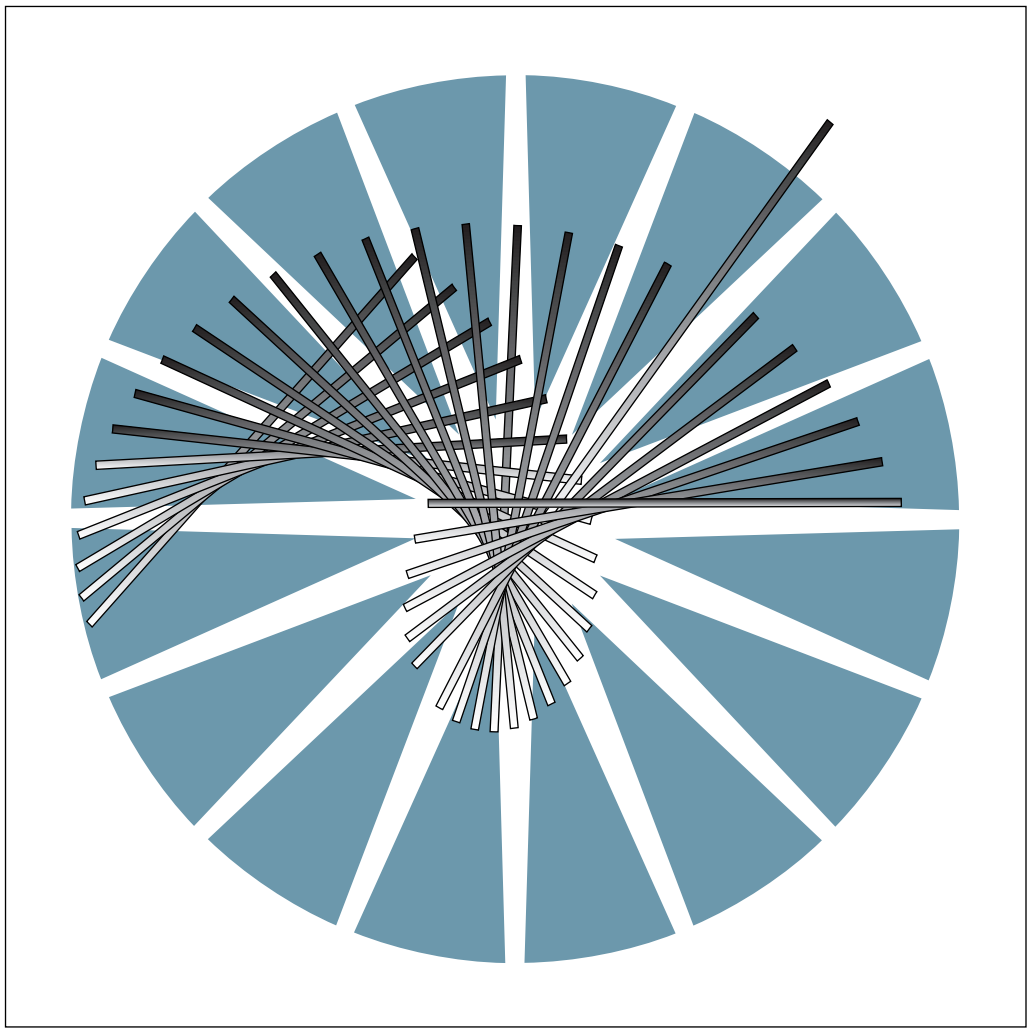
3746 Nways Multiprotocol Controller
Model 950

User's Guide



SA33-0356-03

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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.

Fourth Edition (December 1997)

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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Contents

Figures

Tables

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AIX	APPN	ESCON
Extended Services	IBM	NetView
Nways	OS/2	PS/2
RETAIN	VTAM	

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 in one book, 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 3746-950:
  - Use the service processor
  - Use the network node processor
  - Manage your APPN*/HPR network
  - Manage your IP network
  - Log on the Maintenance and Operator Sub-System - Extended (MOSS-E)
- Install, test, and customize your 3746-950 after installation:
  - Configuring your APPN/HPR and IP network
  - Connecting line cables
  - Integrating the network.
- Configure user workstations to remotely control the service processor while:
  - Install and using Distributed Console Access Facility (DCAF) remote consoles
  - Install and using Telnet Client remote consoles.

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.
3746-900	Refers to the IBM 3746 Nways Multiprotocol Controller Model 900.
3746-900NN	Refers to the part of the 3746-900 operating as an Advanced Peer-to-Peer Networking/High Performance Routing (APPN/HPR) Network Node.
3746-900IP	Refers to the part of the 3746-900 operating as an IP router.
3746-950	Refers to the IBM 3746 Nways Multiprotocol Controller Model 950.
SNA	Refers to the first generation of the Systems Network Architecture (SNA) with subareas and Communication Controllers running ACF/NCP. This is host-dependent networking.
APPN	Refers to the Advanced Peer-to-Peer Networking, an architectural extension of SNA. An APPN network is an SNA network that uses Network Nodes. This is distributed networking.
HPR	Extension of the APPN architecture that takes advantage of fast links with low error rates.

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 who are responsible for the initial and later configuration changes such as:
  - Network generalists
  - System programmers
  - System service personnel
  - IBM trained service representatives.

The user should have an understanding of teleprocessing, modem operations, and Advanced Peer-to-Peer Networking*/High Performance Routing (APPN*/HPR).

Also, teleprocessing specialists should use:

- The on-line information (help, guides, and other material) for:
  The Maintenance and Operator Sub-System - Extended (MOSS-E)
  The Controller Configuration and Management (CCM)
  The APPN/HPR and IP Control Point functions
  The Multiaccess Enclosure Management (an IBM 2216 base)
  The DCAF installation
  The TCP/IP environment
- The publications listed in the Appendix E, “Bibliography” on page E-1.

Your Customer Task Responsibilities

These are not IBM tasks!

The tasks in Table 0-1 are not performed by IBM personnel as part of the machine installation and basic operations. They can be performed by IBM on a fee basis.

Table 0-1. Customer Tasks

Task	Where to Find Information
Communication controller hardware configuration definition	This is input for the IBM ordering system (the CF3745). Helpful information is found in the *Planning Guide*, GA33-0457.
Software definitions and tuning	Refer to the *Planning Guide*.
Fill out plugging sheets	Refer to the *Planning Guide*.
Remote console definitions (using DCAF)	Refer to Chapter 8, “Introduction to Consoles and DCAF” of this guide.
DCAF installation	Refer to Chapter 9, “DCAF Session Installation” of this guide.
Connection to the IBM remote service facility (RSF)	Refer to the *Planning Guide*.
Problem determination through the MOSS-E and NetView*	Refer to: • *Problem Analysis Guide* accessed on-line from the MOSS-E • *Alert Reference Guide*, SA33-0175. • Appendix B, “MOSS-E Functions” of this guide.

How this Guide is Organized

The guide consists of the following chapters, appendixes, and diskette:

- Chapter 1, “Introduction,” explains how to use the service processor and the network node processor in a multiprotocol environment. Gives examples of controller configurations sharing the service processor and examples of console attachments.
- Chapter 2, “Getting Started,” explains how to use the service processor sessions for the 3746-950, using the MOSS-E.
- Chapter 3, “Working with the Network Node Processor Functions,” explains how to access the APPN/HPR control point and IP router functions via the MOSS-E.
- Chapter 4, “3746-950 Power State,” explains how to activate, deactivate, and IML the 3746-950. It is a quick reference for service procedures that are normally performed by service personnel.
- Chapter 5, “Service Processor and MAE Microcode Management,” explains how to update the active CDF-E. It also describes saving and backup operations.
- “Controller Configuration and Management (CCM),” is an introduction for configuring and managing your APPN/HPR and IP networks.
- Chapter 7, “Installing LCBs, ARCs, and Connecting Cables,” describes the connection tasks for the hardware: the LICs, TICs, and cables for the various types of communication lines and service lines.
- Chapter 8, “Introduction to Consoles and DCAF” to Chapter 15, “APPN-Attached Remote Workstation,” explains how to configure remote consoles that use DCAF to monitor and control of the service processor and the MOSS-E. They give example configurations for the five types of link (LAN-APPC, LAN-TCP/IP, Modem, SNA, and APPN) between a remote console and the service processor.
- Chapter 16, “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.
- Appendix A, “3746-950 Operator Control Panel,” explains how to work with the 3746-950 operator control panel.
- Appendix B, “MOSS-E Functions,” is a guide to help you locate the MOSS-E functions.
- Appendix C, “Configuration for a Two-Target Remote Workstation,” describes an example configuration for a remote workstation that can control two target service processors.
- Appendix D, “Configuring DLC for DCAF,” gives parameters used for configuring with Communications Manager/2 (CM/2).
- Appendix E, “Bibliography,” lists the available customer documentation related to the 3745 and 3746-900.

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:

- Multiaccess Enclosure (an IBM 2216 base).
- 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 E-1.
- “Help Pull-Down Menu” on page 2-8.
- *DCAF: Installation and Configuration Guide*, SH19-4068.
- *Introducing Enterprise Systems Connection*, GA23-0386.
- *IBM 3746 APPN/HPR Implementation Guide*, GG24-2536.
- *IBM 3746 IP Implementation Guide*, GG24-4845.
- *SNA Network to APPN Network Migration Experience*, SG24-4656.
- *Networking Softcopy Collection Kit*, SK2T-6012.

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Chapter 1. Introduction

APPN/HPR and IP Routing

Figure 1-1 below shows the Enterprise System Connection (ESCON*), token-ring, and communication line connectivity (ATM, PPP, SDLC, Frame-relay) of the 3745, 3746-900, and 3746-950.

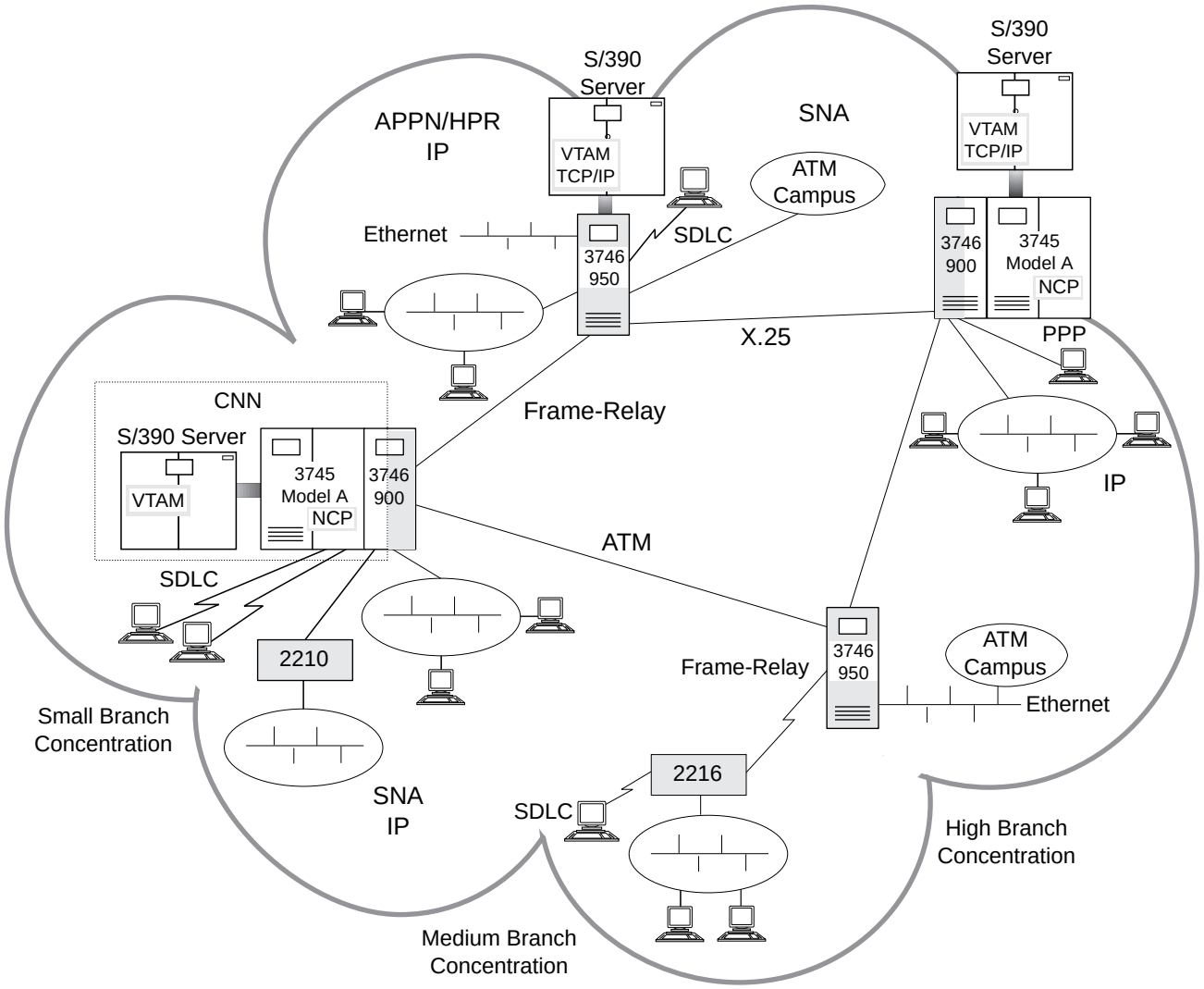


Figure 1-1. SNA and APPN/HPR Networking with 3745 Model A, 3746-900, and 3746-950.

The 3746 Nways* Multiprotocol Controller Model 950 can operate as any of the following:

- SNA node controlled by NCP.
- APPN/HPR composite network node (CNN) controlled by NCP and VTAM*.
- APPN/HPR network node, independent from NCP and VTAM, controlled by the network node processor (NNP).
- IP router, independent from NCP and APPN, controlled by the NNP.

The 3746-950 can operate simultaneously in multiple modes, as in the following examples:

- APPN/HPR network node and SNA node (NCP).
- APPN/HPR network node and APPN composite network node (NCP).
- SNA node (NCP) and IP router.
- APPN/HPR network node and IP router.
- APPN/HPR network node, IP router, and SNA node (NCP).

In these modes, the adapters of the 3746 Model 950 are shared between traffic controlled by the 3746 network node (NN), traffic controlled by NCP, and traffic controlled by the 3746 IP router.

The 3746-950, under control of the NN processor, carries out APPN/HPR network node functions over communication line adapters, token-ring adapters type 2 (and higher), and ESCON adapters type 2 (and higher). All the adapters can run 3746 network node traffic, IP traffic, and NCP traffic simultaneously.

The 3746-950 supports SNA traffic, for example, 3270 flows, via the dependent logical unit requester (DLUR) function.

The 3746-950 allows the 3745 and associated SNA network to evolve and grow in capacity, function, and performance. The controller also provides upgrades to protect current and future investments in 3745-based networks. As an APPN/HPR network node, the 3746-950 offers a flexible and cost-effective evolution path from SNA networking to APPN/HPR networking.

The 3746-950 can operate with the same APPN/HPR and IP routing capabilities as the 3746-950.

Locating Processors

The service processor and network node processors are located in a controller expansion unit next to the 3746-950 or the 3745 Models A (see Figure 1-2 on page 1-3).

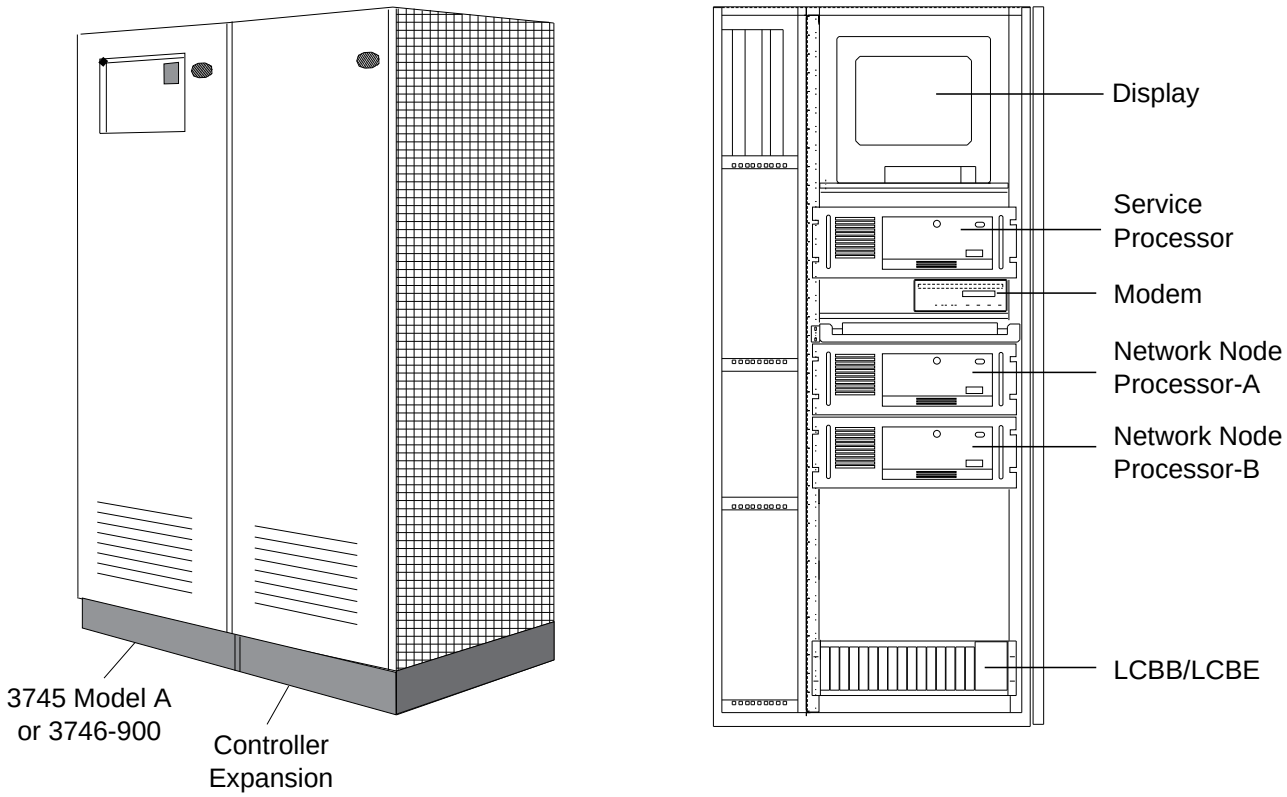


Figure 1-2. 3745 Model A or 3746-950 with Controller Expansion

Using the Service Processor

The service processor connects the 3745 to the 3746-950, and provides a single user interface for 3745 and 3746-950 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 Nways Multiprotocol Controller Model 950.

The service processor also performs the following:

- Runs Controller Configuration and Management (CCM)[1] for the following:
  - Configuring the 3746-950 APPN/HPR Network Node and IP Router with ESCON Generation Assistant (EGA).
  - Displaying information about 3746-950 resources, for example, the current local network topology.
  - Managing multiple configurations of 3746-950 resources.

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

- Loads 3746-950 microcode.
- Stores information, for example, configuration data file-extended (CDF-E) files on 3746-950 hardware resources.
- Reports 3746-950 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 3746-950, and the network node processor via a Service Processor Access Unit (SPAU). The SPAU can be shared with other 3745s and 3746-950s.

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 stations 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 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

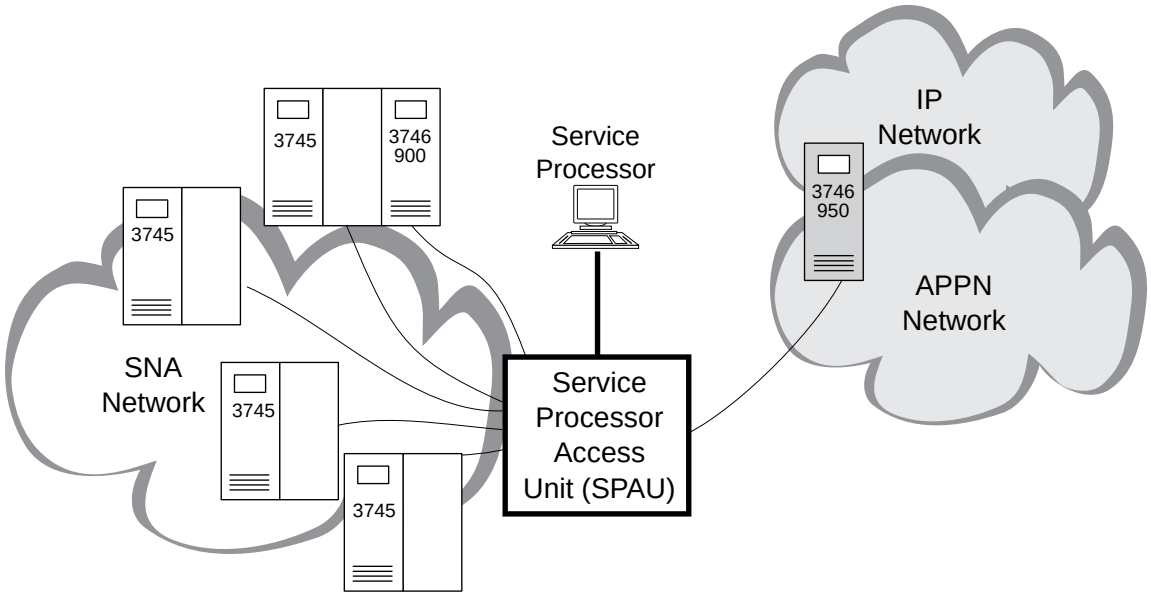


Figure 1-3. Example 1 of a Maximum Configuration. Service Processor running four 3745s, one 3746-900 (SNA), and one 3746-950 (IP, or APPN/HPR).

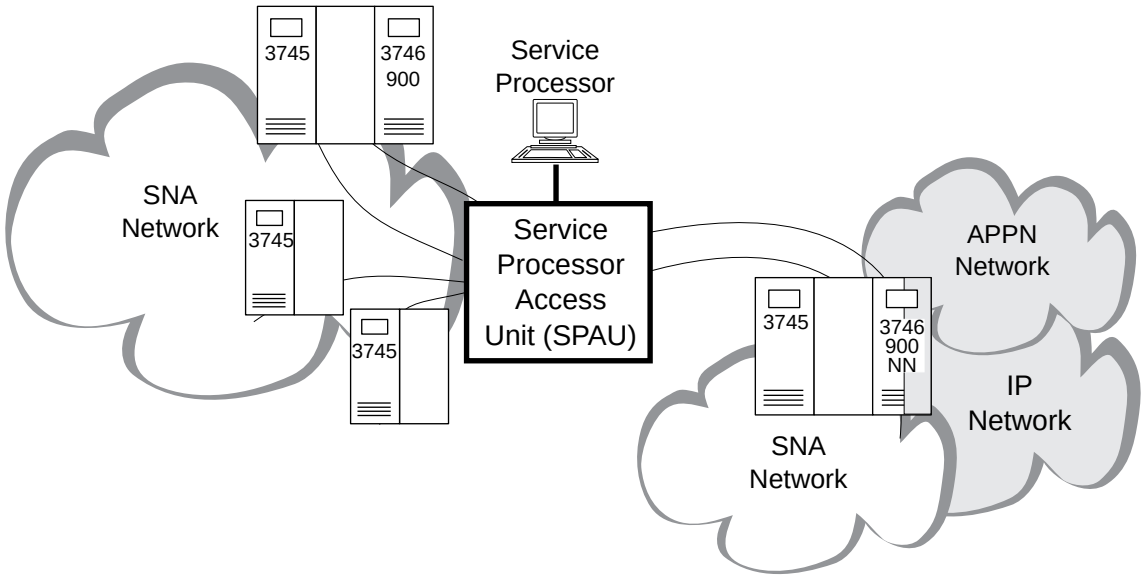


Figure 1-4. Example 2 of a Maximum Configuration. Service processor running four 3745s and two 3746-900s, one operating as an APPN/HPR network node.

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 1-3 on page 1-4).
- Four 3745s and two 3746-900s, one operating as an IP Router and APPN/HPR network node (see Figure 1-4).

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.

Backing Up the Service Processor

Network operations are not affected if the service processor is temporarily disabled. However, a backup service processor provides a higher level of availability.

In normal operations, the backup service processor is not connected to the SPAU and remains powered OFF. The hard disk of the backup service processor should duplicate that of the active service processor. This means that if the active service processor fails, it can be easily replaced by the backup.

After setting up a backup service processor, use the following procedures to duplicate it with the active service processor:

1. Save active MOSS-E configuration data to the hard disk of the backup service processor.
2. Save Multiaccess Enclosure (MAE) configuration data to a backup diskette.

3. Save the active MOSS-E microcode to the hard disk of the backup service processor.
4. Repeat steps 1 on page 1-5 and 3 after every configuration or code change.

For more details, see “Backing Up the Service Processor” on page 5-18.

Dual Network Node Processor (NNP)

The 3746 Nways Multiprotocol Controller is equipped with one or two network node (NN) processors 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.

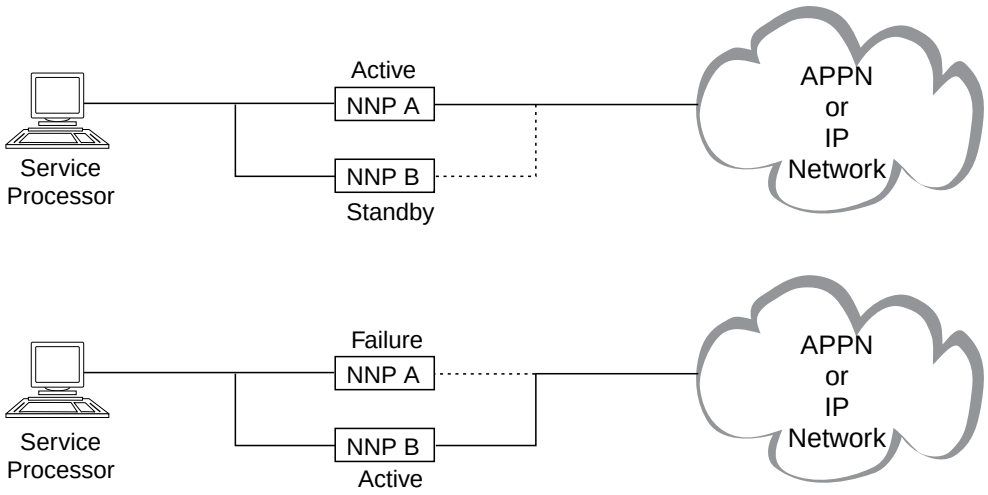


Figure 1-5. Dual Network Node Processors. Dual NNPs in twin-standby mode for 3745 Models 41A and 61A.

To activate dual NNP, select **Enable CP/NNP backup** (see “Manage Control Points on NNPs” on page 3-2).

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 3746-950NN (see “Manage Control Points on NNP” on page 3-5). Otherwise, you must restart traffic manually.

Network Node Processor States

In twin-standby mode, the NNPs display color status messages similar to the 3746-950 NNP (see “Information Pull-Down Menu” on page 2-7).

Remote Consoles

For more information on logging on to remote consoles, see the following:

- Chapter 8, “Introduction to Consoles and DCAF” on page 8-1.
- Chapter 9, “DCAF Session Installation” on page 9-1.
- “Using DCAF to Remotely Log on to the Service Processor” on page 2-15.
- Chapter 11, “LAN-Attached (TCP/IP Type) Remote Workstation” on page 11-1.
- Chapter 12, “LAN-Attached (APPC Type) Remote Workstation” on page 12-1.
- Chapter 13, “Modem-Attached Remote Workstation” on page 13-1.
- Chapter 14, “SNA-Attached Remote Workstation” on page 14-1.
- Chapter 15, “APPN-Attached Remote Workstation” on page 15-1.
- Chapter 16, “Telnet-attached Remote Workstation” on page 16-1.

Operator Tools

To operate the 3745 and 3746-950, 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 Chapter 4, “3746-950 Power State” for a description of control panel displays, indicators and switches).
- The 3746-950 operator control panel. This is operational even when the 3746-950 is deactivated (see Appendix A, “3746-950 Operator Control Panel” for a description of control panel displays, indicators and switches).

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 2-8.

2. Second Level

   Contact the person in charge of 3745/3746-950 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 3746-950 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. Getting Started

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.

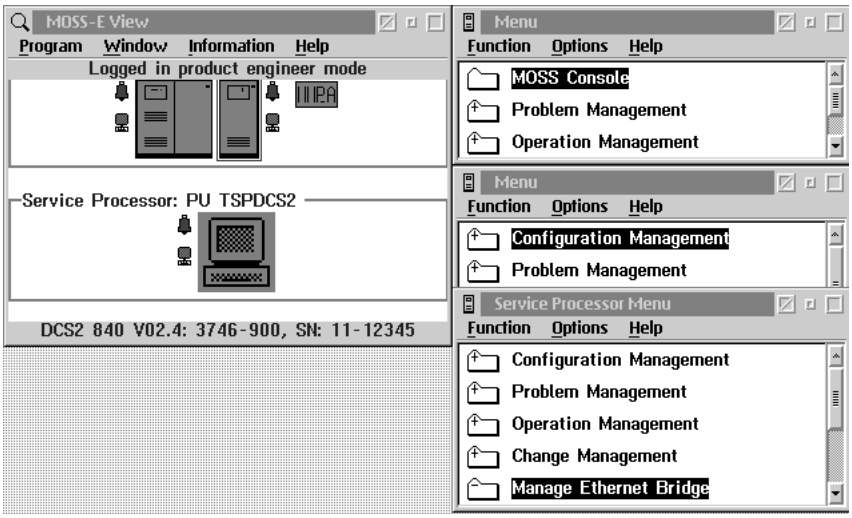


Figure 2-1. MOSS-E View Window with Machine Menus

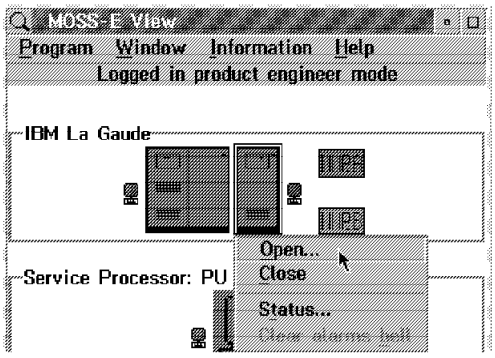
The basic **MOSS-E View** window (left in Figure 2-1) provides access to other windows and functions. The figure above shows a minimum configuration, with two areas:

- For 3745 Model A, 3746-950, 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 2-1).

The contents of the menu depends on the logon mode that you used (see “Logging On the MOSS-E” on page 2-4).

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 3746-950 and 3745 menus. For first level operators.

Controller maintenance password
Access to operator and maintenance functions in the 3746-950 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

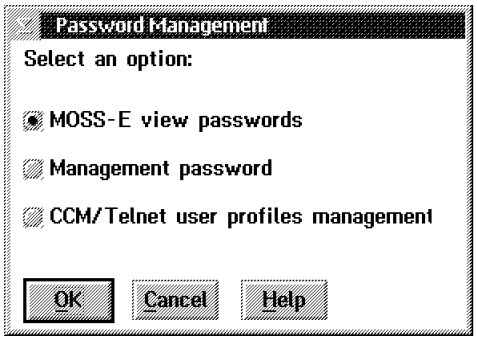
To change a password:

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

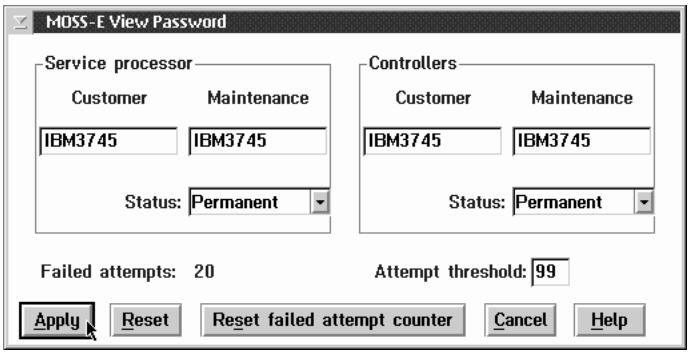
Step 2. Select **Operation Management**.

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**.

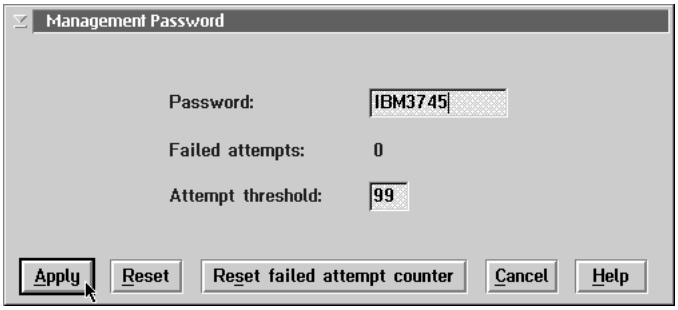


Step 5. Re-enter new passwords and click **Apply**.



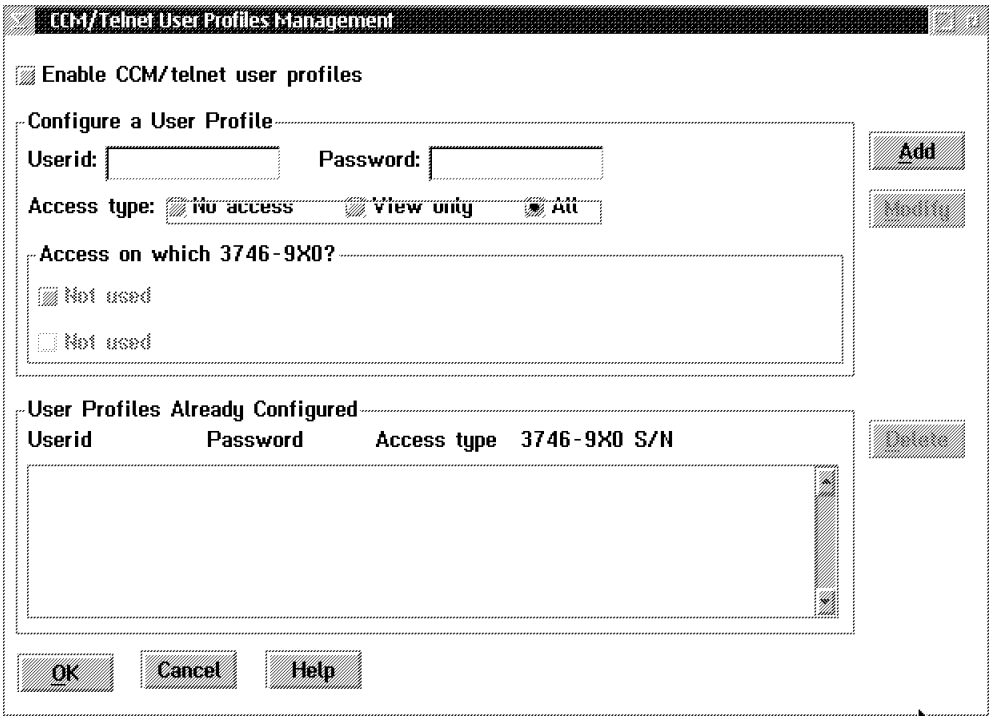
Step 6. Click **Management password** and click **OK**.

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 6, “CCM and Telnet IP Resource Management” on page 6-1.

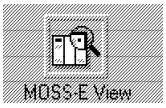
Step 9. Enter a **Userid** and **Password** and click **OK**.



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

Logging On the MOSS-E

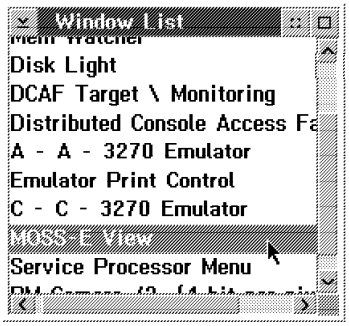
Step 1. If the **MOSS-E View** window displays, go to Step 3 on page 2-5. Otherwise continue with next step.

Step 2. Double-click the 

icon.

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

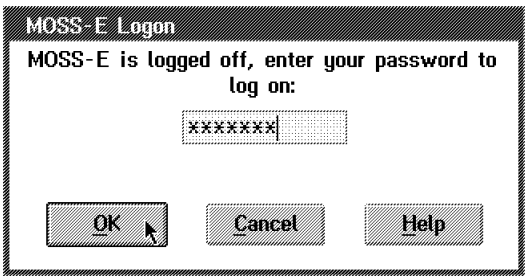
- Press Ctrl Esc for the **Window List** and double-click **MOSS-E View**.



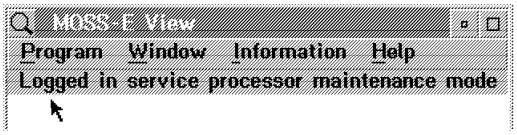
- See “Problems with MOSS-E or the Service Processor” on page 2-18.

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:

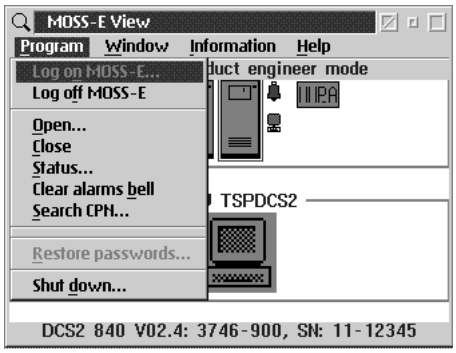
- “Help Pull-Down Menu” on page 2-8.
- “Problems with MOSS-E or the Service Processor” on page 2-18.

Otherwise, contact the person in charge of 3745 and 3746-950 problem analysis (see “Solving Problems” on page 1-7).

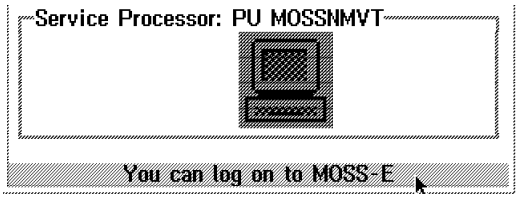
Step 6. MOSS-E menus and functions are now available (see page 2-8).

Logging Off the MOSS-E

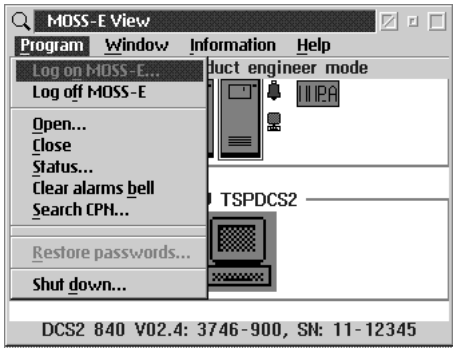
Step 1. Click **Program** in the **MOSS-E View** window and click **Log off MOSS-E**. Then click **OK**. A logoff is successful message displays.



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:

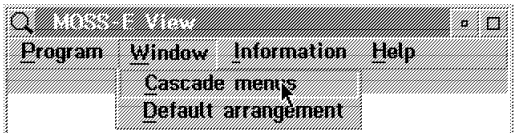
Open	Opens menus for 3745, 3746-950, and service processor.
Close	Closes a menu.
Status	Diplays information on 3745 or 3746-950.
Clear alarms bell	Clears alarms with a pending status.

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

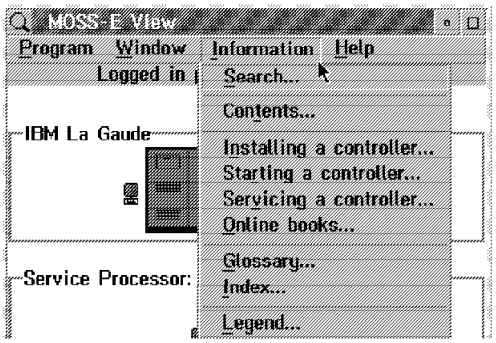


Cascade Arranges the menus that you have open in a stacked formation, like index cards.

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, 3746-950, and service processor.

Search Searches for information on an entry that you make in a text box.

Contents Lists the main tasks related to the communication controller.

Installing a controller Information on installing a controller.

Starting a controller Information on starting a controller.

Servicing a controller Information on servicing a controller.

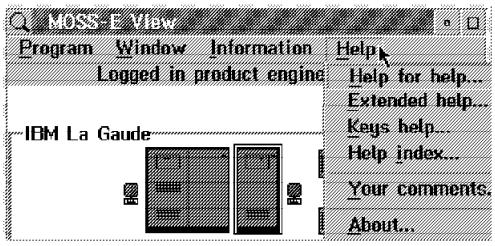
Online books Information that can be accessed directly from the service processor, for example, *Problem Analysis Guide*.

Glossary Abbreviations and definitions about the 3745, 3746-900, and 3746-950 with any diagrams of main components.

Index	An alphabetical list of subjects related to the 3745, 3746-900, 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.



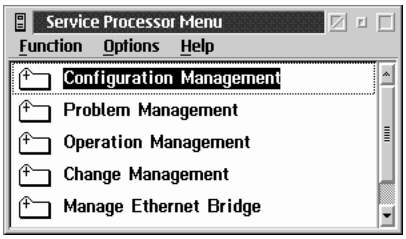
Help for help	Explains how to use Help.
Extended help	Information about the functions of the **MOSS-E View** window.
Keys help	Lists the function keys of the MOSS-E.
Help index	Lists Help items in alphabetical order.
Your comments	Information on where to send your reader's comments on MOSS-E information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

MOSS-E Menus, Tasks, and Functions

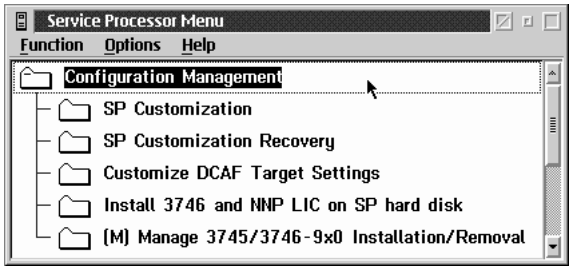
MOSS-E menus are the link between you and MOSS-E functions. There is a MOSS-E menu for the 3745, 3746-900, or 3746-950, and also for the service processor as well. For more information, see Appendix B, “MOSS-E Functions.”

How to Use a Machine Menu

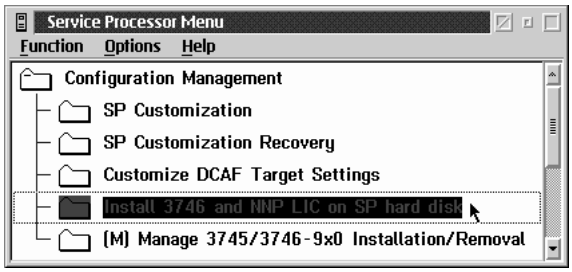
To display the menu for a machine, you must be logged on to the MOSS-E (see “Logging On the MOSS-E” on page 2-4). After logging on, double-click a machine object to open a menu with a task list (see the **Service Processor** menu below).



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.



The 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:

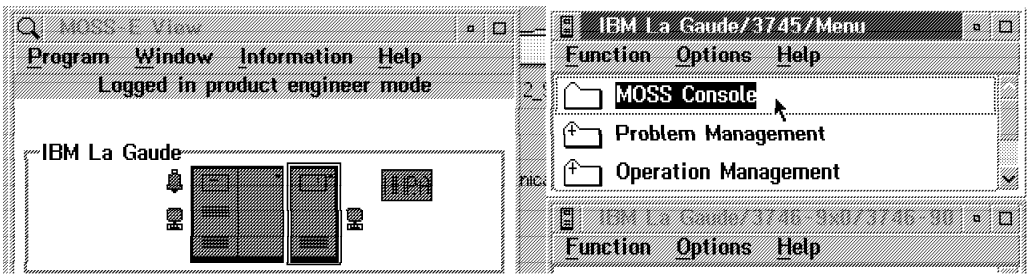
- MOSS screens
- Using certain keys
- Opening a MOSS window
- Accessing MOSS functions.

How to Open the MOSS Window

After you log on to the MOSS-E (see page 2-4), 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 2-3 on page 2-12).

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 2-8.
- "Problems with MOSS-E or the Service Processor" on page 2-18.

If you still have a problem, contact the person in charge of 3745 and 3746-950 problem analysis. See "Solving Problems" on page 1-7.

Service Processor MOSS Screen Layout

Below is an example of a service processor MOSS screen.

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

                            Machine Status Area

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



                         FUNCTION AREA




===>    Message Area

           Function Keys
```

Figure 2-2. 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.

Explanations of Common Commands and Function Keys on Screen

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*.

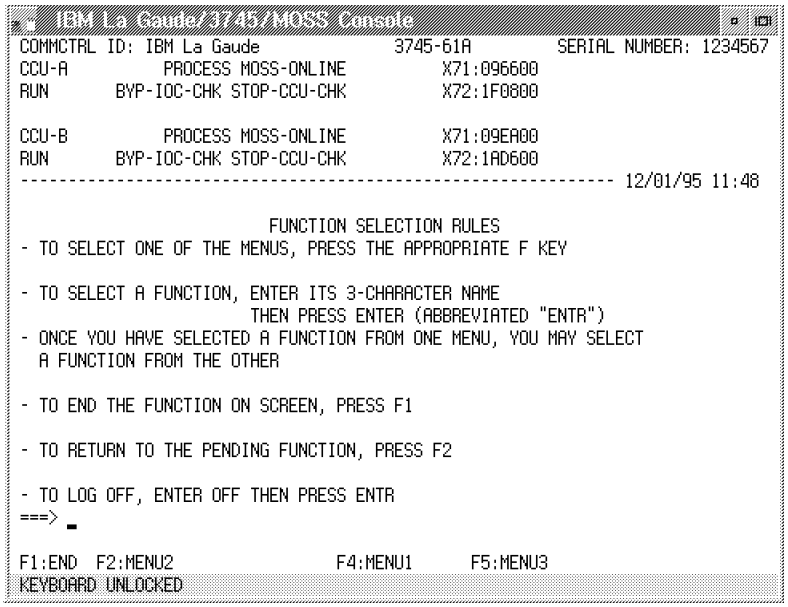


Figure 2-3. Function Selection Rules Screen

The following keys are available:

F1 Ends a function.

F2 Displays Menu 2 functions (see “Menu 1 and 2 Functions” on page 2-13).

F4 Displays Menu 1 functions (see “Menu 1 and 2 Functions” on page 2-13).

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 2-13).

Menu 1 and 2 Functions

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

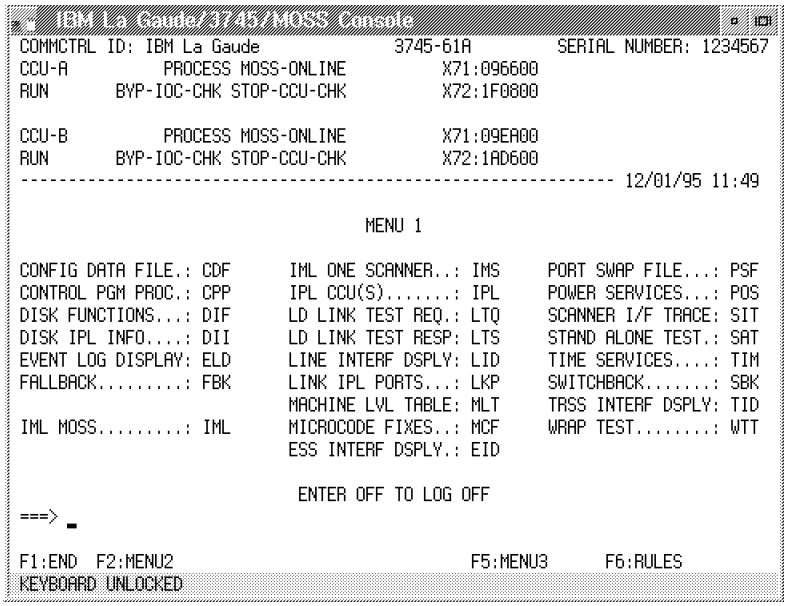


Figure 2-4. Menu 1 Functions

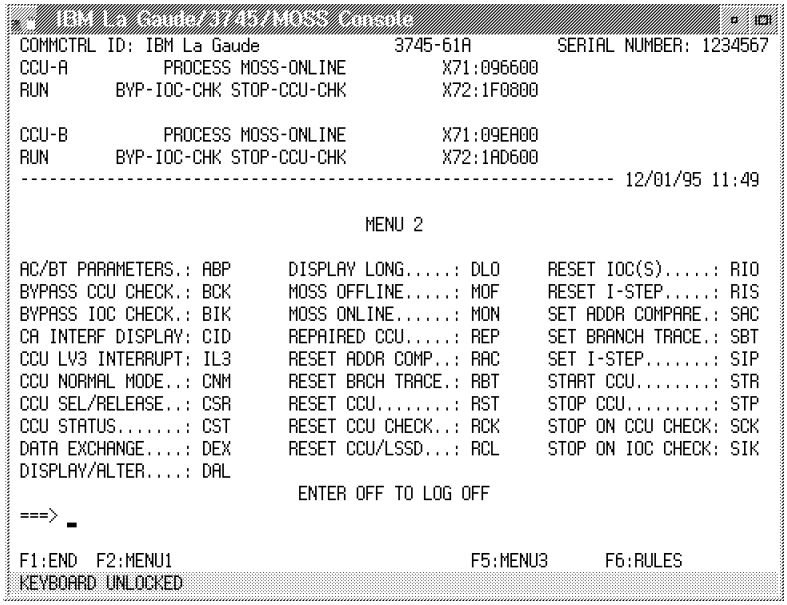


Figure 2-5. Menu 2 Functions

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 1-7).

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 Distributed Console Access Facility (DCAF), an IBM licensed program. A DCAF session allows a 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, CCM, and APPN functions as though seated before the service processor.

Customer Consoles

There are five types of customer remote console. These types define how the console is connected to the service processor (see Figure 2-6 on page 2-16).

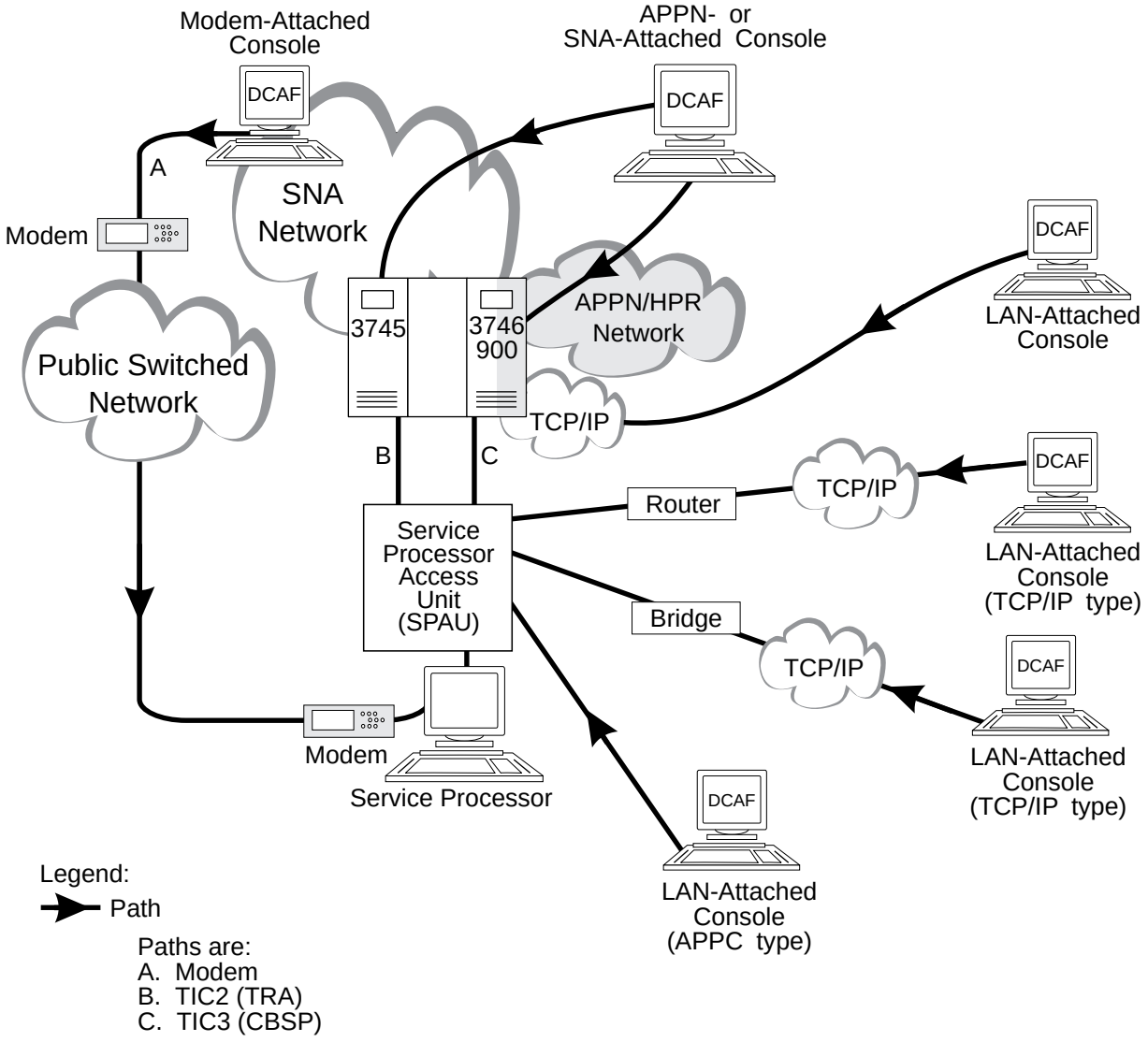


Figure 2-6. DCAF Console Attachments

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.

Note: This type of console is supported only when the service processor has a 3746 network node or a 3746-950 connected to the service LAN.

SNA-attached

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

Note: The connection between SPAU and an installed 3745 MOSS cannot be used for a link to a backbone.

APPN-attached

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

Note: The connection between SPAU and an installed 3745 MOSS cannot be used for a link to a backbone.

Modem-attached

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

Note: The same port and modem is used for Remote Support Facility (RSF) and Remote Technical Assistance Information Network (RETAIN) calls.

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.

Detailed information about DCAF can be found in the *Console Setup Guide*, SA33-0158 or the *DCAF: Installation and Configuration Guide*, SH19-4068.

Using Telnet to Remotely Access IP functions

A workstation supporting IP for Telnet can use DCAF to remotely access the IP functions of a network node processor (see “Using DCAF to Remotely Log on to the Service Processor” on page 2-15).

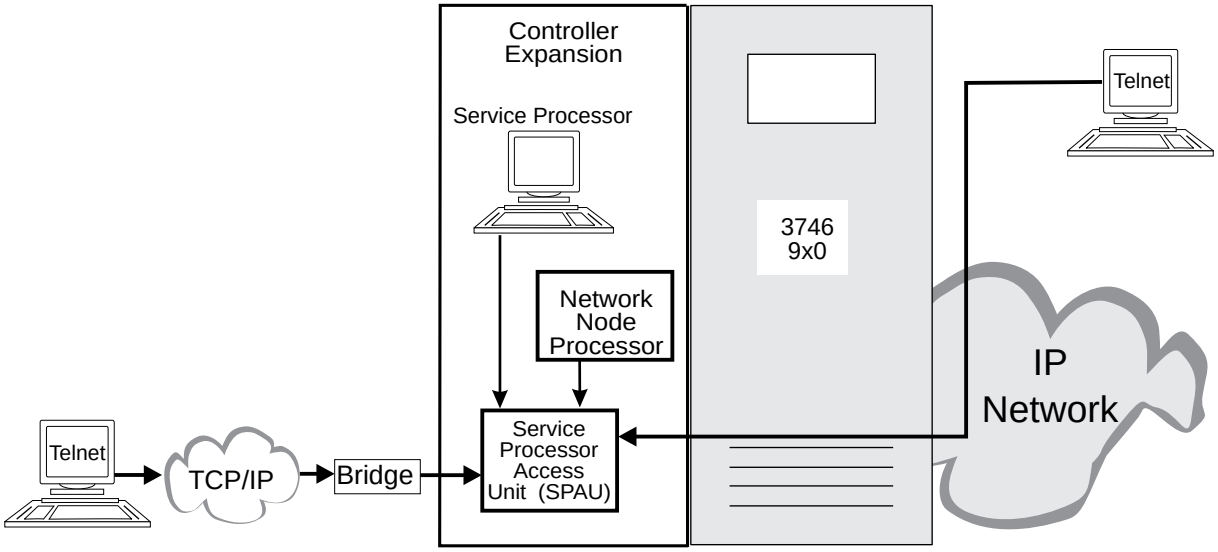


Figure 2-7. Telnet Workstation Attachments

Telnet attachments can be any of the following:

- LAN (token-ring, Ethernet).
- WAN links (Frame-relay, Point-to-Point Protocol).

Detailed information about Telnet can be found in the *Console Setup Guide*.

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 2-1).
- 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 3746-950 problem analysis (see “Solving Problems” on page 1-7 and “Help Pull-Down Menu” on page 2-8).

Chapter 3. Working with the Network Node Processor Functions

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

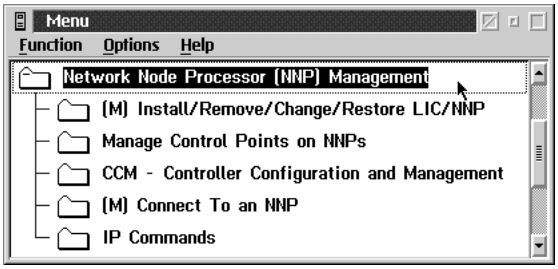
Accessing the Network Node Processor Functions

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 Network Node Processor, follow the steps below:

Step 1. Open the 3746-950 menu (see “How to Use a Machine Menu” on page 2-8).

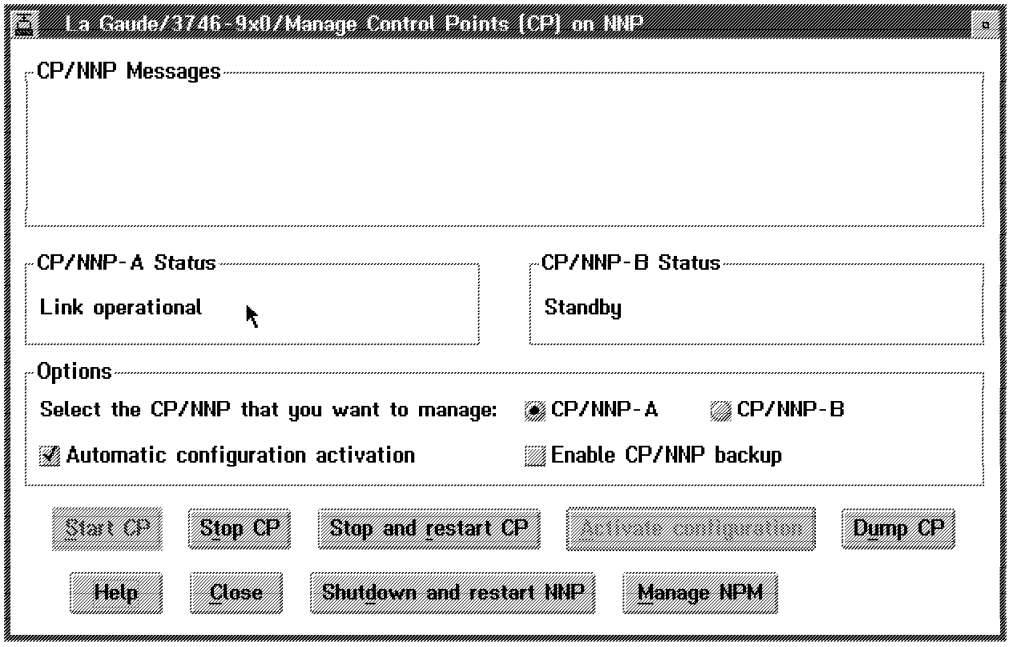
Step 2. Click the **Network Node Processor Management** task to display NNP functions.



Install/Remove/Change/Restore LIC/NNP

To be used only by an IBM representative.

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 user input
- Link not ready
- Link ready
- Link operational.

More status information is given in “Manage Control Points on NNP” on page 3-5.

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 3-1).

Enable CP/NNP Backup Option

Activates dual NN functions (see Table 3-1).

Table 3-1. 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”).

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.

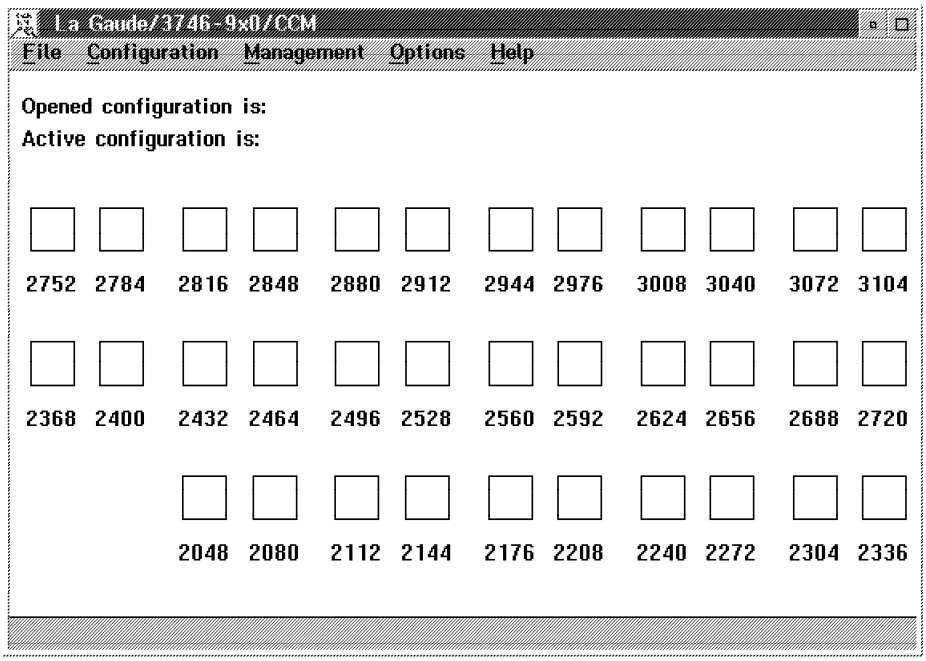
Shutdown and Restart NNP Button
Use this button to:

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.

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 6, “CCM and Telnet IP Resource Management” or to the *CCM: Users Guide*, SH11-3081.

Connecting to an NNP

To be used only by an IBM representative.

IP Commands

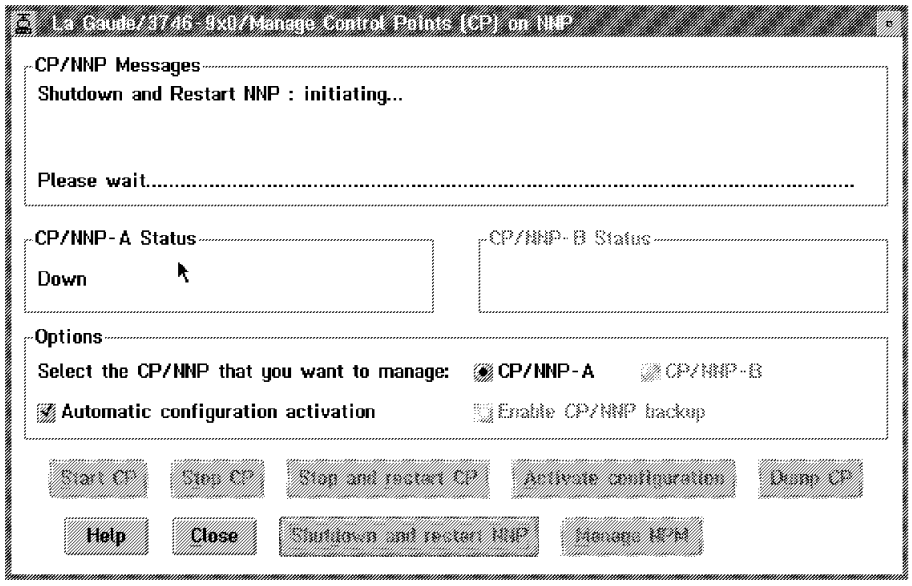
A method of configuring and managing IP resources using Telnet commands and without using CCM. Details about these commands are in “Accessing IP Commands from the MOSS-E” on page 6-4.

Manage Control Points on NNP

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



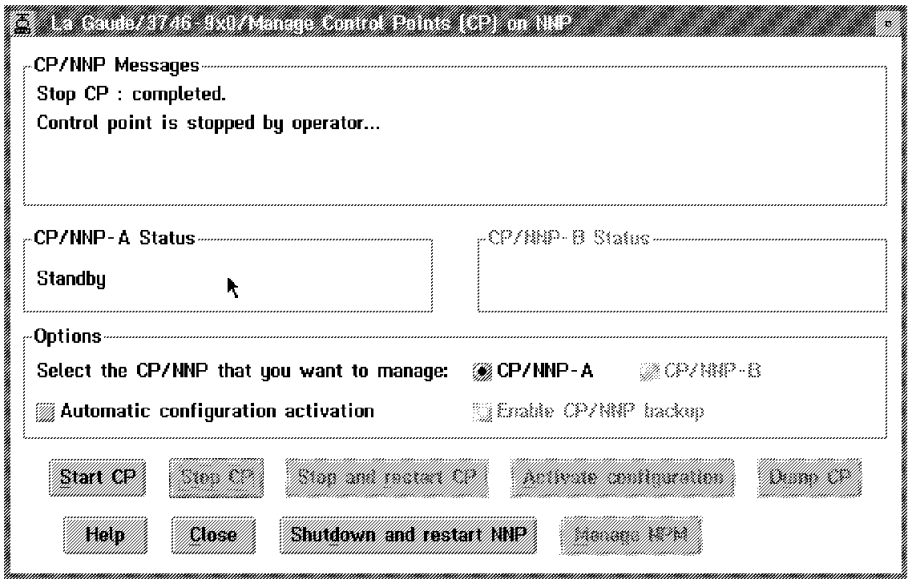
The NNP icon appears grey in color in the **MOSS-E View** window. This means that the link between the service processor and NNP has failed because of one of the following problems:

- 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



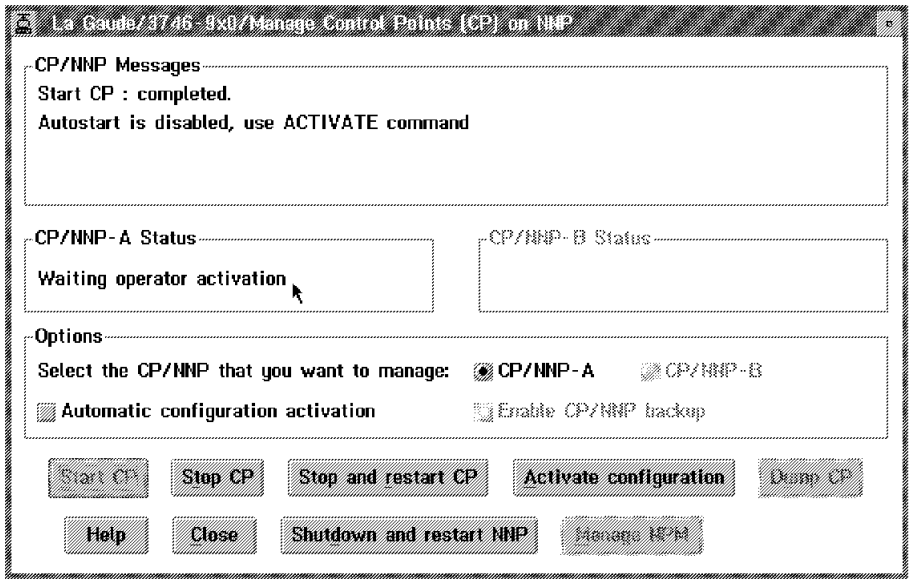
The NNP icon appears blue in color in the **MOSS-E View** window. This means that the NNP is active and ready for input. To select automatic configuration, click one of the following buttons:

- **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.

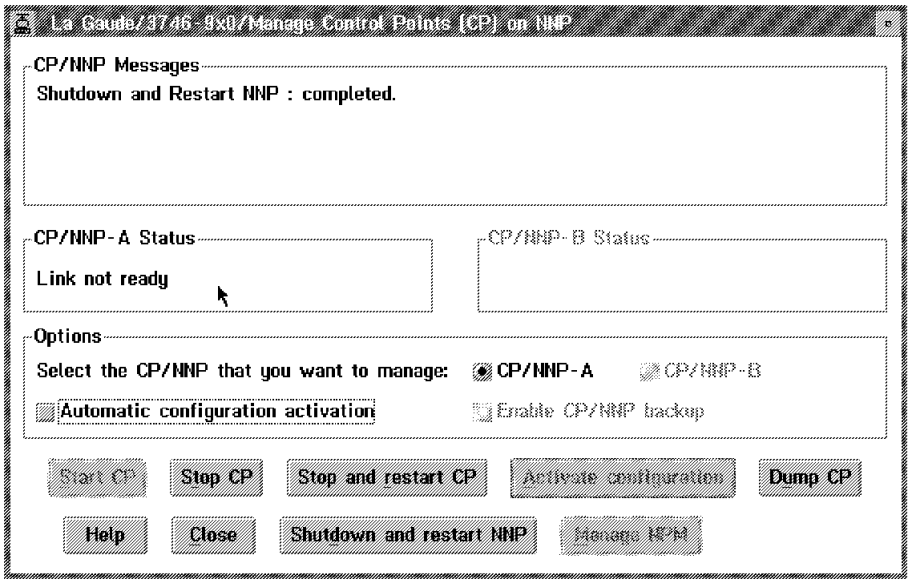
Waiting Operator Activation Status



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.

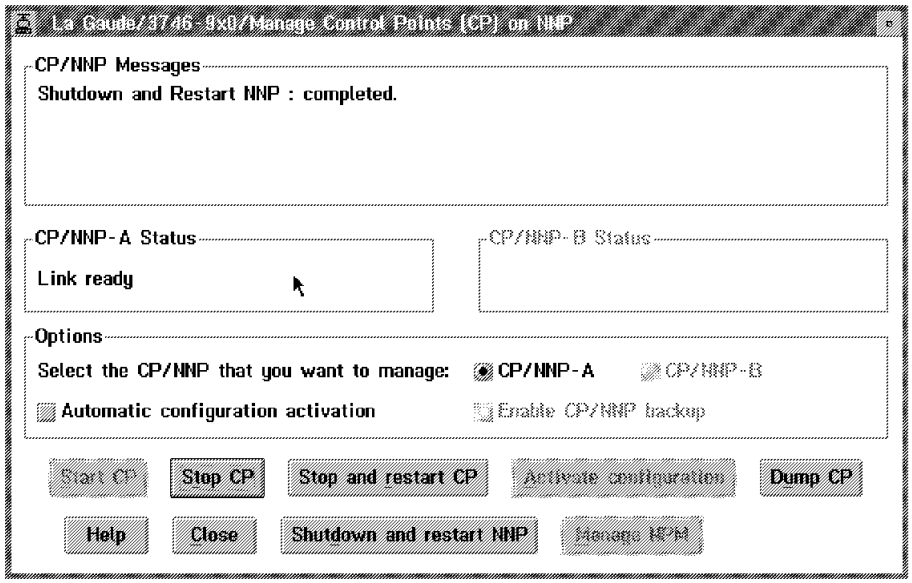
Link Not Ready Status



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 3746-950.

There are no operator requirements.

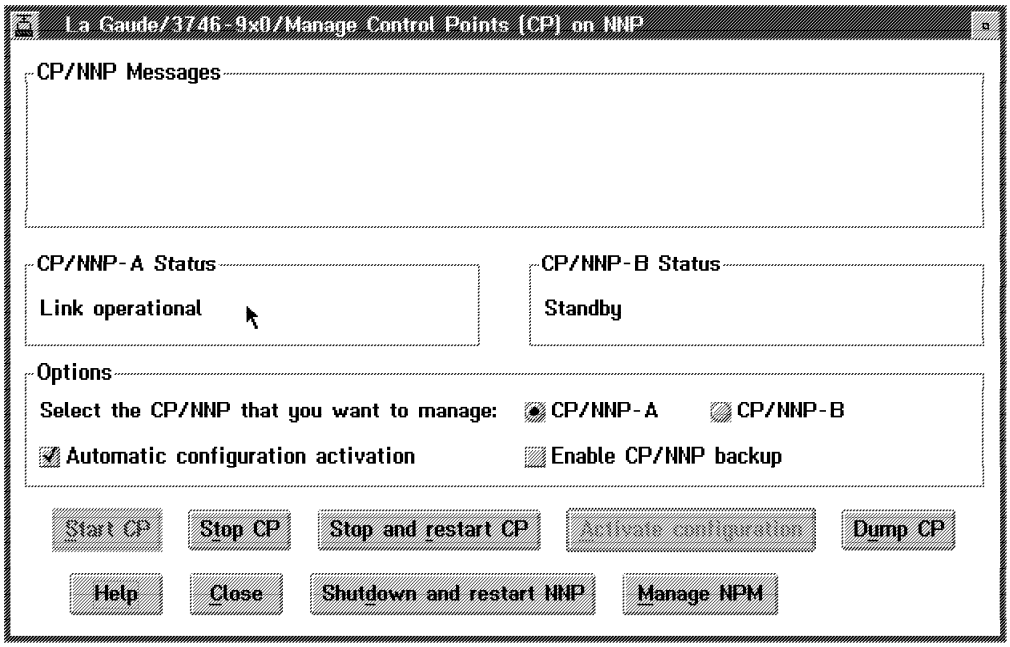
Link Ready Status



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 3746-950 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 3746-950 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.

Chapter 4. 3746-950 Power State

When the main switch is on and connected to the main power supply, the 3745-950 has two power states (this applies to the entire 3745/3746 family). The power state can be either:

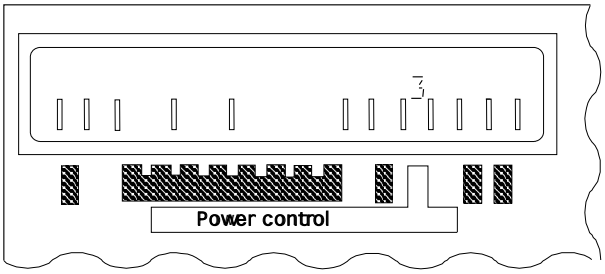
- Activated (IML complete, ready to work).
- Deactivated (only the main power box and the operator control panel are active).

Power Control Mode Switching

This section describes changing from one power mode to the other (whether the 3746-950 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 3746-950 from the control panel when it is in **local** mode (see “Activation and IML from the 3746-950 Operator Control Panel” on page 4-4).

The power state of the 3746-950 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 4-2).
- Host via the External Power On (EPO) cable (see “Activation/Deactivation from a Host” on page 4-3).

Any one of the above sending a power ON command will activate the 3746-950.

Any one of the above sending a power OFF command will de-activate the 3746-950.

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 3746-950, and any pending power commands.

The 3746-950 is activated if the following applies:

- The 3745 is powered ON.
- A power ON command is pending from a connected host.

Otherwise, the 3746-950 remains deactivated.

The 3746-950 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 3746-950 remains active.

Activation/Deactivation from the Service Processor

Before activating or de-activating the 3746-950 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**.

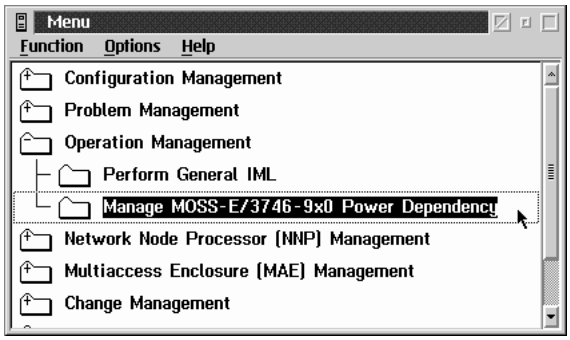
Activation

To activate Before activating the 3746-950, make sure the **Standby** light on the control panel is ON.

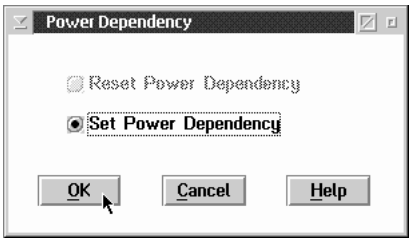
Step 1. Open a MOSS-E menu to activate the 3746-950 (see to “MOSS-E Menus, Tasks, and Functions” on page 2-8).

Step 2. Click **Operation Management**.

Step 3. Double-click **Manage MOSS-E/3746-950 Power Dependency**.



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



The 3746-950 is activated. If there are errors, see the **Display Alarms** function, or the online help for more information.

Deactivation

Before de-activating the 3746-950, make sure the Ready light is ON, but not blinking.

Step 1. Open a MOSS-E menu to de-activate the 3746-950 (see “MOSS-E Menus, Tasks, and Functions” on page 2-8).

Step 2. Click **Operation Management**.

Step 3. Double-click **Manage MOSS-E/3746-950 Power Dependency**.

Step 4. Click **Reset power dependency**.

Step 5. Click **OK**.

The 3746-950 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 3746-950 is deactivated if any of the following applies:

- 3745, 3746-950, and connected hosts powered OFF.

  Attempt to activate the 3746-950 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 3746-950 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 3746-950 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 1-7).

Power OFF Command

The Ready light must be ON, but not blinking.

When the host generates a Power OFF command, the following occurs:

- The 3746-950 stays active in local mode.
- In remote mode:
  - 3746-950 stays active if the following applies:
    - 3745 is powered ON.
    - Service processor requests activation (see “Activation” on page 4-2).
    - Power ON command is generated by another host connected to the 3746-950 via an EPO cable.
  - The 3746-950 is deactivated if the following applies:
    - 3745 is powered OFF.
    - Service processor requests deactivation (see “Deactivation” on page 4-3).
    - No power ON commands from other hosts connected to the 3746-950 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 1-7).

VTAM Remote Power OFF Command

A remote power OFF (RPO) command can be sent to a remote 3745 and attached 3746-950 from VTAM. The remote 3746-950 powers OFF only if the following applies:

- 3745 Power Control is in a network mode.
- 3746-950 Power Control is in remote mode.

Activation and IML from the 3746-950 Operator Control Panel

Note: For more information about the 3746-950 control panel, see Appendix A, “3746-950 Operator Control Panel.”

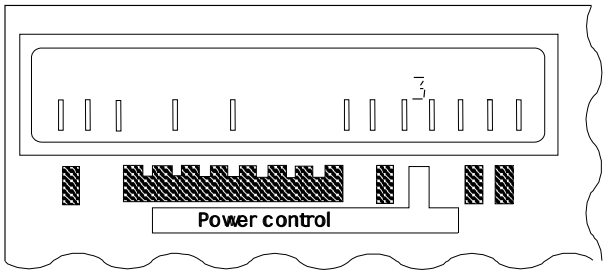
To activate the 3746-950, use the following procedure:

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.



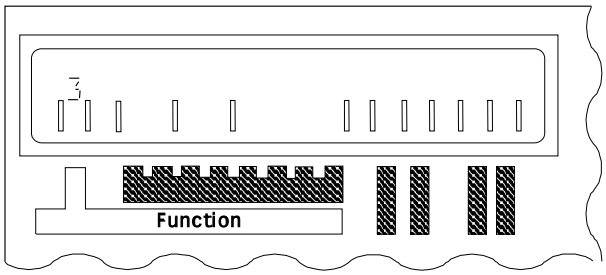
Note

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 3746-950 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.

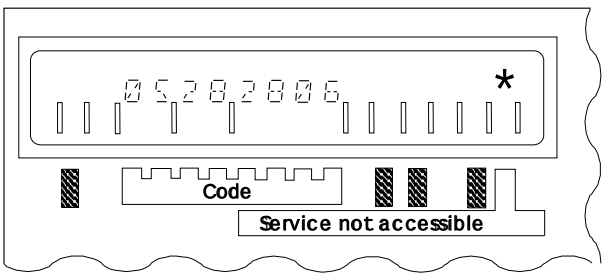


Step 4

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.

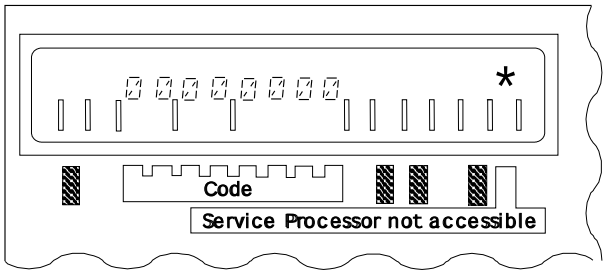
Step 5

Wait until the hex code **05 28 2806** displays and the **Standby** light remains ON.	
Yes	1. Press **Start** on the control panel. The 3746-950 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 3746-950 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 3746-950 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 3746-950 problem analysis, (see page 1-7).

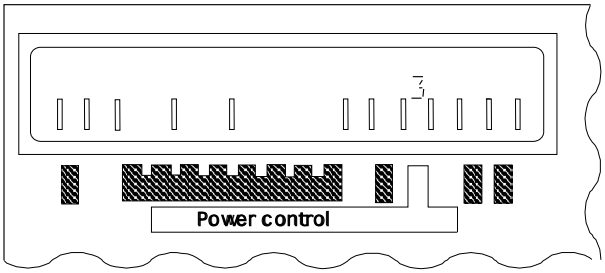


Deactivation from the 3746-950 Operator Control Panel

To deactivate the 3746-950 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 3746-950 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 3746-950 automatically powers ON and performs an IML (the same as the 3745).

If there is a total power failure, the 3746-950 goes into standby mode. When power is restored, the 3746-950 automatically performs an IML. However, IML is only automatic if the following applies:

If a power failure occurs while the 3746-950 is activated:

- 3746-950 goes into power OFF state.
- When power is restored, the 3746-950 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 3746-950 via EPO cable.
  - The 3746-950 is activated by the power dependency function (see “Activation” on page 4-2).

If the power failure occurs while the machine is on standby:

- The machine goes into power OFF state.
- When power is restored, the 3746-950 returns to standby status until:
  - Power ON command is received from a host attached to the 3746-950 via EPO cable.
  - Power ON command is received from the service processor.
  - 3745 is powered ON.

Chapter 5. Service Processor and MAE Microcode Management

This chapter consists of the following procedures:

- Installing and upgrading the microcode for the MAE configurator.
- Backing up microcode and configurations to the service processor and the MAE.
- Updating the active CDF-E.
- Installing microcode and backing up configurations to a backup service processor.
- Installing a backup service processor.

Installing and Running MAE Configurator Microcode

Although the microcode for running the MAE is installed on the hard drive of the MAE, the microcode for MAE configurator is installed and maintained on the service processor hard disk. The procedures below describe the following:

- Installing MAE configurator code
- Maintaining MAE configurator code.

Installing MAE Configurator Microcode

Use the following procedure to install the necessary microcode for running the MAE configurator.

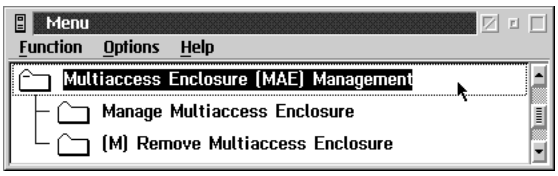
Warning

The following procedure downloads MAE configurator microcode onto the active partition (version 1) of the service processor. If you switch partitions (version 1 to version 2, for example), you must re-install the MAE configurator microcode again.

Step 1. Insert the CD with the MAE configurator code into the CD-ROM drive.

Step 2. Open the **3746-9x0 Menu**.

Step 3. Click **Multiaccess Enclosure (MAE) Management**, and then **Manage Multiaccess Enclosure**.



Step 4. Click **Configurator**. If there is no configurator microcode on the service processor hard drive, the necessary microcode automatically downloads onto your service processor hard disk.

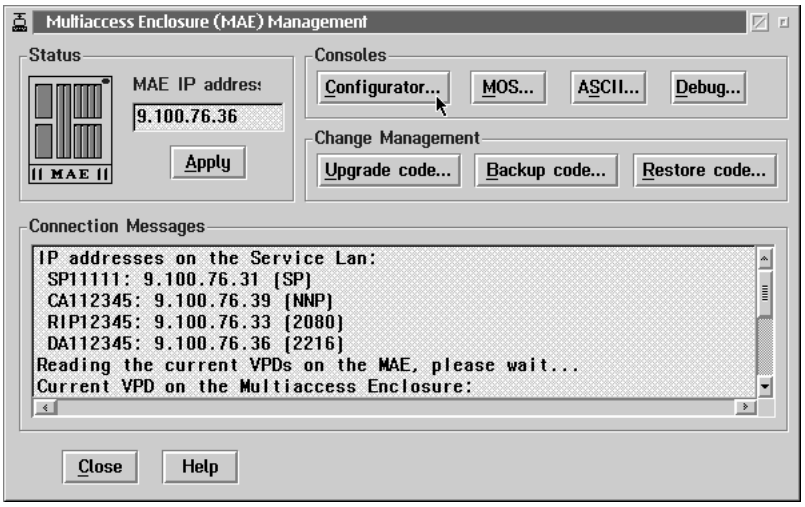


Figure 5-1. Multiaccess Enclosure (MAE) Management Window

The configurator tool opens on your screen. You can now create and save MAE configuration files (see "Creating MAE Configurations" on page 5-6).

Upgrading MAE Configurator Microcode

Use the following procedure to install microcode upgrades and fixes for the MAE.

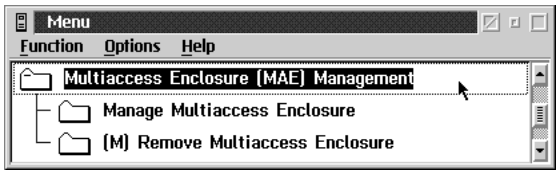
Warning

The following procedure downloads MAE configurator microcode onto the active partition (version 1) of the service processor. If you switch partitions (version 1 to version 2, for example), you must re-install the MAE configurator microcode again.

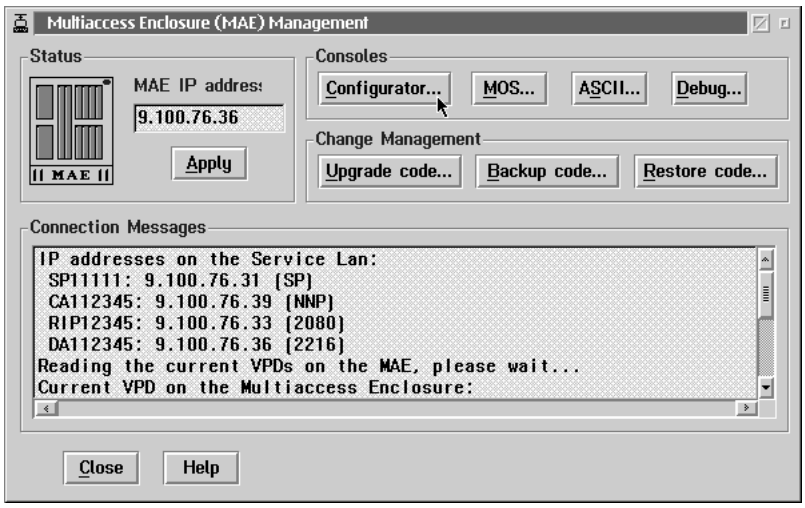
Step 1. Insert the upgrade or fix CD into the CD-ROM drive.

Step 2. Open the **3746-9x0 Menu**.

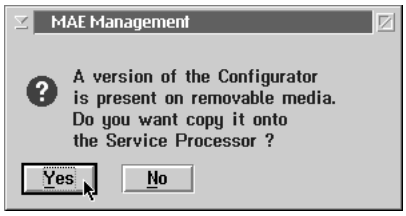
Step 3. Click **Multiaccess Enclosure (MAE) Management**, and then **Manage Multiaccess Enclosure**.



Step 4. Click **Configurator**.



Step 5. A message indicates that the required microcode is available for copying onto the service processor hard disk. Click **Yes**.



You now have the current microcode required for running the MAE and creating MAE configuration files.

Configuration Management

It is recommended that you backup the configurations for the service processor, network node processor, and MAE. Backup configurations include the necessary information required for resuming normal operation if the hard disk fails on the service processor, network node processor, or MAE.

Multiaccess Enclosure (MAE) Configuration Management

The MAE configurator is run and maintained from the service processor hard disk. The **Multiaccess Enclosure (MAE) Management** window in the **3746-9x0 Menu** opens the MAE configurator tool on the service processor.

Using the MAE configurator, you can perform the following:

- Create and save MAE configuration files.
- Restore MAE configuration files.
- Import MAE configuration files.

Important

The **Configurator** button is used to install and upgrade the microcode needed for running the MAE configurator (see “Installing and Running MAE Configurator Microcode” on page 5-1). However, installing and maintaining the microcode necessary for running the MAE is performed by the **Upgrade code**, **Backup code**, and **Restore code** buttons of the **Multiaccess (MAE) Management** window (see Figure 5-1 on page 5-2).

After the MAE is installed and ready to run, follow the procedures below to run the MAE configurator and create MAE configuration files. These procedures include the following:

- Retrieving the default MAE configuration from the MAE hard disk.
- Backing up the default MAE configuration to diskette.
- Modifying the default MAE configuration.
- Saving the new configuration to the service processor hard disk.
- Sending the new configuration to the MAE.

Retrieving the Default MAE Configuration

Important

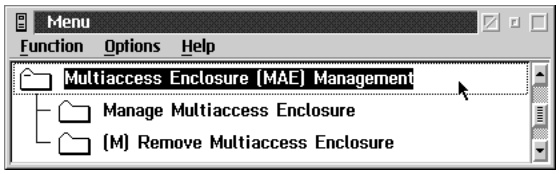
The MAE is installed with a default configuration. You must use this default configuration to create any new configuration files.

Use the procedure below to do the following:

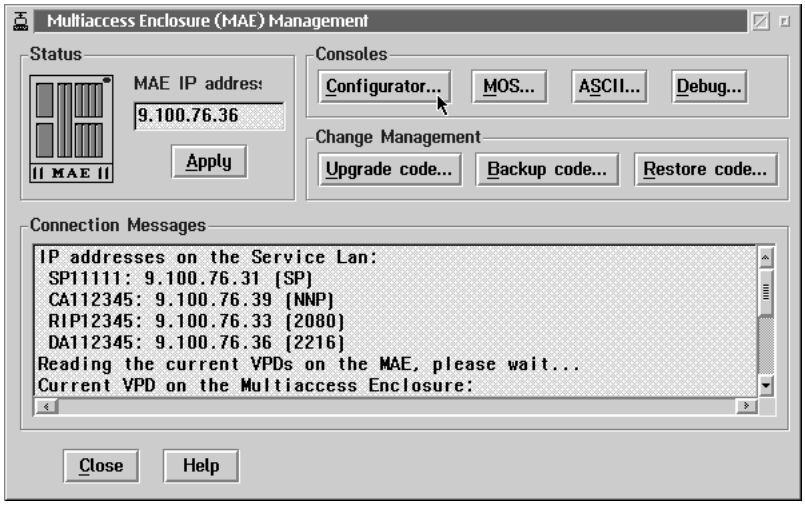
- Retrieve the default configuration from the MAE.
- Backup the default configuration to diskette.

Step 1. Open the **3746-9x0 Menu**.

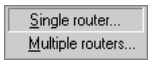
Step 2. Click **Multiaccess Enclosure (MAE) Management**, and then **Manage Multiaccess Enclosure**.



Step 3. Click **Configurator**.



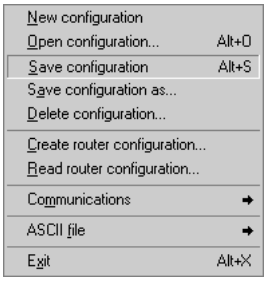
Step 4. Click **Communications**, then **Single Router**.



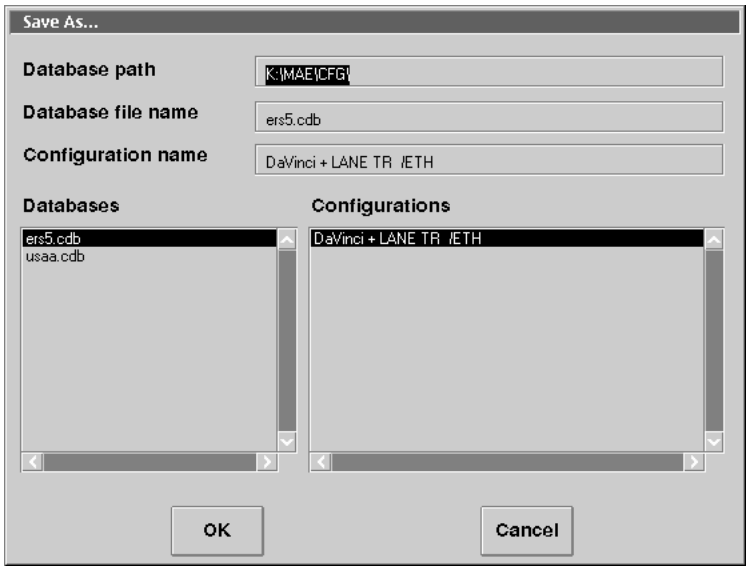
Step 5. Enter the PCMCIA IP address in the **IP Address or Name** field, and **public** in the **Community** field, select **Retrieve configuration** and click **OK**.

The MAE default configuration displays in the **Navigation** window.

Step 6. Click **Configure**, then **Save configuration as**.



Step 7. Fill in the path and name fields and click **OK**.



Creating MAE Configurations

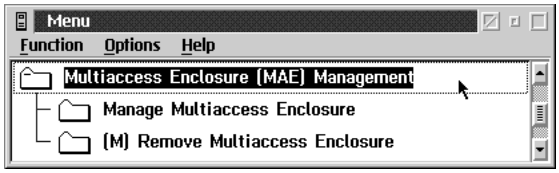
Use the following procedure to create a new configuration from the default MAE configuration and save it to the hard disk of the service processor:

Important

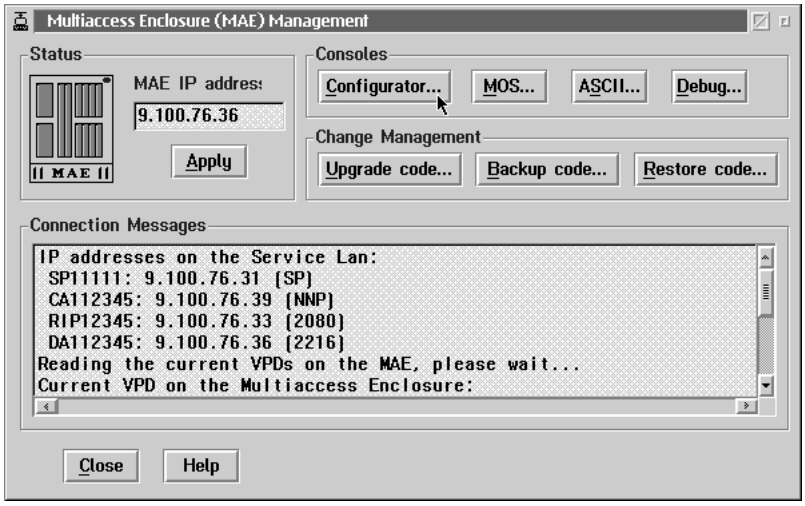
You must always use the default MAE configuration to create any new configuration files.

Step 1. Open the **3746-9x0 Menu**.

Step 2. Click **Multiaccess Enclosure (MAE) Management**, and then **Manage Multiaccess Enclosure**.

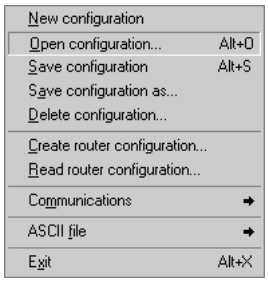


Step 3. Click **Configurator**.

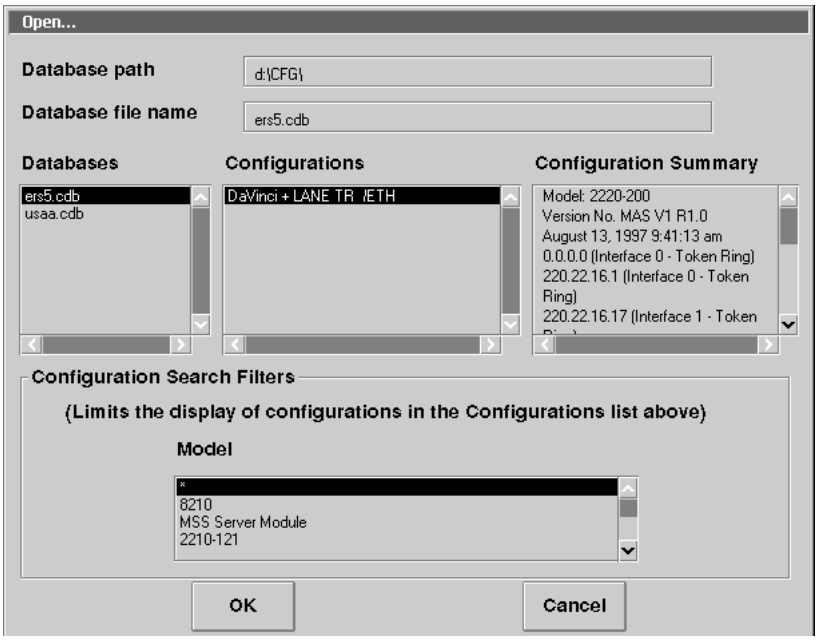


Step 4. In the **Navigation** window, click **Configure** and **Open Configuration**.

Note: Do not use **New configuration** as you must always use the default MAE configuration to create any new configuration files.



Step 5. Enter the drive and path name of the default configuration file that you want to open and click **OK**.



The configuration displays in the **Navigation** window. Double-click any items that you want to modify and then save the new configuration.

Sending MAE Configurations to the MAE

Use the following procedure to activate a new or updated configuration and send it to the MAE.

Step 1. Open the **3746-9x0 Menu**.

Step 2. Click **Multiaccess Enclosure (MAE) Management**, and then **Manage Multiaccess Enclosure**.

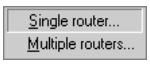
Step 3. Click **Configurator**.

Step 4. In the **Navigation** window, click **Configure** and **Open configuration**.

Note: Your configuration can either be on diskette or on the service processor hard disk.

The configuration displays in the **Navigation** window.

Step 5. In the **Navigation** window, click **Configure**, **Communications**, then **Single Router**.



Step 6. Enter the PCMCIA IP address in the **IP Address or Name** field, and **public** in the **Community** field, select **Send configuration to router** and click **OK**.

Backing up MAE Configurations

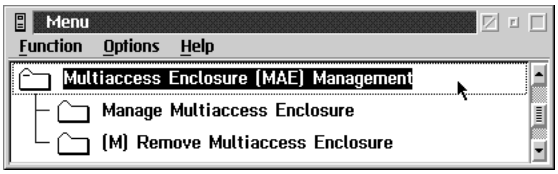
Use the following procedure to backup a new MAE configuration from the service processor hard disk to diskette.

Important

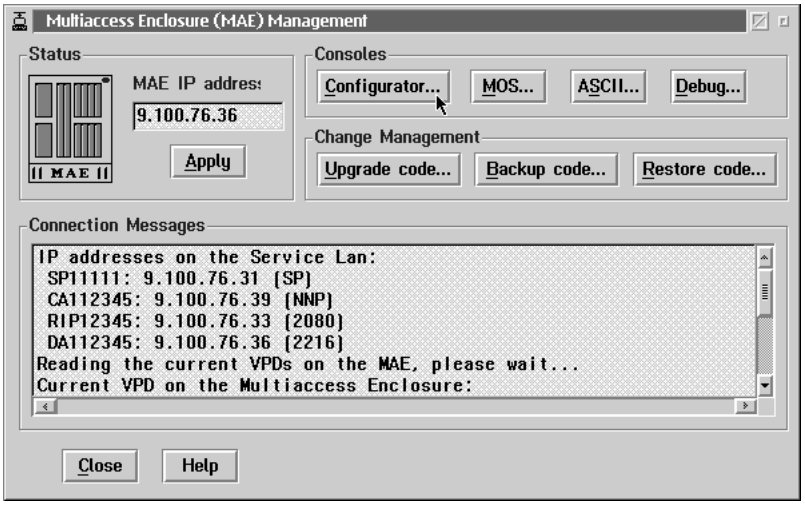
New MAE configurations are created from the default MAE configuration. For more information, see “Creating MAE Configurations” on page 5-6.

Step 1. Open the **3746-9x0 Menu**.

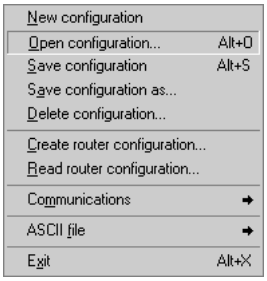
Step 2. Click **Multiaccess Enclosure (MAE) Management**, and then **Manage Multiaccess Enclosure**.



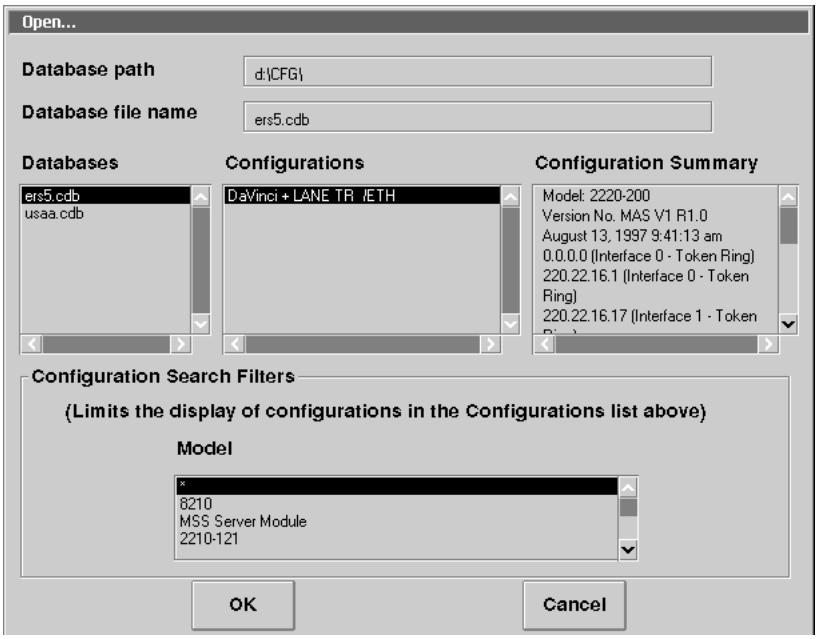
Step 3. Click **Configurator**.



Step 4. In the **Navigation** window, click **Configure** and **Open configuration**.



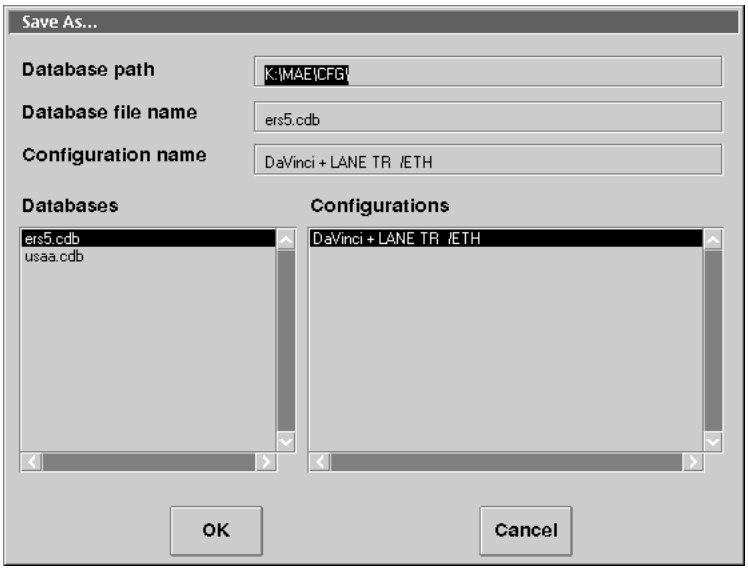
Step 5. Enter the drive and path name of the configuration file and click **OK**.



The configuration displays in the **Navigation** window.

Step 6. Click **Save configuration as**.

Step 7. Fill in the path and name fields and click **OK**.

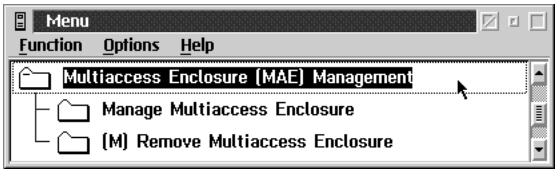


Restoring Backup MAE Configurations

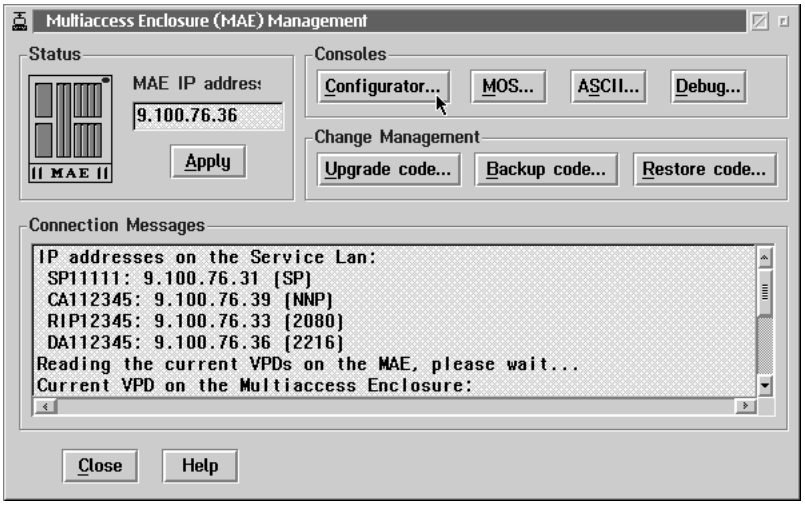
Use the following procedure to restore an MAE configuration to the service processor hard disk from diskette.

Step 1. Open the **3746-9x0 Menu**.

Step 2. Click **Multiaccess Enclosure (MAE) Management**, and then **Manage Multiaccess Enclosure**.

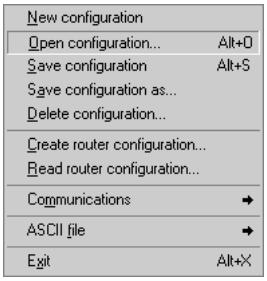


Step 3. Click **Configurator**.

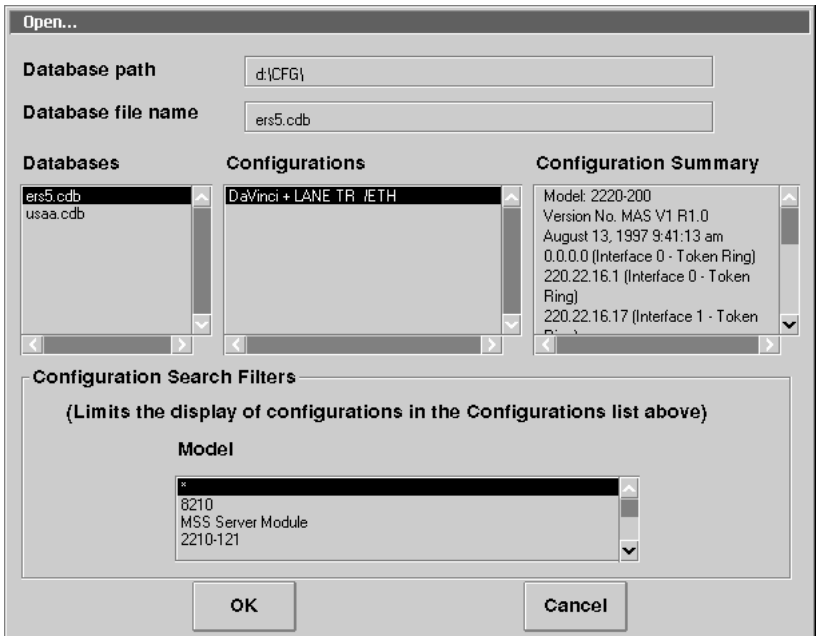


Step 4. Insert the diskette with the backup configuration into the diskette drive.

Step 5. In the **Navigation** window, click **Configure** and **Open configuration**.



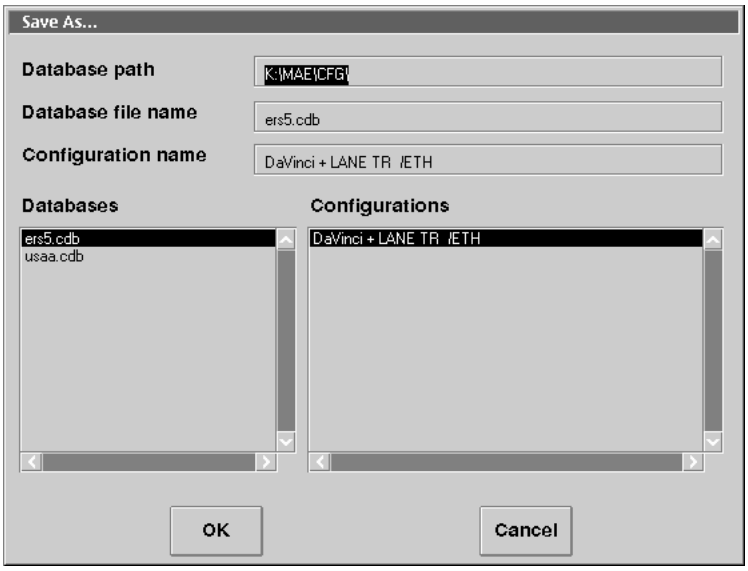
Step 6. Enter the drive and path name of the configuration file on diskette and click **OK**.



The configuration displays in the **Navigation** window.

Step 7. Click **Save configuration as**.

Step 8. Fill in the path and name fields and click **OK**.



Updating the Active CDF-E

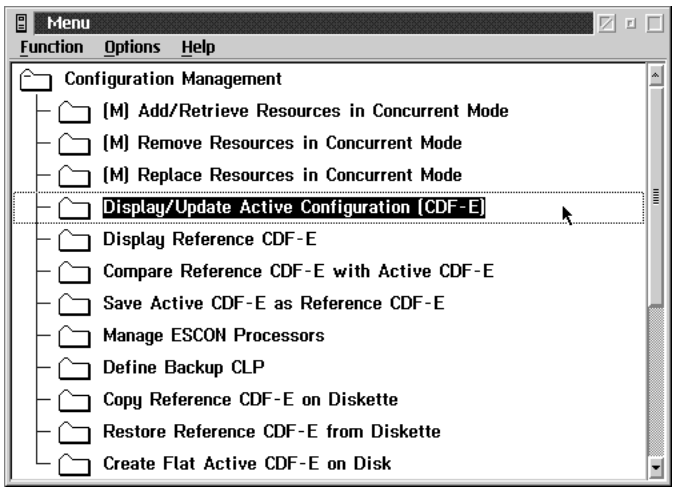
Use the procedure below to record any new hardware as part of the controller hardware configuration, for example, lines connected to a LIC11.

This procedure ensures that the following information is recorded:

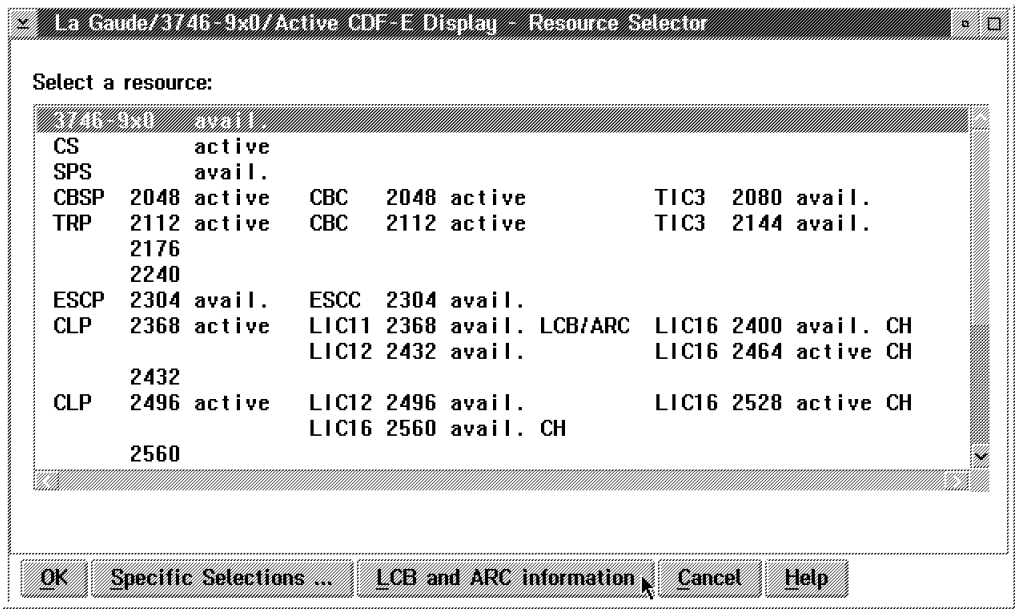
- Hardware character strings
- New CDF-E configuration saved as the working CDF-E
- Backup CDF-E copied on to diskette.

Step 1 Double-click a 3746-950 object icon, or select a 3746-9x0 menu in the window list (see Step 2 on page 2-4).

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 figure and notes below).

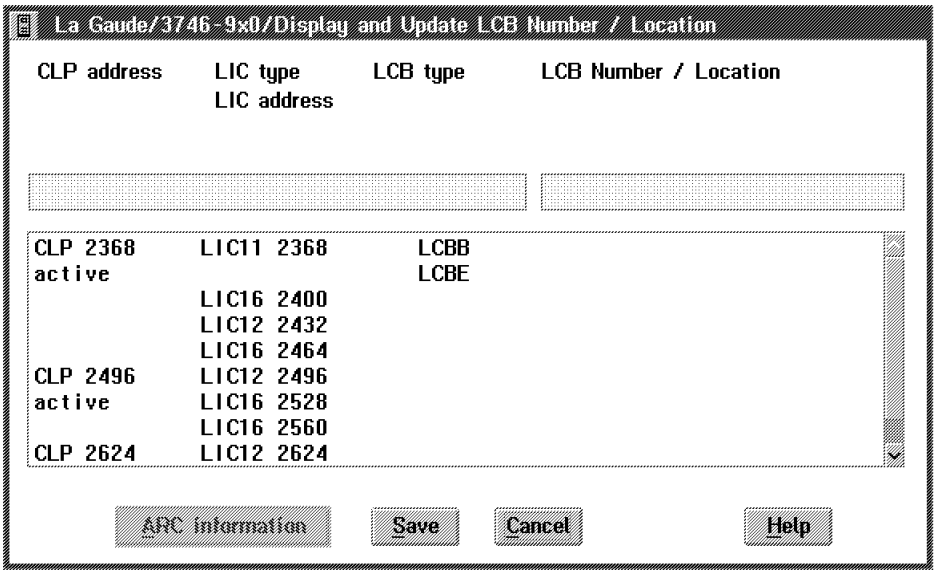


Notes:

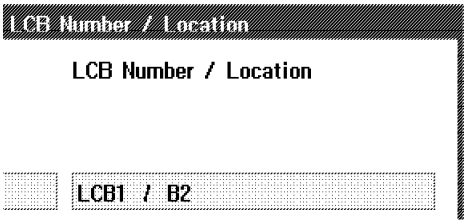
- A new LCB with an ARC is indicated by **LCB/ARC** to the right of the associated LIC11.
- A new LCB is indicated by **LCBB** to the right of the associated LIC11.
- A new LCBE will not display without an ARC installed in it, or until an IML procedure has been performed for the LCBE adapter.

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.



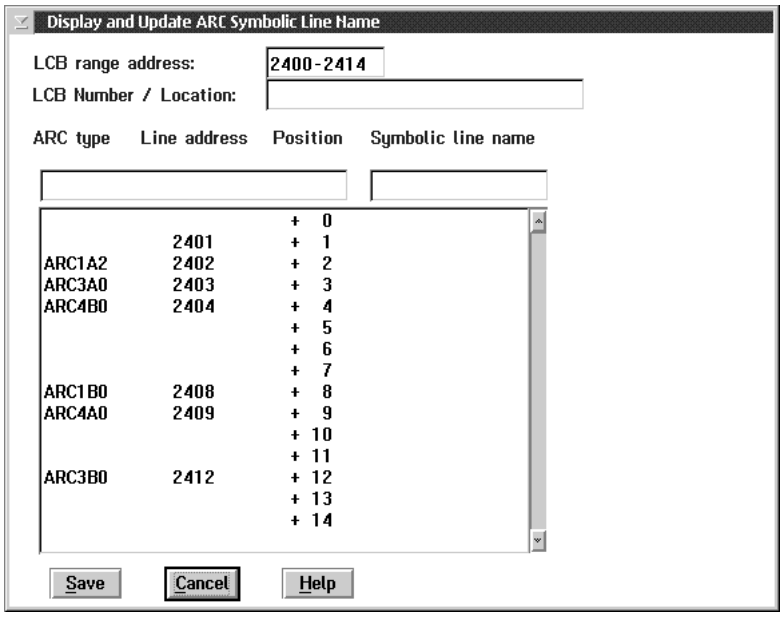
Step 6 Enter or update the **LCB Number / Location** field. You can use up to 25 alphanumeric characters to identify an LCB attached to a processor. Existing codes should already be recorded in the *Planning Guide*, GA33-0457.



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” on page 5-17.

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.

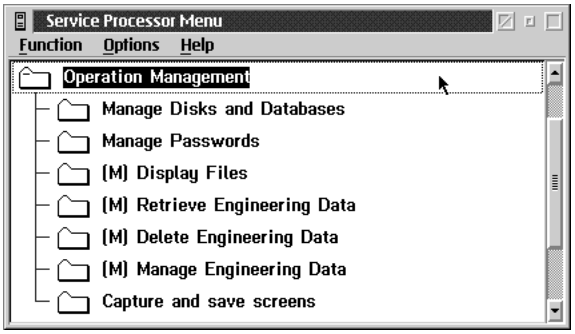
Note: For saving current configurations of the Ethernet Bridge or MAE, see "Creating MAE Configurations" on page 5-6.

Follow the steps below for backing up the controller configuration:

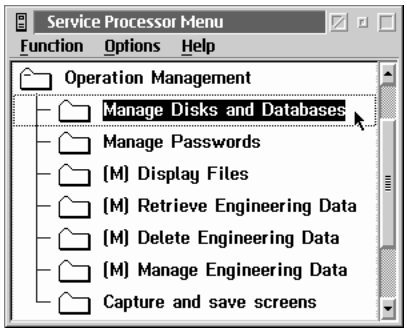
Step 1. Insert the backup diskette into the drive.

Step 2. Double-click the **Service Processor** object icon, or open the **Service Processor** menu in the window list (see step 2 on page 2-4).

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.

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 5-20).
- Copy the active configuration onto the hard disk of the backup service processor (see “Backing Up Configurations to a Backup Service Processor” on page 5-19).

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

Procedure for EC level D46130 ECA 167 and Above

Step 1. Log on to the MOSS-E (see “Logging On the MOSS-E” on page 2-4).

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 5-17). This process takes about five minutes.

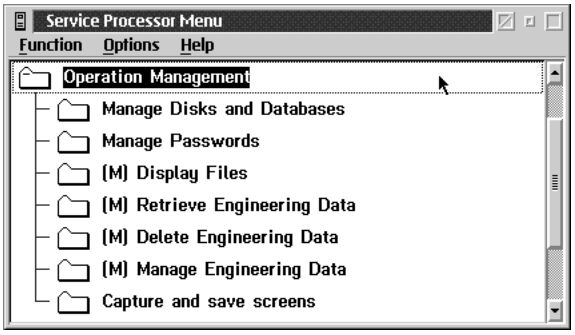
Save new configuration data by copying it onto the hard disk of the backup service processor as follows:

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**.

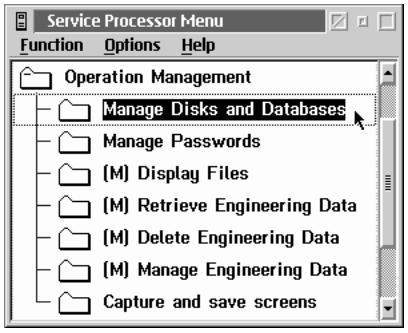
Step 2. Log on to the backup service processor (see “Logging On the MOSS-E” on page 2-4).

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)**.

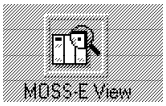
Step 7. When you have finished, power OFF the backup service processor.

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

Installing Microcode to a Backup Service Processor

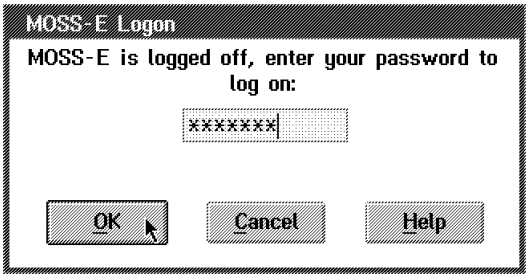
Use the following procedure to install microcode onto a backup service processor.

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 

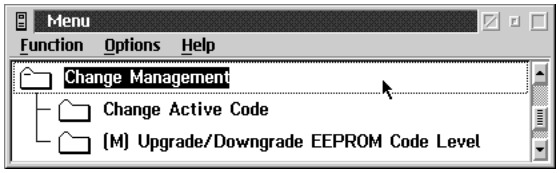
icon.

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



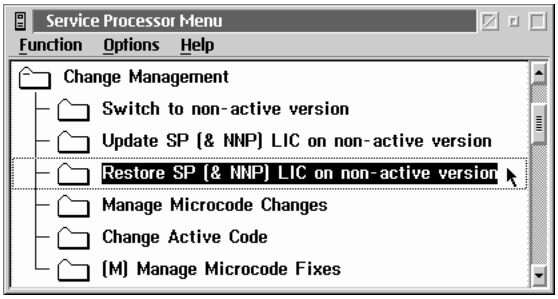
Step 4. In **MOSS-E View**, open the service processor machine menu.

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 6. CCM and Telnet IP Resource Management

This section describes how to access and manage IP resources through using CCM or through using Telnet Client.

CCM provide menu options that access IP resources by running commands similar to Telnet. Otherwise, you can access Telnet and run Telnet commands for IP resources directly. 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 *Protocol Configuration and Monitoring Reference*, SC30-3680 and the *Software User's Guide*, SC30-3681.

Controller Configuration and Management (CCM)

CCM is an IBM application program that runs in the network node processor (NNP). You can access CCM from 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

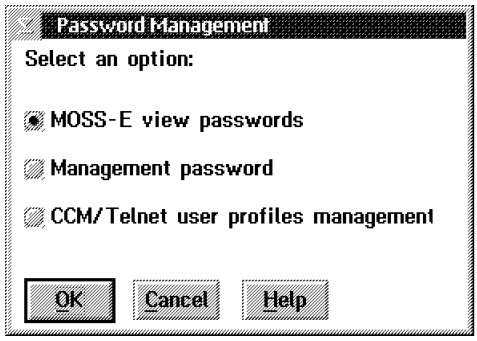
First make sure that the MOSS-E option for configuring CCM and Telnet user profiles is enabled.

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 2-4).

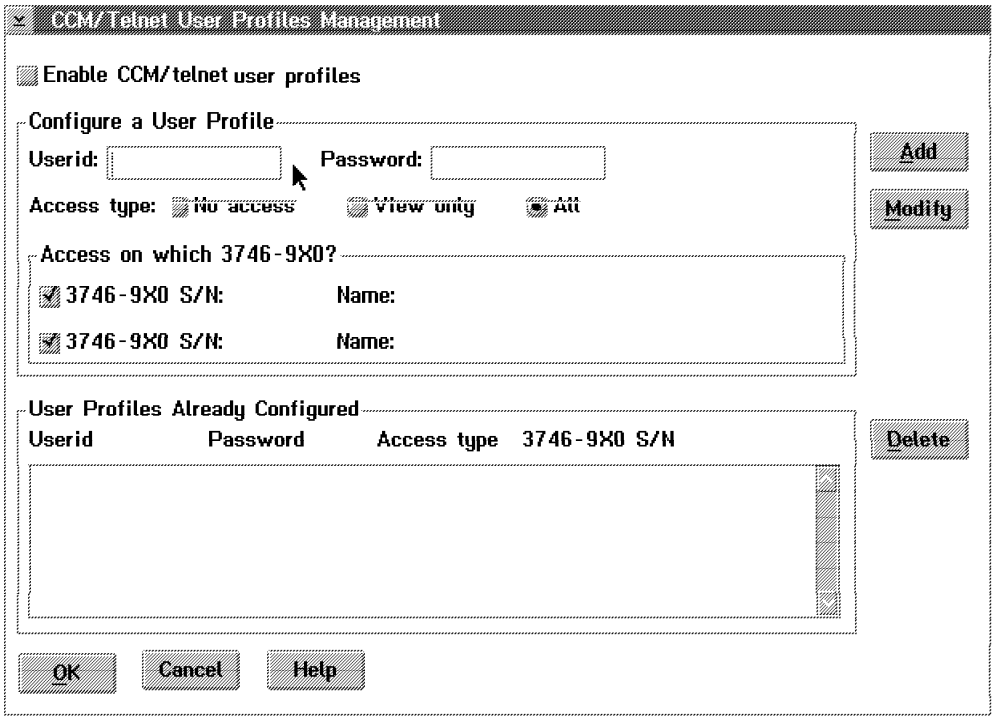
Step 2 Click **Operation Management**.

Step 3 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 cancel.

CCM IP Resource Management

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

Step 1 Double-click the 3746-950 machine object icon, or open the 3746-950 menu in the window list (see Step 2 on page 2-4).

Step 2 Click **Network Node Processor (NNP) Management** then double-click **Controller Configuration and Management (CCM)**. The CCM main window displays (see figure below).

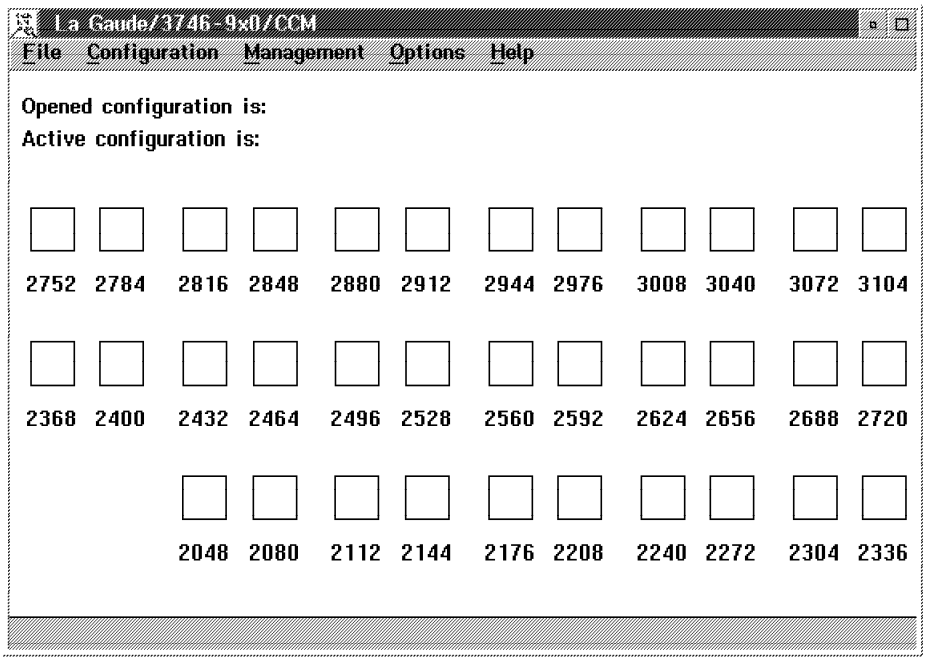
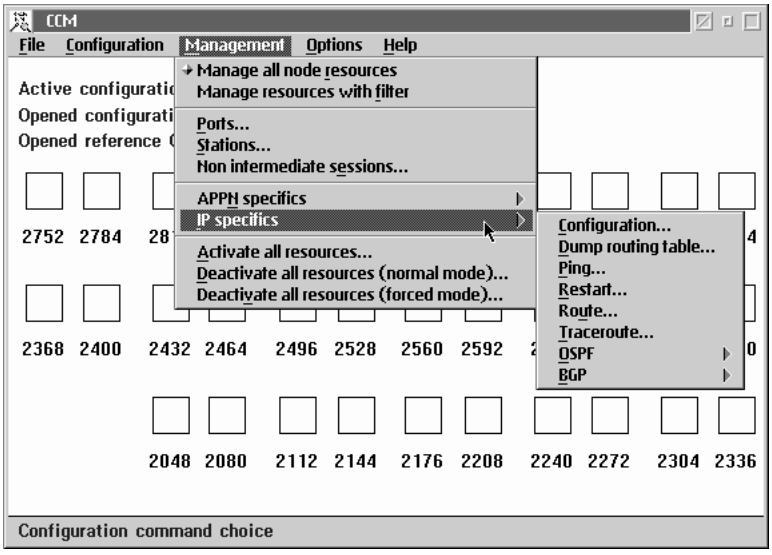


Figure 6-1. Controller Configuration and Management (CCM) Main Window

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.

Working with Telnet

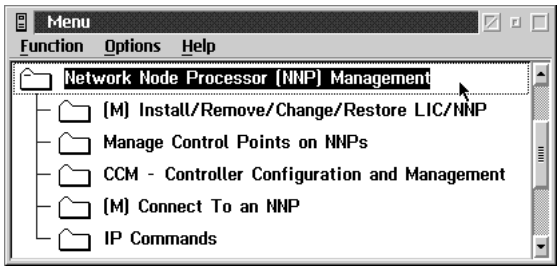
First make sure that the MOSS-E option for configuring CCM and Telnet user profiles is enabled (see “CCM and Telnet User Profiles” on page 6-1).

Accessing IP Commands from the MOSS-E

This section describes how to configure and manage IP resources by directly accessing Telnet commands through the MOSS-E.

Step 1 Double-click a 3746-950 machine object icon, or open a 3746-950 menu in the window list (see Step 2 on page 2-4).

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

Accessing IP Commands from a DCAF Remote Console

Step 1 Establish a DCAF session as described in the *Console Setup Guide*, SA33-0158

Step 2 To operate, follow the instructions as described in “Accessing IP Commands from the MOSS-E.”

Accessing IP Commands from a TCP/IP Remote Console

You can run TCP/IP with Telnet on a remote console for managing IP resources without using the service processor.

Step 1 Establish a Telnet session as described in the *Console Setup Guide*.

Step 2 To access IP commands, see “Configuring Resources” on page 6-6 and “Managing Resources” on page 6-6.

Navigating in the IP Environment

IP is divided in three main environment levels (see Figure 6-2).

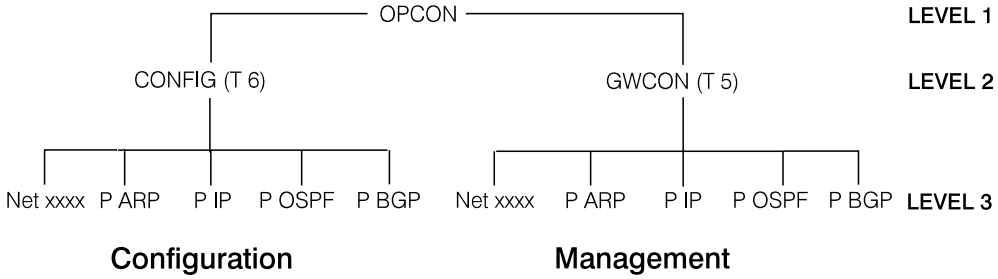
Level 1 OPCON environment.

Level 2 CONFIG (or T 6) environment for configuration GWCON (or 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 *O* together returns you from the environment that you are in back to OPCON (the *RANGE XXXX-YYYY ** command prompt).



Legend

xxxx Port number

Figure 6-2. 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 *Protocol Configuration and Monitoring Reference*, 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 **

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.

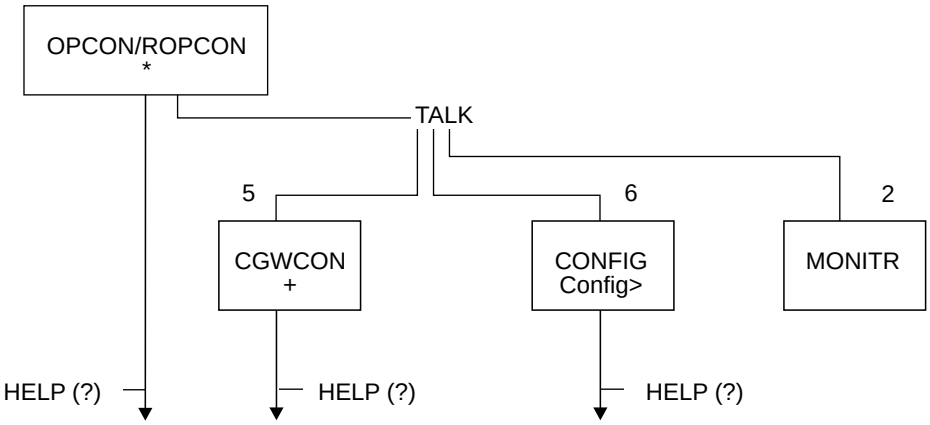
Pressing Ctrl and *O* together returns you from the environment that you are in back to OPCON (the *RANGE XXXX-YYYY ** command prompt).

Working with MAE Management

The Multiaccess Enclosure (MAE) is an extension of a communication controller, and effectively acts as a super processor. The MAE houses eight adapter slots that extend the routing capacities of existing networks.

This section is taken from the *Nways Multiprotocol Access Services Software User's Guide*, SC30-3886. For more details refer to this manual.

Navigating in the MAE Environment



Legend:

OPCON (operator console) - Operates as the main control program.
ROPCON (remote operator console) - OPCON service for remotely connected consoles.
CGWCON (gateway console) - Status and statistics on router hardware and software.
CONFIG - Online control of various configuration parameters.
MONITR - Receives messages from Event Logging System (ELS) and the operating system.

Figure 6-3. Multiaccess Enclosure Environment

At the OPCON command prompt (shown as *****), enter **?** to display the available OPCON commands.

Diags Displays the diagnostic main menu.

Divert Sends output from a specified process to a selected terminal.

Flush Clears the output buffers of the MONITR process.

Halt Suspends the output of a specified process, until **divert** , **flush** or **talk** OPCON commands are issued.

Intercept Changes default OPCON intercept key combination Ctrl and P.

Logout Terminates the current remote console session.

Memory Displays information on global memory usage by the router.

Reload Reboots the router by loading a new copy of the router software.

Status Displays information about router processes.

Talk Connects to another process, for example, GWCON, MONITR, or CONFIG.

Telnet Remote attachment to another router.

Configuring Resources

Step 1 At the ***** OPCON command line, enter **T 6** to access the **Config**> command prompt.

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

Add Adds an interface to the configuration or user-access.

Boot Enters the boot CONFIG command environment.

Change Modifies a configuration interface, user password, or user information.

Clear Deletes router configuration information from non-volatile configuration memory.

Delete Removes an interface from the list of devices stored in the configuration, or removes a user.

Disable Prevents login prompts from a remote console.

Enable Allows login from a remote console, and enables specified interface.

Event Enters the Event Logging System (ELS) environment.

Feature Accesses configuration commands for specific router features other than the protocol and network interface configuration processes.

List Displays configuration information for all network interfaces, or configuration information for the router.

Network Enters the network interface configuration environment for supported networks.

Patch Modifies the router global configuration.

Protocol Enters the configuration environment for the protocol software installed in the router.

Qconfig Initiates the Quick Configuration process.

Set Configures various system-wide parameters.

Time Set the MAE system clock and date, and displays the values on the user console.

Unpatch Restores default values from variables entered with the **Patch** command.

Update Updates the configuration memory at new software installation.

Step 3 Entering **?** after a command name allows you to display the associated sub-commands (when available).

Pressing 

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

Managing Resources

Step 1 On the OPCON ***** command line. enter **T 5** to display the GWCON command prompt +.

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

Buffer Displays information on the packet buffers of each interface.

Clear Discards statistical information on router network interfaces.

Configuration	Displays information on protocols and network interfaces.
Disable	Makes the network interface unavailable by taking it off-line.
Error	Displays network error statistics.
Event	Accesses the console environment Event Logging System (ELS).
Feature	Console commands for specific MAE features, eternal to protocol and network interface console processes.
Interface	Statistic displays on network interfaces.
Memory	Display of the current CPU memory usage in bytes, the number of buffers, and the packet sizes.
Network	Records the console environment of supported networks.
Protocol	Instructs the router software to implement the network protocols of your router.
Queue	Statistics on queue information of specified interfaces.
Statistics	Statistics on network software.
Test	Verifies an interface, or enables an interface previously disabled (see the **Disable** command).

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

Pressing 

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

MONITR Process

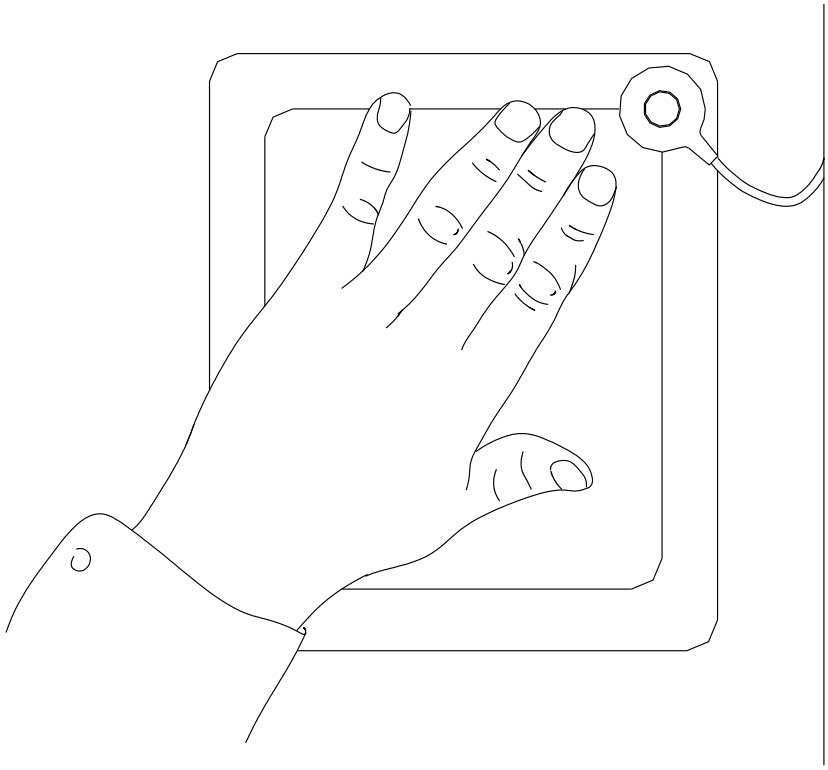
The MONITR process displays the activity inside the router and the network. To access MONITR from OPCON, type **T 2**.

Chapter 7. 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.



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**.

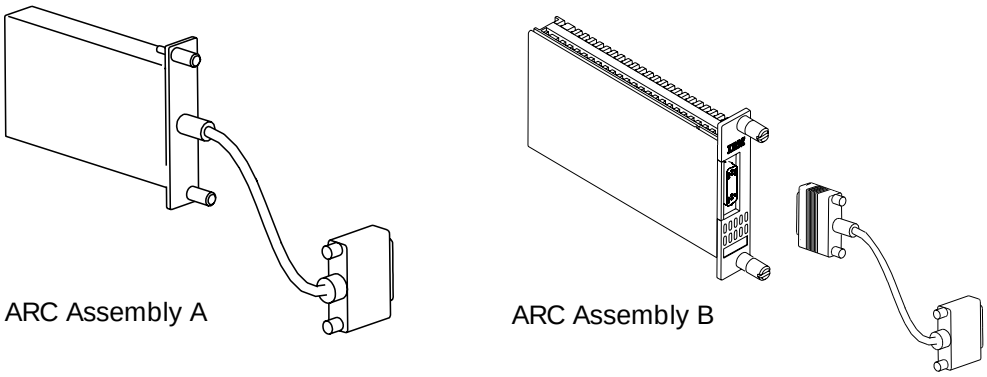


Figure 7-1. ARC Assemblies A and B

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 7-2 on page 7-3 and Figure 7-4 on page 7-4 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 an Ethernet LAN Cable" on page 7-8.
- "Unplugging or Plugging In a Multiaccess Enclosure (MAE) Cable" on page 7-11.
- "Installing an LCB" on page 7-13.
- "Removing or Installing ARC Assembly A and B" on page 7-18.

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.

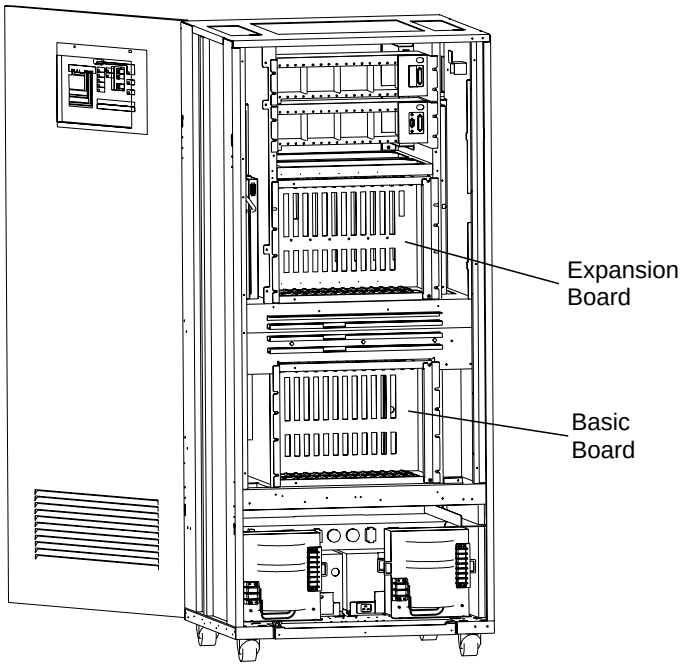


Figure 7-2. 3746-950 Rear View Configuration (Coupler Side)

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

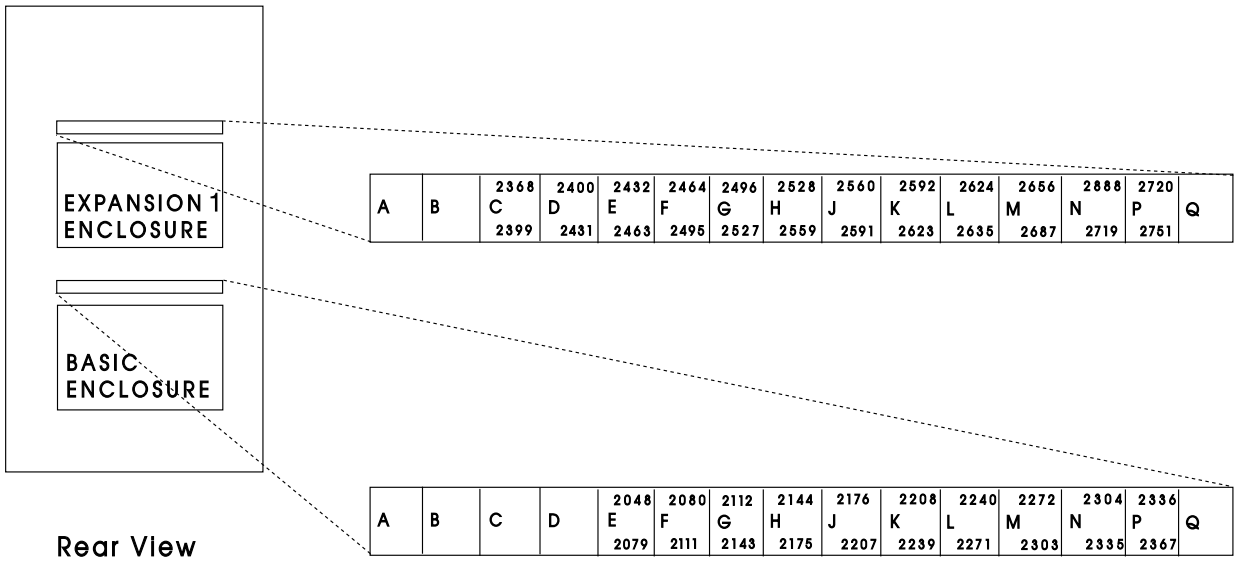


Figure 7-3. Enclosure Addresses

After you have located a coupler slot, see any of the following as needed:

- "Unplugging or Plugging In a TIC3 Cable" on page 7-4.
- "Unplugging or Plugging In LIC Cables" on page 7-7.

Otherwise, go to the next step for locating an LCB.

Step 4 Locate the LCBs.

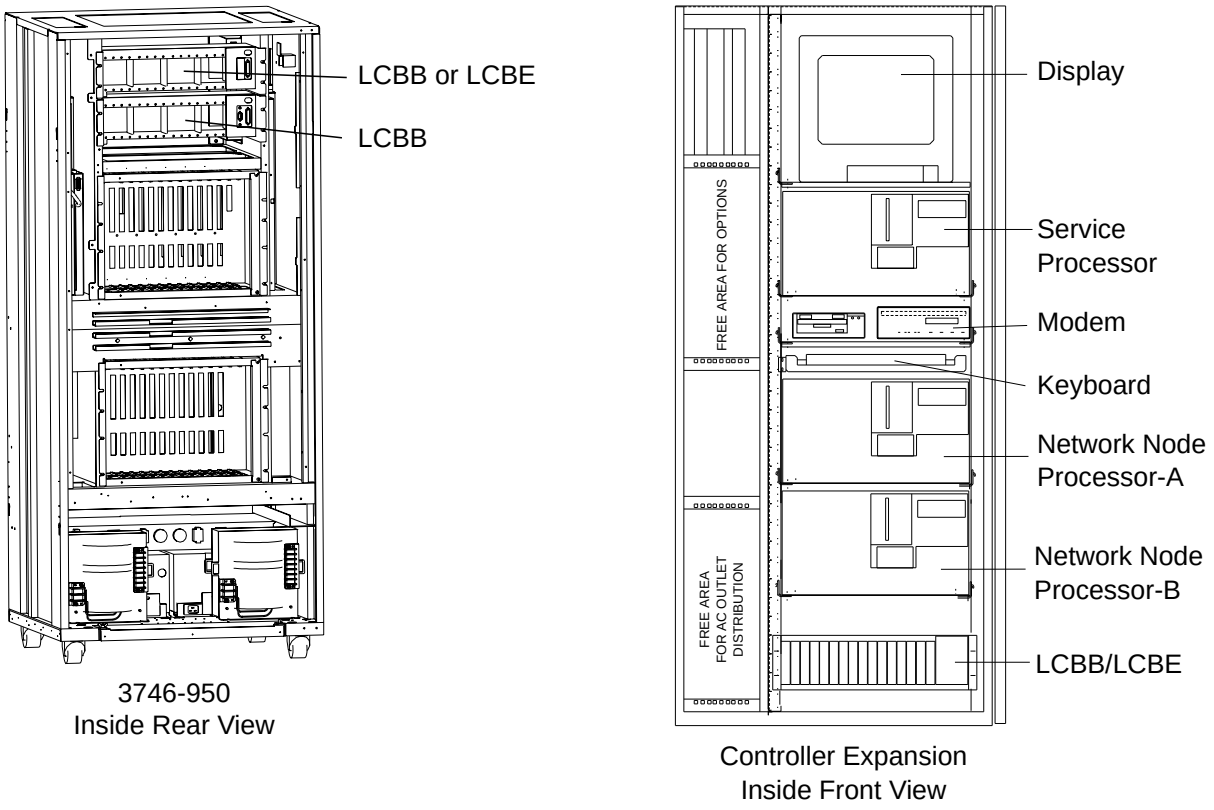


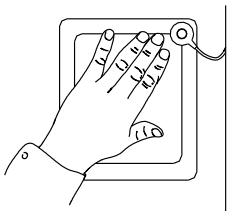
Figure 7-4. 3746-950 LCB Locations in a Base Frame and a Controller Expansion

After you have located an LCB, see “Removing or Installing ARC Assembly A and B” on page 7-18.

Unplugging or Plugging In a TIC3 Cable

Before you start

First see the “Connection Procedures” on page 7-2.



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 7-5. 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 7-6.

Unplugging a Attachment Cable

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.

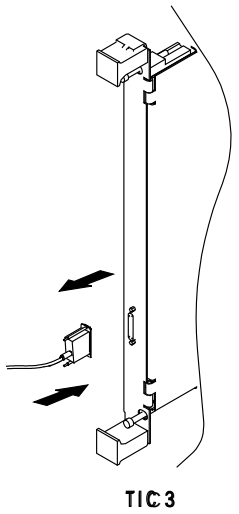


Figure 7-5. Installing or Removing a Token-Ring Attachment Cable

Step 3 Update the plugging sheets, and to integrate the changes that you have made, go to “Updating the Active CDF-E” on page 5-14.

Plugging in an Attachment Cable

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 7-5). 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 1-7.

Unplugging a UTP Cable

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 7-6 on page 7-6).

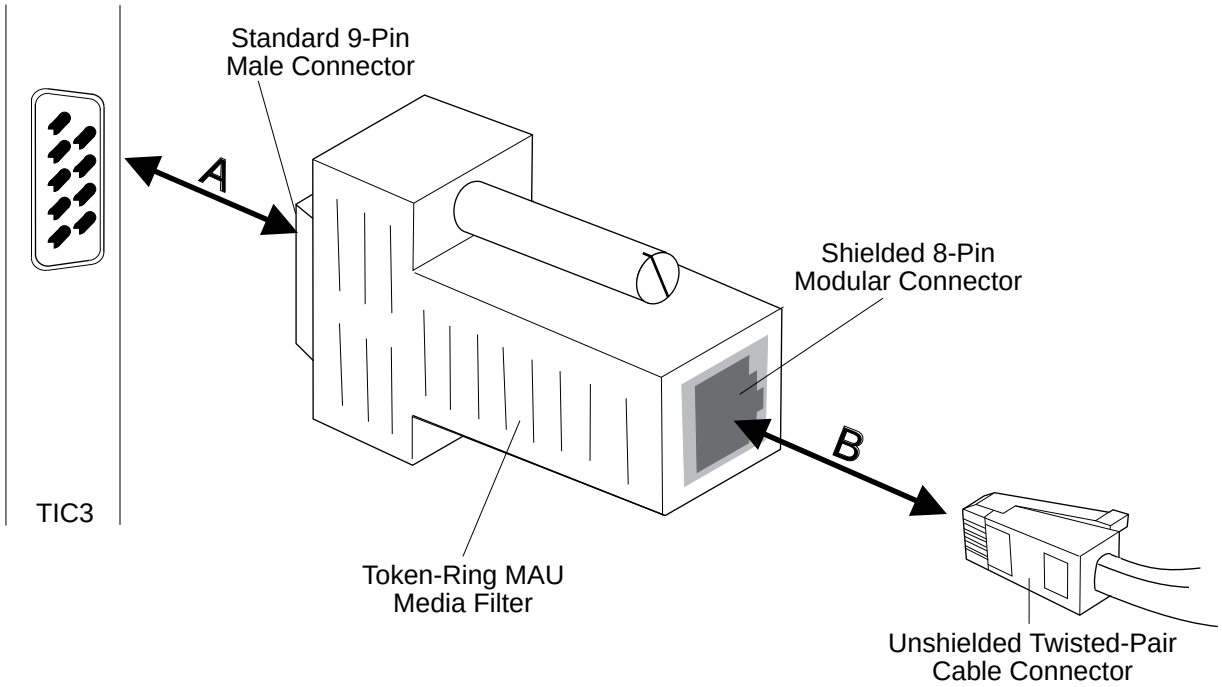


Figure 7-6. Installing or Removing a Token-Ring UTP Cable and Media Filter

Unplugging a 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 7-6).

Step 3 Update the plugging sheets, and to integrate the changes that you have made, go to “Updating the Active CDF-E” on page 5-14.

Plugging in a 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 7-6).

Plugging in a UTP Cable

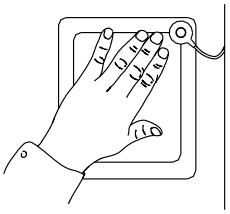
Step 1 To plug in a UTP cable, push the connector into the media filter socket until it clicks into place (see B in Figure 7-6).

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 1-7.

Unplugging or Plugging In LIC Cables

Before you start

First see the “Connection Procedures” on page 7-2.



Unplugging a Coupler Cable

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.

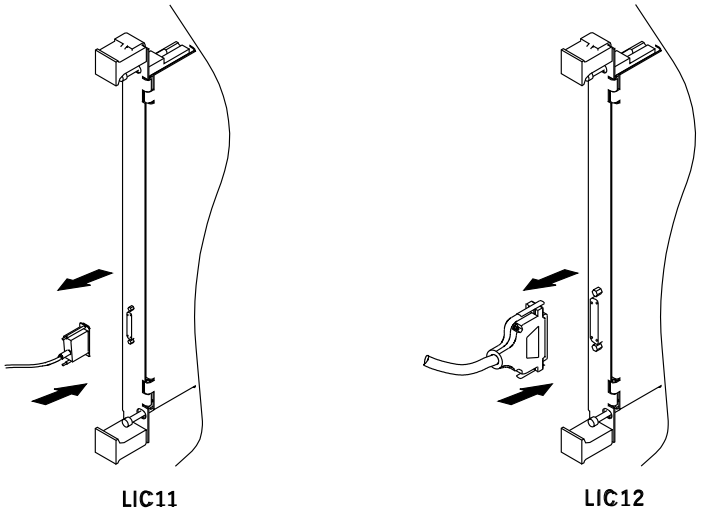


Figure 7-7. LIC11, LIC12, and their Cables

Step 3 Update the plugging sheets, and to integrate the changes that you have made, see “Updating the Active CDF-E” on page 5-14.

Plugging in a Coupler Cable

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 7-7).

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 an Ethernet LAN Cable

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 an AUI Cable

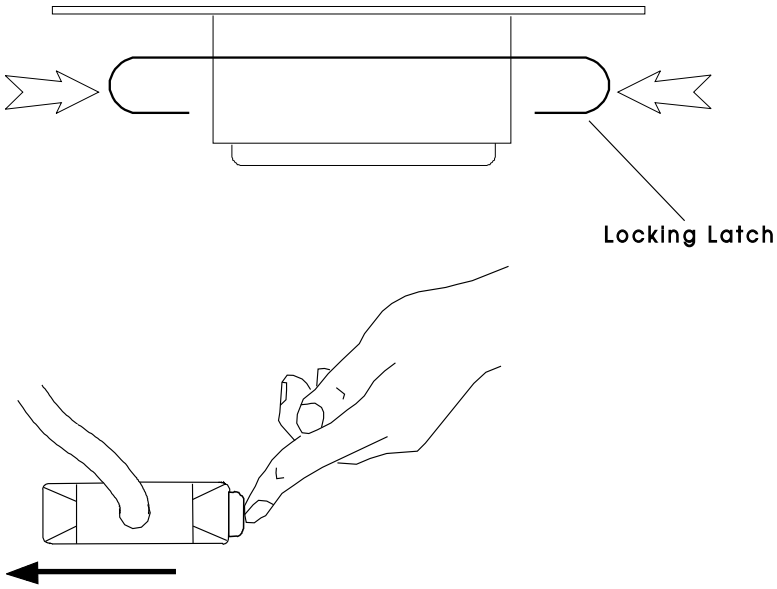
Before you start

First see the “Connection Procedures” on page 7-2.

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.

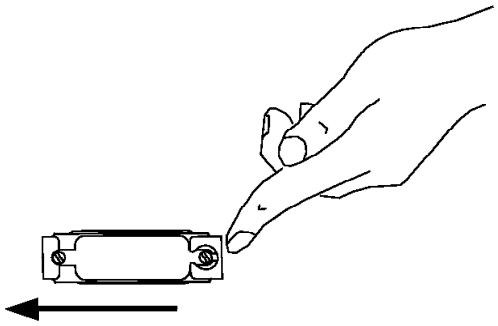
Step 4 Close and lock the door with the key.

Plugging in an AUI cable

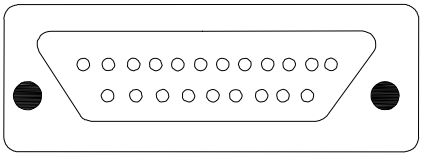
Step 1 Make sure that all cables are correctly labeled at both ends. Repeat this step for every AUI that you need to plug in.

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

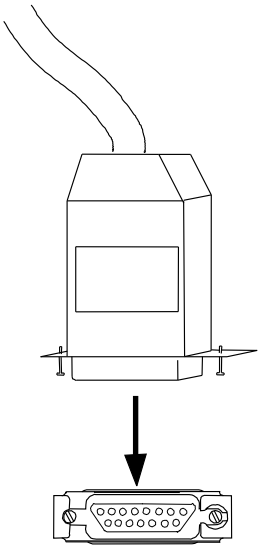
Step 3 Slide the latch to the left.



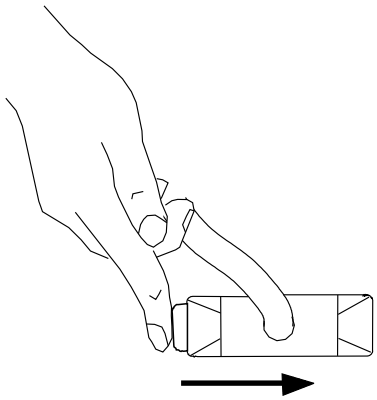
Step 4 Hold the cable connector with the longest side up.



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.

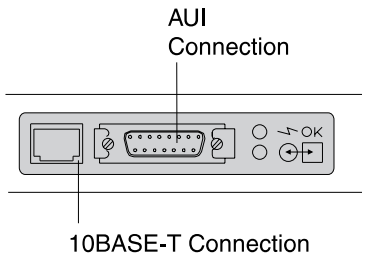
Step 9 Close and lock the door with the key.

Unplugging a 10BASE-T cable

Before you start

First see the “Connection Procedures” on page 7-2.

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 a 10BASE-T Cable

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.

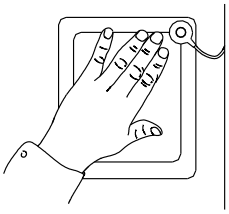
Step 5 Close and lock the door with the key.

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

Unplugging or Plugging In a Multiaccess Enclosure (MAE) Cable

Before you start

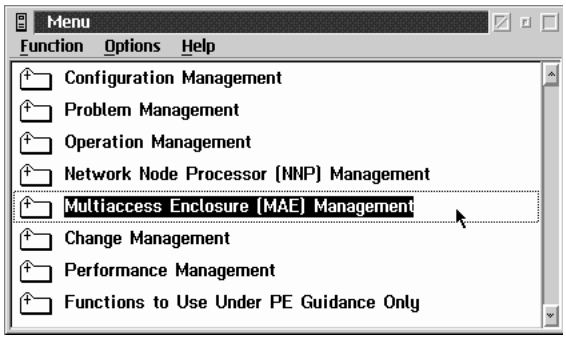
First see the “Connection Procedures” on page 7-2.



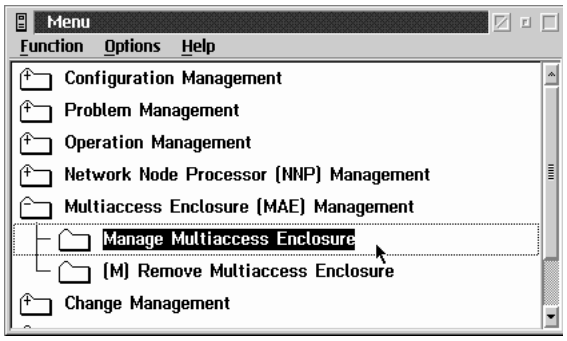
Unplugging a Multiaccess Enclosure (MAE) Cable

Step 1 Locate the MAE cables between the MAE and the controller expansion.

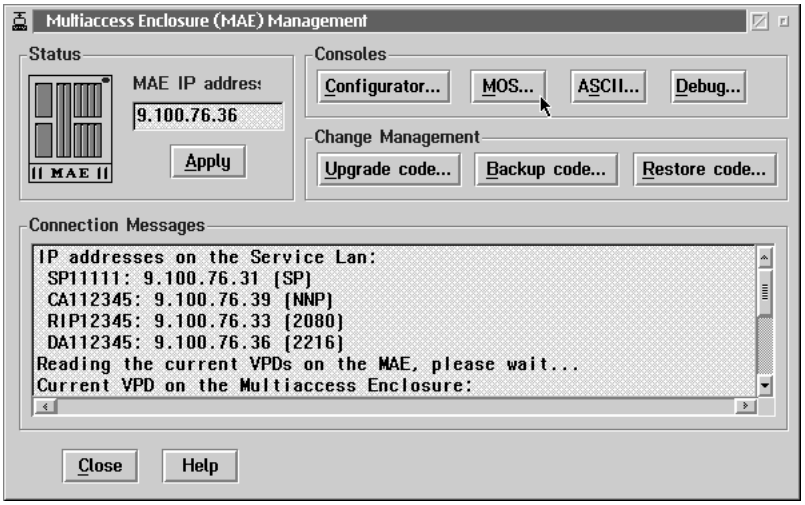
Step 2 In **MOSS-E View**, open the **3746-9x0 Menu** and click **Multiaccess Enclosure (MAE) Management**.



Step 3 Double-click **Manage Multiaccess Enclosure**.



Step 4 Click **MOS**.



Step 5 Type **T 6** then press **Enter** twice to display a **Config**> prompt.

Step 6 Type **list device** to display the interface number of the cable (shown as `ifc x`).

Step 7 Type **disable interface ifc x**.

Step 8 Type **write** to save your changes.

Step 9 Unplug the cable.

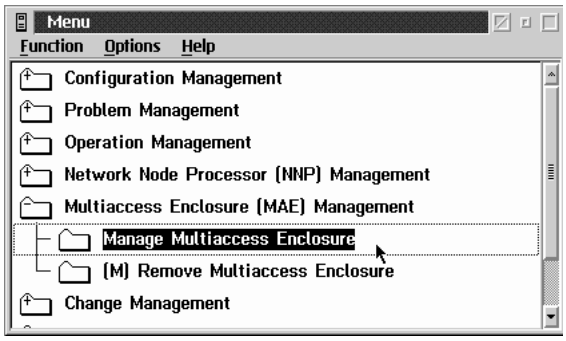
Plugging In a Multiaccess Enclosure (MAE) Cable

Step 1 To plug in an MAE cable, first make sure that all cables are correctly labeled at both ends.

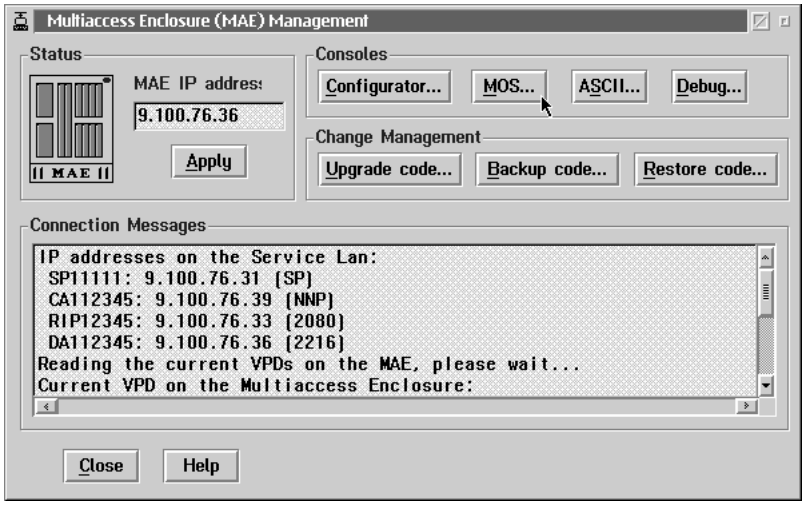
Step 2 Plug a cable into the appropriate connector.

Step 3 In **MOSS-E View**, open the **3746-9x0 Menu** and click **Multiaccess Enclosure (MAE) Management**.

Step 4 Double-click **Manage Multiaccess Enclosure**.



Step 5 Double-click **MOS** push-button.



Step 6 Type **T 6** then press **Enter** twice to display a **Config**> prompt.

Step 7 Type **enable interface ifc x** where **x** is the number of the cable.

Step 8 Type **write** to save your changes.

Step 9 Press **Ctrl** and **P** together.

Step 10 Type **reload**.

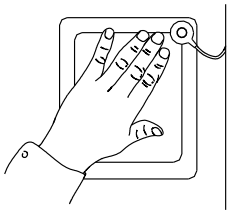
Note: During the reload process, MAE traffic will be interrupted.

Step 11 After reloading has finished, type **yes** or wait for the next maintenance period.

Installing an LCB

Before you start

First see the “Connection Procedures” on page 7-2.



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 7-2 on page 7-3 and Figure 7-4 on page 7-4).

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.

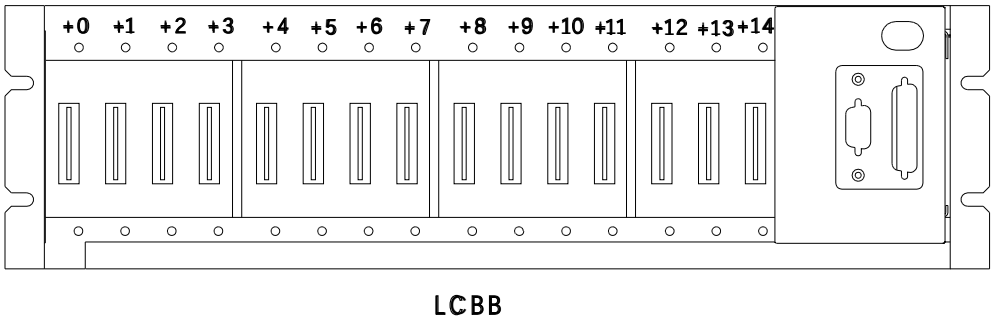


Figure 7-8. LCB Base (LCBB)

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

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

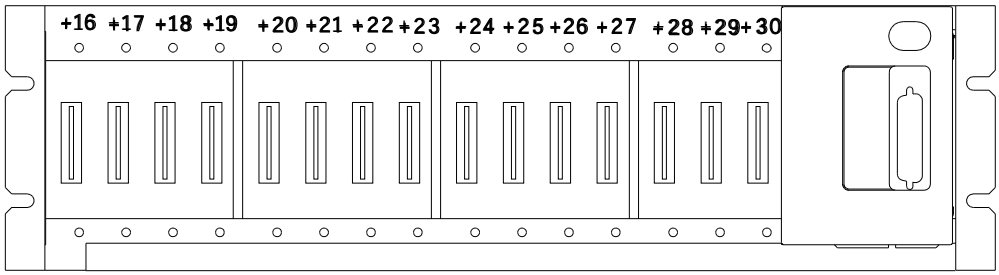


Figure 7-9. LCB Expansion (LCBE)

Step 2 Label the LCBs, and verify that the following information from the plugging sheet is on the LCB label (Part Number 63F2503):

- IBM 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 7-10 on page 7-16).

If a label already exists, put the new one on top of the old label.

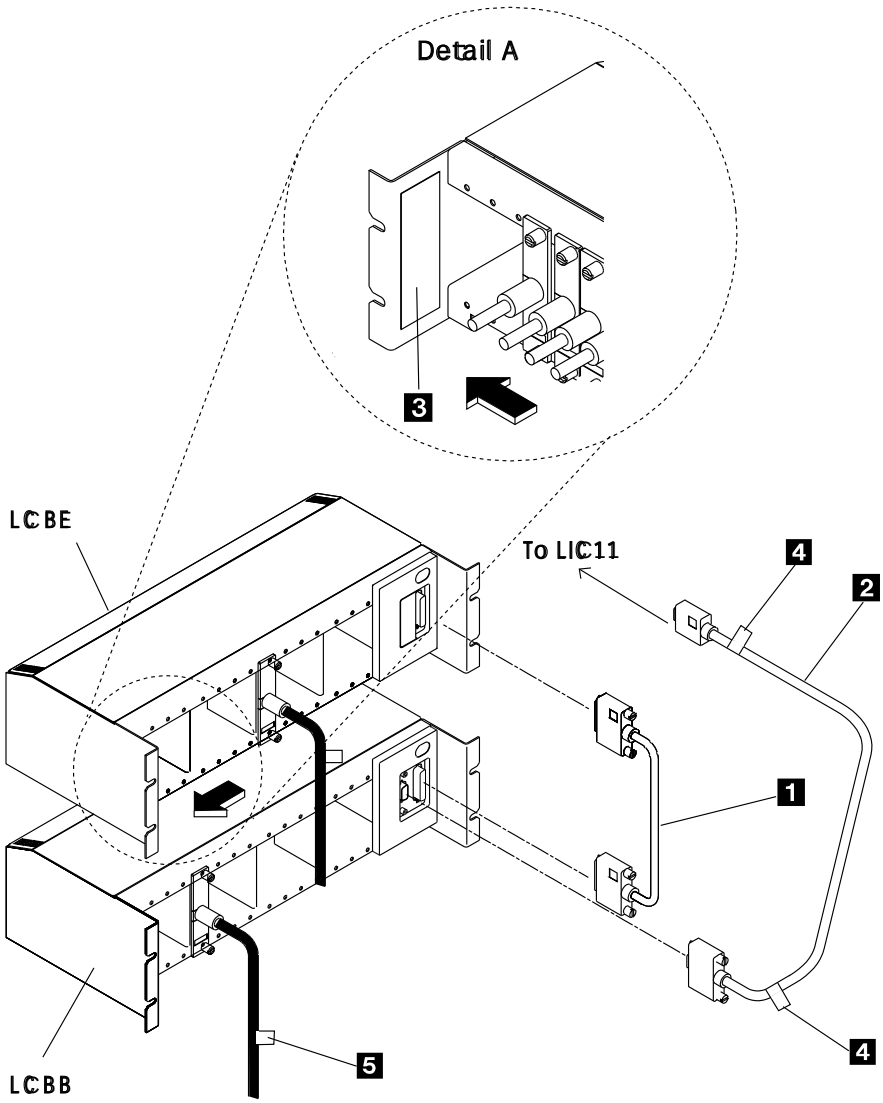


Figure 7-10. LCBB and LCBE Connections (Installed with ARC Assembly A)

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 7-17.

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 7-17.

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 7-11 below.

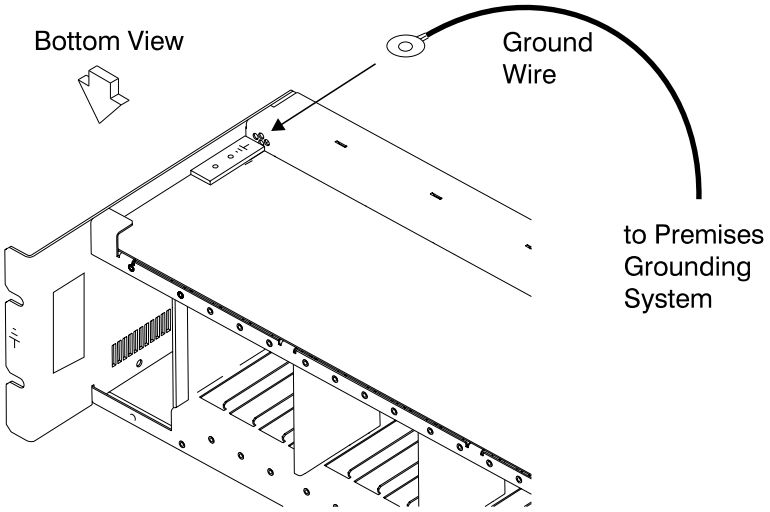


Figure 7-11. LCB Grounding

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 7-12).

Note: IBM does not provide these items.

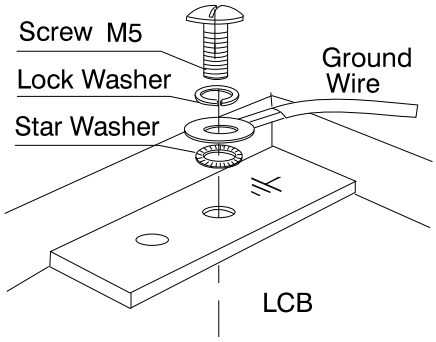


Figure 7-12. Standard Grounding Connection

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:

- IBM 3746-950 name

- LCB number
- LCB location
- Range of LIC11 addresses.

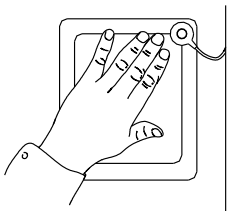
Step 11 Put two identical labels at both ends of the cable (see the two **4** s in Figure 7-10 on page 7-16).

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 7-7 for details, and also **2** in Figure 7-10 on page 7-16).

Removing or Installing ARC Assembly A and B

Before you start

First see the “Connection Procedures” on page 7-2.



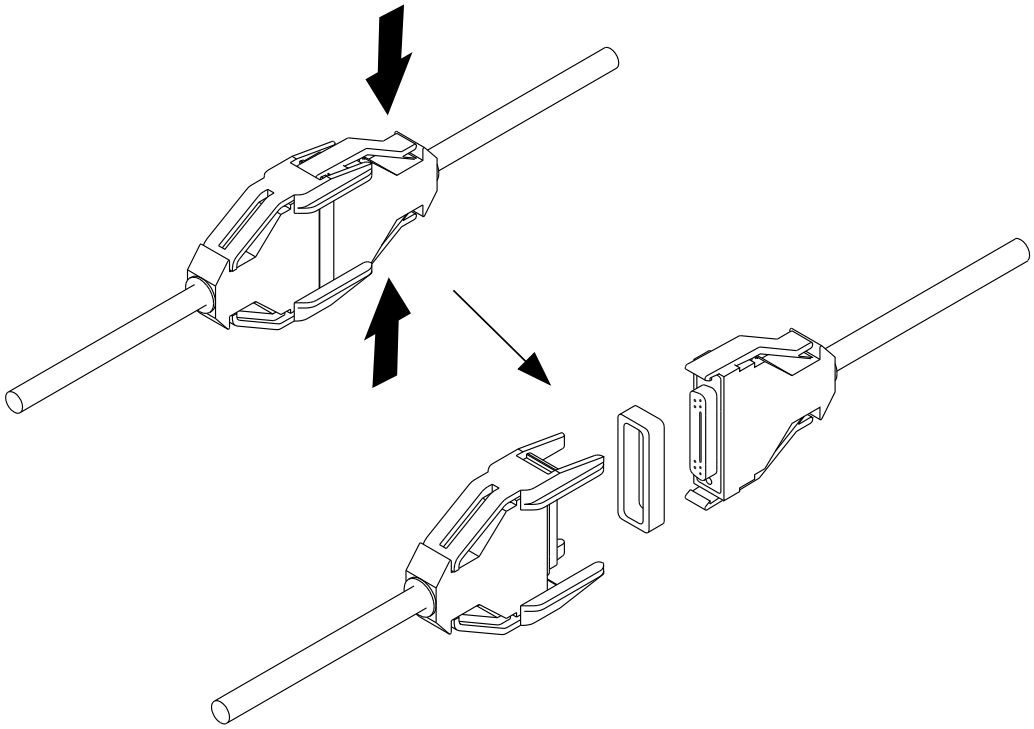
Removing ARC Assembly A and B

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.

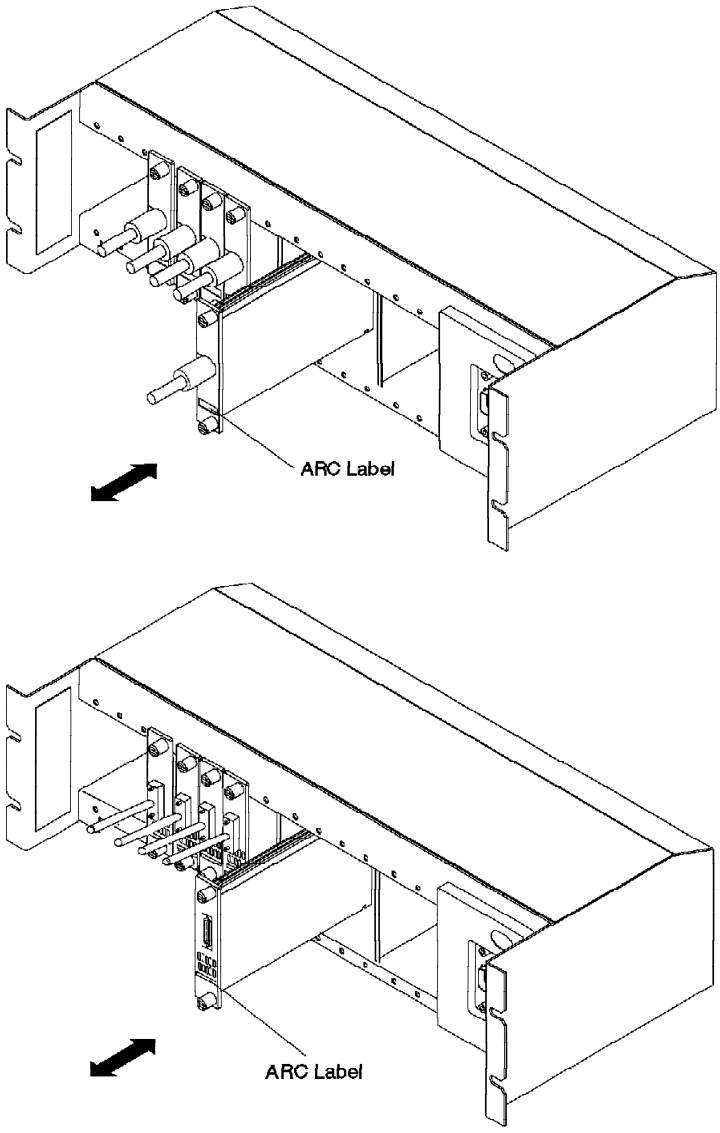


Figure 7-13. ARC Assembly A (top) and ARC Assembly B (bottom) in an LCB

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.

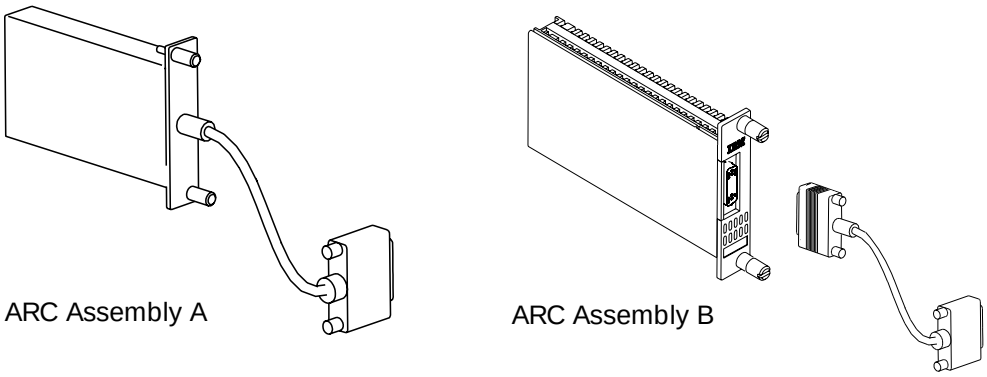
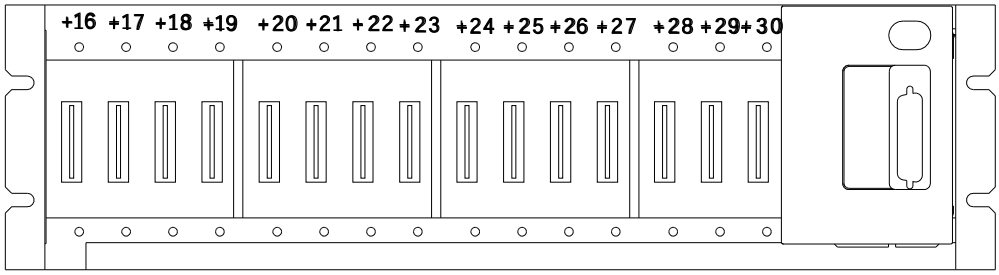


Figure 7-14. ARC Assembly A and B

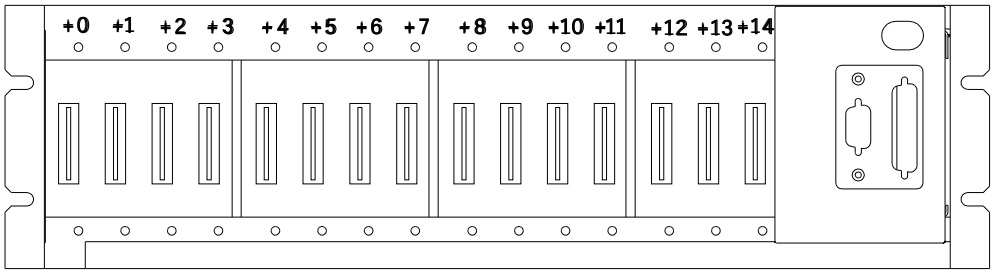
For details on available cable lengths, see the *Planning Guide*.

Step 2 Locate the ARC slot in the LCB. An LCB pair, the base (LCBB) and expansion (LCBE), contain a total of 30 slots (see the figures below).

LCBE



LCBB



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 7-15 on page 7-22 below for the different type of ARC cable connectors.

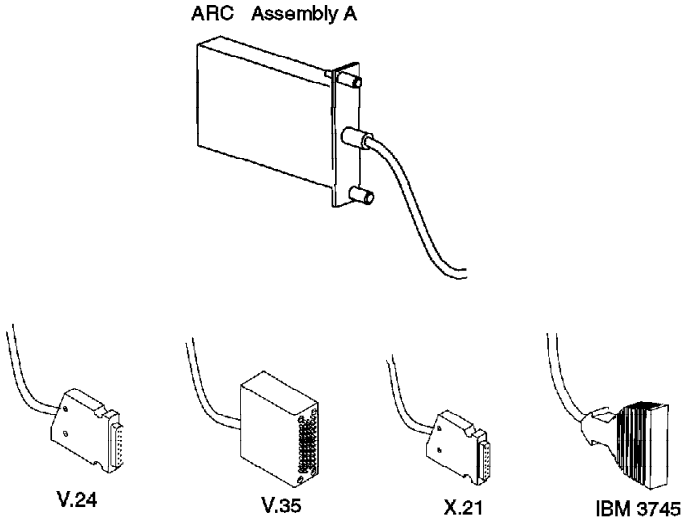


Figure 7-15. ARC Assembly A and Connector Types

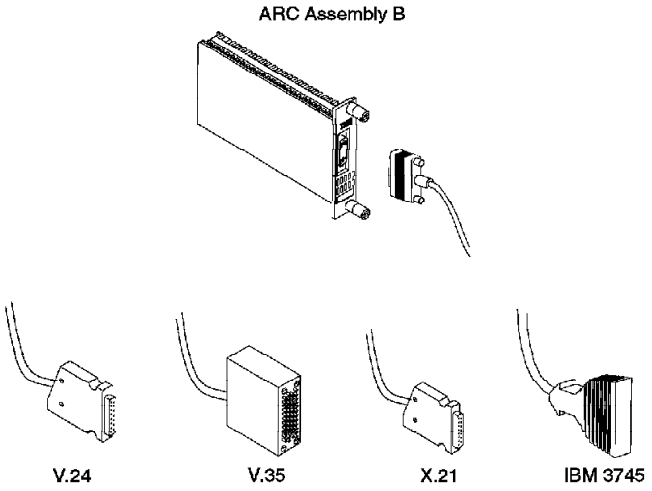


Figure 7-16. ARC Assembly B and Connector Types

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 7-10 on page 7-16). 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 7-13 on page 7-20).

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.

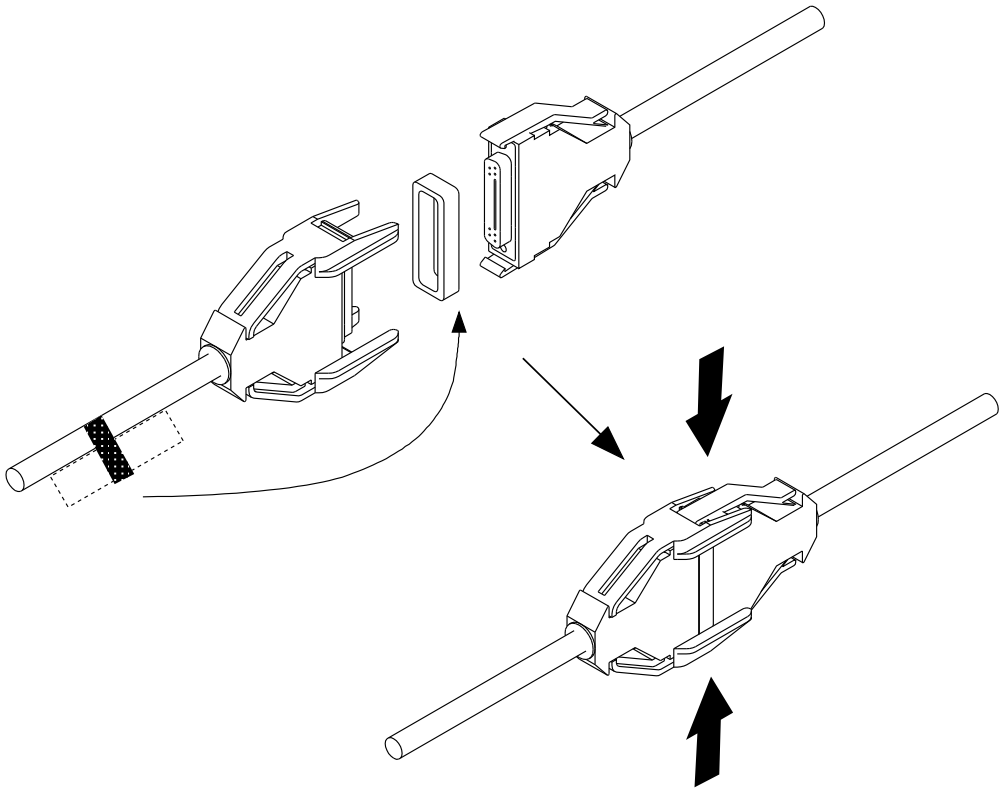


Figure 7-17. IBM 3745-Type Connector

Step 9 Repeat Steps 7 and 8 for each ARC that you install.

Step 10 If you have a V.35 connection to a French modem, go to Step 11. If you have a V.35 connection to a French terminal, go to Step 12. Otherwise, go to Step 13.

Step 11 Connect the V.35 DCE adapter between the ARC cable and the French modem.

To the ARC Cable To the Modem

Figure 7-18. French V.35 DCE Adapter

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

To the ARC Cable To the Terminal

Figure 7-19. 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 1-7.

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 5-14.

Chapter 8. Introduction to Consoles and DCAF

In this guide you will find the following:

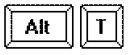
- Information about the parameters needed to configure consoles as remote (controlling) workstations.
- Procedures for configuring remote (controlling) workstations.

PS/2 (or equivalent) workstations can be used to remotely access the service processor. These workstations access the service processor MOSS-E and Controller Configuration and Management (CCM) functions by using DCAF. The operator at a remote workstation using DCAF can either:

- Control the target service processor input in a DCAF active session, and use the remote workstation keyboard and mouse to operate the service processor.
- Monitor the target service processor display in a DCAF monitor session, and view the service processor display in a remote workstation DCAF window.

The **remote workstation operates** as a DCAF **controlling workstation** and the **service processor** as a DCAF **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.

Notes:

- When remotely controlled, a service processor blocks the operation of the keyboard and mouse. However, you can regain control of the keyboard and mouse by using DCAF hot keys. The default hot keys are pressing 

together.

  If you think that the service processor is not working, check that it is not under the control of the DCAF remote console.
- Only one remote workstation can control the service processor at the same time.
- A remote workstation can be configured to have access to more than one service processor.
- The service processor is shipped pre-configured as a DCAF target workstation.
- 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 9, “DCAF Session Installation” for details.

Consoles

There are five types of remote consoles that can use DCAF, where each type defines how the console is connected to the service processor. Refer to Figure 8-1 on page 8-2.

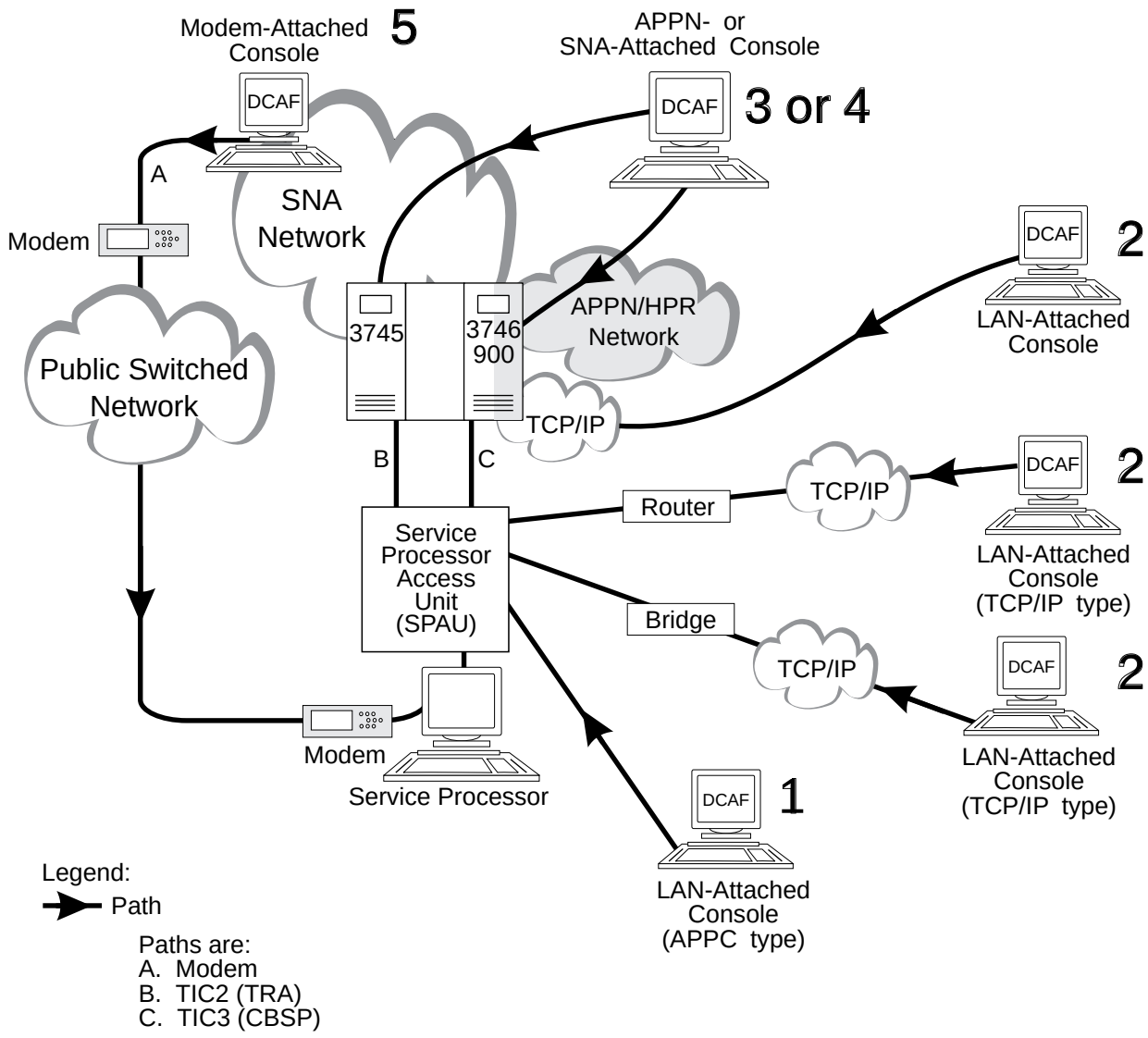


Figure 8-1. DCAF Console Attachments

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

1 , **LAN-attached** (APPC type) console attached directly to the Service Processor Access Unit (SPAU), or indirectly through a token-ring LAN bridge.

2 , **LAN-attached** (TCP/IP type) console attached to the SPAU via a bridge with appropriate filtering.

3 , **SNA-attached** console communicating with the service processor via an Logical Unit (LU) 6.2 session over the network backbone.

4 , **APPN-attached** console communicating with the service processor via an LU6.2 session over the network backbone.

5 , **Modem-attached** consoles that use the public switched telephone network to access the service processor via an Synchronous Data Link Control (SDLC) port and modem.

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.

Note: The target service processor MOSS-E engineering change (EC) level should be less than D22482 and the MOSS EC level less than D39894. Otherwise, the DCAF session may be affected, and the following occur:

- The remote operator using a modem-attached workstation has to end the remote session to free the service processor SDLC port.
- The SNA-attached workstation automatically disconnects without warning. The DCAF session is interrupted and the remote operator has to manually re-establish it.

The LAN-attached workstation is not affected.

Diskettes with Example Configurations

Included with this guide are diskettes 02L3825 for CS/2 and 02L3851 for CM/2. These diskettes contain example configurations that you can load into your CMLIB directory. These configuration files are primarily designed to help you with configuring modem attached workstations. However, if you are using another configuration for your workstation, (LAN-attached, for example) any of the configuration files in the CMLIB directory will help you. To load the configuration files from diskette, see “Customizing CS/2 and CM/2” on page 9-3 for details.

Information on how to configure CS/2, CM/2, DCAF, and CCM, is contained in the following Chapters:

- Chapter 12, “LAN-Attached (APPC Type) Remote Workstation”
- Chapter 13, “Modem-Attached Remote Workstation”
- Chapter 14, “SNA-Attached Remote Workstation”
- Chapter 15, “APPN-Attached Remote Workstation.”

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

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.

A series of passwords provides additional security for the service processor:

1. DCAF target password to establish a link for accessing the target service processor (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: The security level of the DCAF sessions between a remote console and the service processor is password-only (or non-secure). The security administrator and authentication components of DCAF are not used with the service processor.

Regaining Control of the Service Processor

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

However, the service processor local 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 Configuration

This section contains an overview of the system requirements for remote workstations. 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.
- CS/2 Version 4.1, with 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 one of the following:
   - Configuration Support B plus 8Q0800 Programming Request for Price Quotation (PRPQ).
   - Configuration Support C (APPN feature).
2. NCP V5R2 (or higher), operating under Virtual Telecommunications Access Method (VTAM*) Version 3R2 (or higher) for 3720 and 3745 Communication Controllers on the network backbone.
3. NCP V4R3 (or higher), operating under VTAM V3R2 (or higher) 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 hard disk of at least 80 MB and at least 10 MB of Random Access Memory (RAM).
- A pointing device (usually a mouse).
- A QWERTY keyboard is necessary. If this type of keyboard is not available, then the QWERTY equivalent keys must be used. For example, on an AZERTY keyboard you must use the Q key when you want to type an A.

  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 (APPC or TCP/IP type), an IBM Token-Ring Network Adapter/A operating at 16 Mbps.
- Modem-attached console, a synchronous modem (such as IBM 7857 or equivalent) and a multi-protocol adapter (MPA) card.
- SNA- or APPN-attached modem, an IBM token-ring network adapter with a MPA card.

Technical information on the service processor is provided in the *Planning Guide*.

Chapter 9. DCAF Session Installation

Summary of Procedures

First collect the *Planning Guide*, GA33-0457 worksheets at your workstation, then consult the summary of procedures in the table below.

Table 9-1. DCAF Session Installation Procedures

Procedures	For the Remote Workstation	For the Service Processor
Verifying hardware and programming requirements.	See Chapter 8, “Introduction to Consoles and DCAF.”	Pre-configured as a DCAF target workstation.
DCAF program installation or upgrade.	See “Installing DCAF” on page 9-2.	Non applicable. Already pre-configured.
TCP/IP program installation or upgrade.	See *TCP/IP Installation Guide* delivered with the program.	Non applicable.
CS/2 and CM/2 customization.	See “Customizing CS/2 and CM/2” on page 9-3 and Chapter 12 to Chapter 15, according to the type of session.	See Chapter 12 to Chapter 15 according to the type of session.
DCAF customization.	According to the type of session, see Chapter 12 to Chapter 15.	Not applicable.
TCP/IP customization.	See Chapter 11.	Done by IBM representative at installation.
CCM definitions.	Not applicable.	Available for APPN sessions only. See Chapter 15.
Opening a session.	See “Using DCAF to Remotely Log on to the Service Processor.”	Not applicable.
Closing a session.	See “Using DCAF to Remotely Log on to the Service Processor.”	Use DCAF hotkeys  .

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

Important

Installing DCAF may require modifying CS/2 or CM/2 and re-starting the workstation.

Preparation

Before starting the installation process, make sure that you have the workstation already installed and running OS/2 (see “Minimum Workstation Configuration” on page 8-4).

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.
- Diskettes shipped with this *Console Setup Guide*, SA33-0158
- Information from the *Planning Guide* worksheets.

Physical Installation

Any remote console or associated modem is installed by using procedures in the documentation provided with the product. See “Modem Configuration” on page 13-3 for IBM 7855, 7857, 7858, or Hayes Modems.

Installing DCAF

Important

DCAF is also known as TME10 Remote Control, PN 5697RCL.

The DCAF secure (or password-only security) target component is automatically installed in the MOSS-E during delivery of the service processor.

The remote console is a DCAF controlling component. Follow the procedure below to install DCAF on the remote workstation:

Step 1. Insert the DCAF diskette 1 into drive A.

Step 2. Open an OS/2 full screen or window.

Step 3. Change to drive A.

Step 4. Type `install` and press **Enter**.

Step 5. Double-click **Controller**.

Step 6. Select **Install with defaults**, then click **OK**.

Step 7. Wait until **Ready to install** is displayed under **Status** field.

Step 8. In the **Install** pull-down menu, click **Install included component(s)**.

Step 9. At this step you may define your own DCAF path and backup CONFIG.SYS file. Record this information, and click **OK**.

Step 10. Change the diskette and click **OK** when you are prompted.

Step 11. When a message displays saying that the installation was successful, click **OK**. A new **Distributed Console Access Facility** icon appears.

Step 12. Verify that there is no diskette in drive A.

Step 13. Shutdown and restart your workstation.

Step 14. Go to “Customizing CS/2 and CM/2.”

Upgrading DCAF

Attention

If the DCAF on your workstation is a level lower than 1.3, de-install it and then install DCAF 1.3.3. See “Installing DCAF” on page 9-2.

This section describes how to upgrade DCAF 1.3 with the CSD UB20924.

Step 1. Insert DCAF diskette 1 into drive A.

Step 2. Open an OS/2 full screen or window.

Step 3. Change to drive A.

Step 4. Type `service` and press **ENTER**.

Step 5. Follow the prompts:

a. Insert DCAF diskette 1.
b. Insert DCAF diskette 2.
c. Insert DCAF diskette 3. (Also called CSD diskette 1)
d. Click **Service**.
e. Click **OK**.
f. Insert DCAF diskette 4. (Also called CSD diskette 2)

Step 6. Click **OK**.

Step 7. Click **No**.

Step 8. Click **Cancel**.

Step 9. Click **OK**.

Step 10. Use Desktop Manager to shut down and restart the workstation.

Important

After upgrading DCAF, it is recommended that you access the following URL to download any required fixes and APARs:

ftp://ftp.software.ibm.com/ps/products/dcaf/fixes/v133/us-english/apar/

Installing TCP/IP

See *TCP/IP Installation Guide*.

Customizing CS/2 and CM/2

This procedure will help you navigate from a remote workstation to the service processor and complete the customization of DCAF. For more information, see the *Planning Guide*.

Customizing a Remote Workstation

Important

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

The procedures in this section apply to the following types of consoles:

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

The CS/2 and CM/2 configuration files loaded onto your workstation during the installation process include one example of each type of remote DCAF console.

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

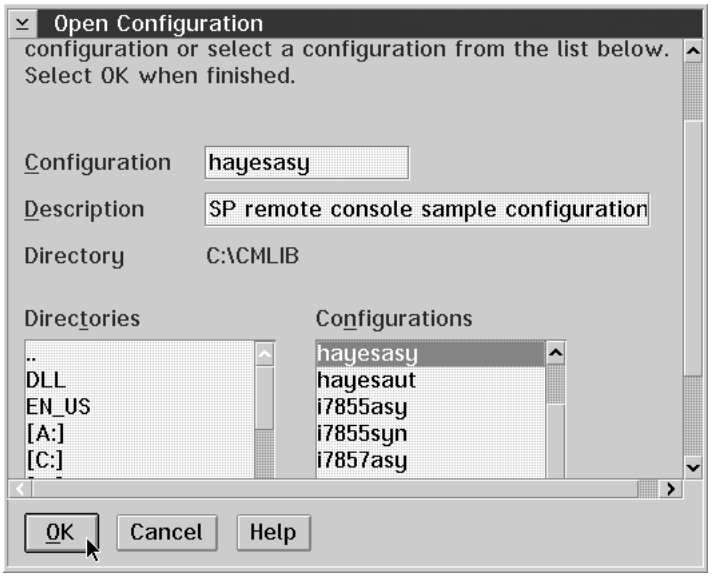
Step 2. Double-click the 

icon.

Step 3. Click **Setup**.

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

Note: Each file contains example configurations of a modem type and all other types of workstation attachment, for example, LAN-attached.



Step 5. Depending on the console type you are installing, go to:

- Chapter 12, “LAN-Attached (APPC Type) Remote Workstation.”
- Chapter 13, “Modem-Attached Remote Workstation.”
- Chapter 14, “SNA-Attached Remote Workstation.”
- Chapter 15, “APPN-Attached Remote Workstation.”

Configuring Data Link Control (DLC) for a Service Processor

For more information on configuring Data Link Control (DLC) see Appendix D, “Configuring DLC for DCAF.”

Chapter 10. Using DCAF to Remotely Log On to the Service Processor

For more information about DCAF functions, including opening multiple concurrent sessions, switching between sessions, and keyboard shortcuts, see the *DCAF: Installation and Configuration Guide*, SH19-4068.

For the purpose of this procedure, the service processor is the DCAF target workstation, and the remote console is the DCAF controlling workstation.

Starting a Session

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

Important

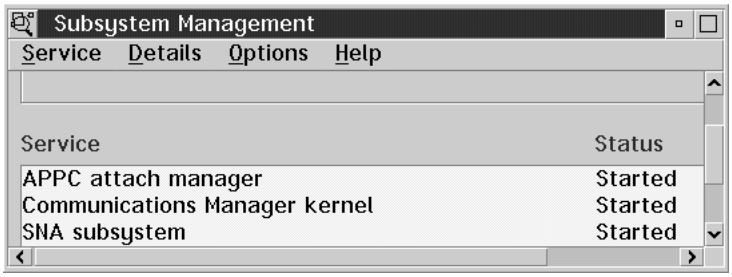
The procedure below is the same in CM/2 unless otherwise indicated.

Note: For DCAF TCP/IP sessions, start at Step 11 on page 10-2.

Step 1. Double-click the **CS/2** icon (for CM/2, double-click the **CM/2** icon and go to Step 3).

Step 2. Double-click the **Administration** icon.

Step 3. Double-click **Subsystem Management**.

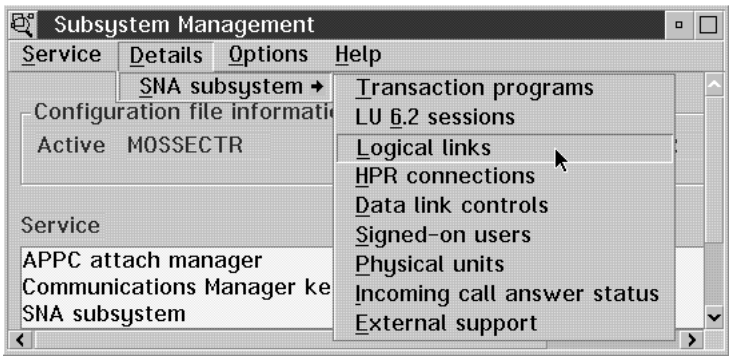


Step 4. Check that all of the services have a **Started** status. If not, click the **Service** pull down menu, then:

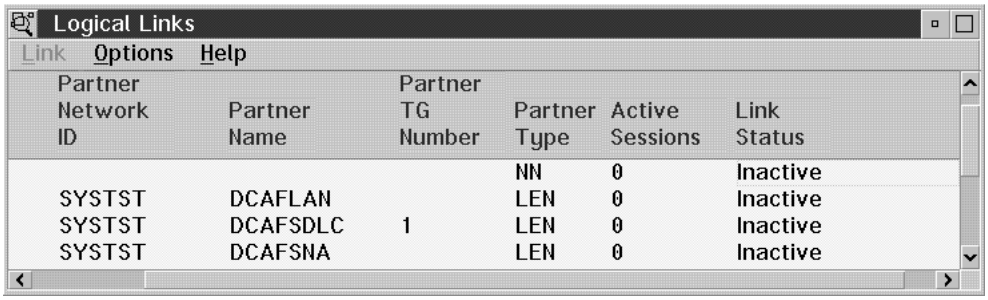
a. Start **Communications Manager kernel**
b. Start **SNA subsystem**. **APPC attach manager** starts automatically.
c. Continue with next step.

Step 5. Double-click **SNA subsystem**.

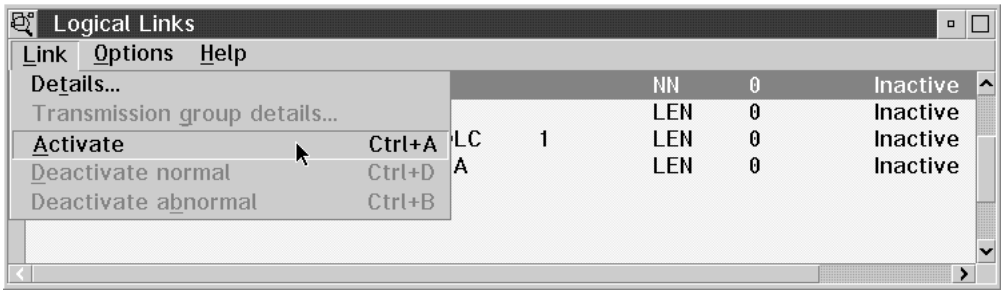
Step 6. Select **Details** from the main menu, **SNA subsystem** and **Logical links**. (for CM/2, select **Details** from the **Service** menu and continue as above.)



Step 7. If the link shows the status of **Active**, go to Step 9. If the link shows the status of **Inactive**, continue with next step.



Step 8. Click **Link** on the main menu and click **Activate**. The link displays a **pending active** message, followed by an **active** message.



Step 9. Exit CS/2.

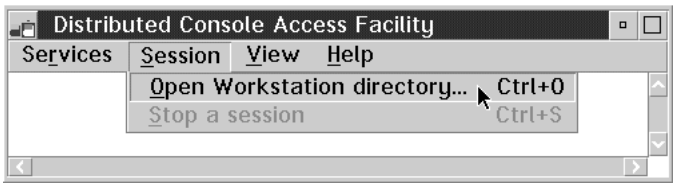
Step 10. Make sure that communications have been started on the controller side.

Step 11. Double-click the **Distributed Console Access Facility** icon.

Step 12. Double-click the 

icon.

Step 13. In the **Session** pull-down menu, select **Open Workstation directory**.



Step 14. Double-click the icon of the target service processor that you want.

Step 15. Enter the DCAF target password defined at “DCAF Logon Password and Service Processor Security” on page 8-3. If there is no password for the target workstation, click **OK**.

Step 16. Click **Yes** if you have a non-QWERTY keyboard (see “Hardware Requirements and Recommendations” on page 8-5).

Step 17. Click **Start a session** from the **Session** pull-down menu.

Step 18. 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

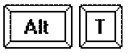
In the **Session** pull-down menu on the DCAF window action bar, click **Stop a session**.

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 has ended. This frees SDLC resources for other tasks.

Chapter 11. LAN-Attached (TCP/IP Type) Remote Workstation

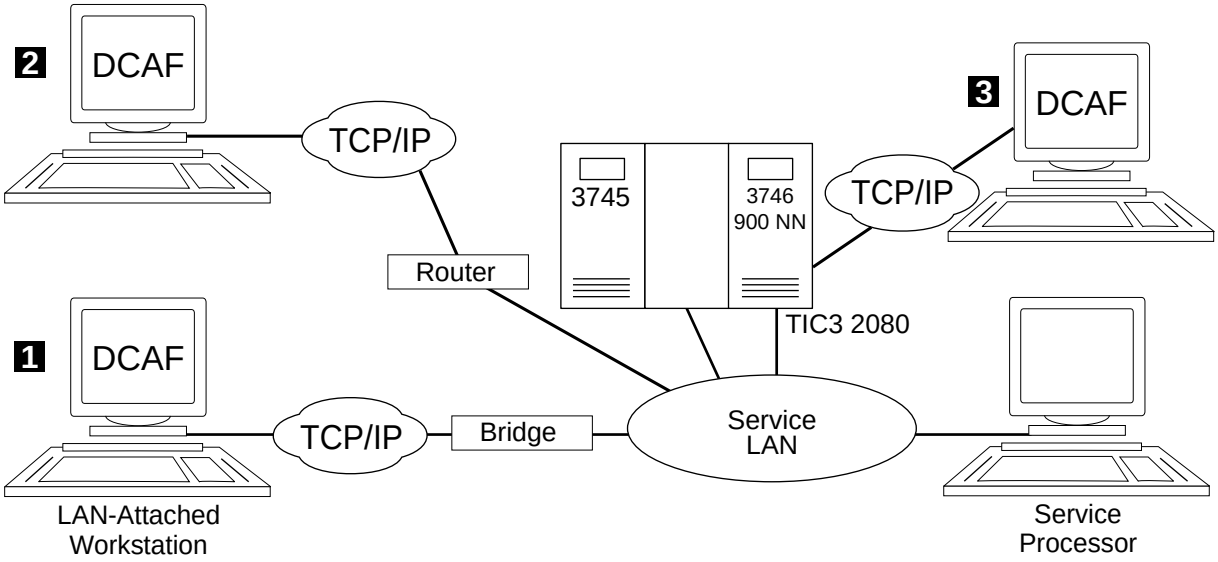


Figure 11-1. Token-Ring LAN (TCP/IP Type) Configuration

This chapter shows you how to do the following:

- Navigate from a remote workstation to a service processor in a TCP/IP environment via a bridge or router of a LAN.
- Configure a DCAF session for controlling the target service processor.

The paths between the controlling workstation and the service processor include the following:

- Bridge with filtering to the service processor LAN (see **1** in the figure above).
- Router to the service processor LAN (see **2** in the figure above).
- NN IP address on the 3746 to the service processor LAN (see **3** in the figure above).

Note: The configuration described in this chapter only applies to a service processor with a 3746 NN or a 3746-950 connected to the service LAN.

Installing a Remote Workstation (LAN-Attached TCP/IP Type)

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

Important

Use the *Planning Guide* worksheets to fill in the address and name fields.

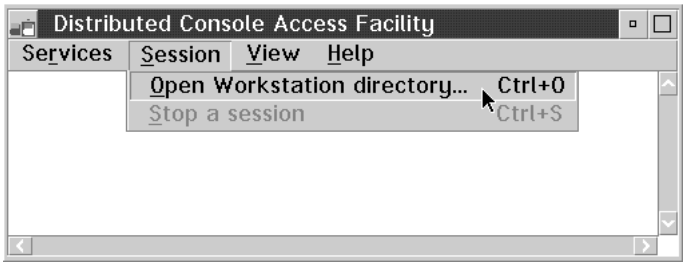
Customizing DCAF

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

Step 2. Double-click the 

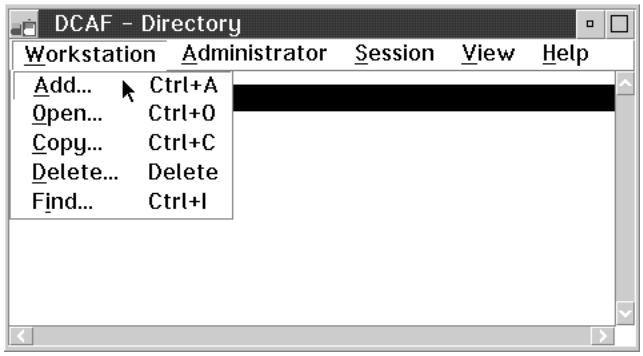
icon.

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

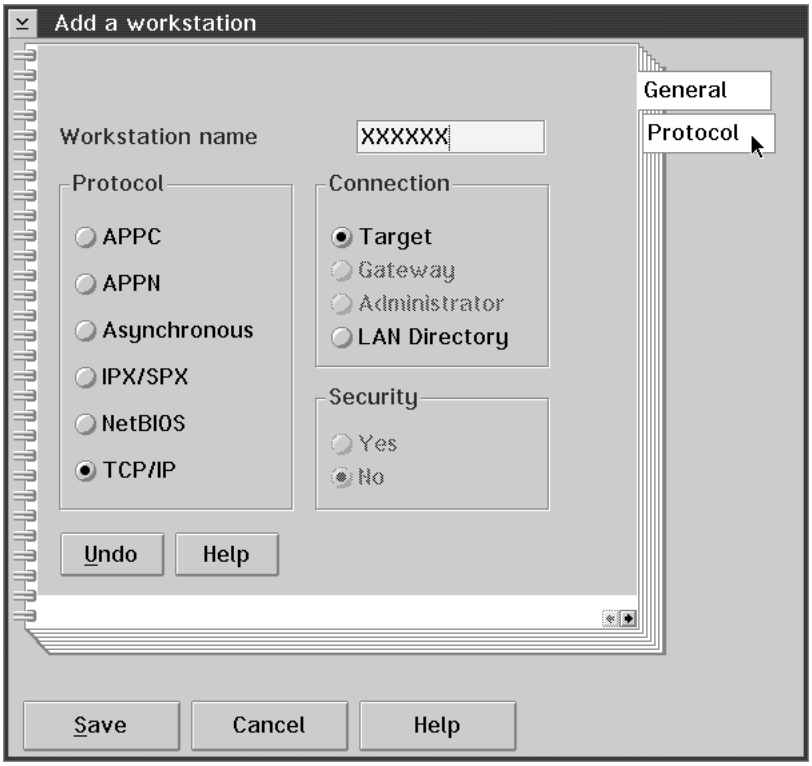


Step 4. Click **OK** for a first installation. Otherwise continue with next step.

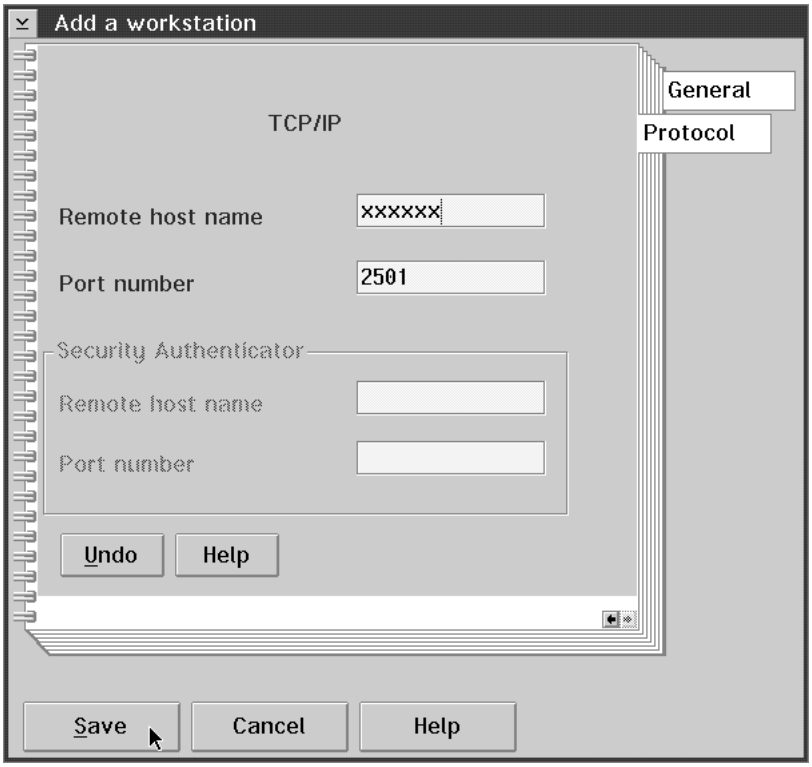
Step 5. From the DCAF Directory window, click **Workstation** then on **Add**.



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) and **Port number** fields. Then click **Save** and **Cancel**.



Step 8. Continue with “Customizing TCP/IP” on page 11-4.

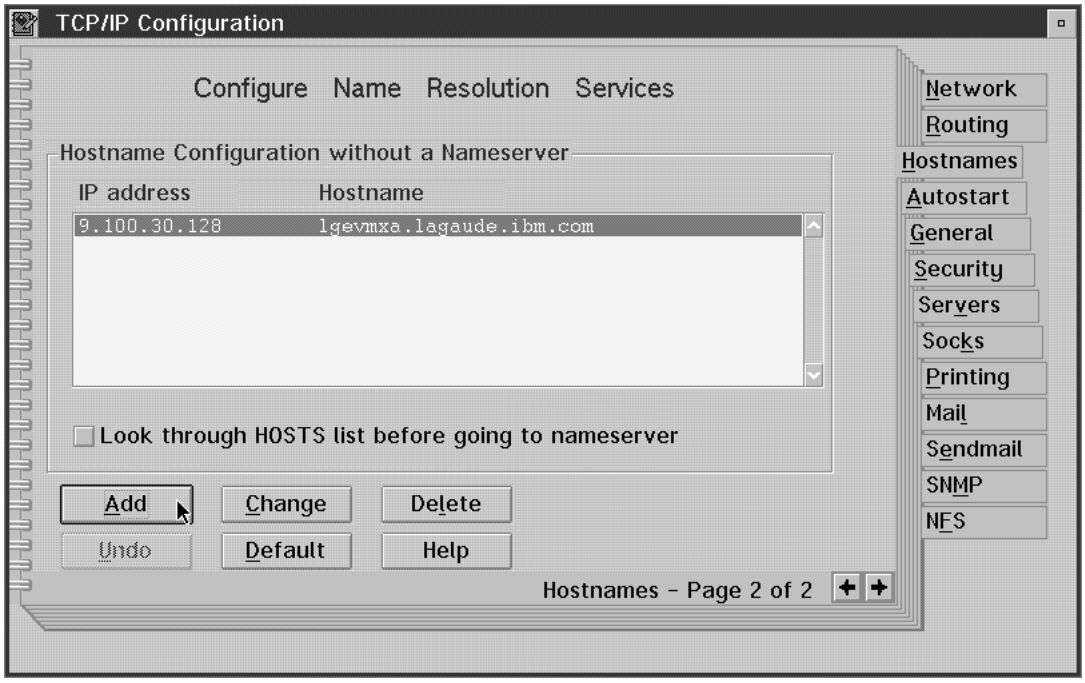
Customizing TCP/IP

The following is the procedure for customizing TCP/IP for the remote workstation.

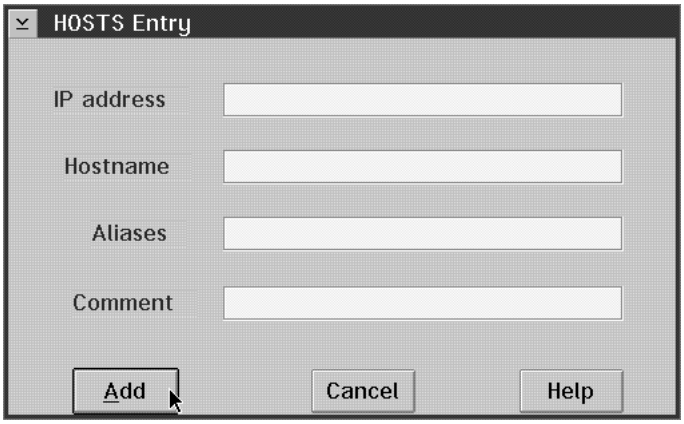
Step 1. Double click the **TCP/IP Configuration** icon on your desktop.

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

Note: If you are using an earlier version of TC/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. Continue with “Installing a Target Service Processor” on page 11-5.

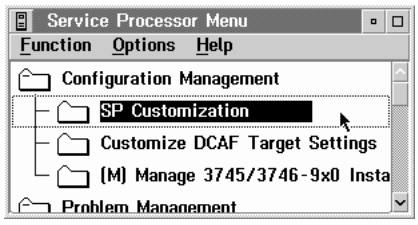
Installing a Target Service Processor

You can install a target service processor in MOSS-E.

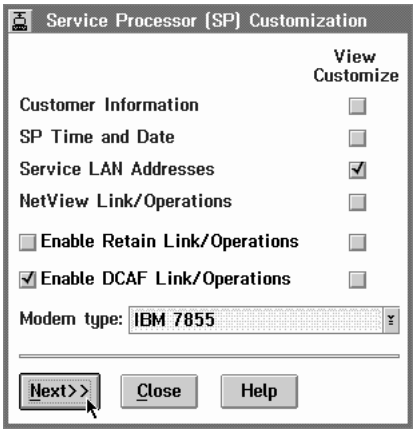
Step 1. Open the **Service Processor Menu**.

Step 2. Click **Configuration Management**.

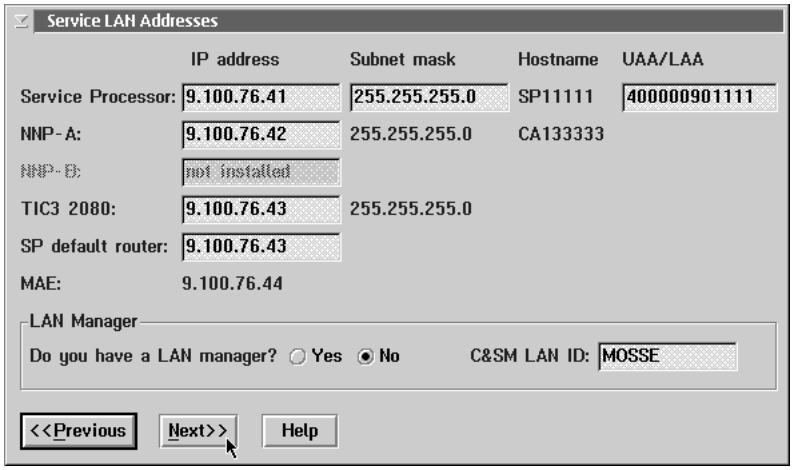
Step 3. Double-click **SP Customization**.



Step 4. Select **Service LAN Addresses** in the **View Customize** button list and click **Next**.



Step 5. Click **Next** to display the **Service LAN Addresses** screen.



Step 6. If you have a link type **3** (Figure 11-1 on page 11-1), enter the TIC3 2080 address in the **SP default router** and click **Next** and **Close**. Otherwise, click **Next** and **Close**.

Step 7. Open an OS/2 window.

Step 8. At the prompt type the following line:
`route add default xxxxxxxx`
where `xxxxxxxx` is the IP address of the TIC3 2080. Then press **Enter**.

Step 9. Close the OS/2 window.

Chapter 12. LAN-Attached (APPC Type) Remote Workstation

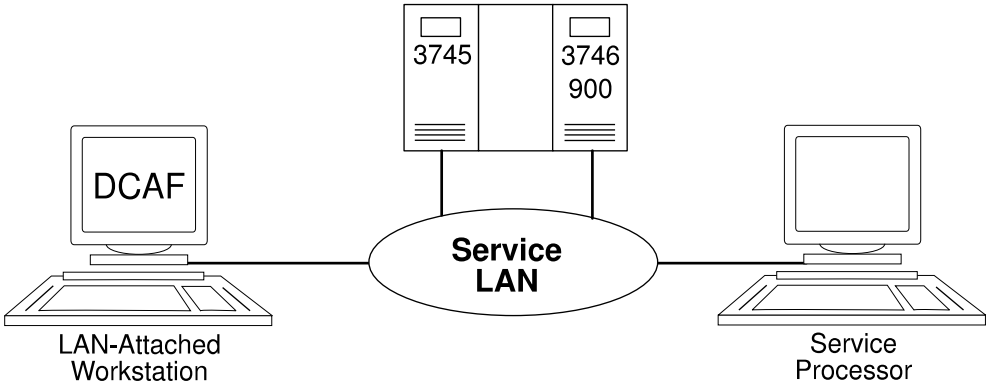


Figure 12-1. Token-Ring LAN (APPC Type) Configuration

This chapter describes how to do the following:

- Navigate from a remote workstation to a service processor via a token-ring bridge of a LAN.
- Configure a DCAF session for controlling the service processor (see Figure 12-1).

Parameters

The parameter values of your remote workstation must match the parameter values of the service processor. For more information, refer to the Appendix of the *Planning Guide*, GA33-0457.

If you have **more than one** target processor, you must follow the same parameter-matching rules. For more information, refer to Appendix C, “Configuration for a Two-Target Remote Workstation.”

Installing a Remote Workstation (LAN-Attached APPC Type)

The following procedure shows you how to establish a link between the controlling workstation and a service processor, using an APPC type LAN environment.

Important

Use the *Planning Guide* worksheets to fill in the address and name fields.

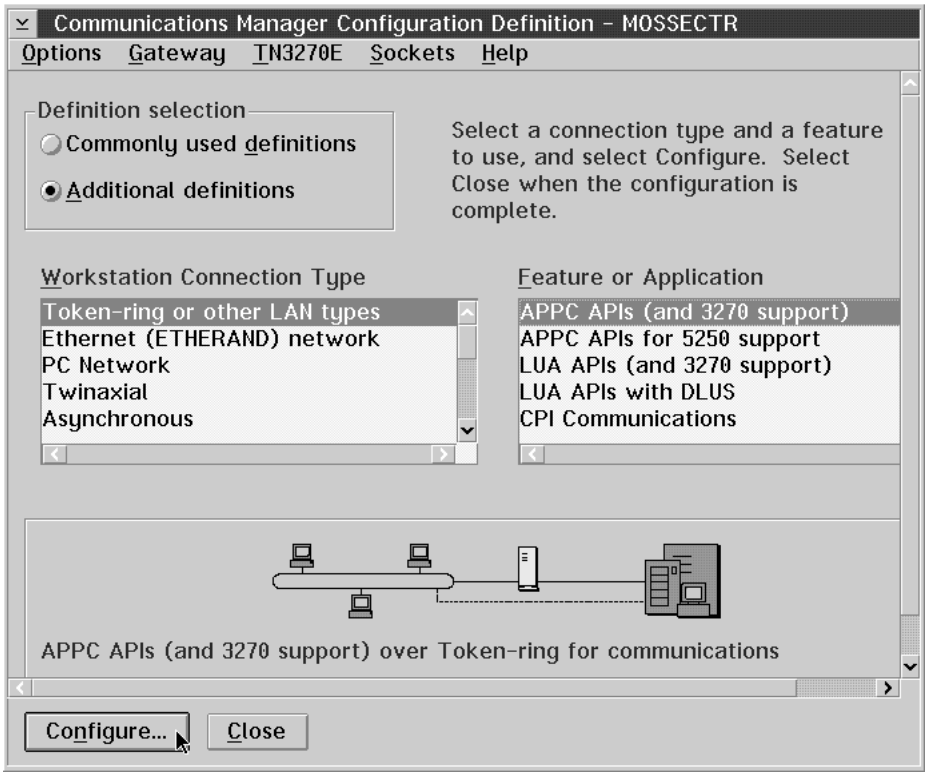
Customizing CS/2

Important

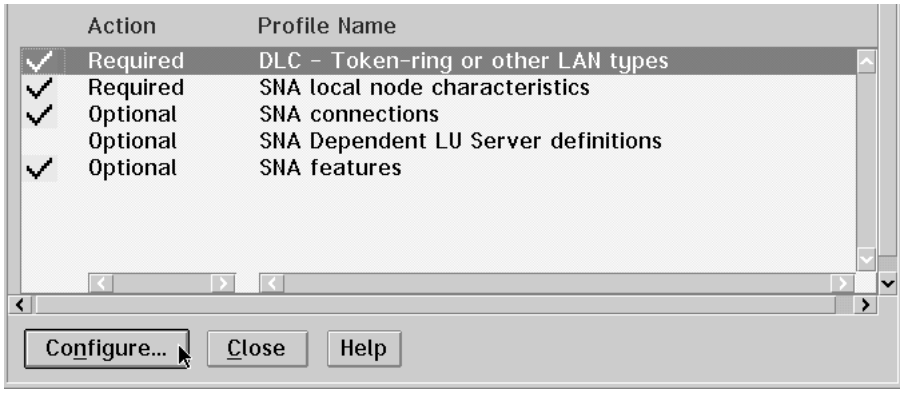
The procedure below is the same in CM/2 unless otherwise indicated.

Step 1. Perform Steps 1 to 5 on page 9-4.

Step 2. Select **Additional definitions**, **Token-ring or other LAN types**, **APPC APIs**, and click **Configure**.



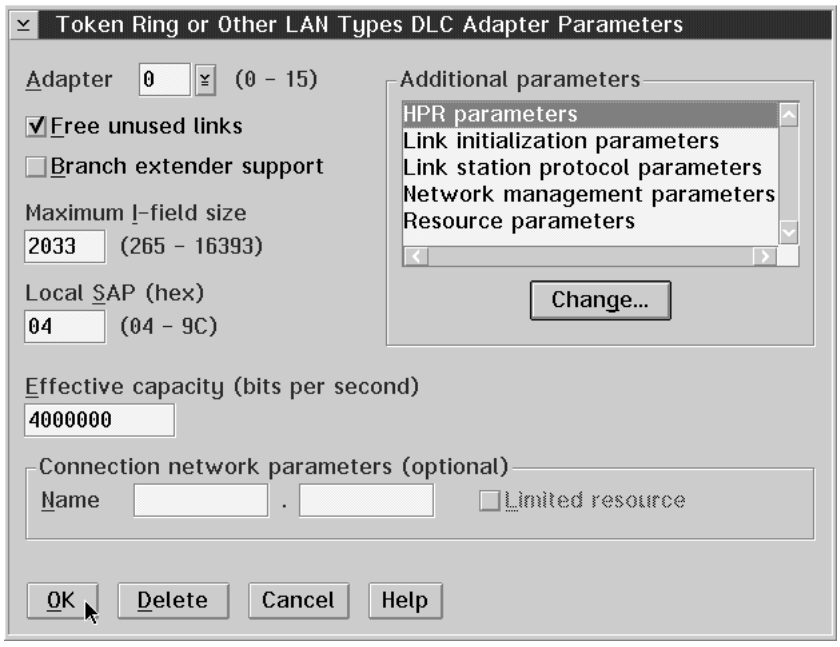
Step 3. Select **DLC - Token-ring or other LAN types** and click **Configure**.



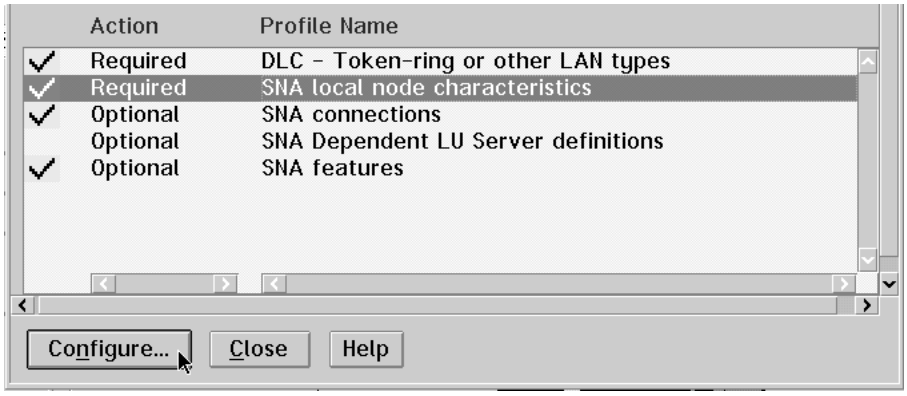
Step 4. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following, using the **Change** button.

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

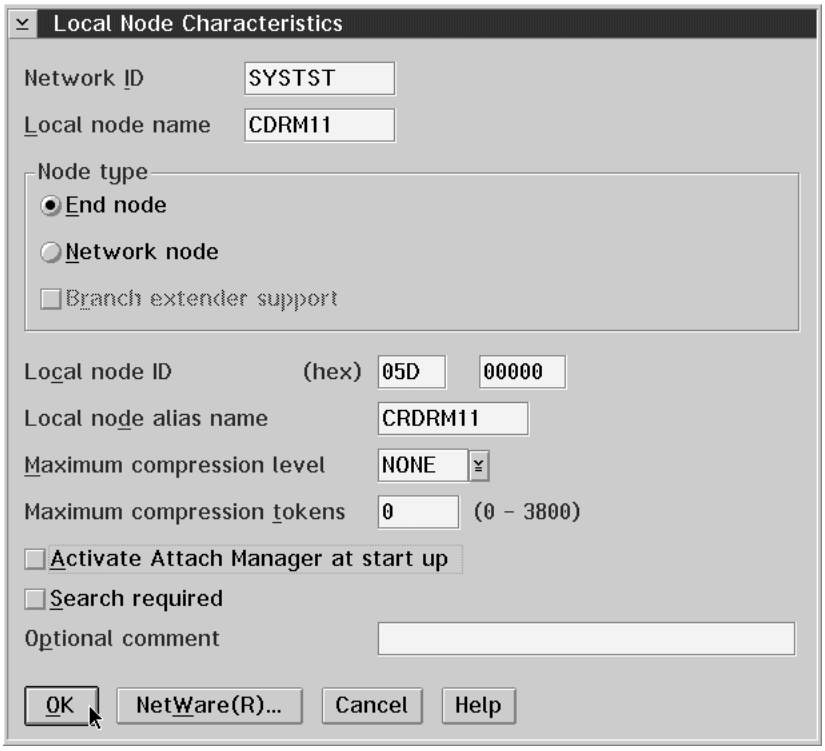
Then click **OK**.



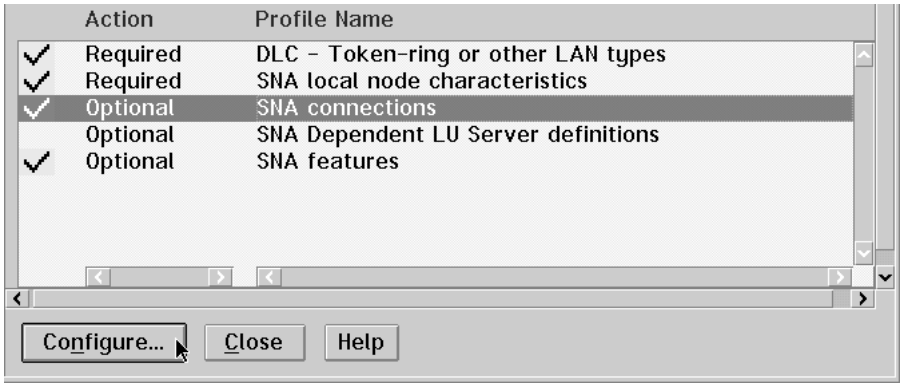
Step 5. Select **SNA local node characteristics** and click **Configure**.



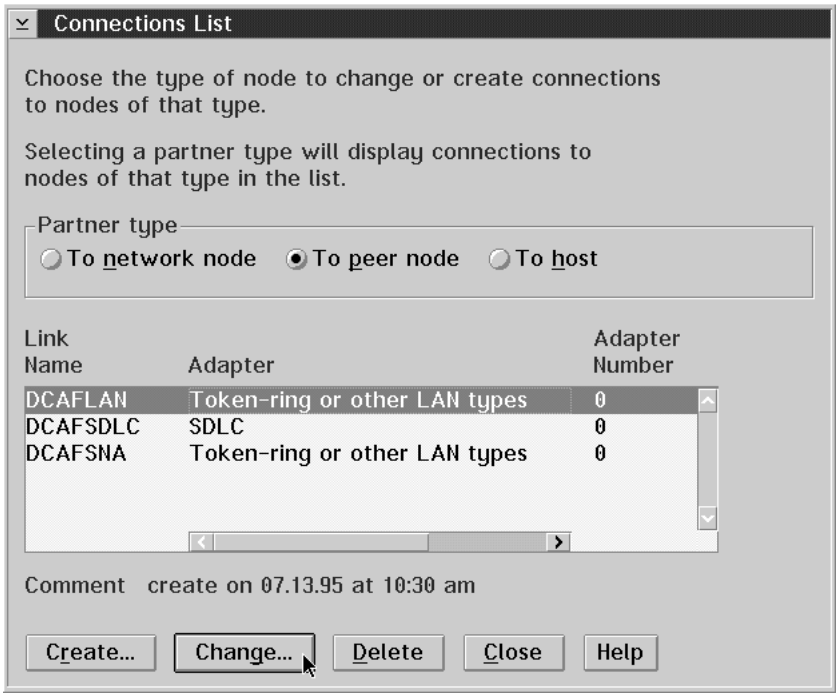
Step 6. Modify the **Network ID** and **Local node name** fields, select **End node** and click **OK**.



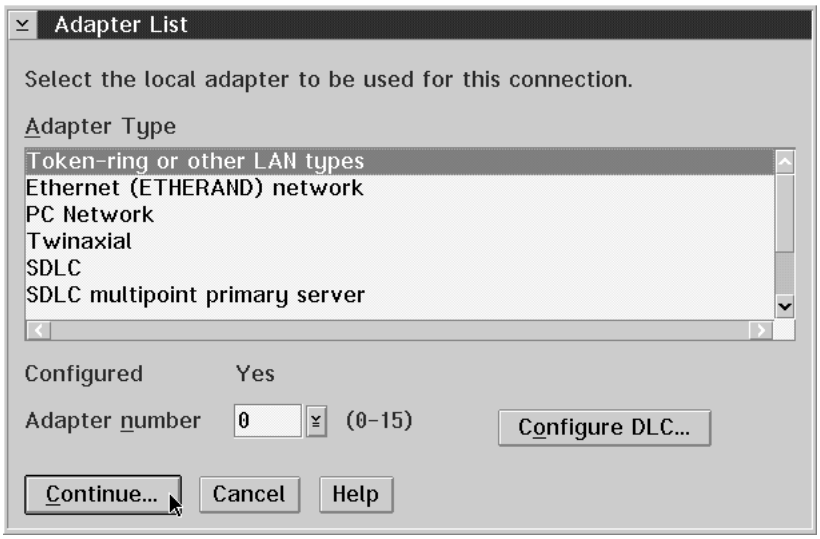
Step 7. Select **SNA connections** and click **Configure**.



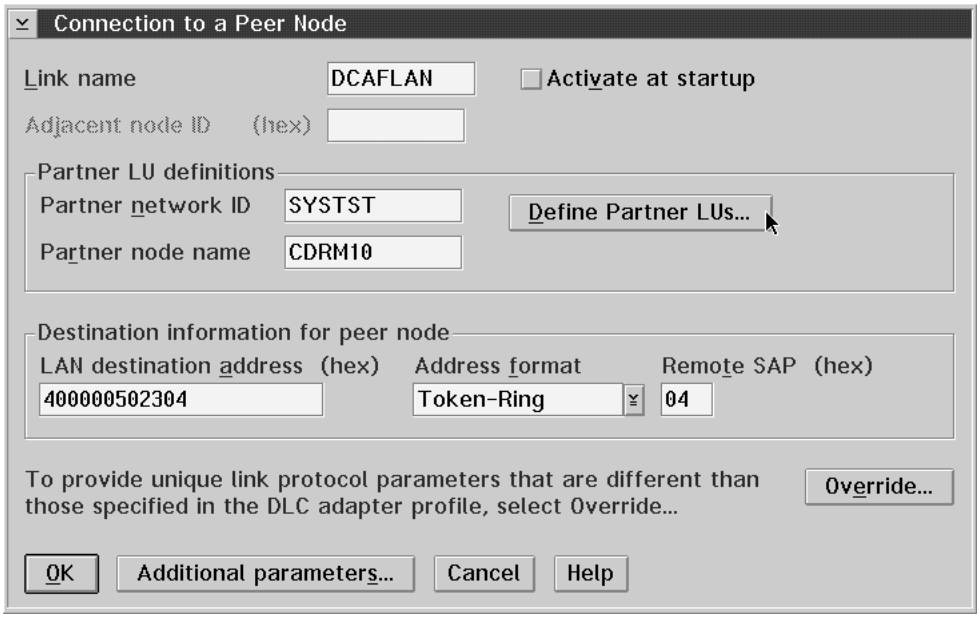
Step 8. Click **To peer node**, select **DCAFLAN** from the list and click **Change**.



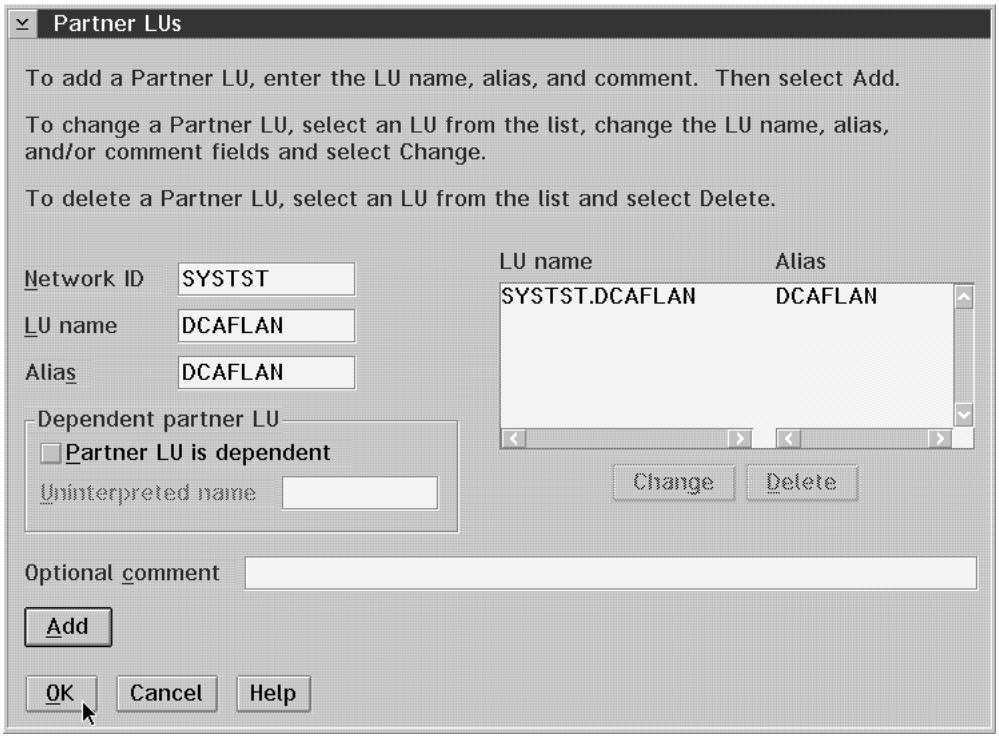
Step 9. Select **Token-ring or other LAN types** and click **Continue**.



Step 10. Fill in the **LAN destination address** field (the address of the service processor), the **Remote SAP** field, the **Partner network ID** (the network name) field, the **Partner node name** (the network that contains the target service processor) field, and click **Define Partner LUs**.

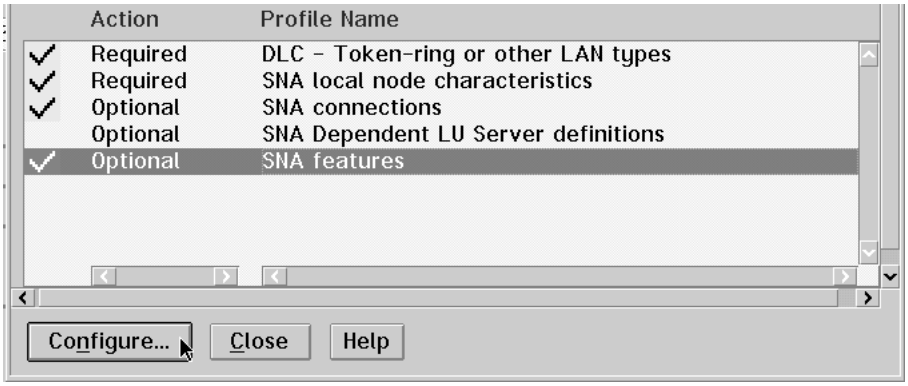


Step 11. Fill in **Network ID**, **LU name** (see Step 10 on page 12-6), and **Alias** fields (these should be the same as the LU and alias names on the service processor in Step 4 on page 12-11). Then click **Add** and **OK**.

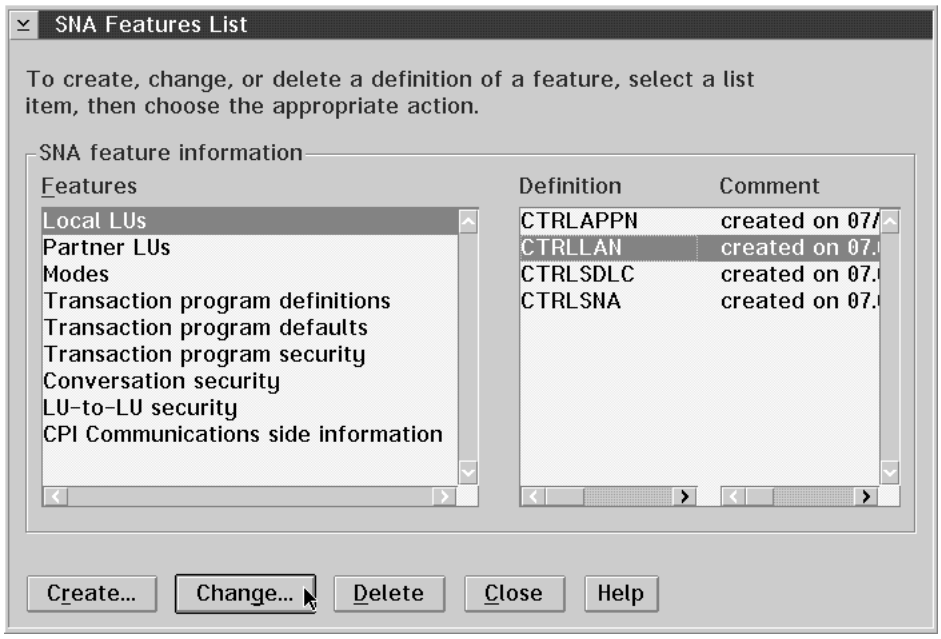


Step 12. Click **OK** and then **Close**.

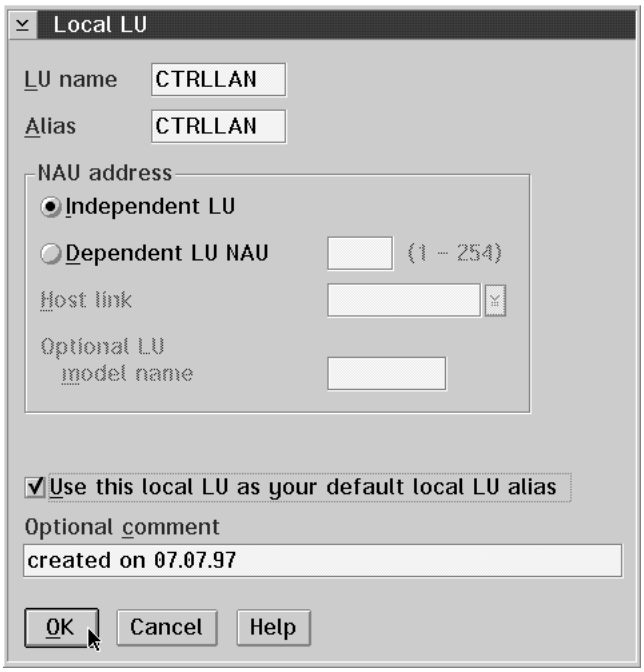
Step 13. Select **SNA features** and click **Configure**.



Step 14. Select **Local LUs**, **CTRLLAN** and click **Change**.



Step 15. Fill in the **LU name** and **Alias** fields, select **use this local LU as your default local LU alias** and click **OK**.



Step 16. Click **Close** on each subsequent screen until you exit CS/2.

Step 17. Continue with “Customizing DCAF” on page 12-9.

Customizing DCAF

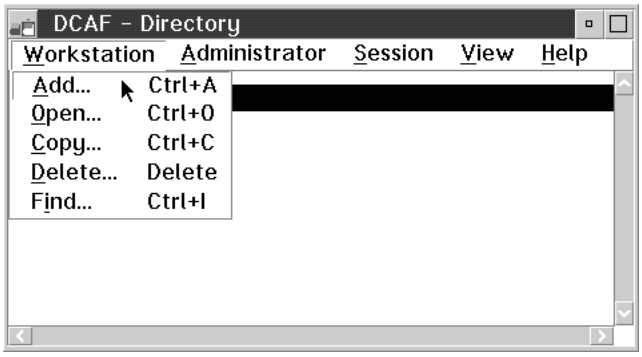
Step 1. From **Desktop Manager**, double-click the **Distributed Console Access Facility** icon.

Step 2. Double-click the DCAF Controller icon.

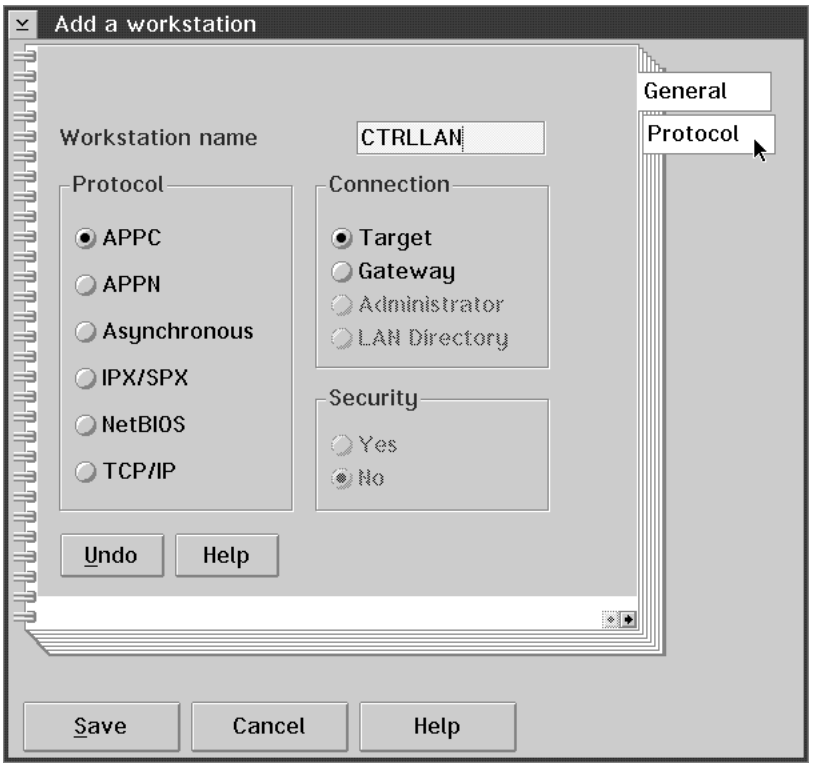
Step 3. Click **Session**, then **Open workstation directory**.

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

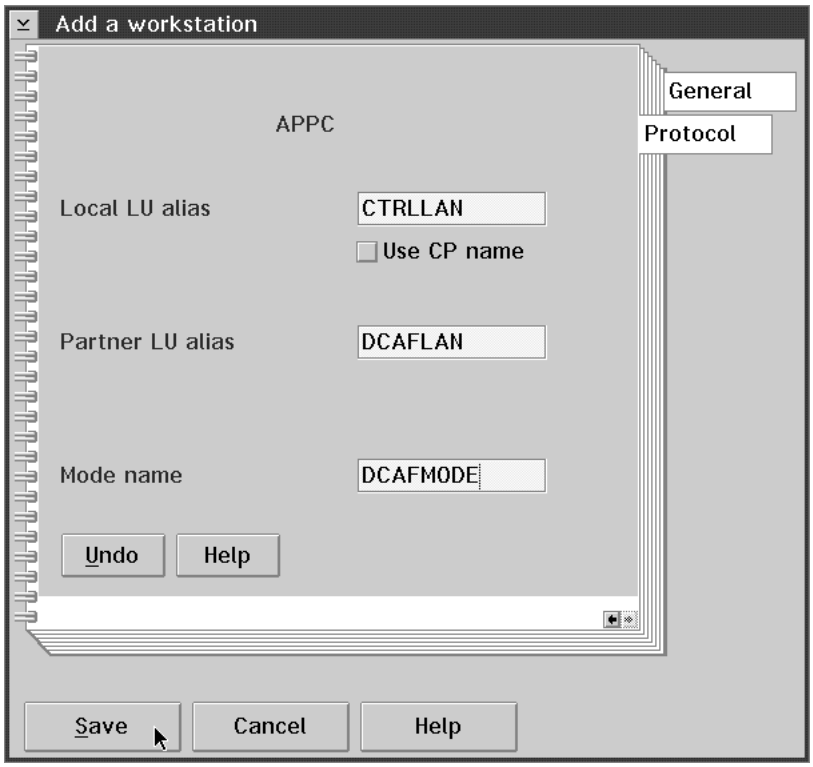
Step 5. Click **Add** in the **Workstation** directory.



Step 6. Fill in the **Workstation name** field (see Step 15 on page 12-8), select **APPC**, **Target**, and click **Protocol**.



Step 7. Fill in the **Local LU alias** (see Step 15 on page 12-8), **Partner LU alias** (see Step 11 on page 12-7), and **Mode name** fields. Then click **Save, OK** (on the subsequent window), and **Cancel**.



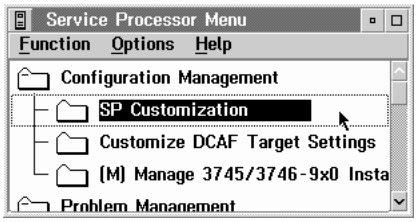
Step 8. From Desktop Manager, shutdown and restart the workstation.

Step 9. Continue with “Installing a Target Service Processor.”

Installing a Target Service Processor

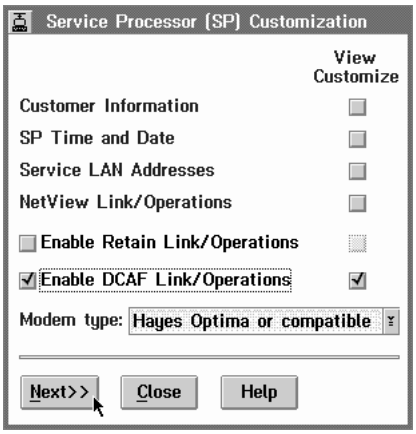
This section describes how to customize your target service processor for a DCAF link to the communication controller.

Step 1. In the **Service Processor Menu** click **SP Configuration**.

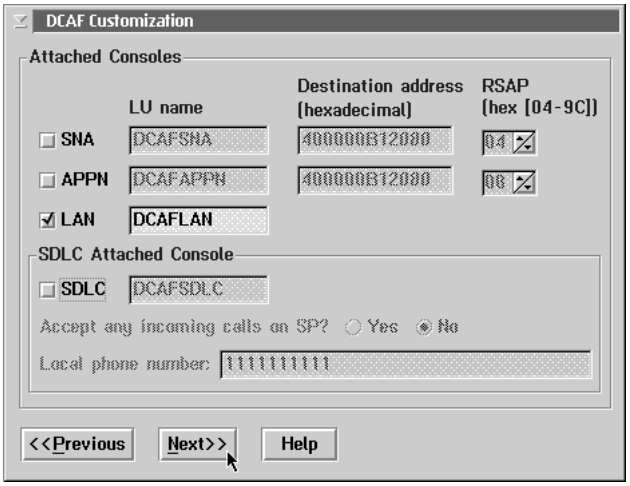


Step 2. Double-click **SP Customization**.

Step 3. Select **Enable DCAF Link/Operations** in the **View Customize** button list and click **Next**.



Step 4. Select **LAN**, fill in the adjoining field under the **LU name** list, and click **Next**.



Step 5. Click **Close**.

Step 6. The installation is complete.

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

Step 8. Go to “Using DCAF to Remotely Log on to the Service Processor” for using this new DCAF session.

Chapter 13. Modem-Attached Remote Workstation

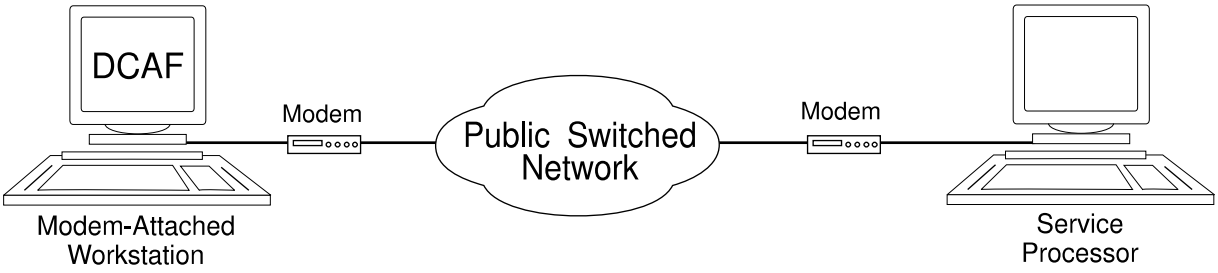


Figure 13-1. Modem-Attached Configuration

This chapter shows you how to do the following:

- Navigate a path from a remote workstation to a service processor, via public switched networks with SDLC links to modems.
- Configure a DCAF session for controlling the service processor (see Figure 13-1).

Parameters

The parameter values of your remote workstation must match the parameter values of the service processor. For more information, see the Appendix of the *Planning Guide*, GA33-0457.

If you have **more than one** target service processor, you must respect the same parameter-matching rules. For more information, refer to Appendix C, “Configuration for a Two-Target Remote Workstation.”

Modem Settings

Modem configurations in CS/2 will not work unless your modem is set correctly. To set your modem, see the following in “Settings for IBM Modems 7855, 7857, and 7858” on page 13-44.

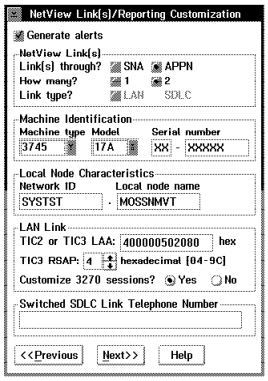
- 7855 modem, see “Setting the IBM 7855 Modem” on page 13-44.
- 7857 modem connected to MPA card, see “Setting the IBM 7857 Modem Connected to MPA Card (SYN)” on page 13-46.
- 7857 modem connected to COM1, see “Setting the 7857 Modem Connected to COM1 (ASYN)” on page 13-47.
- 7857 modem connected to COM2, see “Setting the 7857 Modem Connected to MPA Card on COM2 (ASYN)” on page 13-47.
- 7858 modem, see “Setting the IBM 7858 Modem Connected to MPA Card (SYN)” on page 13-48.
- 7858 modem connected to COM1, see “Setting the 7858 Modem Connected to COM1 (ASYN)” on page 13-48.
- 7858 modem connected to COM2, see “Setting the 7858 Modem Connected to MPA Card on COM2 (ASYN)” on page 13-48.

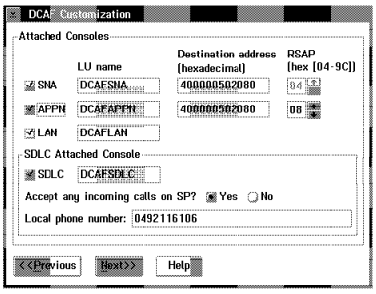
Configuring Modems in CS/2 and CM/2

The procedures for configuring your modem differ slightly if you are using CS/2 or CM/2. The procedures for CS/2 are described here; any differences from CM/2 are noted accordingly. As a guide to configuring the different types of modem, configuration files on diskette are included with this book (see “CS/2 and CM/2 Configuration Files” below).

Setting Parameter Values for Modems

You must match the parameter values in the following procedures with the matching values in MOSS-E. Entries in the **Network ID** of the **Netview Link(s)/ Reporting Customization** screen and the **SDLC** field of the **DCAF Customization** screen (see figures below) must be the same as the values in the **Connection to a Peer Node** screen (see Step 19 on page 13-10). For more information, see *Service Processor Installation and Maintenance*, SY33-2120 and SY33-2115.





CS/2 and CM/2 Configuration Files

Configuration files on diskette are included with this book to help you with configuring modems. The CS/2 configuration diskette 02L3852 and the CM/2 configuration diskette 02L3851 contain the following configuration directories:

- I7855SYN for 7855 modems in synchronous mode.
- I7855ASY for 7855 modems in asynchronous mode.
- I7857SYN for 7857 modems in synchronous mode.
- I7857ASY for 7857 modems in asynchronous mode.
- I7857AUT for 7857 modems in auto-synchronous mode.
- HAYESASY for Hayes modems in asynchronous mode.
- HAYESAUT for Hayes modems in auto-synchronous mode.

Important

Load these configuration files into the CMLIB directory of your hard disk before configuring your modem.

Modem Configuration

Tables of Procedures for Configuring Modems

The tables below apply to the following types of service processors:

- Table 13-1 for service processors 9577 and 9585.
- Table 13-2 on page 13-4 for service processor 3172.
- Table 13-3 on page 13-5 for service processor 7585.

Each table contains the page numbers of procedures that apply to your modem.

Table of Procedures for Service Processors 9577 and 9585

Table 13-1. Modem Connections between a Remote Workstation and Target Service Processors 9577 and 9585

9585 and 9577 (Connection Type and Mode)	Modem Type	Remote Workstation DCAF Modem Type									
		MPA Card Connection			COM1 Port Connection						
		7855	7857	7858	7855	7857		7858		Hayes	
		SYNC			ASY	ASY	AUTO	ASY	AUTO	ASY	AUTO
MPA Card SYNC	7855	Page 13-5	Page 13-10	Page 13-10	-	-	Page 13-26	-	Page 13-26	-	Page 13-36
	7857	Page 13-5	Page 13-10	Page 13-10	-	-	Page 13-26	-	Page 13-26	-	Page 13-36
	7858	Page 13-5	Page 13-10	Page 13-10	-	-	Page 13-26	-	Page 13-26	-	Page 13-36
	INT	Page 13-5	Page 13-10	Page 13-10	-	-	Page 13-26	-	Page 13-26	-	Page 13-36
COM1 ASY	7857	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-
	7858	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-
	Hayes	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-

Note:

MPA Multi-protocol Adapter Card

SYNC Synchronous Mode

ASY Asynchronous Mode

AUTO Auto-Synchronous Mode

Table of Procedures for Service Processor 3172

Table 13-2. Modem Connections between a Remote Workstation and a Target Service Processor 3172

3172 (Connection Type and Mode)	Modem Type	Remote Workstation DCAF Modem Type									
		MPA Card Connection			COM1 Port Connection						
		7855	7857	7858	7855	7857		7858		Hayes	
		SYNC			ASY	ASY	AUTO	ASY	AUTO	ASY	AUTO
MPA Card SYNC	7855	Page 13-5	Page 13-10	Page 13-10	-	-	Page 13-26	-	Page 13-26	-	Page 13-36
	7857	Page 13-5	Page 13-10	Page 13-10	-	-	Page 13-26	-	Page 13-26	-	Page 13-36
	7858	Page 13-5	Page 13-10	Page 13-10	-	-	Page 13-26	-	Page 13-26	-	Page 13-36
COM1 ASY	7857	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-
	7858	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-
	Hayes	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-
MPA Card COM2	7857	-	-	-	Page 13-15	Page 13-15	-	Page 13-21	-	Page 13-31	-
	7858	-	-	-	Page 13-15	Page 13-15	-	Page 13-21	-	Page 13-31	-

Note:

MPA Multi-protocol Adapter Card

SYNC Synchronous Mode

ASY Asynchronous Mode

AUTO Auto-Synchronous Mode

Table of Procedures for Service Processor 7585

Table 13-3. Modem Connections between a Remote Workstation and a Target Service Processor 7585

7585 (Connection Type and Mode)	Modem Type	Remote Workstation DCAF Modem Type									
		MPA Card Connection			COM1 Port Connection						
		7855	7857	7858	7855	7857		7858		Hayes	
		SYNC			ASY	ASY	AUTO	ASY	AUTO	ASY	AUTO
COM1 ASY	7857	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-
	7858	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-
	Hayes	-	-	-	Page 13-15	Page 13-21	-	Page 13-21	-	Page 13-31	-

Note:

MPA Multi-protocol Adapter Card

SYNC Synchronous Mode

ASY Asynchronous Mode

AUTO Auto-Synchronous Mode

Modem 7855 in Synchronous Mode to Service Processor 9577, 9585, and 3172 via MPA Card in Synchronous Mode

Procedure 1 - Configuration File I7855SYN

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

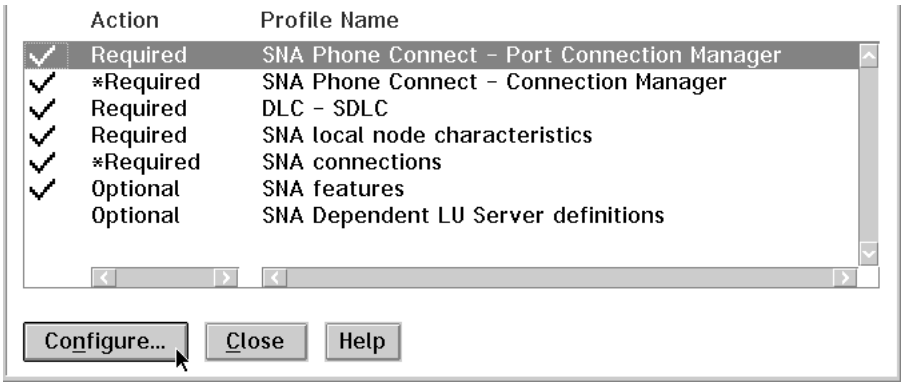
Step 2. Click **Setup**.

Step 3. Under **Directories**, double-click the CMLIB directory and double-click **I7855SYN** to display the configuration file.

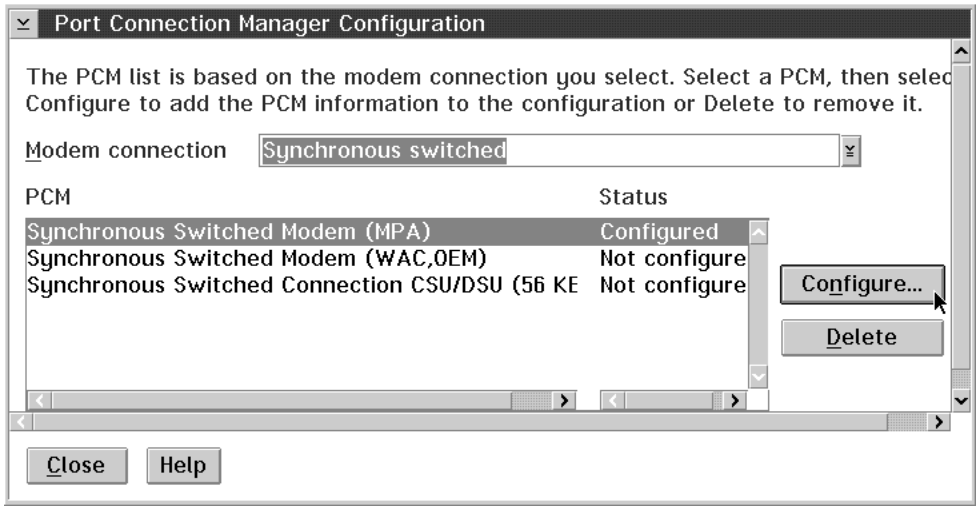
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

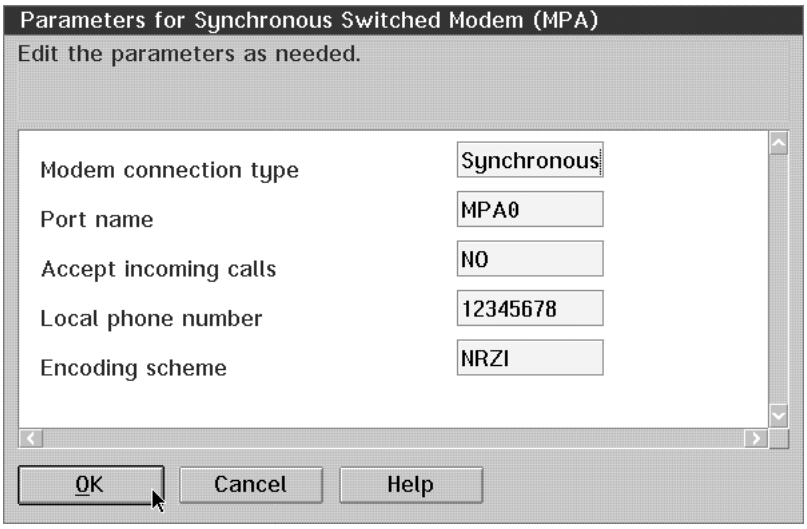
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



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



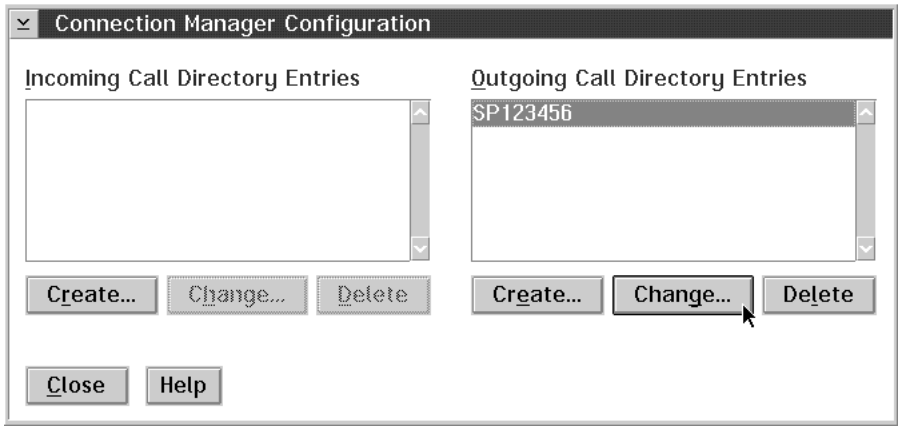
Step 8. Enter the MPA number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



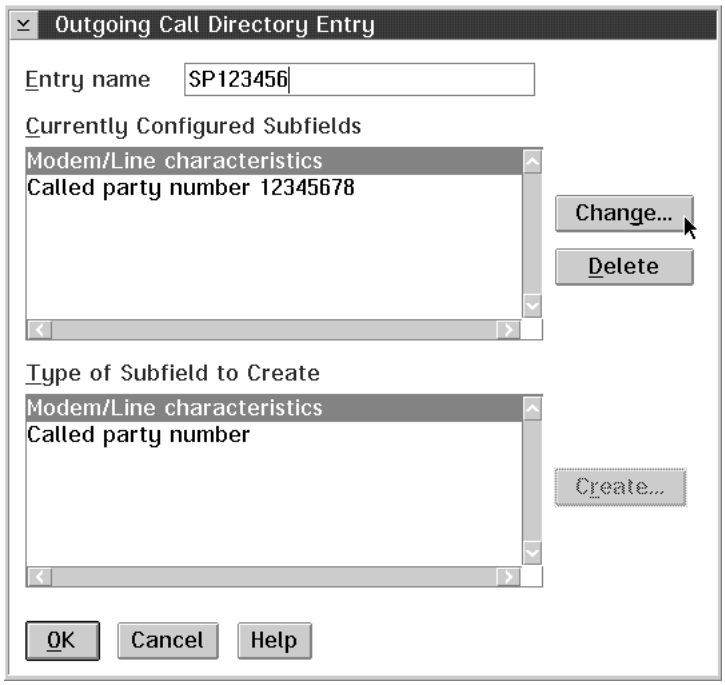
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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.



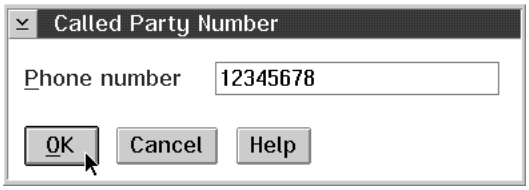
Step 11. Select **Modem/Line Characteristics** and click **Change**.



Step 12. Select **Synchronous**, **NRZI** for the encoding scheme and click **OK**.

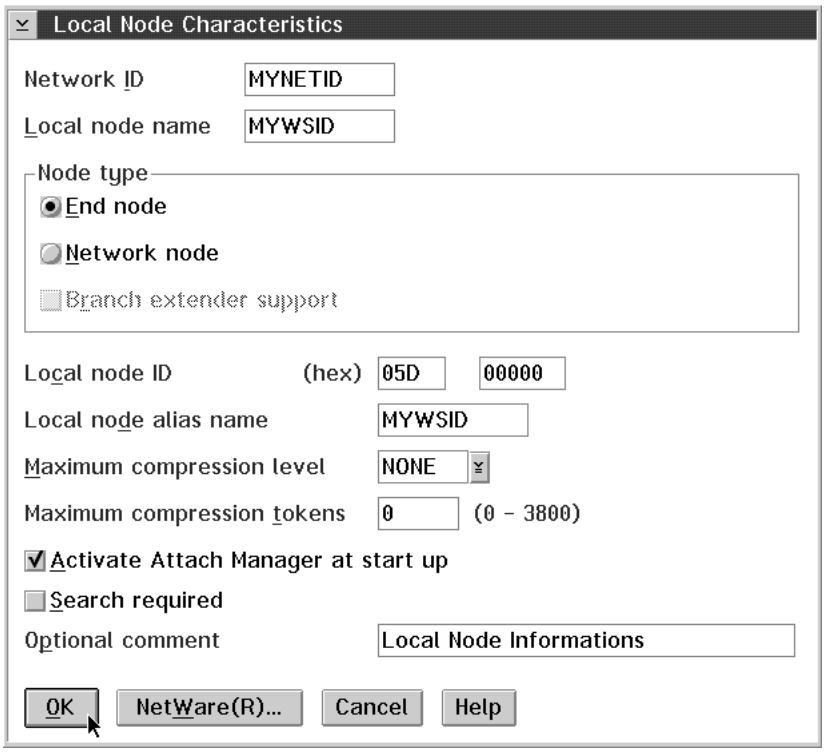
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



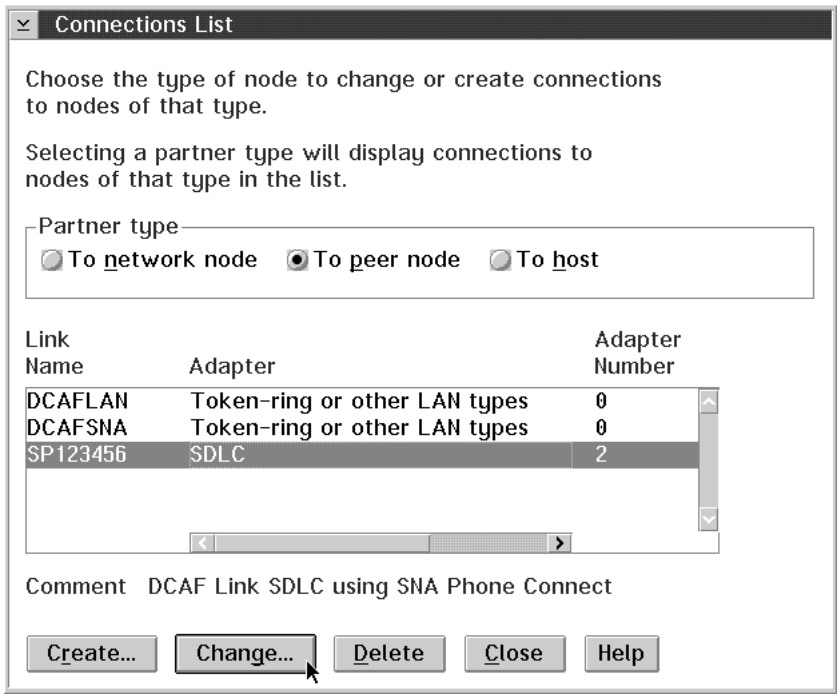
Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

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

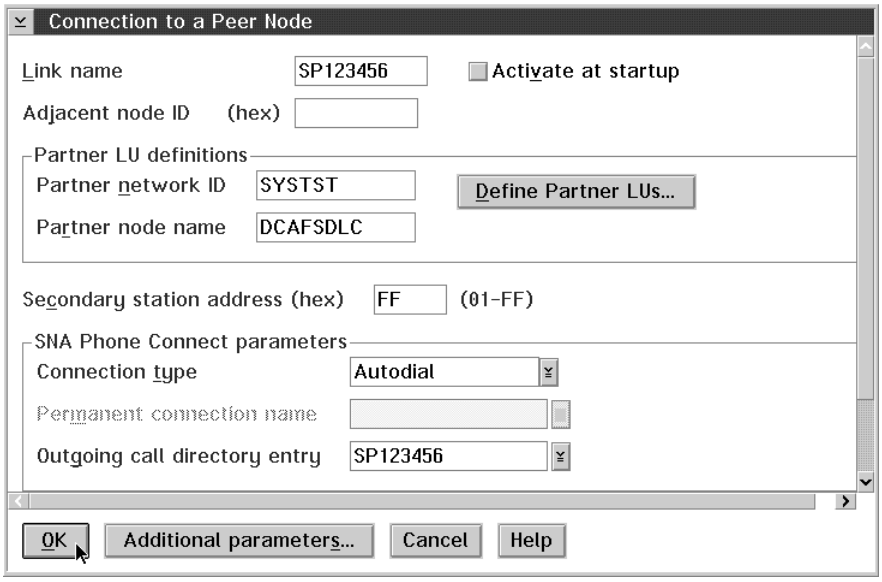


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 MOSS-E (see “Setting Parameter Values for Modems” on page 13-2). 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 “Customizing DCAF” on page 13-41 for installing a target service processor.

Modem 7855 in Asynchronous Mode to Service Processor 9577, 9585, 3172, and 7585 via Serial Port

Procedure 2 - Configuration File I7855ASY

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

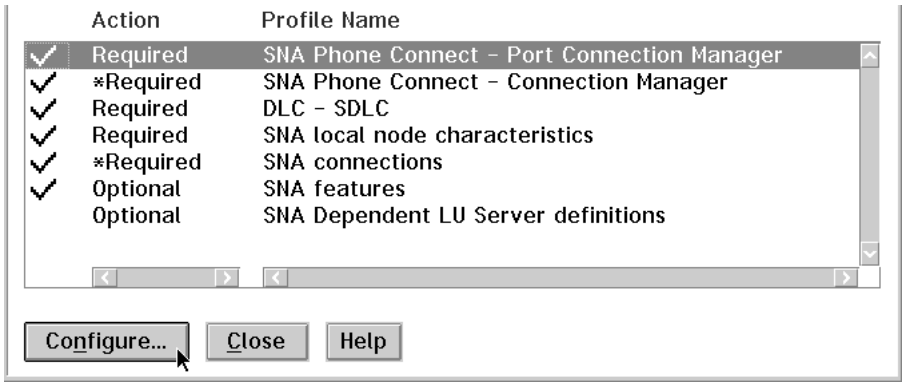
Step 2. Click **Setup**.

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

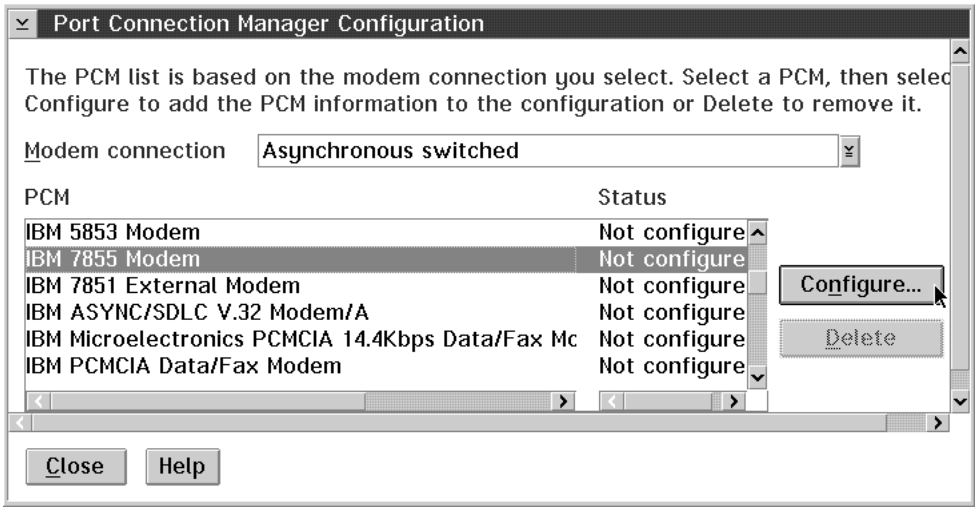
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

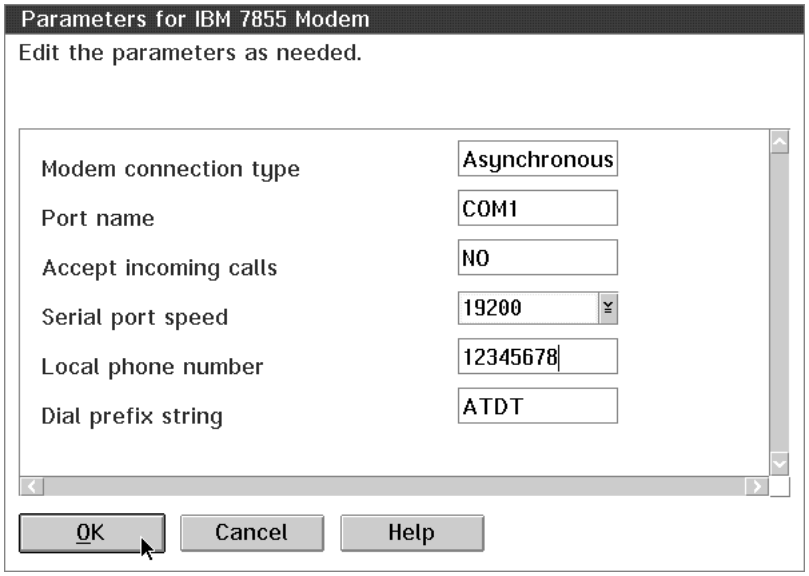
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



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



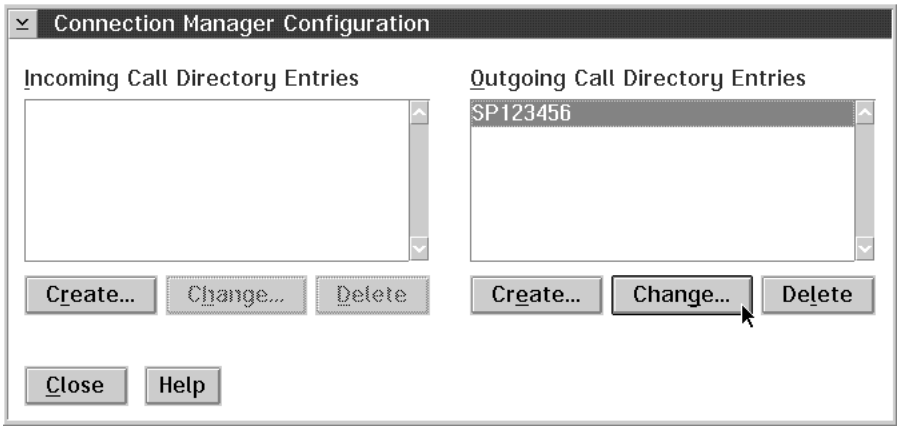
Step 8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



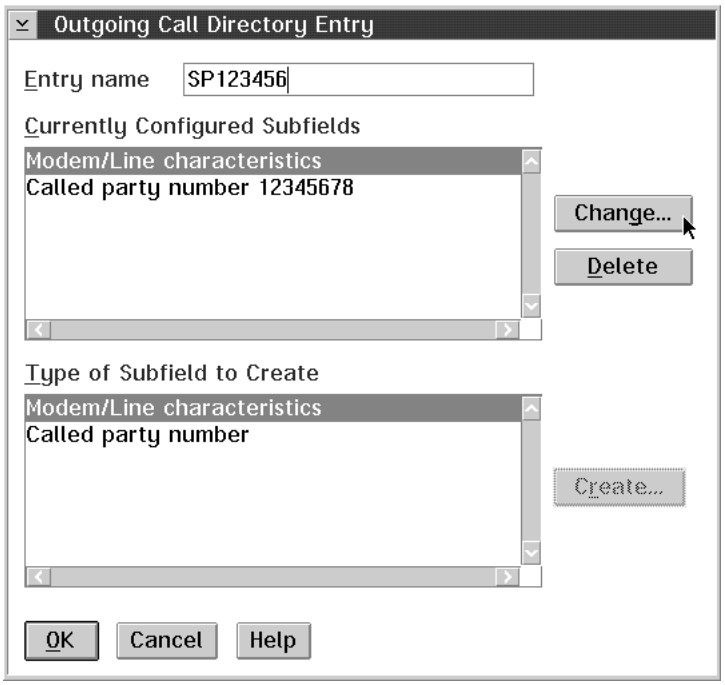
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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.



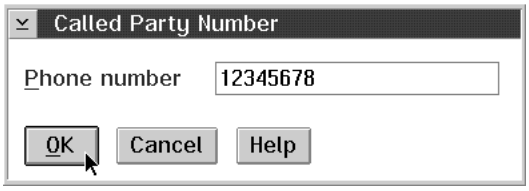
Step 11. Select **Modem/Line Characteristics** and click **Change**.



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

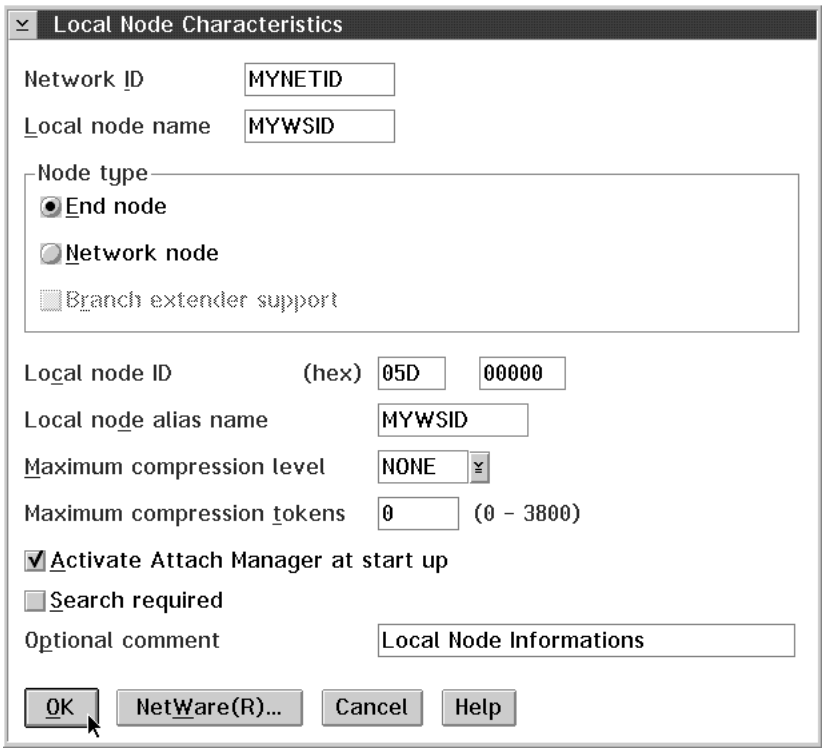
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



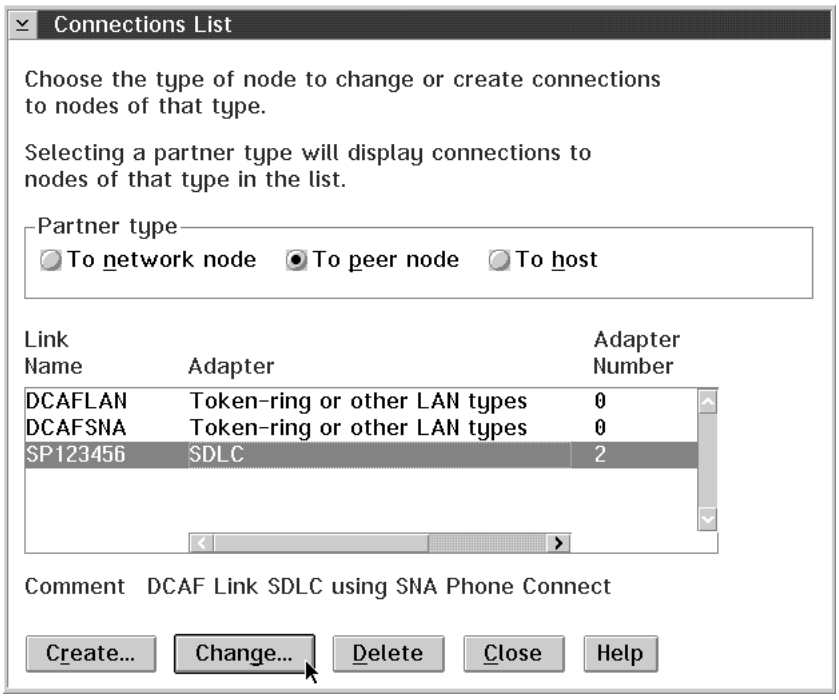
Step 15. Select **SNA local node characteristics** and click **Configure** and **Continue**.

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

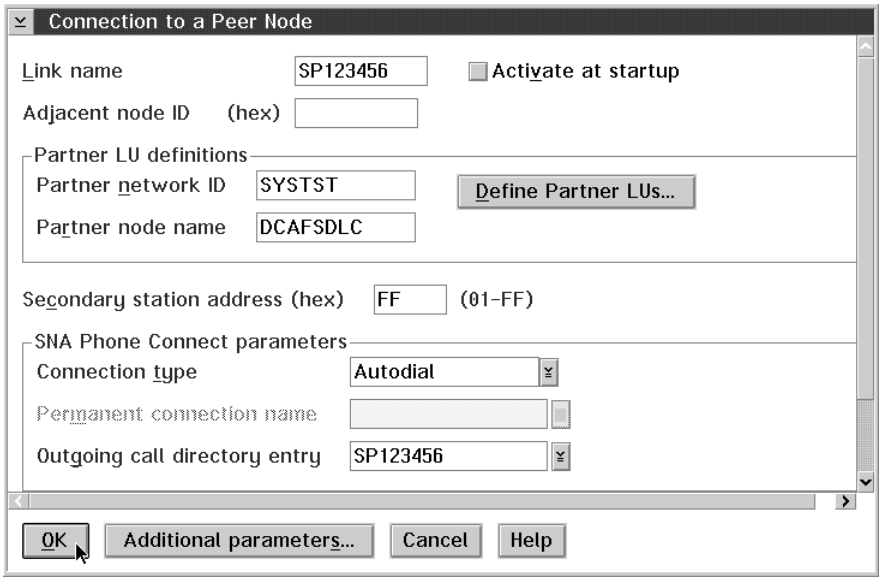


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 MOSS-E (see “Setting Parameter Values for Modems” on page 13-2). 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 “Customizing DCAF” on page 13-41 for installing a target service processor.

Modem 7857 in Synchronous Mode to Service Processor 9577, 9585, and 3172 via MPA Card in Synchronous Mode

Procedure 3 - Configuration File I7857SYN

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

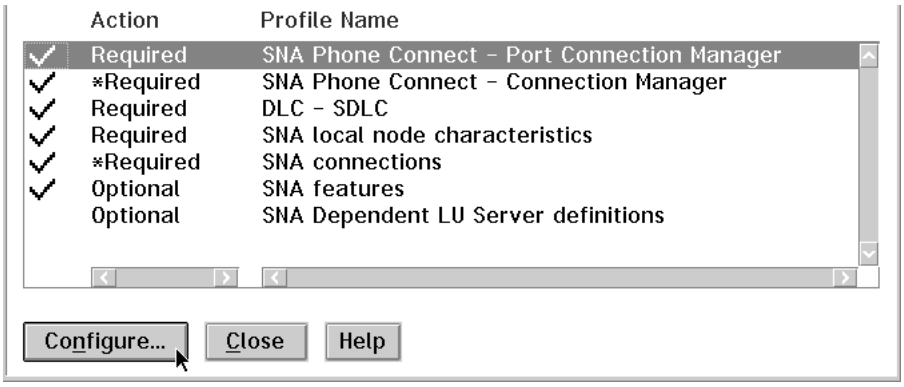
Step 2. Click **Setup**.

Step 3. Under **Directories**, double-click the CMLIB directory and double-click **I7857SYN** to display the configuration file.

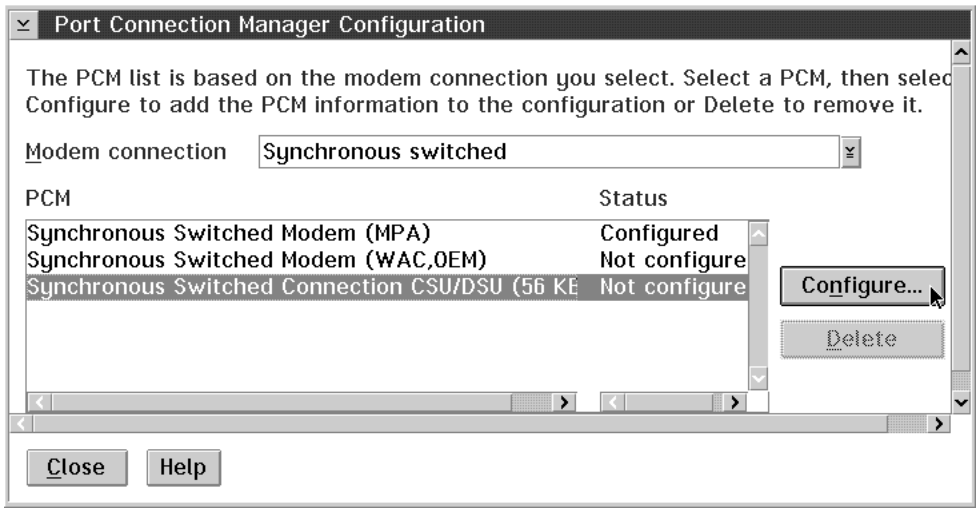
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

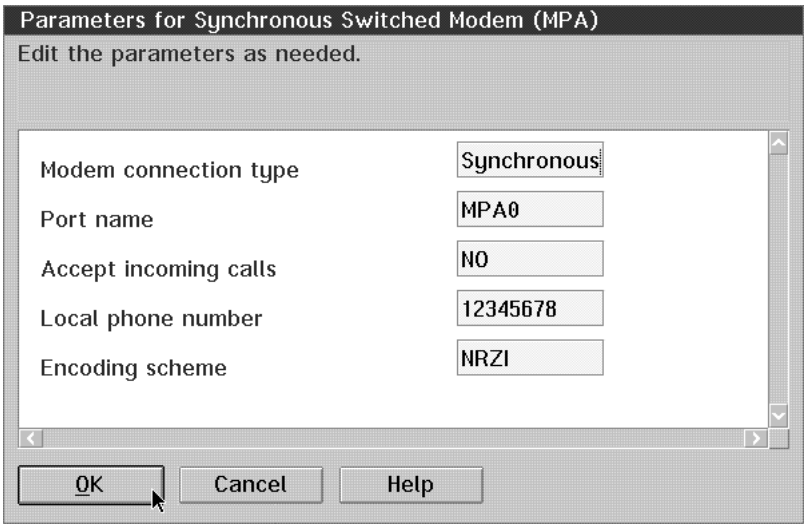
Step 6. Select **SNA Phone Connect - Port Connection Manager** and click **Configure** and **Continue**.



Step 7. Select **Synchronous switched**, **CSU/DSU** modem type and click **Configure**.



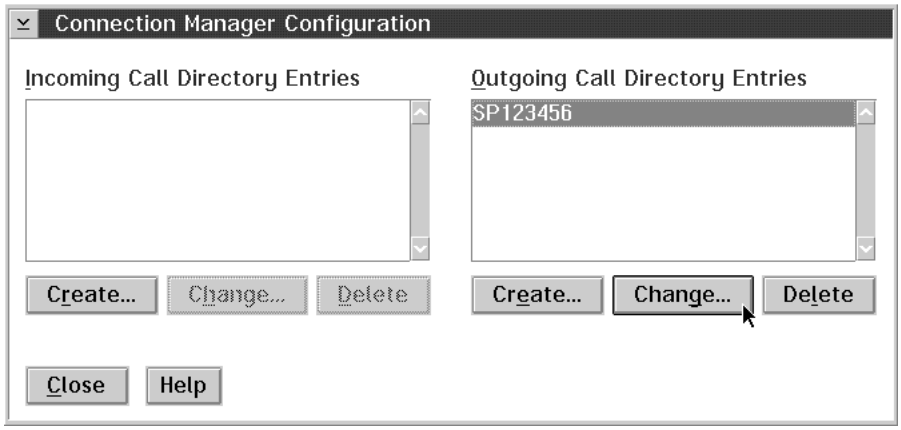
Step 8. Enter the MPA number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



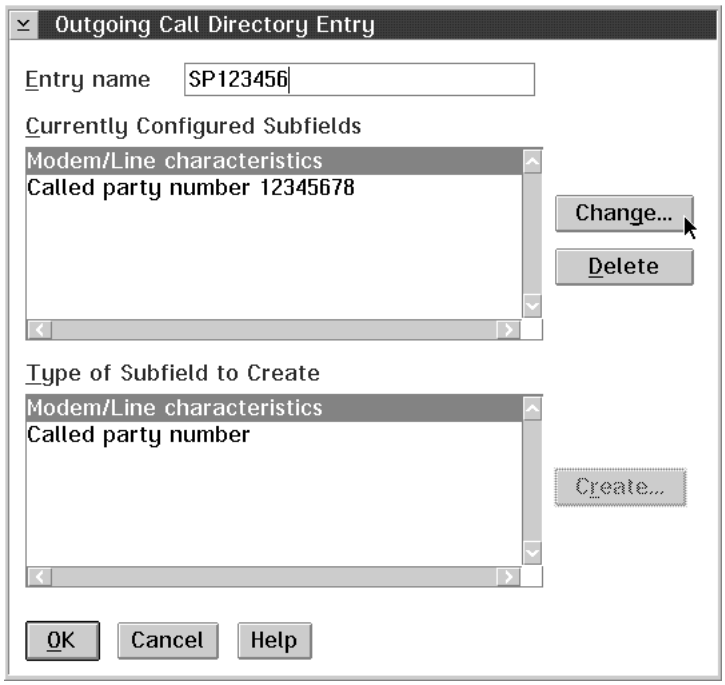
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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

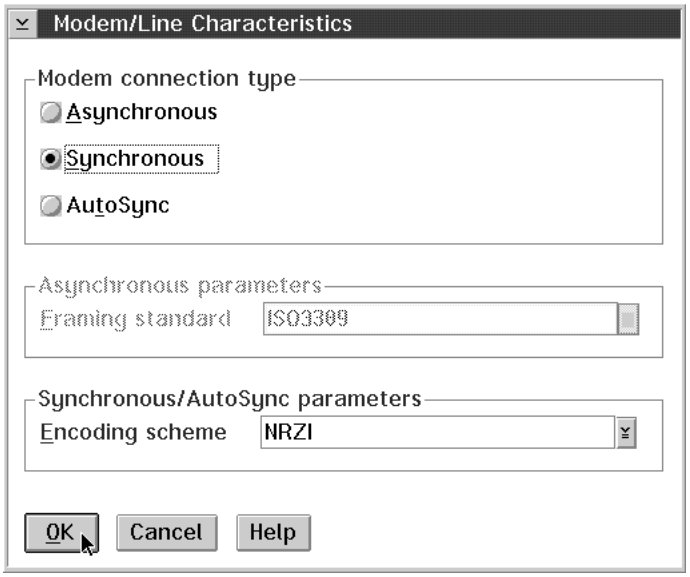
Note: The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.



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

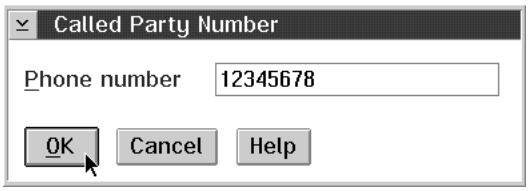


Step 12. Select **Synchronous**, **NRZI** for the encoding scheme and click **OK**.



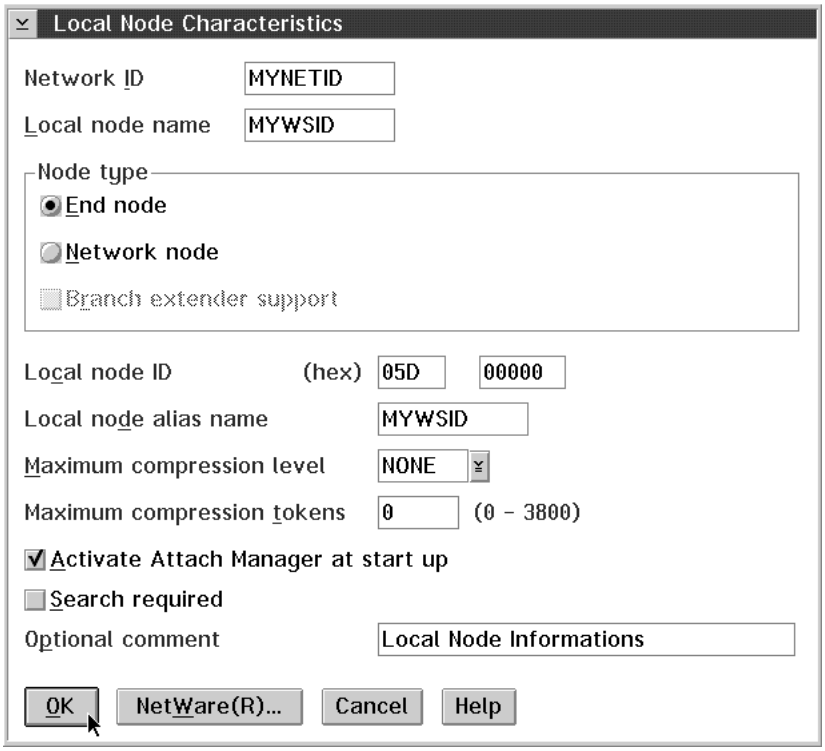
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



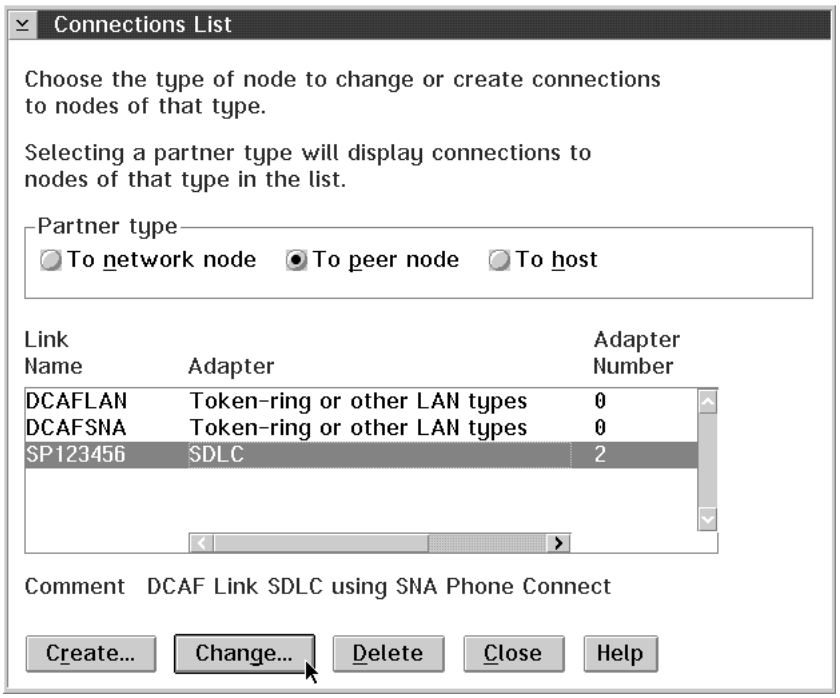
Step 15. Select **SNA local node characteristics** and click **Configure** and **Continue**.

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

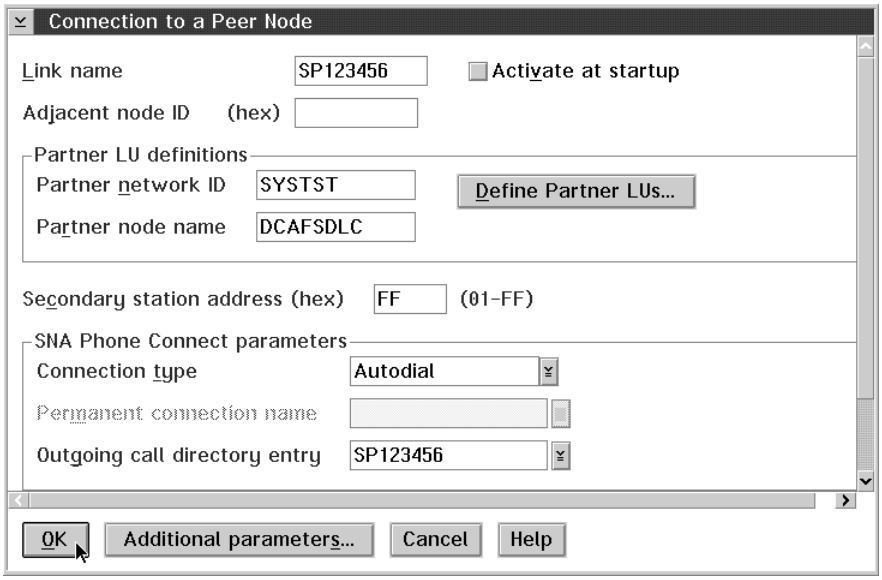


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 MOSS-E (see “Setting Parameter Values for Modems” on page 13-2). 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 “Customizing DCAF” on page 13-41 for installing a target service processor.

Modem 7857 in Asynchronous Mode to Service Processor 9577, 9585, 3172, and 7585 via Serial Port

Procedure 4 - Configuration file I7857ASY

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

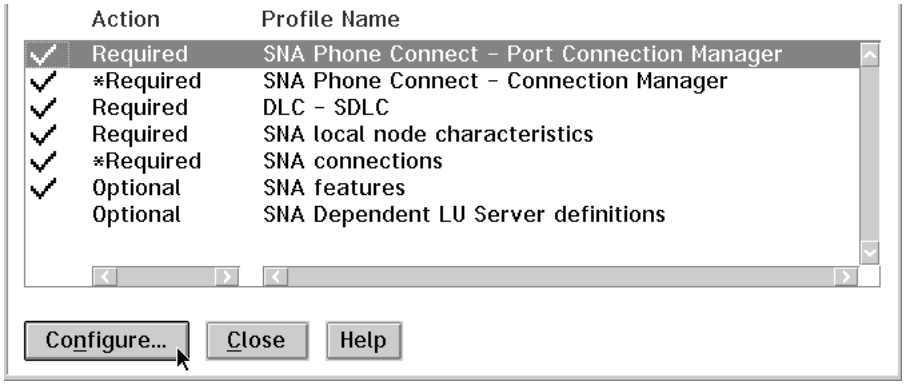
Step 2. Click **Setup**.

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

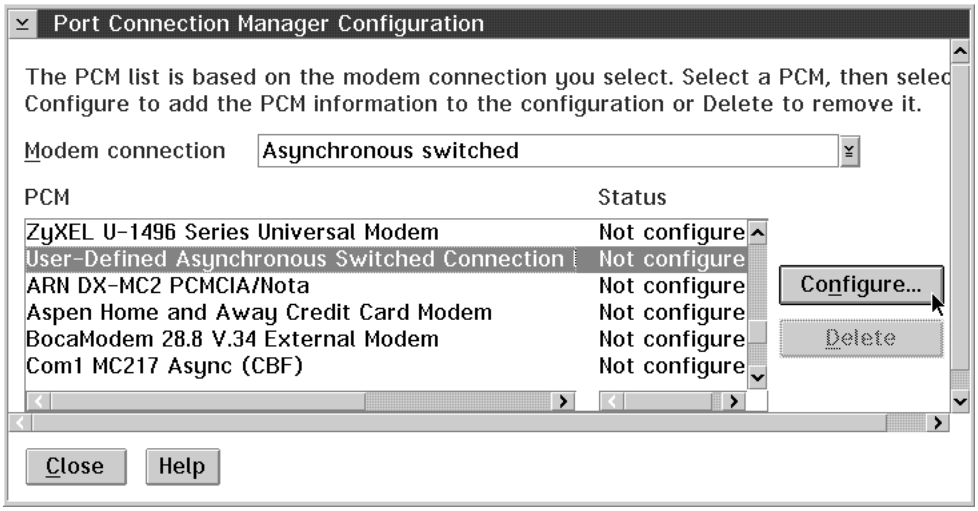
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

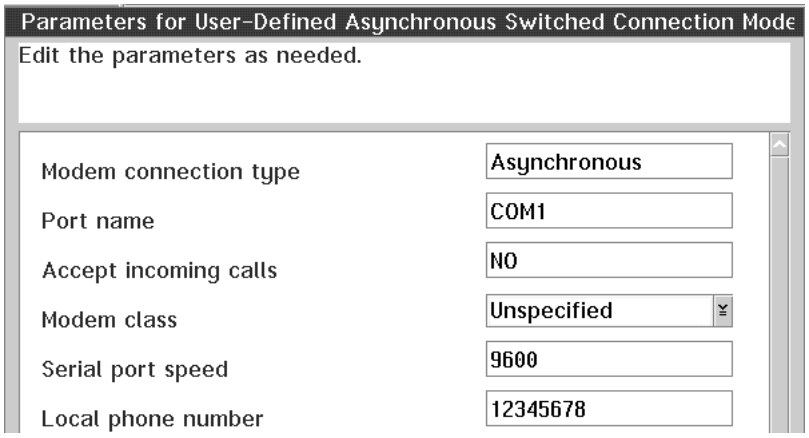
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



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



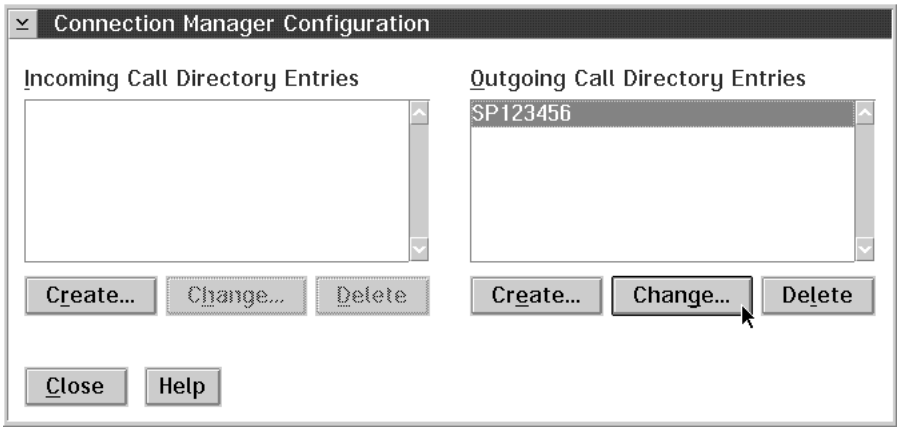
Step 8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



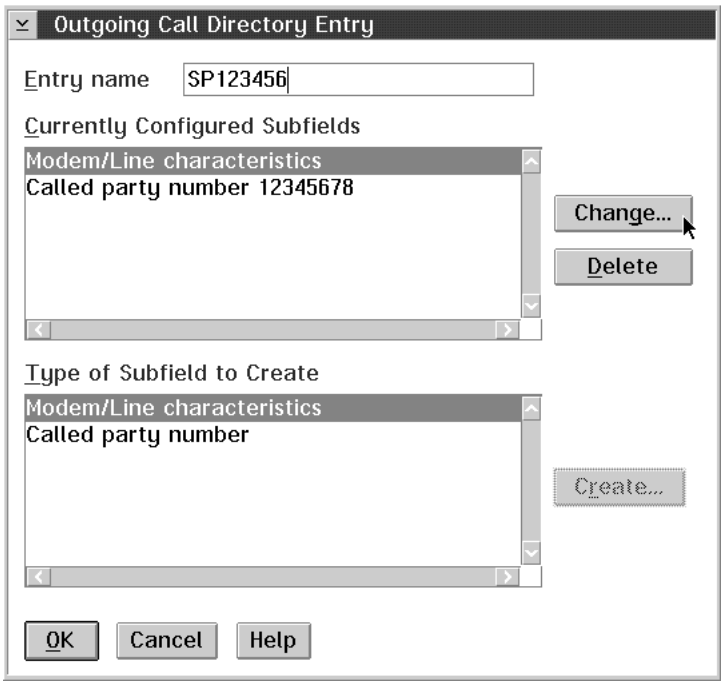
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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

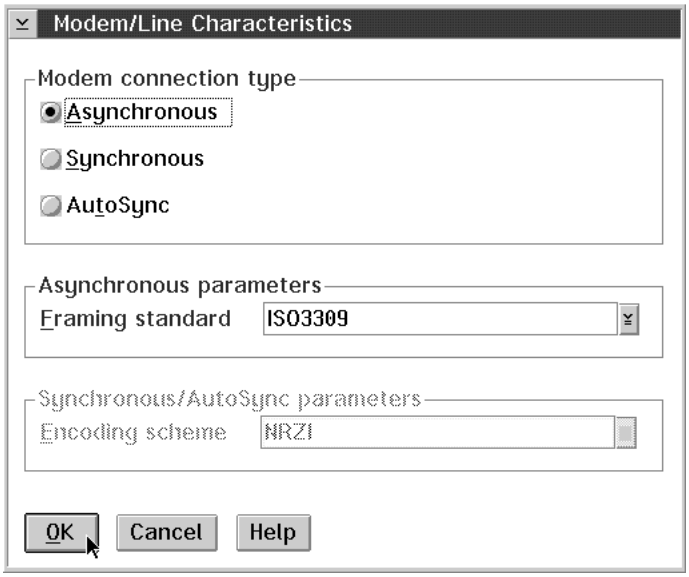
Note: The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.



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

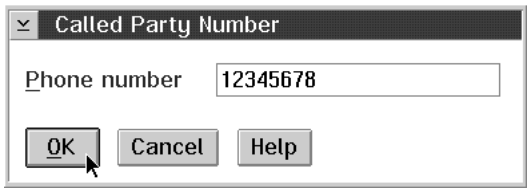


Step 12. Select **Asynchronous**, **ISO3309** as the framing standard and click **OK**.



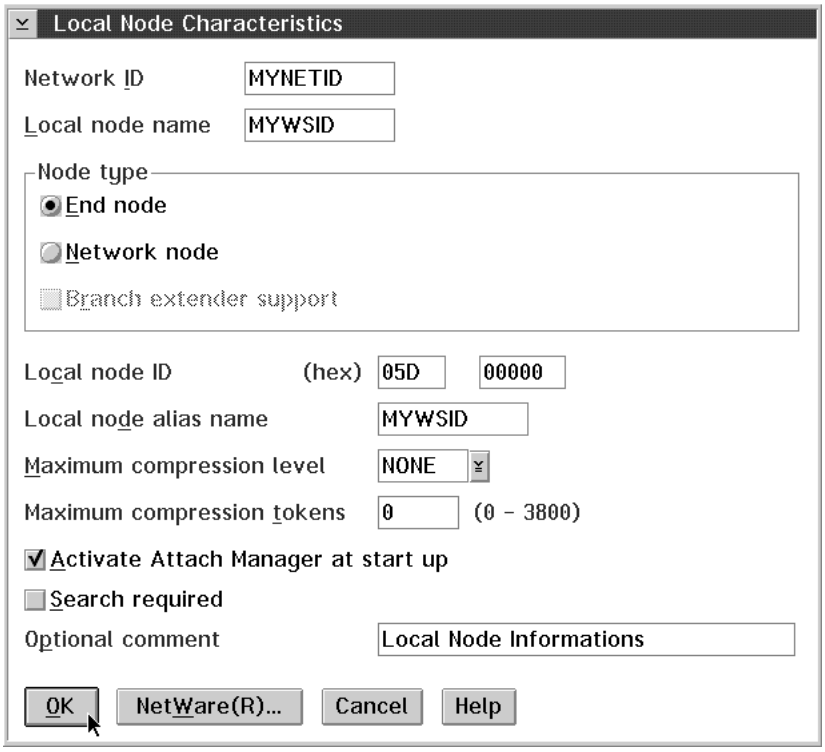
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



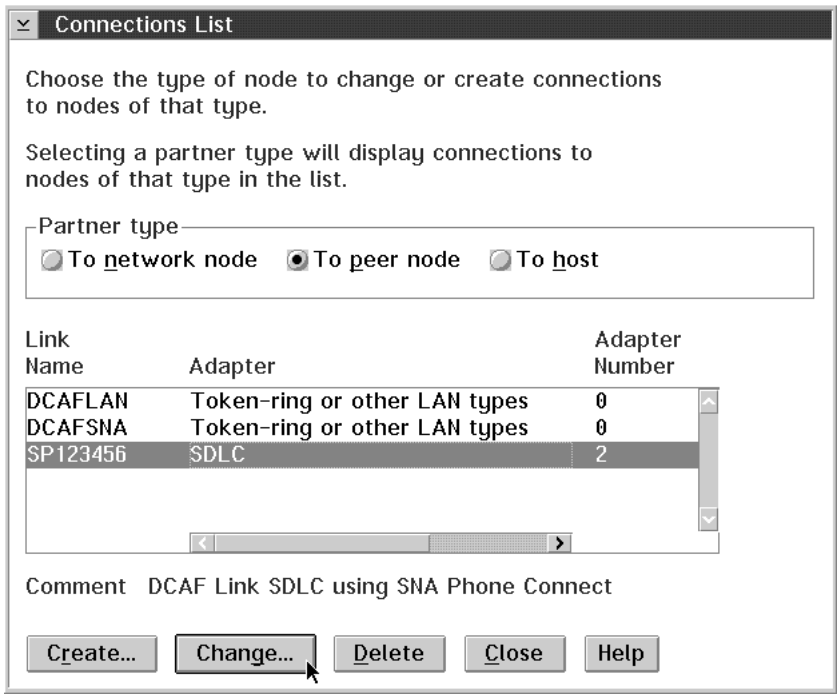
Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

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

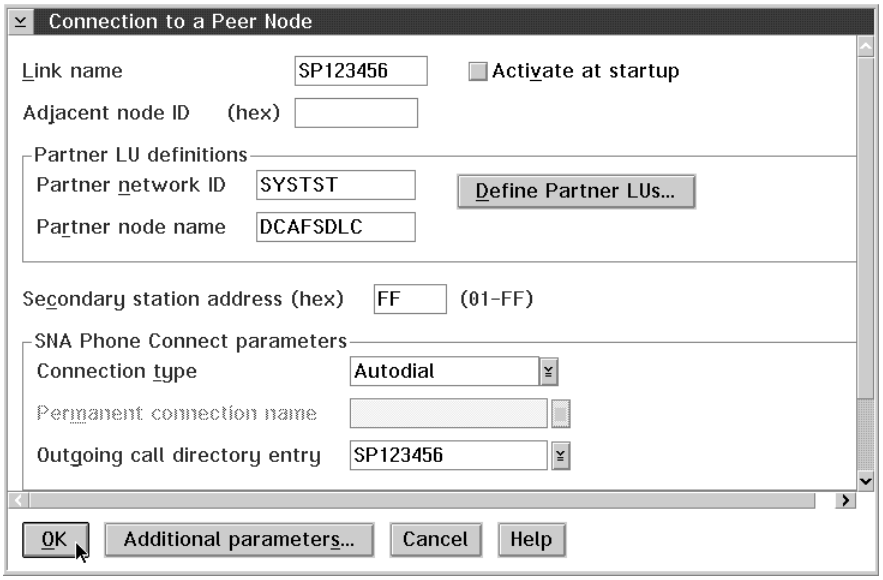


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 MOSS-E (see “Setting Parameter Values for Modems” on page 13-2). 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 “Customizing DCAF” on page 13-41 for installing a target service processor.

Modem 7857 in Auto-Synchronous Mode to Service Processor 9577, 9585, and 3172 via MPA Card in Synchronous Mode

Procedure 5 - Configuration file I7857AUT

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

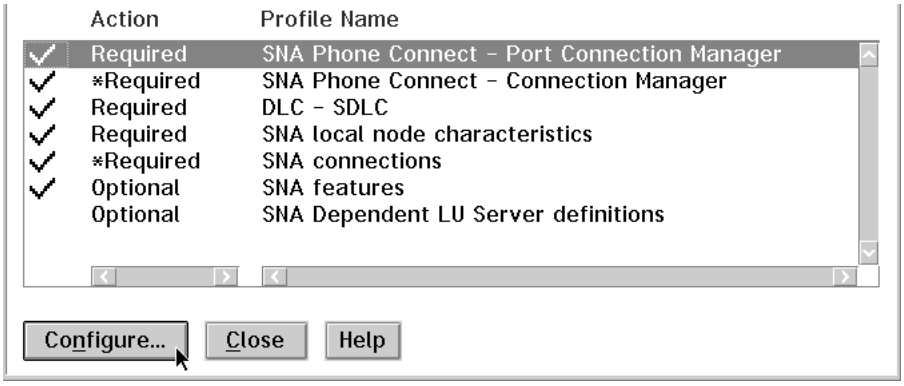
Step 2. Click **Setup**.

Step 3. Under **Directories**, double-click the CMLIB directory and double-click **I7857AUT** to display the configuration file.

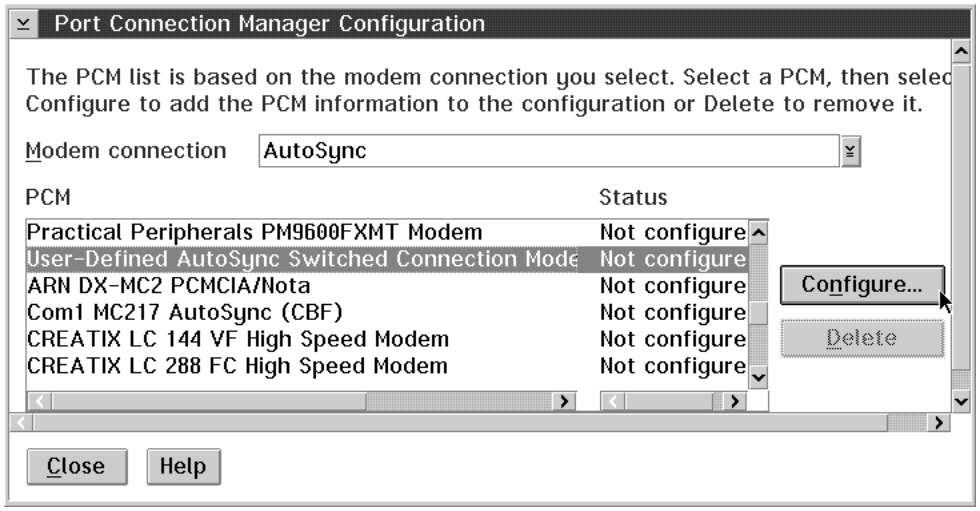
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

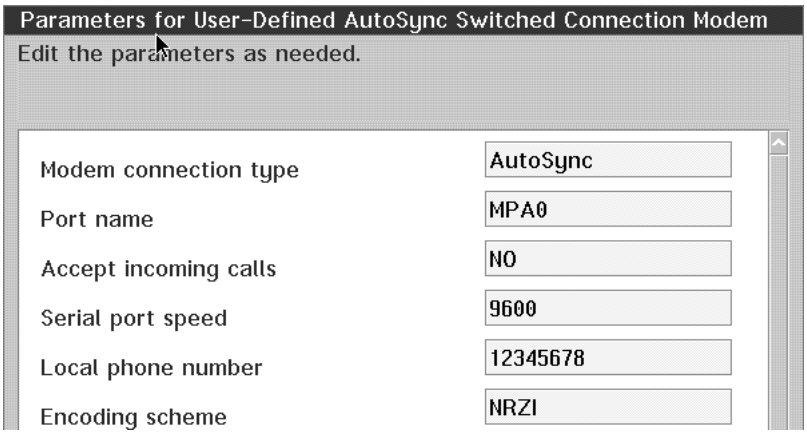
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



Step 7. Select **AutoSync**, **User defined** and click **Configure**.



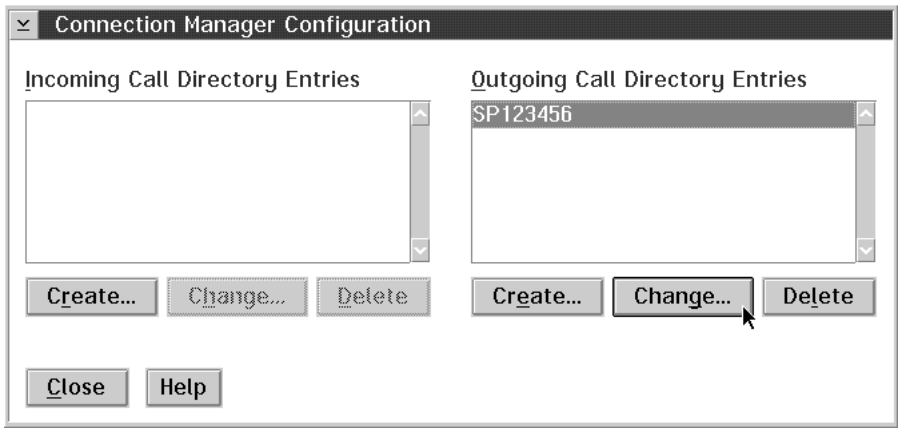
Step 8. Enter the MPA number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



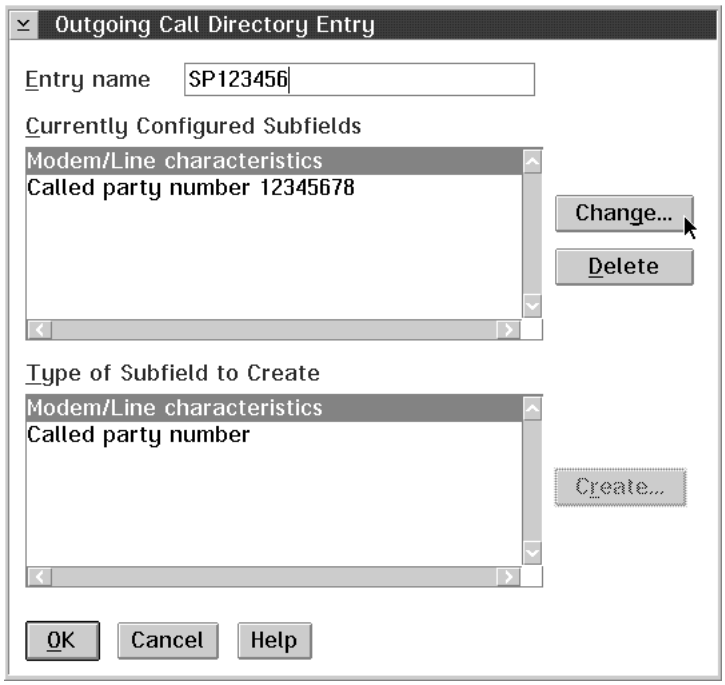
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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

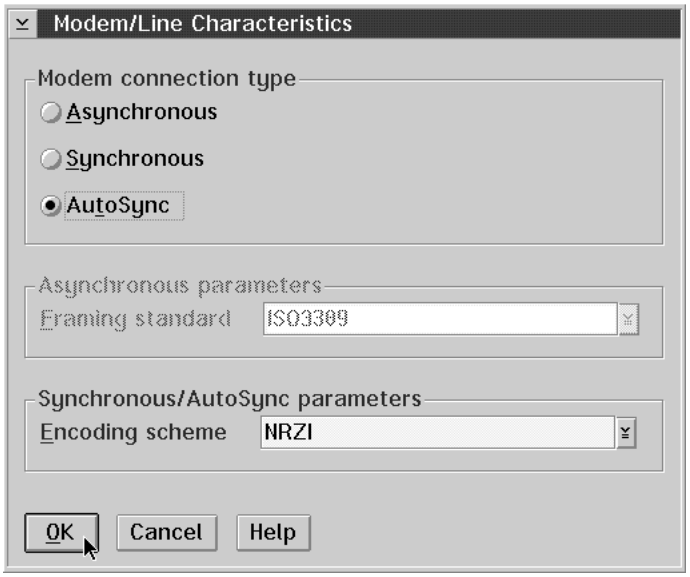
Note: The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.



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

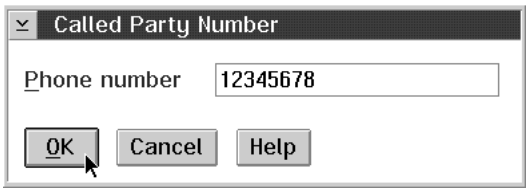


Step 12. Select **AutoSync**, **NRZI** as the encoding scheme and click **OK**.



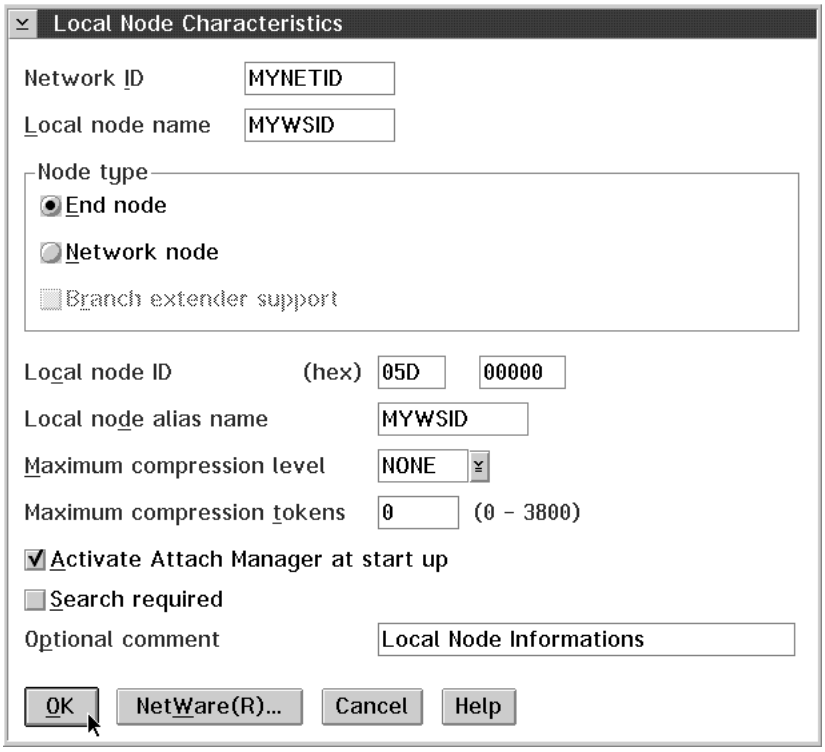
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



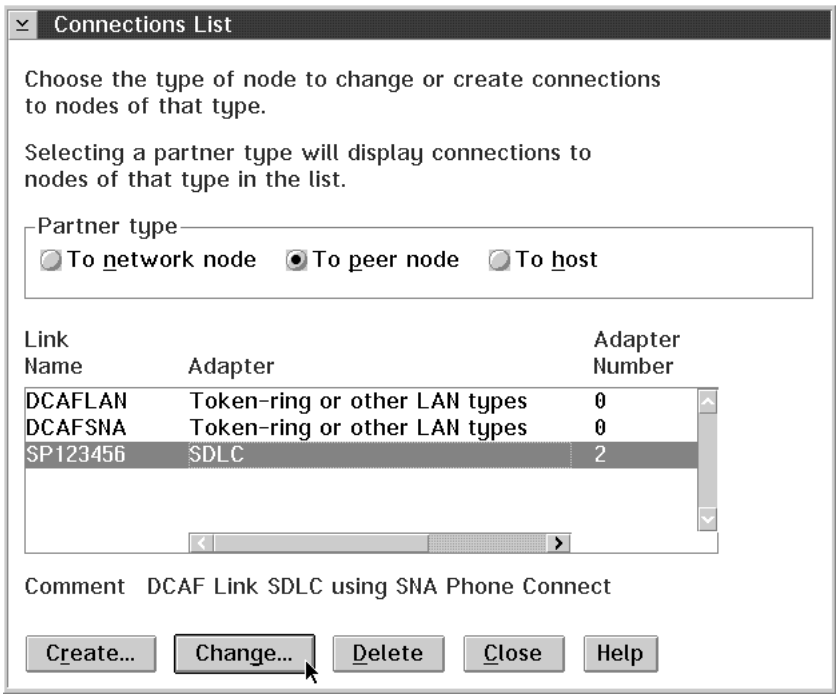
Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

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

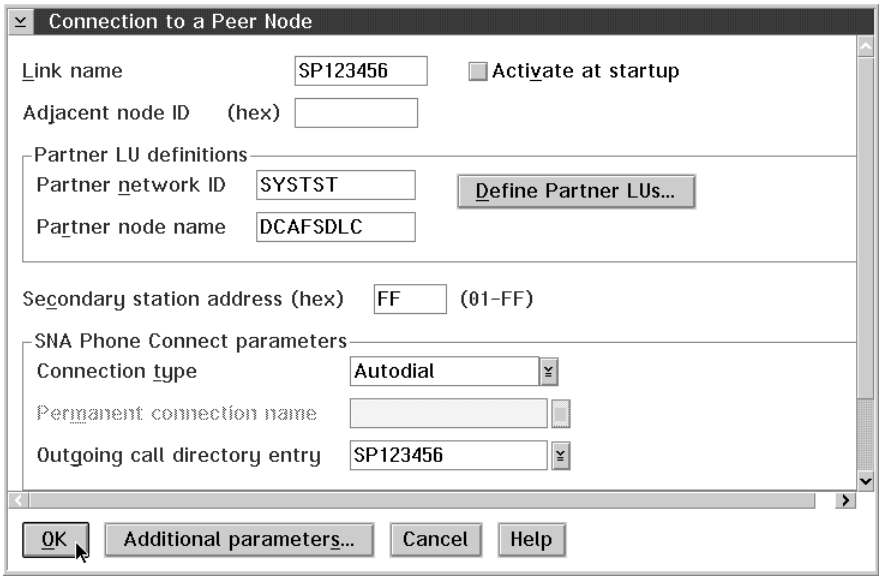


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 MOSS-E (see “Setting Parameter Values for Modems” on page 13-2). 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 “Customizing DCAF” on page 13-41 for installing a target service processor.

Hayes Modem in Asynchronous Mode to Service Processor 9577, 9585, 3172, and 7585 via Serial Port

Procedure 6 - Configuration file HAYESASY

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

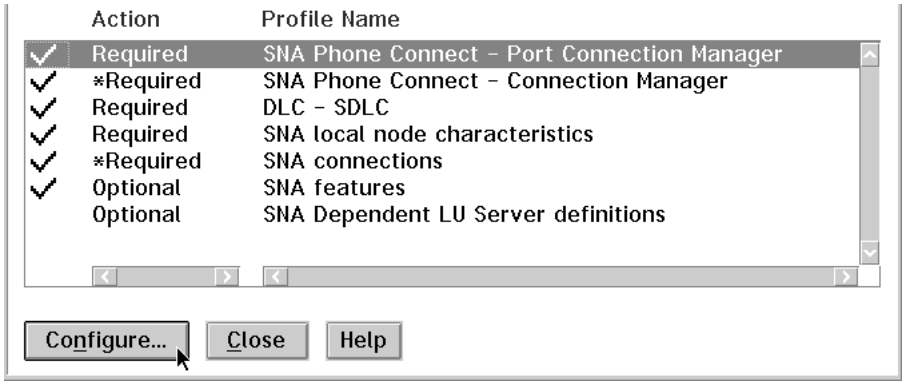
Step 2. Click **Setup**.

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

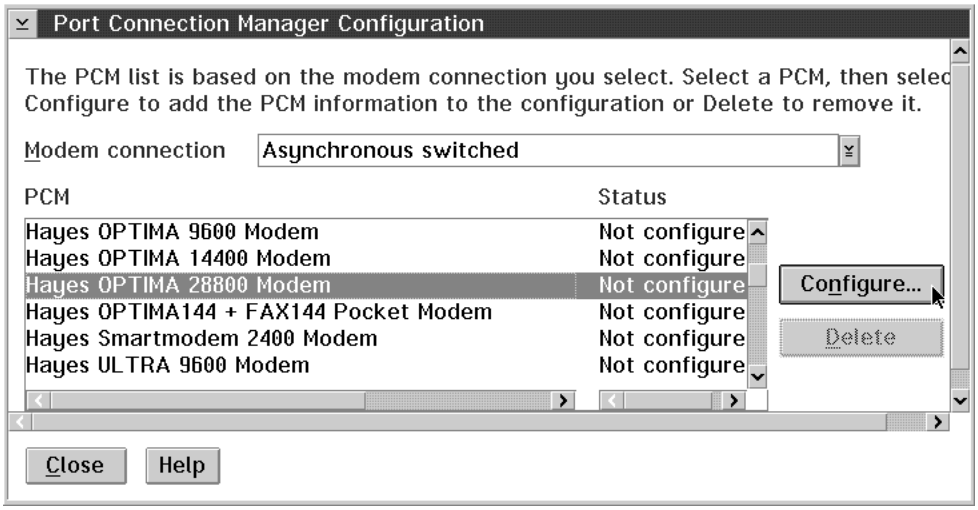
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

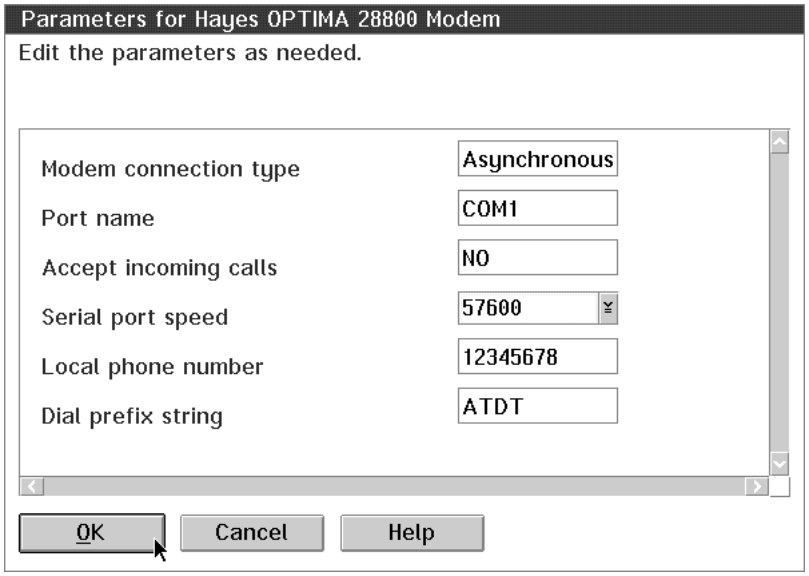
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



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



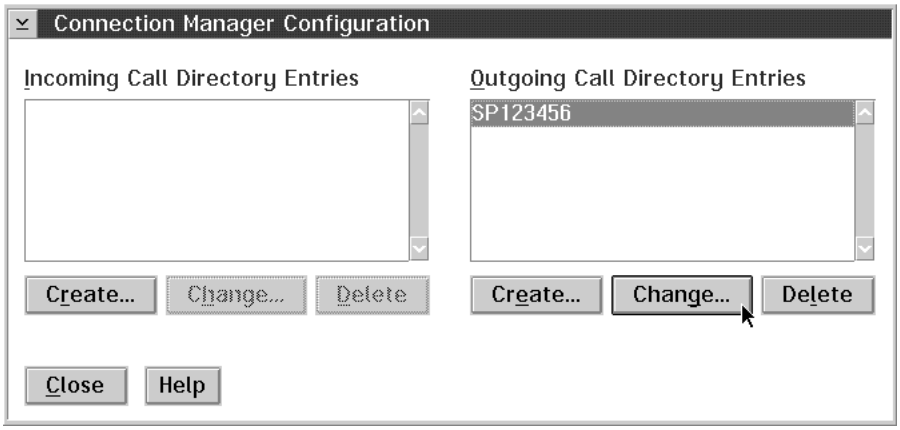
Step 8. Enter the port number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



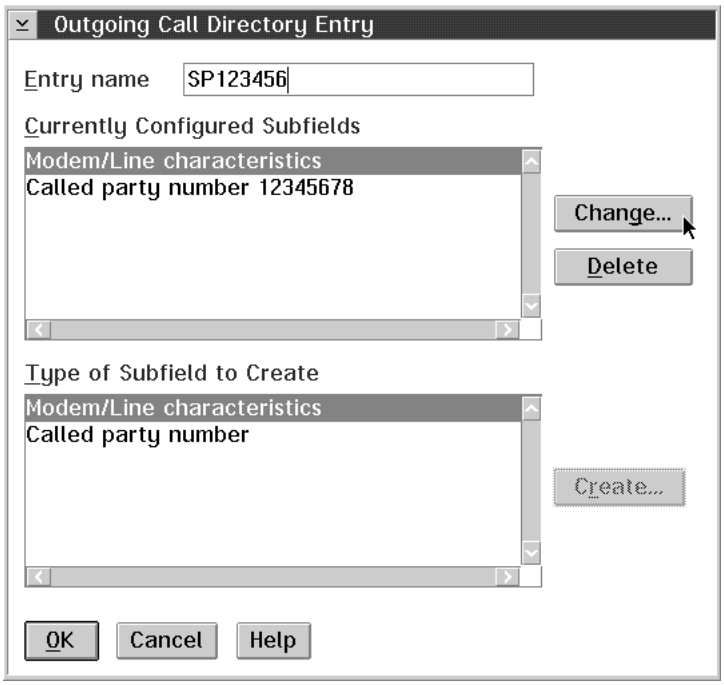
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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

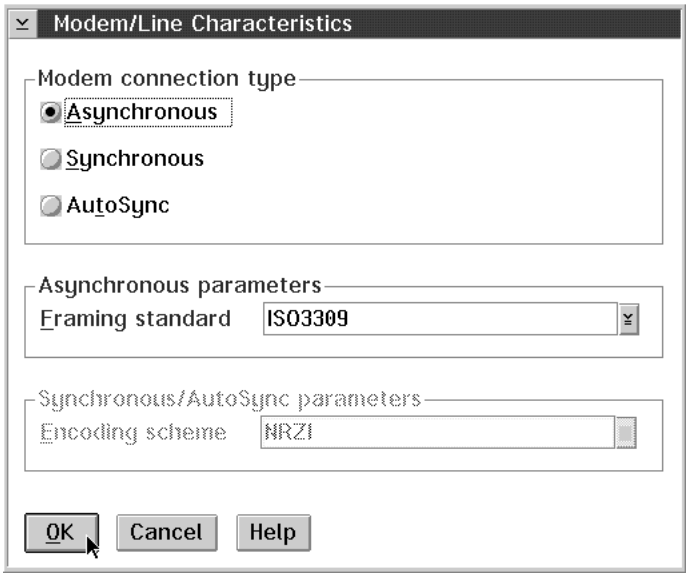
Note: The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.



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

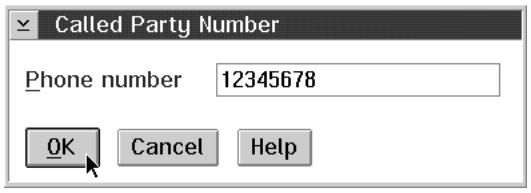


Step 12. Select **Asynchronous**, **ISO3309** as the framing standard and click **OK**.



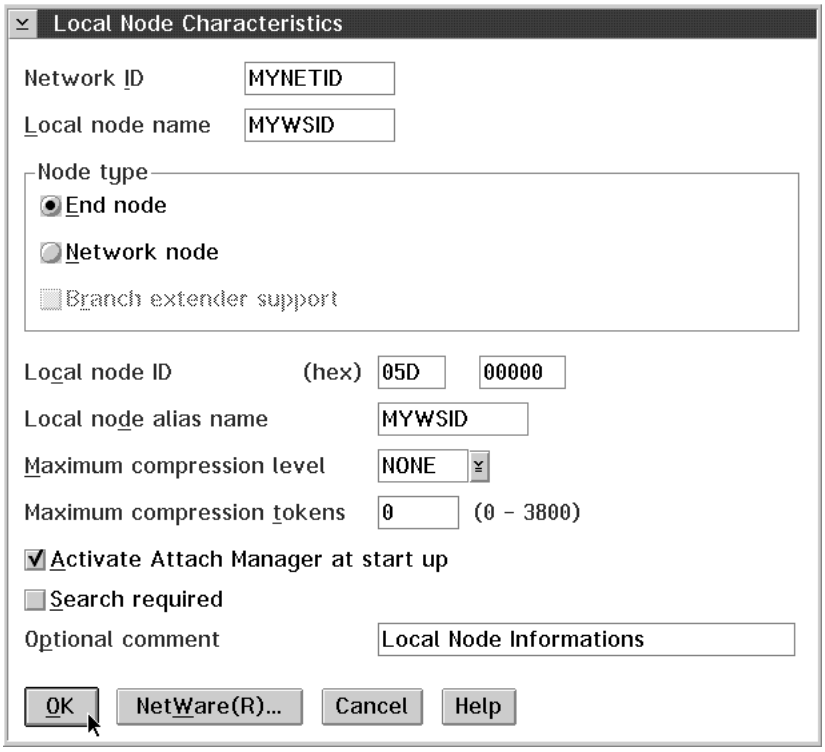
Step 13. Select **Called party number** (in CM2, this is **SP123456**) and click **Change**.

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



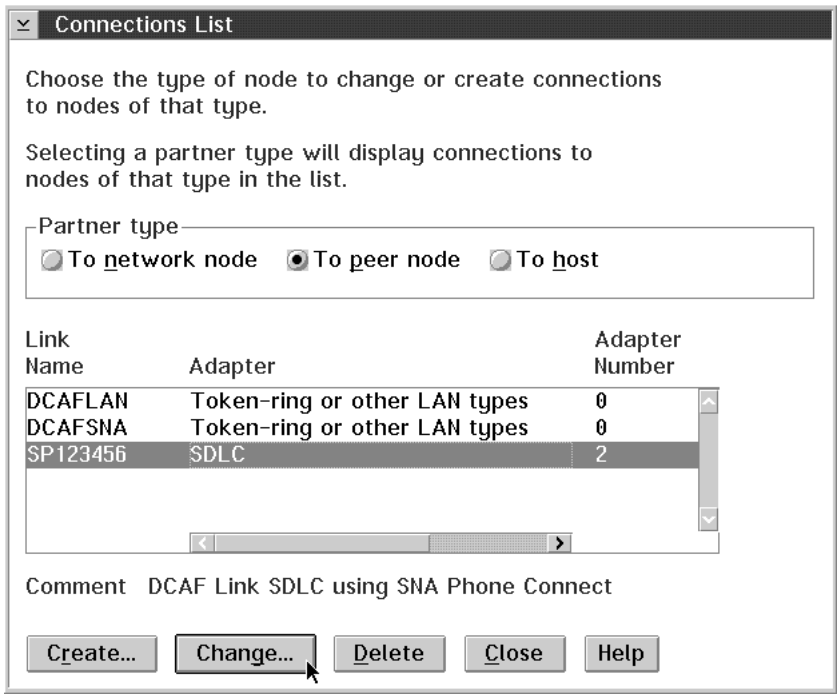
Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

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

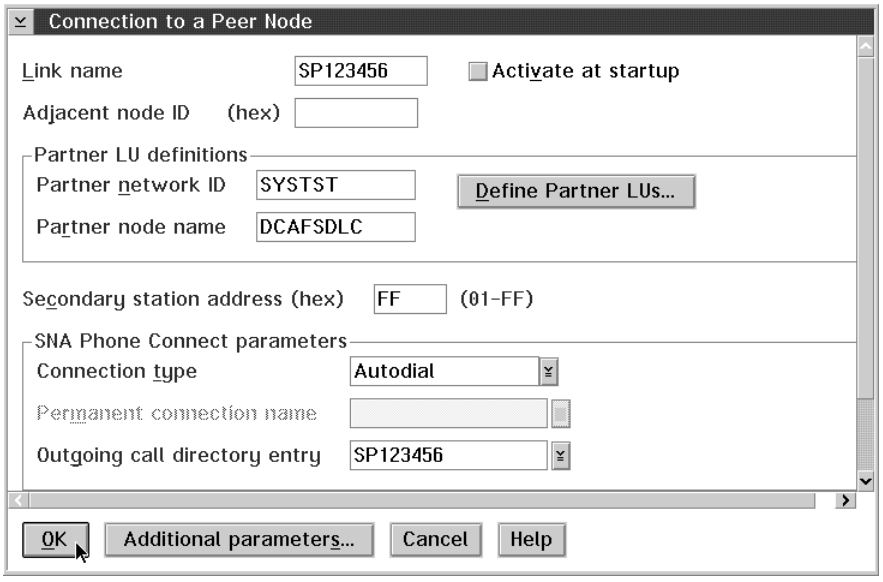


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 MOSS-E (see “Setting Parameter Values for Modems” on page 13-2). 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 “Customizing DCAF” on page 13-41 for installing a target service processor.

Hayes Modem in Auto-Synchronous Mode to Service Processor 9577, 9585, and 3172 via MPA Card in Synchronous Mode

Procedure 7 - Configuration file HAYESAUT

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

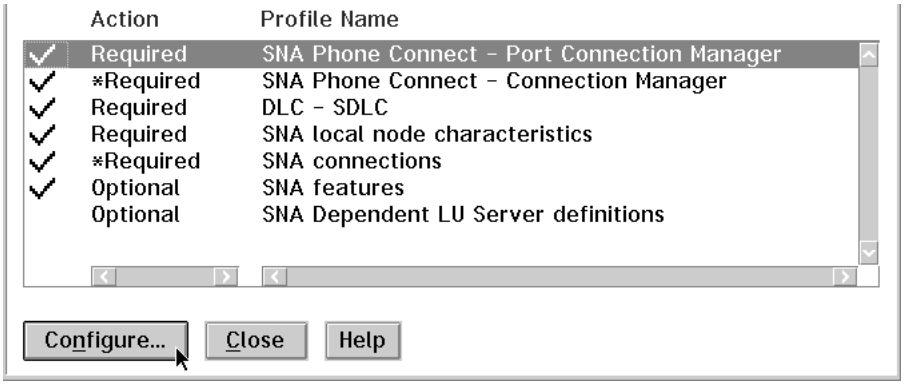
Step 2. Click **Setup**.

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

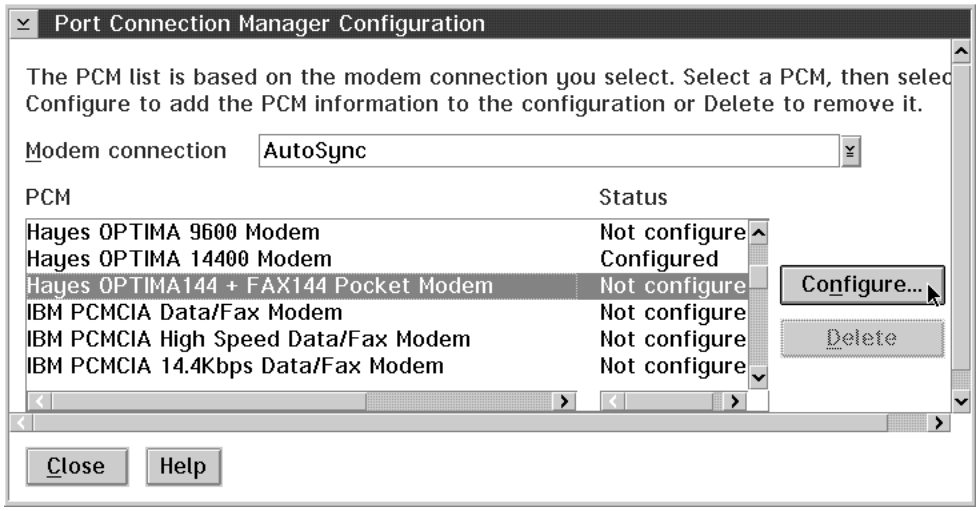
Step 4. Click **OK**. A message prompts you to select the configuration file for your workstation. Click **OK** and then **Continue**.

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

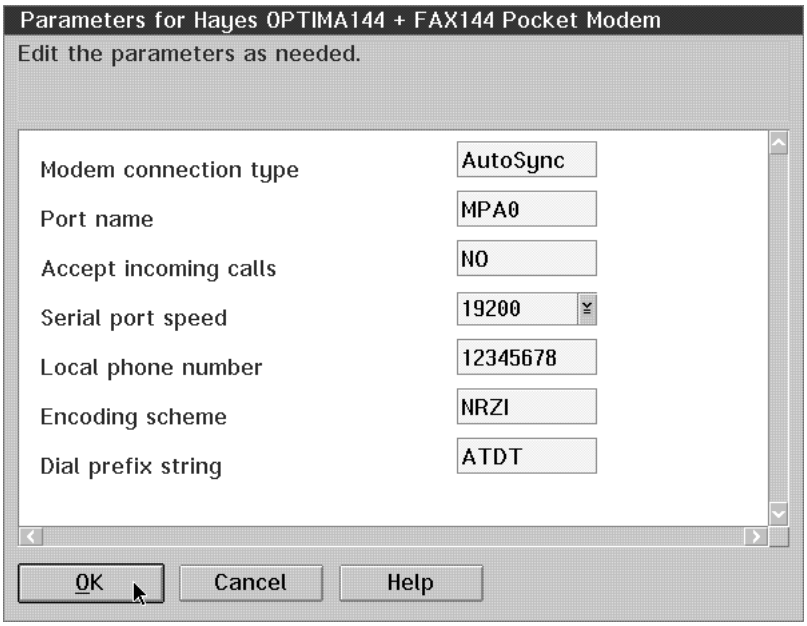
Step 6. Select **SNA Phone Connect - Port Connection Manager**, click **Configure** and **Continue**.



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



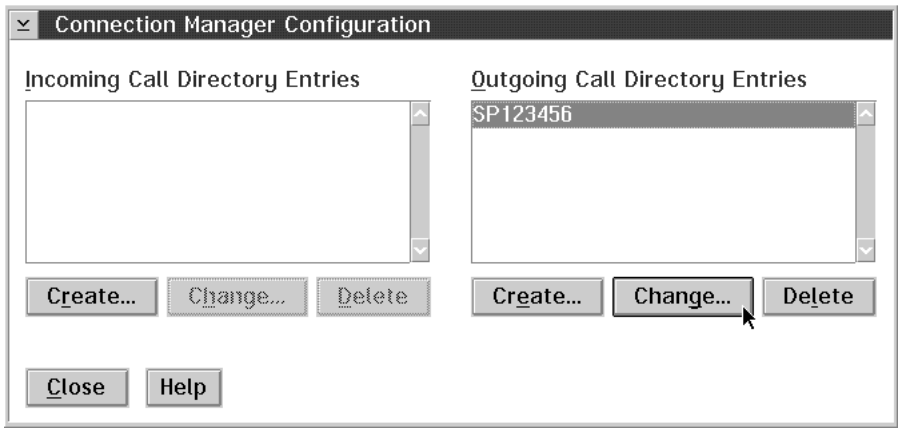
Step 8. Enter the MPA number in the **Port name** field, the number of your modem in the **Local phone number** field, click **OK** and **Close**.



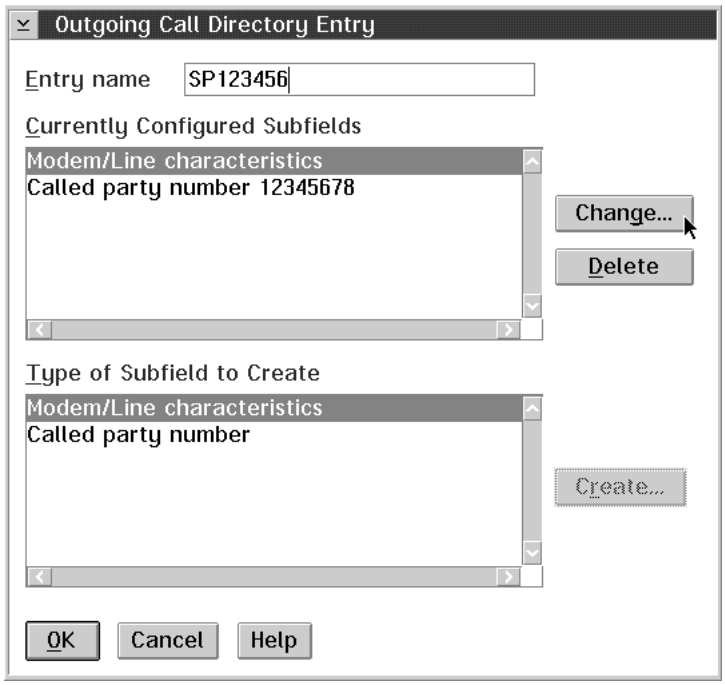
Step 9. Select **SNA Phone Connect - Connection Manager** and click **Configure**.

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

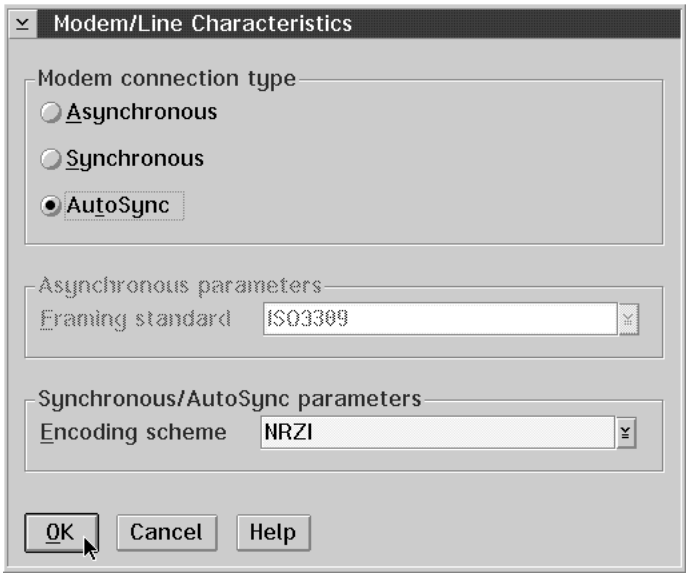
Note: The directory entry file contains information on the target service processor that you are dialing. You can use **SP123456** and rename it for your own purposes. If you add a new workstation, you must create a new name.



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

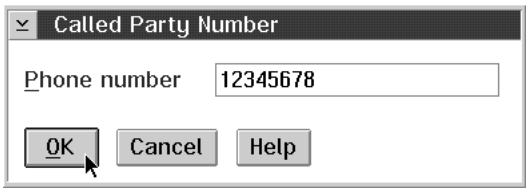


Step 12. Select **AutoSync**, **NRZI** as the encoding scheme and click **OK**.



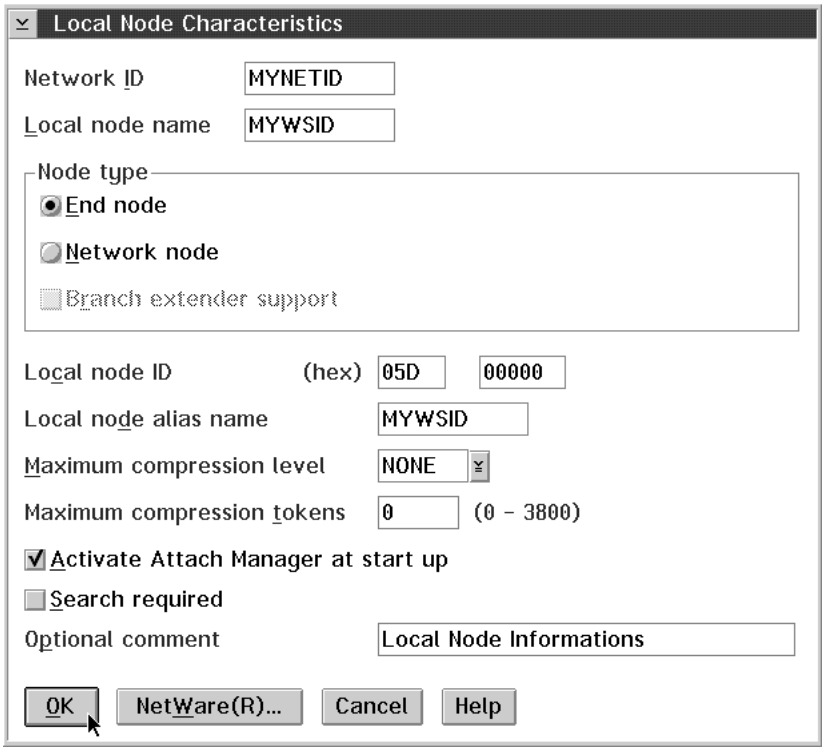
Step 13. Select the **Called party number** (in CM/2, this is **SP123456**) and click **Change**.

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



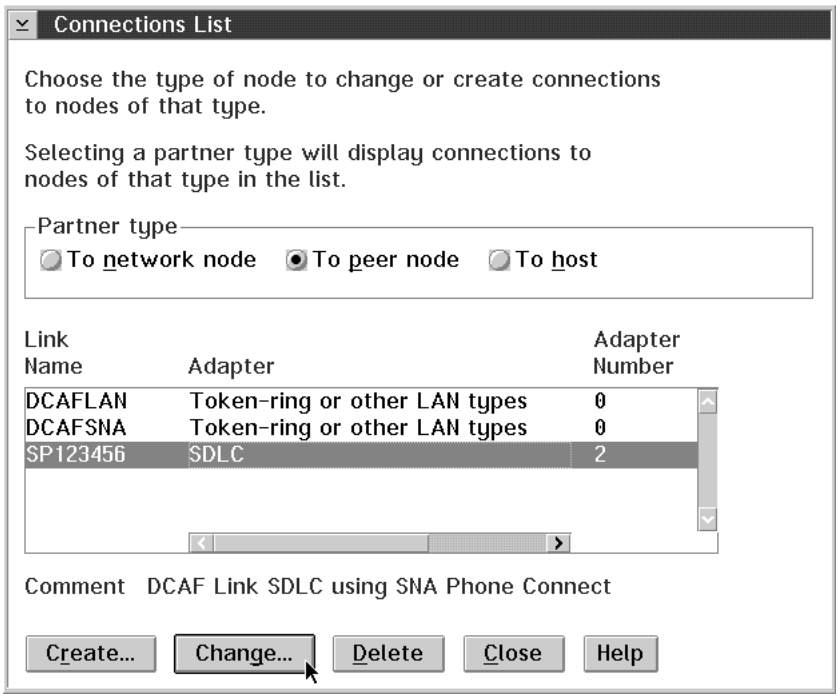
Step 15. Select **SNA local node characteristics**, click **Configure** and **Continue**.

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

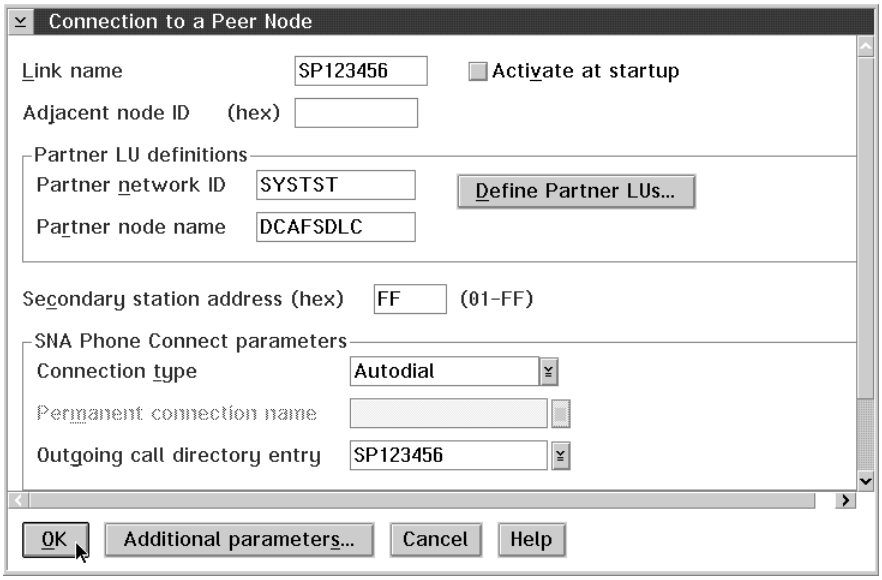


Step 17. Select **SNA connections**, click **Configure** and **Continue**.

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 MOSS-E (see “Setting Parameter Values for Modems” on page 13-2). 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 “Customizing DCAF” on page 13-41 for installing a target service processor in DCAF.

Customizing DCAF

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

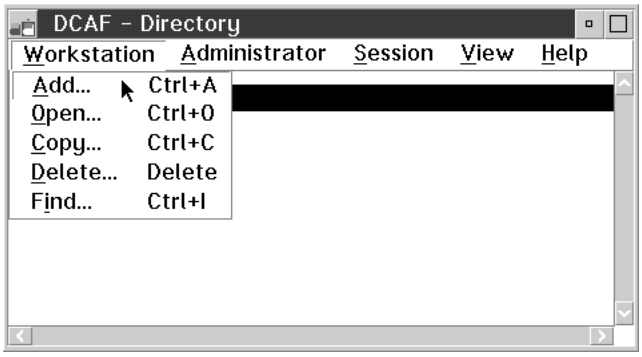
Step 2. Double-click the 

icon.

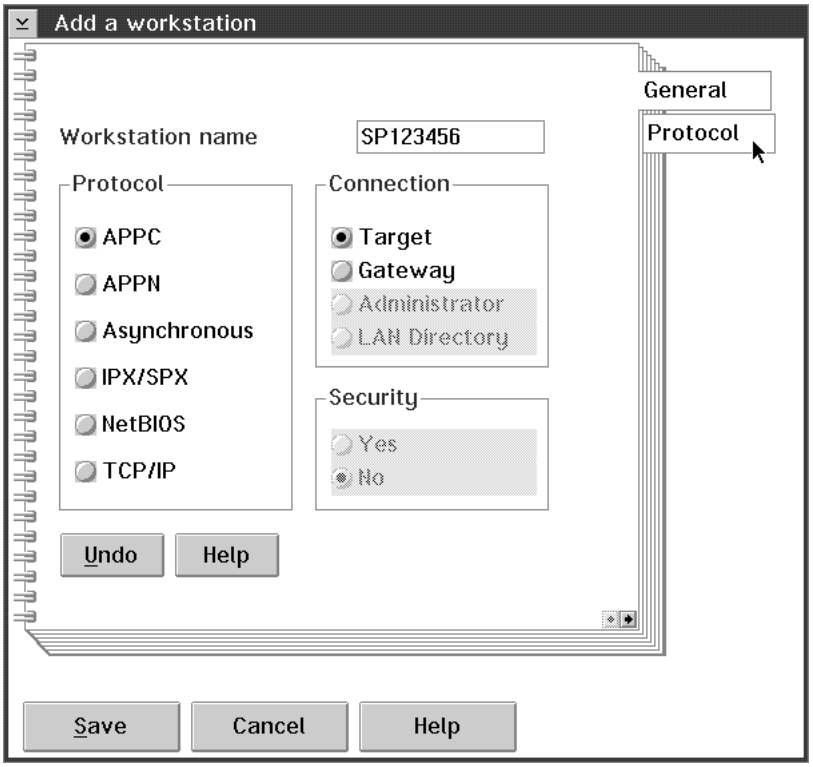
Step 3. Select **Session** then **Open workstation directory**.

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

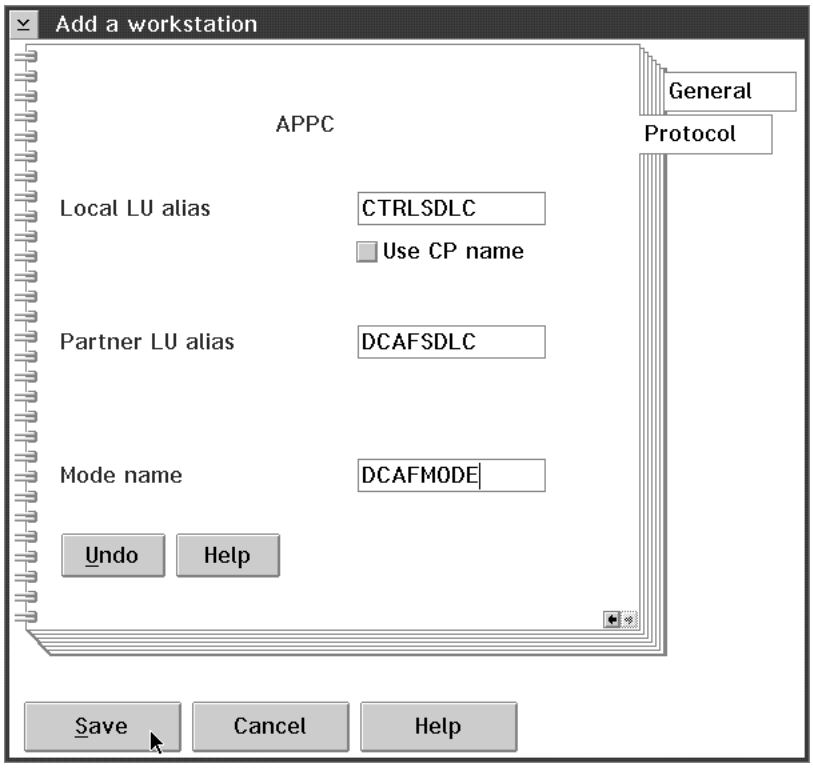
Step 5. In the DCAF Directory window, select **Workstation** then **Add**.



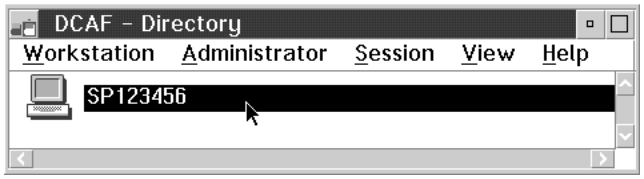
Step 6. Enter a name in the **Workstation name** field and click **Protocol**.



Step 7. Modify the **Local LU alias** field, the **Partner LU alias** field (same as the **SDLC** field in the **DCAF Customization** screen; see “Setting Parameter Values for Modems” on page 13-2). Enter `DCAFMODE` in the **Mode name** field, click **Save** and **Cancel**. The new workstation icon appears in the DCAF Directory window.



Step 8. Double-click the workstation icon to initiate communications with the service processor.



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).

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 3745 Models A

Settings for IBM Modems 7855, 7857, and 7858

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' 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 'Follow RTS' 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” 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” 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” 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.

Chapter 14. SNA-Attached Remote Workstation

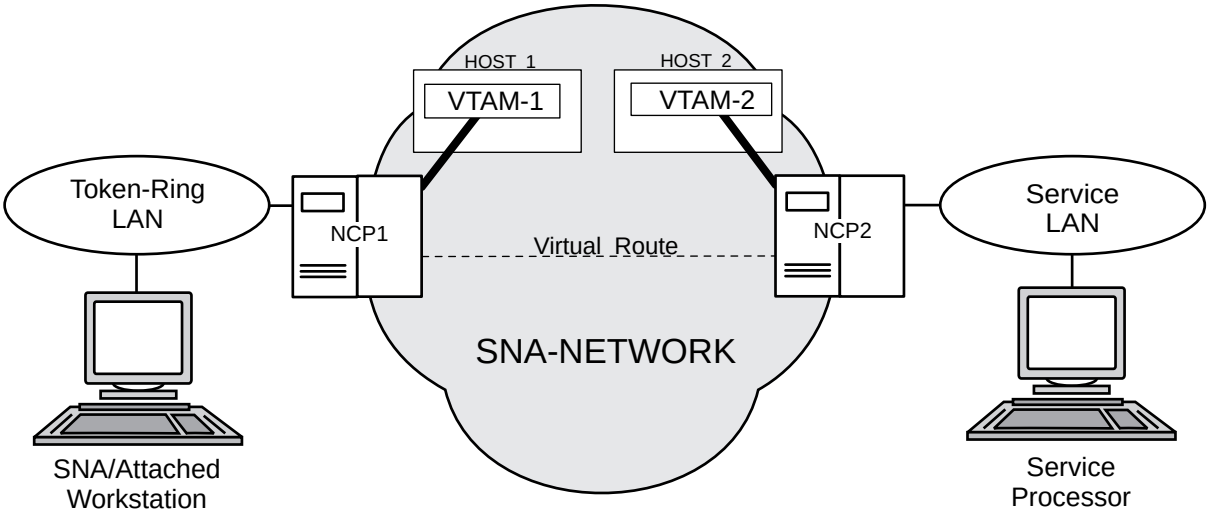


Figure 14-1. SNA Configuration

This chapter shows you how to do the following:

- Navigate from a remote workstation to a service processor via a token-ring LAN on an SNA backbone.
- Configure a DCAF session for controlling the service processor (see Figure 14-1).

Parameters

The parameter values of your remote workstation must match the parameter values of the service processor. For more information, see the Appendix of the *Planning Guide*, GA33-0457.

If you have **more than one** target service processor, you must respect the same parameter-matching rules. For more information, see Appendix C, “Configuration for a Two-Target Remote Workstation.”

Installing a Remote Workstation (SNA-Attached)

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

Important

Use the *Planning Guide* worksheets to fill in the address and name fields.

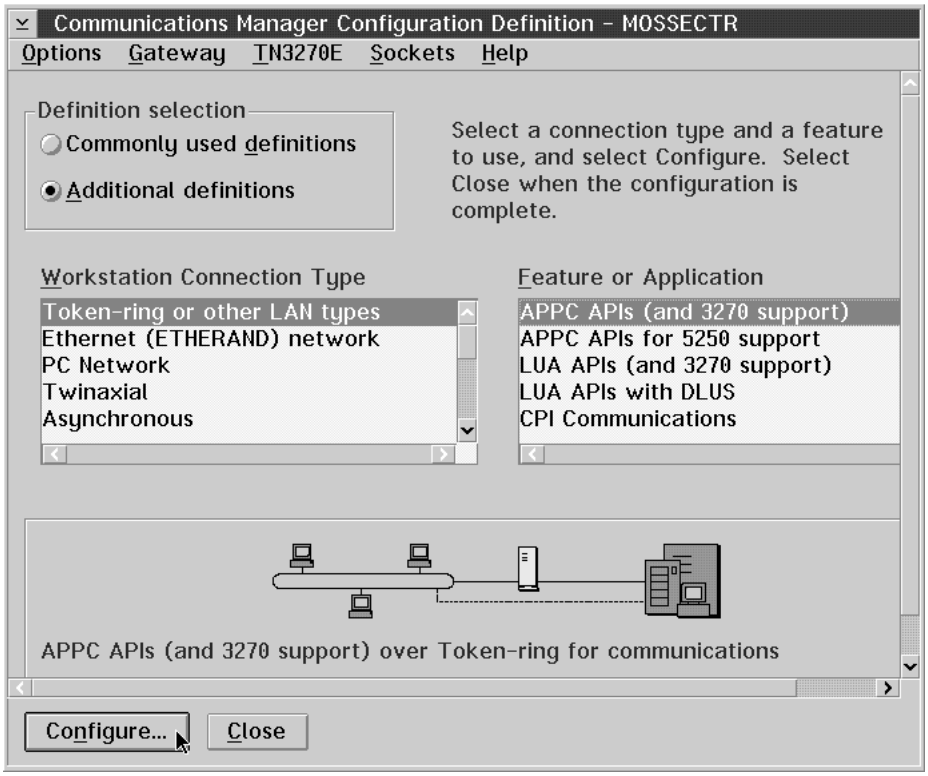
Customizing CS/2

Important

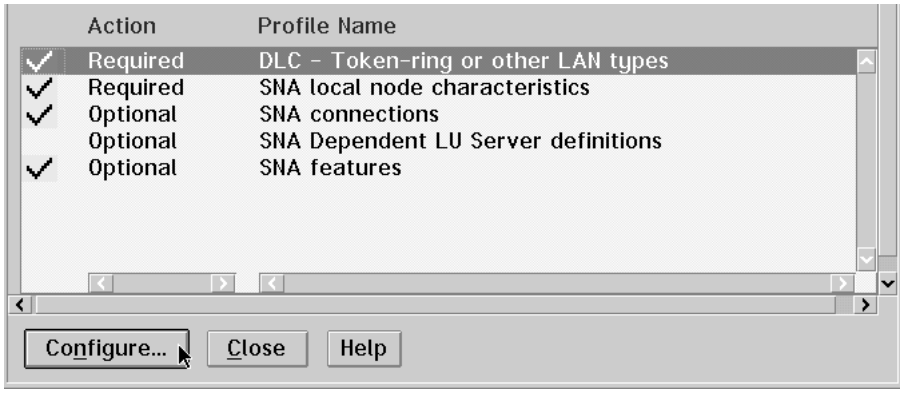
The procedure below is the same in CM/2 unless otherwise indicated.

Step 1. Perform Steps 1 to 5 on page 9-4.

Step 2. Select **Additional definitions**, **Token-ring or other LAN types**, **APPC APIs**, and click **Configure**.



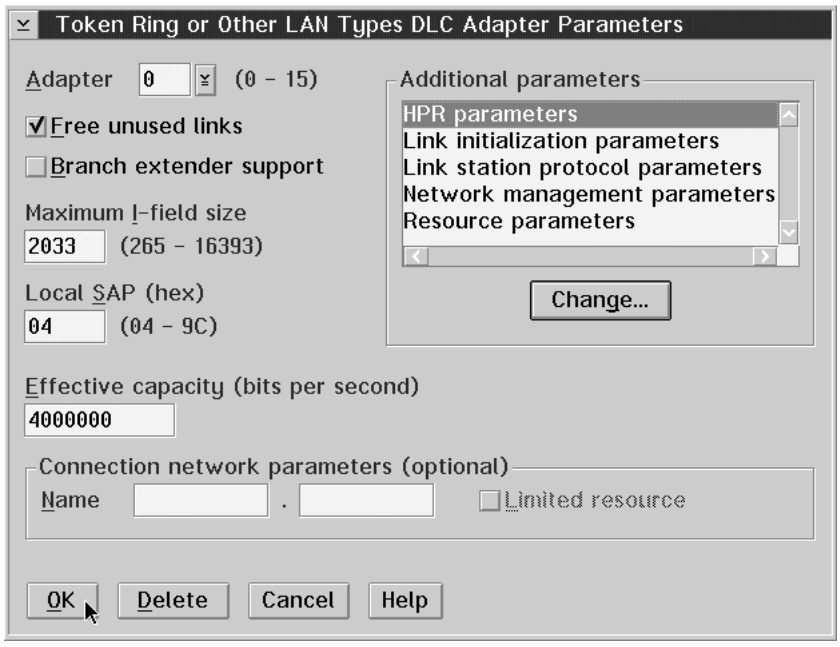
Step 3. Select **DLC - Token-ring or other LAN types** and click **Configure**.



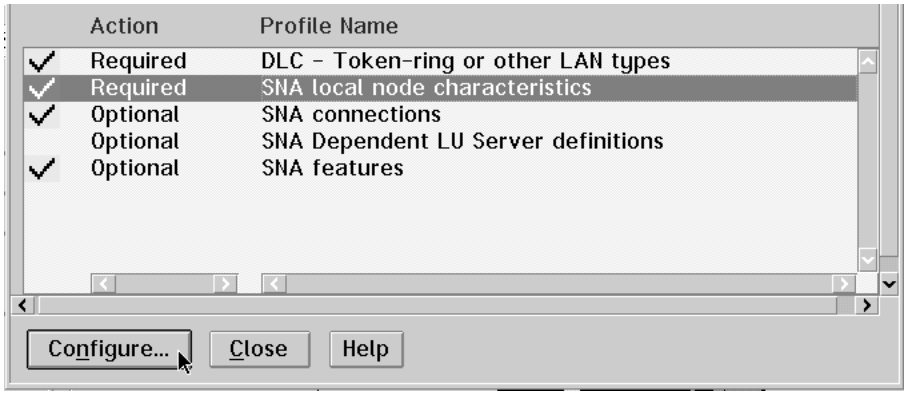
Step 4. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following, using the **Change** button.

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

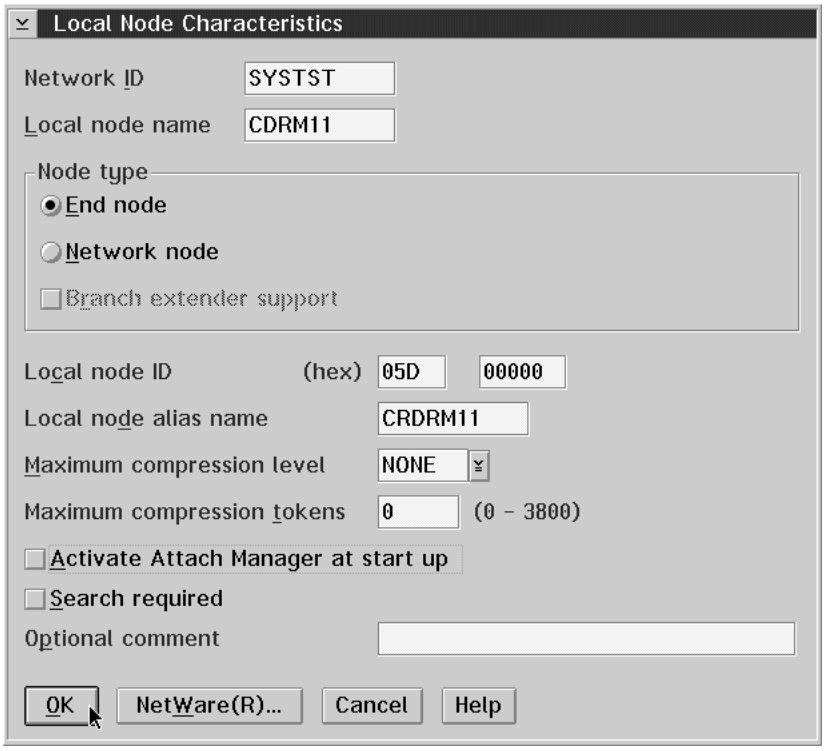
Then click **OK**.



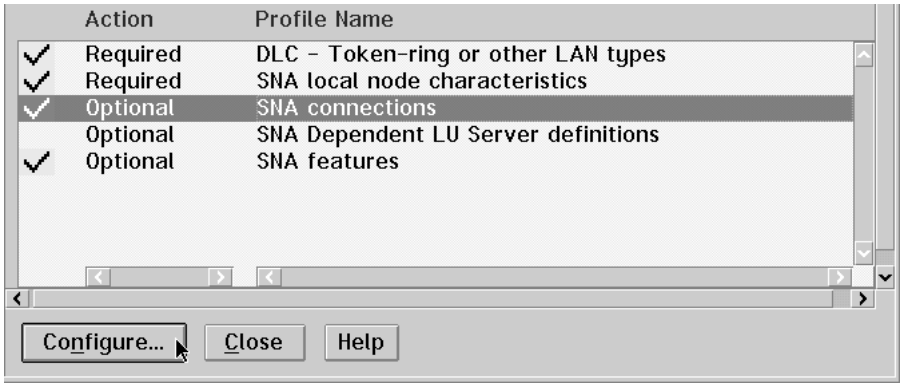
Step 5. Select **SNA local node characteristics** and click **Configure**.



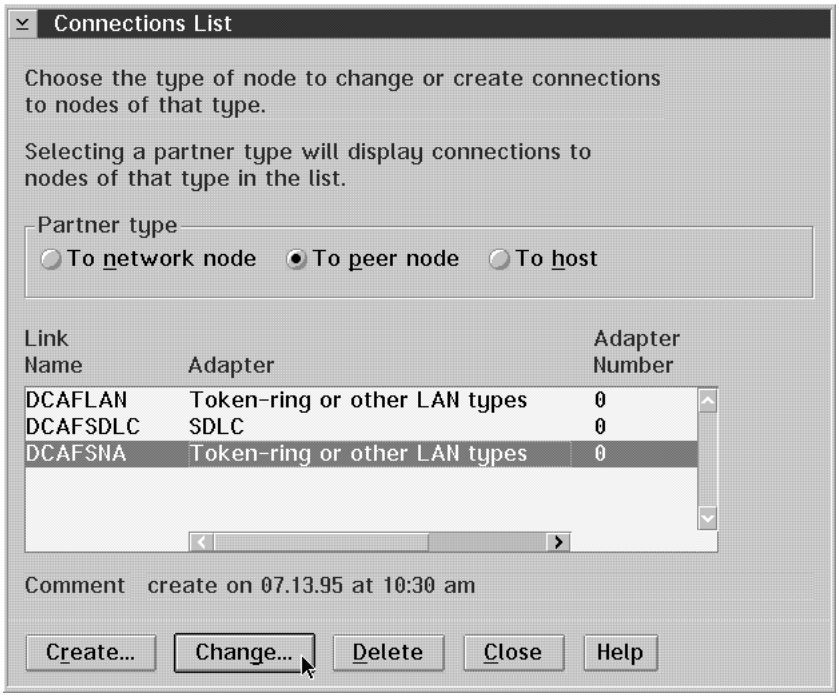
Step 6. Fill in the **Network ID** and **Local node name** fields, select **End node** and click **OK**.



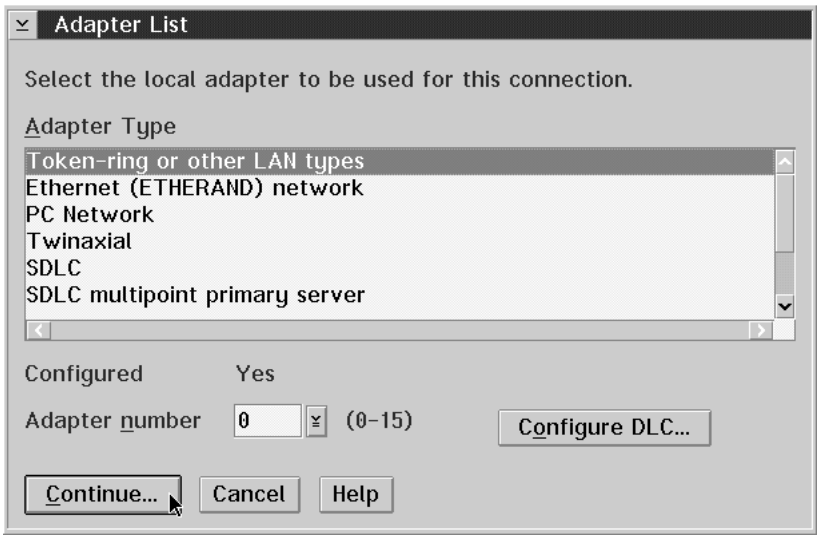
Step 7. Select **SNA connections** and click **Configure**.



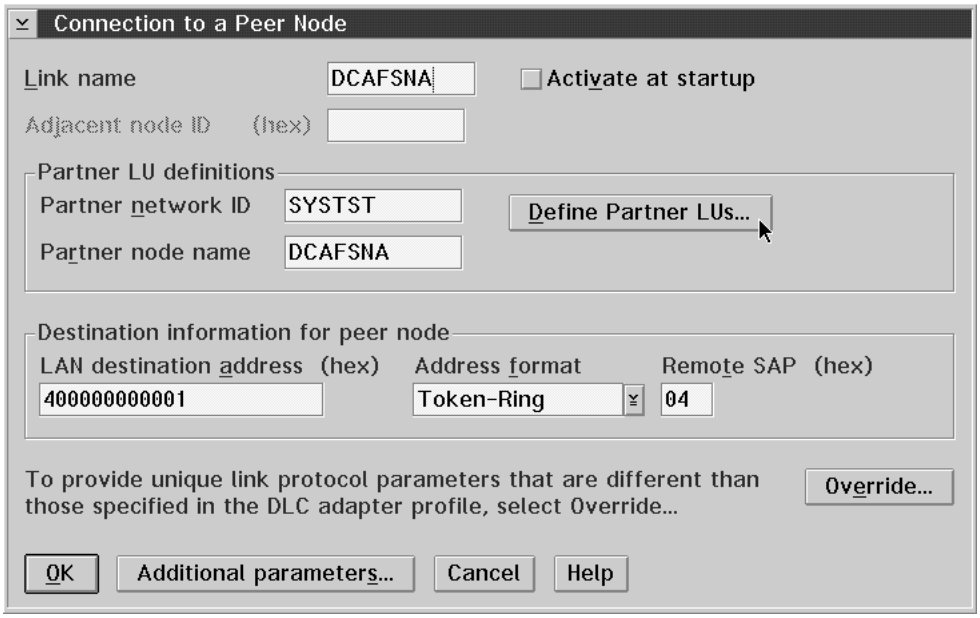
Step 8. Click **To peer node**, select **DCAFSNA** from the list and click **Change**.



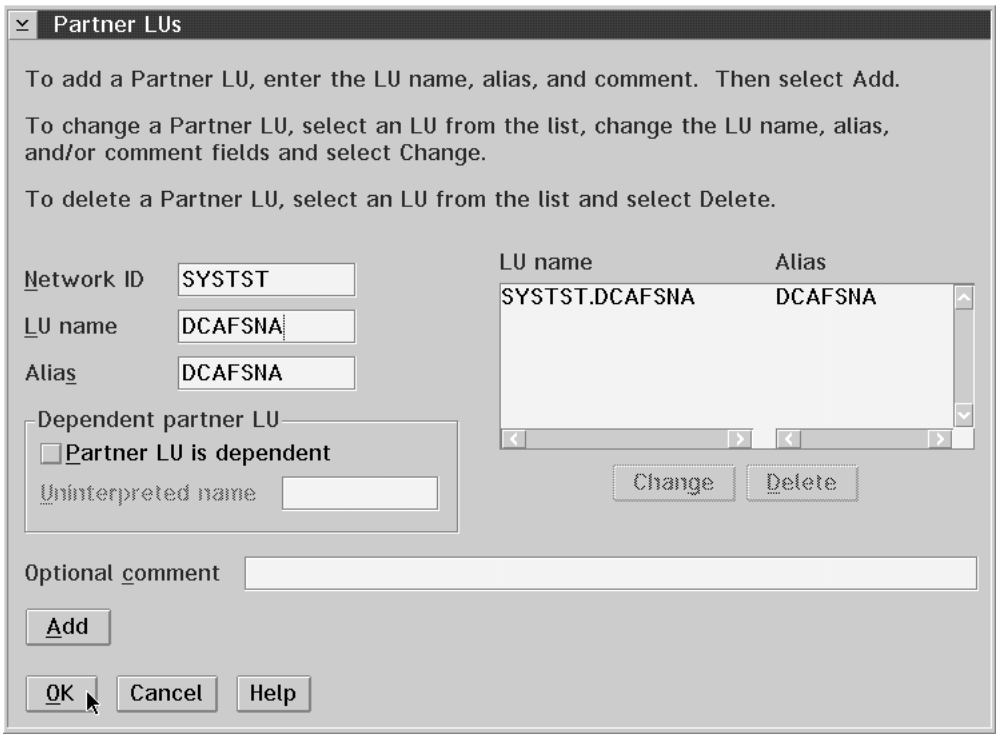
Step 9. Select **Token-ring or other LAN types** and click **Continue**.



Step 10. Fill in the **Partner network ID** (the network name) field, the **Partner node name** (the network that contains the target processor) field, the **LAN destination address** field (the address of the target service processor), the **Remote SAP** field, and click **Define Partner LUs**.

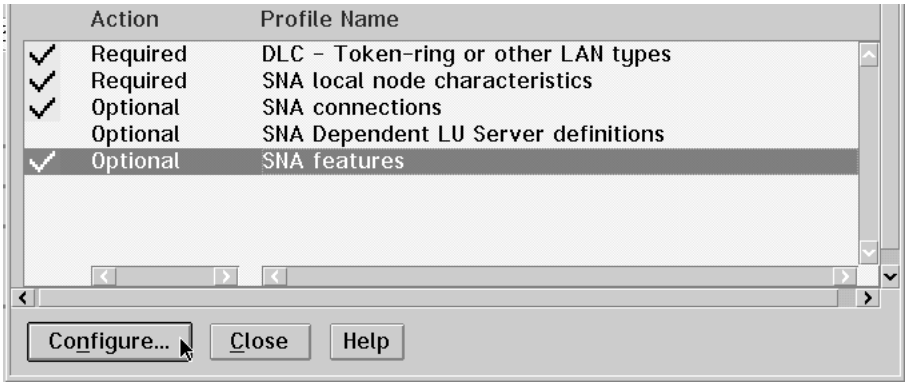


Step 11. Fill in **Network ID**, the **LU name** (the service processor LU name), and the **Alias** fields. Then click **Add** and **OK**.

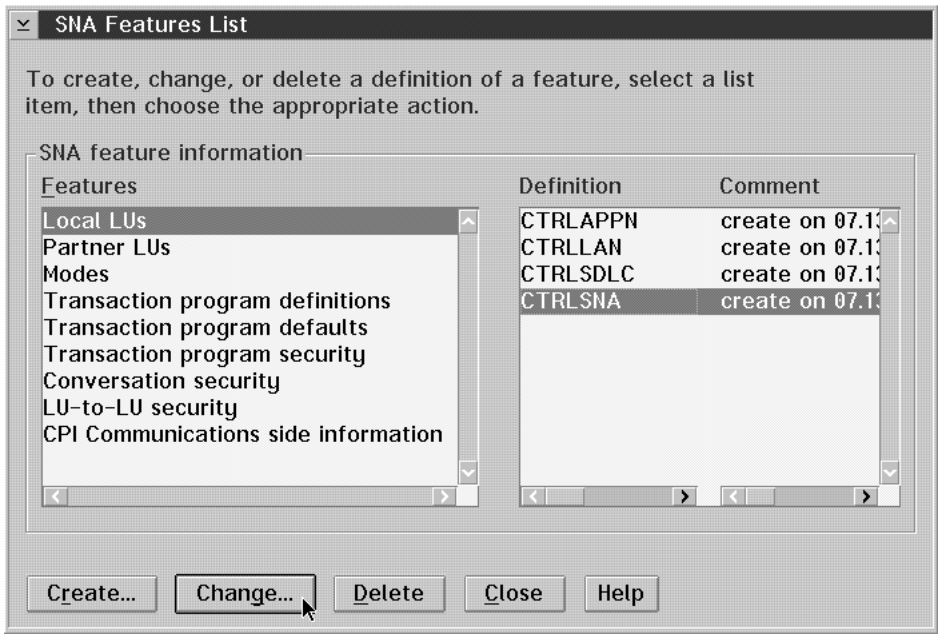


Step 12. Click **OK** on the intermediate window and **Close**.

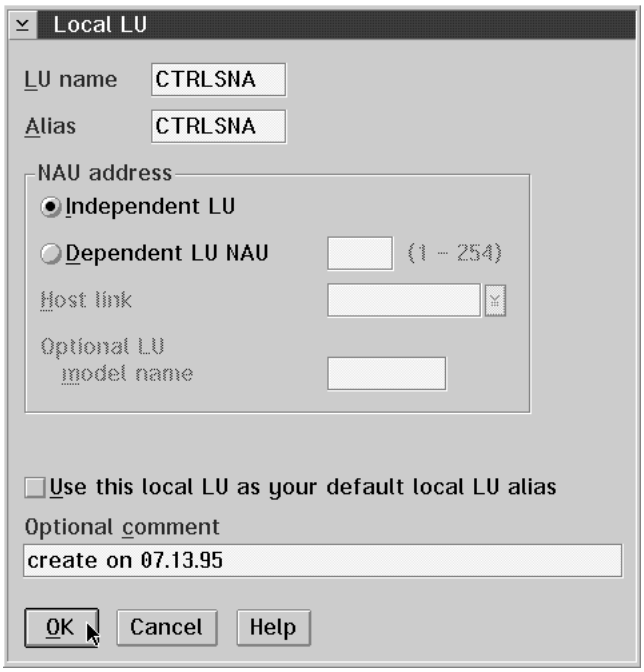
Step 13. Select **SNA features** and click **Configure**.



Step 14. Select **Local LUs**, **CTRLSNA** and click **Change**.



Step 15. Fill in the **LU name** and **Alias** fields, select **use this local LU as your default local LU alias** and click **OK**.



Step 16. Click **Close** on each subsequent screen until you exit CS/2.

Step 17. Continue with “Customizing DCAF” on page 14-9.

Customizing DCAF

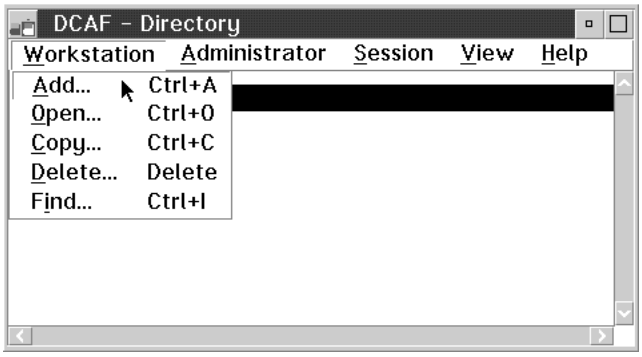
Step 1. From Desktop Manager, double-click the **Distributed Console Access Facility** icon.

Step 2. Double-click the DCAF Controller icon.

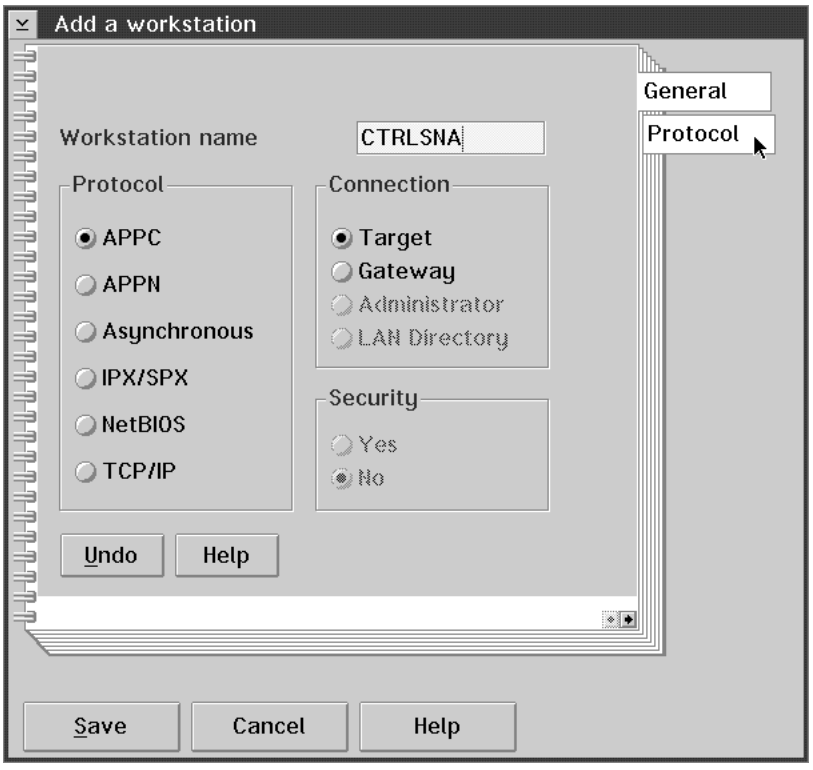
Step 3. Click **Session** and **Open workstation directory**.

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

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

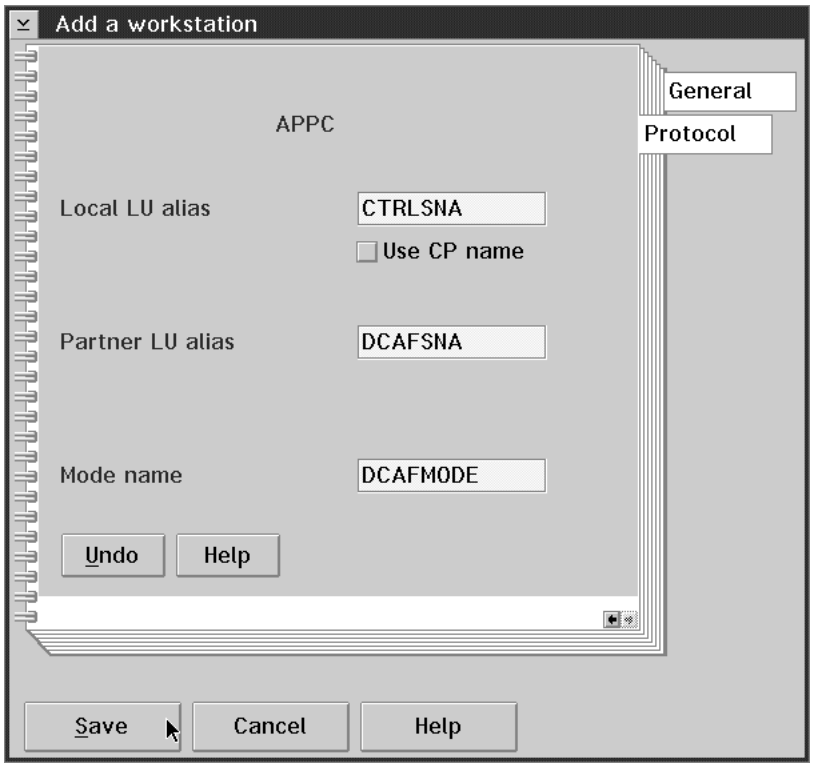


Step 6. Fill in the **Workstation name** field (see Step 15 on page 14-8), select **APPC**, **Target**, and click **Protocol**.



Step 7. Fill in the **Local LU alias** (see Step 15 on page 14-8), **Partner LU alias** and **Mode name** fields. Then click **Save**, **OK** (on the subsequent window), and **Cancel**.

Note: Write down the Partner LU alias. You will need this for the Local LU when you customize CS/2 on the target service processor.



Step 8. From **Desktop Manager**, shutdown and restart the workstation.

NCP Definitions

The NCP definitions in this section apply to 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 14-1 on page 14-1).

The address must be the same as defined in Step 10 on page 12-6.

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 14-1 on page 14-1).

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 14-1 on page 14-1:

```
*
*                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 14-1 on page 14-1:

```
 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 14-1 on page 14-1:

```
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                     *
*     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 14-1 on page 14-1:

```
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                     *
*     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 15. APPN-Attached Remote Workstation

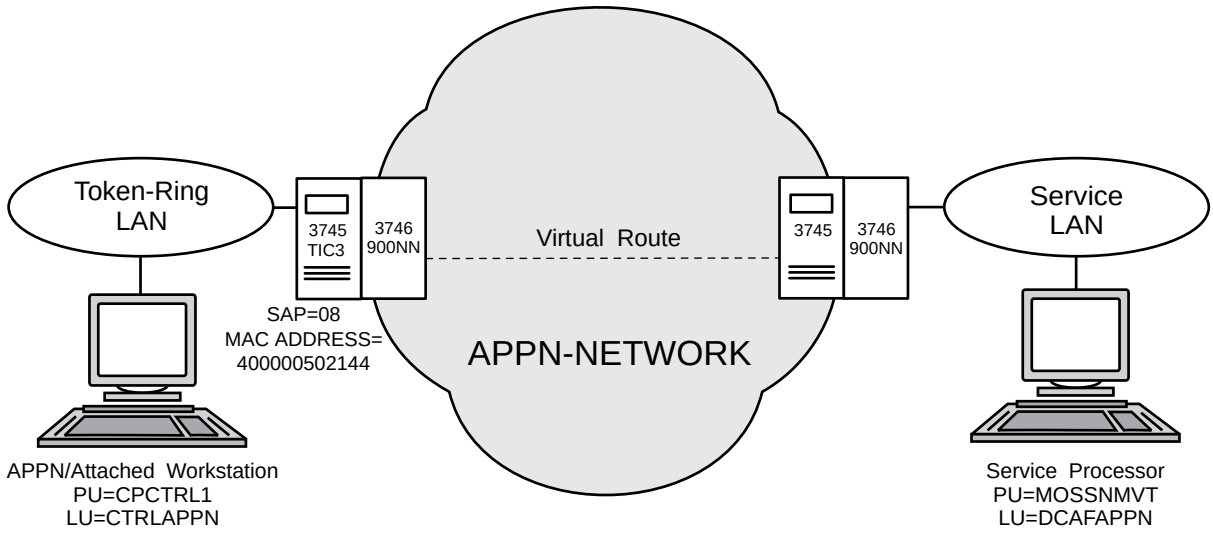


Figure 15-1. APPN Configuration

This chapter shows you how to do the following:

- Navigate from a remote workstation to a service processor via an APPN backbone.
- Configure a DCAF session for controlling the service processor (see Figure 15-1 above).

Parameters

The parameter values of your remote workstation must match the parameter values of the service processor. For more information, see the Appendix of the *Planning Guide*, GA33-0457.

If you have **more than one** target service processor, you must respect the same parameter-matching rules. For more information, see Appendix C, "Configuration for a Two-Target Remote Workstation."

Installing a Remote Workstation (APPN-Attached)

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

Important

Use the *Planning Guide* worksheets to fill in the address and name fields.

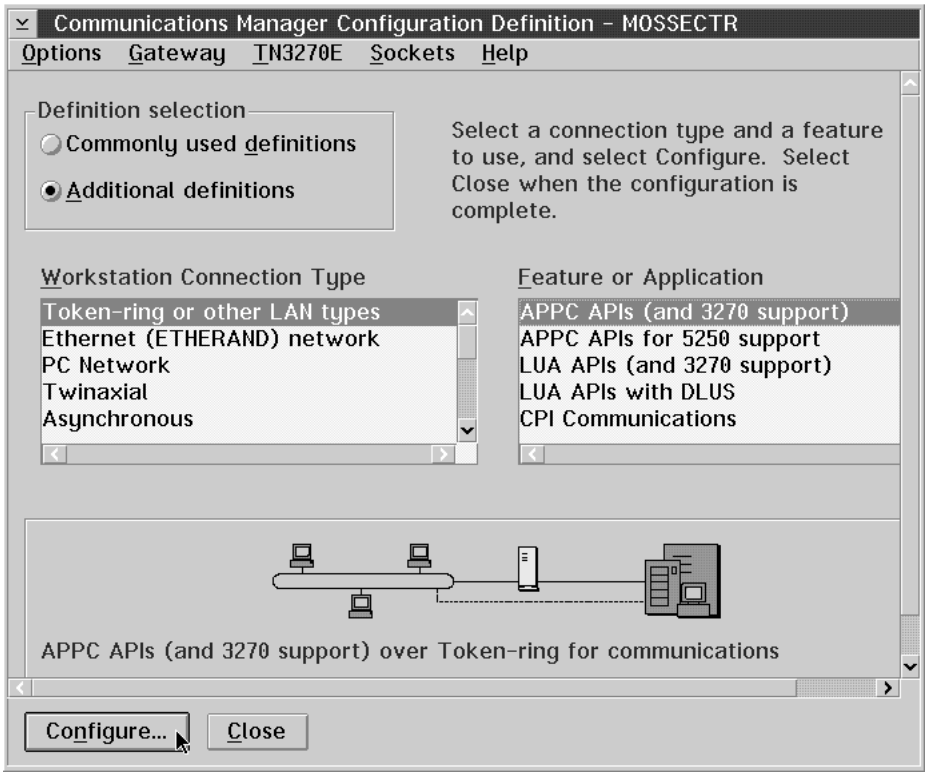
Customizing CS/2

Important

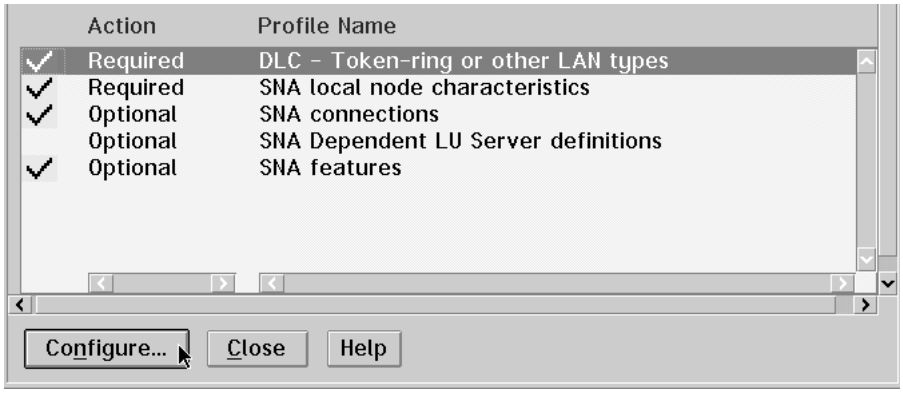
The procedure below is the same in CM/2 unless otherwise indicated.

Step 1. Perform steps 1 to 5 on page 9-4

Step 2. Select **Additional definitions**, **Token-ring or other LAN types**, **APPC APIs** and click **Configure**.



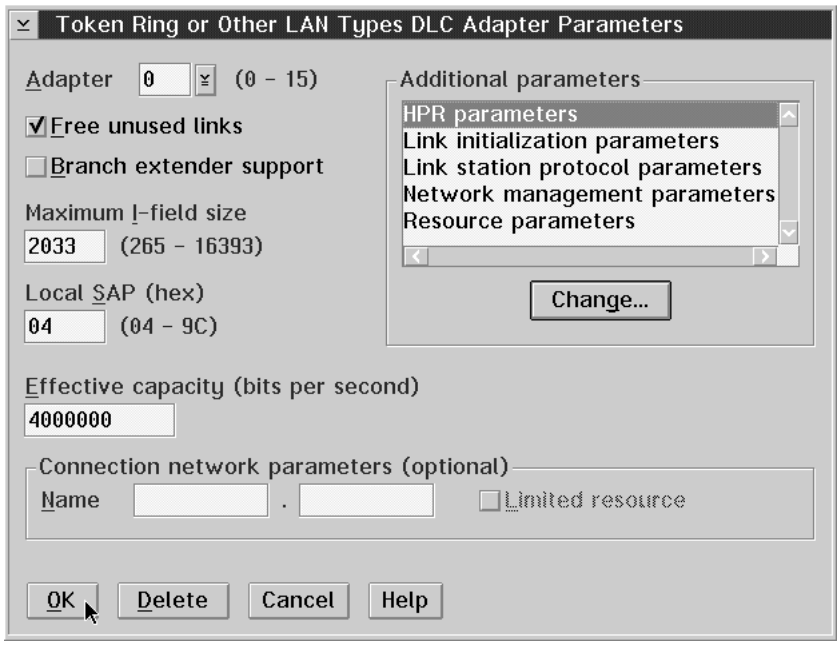
Step 3. Select **DLC - Token-ring or other LAN types** and click **Configure**.



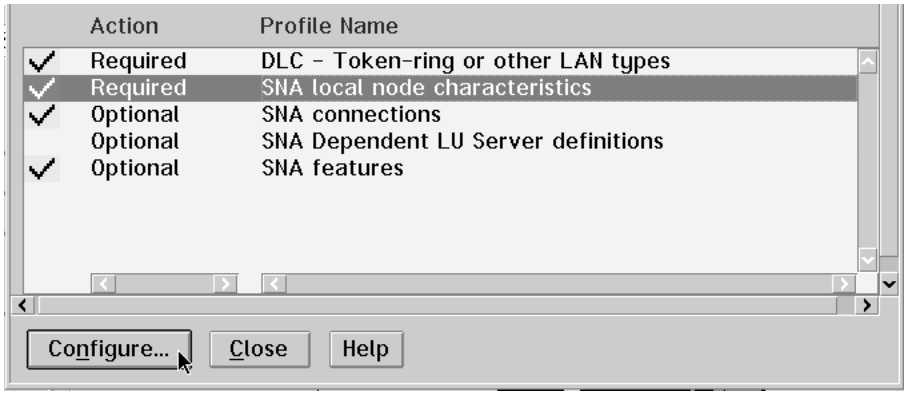
Step 4. Select **Free unused links** (in CM/2, select **Free unused links** and click **OK**). From the **Additional Parameters** list, highlight and check the following using the **Change** button.

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

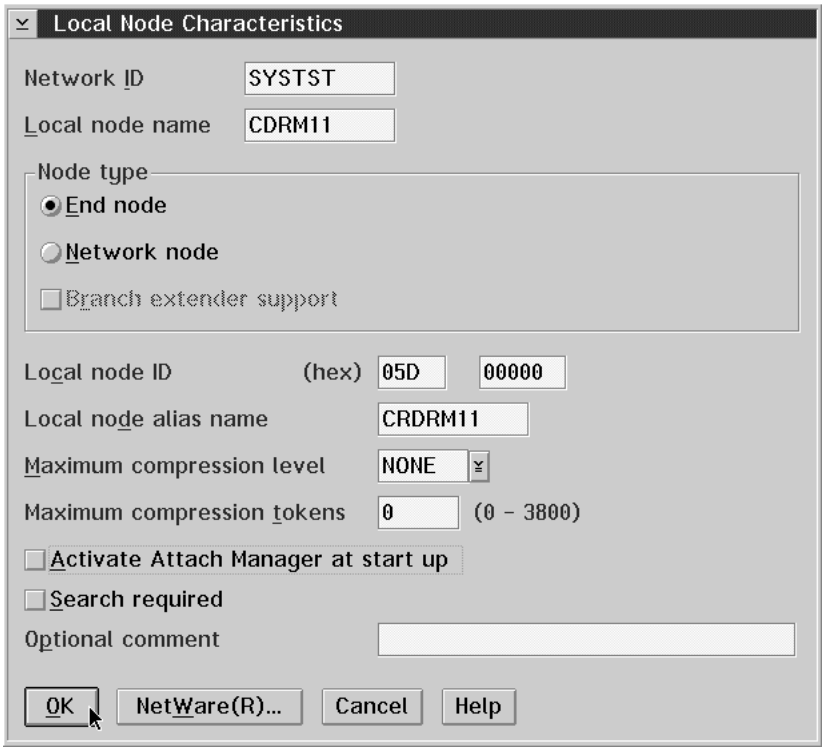
Then click **OK**.



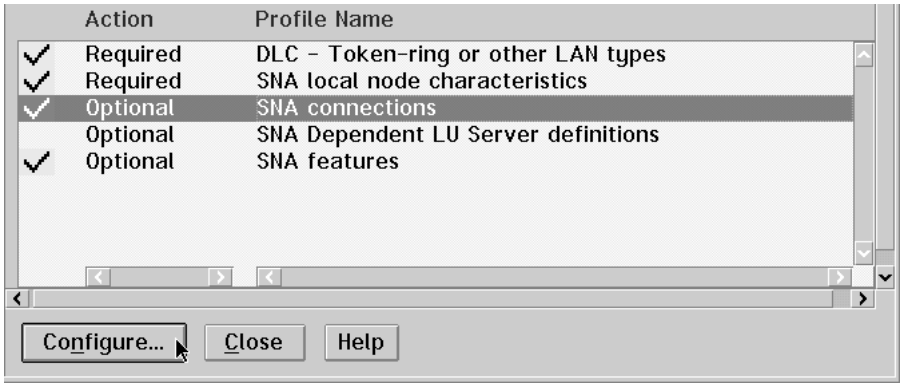
Step 5. Select **SNA local node characteristics** and click **Configure**.



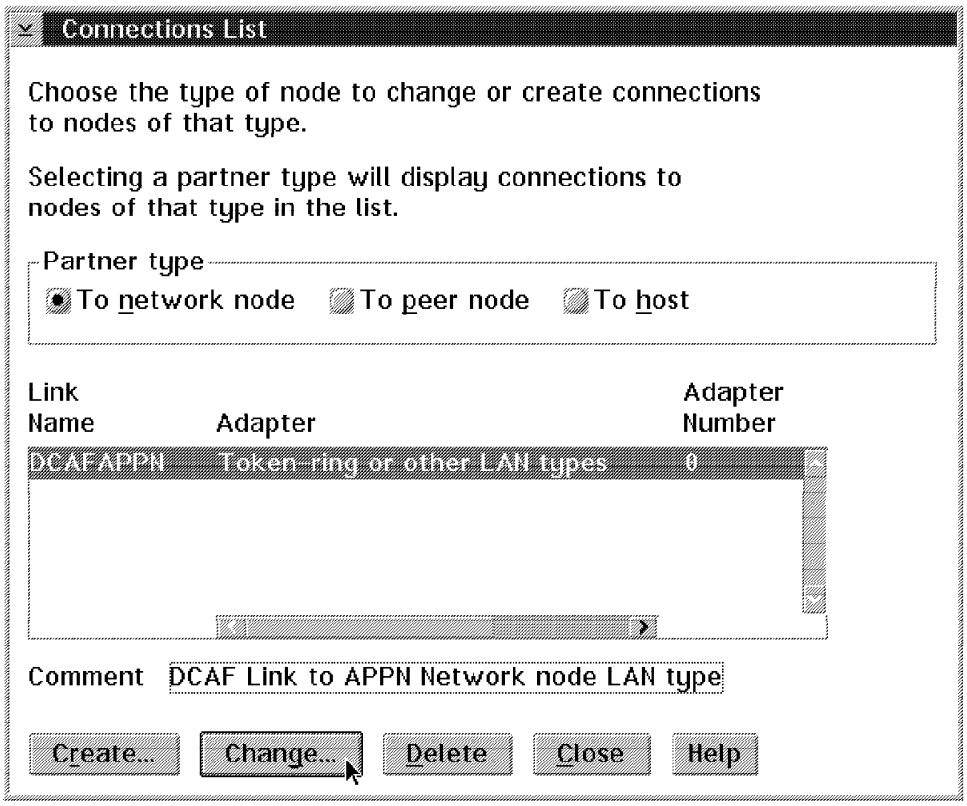
Step 6. Enter a name in **Network ID** field (the name of the network that you are trying to reach) and **Local node name** field (this can be anything you want), select **End node** and click **OK**.



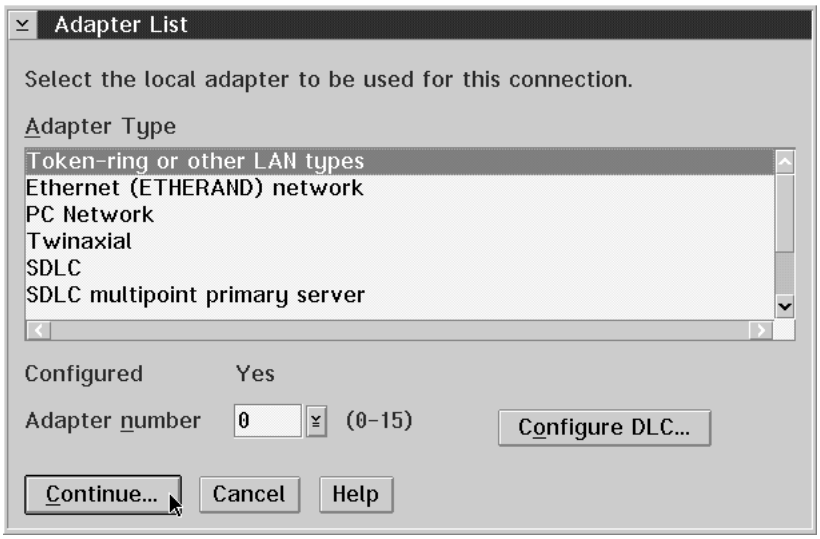
Step 7. Select **SNA connections** and click **Configure**.



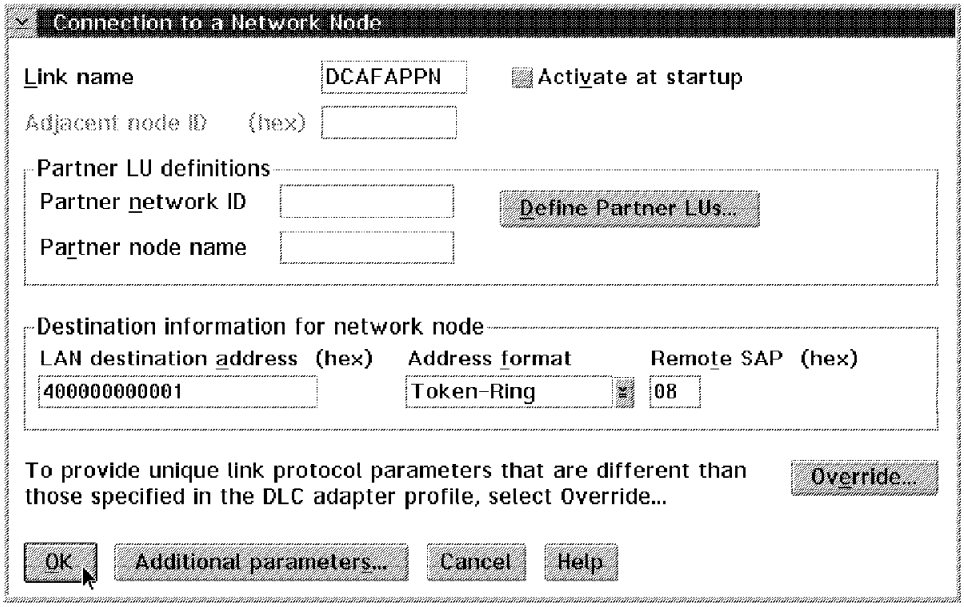
Step 8. Select **To network node**, **DCAFAPPN** in the **Link name** list, and click **Change**.



Step 9. Select **Token-ring or other LAN types** and click **Continue**.

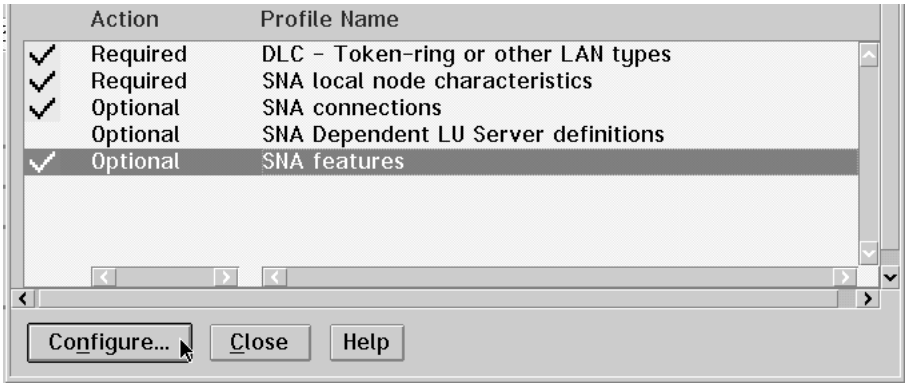


Step 10. Enter a name in the **Link name** field, a hex number in the **LAN destination address**, a number in the **Remote SAP** field, and click **OK**.

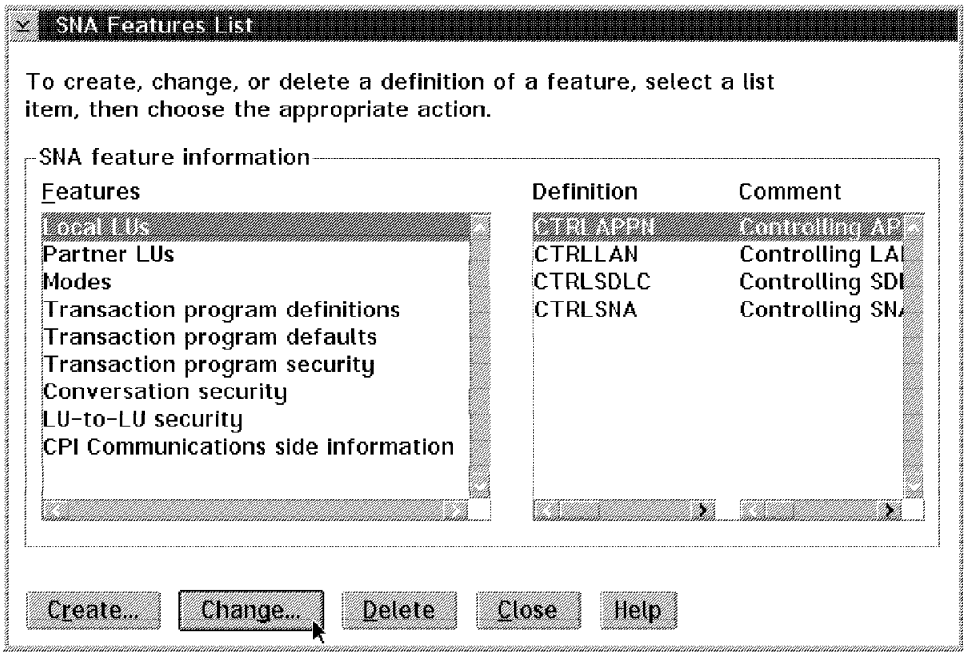


Step 11. Click **Close** on the intermediate window.

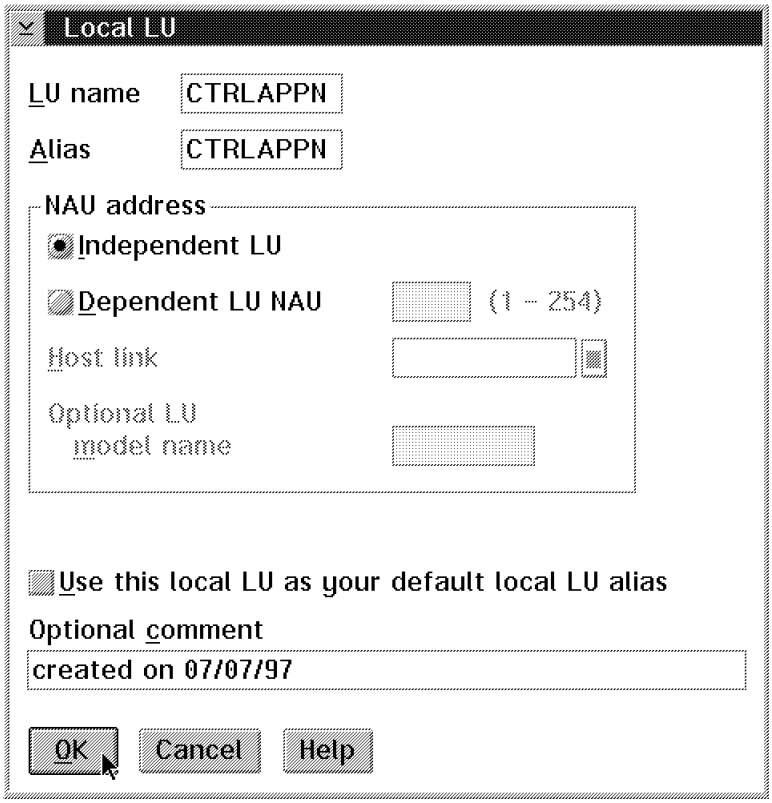
Step 12. Select **SNA features** and click **Configure**.



Step 13. Select **Local LUs** in the **Features** list, **CTRLAPPN** in the **Definition** list, and click **Change**.



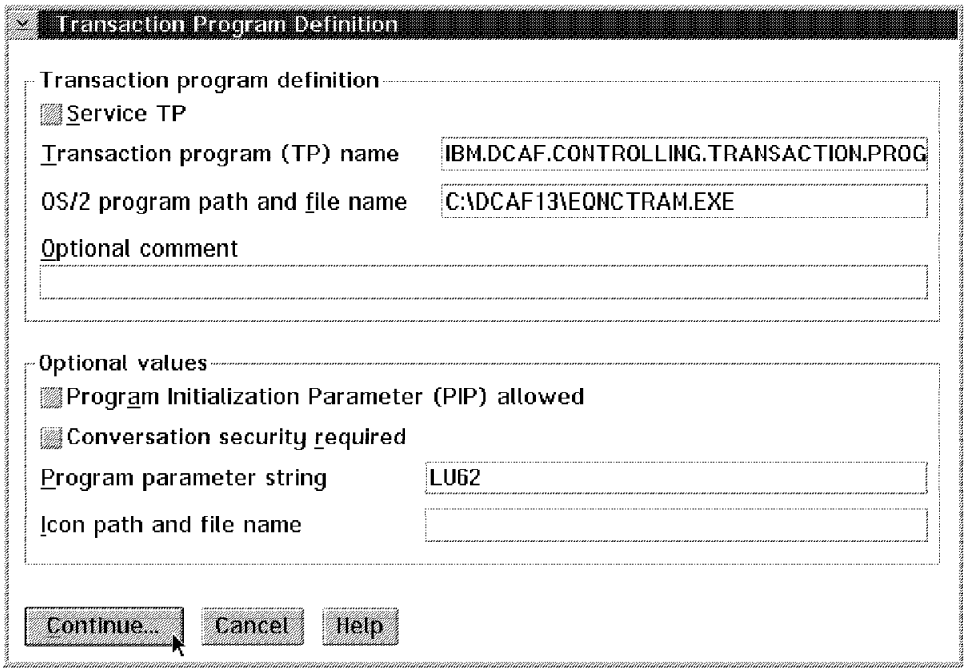
Step 14. Modify the **LU name** and **Alias** fields and select **use this local LU as default local LU alias**. Then select **Independent LU** and click **OK**.



Step 15. 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 16. Select **Transaction program definitions** from the **SNA Features List** and click **Create**.

Step 17. 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 18. Click **Close** on the subsequent screens until you exit CS/2.

Step 19. Continue with “Customizing DCAF.”

Customizing DCAF

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

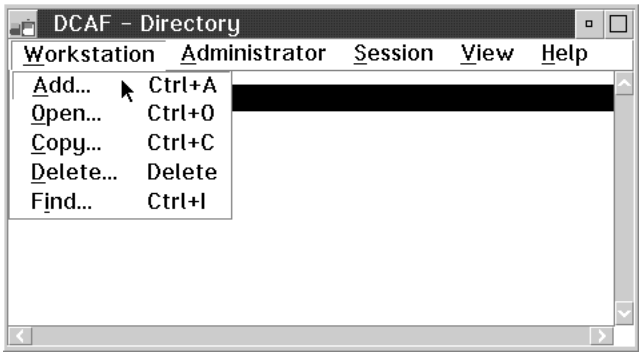
Step 2. Double-click the 

icon.

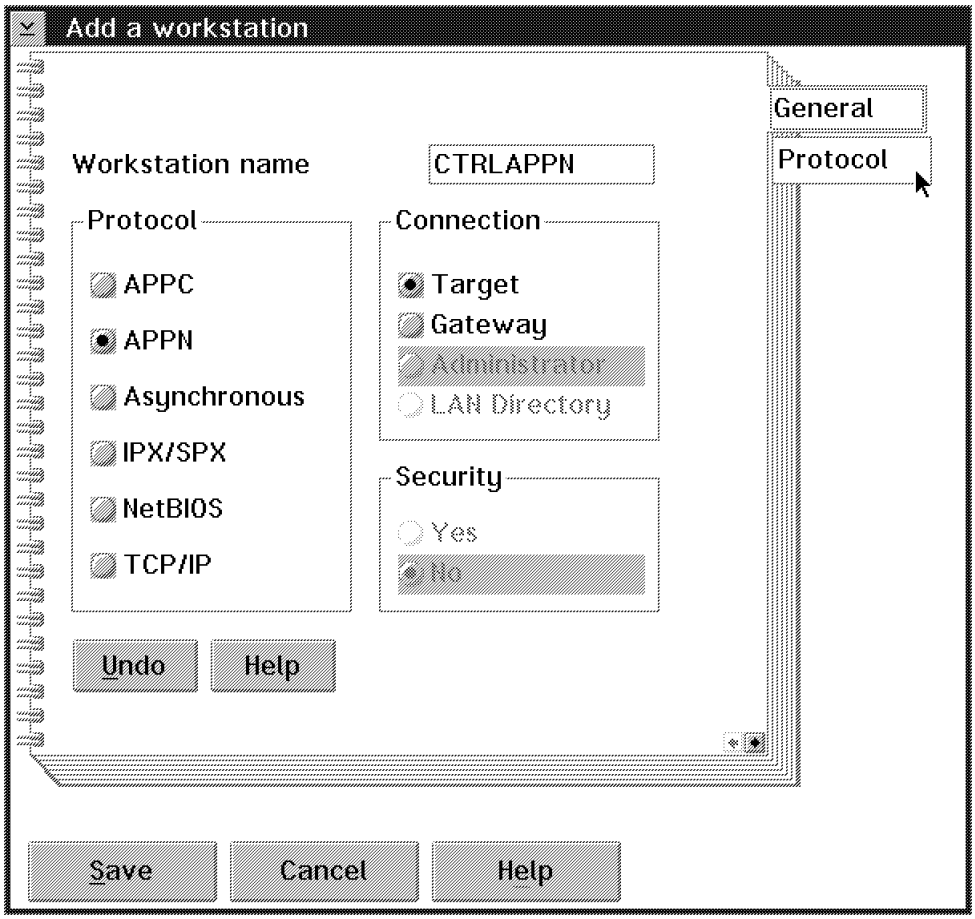
Step 3. Click **Session**, then **Open workstation directory**.

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**.

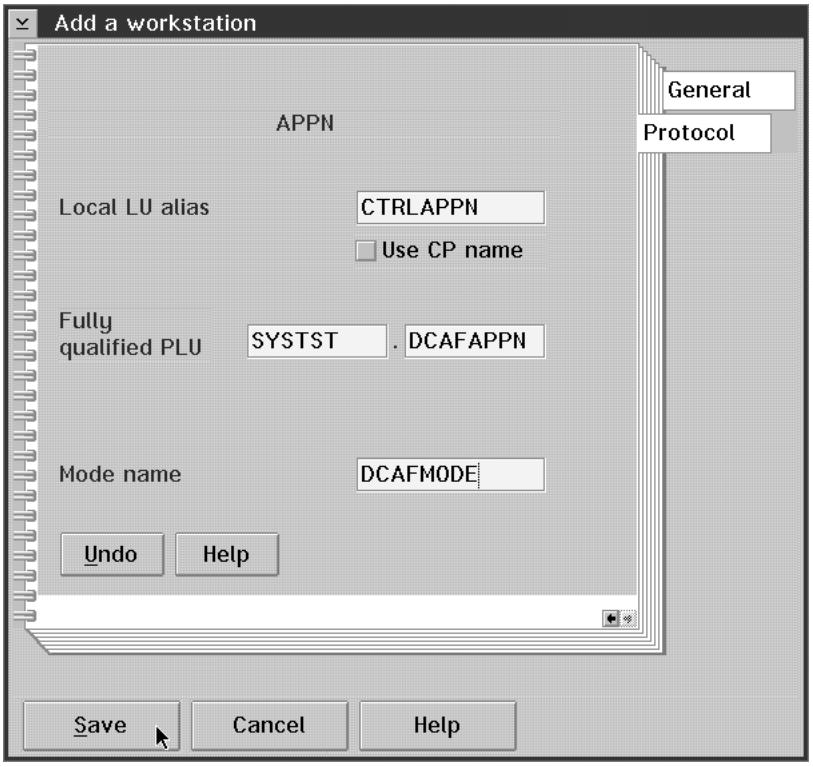


Step 6. Fill in the **Workstation name** field, select **APPN**, **Target**, and click **Protocol**.



Step 7. Fill in the **Local LU alias** (see Step 14 on page 15-8), **Fully qualified PLU** (for the first part, see Step 6 on page 15-4 and for the second part, see Step 6 on page 15-12) fields. Enter `DCAFMODE` in the **Mode name** fields, click **Save**, **OK** (on the subsequent window), and **Cancel**.

Note: Write down the PLU information. You will need this for the **Local LU** when you customize CS/2 on the target service processor.



Step 8. In **Desktop Manager**, shutdown and restart the workstation.

Step 9. Continue with "Installing a Target Service Processor."

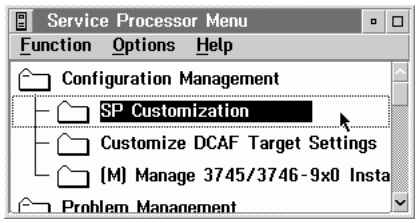
Installing a Target Service Processor

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

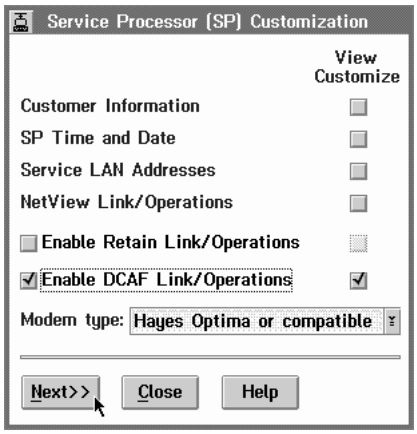
Step 2. Click **Configuration Management**.

Step 3. Select **Communications Manager/2**.

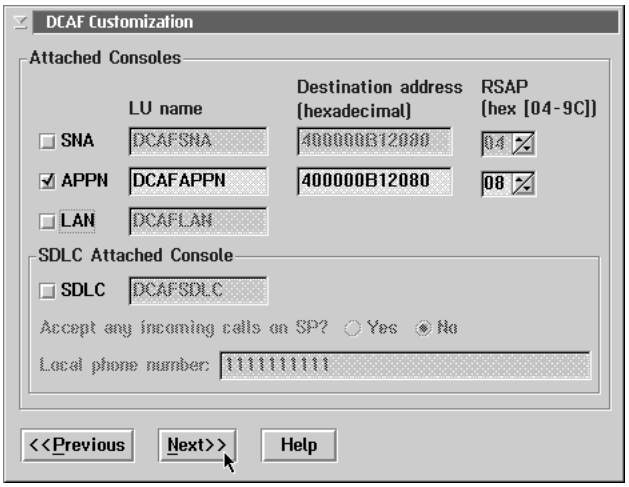
Step 4. Double-click **SP Customization**.



Step 5. Select **Enable DCAF Link/Operations** in the **View Customize** button list and click **Next**.



Step 6. Select **APPN** and click **Next**.



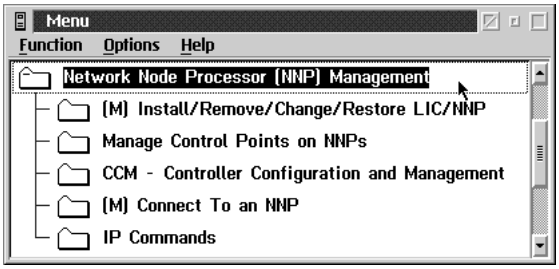
Step 7. Click **Close**.

Step 8. From Desktop Manager, shutdown and restart the service processor.

Note: For an alternative method of configuring the target service processor, see “CCM Definitions for DCAF” on page 15-13.

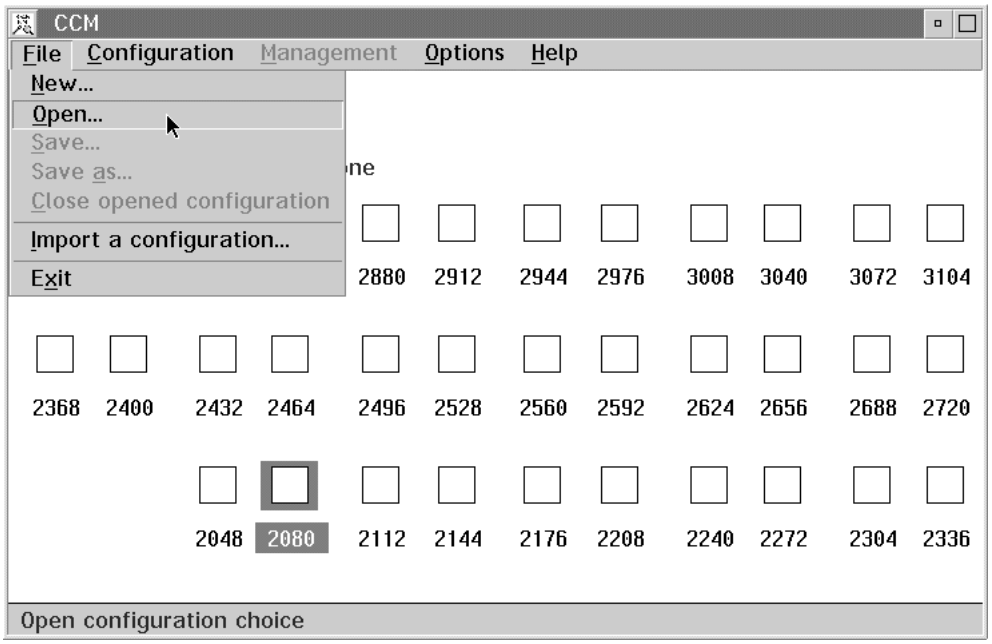
CCM Definitions for DCAF

Step 1. From the 3746-950 menu, click **Network Node Processor (NNP) Management**, then double-click **CCM - Controller Configuration and Management**.



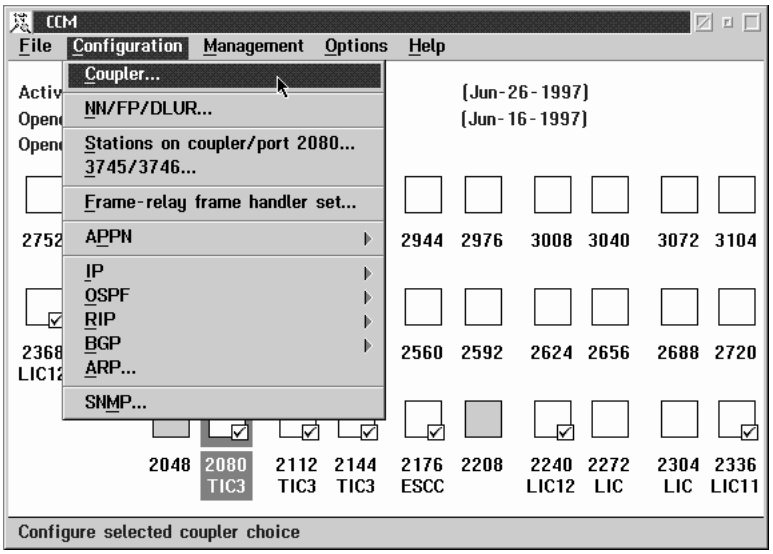
Step 2. Click **OK**.

Step 3. From the **CCM** main window, select **File** and **Open**.



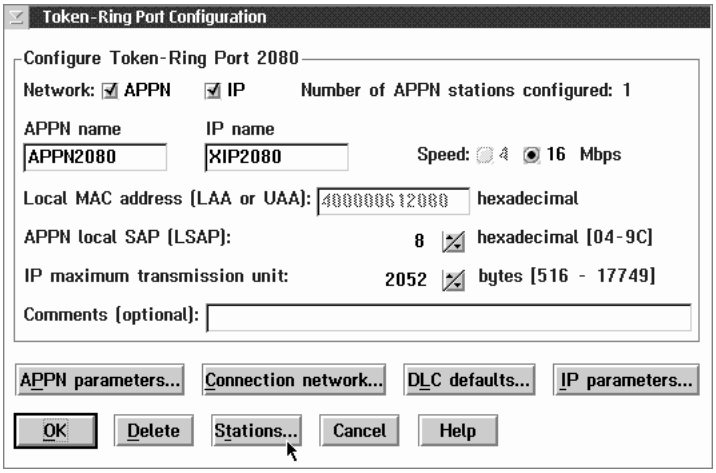
Step 4. You can customize the new DCAF session by modifying an existing file, or creating a new one (see the *CCM: Users Guide*, SH11-3081).

Step 5. From **CCM**, select the TIC3 **2080**. Then click **Configuration** and **Coupler**.

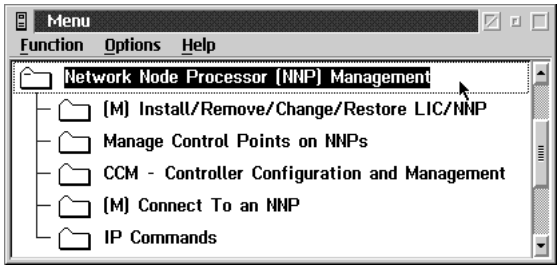


Step 6. Select **APPN** and click **OK**.

Step 7. Fill in the **Name**, and check the **Local MAC address** and **Local SAP** fields, then click **Stations**.



Step 8. Check that the **Remote MAC address** field matches the LAN address and the **Remote SAP** field matches the number in the **Local sap** field (see the *Planning Guide*).



Step 9. Select **DLC parameters** or **APPN parameters** to customize your configuration and click **OK**.

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

Step 11. Refer to the *CCM: Users Guide* for saving and activating your new configuration.

The customization is now complete. See “Using DCAF to Remotely Log on to the Service Processor” for working with your remote workstation.

Chapter 16. Telnet-attached Remote Workstation

Introduction

Any workstation that runs the Telnet Client program can remotely access the IP functions of a network node processor. If you use Telnet on a remote workstation, you can configure and manage the IP functions without disturbing the operations of the service processor.

However, if you use Telnet, the following applies:

- You will not be able to access any MOSS-E functions.
- You can only have one remote workstation at a time access a network node processor.
- Any remote workstation can access a network node processor.

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

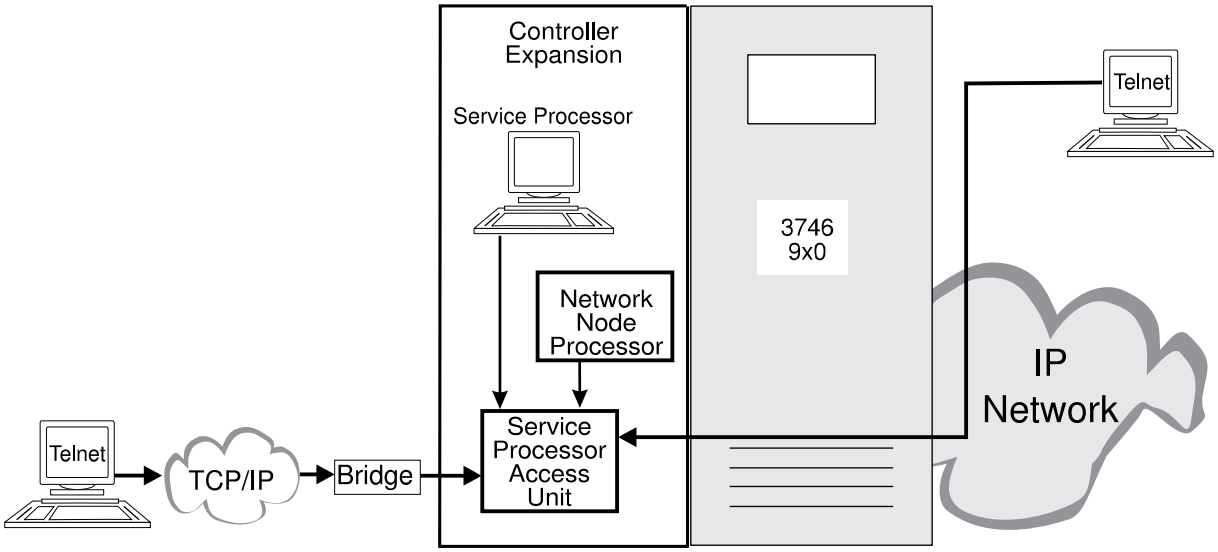


Figure 16-1. Telnet Workstation Configuration

A Telnet remote console can be attached to the service LAN via a bridge with appropriate filtering, or via an IP network controlled by the target Network Node Processor (NNP). See Figure 16-1 above.

These attachments can be through the following:

- 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 network node processor. If you have problems, see your network administrator.

Programming Requirements

For remote access to the functions of a network node processor, your workstation must have an operating system (OS/2, for example) that can run TCP/IP.

Hardware Requirements and Recommendations

Any remote workstation supporting IP with 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 *Installation Guide* that comes with TCP/IP.

Using Telnet to Remotely Log On to the Network Node Processor

Starting a Session

Important

Use the *Planning Guide*, GA33-0457 worksheets to fill in any required address and name fields.

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. For the next step, enter one of the following:

- `T 6` for a configuration
- `T 5` for management.

For more information, refer to the *Basic Operations Guide*, SA33-0177.

Closing a Session

To close the session, press Ctrl and C together.

Appendix A. 3746-950 Operator Control Panel

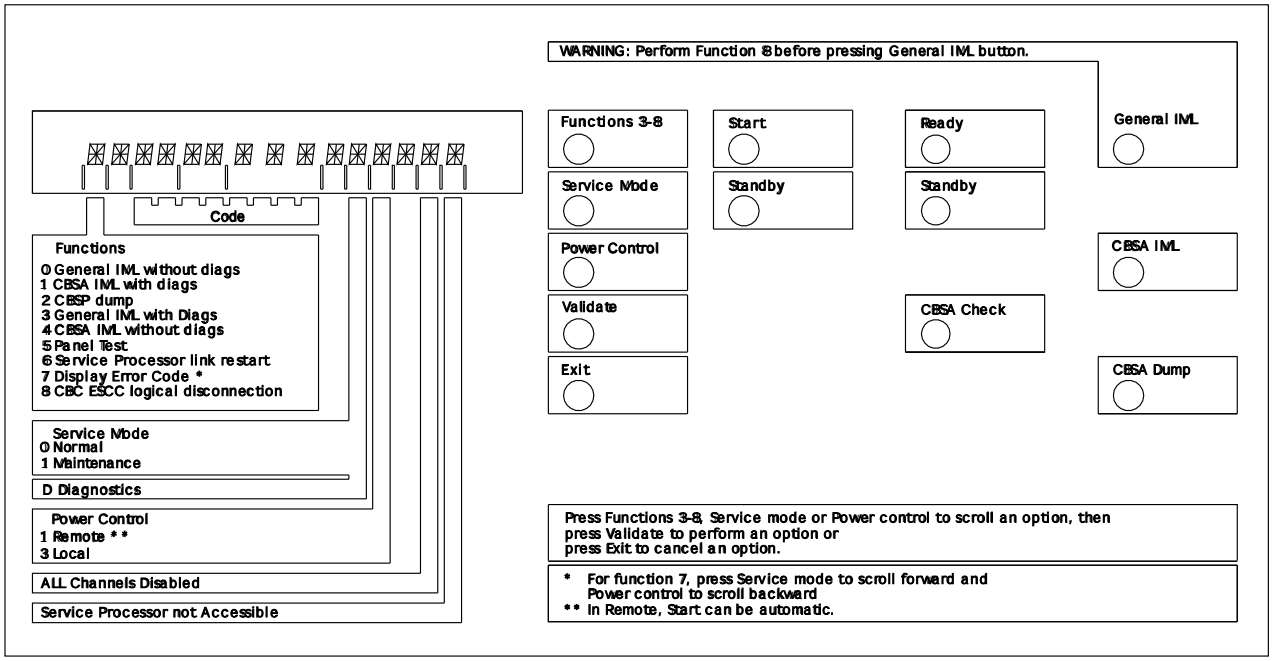
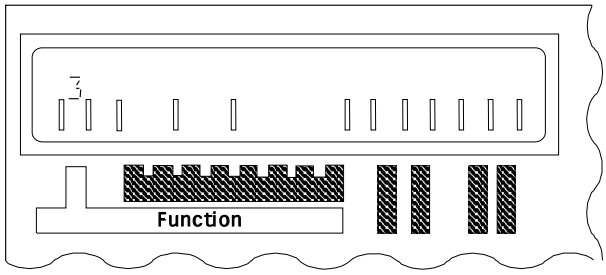


Figure A-1. 3746-950 Control Panel

Function Display



Note

The same control panel numbers on the 3746-950 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 3746-950 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 3746-950 Operator Control Panel" on page 4-4.

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 3746-950 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 3746-950 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:

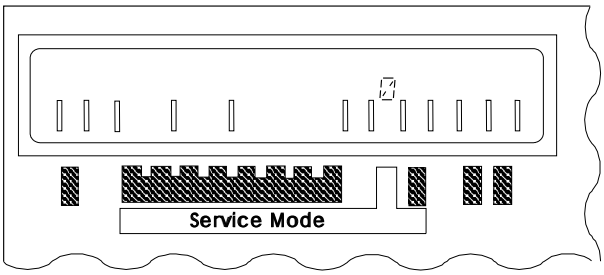
IML and IPL progression codes
: Track the different phases of a process and indicate when a process is complete.

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

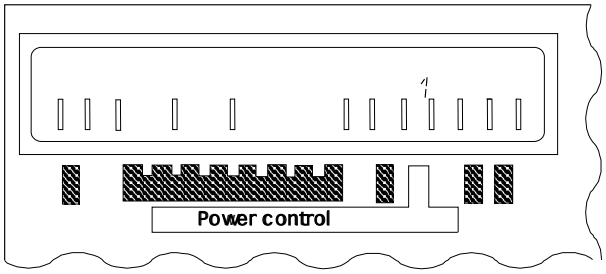


0 - Normal
: The mode for normal operations.

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

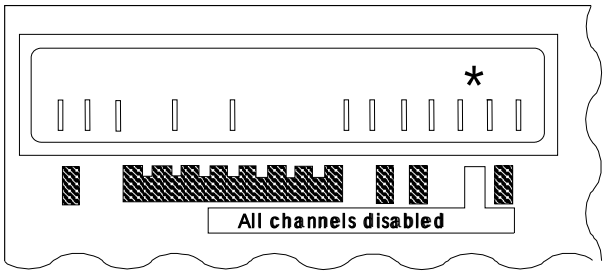
Mode for normal operations. In normal mode, you can perform the following:

- Activate and deactivate the 3746-950 from:
  - Attached host
  - 3745
  - Service processor.
- Automatic power ON restart, and IML if ac power is lost and restored.
- For a remote 3746-950, deactivation from a VTAM remote power OFF command (RPO).

3 - Local

Used only by an IBM service representative.

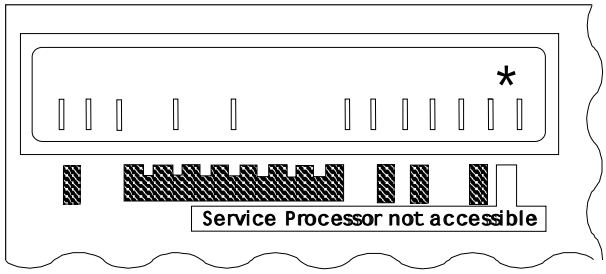
All ESCON Channel Adapters Disabled



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 3746-950 has failed or was not established. The MOSS-E can run, but it cannot exchange data with the 3746-950.

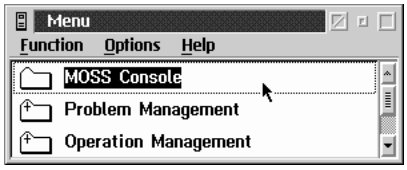
Other codes briefly display during power ON, IML or when there is a problem. If you want more details on these characters, see the *Problem Analysis Guide*.

Appendix B. MOSS-E Functions

This appendix describes the menus, tasks, and functions of **Customer Mode** in the service processor for operating the following:

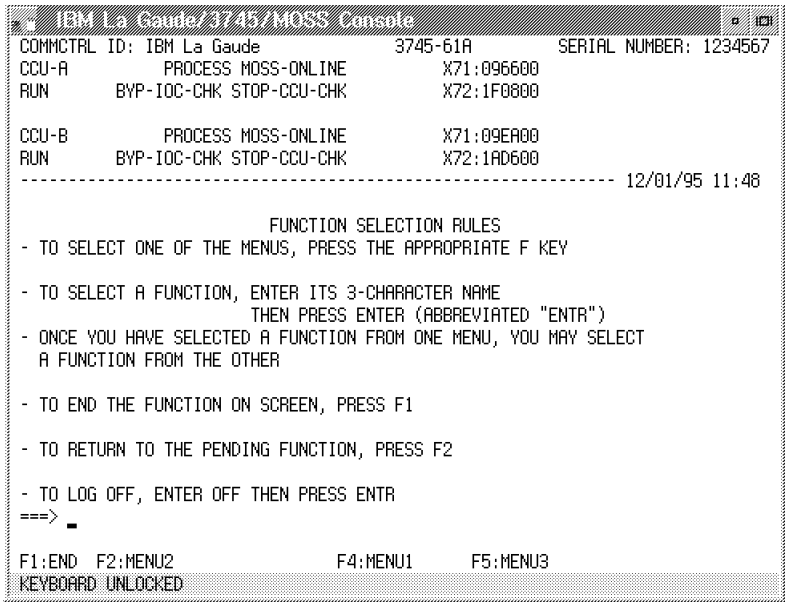
- 3745 Model A
- 3746-950
- Service Processor.

3745 Models A Tasks

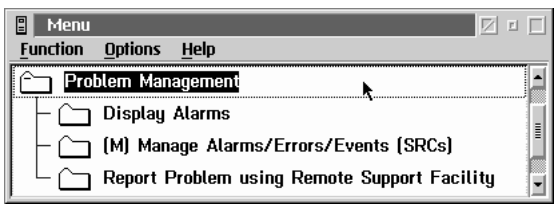


MOSS Console Functions

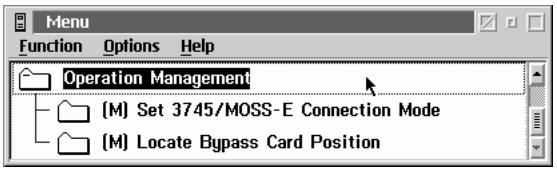
Double-click to display the 3745 MOSS console window.



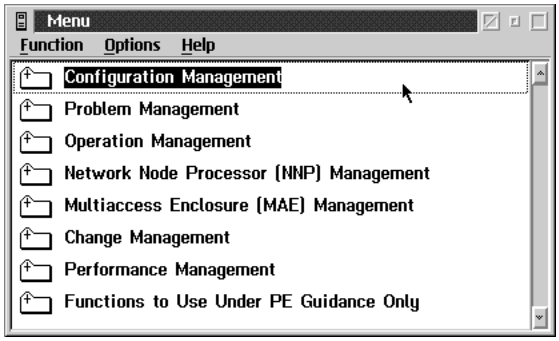
Problem Management Functions



Operation Management Functions

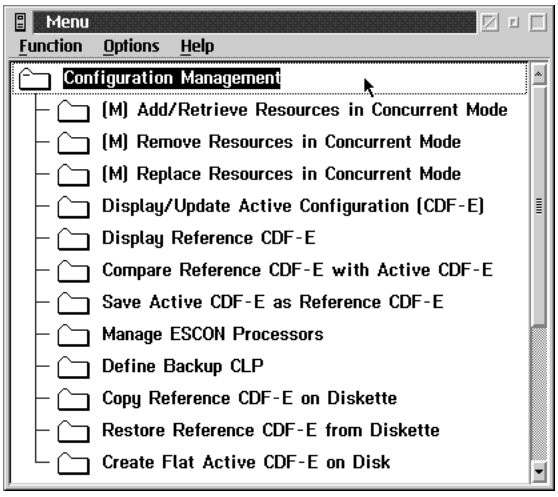


3746-950 Tasks

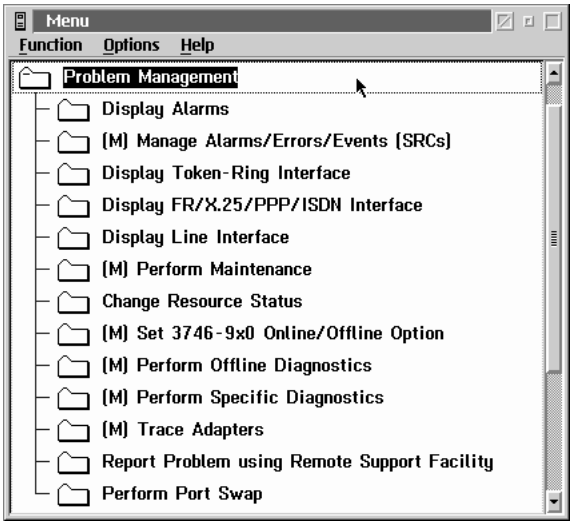


Configuration Management Functions

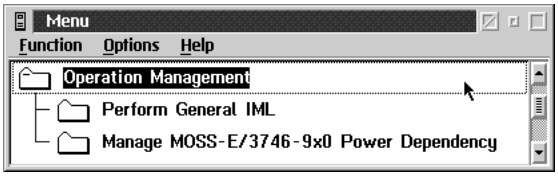
Note: Manage ESCON Processors is unavailable in the 3746-950NN or the 3746-950IP. Use **Network Node Processor (NNP) Management** instead.



Problem Management Functions

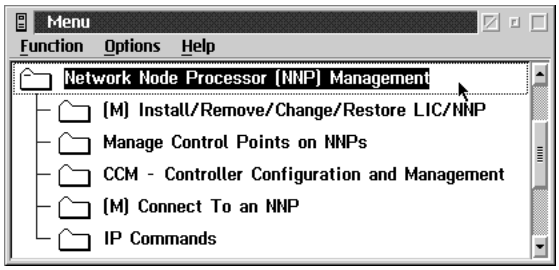


Operation Management Functions

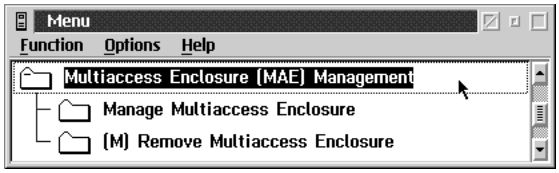


Network Node Processor (NNP) Management Functions

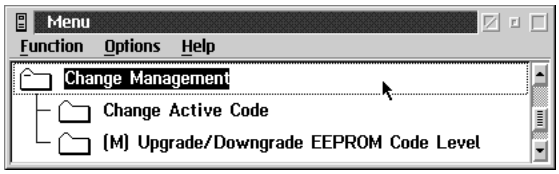
Note: The first function is available for the 3746-950. The other functions are available in the 3746-950NN and 3746-950IP.



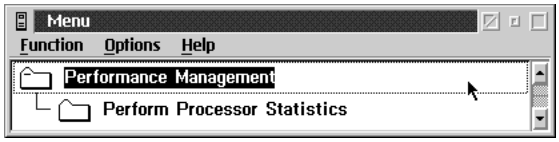
Multiaccess Enclosure (MAE) Management Functions



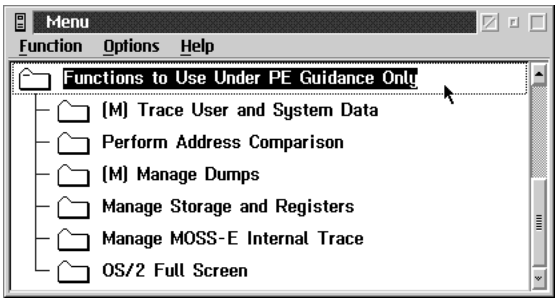
Change Management Functions



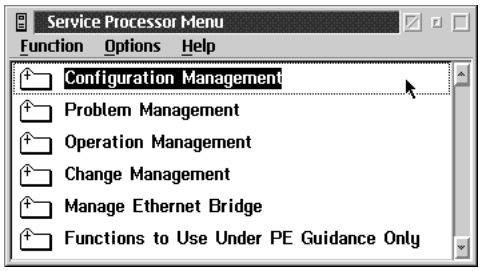
Performance Management Functions



Functions to Use Under PE Guidance Only

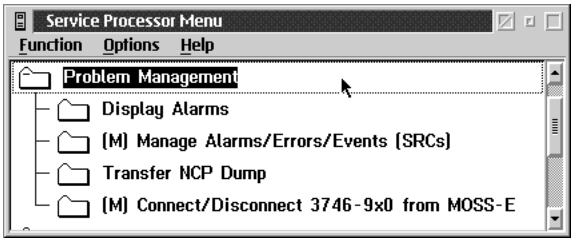


Service Processor Tasks

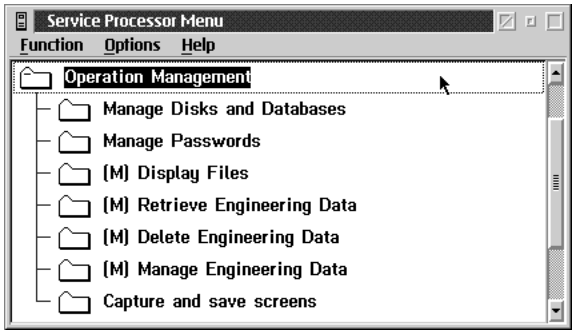


Configuration Management Functions

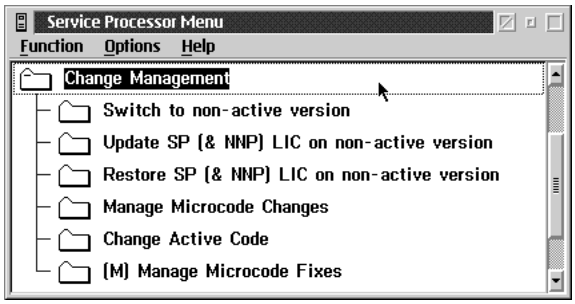
Problem Management Functions



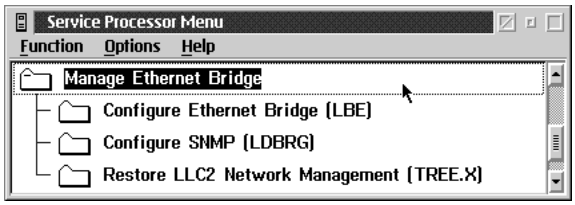
Operation Management Functions



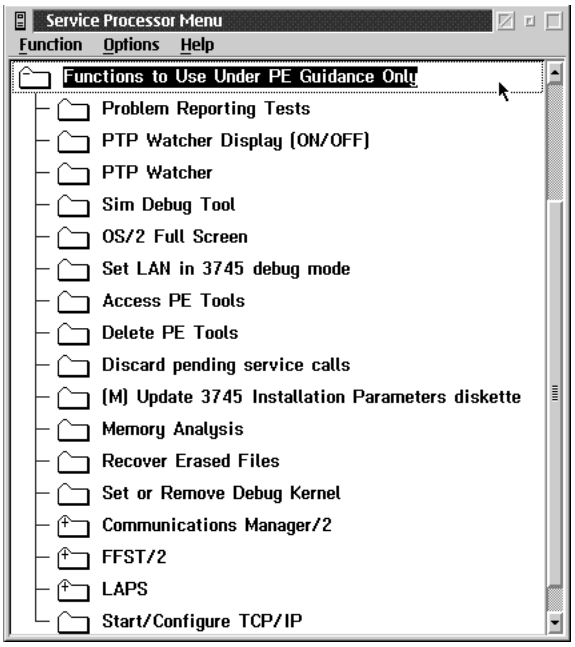
Change Management Functions



Manage Ethernet Bridge Functions



Functions to use Under PE Guidance Only



Appendix C. 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 C-1 below).

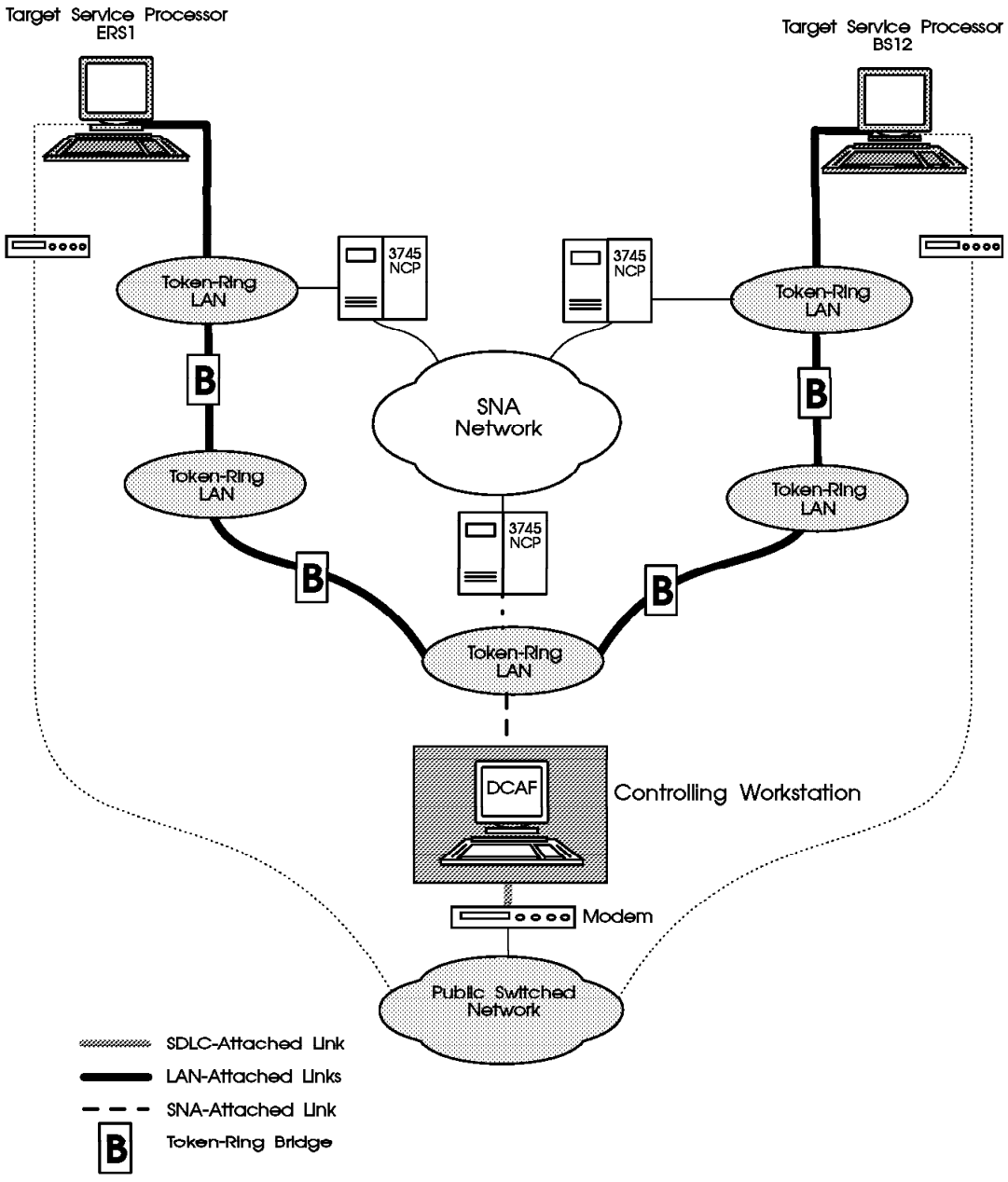


Figure C-1. A Two-Target Configuration

The example in Figure C-1 on page C-1 assumes that the workstation is running:

- CS/2 or CM/2.
- NCP Version 6, Release 2 or higher with 3746-950 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

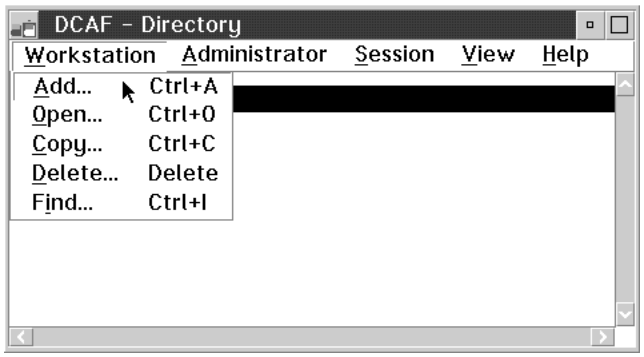
Step 1. From Desktop Manager, double-click the Distributed Console Access Facility icon.

Step 2. Double-click the DCAF Controller icon.

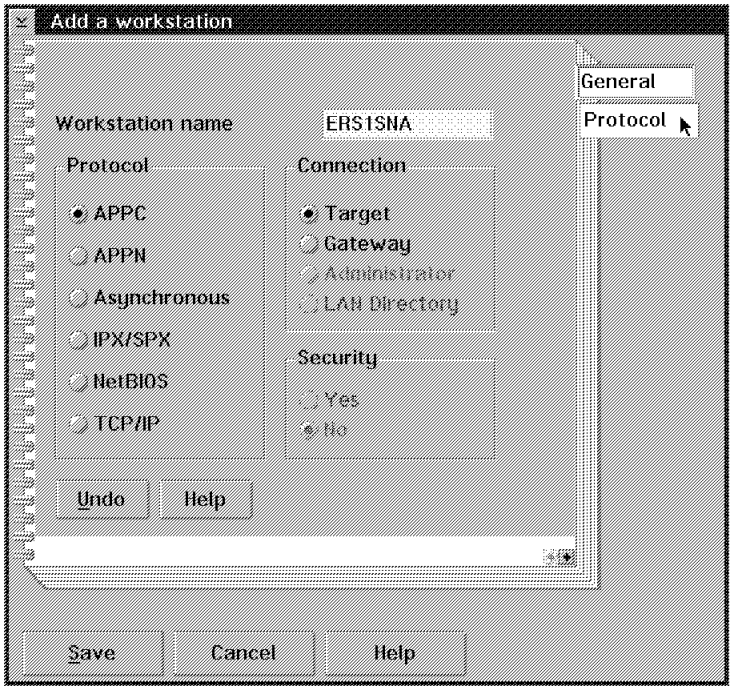
Step 3. Click **Session**, then **Open workstation directory**.

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

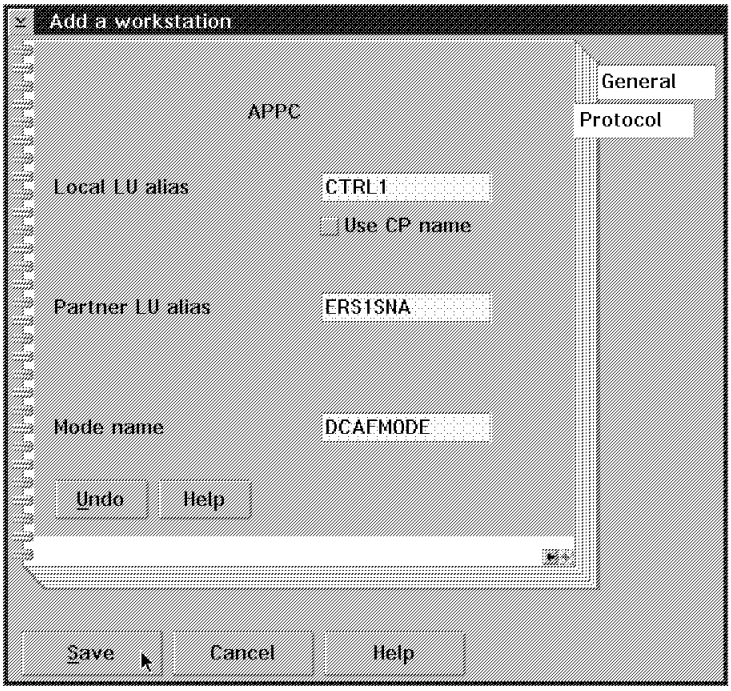
Step 5. From the DCAF Directory window, click **Workstation** then **Add**.



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 D. Configuring DLC for DCAF

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.

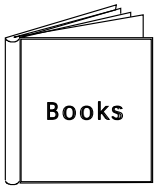
Adapter number	**0**
Load DLC	**Yes**
Free unused link	**No**
Maximum RU size	**4096**
Send Window Count	**4**
Receive Window Count	**4**
Line type	**Switched**
Link station role	**Primary**
Line mode	**Constant request to send**
NRZI	**Yes**
Modem rate	**Full speed**
Data set ready timeout	**5**
XID repoll count	**10**
Non-XID repoll count	**7**

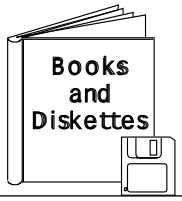
Appendix E. Bibliography

Customer Documentation for the 3746 Model 950

Table E-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

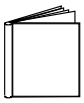
GA33-0400

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

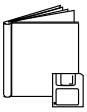
Planning Guide

Planning for:

- Field upgrades
- Service processor and alert management configuration
- Network integration (NCP, APPN, and IP control)
- Physical installation.

Table E-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]**

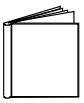
Explains how to:

- 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.

Index

Numerics

A

B

C

D

E

F

H

I

K

L

M

N

O

P

R

S

T

U

V

W

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Model 950
User's Guide

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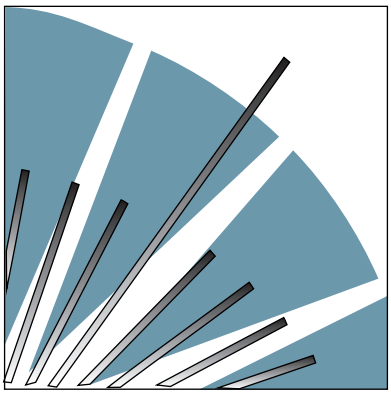

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