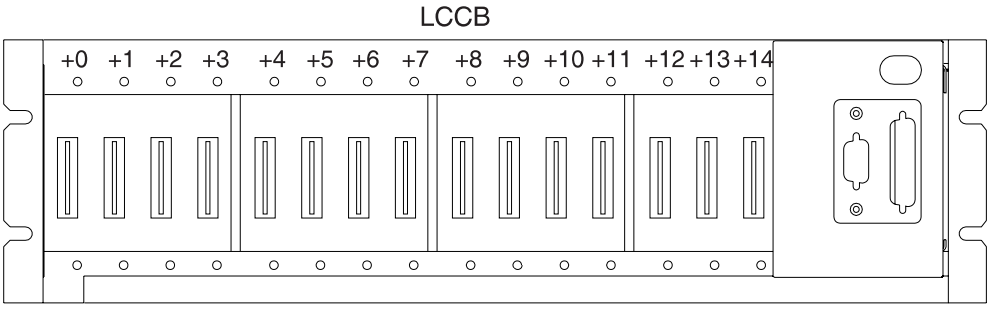


Figure C-14. ARC Assembly A and B

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).





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.

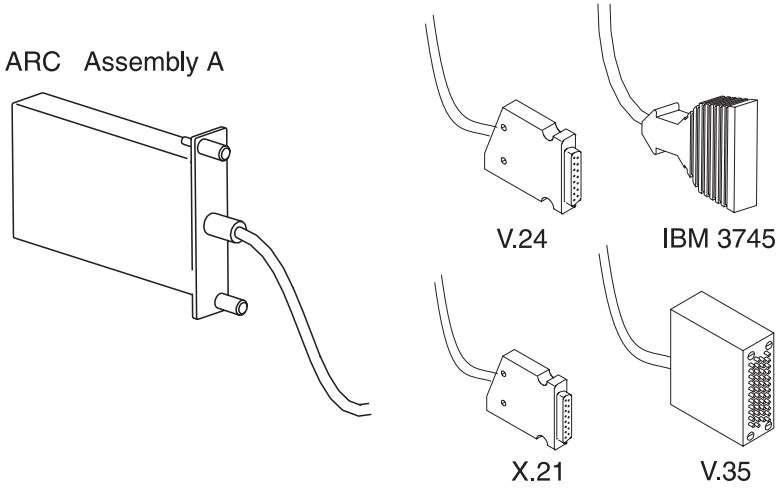


Figure C-15. ARC Assembly A and Connector Types

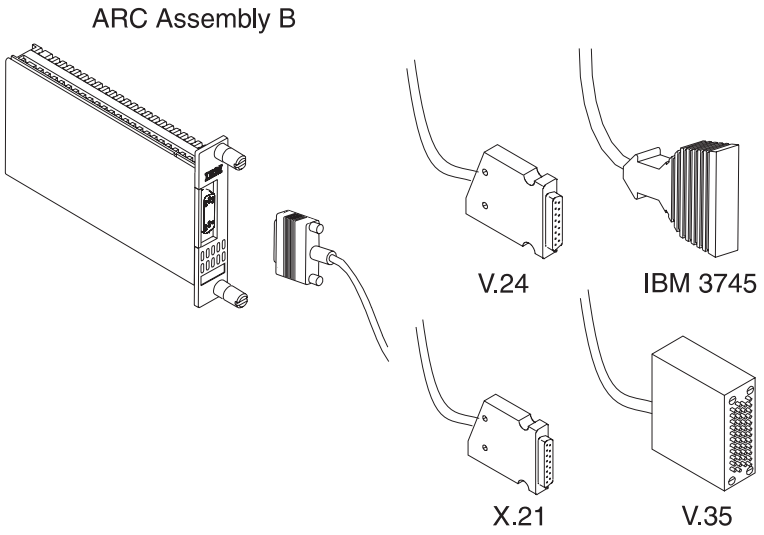


Figure C-16. ARC Assembly B and Connector Types

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 **5** 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-19).

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.

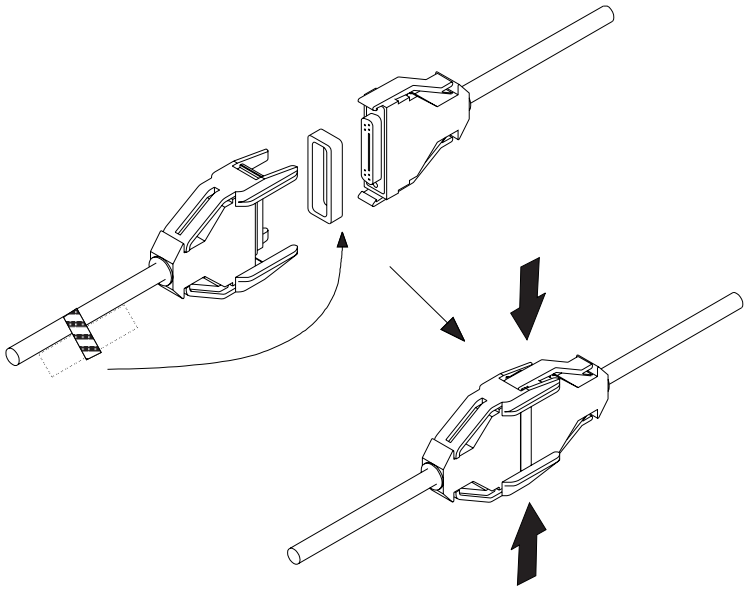


Figure C-17. IBM 3745-Type Connector

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.

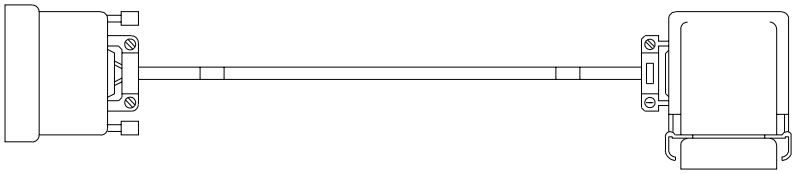


Figure C-18. French V.35 DCE Adapter

Step 12 Connect the V.35 DTE adapter between the ARC cable and the French terminal.

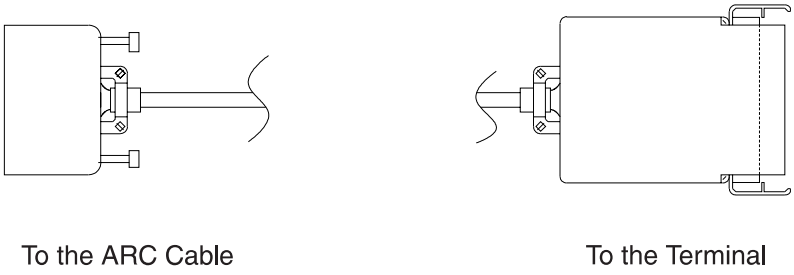


Figure C-19. French V.35 DTE Adapter

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).

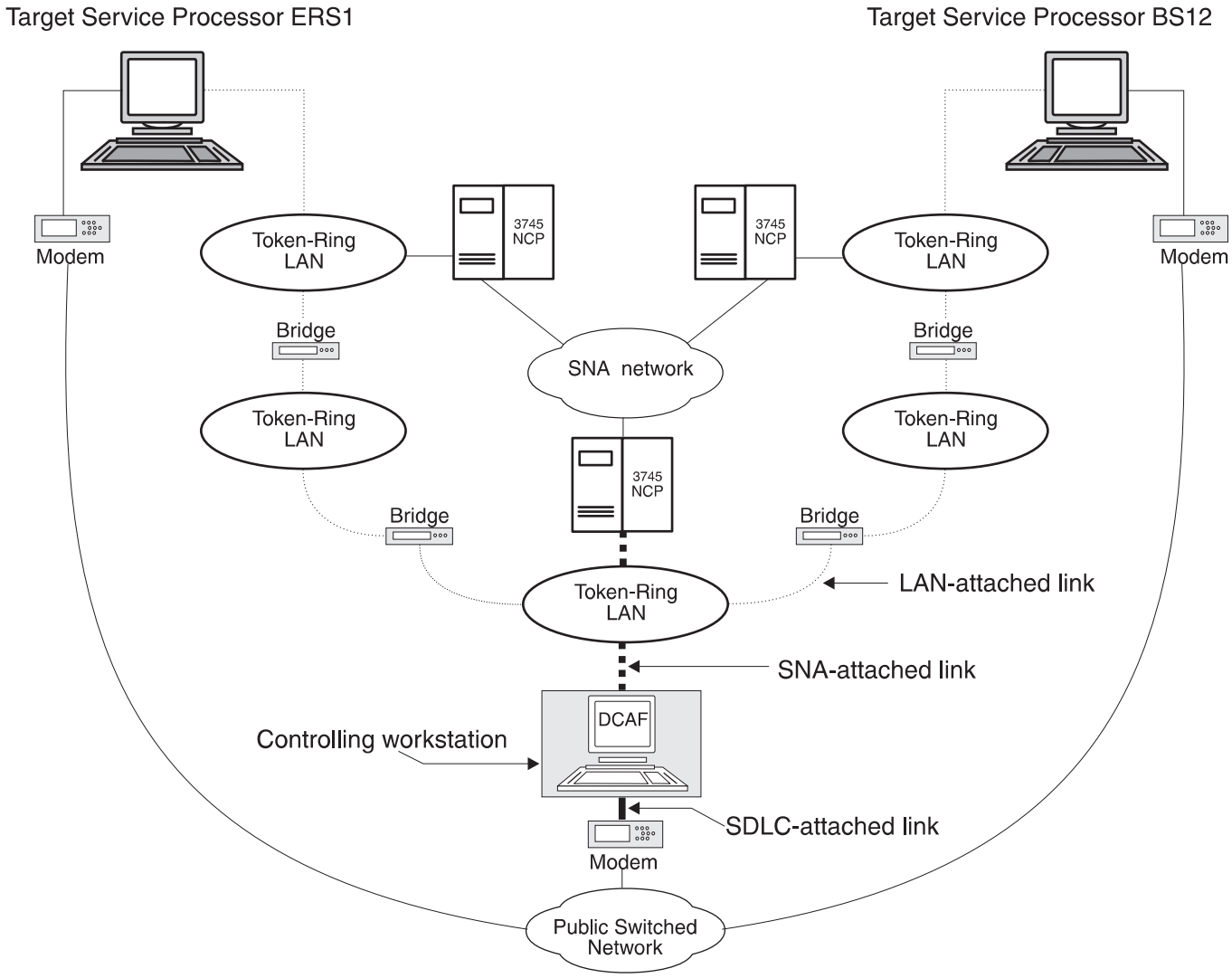


Figure D-1. A Two-Target Configuration

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'060200000000000000002F00'
```

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

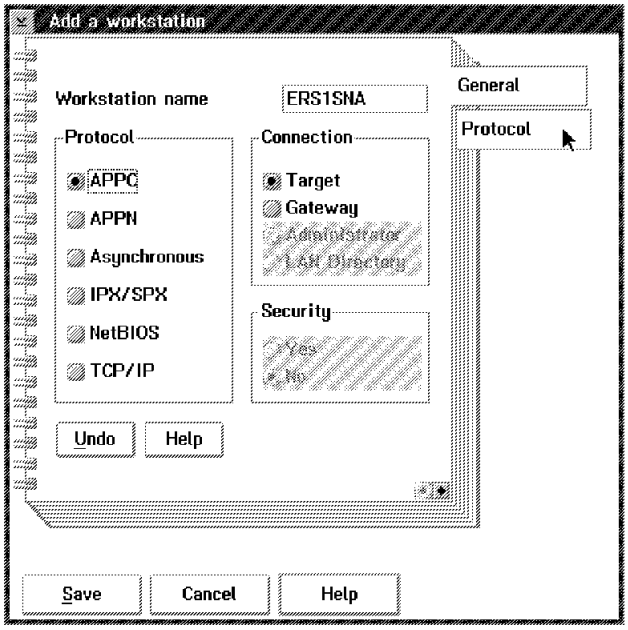
Step 1. From Desktop Manager, double-click the Distributed Console Access Facility icon.

Step 2. Double-click the DCAF Controller icon.

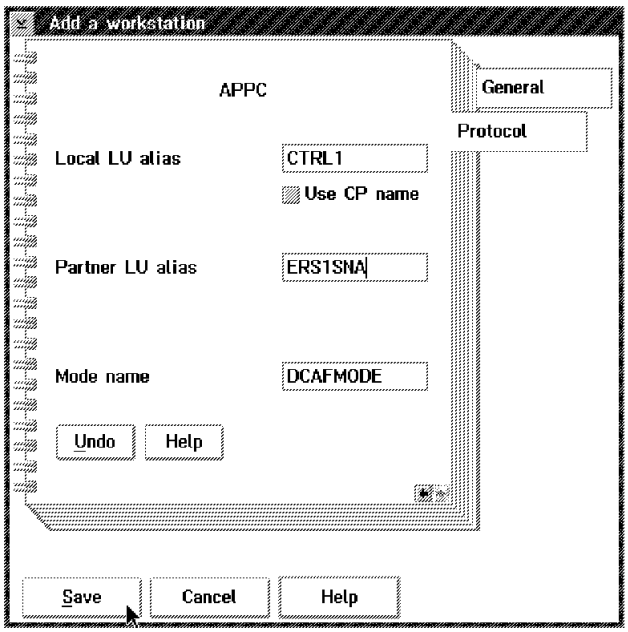
Step 3. Click **Session**, then **Open workstation directory**.

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.....■■■■', 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.....■■■■', 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**.

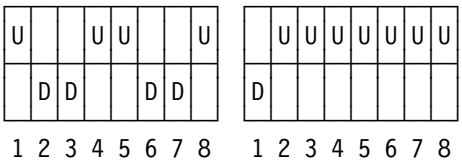
If you have an RSF link to the Remote Technical Assistance Information Network (RETAIN), your IBM service representative will install the RSF modem.

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:



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 2). Customer Documentation for the 3746 Model 950

This customer documentation has the following formats:

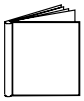
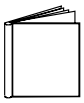
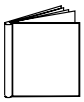
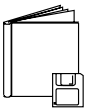
Finding Information		
		3745 Models A and 3746 Books Starting with engineering change (EC) F12380, all of the books in the 3745 Models A and 3746 library are available on the CD-ROM that contains the Licensed Internal Code (LIC) for this EC.
Preparing for Operation		
	GA33-0400	***IBM 3745 Communication 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***[3] ***IBM 3746 Nways Multiprotocol Controller*** ***Models 900 and 950*** ***Overview*** Gives an overview of connectivity capabilities within SNA, APPN, and IP networking.
	GA33-0457	***IBM 3745 Communication Controller Models A***[2] ***IBM 3746 Expansion Unit Model 900*** ***Models 900 and 950*** ***Planning Guide*** Planning for: • Field upgrades • Service processor and alert management configuration • Network integration (NCP, APPN, and IP control) • Physical installation.

Table F-1 (Page 2 of 2). Customer Documentation for the 3746 Model 950

Operating and Testing



SA33-0356

IBM 3746 Nways Multiprotocol Controller Model 950

***User's Guide*[2]**

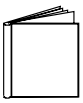
Explains how to:

- 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.

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.
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.

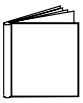
Managing Problems

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.

[1] Models 130 to 61A.
[2] Documentation shipped with the 3746-950
[3] 3745 Models 17A to 61A.

List of Abbreviations

ac	Alternating Current
ACF	Advanced Communications Functions
APPC	Advanced Program-to-Program Communication
APPN	Advanced Peer to Peer Networking
ARC	Active Remote Connector
ARP	Address Resolution Protocol
AUI	Attachment Unit Interface
BGP	Border Gateway Protocol
bps	bits per second
Bps	Bytes per second
CA	Channel Adapter
CBSA	Controller Bus and Service Adapter
CBSP	Controller Bus and Service Processor
CCM	Controller Configuration and Management
CCITT	Comité Consultatif International Télégraphique et Téléphonique The International Telegraph and Telephone Consultative Committee (Now: ITU-T)
CDF-E	Configuration Data File-Extended
CLP	Communication Line Processor
CM	Communications Manager
CP	Control Point
CSD	Corrective Service Diskette
DCAF	Distributed Console Access Facility
DCE	Data Circuit-terminating Equipment
DLC	Data Link Control
DLUR	Dependent LU Requester
DOS	Disk Operating System
DTE	Data Terminal Equipment
EC	Engineering Change
ELS	Event Logging System
EPO	External Power ON
ES	Extended Services
ESCON	Enterprise System Connection
ESD	Electrostatic Discharge
FCC	Federal Communications Commission
FP	Focal Point
GWCON	Gateway Console (IP)
HPR	High Performance Routing
IBM	International Business Machines Corporation
ID	Identifier
IDF	Internet Protocol Definition File
IML	Initial Microcode Load
IP	Internet Protocol
IPL	Initial Program Load
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunications Union-Telecommunications (Formerly: CCITT)
LAA	Locally Administered Address
LAN	Local Area Network
LAPS	LAN Adapter Protocol Support
LCB	Line Connection Box
LCBB	Line Connection Box Base
LCBE	Line Connection Box Extension
LEN	Low Entry Networking
LIC	Line Interface Coupler
LU	Logical Unit
m	meter; 1.09 yards; 3.28 feet; 39.37 inches
MAC	Medium Access Control
MAE	Multiaccess Enclosure
MAU	Multistation Access Unit
Mbps	Megabits per second; 1 048 476 bits per second
MOSS	Maintenance and Operator Subsystem
MOSS-E	Maintenance and Operator Subsystem-Extended

NCP Network Control Program

NDF Network Definition File

NN Network Node

NNP Network Node Processor

NPM NetView Performance Monitor

NTS Network Transport Services

OPCON Operator Console (IP)

OS Operating System

OSPF Open Shortest Path First

PE Product Engineer

PPP Point-to-Point Protocol

PU Physical Unit

RETAIN Remote Technical Assistance Information Network

RIP Routing Information Protocol

RLSD Received Line Signal Detector

RPO Remote Power OFF

RSF Remote Support Facility

SA Subarea

SDLC Synchronous Data Link Control

SNA Systems Network Architecture

SNMP Simple Network Management Parameters

SPAU Service Processor Access Unit

SRC Service Reference Code

STP Shielded Twisted Pair

TCP/IP Transmision Control Protocol/Internet Protocol

TIC Token-ring Interface Coupler

UEPO Unit Emergency Power OFF

URL Uniform Resource Locator

UTP UnTwisted Pair

VCCI Japanese Voluntary Control Council for Interference

VTAM Virtual Telecommunications Access Method

WRS WAN Restoral

3746-900 IBM 3746 Nways Multiprotocol Controller Model 900

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.

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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3746 Nways Multiprotocol Controller
Model 950
User's Guide

Publication No. SA33-0356-05

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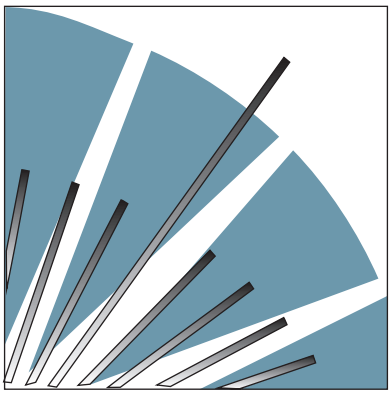

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