3.0 Configuring

This part contains sample configurations for the following communication protocols and instructions for adding workstations to the controller workstation directory.

- APPC/APPN. See "Sample Configurations for APPC Connections" in topic 3.1 through "Controller to the Security Administrator via APPC on a Token-Ring LAN" in topic 3.10.

- Asynchronous. See " Controller to a Target Directly via Asynchronous" in topic 3.11.

- IPX/SPX. See " Controller to a Target via IPX/SPX" in topic 3.13.

- NetBIOS. See " Controller to a Target Directly via NetBIOS" in topic 3.15 and "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16.

- TCP/IP. See " Controller to a Target via TCP/IP" in topic 3.17.

Some of these sample configurations show direct connections from the controller to the target. Others, between the controller and the gateway, show one segment of the connection between the controller and the target. You should complete the connection between the gateway and the target. "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16, provides the instructions to complete the connection. Use any combination of these sample configurations that most resemble your network.

For networks that use DCAF security, there are two sample configurations that show connections from the controller to the security administrator via APPC and via asynchronous. These connections enable the controller to send an updated pass phrase to the security administrator security database.

3.1 Sample Configurations for APPC Connections

This section describes various sample configurations of APPC connections between the DCAF workstations.

The following is a list of the sample configurations that are explained in this section:

- Controller to a target workstation via APPC on the same token-ring LAN
- Controller to a gateway workstation via APPC on the same token-ring LAN
- Controller to a gateway via APPC on the same workstation
- Controller to a target workstation via APPC through an SDLC link
- Controller to a gateway workstation via APPC through an SDLC link
- Controller to a target workstation via APPC on an Ethernet LAN
- Controller to a gateway workstation via APPC on an Ethernet LAN
- Controller to a security administrator workstation via APPC on the same token-ring LAN

The setup for each sample configuration shows an example, describes the required software, includes instructions for updating the Communications Manager (CM), and contains example configuration files for each workstation.

3.1.1 Before You Start

Before you start, there are some things that you should do or know first.

- The instructions in the sample configurations that appear in the following chapters assume that the DCAF is installed in default directory **c:\dcaf13**. If you installed the DCAF in a different drive and directory, modify all the instructions accordingly.
- If you are connecting two workstations on the same or different LANs, you need to know the LAN adapter address of the workstation that you will be linking to. To get the LAN adapter address, check the LANTRAN.LOG file in the IBMCOM directory on that workstation.

There are two approaches to updating the Communications Manager (CM):

- Using the Communications Manager/2 interface. If you have limited experience with CM, follow this approach.
- Editing the configuration files on the workstations manually. If you are an expert user of CM, you can use the configuration files listed at the end of each example to copy the parameters that differ to your configuration files. The configuration files (.NDF) for each scenario are also included on DCAF diskette 3.

  However, it is recommended that you use the CM/2 interface to configure and then compare your resulting configuration files with the ones supplied for each example.

Remember that, in any case, if this is a completely new configuration on the workstation, you need a .CFG file, which can be generated only through the CM-interface configuration process.

3.1.2 Starting the Communications Manager Setup

Choose the scenario that most resembles your network setup. Then, complete the steps to open the Communications Manager Profile List window. You update all the CM definitions from this window.

3.1.2.1 CM Setup for Configurations on a Token-Ring LAN

For the scenarios in the following list, complete the following procedure to open the Communications Manager Profile List window.

- Controller to a target via APPC on the same token-ring LAN
- Controller to a gateway via APPC on the same token-ring LAN
- Controller to a gateway via APPC on the same workstation
- Controller to a target via APPC/APPN on the same token-ring LAN
- Controller to a security authenticator via APPC on the same token-ring LAN

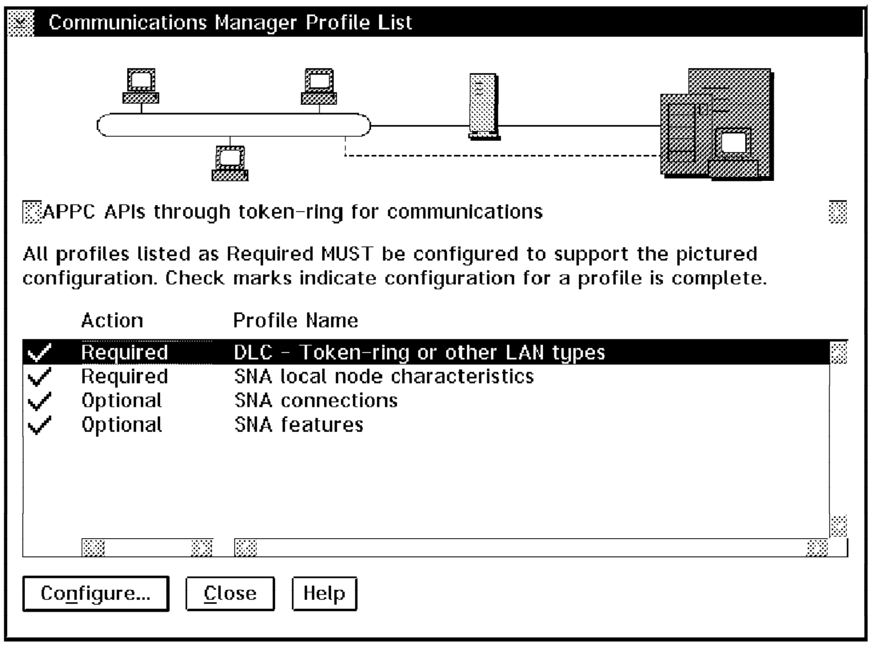
1. From your desktop, open the Communications Manager Setup icon or, at the OS/2 prompt, type **cmsetup** and press **Enter**. The Communications Manager/2 logo window appears.

2. Press the **OK** push button, and the Communications Manager/2 Setup window appears.

3. Press the **Setup...** push button. The Open Configuration window appears.

4. In the Configuration field, type your configuration filename, and press the **OK** push button. The Communications Manager Configuration Definition-xx window, where xx is the name of your configuration file, appears.

5. From the Workstation Connection Type list box, select Token-ring or other LAN types. From the Feature or Application list box, select APPC APIs, and press the **Configure...** push button. The Communications Manager Profile List window appears.



PICTURE 75

Figure 75. Example of the Communications Manager Profile List Window

6. You are now ready to define the CM parameters for your configuration. Continue, from the Communications Manager Profile List window, to define the CM parameters required for the scenario that you choose from "Configuring" in topic 3.0.

3.1.2.2 CM Setup for Configurations through an SDLC Link

For the scenarios in the following list, complete the following procedure to open the Communications Manager Profile List window.

- Controller to a target via APPC through an SDLC link
- Controller to a gateway via APPC through an SDLC link

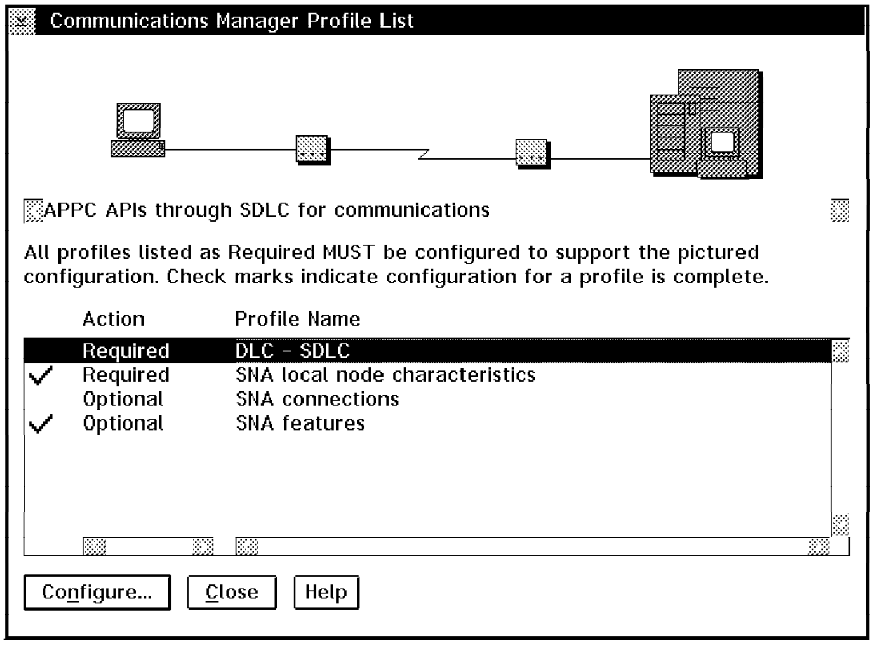
1. From your desktop, open the Communications Manager Setup icon or, at the OS/2 prompt, type **cmsetup** and press **Enter**. The Communications Manager/2 logo window appears.

2. Press the **OK** push button, and the Communications Manager/2 Setup window appears.

3. Press the **Setup...** push button. The Open Configuration window appears.

4. In the Configuration field, type your configuration filename, and press the **OK** push button. The Communications Manager Configuration Definition-xx window, where xx is the name of your configuration file, appears.

5. From the Workstation Connection Type list box, select SDLC. From the Feature or Application list box, select APPC APIs, and press the **Configure...** push button. The Communications Manager Profile List window appears.



PICTURE 76

Figure 76. Example of the Communications Manager Profile List Window

6. You are now ready to define the CM parameters for your configuration. Continue, from the Communications Manager Profile List window, to define the CM parameters required for the scenario that you choose from ″Configuring″ in topic 3.0.

3.1.2.3 CM Setup for Configurations on an Ethernet LAN

For the scenarios in the following list, complete the following procedure to open the Communications Manager Profile List window.

- Controller to a target via APPC on an Ethernet LAN
- Controller to a gateway via APPC on an Ethernet LAN

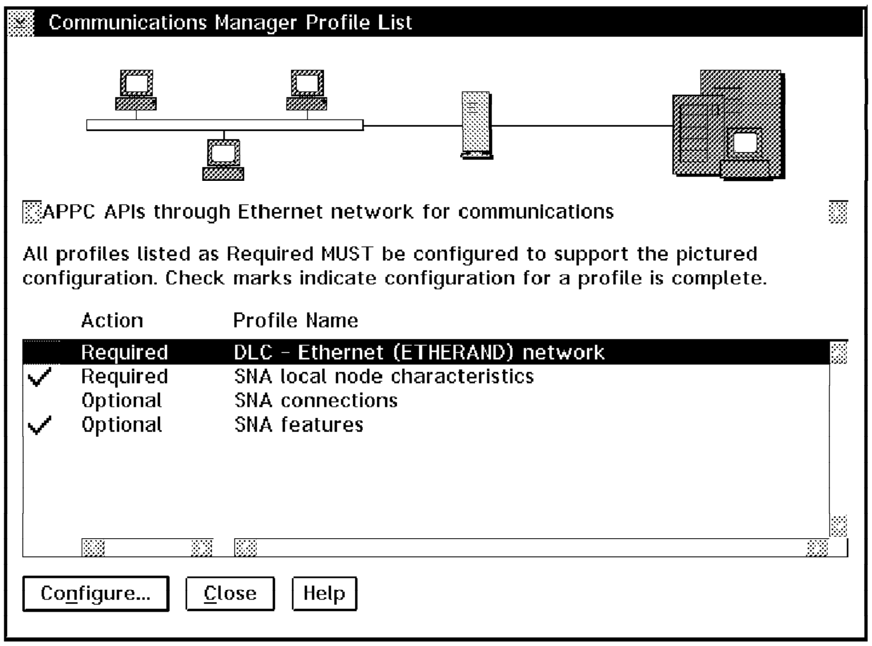
1. From your desktop, open the Communications Manager Setup icon or, at the OS/2 prompt, type **cmsetup** and press **Enter**. The Communications Manager/2 logo window appears.

2. Press the **OK** push button, and the Communications Manager/2 Setup window appears.

3. Press the **Setup...** push button. The Open Configuration window appears.

4. In the Configuration field, type your configuration filename, and press the **OK** push button. The Communications Manager Configuration Definition-xx window, where xx is the name of your configuration file, appears.

5. From the Workstation Connection Type list box, select Ethernet (ETHERAND) network. From the Feature or Application list box, select APPC APIs, and press the **Configure...** push button. The Communications Manager Profile List window appears.



PICTURE 77

Figure 77. Example of the Communications Manager Profile List Window

6. You are now ready to define the CM parameters for your configuration. Continue, from the Communications Manager Profile List window, to define the CM parameters required for the scenario that you choose from ″Configuring″ in topic 3.0.

3.1.3 Diagnosing Common Problems

This section includes the most common problems that occur during an APPC connection and their possible solutions. Most commonly, error message EQN0516 occurs with varying command text and return codes.

- Command: 1A00 / Return Code: F012-00000000

  Start the CM.

- Command: 1500 / Return Code: 0001-00000003

  Check the LU alias name in the workstation description in the DCAF directory. It must be uppercase.

- Command: 1500 / Return Code: 0003-00000004

  Check the CP name associated with the partner LU alias name in the .NDF file.

- Command: 1500 / Return Code: 0001-0000015B

  Check the partner LU alias name in the DCAF directory. It must be uppercase.

- Command: 1500 / Return Code: 0003-00000005

  If this connection works after the initial attempt but not subsequently, check that, in the DLC adapter profile, the Free Unused

Link parameter is set to NO.

- Command: 1600 / Return Code: 0002-00000509

  Try one of the following solutions:

  - Restart the target workstation after you install the DCAF.

  - Check the TP definition.

  - When the controller and gateway are on the same workstation, check that the conversation type for each one matches the other′s.

  - If this connection works after the initial attempt but not subsequently, check that the TP_OPERATION parameter in the target DEFINE_TP section is set to NONQUEUED_AM_STARTED.

  - In a peer-to-peer connection, check that the FQ_ADJACENT_CP_NAME in the workstation description in the controller directory matches the FQ_CP_NAME in the DEFINE_LOCAL_CP in the controller .NDF file.

- Command: 0B00 / Return Code: 0006-00000000

  If you find this message in the EQNTG.LOG file, you typed an incorrect password from the controller. Enter a correct password.

- Command: 1B00 / Return Code: F004-00000000

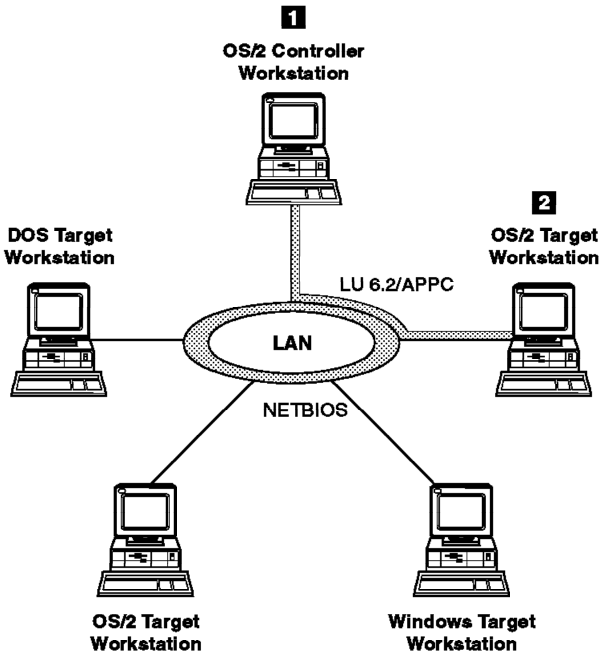
  Check that CM is running.

- Command: 0B00 / Return Code: 0009-00000000 or Command: 0F00 / Return Code: 0006-00000000

  Check that the gateway is running.

3.2 Controller to a Target via APPC on the Same Token-Ring LAN

This scenario describes how to set up a direct APPC connection between controller and target workstations that are on the same logical token-ring LAN. Figure 78 shows the setup.



PICTURE 78

Figure 78. Example of Direct APPC Connection between Controller and Target Workstations on a LAN

Make sure that the following programs (see Table 7) are installed on the workstations.

Table 7. Software Needed for Controller to Target on the Same Token-Ring LAN Configuration

Controller Workstation 1	Target Workstation 2
• OS/2 Version 2.1	• OS/2 Version 2.1
• DCAF 1.31 controller	• DCAF 1.31 OS/2 target
• Communications Manager/2 1.10	• Communications Manager/2 1.10

See "CM Setup for Configurations on a Token-Ring LAN" in topic 3.1.2.1 for instructions on how to begin the CM setup procedure. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.2.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).
- Local Logical Unit (LU).
- Partner LU (PLU). It must match the local LU defined on the target.
- Mode. It is the same mode as on the target.
- Transaction Program (TP) for the controller.
- Connection to the target.

For the target workstation, update the following:

- DLC.
- CP.
- Local LU.
- PLU. It must match the local LU defined on the controller.
- Mode. It is the same mode as on the controller.
- TP (for the target).

3.2.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear.

3.2.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-ring or other LAN types. Press the **Configure...** push button. The Token-ring or other LAN types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.2.1.1.2 Defining the Local Node Name (CP Name)

To define the CP, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field,

type **CNTROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNTROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.2.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.2.1.1.4 Defining the PLU

To define the PLU, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs.

2. Press the **Create...** push button. The Partner LU window appears.

3. In the Fully qualified LU name field, type **DCAFNET TARGETLU**.

4. In the Alias field, type **TARGETLU**. Do not change any other defaults. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.2.1.1.5 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.2.1.1.6 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select

Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBMDCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.2.1.1.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select Token-ring or other LAN types. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the LAN destination address (hex) field, type the LAN address of the target workstation. To get the LAN address of the target workstation, see the second bullet under "Before You Start" in topic 3.1.1. In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **TARGETCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

Would you like to dynamically update your SNA resources?

appears. Press the **Yes** push button.

Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

12. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used in defining the local LU and the partner LU on the controller. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.2.1.2 Updating CM Definitions for the Target

Update the following definitions on the target workstation in the order they appear.

3.2.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-ring or other LAN types. Press the **Configure...** push button. The Token-ring or other LAN types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.2.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **TARGETCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name field, type **TARGETCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP Definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.2.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.2.1.2.4 Defining the Destination PLU

To define the PLU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs. Press the **Create...** push button. The Partner LU window appears.

2. In the Fully qualified LU name field, type **DCAFNET.CNTROLLU**.

3. In the Alias field, type **CNTROLLU**. Do not change any other defaults.

4. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.2.1.2.5 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.2.1.2.6 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.TARGET.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNTGAUT.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Presentation Manager. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

5. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

6. Press the **Close** push button. If the file that you are updating is currently active, the message

   Would you like to dynamically update your SNA resources?

   appears. Press the **Yes** push button.

   Otherwise, stop CM and restart it to update your SNA resources.

7. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You are now ready to start the DCAF session. See Distributed Console Access Facility User's Guide.

3.2.2 Editing the Configuration Files Manually

This section contains the .NDF files that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.2.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.2.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file TKRCTR01.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
```

```
                    HOST_FP_LINK_NAME(HOST0001)
                    MAX_COMP_LEVEL(NONE)
                    MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK LINK_NAME(LINK0001)
                    FQ_ADJACENT_CP_NAME(DCAFNET.TARGETCP)
                    ADJACENT_NODE_TYPE(LEARN)
                    DLC_NAME(IBMTRNET)
                    ADAPTER_NUMBER(0)
                    DESTINATION_ADDRESS(LAN adapter address of destination workstation)
                    ETHERNET_FORMAT(NO)
                    CP_CP_SESSION_SUPPORT(NO)
                    ACTIVATE_AT_STARTUP(NO)
                    LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                    LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                    SOLICIT_SSCP_SESSION(NO)
                    MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                    USE_PUNAME_AS_CPNAME(NO)
                    EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                    COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                    COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                    SECURITY(USE_ADAPTER_DEFINITION)
                    PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                    USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                    USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                    USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU     LU_NAME(CNTROLLU)
                    DESCRIPTION(Local LU for DCAF Controller)
                    LU_ALIAS(CNTROLLU)
                    NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.TARGETLU)
                    PARTNER_LU_ALIAS(TARGETLU)
                    PARTNER_LU_UNINTERPRETED_NAME(TARGETLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION  FQ_PARTNER_LU_NAME(DCAFNET.TARGETLU)
                            WILDCARD_ENTRY(NO)
                            FQ_OWNING_CP_NAME(DCAFNET.TARGETCP)
                            LOCAL_NODE_NN_SERVER(NO);

DEFINE_MODE     MODE_NAME(DCAFMODE)
                DESCRIPTION(DCAF 1.31 Session Values)
                COS_NAME(#CONNECT)
                DEFAULT_RU_SIZE(NO)
                MAX_RU_SIZE_UPPER_BOUND(1024)
                RECEIVE_PACING_WINDOW(8)
                MAX_NEGOTIABLE_SESSION_LIMIT(8)
                PLU_MODE_SESSION_LIMIT(8)
                MIN_CONWINNERS_SOURCE(1)
                COMPRESSION_NEED(PROHIBITED)
                PLU_SLU_COMPRESSION(NONE)
                SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS     IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                    DEFAULT_MODE_NAME(BLANK)
                    MAX_MC_LL_SEND_SIZE(32767)
                    DIRECTORY_FOR_INBOUND_ATTACHES(*)
                    DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                    DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
```

```
                    DEFAULT_TP_CONV_SECURITY_RQD(NO)
                    MAX_HELD_ALERTS(10);

DEFINE_TP    TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
             DESCRIPTION(DCAF 1.31 Controller TP)
             PIP_ALLOWED(NO)
             FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
             CONVERSATION_TYPE(BASIC)
             CONV_SECURITY_RQD(NO)
             SYNC_LEVEL(NONE)
             TP_OPERATION(NONQUEUED_AM_STARTED)
             PROGRAM_TYPE(BACKGROUND)
             RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 79. Sample .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed configuration for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used to configure the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.2.2.2 Updating the .NDF File for the Target

On the target workstation, make the following updates in the .NDF file. You can find a copy of this file TKRTAR01.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.TARGETCP)
                  CP_ALIAS(TARGETCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOCAL_LU   LU_NAME(TARGETLU)
                  LU_ALIAS(TARGETLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                    PARTNER_LU_ALIAS(CNTROLLU)
                    PARTNER_LU_UNINTERPRETED_NAME(CNTROLLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
```

```
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 SESSION VALUES)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(NO)
              MAX_RU_SIZE_UPPER_BOUND(1024)
              RECEIVE_PACING_WINDOW(8)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(1)
              COMPRESSION_NEED(PROHIBITED)
              PLU_SLU_COMPRESSION(NONE)
              SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                  DEFAULT_MODE_NAME(BLANK)
                  MAX_MC_LL_SEND_SIZE(32767)
                  DIRECTORY_FOR_INBOUND_ATTACHES(*)
                  DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                  DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                  DEFAULT_TP_CONV_SECURITY_RQD(NO)
                  MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(IBM.DCAF.TARGET.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 TARGET TP)
            PIP_ALLOWED(NO)
            FILESPEC(C:\DCAF13\EQNTGAUT.EXE)
            CONVERSATION_TYPE(ANY_TYPE)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(EITHER)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(PRESENTATION_MANAGER)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 80. Sample .NDF File on a Target

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

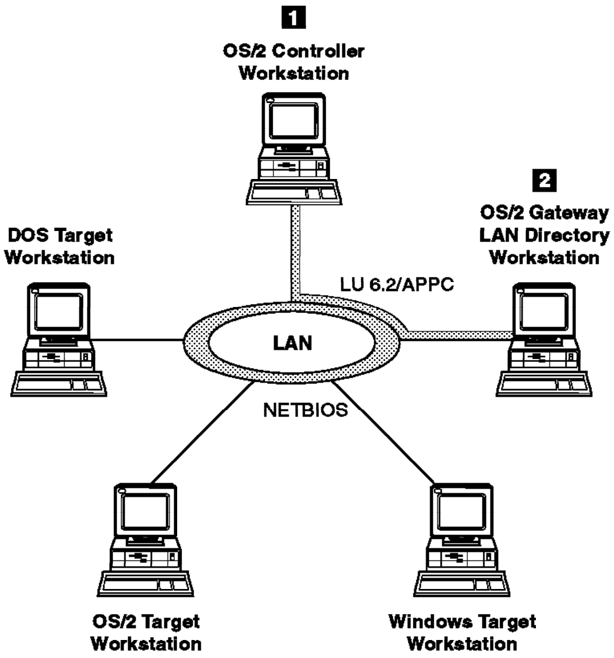
You have completed the configuration for this scenario. You are ready to start the DCAF session. See Distributed Console Access Facility User's Guide.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16 to complete the connection between the gateway and the target.

For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

3.3 Controller to a Gateway via APPC on the Same Token-Ring LAN

This scenario describes how to set up a direct APPC connection between a controller and gateway that are on the same logical token-ring LAN. Figure 81 shows the setup.



PICTURE 79

Figure 81. Example of Direct APPC Connection between Controller and Gateway on a LAN

This setup simplifies configuration, because you configure only the controller and gateway for an APPC connection. For the connection between the gateway, LAN directory, and the target workstations, you only need to assign NetBIOS resources to the gateway, LAN directory, and target.

Make sure that the following programs (see Table 8) are installed on the workstations.

Table 8. Software Needed for Controller to Gateway on the Same Token-Ring LAN Configuration

Controller Workstation 1	Gateway Workstation 2
• OS/2 Version 2.1	• OS/2 Version 2.1

• DCAF 1.31 controller	• DCAF 1.31 gateway
• Communications Manager/2 1.10	• Communications Manager/2 1.10

See "CM Setup for Configurations on a Token-Ring LAN" in topic 3.1.2.1 for instructions on how to begin the CM setup procedure for this type of Configuration. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.3.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).
- Local Logical Unit (LU).
- Partner LU (PLU). It must match the local LU defined on the gateway.
- Mode. It is the same mode as on the gateway.
- Transaction Program (TP) for the controller.
- Connection to the gateway.

For the gateway, update the following:

- DLC.
- CP.
- Local LU.
- PLU. It must match the local LU defined on the controller.
- Mode. It is the same mode as on the controller.
- TP for the gateway.

3.3.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear. All field entries are suggested input to get DCAF running for this scenario. You can use these entries or any other values you want.

3.3.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-Ring or other LAN Types. Press the **Configure...** push button. The Token-Ring or other LAN Types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.3.1.1.2 Defining the Local Node Name (CP Name)

To define the local node name, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **CNTROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNTROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.3.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.3.1.1.4 Defining the PLU

To define the PLU, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs.

2. Press the **Create...** push button. The Partner LU window appears.

3. In the Fully qualified LU name field, type **DCAFNET.GTWAYLU**.

4. In the Alias field, type **GTWAYLU**. Do not change any other defaults. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.3.1.1.5 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other

defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.3.1.1.6 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.3.1.1.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select Token-Ring or other LAN Types. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the LAN destination address (hex) field, type the LAN address of the gateway workstation. To get the LAN address of the gateway workstation, see the second bullet under "Before You Start" in topic 3.1.1. In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **GTWAYCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **GTWAYLU**. In the Alias field, type **GTWAYLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

    Would you like to dynamically update your SNA resources?

    appears. Press the **Yes** push button.

    Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

12. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the controller. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used to configure the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.3.1.2 Updating CM Definitions for the Gateway

Update the following definitions on the gateway in the order they appear. All field entries are suggested input to get DCAF running for this scenario. You can use these entries or any other values you want.

3.3.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-Ring or other LAN Types. Press the **Configure...** push button. The Token-Ring or other LAN Types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.3.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the

Configure... push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **GTWAYCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name field, type **GTWAYCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP Definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.3.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **GTWAYLU**. In the Alias field, type **GTWAYLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.3.1.2.4 Defining the Destination PLU

To define the PLU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs. Press the **Create...** push button. The Partner LU window appears.

2. In the Fully qualified LU name field, type **DCAFNET.CNTROLLU**.

3. In the Alias field, type **CNTROLLU**. Do not change any other defaults.

4. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.3.1.2.5 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.3.1.2.6 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNGTWAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

5. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

6. Press the **Close** push button. If the file that you are updating is currently active, the message

   Would you like to dynamically update your SNA resources?

   appears. Press the **Yes** push button.

   Otherwise, stop CM and restart it to update your SNA resources.

7. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See ″Gateway to a Target via NetBIOS on a Logical LAN″ in topic 3.16 to complete the connection between the gateway and the target.

3.3.2 Editing the Configuration Files Manually

This section contains the configuration files (.NDF) that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from ″Using the CM Interface to Update the CM Definitions″ in topic 3.3.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.3.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file TKRCTR02.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
                  HOST_FP_LINK_NAME(HOST0001)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      FQ_ADJACENT_CP_NAME(DCAFNET.GTWAYCP)
                      ADJACENT_NODE_TYPE(LEARN)
                      DLC_NAME(IBMTRNET)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(LAN adapter address of destination workstation)
                      ETHERNET_FORMAT(NO)
                      CP_CP_SESSION_SUPPORT(NO)
                      ACTIVATE_AT_STARTUP(NO)
                      LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      USE_PUNAME_AS_CPNAME(NO)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU   LU_NAME(CNTROLLU)
                  DESCRIPTION(Local LU for DCAF Controller)
                  LU_ALIAS(CNTROLLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.GTWAYLU)
                    PARTNER_LU_ALIAS(GTWAYLU)
                    PARTNER_LU_UNINTERPRETED_NAME(GTWAYLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION   FQ_PARTNER_LU_NAME(DCAFNET.GTWAYLU)
                             WILDCARD_ENTRY(NO)
                             FQ_OWNING_CP_NAME(DCAFNET.GTWAYCP)
                             LOCAL_NODE_NN_SERVER(NO);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 Session Values)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(YES)
              RECEIVE_PACING_WINDOW(8)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(1)
```

```
                    COMPRESSION_NEED(PROHIBITED)
                    PLU_SLU_COMPRESSION(NONE)
                    SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS  IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                 DEFAULT_MODE_NAME(BLANK)
                 MAX_MC_LL_SEND_SIZE(32767)
                 DIRECTORY_FOR_INBOUND_ATTACHES(*)
                 DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                 DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                 DEFAULT_TP_CONV_SECURITY_RQD(NO)
                 MAX_HELD_ALERTS(10);

DEFINE_TP  TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
           DESCRIPTION(DCAF 1.31 Controller TP)
           PIP_ALLOWED(NO)
           FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
           CONVERSATION_TYPE(BASIC)
           CONV_SECURITY_RQD(NO)
           SYNC_LEVEL(NONE)
           TP_OPERATION(NONQUEUED_AM_STARTED)
           PROGRAM_TYPE(BACKGROUND)
           RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 82. Example .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type cmverify filename /e. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed configuration for the controller. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used to configure the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.3.2.2 Updating the .NDF File for the Gateway

On the gateway, make the following updates in the .NDF file. You can find a copy of this file TKRGWY02.NDF on DCAF diskette 3.

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type cmverify filename /e.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16 to complete the connection between the gateway and the target.

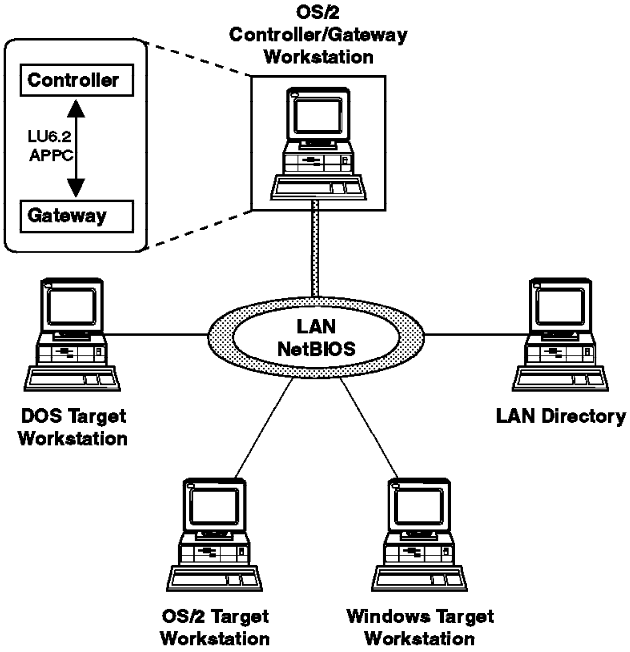
For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

```
DEFINE_LOCAL_CP    FQ_CP_NAME(DCAFNET.GTWAYCP )
                   CP_ALIAS(GTWAYCP)
                   NAU_ADDRESS(INDEPENDENT_LU)
                   NODE_TYPE(EN)
                   NODE_ID(local node ID)
                   NW_FP_SUPPORT(NONE)
                   HOST_FP_SUPPORT(YES)
                   MAX_COMP_LEVEL(NONE)
                   MAX_COMP_TOKENS(0);

DEFINE_LOCAL_LU    LU_NAME(GTWAYLU)
                   DESCRIPTION(Local LU for DCAF Gateway)
                   LU_ALIAS(GTWAYLU)
                   NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU    FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                     PARTNER_LU_ALIAS(CNTROLLU)
                     PARTNER_LU_UNINTERPRETED_NAME(CNTROLLU)
                     MAX_MC_LL_SEND_SIZE(32767)
                     CONV_SECURITY_VERIFICATION(NO)
                     PARALLEL_SESSION_SUPPORT(YES);

DEFINE_MODE    MODE_NAME(DCAFMODE)
               DESCRIPTION(DCAF 1.31 SESSION VALUES)
               COS_NAME(#CONNECT)
               DEFAULT_RU_SIZE(YES)
               RECEIVE_PACING_WINDOW(8)
               MAX_NEGOTIABLE_SESSION_LIMIT(8)
               PLU_MODE_SESSION_LIMIT(8)
               MIN_CONWINNERS_SOURCE(1)
               COMPRESSION_NEED(PROHIBITED)
               PLU_SLU_COMPRESSION(NONE)
               SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS    IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                   DEFAULT_MODE_NAME(BLANK)
                   MAX_MC_LL_SEND_SIZE(32767)
                   DIRECTORY_FOR_INBOUND_ATTACHES(*)
                   DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                   DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                   DEFAULT_TP_CONV_SECURITY_RQD(NO)
                   MAX_HELD_ALERTS(10);

DEFINE_TP    TP_NAME(IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM)
             DESCRIPTION(DCAF 1.31 GATEWAY TP)
             PIP_ALLOWED(NO)
             FILESPEC(C:\DCAF13\EQNGTWAM.EXE)
             CONVERSATION_TYPE(ANY_TYPE)
             CONV_SECURITY_RQD(NO)
             SYNC_LEVEL(EITHER)
             TP_OPERATION(NONQUEUED_AM_STARTED)
             PROGRAM_TYPE(BACKGROUND)
             RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 83. Example .NDF File on a Gateway

3.4 Controller to a Gateway via APPC on the Same Workstation

This scenario describes how to set up a direct APPC connection between a controller and gateway that are on the same workstation. Figure 84 shows the setup.



PICTURE 80

Figure 84. Example of Direct APPC Connection between Controller and Gateway on the Same Workstation

This setup simplifies configuration, because you make fewer CM definitions for an APPC connection between the controller and gateway on the same workstation. For the connection between the gateway, LAN directory, and the target workstation, you only need to assign NetBIOS resources to the gateway, LAN directory, and target.

Make sure that the following programs (see Table 9) are installed on the workstations.

Table 9. Software Needed for Controller to Gateway on the Same Workstation Configuration

Controller/Gateway Workstation
• OS/2 Version 2.1

- DCAF 1.31 controller
- DCAF 1.31 gateway
- Communications Manager/2 1.10

See "CM Setup for Configurations on a Token-Ring LAN" in topic 3.1.2.1 for instructions on how to begin the CM setup procedure for this type of configuration. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.4.1 Using the CM Interface to Update the CM Definitions

On the workstation update the following definitions:

- Data Link Control (DLC).
- Local Node Name (CP name).
- Local Logical Unit (LU). One for the controller and one for the gateway.
- Mode.
- Transaction Program (TP) for the controller.
- Transaction Program (TP) for the gateway.

3.4.1.1 Updating the CM Definitions for the Controller/Gateway Workstation

Update the following definitions on the workstation in the order in which they appear.

3.4.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-Ring or other LAN Types. Press the **Configure...** push button. The Token-Ring or other LAN Types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.4.1.1.2 Defining the Local Node Name (CP Name)

To define the local node name, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field,

type **CNTROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNTROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.4.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

4. Define another LU for the gateway: repeat the previous steps in Defining the Local LU, starting from Step 2 above. In the LU name and Alias fields, type **GTWAYLU**. From the NAU address box, select Independent LU.

3.4.1.1.4 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.4.1.1.5 Defining the TP

Define transaction programs for both the controller and the gateway.

To define the Transaction Program for the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

To define the Transaction Program for the gateway, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNGTWAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

5. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

6. Press the **Close** push button. If the file that you are updating is currently active, the message

   Would you like to dynamically update your SNA resources?

   appears. Press the **Yes** push button.

   Otherwise, stop CM and restart it to update your SNA resources.

7. To close the Communications Manager/2 Setup Window, press the **Close** push button.

8. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the controller/gateway workstation. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used in defining the local LU and the partner LU in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16 to complete the connection between the gateway and the target.

Then you are ready to start a session. See the Distributed Console Access Facility User's Guide.

3.4.2 Editing the Configuration Files Manually

This section contains the configuration file (.NDF) that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.4.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.4.2.1 Updating the .NDF File for the Controller/Gateway Workstation

On the controller/gateway workstation, make the following updates in the .NDF file. You can find a copy of this file TKRCTGW3.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
                  HOST_FP_LINK_NAME(HOST0001)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);


DEFINE_LOCAL_LU   LU_NAME(CNTROLLU)
                  DESCRIPTION(Local LU for DCAF Controller)
                  LU_ALIAS(CNTROLLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_LOCAL_LU   LU_NAME(GTWAYLU)
                  DESCRIPTION(Local LU for DCAF Gateway)
                  LU_ALIAS(GTWAYLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 Session Values)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(NO)
              MAX_RU_SIZE_UPPER_BOUND(1024)
              RECEIVE_PACING_WINDOW(8)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(1)
              COMPRESSION_NEED(PROHIBITED)
              PLU_SLU_COMPRESSION(NONE)
              SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                  DEFAULT_MODE_NAME(BLANK)
```

```
                    MAX_MC_LL_SEND_SIZE(32767)
                    DIRECTORY_FOR_INBOUND_ATTACHES(*)
                    DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                    DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                    DEFAULT_TP_CONV_SECURITY_RQD(NO)
                    MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 Controller TP)
            PIP_ALLOWED(NO)
            FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
            CONVERSATION_TYPE(BASIC)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(NONE)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(BACKGROUND)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

DEFINE_TP   TP_NAME(IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 GATEWAY TP)
            PIP_ALLOWED(NO)
            FILESPEC(C:\DCAF13\EQNGTWAM.EXE)
            CONVERSATION_TYPE(ANY_TYPE)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(EITHER)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(BACKGROUND)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 85. Example .NDF File on a Controller/Gateway Workstation

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

> **Note**
>
> You have completed the configuration for the workstation. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU in this scenario. See ″Adding a Workstation″ in topic 3.18.1 for instructions.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through a gateway. You must complete the connection between the gateway and the target. See ″Gateway to a Target via NetBIOS on a Logical LAN″ in topic 3.16 for instructions.

For diagnosis and problem solving for this scenario, see ″Diagnosing Common Problems″ in topic 3.1.3.

3.5 Controller to a Target via APPN on a Token-Ring LAN

This scenario describes how to set up a direct APPN connection between controller and target workstations that are on the same logical token-ring LAN. Figure 86 shows the setup.

PICTURE 81

Figure 86. Example of Direct APPN Connection between Controller and Target on a LAN

Make sure that the following programs (see Table 10) are installed on the workstations.

Table 10. Software Needed for Controller to Target via APPN on a Token-Ring LAN

Controller Workstation 1	Target Workstation 2
• OS/2 Version 2.1	• OS/2 Version 2.1
• DCAF 1.31 controller	• DCAF 1.31 OS/2 target
• Communications Manager/2 1.10	• Communications Manager/2 1.10

See "CM Setup for Configurations on a Token-Ring LAN" in topic 3.1.2.1 for instructions on how to begin the CM setup procedure for this type of configuration. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.5.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).

- Local Logical Unit (LU).
- Mode. It is the same mode as on the target.
- Transaction Program (TP) for the controller.

For the target, update the following:

- DLC.
- CP.
- Local LU.
- Mode. It is the same mode as on the controller.
- TP (for the target).
- Connection (to the controller).

3.5.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear.

3.5.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-ring or other LAN types. Press the **Configure...** push button. The Token-ring or other LAN types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.5.1.1.2 Defining the Local Node Name (CP Name)

To define the local node name, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **TARGETCP**. From the Node Type box, select End node to network node server. In the Your network node server address (hex) field, type the adjacent network node adapter address. Press the **Options...** push button. The Local Node Options window appears.

3. Check the Activate Attach Manager at startup checkbox. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.5.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.5.1.1.4 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.5.1.1.5 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

6. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

7. Press the **Close** push button. If the file that you are updating is currently active, the message

   Would you like to dynamically update your SNA resources?

   appears. Press the **Yes** push button.

   Otherwise, stop CM and restart it to update your SNA resources.

8. To close the Communications Manager/2 Setup Window, press the **Close** push button.

9. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU on the controller and the LU name on the target in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.5.1.2 Updating CM Definitions for the Target

Update the following definitions on the target workstation in the order in which they appear.

3.5.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-ring or other LAN types. Press the **Configure...** push button. The Token-ring or other LAN types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.5.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **TARGETCP**. From the Node Type box, select End node to network node server. In the Your network node server address (hex) field,

type the adjacent network node adapter address. Press the **Options...** push button. The Local Node Options window appears.

3. Check the Activate Attach Manager at startup checkbox. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.5.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.5.1.2.4 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.5.1.2.5 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.TARGET.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNTGAUT.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Presentation Manager. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the

Close push button. The Communications Manager Profile List window reappears.

5. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

6. Press the **Close** push button. The Communications Manager/2 Setup Window reappears.

7. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You have completed the configuration for this scenario. You are now ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

3.5.2 Editing the Configuration Files Manually

This section contains the .NDF files that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.5.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.5.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file APNCTR04.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
                  HOST_FP_LINK_NAME(HOST0001)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      ADJACENT_NODE_TYPE(NN)
                      DLC_NAME(IBMTRNET)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(LAN adapter address of adjacent network node)
                      CP_CP_SESSION_SUPPORT(YES)
                      ACTIVATE_AT_STARTUP(YES)
                      LIMITED_RESOURCE(NO)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
```

```
                    SECURITY(USE_ADAPTER_DEFINITION)
                    PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                    USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                    USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                    USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU  LU_NAME(CNTROLLU)
                 DESCRIPTION(Local LU for DCAF Controller)
                 LU_ALIAS(CNTROLLU)
                 NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_MODE  MODE_NAME(DCAFMODE)
             DESCRIPTION(DCAF 1.31 Session Values)
             COS_NAME(#CONNECT)
             DEFAULT_RU_SIZE(NO)
             MAX_RU_SIZE_UPPER_BOUND(1024)
             RECEIVE_PACING_WINDOW(8)
             MAX_NEGOTIABLE_SESSION_LIMIT(8)
             PLU_MODE_SESSION_LIMIT(8)
             MIN_CONWINNERS_SOURCE(1)
             COMPRESSION_NEED(PROHIBITED)
             PLU_SLU_COMPRESSION(NONE)
             SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS  IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                 DEFAULT_MODE_NAME(BLANK)
                 MAX_MC_LL_SEND_SIZE(32767)
                 DIRECTORY_FOR_INBOUND_ATTACHES(*)
                 DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                 DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                 DEFAULT_TP_CONV_SECURITY_RQD(NO)
                 MAX_HELD_ALERTS(10);

DEFINE_TP  TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
           DESCRIPTION(DCAF 1.31 Controller TP)
           PIP_ALLOWED(NO)
           FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
           CONVERSATION_TYPE(BASIC)
           CONV_SECURITY_RQD(NO)
           SYNC_LEVEL(NONE)
           TP_OPERATION(NONQUEUED_AM_STARTED)
           PROGRAM_TYPE(BACKGROUND)
           RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 87. Sample .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

> **Note**
>
> You have completed all the CM definitions for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU on the controller and the LU name on the target in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.5.2.2 Updating the .NDF File for the Target

On the target workstation, make the following updates in the .NDF file. You can find a copy of this file APNTAR04.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.TARGETCP)
                  CP_ALIAS(TARGETCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      ADJACENT_NODE_TYPE(NN)
                      DLC_NAME(IBMTRNET)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(LAN adapter address of adjacent network node)
                      CP_CP_SESSION_SUPPORT(YES)
                      ACTIVATE_AT_STARTUP(YES)
                      LIMITED_RESOURCE(NO)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU   LU_NAME(TARGETLU)
                  LU_ALIAS(TARGETLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 SESSION VALUES)
              COS_NAME(#CONNECT)
```

```
                DEFAULT_RU_SIZE(NO)
                MAX_RU_SIZE_UPPER_BOUND(1024)
                RECEIVE_PACING_WINDOW(8)
                MAX_NEGOTIABLE_SESSION_LIMIT(8)
                PLU_MODE_SESSION_LIMIT(8)
                MIN_CONWINNERS_SOURCE(1)
                COMPRESSION_NEED(PROHIBITED)
                PLU_SLU_COMPRESSION(NONE)
                SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                DEFAULT_MODE_NAME(BLANK)
                MAX_MC_LL_SEND_SIZE(32767)
                DIRECTORY_FOR_INBOUND_ATTACHES(*)
                DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                DEFAULT_TP_CONV_SECURITY_RQD(NO)
                MAX_HELD_ALERTS(10);

DEFINE_TP  TP_NAME(IBM.DCAF.TARGET.TRANSACTION.PROGRAM)
           DESCRIPTION(DCAF 1.31 TARGET TP)
           PIP_ALLOWED(NO)
           FILESPEC(C:\DCAF13\EQNTGAUT.EXE)
           CONVERSATION_TYPE(ANY_TYPE)
           CONV_SECURITY_RQD(NO)
           SYNC_LEVEL(EITHER)
           TP_OPERATION(NONQUEUED_AM_STARTED)
           PROGRAM_TYPE(PRESENTATION_MANAGER)
           RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 88. Sample .NDF File on a Target

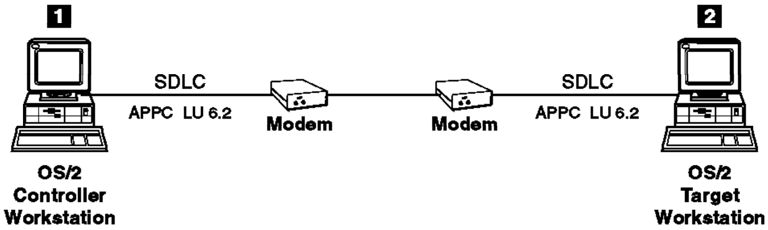
To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

You have completed the configuration for this scenario. You are now ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

3.6 Controller to a Target via APPC through an SDLC Link

This scenario describes how to set up a direct APPC connection between controller and target through an SDLC link. Figure 89 shows the setup.



PICTURE 82

Figure 89. Example of Direct APPC Connection between Controller and Target through an SDLC Link

Make sure that the following programs (see Table 11) are installed on the workstations.

Table 11. Software Needed for Controller to Target through an SDLC Link Configuration

Controller Workstation 1	**Target Workstation 2**
• OS/2 Version 2.1	• OS/2 Version 2.1
• DCAF 1.31 controller	• DCAF 1.31 OS/2 target
• Communications Manager/2 1.10	• Communications Manager/2 1.10

See "CM Setup for Configurations through an SDLC Link" in topic 3.1.2.2 for instructions on how to begin the CM setup procedure for this type of configuration. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.6.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).
- Local Logical Unit (LU).

- Partner LU (PLU). It must match the local LU defined on the target.
- Mode. It is the same mode as on the target.
- Transaction Program (TP) for the controller.
- Connection to the target.

For the target, update the following:

- DLC.
- CP.
- Local LU.
- PLU. It must match the local LU defined on the controller.
- Mode. It is the same mode as on the controller.
- TP for the target.
- Connection to the controller.

3.6.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear.

3.6.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - SDLC. Press the **Configure...** push button. The SDLC Adapters 0,1 Regular or User-dialed ISDN DLC Adapter Parameters window appears.

2. In the Adapter type field, type **0**. In the Line type field, type **Non-switched**. In the Link station role field, type **Negotiable**. Check the Free unused links check box. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.6.1.1.2 Defining the Local Node Name (CP Name)

To define the local node name, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **CNTROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNTROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.6.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.6.1.1.4 Defining the PLU

To define the PLU, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs.

2. Press the **Create...** push button. The Partner LU window appears.

3. In the Fully qualified LU name field, type **DCAFNET TARGETLU**.

4. In the Alias field, type **TARGETLU**. Do not change any other defaults. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.6.1.1.5 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.6.1.1.6 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List

window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.6.1.1.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select SDLC. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the Adjacent node ID (hex) field, type the local node ID of the target workstation. To get the local node ID of the target workstation, see the second part of the Local node ID (hex) field on the Local Node Characteristics window under SNA local node characteristics on the target workstation.

   In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **TARGETCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

    Would you like to dynamically update your SNA resources?

    appears. Press the **Yes** push button.

    Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

12. Shut down the workstation if you did not shut it down after installing

DCAF.

> **Note**
>
> You have completed all the CM definitions for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used to configure the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.6.1.2 Updating CM Definitions for the Target

Update the following definitions on the target workstation in the order in which they appear.

3.6.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - SDLC. Press the **Configure...** push button. The SDLC DLC Adapter Parameters window appears.

2. In the Adapter type field, type **0**. In the Line type field, type **Non-switched**. In the Link station role field, type **Negotiable**. Check the Free unused links checkbox. Keep any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.6.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **TARGETCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name field, type **TARGETCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP Definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.6.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.6.1.2.4 Defining the Destination PLU

To define the PLU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs. Press the **Create...** push button. The Partner LU window appears.

2. In the Fully qualified LU name field, type **DCAFNET.CNTROLLU**.

3. In the Alias field, type **CNTROLLU**. Do not change any other defaults.

4. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.6.1.2.5 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.6.1.2.6 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBMDCAF.TARGET.TRANSACTIONPROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNTGAUT.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Presentation Manager. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features

List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.6.1.2.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select SDLC. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the Adjacent node ID (hex) field, type the local node ID of the controller workstation. To get the local node ID of the target workstation, see the second part of the Local node ID (hex) field on the Local Node Characteristics window under SNA local node characteristics on the controller workstation to find its local node ID.

   In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **TARGETCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. The Communications Manager/2 Setup Window reappears.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You have completed the configuration for this scenario. You are now ready to start the DCAF session. See the *Distributed Console Access Facility User's Guide*.

3.6.2 Editing the Configuration Files Manually

This section contains the configuration files (.NDF) that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.6.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.6.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file SDLCTR05.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  HOST_FP_SUPPORT(YES)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      DESCRIPTION(Link for SDLC leased connection)
                      FQ_ADJACENT_CP_NAME(DCAFNET.TARGETCP)
                      ADJACENT_NODE_TYPE(LEARN)
                      DLC_NAME(SDLC)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(X'FF')
                      CP_CP_SESSION_SUPPORT(NO)
                      INIT_WITH_SNRM(NO)
                      ACTIVATE_AT_STARTUP(NO)
                      LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      ADJACENT_NODE_ID(your destination node ID)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      USE_PUNAME_AS_CPNAME(NO)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU   LU_NAME(CNTROLLU)
                  DESCRIPTION(Local LU for DCAF Controller)
                  LU_ALIAS(CNTROLLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.TARGETLU)
                    PARTNER_LU_ALIAS(TARGETLU)
                    PARTNER_LU_UNINTERPRETED_NAME(TARGETLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);
```

```
DEFINE_PARTNER_LU_LOCATION   FQ_PARTNER_LU_NAME(DCAFNET.TARGETLU)
                             WILDCARD_ENTRY(NO)
                             FQ_OWNING_CP_NAME(DCAFNET.TARGETCP)
                             LOCAL_NODE_NN_SERVER(NO);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 Session Values)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(YES)
              RECEIVE_PACING_WINDOW(3)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(4)
              COMPRESSION_NEED(PROHIBITED)
              PLU_SLU_COMPRESSION(NONE)
              SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                  DEFAULT_MODE_NAME(BLANK)
                  MAX_MC_LL_SEND_SIZE(32767)
                  DIRECTORY_FOR_INBOUND_ATTACHES(*)
                  DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                  DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                  DEFAULT_TP_CONV_SECURITY_RQD(NO)
                  MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 Controller TP)
            FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
            CONVERSATION_TYPE(BASIC)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(NONE)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(BACKGROUND)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 90. Sample .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.6.2.2 Updating the .NDF File for the Target

On the target workstation, make the following updates in the .NDF file.

You can find a copy of this file SDLTAR05.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.TARGETCP)
                  CP_ALIAS(TARGETCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  HOST_FP_SUPPORT(YES)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);


DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      DESCRIPTION(Link for SDLC leased connection)
                      FQ_ADJACENT_CP_NAME(DCAFNET.CNTROLCP.)
                      ADJACENT_NODE_TYPE(LEARN)
                      DLC_NAME(SDLC)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(X'FF')
                      CP_CP_SESSION_SUPPORT(NO)
                      INIT_WITH_SNRM(NO)
                      ACTIVATE_AT_STARTUP(NO)
                      LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      ADJACENT_NODE_ID(your destination node ID)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      USE_PUNAME_AS_CPNAME(NO)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);
DEFINE_LOCAL_LU   LU_NAME(TARGETLU)
                  DESCRIPTION(Local LU for DCAF target)
                  LU_ALIAS(TARGETLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                    PARTNER_LU_ALIAS(CNTROLLU)
                    PARTNER_LU_UNINTERPRETED_NAME(CNTROLLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION   FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                             WILDCARD_ENTRY(NO)
                             FQ_OWNING_CP_NAME(DCAFNET.CNTROLLU)
                             LOCAL_NODE_NN_SERVER(NO);
DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 Session Values)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(YES)
              RECEIVE_PACING_WINDOW(3)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(4)
              COMPRESSION_NEED(PROHIBITED)
              PLU_SLU_COMPRESSION(NONE)
```

```
          SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS  IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                 DEFAULT_MODE_NAME(BLANK)
                 MAX_MC_LL_SEND_SIZE(32767)
                 DIRECTORY_FOR_INBOUND_ATTACHES(*)
                 DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                 DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                 DEFAULT_TP_CONV_SECURITY_RQD(NO)
                 MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(IBM.DCAF.TARGET.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 target TP)
            FILESPEC(C:\DCAF13\EQNTGAUT.EXE)
            CONVERSATION_TYPE(BASIC)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(NONE)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(PRESENTATION_MANAGER)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 91. Sample .NDF File on a Target

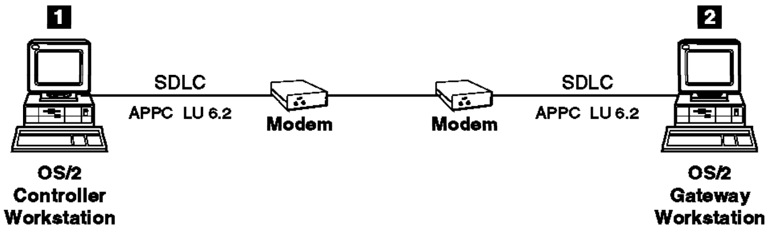
To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

You have completed the configuration for this scenario. You are now ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

3.7 Controller to a Gateway via APPC through an SDLC Link

This scenario describes how to set up a direct APPC connection between controller and gateway workstations through an SDLC link. Figure 92 shows the setup.



PICTURE 83

Figure 92. Example of Direct APPC Connection between Controller and Gateway Workstations through an SDLC Link

Make sure that the following programs (see Table 12) are installed on the workstations.

Table 12. Software Needed for Controller to Gateway through an SDLC Link Configuration

Controller Workstation 1	Gateway Workstation 2
• OS/2 Version 2.1	• OS/2 Version 2.1
• DCAF 1.31 controller	• DCAF 1.31 OS/2 gateway
• Communications Manager/2 1.10	• Communications Manager/2 1.10

See "CM Setup for Configurations through an SDLC Link" in topic 3.1.2.2 for instructions on how to begin the CM setup procedure for this type of configuration. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.7.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).

- Local Logical Unit (LU).
- Partner LU (PLU). It must match the local LU defined on the gateway.
- Mode. It is the same mode as on the gateway.
- Transaction Program (TP) for the controller.
- Connection to the gateway.

For the gateway workstation, update the following:

- DLC.
- CP.
- Local LU.
- PLU. It must match the local LU defined on the controller.
- Mode. It is the same mode as on the controller.
- TP for the gateway.
- Connection to the controller.

3.7.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear.

3.7.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - SDLC. Press the **Configure...** push button. The SDLC Adapters 0,1 Regular or User-dialed ISDN DLC Adapter Parameters window appears.

2. In the Adapter type field, type **0**. In the Line type field, type **Non-switched**. In the Link station role field, type **Negotiable**. Check the Free unused links check box. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.7.1.1.2 Defining the Local Node Name (CP Name)

To define the CP, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **CNTROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNTROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.7.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.7.1.1.4 Defining the PLU

To define the PLU, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs.

2. Press the **Create...** push button. The Partner LU window appears.

3. In the Fully qualified LU name field, type **DCAFNET.GTWAYLU**.

4. In the Alias field, type **GTWAYLU**. Do not change any other defaults. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.7.1.1.5 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.7.1.1.6 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.7.1.1.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select SDLC. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the Adjacent node ID (hex) field, type the local node ID of the gateway workstation. To get the local node ID of the gateway workstation, see the second part of the Local node ID (hex) field on the Local Node Characteristics window under SNA local node characteristics on the gateway workstation.

   In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **GTWAYCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **GTWAYLU**. In the Alias field, type **GTWAYLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

    Would you like to dynamically update your SNA resources?

    appears. Press the **Yes** push button.

    Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

12. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the controller. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.7.1.2 Updating CM Definitions for the Gateway

Update the following definitions on the gateway workstation in the order in which they appear.

3.7.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - SDLC. Press the **Configure...** push button. The SDLC DLC Adapter Parameters window appears.

2. In the Adapter type field, type **0**. In the Line type field, type **Non-switched**. In the Link station role field, type **Negotiable**. Check the Free unused links checkbox. Keep any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.7.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **GTWAYCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name field, type **GTWAYCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP Definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.7.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile

List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **GTWAYLU**. In the Alias field, type **GTWAYLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.7.1.2.4 Defining the Destination PLU

To define the PLU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs. Press the **Create...** push button. The Partner LU window appears.

2. In the Fully qualified LU name field, type **DCAFNET.CNTROLLU**.

3. In the Alias field, type **CNTROLLU**. Do not change any other defaults.

4. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.7.1.2.5 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.7.1.2.6 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNGTWAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the

Close push button. The Communications Manager Profile List window reappears.

3.7.1.2.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select SDLC. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the Adjacent node ID (hex) field, type the local node ID of the controller workstation. To get the local node ID of the gateway workstation, see the second part of the Local node ID (hex) field on the Local Node Characteristics window under SNA local node characteristics on the controller workstation to find its local node ID.

   In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **GTWAYCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **GTWAYLU**. In the Alias field, type **GTWAYLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

    Would you like to dynamically update your SNA resources?

    appears. Press the **Yes** push button.

    Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16 to complete the connection between the gateway and the target.

Then you are ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

3.7.2 Editing the Configuration Files Manually

This section contains the configuration files (.NDF) that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.7.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.7.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file SDLCTR06.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  HOST_FP_SUPPORT(YES)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      DESCRIPTION(Link for SDLC leased connection)
                      FQ_ADJACENT_CP_NAME(DCAFNET.GTWAYCP)
                      ADJACENT_NODE_TYPE(LEARN)
                      DLC_NAME(SDLC)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(X'FF')
                      CP_CP_SESSION_SUPPORT(NO)
                      INIT_WITH_SNRM(NO)
                      ACTIVATE_AT_STARTUP(NO)
                      LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      ADJACENT_NODE_ID(your destination node ID)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      USE_PUNAME_AS_CPNAME(NO)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU   LU_NAME(CNTROLLU)
                  DESCRIPTION(Local LU for DCAF Controller)
                  LU_ALIAS(CNTROLLU)
                  NAU_ADDRESS(INDEPENDENT_LU);
```

```
DEFINE_PARTNER_LU    FQ_PARTNER_LU_NAME(DCAFNET.GTWAYLU)
                     PARTNER_LU_ALIAS(GTWAYLU)
                     PARTNER_LU_UNINTERPRETED_NAME(GTWAYLU)
                     MAX_MC_LL_SEND_SIZE(32767)
                     CONV_SECURITY_VERIFICATION(NO)
                     PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION    FQ_PARTNER_LU_NAME(DCAFNET.GTWAYLU)
                              WILDCARD_ENTRY(NO)
                              FQ_OWNING_CP_NAME(DCAFNET.GTWAYCP)
                              LOCAL_NODE_NN_SERVER(NO);

DEFINE_MODE    MODE_NAME(DCAFMODE)
               DESCRIPTION(DCAF 1.31 Session Values)
               COS_NAME(#CONNECT)
               DEFAULT_RU_SIZE(YES)
               RECEIVE_PACING_WINDOW(3)
               MAX_NEGOTIABLE_SESSION_LIMIT(8)
               PLU_MODE_SESSION_LIMIT(8)
               MIN_CONWINNERS_SOURCE(4)
               COMPRESSION_NEED(PROHIBITED)
               PLU_SLU_COMPRESSION(NONE)
               SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS    IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                   DEFAULT_MODE_NAME(BLANK)
                   MAX_MC_LL_SEND_SIZE(32767)
                   DIRECTORY_FOR_INBOUND_ATTACHES(*)
                   DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                   DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                   DEFAULT_TP_CONV_SECURITY_RQD(NO)
                   MAX_HELD_ALERTS(10);

DEFINE_TP    TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
             DESCRIPTION(DCAF 1.31 Controller TP)
             FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
             CONVERSATION_TYPE(BASIC)
             CONV_SECURITY_RQD(NO)
             SYNC_LEVEL(NONE)
             TP_OPERATION(NONQUEUED_AM_STARTED)
             PROGRAM_TYPE(BACKGROUND)
             RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 93. Sample .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt,
type **cmverify** <u>filename</u>, where <u>filename</u> is the name of your configuration file, and press **Enter**.

To update a currently active file dynamically, type **cmverify** <u>filename</u> **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed the configuration for the controller. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.7.2.2 Updating the .NDF File for the Gateway

On the gateway workstation, make the following updates in the .NDF file. You can find a copy of this file SDLGWY06.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.GTWAYCP)
                  CP_ALIAS(GTWAYCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  HOST_FP_SUPPORT(YES)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);


DEFINE_LOCAL_LU   LU_NAME(GTWAYLU)
                  DESCRIPTION(Local LU for DCAF gateway)
                  LU_ALIAS(GTWAYLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU  FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                   PARTNER_LU_ALIAS(CNTROLLU)
                   PARTNER_LU_UNINTERPRETED_NAME(CNTROLLU)
                   MAX_MC_LL_SEND_SIZE(32767)
                   CONV_SECURITY_VERIFICATION(NO)
                   PARALLEL_SESSION_SUPPORT(YES);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 Session Values)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(YES)
              RECEIVE_PACING_WINDOW(3)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(4)
              COMPRESSION_NEED(PROHIBITED)
              PLU_SLU_COMPRESSION(NONE)
              SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                  DEFAULT_MODE_NAME(BLANK)
                  MAX_MC_LL_SEND_SIZE(32767)
                  DIRECTORY_FOR_INBOUND_ATTACHES(*)
                  DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                  DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                  DEFAULT_TP_CONV_SECURITY_RQD(NO)
                  MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 gateway TP)
            FILESPEC(C:\DCAF13\EQNGTWAM.EXE)
            CONVERSATION_TYPE(BASIC)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(NONE)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(BACKGROUND)
```

```
RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 94. Sample .NDF File on a Gateway

To validate your changes, verify the configuration files. At the OS/2 prompt,
type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**.

To update a currently active file dynamically, type **cmverify** filename **/e**.

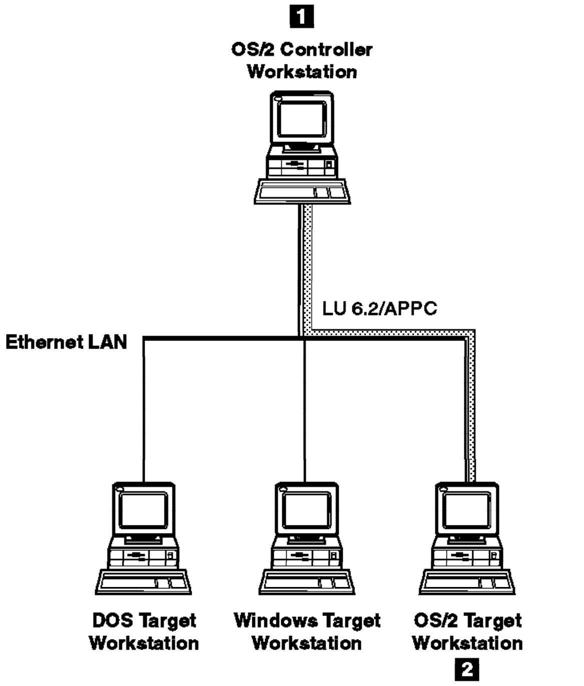
You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16 to complete the connection between the gateway and the target.

Then you are ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

3.8 Controller to a Target via APPC on an Ethernet LAN

This scenario describes how to set up a direct APPC connection between controller and target workstations that are on the same logical Ethernet LAN. Figure 95 shows the setup.



PICTURE 84

Figure 95. Example of Direct APPC Connection between Controller and Target Workstations on an Ethernet LAN

Make sure that the following programs (see Table 7 in topic 3.2) are installed on the workstations.

Table 13. Software Needed for Controller to Target on an Ethernet LAN Configuration

Controller Workstation 1	Target Workstation 2
• OS/2 Version 2.1	• OS/2 Version 2.1
• DCAF 1.31 controller	• DCAF 1.31 OS/2 target
• Communications Manager/2 1.10	• Communications Manager/2 1.10

See "CM Setup for Configurations on an Ethernet LAN" in topic 3.1.2.3 for instructions on how to begin the CM setup procedure for this type of configuration. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.8.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).
- Local Logical Unit (LU).
- Partner LU (PLU). It must match the local LU defined on the target.
- Mode. It is the same mode as on the target.
- Transaction Program (TP) for the controller.
- Connection (to the target).

For the target workstation, update the following:

- DLC.
- CP.
- Local LU.
- PLU. It must match the local LU defined on the controller.
- Mode. It is the same mode as on the controller.
- TP for the target.

3.8.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear.

3.8.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Ethernet (ETHERAND) network. Press the **Configure...** push button. The Ethernet (ETHERAND) Network DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.8.1.1.2 Defining the Local Node Name (CP Name)

To define the CP, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field,

type **CNTROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNTROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.8.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.8.1.1.4 Defining the PLU

To define the PLU, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs.

2. Press the **Create...** push button. The Partner LU window appears.

3. In the Fully qualified LU name field, type **DCAFNET.TARGETLU**.

4. In the Alias field, type **TARGETLU**. Do not change any other defaults. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.8.1.1.5 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.8.1.1.6 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select

Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.8.1.1.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select Ethernet (ETHERAND) network. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the LAN destination address (hex) field, type the LAN address of the target workstation. To get the LAN address of the target workstation, see the second bullet under "Before You Start" in topic 3.1.1. In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **TARGETCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

Would you like to dynamically update your SNA resources?

appears. Press the **Yes** push button.

Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

12. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.8.1.2 Updating CM Definitions for the Target

Update the following definitions on the target workstation in the order in which they appear.

3.8.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Ethernet (ETHERAND) network. Press the **Configure...** push button. The Ethernet (ETHERAND) Network DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.8.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **TARGETCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name field, type **TARGETCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP Definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.8.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **TARGETLU**. In the Alias field, type **TARGETLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.8.1.2.4 Defining the Destination PLU

To define the PLU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs. Press the **Create...** push button. The Partner LU window appears.

2. In the Fully qualified LU name field, type **DCAFNET CNTROLLU**.

3. In the Alias field, type **CNTROLLU**. Do not change any other defaults.

4. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.8.1.2.5 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.8.1.2.6 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.TARGET.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNTGAUT.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Presentation Manager. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

5. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

6. Press the **Close** push button. If the file that you are updating is currently active, the message

   Would you like to dynamically update your SNA resources?

   appears. Press the **Yes** push button.

   Otherwise, stop CM and restart it to update your SNA resources.

7. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You have completed the configuration for this scenario. You are now ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

3.8.2 Editing the Configuration Files Manually

This section contains the configuration files (.NDF) that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.8.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.8.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file ETHCTR07.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
```

```
                    HOST_FP_SUPPORT(YES)
                    HOST_FP_LINK_NAME(HOST0001)
                    MAX_COMP_LEVEL(NONE)
                    MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK    LINK_NAME(LINK0001)
                       FQ_ADJACENT_CP_NAME(DCAFNET.TARGETCP)
                       ADJACENT_NODE_TYPE(LEARN)
                       DLC_NAME(ETHERAND)
                       ADAPTER_NUMBER(0)
                       DESTINATION_ADDRESS(LAN adapter address of destination workstation)
                       ETHERNET_FORMAT(NO)
                       CP_CP_SESSION_SUPPORT(NO)
                       ACTIVATE_AT_STARTUP(NO)
                       LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                       LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                       SOLICIT_SSCP_SESSION(NO)
                       MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                       USE_PUNAME_AS_CPNAME(NO)
                       EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                       COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                       COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                       SECURITY(USE_ADAPTER_DEFINITION)
                       PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                       USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                       USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                       USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU     LU_NAME(CNTROLLU)
                    DESCRIPTION(Local LU for DCAF Controller)
                    LU_ALIAS(CNTROLLU)
                    NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU    FQ_PARTNER_LU_NAME(DCAFNET.TARGETLU)
                     PARTNER_LU_ALIAS(TARGETLU)
                     PARTNER_LU_UNINTERPRETED_NAME(TARGETLU)
                     MAX_MC_LL_SEND_SIZE(32767)
                     CONV_SECURITY_VERIFICATION(NO)
                     PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION    FQ_PARTNER_LU_NAME(DCAFNET.TARGETLU)
                              WILDCARD_ENTRY(NO)
                              FQ_OWNING_CP_NAME(DCAFNET.TARGETCP)
                              LOCAL_NODE_NN_SERVER(NO);

DEFINE_MODE    MODE_NAME(DCAFMODE)
               DESCRIPTION(DCAF 1.31 Session Values)
               COS_NAME(#CONNECT)
               DEFAULT_RU_SIZE(NO)
               MAX_RU_SIZE_UPPER_BOUND(1024)
               RECEIVE_PACING_WINDOW(8)
               MAX_NEGOTIABLE_SESSION_LIMIT(8)
               PLU_MODE_SESSION_LIMIT(8)
               MIN_CONWINNERS_SOURCE(1)
               COMPRESSION_NEED(PROHIBITED)
               PLU_SLU_COMPRESSION(NONE)
               SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS     IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                    DEFAULT_MODE_NAME(BLANK)
                    MAX_MC_LL_SEND_SIZE(32767)
                    DIRECTORY_FOR_INBOUND_ATTACHES(*)
                    DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
```

```
                    DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                    DEFAULT_TP_CONV_SECURITY_RQD(NO)
                    MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 Controller TP)
            PIP_ALLOWED(NO)
            FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
            CONVERSATION_TYPE(BASIC)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(NONE)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(BACKGROUND)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 96. Sample .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**.

To update a currently active file dynamically, type **cmverify** filename **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

> **Note**
>
> You have completed all the CM definitions for the controller. Add the target workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.8.2.2 Updating the .NDF File for the Target

On the target workstation, make the following updates in the .NDF file. You can find a copy of this file ETHTAR07.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.TARGETCP)
                  CP_ALIAS(TARGETCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOCAL_LU   LU_NAME(TARGETLU)
                  LU_ALIAS(TARGETLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                    PARTNER_LU_ALIAS(CNTROLLU)
                    PARTNER_LU_UNINTERPRETED_NAME(CNTROLLU)
```

```
                        MAX_MC_LL_SEND_SIZE(32767)
                        CONV_SECURITY_VERIFICATION(NO)
                        PARALLEL_SESSION_SUPPORT(YES);

    DEFINE_MODE    MODE_NAME(DCAFMODE)
                   DESCRIPTION(DCAF 1.31 SESSION VALUES)
                   COS_NAME(#CONNECT)
                   DEFAULT_RU_SIZE(NO)
                   MAX_RU_SIZE_UPPER_BOUND(1024)
                   RECEIVE_PACING_WINDOW(8)
                   MAX_NEGOTIABLE_SESSION_LIMIT(8)
                   PLU_MODE_SESSION_LIMIT(8)
                   MIN_CONWINNERS_SOURCE(1)
                   COMPRESSION_NEED(PROHIBITED)
                   PLU_SLU_COMPRESSION(NONE)
                   SLU_PLU_COMPRESSION(NONE);

    DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                      DEFAULT_MODE_NAME(BLANK)
                      MAX_MC_LL_SEND_SIZE(32767)
                      DIRECTORY_FOR_INBOUND_ATTACHES(*)
                      DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                      DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                      DEFAULT_TP_CONV_SECURITY_RQD(NO)
                      MAX_HELD_ALERTS(10);

    DEFINE_TP   TP_NAME(IBM.DCAF.TARGET.TRANSACTION.PROGRAM)
                DESCRIPTION(DCAF 1.31 TARGET TP)
                PIP_ALLOWED(NO)
                FILESPEC(C:\DCAF13\EQNTGAUT.EXE)
                CONVERSATION_TYPE(ANY_TYPE)
                CONV_SECURITY_RQD(NO)
                SYNC_LEVEL(EITHER)
                TP_OPERATION(NONQUEUED_AM_STARTED)
                PROGRAM_TYPE(PRESENTATION_MANAGER)
                RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

    START_ATTACH_MANAGER;
```

Figure 97. Sample .NDF File on a Target

To validate your changes, verify the configuration files. At the OS/2 prompt,
type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**.

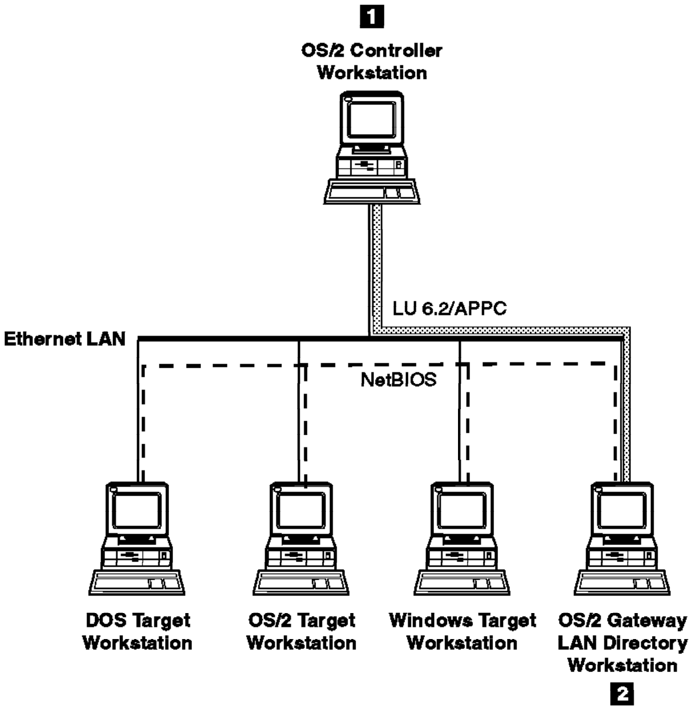
To update a currently active file dynamically, type **cmverify** filename **/e**.

You have completed the configuration for this scenario. You are now ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

3.9 Controller to a Gateway Workstation via APPC on an Ethernet LAN

This scenario describes how to set up a direct APPC connection between controller and gateway workstations that are on the same logical Ethernet LAN. For the connection between the gateway, LAN directory, and the target workstations, you need to assign NetBIOS resources to the gateway, LAN directory, and target. Figure 98 shows the setup.



PICTURE 85

Figure 98. Example of Direct APPC Connection between Controller and Gateway Workstations on an Ethernet LAN

Make sure that the following programs (see Table 14) are installed on the workstations.

Table 14. Software Needed for Controller to Gateway on an Ethernet LAN Configuration

Controller Workstation 1	Gateway Workstation 2
• OS/2 Version 2.1	• OS/2 Version 2.1
• DCAF 1.31 controller	• DCAF 1.31 OS/2 gateway

• Communications Manager/2 1.10	• Communications Manager/2 1.10

See "CM Setup for Configurations on an Ethernet LAN" in topic 3.1.2.3 for instructions on how to begin the CM setup procedure for this type of configuration. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.9.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).
- Local Logical Unit (LU).
- Partner LU (PLU). It must match the local LU defined on the gateway.
- Mode. It is the same mode as on the gateway.
- Transaction Program (TP) for the controller.
- Connection to the gateway.

For the gateway workstation, update the following:

- DLC.
- CP.
- Local LU.
- PLU. It must match the local LU defined on the controller.
- Mode. It is the same mode as on the controller.
- TP for the gateway.

3.9.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear.

3.9.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Ethernet (ETHERAND) network. Press the **Configure...** push button. The Ethernet (ETHERAND) Network DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.9.1.1.2 Defining the Local Node Name (CP Name)

To define the CP, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile

List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **CNTROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNTROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.9.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNTROLLU**. In the Alias field, type **CNTROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.9.1.1.4 Defining the PLU

To define the PLU, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs.

2. Press the **Create...** push button. The Partner LU window appears.

3. In the Fully qualified LU name field, type **DCAFNET.GTWAYLU**.

4. In the Alias field, type **GTWAYLU**. Do not change any other defaults. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.9.1.1.5 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.9.1.1.6 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.9.1.1.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select Ethernet (ETHERAND) network. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the LAN destination address (hex) field, type the LAN address of the gateway workstation. To get the LAN address of the gateway workstation, see the second bullet under "Before You Start" in topic 3.1.1. In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **GTWAYCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **GTWAYLU**. In the Alias field, type **GTWAYLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push

button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

    Would you like to dynamically update your SNA resources?

    appears. Press the **Yes** push button.

    Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

12. Shut down the workstation if you did not shut it down after installing DCAF.

> **Note**
>
> You have completed all the CM definitions for the controller. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.9.1.2 Updating CM Definitions for the Gateway

Update the following definitions on the gateway workstation in the order in which they appear.

3.9.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Ethernet (ETHERAND) network. Press the **Configure...** push button. The Ethernet (ETHERAND) Network DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.9.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field,

2. type **GTWAYCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name field, type **GTWAYCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP Definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.9.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **GTWAYLU**. In the Alias field, type **GTWAYLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.9.1.2.4 Defining the Destination PLU

To define the PLU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs. Press the **Create...** push button. The Partner LU window appears.

2. In the Fully qualified LU name field, type **DCAFNET CNTROLLU**.

3. In the Alias field, type **CNTROLLU**. Do not change any other defaults.

4. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.9.1.2.5 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.9.1.2.6 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNGTWAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

5. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

6. Press the **Close** push button. If the file that you are updating is currently active, the message

   Would you like to dynamically update your SNA resources?

   appears. Press the **Yes** push button.

   Otherwise, stop CM and restart it to update your SNA resources.

7. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16 to complete the connection between the gateway and the target.

Then you are ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

3.9.2 Editing the Configuration Files Manually

This section contains the configuration files (.NDF) that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.9.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.9.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file ETHCTR08.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(DCAFNET.CNTROLCP)
                  CP_ALIAS(CNTROLCP)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(your local node ID)
                  NW_FP_SUPPORT(NONE)
                  HOST_FP_SUPPORT(YES)
                  HOST_FP_LINK_NAME(HOST0001)
                  MAX_COMP_LEVEL(NONE)
                  MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      FQ_ADJACENT_CP_NAME(DCAFNET.GTWAYCP)
                      ADJACENT_NODE_TYPE(LEARN)
                      DLC_NAME(ETHERAND)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(LAN adapter address of destination workstation)
                      ETHERNET_FORMAT(NO)
                      CP_CP_SESSION_SUPPORT(NO)
                      ACTIVATE_AT_STARTUP(NO)
                      LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      USE_PUNAME_AS_CPNAME(NO)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU   LU_NAME(CNTROLLU)
                  DESCRIPTION(Local LU for DCAF Controller)
                  LU_ALIAS(CNTROLLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.GTWAYLU)
                    PARTNER_LU_ALIAS(GTWAYLU)
                    PARTNER_LU_UNINTERPRETED_NAME(GTWAYLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION   FQ_PARTNER_LU_NAME(DCAFNET.GTWAYLU)
                             WILDCARD_ENTRY(NO)
                             FQ_OWNING_CP_NAME(DCAFNET.GTWAYCP)
                             LOCAL_NODE_NN_SERVER(NO);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 Session Values)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(NO)
              MAX_RU_SIZE_UPPER_BOUND(1024)
              RECEIVE_PACING_WINDOW(8)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(1)
```

```
                    COMPRESSION_NEED(PROHIBITED)
                    PLU_SLU_COMPRESSION(NONE)
                    SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS  IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                 DEFAULT_MODE_NAME(BLANK)
                 MAX_MC_LL_SEND_SIZE(32767)
                 DIRECTORY_FOR_INBOUND_ATTACHES(*)
                 DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                 DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                 DEFAULT_TP_CONV_SECURITY_RQD(NO)
                 MAX_HELD_ALERTS(10);

DEFINE_TP  TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
           DESCRIPTION(DCAF 1.31 Controller TP)
           PIP_ALLOWED(NO)
           FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
           CONVERSATION_TYPE(BASIC)
           CONV_SECURITY_RQD(NO)
           SYNC_LEVEL(NONE)
           TP_OPERATION(NONQUEUED_AM_STARTED)
           PROGRAM_TYPE(BACKGROUND)
           RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 99. Sample .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**.

To update a currently active file dynamically, type **cmverify** filename **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

Note

> You have completed all the CM definitions for the controller. Add the gateway workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.9.2.2 Updating the .NDF File for the Gateway

On the gateway workstation, make the following updates in the .NDF file. You can find a copy of this file ETHGWY08.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP  FQ_CP_NAME(DCAFNET.GTWAYCP)
                 CP_ALIAS(GTWAYCP)
                 NAU_ADDRESS(INDEPENDENT_LU)
                 NODE_TYPE(EN)
                 NODE_ID(your local node ID)
                 NW_FP_SUPPORT(NONE)
                 HOST_FP_SUPPORT(YES)
                 MAX_COMP_LEVEL(NONE)
```

```
                    MAX_COMP_TOKENS(0);

DEFINE_LOCAL_LU   LU_NAME(GTWAYLU)
                  LU_ALIAS(GTWAYLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                    PARTNER_LU_ALIAS(CNTROLLU)
                    PARTNER_LU_UNINTERPRETED_NAME(CNTROLLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 SESSION VALUES)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(NO)
              MAX_RU_SIZE_UPPER_BOUND(1024)
              RECEIVE_PACING_WINDOW(8)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(1)
              COMPRESSION_NEED(PROHIBITED)
              PLU_SLU_COMPRESSION(NONE)
              SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                  DEFAULT_MODE_NAME(BLANK)
                  MAX_MC_LL_SEND_SIZE(32767)
                  DIRECTORY_FOR_INBOUND_ATTACHES(*)
                  DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                  DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                  DEFAULT_TP_CONV_SECURITY_RQD(NO)
                  MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(IBM.DCAF.GATEWAY.TRANSACTION.PROGRAM)
            DESCRIPTION(DCAF 1.31 GATEWAY TP)
            PIP_ALLOWED(NO)
            FILESPEC(C:\DCAF13\EQNGTWAM.EXE)
            CONVERSATION_TYPE(ANY_TYPE)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(EITHER)
            TP_OPERATION(NONQUEUED_AM_STARTED)
            PROGRAM_TYPE(BACKGROUND)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 100. Sample .NDF File on a Gateway

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**.

To update a currently active file dynamically, type **cmverify** filename **/e**.

You have completed the configuration for this scenario, which is a segment of the connection between the controller and the target through the gateway. See "Gateway to a Target via NetBIOS on a Logical LAN" in topic 3.16 to complete the connection between the gateway and the target.

Then you are ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

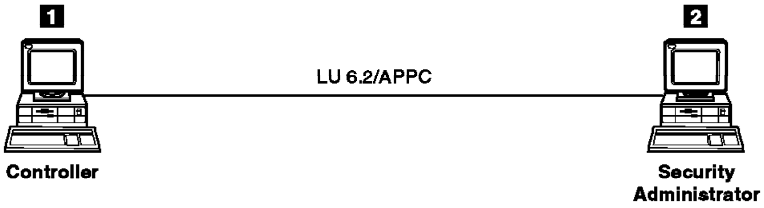
For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

3.10 Controller to the Security Administrator via APPC on a Token-Ring LAN

This scenario describes how to set up an APPC connection between the controller and security administrator that are on the same logical token-ring LAN. This connection is necessary for secure DCAF only. It enables the controller to send an updated pass phrase to the security administrator database of security information. This connection is not part of the connection between the controller and the secure target. Ensure that you have completed the configurations for the connections between the controller and the target through the gateway.

If your controller accesses secure targets, then you should configure your workstations for this scenario. If your controller does not access secure targets, do not configure your workstations for this scenario.

Figure 101 shows the setup.



PICTURE 86

Figure 101. Example of Direct APPC Connection between Controller and Security Administrator Workstations on a LAN

Make sure that the following programs (see Table 15) are installed on the workstations.

Table 15. Software Needed for Controller to Security Administrator on the Same Token-Ring LAN Configuration

Controller Workstation 1	Security Administrator Workstation 2
• OS/2 Version 2.1 • DCAF 1.31 controller • Communications Manager/2 1.10	• OS/2 Version 2.1 • DCAF 1.31 security administrator • Communications Manager/2 1.10

See ″CM Setup for Configurations on a Token-Ring LAN″ in topic 3.1.2.1 for instructions on how to begin the CM setup procedure. Also see "Before You Start" in topic 3.1.1 for an explanation of the different update procedures, before you update the Communications Manager definitions.

3.10.1 Using the CM Interface to Update the CM Definitions

For the controller, update the following:

- Data Link Control (DLC).
- Local Node Name (CP name).
- Local Logical Unit (LU).
- Partner LU (PLU). It must match the local LU defined on the security administrator.
- Mode. It is the same mode as on the security administrator.
- Transaction Program (TP) for the controller.
- Connection to the security administrator.

For the security administrator workstation, update the following:

- DLC.
- CP.
- Local LU.
- PLU. It must match the local LU defined on the controller.
- Mode. It is the same mode as on the controller.
- TP (for the security administrator).

3.10.1.1 Updating CM Definitions for the Controller

Update the following definitions on the controller in the order in which they appear.

3.10.1.1.1 Defining the DLC

To define the DLC, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-ring or other LAN types. Press the **Configure...** push button. The Token-ring or other LAN types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.10.1.1.2 Defining the Local Node Name (CP Name)

To define the CP, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field,

type **CNIROLCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name, type **CNIROLCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.10.1.1.3 Defining the Local LU

To define the LU, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **CNIROLLU**. In the Alias field, type **CNIROLLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.10.1.1.4 Defining the PLU

To define the PLU, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs.

2. Press the **Create...** push button. The Partner LU window appears.

3. In the Fully qualified LU name field, type **DCAFNET.ADMINLU**.

4. In the Alias field, type **ADMINLU**. Do not change any other defaults. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.10.1.1.5 Defining the Mode Name

To define the Mode name, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.10.1.1.6 Defining the TP

To define the Transaction Program, complete the following steps:

1. From the Features list box on the SNA Features List window, select

Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNCTRAM.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Background. In the Operation type box, select the Non-queued, Attach Manager started option.

4. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

5. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

3.10.1.1.7 Defining the Connection Type

To define the Connection Type, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA connections. Press the **Configure...** push button. The Connections List window appears.

2. For Partner type, select To peer node. Press the **Create...** push button. The Adapter List window appears.

3. In the Adapter Type list box, select Token-ring or other LAN types. Do not change any other defaults. Press the **Continue...** push button. The Connection to a Peer Node window appears.

4. In the LAN destination address (hex) field, type the LAN address of the security administrator workstation. To get the LAN address of the security administrator workstation, see the second bullet under "Before You Start" in topic 3.1.1. In the Partner network ID field, type **DCAFNET**.

5. In the Partner node name field, type **ADMINCP**. Press the **Define Partner LUs...** push button. The Partner LUs window appears.

6. In the Network ID field, type **DCAFNET**. In the LU name field, type **ADMINLU**. In the Alias field, type **ADMINLU**. To validate the connection type, press the **Add** push button. Your input is added to the LU Name Alias list box. Press the **OK** push button. The Connection to a Peer Node window reappears.

7. Press the **OK** push button. The Connections List window reappears.

8. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

9. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

10. Press the **Close** push button. If the file that you are updating is currently active, the message

Would you like to dynamically update your SNA resources?

appears. Press the **Yes** push button.

Otherwise, stop CM and restart it to update your SNA resources.

11. To close the Communications Manager/2 Setup Window, press the **Close** push button.

12. Shut down the workstation if you did not shut it down after installing DCAF.

Note

> You have completed all the CM definitions for the controller. Add the security administrator workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.10.1.2 Updating CM Definitions for the Security Administrator

Update the following definitions on the security administrator workstation in the order they appear.

3.10.1.2.1 Defining the Destination DLC

To define the DLC on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select DLC - Token-ring or other LAN types. Press the **Configure...** push button. The Token-ring or other LAN types DLC Adapter Parameters window appears.

2. In the C&SM LAN ID field, type **DCAFNET**. Do not change any other defaults.

3. To validate the DLC definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.10.1.2.2 Defining the Destination Local Node Name (CP Name)

To define the local node name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA local node characteristics. Press the **Configure...** push button. The Local Node Characteristics window appears.

2. In the Network ID field, type **DCAFNET**. In the Local node name field, type **ADMINCP**. From the Node Type box, select End node - no network node server. In the second part of the Local node ID (hex) field, type **00000**. Do not change the first part of the Local node ID (hex) field. Press the **Options...** push button. The Local Node Options window appears.

3. In the Local node alias name field, type **ADMINCP**. Press the **OK** push button. The Local Node Characteristics window appears.

4. To validate the CP Definition and return to the Communications Manager Profile List window, press the **OK** push button.

3.10.1.2.3 Defining the Destination LU

To define the LU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Profile Name list box on the Communications Manager Profile List window, select SNA features. Press the **Configure...** push button. The SNA Features List window appears.

2. From the Features list box, select Local LUs. Press the **Create...** push button. The Local LU window appears.

3. In the LU name field, type **ADMINLU**. In the Alias field, type **ADMINLU**. From the NAU address box, select Independent LU. To validate the Local LU definition, press the **OK** push button. The SNA Features List window reappears.

3.10.1.2.4 Defining the Destination PLU

To define the PLU on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Partner LUs. Press the **Create...** push button. The Partner LU window appears.

2. In the Fully qualified LU name field, type **DCAFNET.CNTROLLU**.

3. In the Alias field, type **CNTROLLU**. Do not change any other defaults.

4. To validate the PLU definition and return to the SNA Features List window, press the **OK** push button.

3.10.1.2.5 Defining the Destination Mode Name

To define the Mode name on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box on the SNA Features List window, select Modes. Press the **Create...** push button. The Mode Definition window appears.

2. In the Mode name field, type **DCAFMODE**. Do not change any other defaults. To validate the mode name definition and return to the SNA Features List window, press the **OK** push button.

3.10.1.2.6 Defining the Destination Transaction Program

To define the Transaction Program on the workstation that you are linking to from the controller, complete the following steps:

1. From the Features list box, select Transaction program definitions. Press the **Create...** push button. The Transaction Program Definition window appears.

2. For Transaction program (TP) name in the Transaction program definition box, type **IBM.DCAF.ADMIN.TRANSACTION.PROGRAM**. In the OS/2 program path and file name field, type **C:\DCAF13\EQNSCPPC.EXE**. Do not change any other defaults. Press the **Continue...** push button. The Additional TP Parameters window appears.

3. In the Presentation type box, select Full screen. In the Operation type box, select the Queued, Attach Manager started option. To validate the TP definition and return to the SNA Features List window, press the **OK** push button. The SNA Features List window reappears.

4. To return to the Communications Manager Profile List window, press the **Close** push button. The Communications Manager Profile List window reappears.

5. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

6. Press the **Close** push button. If the file that you are updating is currently active, the message

   Would you like to dynamically update your SNA resources?

   appears. Press the **Yes** push button.

   Otherwise, stop CM and restart it to update your SNA resources.

7. To close the Communications Manager/2 Setup Window, press the **Close** push button.

You are now ready to start the DCAF session. See the Distributed Console Access Facility User's Guide for instructions.

3.10.2 Editing the Configuration Files Manually

This section contains the .NDF files that you must update for this scenario. Make these updates only if you are updating the CM definitions manually; otherwise, make your updates from "Using the CM Interface to Update the CM Definitions" in topic 3.10.1.

You can find the .NDF file in the same directory in which CM is installed on the workstation.

3.10.2.1 Updating the .NDF File for the Controller

On the controller, make the following updates in the .NDF file. You can find a copy of this file TKRCTR09.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP  FQ_CP_NAME(DCAFNET.CNTROLCP)
                 CP_ALIAS(CNTROLCP)
                 NAU_ADDRESS(INDEPENDENT_LU)
                 NODE_TYPE(EN)
                 NODE_ID(your local node ID)
                 NW_FP_SUPPORT(NONE)
                 HOST_FP_SUPPORT(YES)
```

```
                    HOST_FP_LINK_NAME(HOST0001)
                    MAX_COMP_LEVEL(NONE)
                    MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK   LINK_NAME(LINK0001)
                      FQ_ADJACENT_CP_NAME(DCAFNET.ADMINCP)
                      ADJACENT_NODE_TYPE(LEARN)
                      DLC_NAME(IBMTRNET)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(LAN adapter address of destination workstation)
                      ETHERNET_FORMAT(NO)
                      CP_CP_SESSION_SUPPORT(NO)
                      ACTIVATE_AT_STARTUP(NO)
                      LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(NO)
                      MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
                      USE_PUNAME_AS_CPNAME(NO)
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU   LU_NAME(CNTROLLU)
                  DESCRIPTION(Local LU for DCAF Controller)
                  LU_ALIAS(CNTROLLU)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(DCAFNET.ADMINLU)
                    PARTNER_LU_ALIAS(ADMINLU)
                    PARTNER_LU_UNINTERPRETED_NAME(ADMINLU)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION   FQ_PARTNER_LU_NAME(DCAFNET.ADMINLU)
                             WILDCARD_ENTRY(NO)
                             FQ_OWNING_CP_NAME(DCAFNET.ADMINCP)
                             LOCAL_NODE_NN_SERVER(NO);

DEFINE_MODE   MODE_NAME(DCAFMODE)
              DESCRIPTION(DCAF 1.31 Session Values)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(NO)
              MAX_RU_SIZE_UPPER_BOUND(1024)
              RECEIVE_PACING_WINDOW(8)
              MAX_NEGOTIABLE_SESSION_LIMIT(8)
              PLU_MODE_SESSION_LIMIT(8)
              MIN_CONWINNERS_SOURCE(1)
              COMPRESSION_NEED(PROHIBITED)
              PLU_SLU_COMPRESSION(NONE)
              SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                  DEFAULT_MODE_NAME(BLANK)
                  MAX_MC_LL_SEND_SIZE(32767)
                  DIRECTORY_FOR_INBOUND_ATTACHES(*)
                  DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                  DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
```

```
                    DEFAULT_TP_CONV_SECURITY_RQD(NO)
                    MAX_HELD_ALERTS(10);

DEFINE_TP     TP_NAME(IBM.DCAF.CONTROLLING.TRANSACTION.PROGRAM)
              DESCRIPTION(DCAF 1.31 Controller TP)
              PIP_ALLOWED(NO)
              FILESPEC(C:\DCAF13\EQNCTRAM.EXE)
              CONVERSATION_TYPE(BASIC)
              CONV_SECURITY_RQD(NO)
              SYNC_LEVEL(NONE)
              TP_OPERATION(NONQUEUED_AM_STARTED)
              PROGRAM_TYPE(BACKGROUND)
              RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 102. Sample .NDF File on a Controller

To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

Shut down the workstation if you did not shut it down after installing DCAF.

> **Note**
>
> You have completed configuration for the controller. Add the security administrator workstation to the workstation directory on the controller. Use the same entries that you used to define the local LU and the partner LU on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

3.10.2.2 Updating the .NDF File for the Security Administrator

On the security administrator workstation, make the following updates in the .NDF file. You can find a copy of this file TKRADM09.NDF on DCAF diskette 3.

```
DEFINE_LOCAL_CP    FQ_CP_NAME(DCAFNET.ADMINCP)
                   CP_ALIAS(ADMINCP)
                   NAU_ADDRESS(INDEPENDENT_LU)
                   NODE_TYPE(EN)
                   NODE_ID(your local node ID)
                   NW_FP_SUPPORT(NONE)
                   HOST_FP_SUPPORT(YES)
                   MAX_COMP_LEVEL(NONE)
                   MAX_COMP_TOKENS(0);

DEFINE_LOCAL_LU    LU_NAME(ADMINLU)
                   LU_ALIAS(ADMINLU)
                   NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU    FQ_PARTNER_LU_NAME(DCAFNET.CNTROLLU)
                     PARTNER_LU_ALIAS(CNTROLLU)
                     PARTNER_LU_UNINTERPRETED_NAME(CNTROLLU)
                     MAX_MC_LL_SEND_SIZE(32767)
```

```
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_MODE  MODE_NAME(DCAFMODE)
             DESCRIPTION(DCAF 1.31 SESSION VALUES)
             COS_NAME(#CONNECT)
             DEFAULT_RU_SIZE(NO)
             MAX_RU_SIZE_UPPER_BOUND(1024)
             RECEIVE_PACING_WINDOW(8)
             MAX_NEGOTIABLE_SESSION_LIMIT(8)
             PLU_MODE_SESSION_LIMIT(8)
             MIN_CONWINNERS_SOURCE(1)
             COMPRESSION_NEED(PROHIBITED)
             PLU_SLU_COMPRESSION(NONE)
             SLU_PLU_COMPRESSION(NONE);

DEFINE_DEFAULTS  IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                 DEFAULT_MODE_NAME(BLANK)
                 MAX_MC_LL_SEND_SIZE(32767)
                 DIRECTORY_FOR_INBOUND_ATTACHES(*)
                 DEFAULT_TP_OPERATION(QUEUED_AM_STARTED)
                 DEFAULT_TP_PROGRAM_TYPE(FULL_SCREEN)
                 DEFAULT_TP_CONV_SECURITY_RQD(NO)
                 MAX_HELD_ALERTS(10);

DEFINE_TP  TP_NAME(IBM.DCAF.ADMIN.TRANSACTION.PROGRAM)
           DESCRIPTION(DCAF 1.31 ADMIN TP)
           PIP_ALLOWED(NO)
           PARM_STRING(1)
           FILESPEC(C:\DCAF13\EQNSCPPC.EXE)
           CONVERSATION_TYPE(ANY_TYPE)
           CONV_SECURITY_RQD(NO)
           SYNC_LEVEL(EITHER)
           TP_OPERATION(QUEUED_AM_STARTED)
           PROGRAM_TYPE(FULL_SCREEN)
           RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

START_ATTACH_MANAGER;
```

Figure 103. Sample .NDF File on a Security Administrator

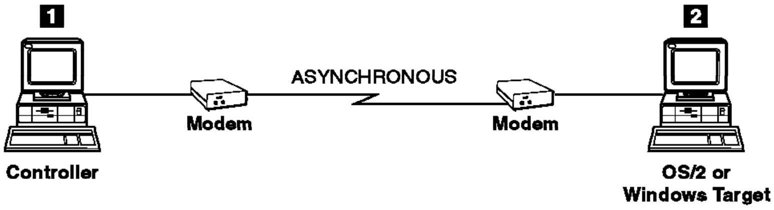
To validate your changes, verify the configuration files. At the OS/2 prompt, type **cmverify** filename, where filename is the name of your configuration file, and press **Enter**. To update a currently active file dynamically, type **cmverify** filename **/e**.

You have completed the configuration for this scenario. You are ready to start the DCAF session. See the Distributed Console Access Facility User's Guide.

For diagnosis and problem solving for this scenario, see "Diagnosing Common Problems" in topic 3.1.3.

3.11 Controller to a Target Directly via Asynchronous

This scenario describes how to set up a direct asynchronous (telephone line) connection between controller and target workstations. Figure 104 shows the setup.



PICTURE 87

Figure 104. Example of a Direct Asynchronous Connection between Controller and Target

Make sure that the following programs (see Table 16) are installed on the workstations.

Table 16. Software Needed for Controller to Target via Asynchronous Configuration

Controller Workstation 1	**Target Workstation 2**
• OS/2 Version 2.1 • DCAF 1.31 controller • Communications Manager/2 1.10	• Operating System - OS/2 Version 2.1 for OS/2 targets - DOS 6.3 and MS-Windows Version 3.1 for Windows targets • Communications Manager/2 1.10 for OS/2 targets only

3.11.1 CM Setup for Configuration of an Asynchronous Connection

Define which telephone line (modem) the controller and target use to communicate and where the modems are connected to the workstations. Update the following definitions first on the controller. Then repeat them for the OS/2 target. If you have a Windows target, do not update the communications on the Windows target.

1. From your Desktop, open the Communications Manager Setup icon or, at the OS/2 prompt, type **cmsetup** and press **Enter**. The Communications Manager/2 logo window appears.

2. Press the **OK** push button, and the Communications Manager/2 Setup window appears.

3. Press the **Setup...** push button. The Open Configuration window appears.

4. In the Configuration field, type your configuration filename, and press the **OK** push button. The Communications Manager Configuration Definition-xx window, where xx is the name of your configuration file, appears.

5. From the Workstation Connection Type list box, select Asynchronous. From the Feature or Application list box, select ACDI APIs, and press the **Configure...** push button. The Communications Manager Profile List window appears. Press the **Configure...** push button.

6. In the Port configuration box of the ACDI Configuration window, select COM1. Ensure that the same communication port is not being used by other devices or programs. Press the **Configure...** push button.

7. In the Telephone network ID box, of the ACDI Configuration Parameters window, select your country (United States in this example).

8. In the Modem options list box, for Device type, select the type of modem you have (for example, IBM PC 1200 or Hayes Smartmodem). If your modem does not appear in the Modem options list box, select Hayes Smartmodem 2400.

9. From the Options list box, select Device initialization. Press the **Change...** push button. The Device initialization window appears.

10. On the Device Initialization window, for Device initialization, type initialization string of your modem and press the **OK** push button. See Appendix F, "Common Modem Device Initialization Strings" in topic APPENDIX1.6, for a list of most common modem device initialization strings.

11. The ACDI Configuration Parameters window reappears. Press the **OK** push button.

12. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

13. Press the **Close** push button. If the file that you are updating is currently active, the message

    Would you like to dynamically update your SNA resources?

    appears. Press the **Yes** push button.

    Otherwise, stop CM and restart it to update your SNA resources.

14. To close the Communications Manager/2 Setup Window, press the **Close** push button.

15. Repeat this task for the OS/2 target.

16. Shut down the workstation if you did not shut it down after installing DCAF.

Note

You have completed all the CM definitions for the workstations. Add the target to the workstation directory on the controller. Use the same entries that you used on the controller in this scenario. See "Adding a Workstation" in topic 3.18.1 for instructions.

Then you are ready to start the DCAF session. For instructions on starting a session, see Distributed Console Access Facility User's Guide.

3.11.2 Diagnosis

The following section provides symptoms for common problems and possible solutions.

3.11.2.1 Failing Asynchronous Connection on Controller or Security Administrator

When the security administrator and controller are installed on the same workstation and both are set up to connect using the Asynchronous Communications Device Interface (ACDI), there could be a conflict.

If you select the "Enable ACDI pass phrase change processing" check box, you are setting up the security administrator to communicate via modem. In this case, whichever component is started first will occupy the modem and prevent the other from getting an ACDI connection.

If you are using a security administrator that is occupying the modem and you try to use an ACDI connection to start a session with the controller, the attempt will fail.

To avoid this problem, you should perform the following steps:

1. Open Personalization for the security administrator.

2. Deselect the check box option "Enable ACDI pass phrase change processing".

3. Restart the security administrator.

4. Start the session via the ACDI connection.

5. When the session is finished, you can change the security administrator personalization options back to the previous parameters and restart the security administrator.

3.11.2.2 Gateway Does Not Terminate

When you cannot terminate the gateway, perform the following steps:

1. In the CONFIG.SYS file, look for a Device statement that calls ASYNCDDC.SYS.

2. Type **REM** in front of the statement.

3. Type another Device statement that calls **ASYNCDD.BSYS**.

4. Save and close the CONFIG.SYS file and restart the workstation.

3.11.2.3 Subsequent Connections to a Target Fail after the First Connection

When you select an asynchronous target for a session after an initial connection, you receive the following error message:

```
SYS3175
A program generated an access violation at 1a252301
PMWIN.DLL  000a:00002301
EAX=0000443c EBX=0000443c ECX=00000000 EDX=0001cc77
ESI=00000bff EDI=00000020
DS=d14f DSACC=00f3 DSLIM=00005c3b
ES=dffc ESACC=00f3 DSLIM=000000c3
FS=150b FSACC=00f2 FSLIM=00000030
GS=0000 GSACC=**** GSLIM=********
CS:EIP=d12f:00002301 CSACC=00fb CSLIM=00007061
SS:ESP=001f:0003c932 SSACC=00f3 SSLIM=0000ea0f
EBP=0000c964 FLG=00012246
```

Use the same solution as in "Gateway Does Not Terminate" in topic 3.11.2.2.

3.11.2.4 Line Drops during a Session (or Error Message EQN0512)

The modems may interpret a character that DCAF sends as a command character.

Disable local flow control on the modems. See the documentation for your modem for instructions.

3.11.2.5 Error Message EQN0519 ACDI Command Text=0002 Return Code=000F

The target attempts to open a port that is not configured in the CM. Configure the port that you specify to the DCAF target in the CM.

3.11.2.6 Error Message EQN0519 ACDI Command Text=0002 Return Code=00F1

Subsequent connections to a target fail after you terminate a connection.

Insert a tilde (the symbol for a one-second delay) in front of each modem setup string.

3.11.2.7 Error EQN0519 ACDI Command Text=00I1 Return Code=0061

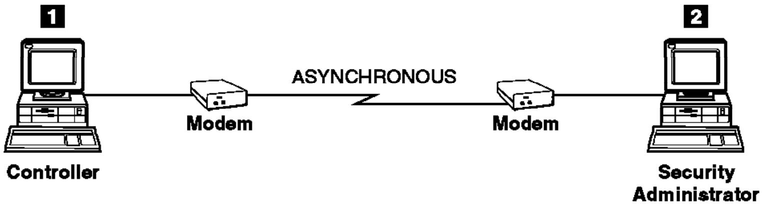
The target modem is off. Make sure that it is on.

3.12 Controller to a Security Administrator via Asynchronous

This scenario describes how to set up a direct asynchronous (telephone line) connection between controller and security administrator. This connection is necessary for secure DCAF only. It enables the controller to send an updated pass phrase to the security administrator database of security information. This connection is not part of the connection between the controller and the secure target. Ensure that you have completed the configurations for the connections between the controller and the target through the gateway.

If your controller accesses secure targets, then you should configure your workstations for this scenario. If your controller does not access secure targets, do not configure your workstations for this scenario.

Figure 105 shows the setup.



PICTURE 88

Figure 105. Example of a Direct Asynchronous Connection between Controller and Target

Make sure that the following programs (see Table 17) are installed on the workstations.

Table 17. Software Needed for Controller to Security Administrator via Asynchronous Configuration

Controller Workstation 1	Security Administrator Workstation 2
• OS/2 Version 2.1 • DCAF 1.31 controller • Communications Manager/2 1.10	• OS/2 Version 2.1 • DCAF 1.31 security administrator • Communications Manager/2 1.10

3.12.1 CM Setup for Configuration of an Asynchronous Connection

Define which telephone line (modem) the controller and security administrator use to communicate and where the modems are connected to the workstations. Update the following definitions first on the controller. Then repeat them for the security administrator.

1. From your Desktop, open the Communications Manager Setup icon or, at the OS/2 prompt, type **cmsetup** and press **Enter**. The Communications Manager/2 logo window appears.

2. Press the **OK** push button, and the Communications Manager/2 Setup window appears.

3. Press the **Setup...** push button. The Open Configuration window appears.

4. In the Configuration field, type your configuration filename, and press the **OK** push button. The Communications Manager Configuration Definition-xx window, where xx is the name of your configuration file, appears.

5. From the Workstation Connection Type list box, select Asynchronous. From the Feature or Application list box, select ACDI APIs, and press the **Configure...** push button. The Communications Manager Profile List window appears. Press the **Configure...** push button.

6. In the Port configuration box of the ACDI Configuration window, select COM1. Ensure that the same communication port is not being used by other devices or programs. Press the **Configure...** push button.

7. In the Telephone network ID box, of the ACDI Configuration Parameters window, select your country (United States in this example).

8. In the Modem options list box, for Device type, select the type of modem you have (for example, IBM PC 1200 or Hayes Smartmodem). If your modem does not appear in the Modem options list box, select Hayes Smartmodem 2400.

9. From the Options list box, select Device initialization. Press the **Change...** push button. The Device initialization window appears.

10. On the Device Initialization window, for Device initialization, type initialization string of your modem and press the **OK** push button. See Appendix F, "Common Modem Device Initialization Strings" in topic APPENDIX1.6, for a list of most common modem device initialization strings.

11. The ACDI Configuration Parameters window reappears. Press the **OK** push button.

12. To verify the configuration files and return to the Communications Manager Configuration Definition-xx window, press the **Close** push button. The Communications Manager Configuration Definition-xx window reappears.

13. Press the **Close** push button. If the file that you are updating is currently active, the message

    Would you like to dynamically update your SNA resources?

    appears. Press the **Yes** push button.

Otherwise, stop CM and restart it to update your SNA resources.

14. To close the Communications Manager/2 Setup Window, press the **Close** push button.

15. Repeat this task for the security administrator.

16. Shut down the workstation if you did not shut it down after installing DCAF.

Note

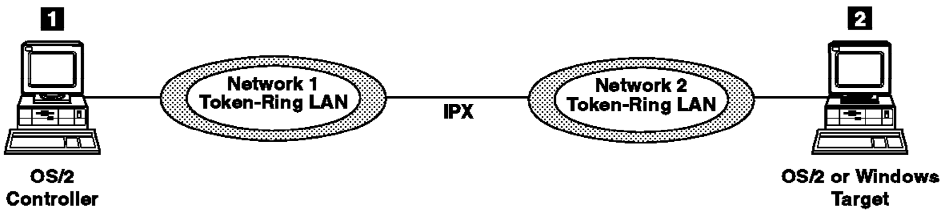
You have completed all the CM definitions for the workstations. Define the security administrator on the controller. Use the same entries that you used in this configuration on the controller. For instructions on defining the security administrator on the controller see "Adding a Workstation" in topic 3.18.1.

For diagnosis and problem solving for this scenario, see "Diagnosis" in topic 3.11.2.

3.13 Controller to a Target via IPX/SPX

This scenario describes how to set up a direct IPX/SPX connection between a controller and target that are on the two logical token-ring LANs. It assumes that the network consists of two sub-networks, each with a NetWare server and a NetWare router. The router forwards information via IPX/SPX to the correct workstation. The controller and target are NetWare clients.

Figure 106 shows the setup.



PICTURE 89

Figure 106. Example of Direct IPX/SPX Connection between Controller and Target Workstations on two LANs

3.13.1 Before You Start

Before you start, you need to know the following for Network 2 and Workstation 2:

- Network address

  The NetWare segment number, defined to the NetWare server on the target's network during the server's installation. It identifies the network that the target is a part of to the controller. It is an eight-digit hexadecimal value. In this example, it is 00000002.

- Node address

  The NetWare workstation address of the target. It consists of the target's network address and, typically, its UAA (a 12-digit hexadecimal value). In this example, the target UAA is 50005A8E50F5. So, the node address is 0000000250005A8E50F5.

  You can find the target's node address in one of the following three ways:

  - Start the DCAF target and the IPX/SPX communication type. See the Distributed Console Access Facility Target User's Guide for instructions. The target node address appears next to the started IPX/SPX communication type in the target window.

- If the target workstation has LAPS, check the LANTRAN.LOG file in the IBMCOM directory for its universally administered address (UAA).

- Use the reference diskette to get the target's UAA.

Make sure that the following programs (see Table 18) are installed on the workstations.

Table 18. Software Needed for Controller to Target via IPX/SPX Configuration

Controller Workstation 1	**Target Workstation 2**
• OS/2 Version 2.1 • DCAF 1.31 controller • NetWare Client Version 2.1 (or later) with IPX/SPX installed	• Operating System - OS/2 Version 2.1 for OS/2 targets - DOS 6.3 and MS-Windows Version 3.1 for Windows targets • DCAF 1.31 OS/2 or Windows target • NetWare Client Version 2.1 (or later) with IPX/SPX installed

3.13.2 Configuring the Workstations

Customize the NetWare NET.CFG file on all the OS/2 workstations and configure the controller.

3.13.2.1 Customizing the OS/2 Workstations

Ensure that the following statement appears in the NET.CFG file on the OS/2 workstations:

```
Link Support
  buffers 14 4202
```

3.13.2.2 Configuring the Controller

Shut down the workstation if you did not shut it down after installing DCAF. You have completed configuration of the communications for this scenario.

To identify the target to the controller, add the workstation to the controller DCAF directory. Include the target network address and node address in the IPX/SPX notebook page. See "Adding a Workstation" in topic 3.18.1 for instructions.

You are now ready to start the DCAF session. For instructions on starting a session, see the Distributed Console Access Facility User′s Guide.

3.13.3 Diagnosing: Workstation Hangs when NetWare NWIFS.IFS Is Loading

If you use a Value Point workstation with OS/2 Version 2.1 or later, the NetWare Client 2.10, and CM/2 plus LAPS, a problem may occur when the NetWare NWIFS.IFS loads in the CONFIG.SYS file.

To fix the problem, move the following lines after the NetWare section in the CONFIG.SYS file:

```
DEVICE=C:\IBMCOM\PROTOCOL\LANPDD.OS2
DEVICE=C:\IBMCOM\PROTOCOL\LANVDD.OS2
```

3.14 Sample Configurations for NetBIOS Connections

This following two chapters describe sample configurations of NetBIOS connections between the DCAF workstations.

The following is a list of the sample configurations that are explained in this section:

- Controller to a Target Directly via NetBIOS
- Gateway to a Target via NetBIOS on a Logical LAN

The setup for each sample configuration shows an example, describes the required software, and includes instructions for updating the LAN Protocol Support (LAPS).

3.14.1 Allocating Sufficient NetBIOS Resources

When you configure NetBIOS connections you must allocate sufficient NetBIOS resources to enable for the DCAF components that reside on each workstation to communicate. Table 19 provides the minimum NetBIOS resources that each DCAF component needs in order to communicate. If there is more than one component on the same workstation, add the values for each of these components and increase the NetBIOS resources by the total of these values.

Table 19. Minimum NetBIOS Resources Needed for the DCAF Components

Parameter	Controller	Gateway	LAN Directory	Target	Security Authenticator (for secure DCAF only)
Maximum sessions	1	GS	DS	1	2
Maximum commands	5	GS + 2	DS + 3	5	2
Maximum names	2	4	2	2	2

Legend:

GS Number of concurrent sessions using the gateway (assigned in ″Personalizing the DCAF Gateway″ in topic 2.7.3). The default is **16**.

DS Number of concurrent gateway-LAN directory sessions (assigned in ″NetBIOS Parameters″ in topic 2.7.2.1). The default is **4**.

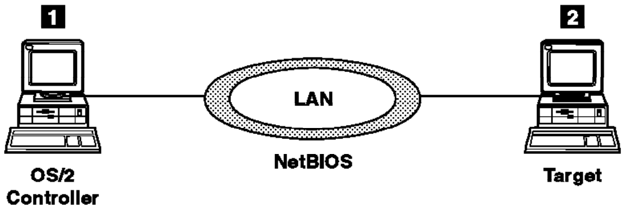
3.14.2 Diagnosis

The most common problem is that there are insufficient NetBIOS resources for all the applications running on the workstation. Check the DCAF error log on the workstation and reconfigure LAPS to increase the resources.

Then reboot the workstation.

3.15 Controller to a Target Directly via NetBIOS

This scenario describes how to set up a direct NetBIOS connection between controller and target workstations that are on the same logical LAN. Figure 107 shows the setup.



PICTURE 90

Figure 107. Example of a Direct Controller/Target NetBIOS Connection on a Logical LAN

3.15.1 Before You Start

Before you start, there are some things that you should know.

- The instructions in this example assume that OS/2 is installed in drive C: and that the LAN Protocol Support (LAPS) is installed in default directory **c:\ibmcom**. If you installed LAPS in a different drive and directory, modify all the instructions accordingly.
- This example uses token-ring adapters.

Make sure that the following programs (see Table 20) are installed on the workstations.

Table 20. Software Needed for Controller to Target via NetBIOS on a Logical LAN

Controller Workstation 1	**Target Workstation 2**
• OS/2 Version 2.1 • LAPS • DCAF 1.31 controller	• Operating System - OS/2 Version 2.1 for OS/2 targets - DOS 6.3 for DOS targets - DOS 6.3 and MS-Windows Version 3.1 for Windows

	targets • LAPS (LAN Support Program for DOS or Windows target) • DCAF 1.31 target

3.15.2 Updating LAPS for the OS/2 Workstations

Update the following LAPS parameters on both the controller and the OS/2 target workstations:

1. At an OS/2 prompt, type **c:\ibmcom\laps** and press the **Enter** push button. The IBM LAN Adapter and Protocol Support logo window appears.

2. Press the **Configure...** push button. The Configuration dialog box appears.

3. Select the Configure LAN transports radio button and press the **Continue...** push button. The Configure Workstation window appears.

4. Ensure that, in the Current Configuration list box, the IBM Token-Ring Network Adapter and IBM OS/2 NetBIOS appear. If they appear, skip to Step 7. Otherwise, continue here to add to the Current Configuration list box whichever entry is missing.

5. To add the IBM Token-Ring Network Adapter: from the Network Adapters list box, select IBM Token-Ring Network Adapter and press the **Add** push button.

6. To add the IBM OS/2 NetBIOS: from the Protocols list box again, select IBM OS/2 NetBIOS and press the **Add** push button.

7. From the Current Configuration list box, select IBM OS/2 NetBIOS and press the **Edit** push button. The Parameters for IBM OS/2 NetBIOS window appears.

8. In the Universally administered address reversed field, type **No**.

9. Increase the NetBIOS resources by the sum of the resources that are required for each component that is on the same workstation. Increase the values in the following fields:

   - Maximum sessions
   - Maximum commands
   - Maximum names

   Add the minimum values for DCAF to the values that you already have for your NetBIOS environment. Refer to Table 19 in topic 3.14.1 to determine the minimum value of NetBIOS resources required for each component.

10. Press the **OK** push button. The Configure Workstation window reappears.

11. Press the **OK** push button. The IBM LAN Adapter and Protocol Support logo window reappears.

12. Press the **Exit** push button. The CONFIG.SYS Updates window appears.

13. In the Drive to Update list box, select **C**. Press the **Continue...** push

button. The message CONFIG.SYS updated appears.

14. Press the **OK** push button. The Exiting LAPS window appears.

15. Press the **Exit** push button.

16. Stop all applications on the workstation and shut down the workstation.

> **Note**
>
> You have completed the configuration for the OS/2 workstations. Add the target to the workstation directory on the controller. See "Adding a Workstation" in topic 3.18.1 for instructions.

Perform the steps in the next section if you have a DOS or Windows target. Then you are ready to start the DCAF session. For instructions on starting a session, see the Distributed Console Access Facility User's Guide. For diagnosis and problem solving for this scenario, see "Diagnosis" in topic 3.14.2.

3.15.3 Updating the NetBIOS Resources for the DOS or Windows Target

For the DOS or Windows target, update the CONFIG.SYS in the native DOS environment. Perform the following steps:

1. Edit the CONFIG.SYS file.

2. At the DXMT0MOD.SYS statement, increase the values for sessions, commands, and names respectively in the Maximum sessions, Maximum commands, and Maximum names fields by adding the minimum values for DCAF to the values that you already have for your NetBIOS environment. DCAF requires the following minimum values:

   - Maximum sessions: 1
   - Maximum commands: 5
   - Maximum names: 2.

3. If you are using IBM LAN Support Program Version 1.30.1 on the Windows target, you can improve mouse performance during a session by including the following parameter in the DXMT0MOD.SYS statement: **PBA=0**. Otherwise, go to the next step.

4. Save and close the CONFIG.SYS file.

5. Stop all applications on the workstation and shut down the workstation.

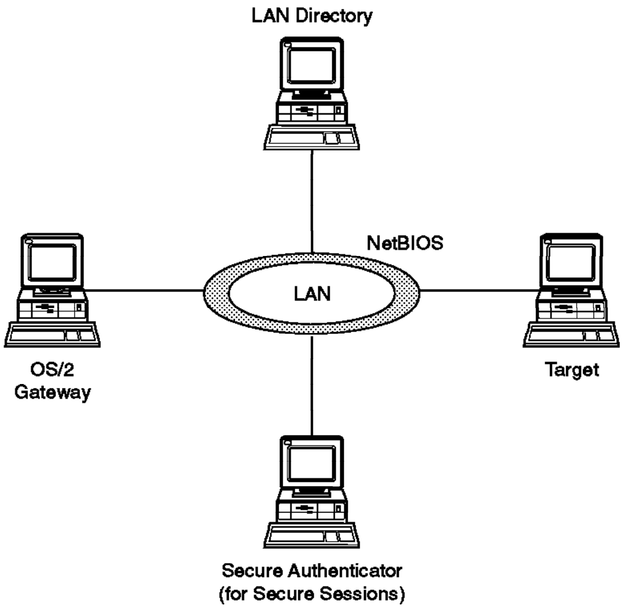
You have completed the configuration for this scenario. You are ready to start the DCAF session. For instructions on starting a session, see the Distributed Console Access Facility User's Guide. For diagnosis and problem solving for this scenario, see "Diagnosis" in topic 3.14.2.

3.16 Gateway to a Target via NetBIOS on a Logical LAN

This scenario describes how to allocate sufficient NetBIOS resources for a connection between a gateway and a target that are on the same logical LAN. The scenario shows how to complete the final segment of a connection between the controller and the target through the gateway. Ensure that you have completed one of the configurations for the connection between the controller and the gateway.

The DCAF requires the gateway, LAN directory, and target for this setup. Figure 108 shows one of the possible ways in which the components can be distributed on the workstations. You can install all three components on the same workstation or you can distribute them any way you want on the workstations on the LAN.

For secure sessions, DCAF requires that the target and the gateway be secure and also that a security authenticator be installed on the same workstation as the secure target. This scenario also provides instructions to allocate NetBIOS resources for the security authenticator. The secure target and the security authenticator, though they appear in the figure, are required only in configurations for secure DCAF.



PICTURE 91

Figure 108. Example of a Gateway/Target NetBIOS Connection on a Logical LAN

3.16.1 Before You Start

Before you start, there are some things that you should know.

- The instructions in this example assume that OS/2 is installed in drive C: and that the LAN Protocol Support (LAPS) is installed in default directory **c:\ibmcom**. If you installed LAPS in a different drive and directory, modify all the instructions accordingly.

- This example uses token-ring adapters.

Make sure that the following programs (see Table 21) are installed on the workstations.

Table 21. Software Needed for Gateway to Target via NetBIOS on a Logical LAN

All OS/2 Workstations	DOS or Windows Target Workstations
• OS/2 Version 2.1 • LAPS • DCAF 1.31	• DOS 6.3 • MS-Windows Version 3.1 (for Windows target only) • IBM LAN Support Program • DCAF 1.31

3.16.2 Updating the NetBIOS Resources on OS/2 Workstations

Do the following procedure to update the NetBIOS resources on the OS/2 workstations in this scenario.

1. At an OS/2 prompt, type **c:\ibmcom\laps** and press the **Enter** push button. The IBM LAN Adapter and Protocol Support logo window appears.

2. Press the **Configure...** push button. The Configuration dialog box appears.

3. Select the Configure LAN transports radio button and press the **Continue...** push button. The Configure Workstation window appears.

4. Ensure that, in the Current Configuration list box, the IBM Token-Ring Network Adapter, and IBM OS/2 NetBIOS appear.

   For gateways only: Ensure that IBM IEEE 802.2 also appears.

   If they appear, skip to Step 8. Otherwise, continue here to add to the Current Configuration list box whichever entry is missing.

5. To add the IBM Token-Ring Network Adapter: from the Network Adapters list box, select IBM Token-Ring Network Adapter and press the **Add** push button.

6. To add the IBM IEEE 802.2: from the Protocols list box, select IBM IEEE 802.2 and press the **Add** push button.

7. To add the IBM OS/2 NetBIOS: from the Protocols list box again, select IBM OS/2 NetBIOS and press the **Add** push button.

8. From the Current Configuration list box, select IBM OS/2 NetBIOS and press the **Edit** push button. The Parameters for IBM OS/2 NetBIOS window appears. If you have the gateway and target on the same workstation, skip the next step.

9.

   For targets only: In the Universally administered address reversed field, type **No**.

10. Increase the NetBIOS resources by the sum of the resources that are required for each component that is on the same workstation. Increase the values in the following fields:

    - Maximum sessions
    - Maximum commands
    - Maximum names

    Add the minimum values for DCAF to the values that you already have for your NetBIOS environment. Refer to Table 19 in topic 3.14.1 to determine the minimum value of NetBIOS resources required for each component.

11. Press the **OK** push button. The Configure Workstation window reappears.

12. Press the **OK** push button. The IBM LAN Adapter and Protocol Support logo window reappears.

13. Press the **Exit** push button. The CONFIG.SYS Updates window appears.

14. In the Drive to Update list box, select **C**. Press the **Continue...** push button. The message CONFIG.SYS updated appears.

15. Press the **OK** push button. The Exiting LAPS window appears.

16. Press the **Exit** push button.

17. Stop all applications on the workstation and shut down the workstation.

You have completed the configuration for the OS/2 workstations. Perform the steps in the next section if you have a DOS or Windows target. Otherwise, you are ready to start the DCAF session. For instructions on starting a session, see the Distributed Console Access Facility User's Guide. For diagnosis and problem solving for this scenario, see "Diagnosis" in topic 3.14.2.

3.16.3 Updating the NetBIOS Resources for the DOS or Windows Target

For a DOS or Windows target, update the CONFIG.SYS in the native DOS environment. Perform the following steps:

1. Edit the CONFIG.SYS file.

2. At the DXMT0MOD.SYS statement, increase the values for sessions, commands, and names respectively in the Maximum sessions, Maximum

commands, and Maximum names fields by adding the minimum values for DCAF to the values that you already have for your NetBIOS environment. DCAF requires the following minimum values:

- Maximum sessions: 1
- Maximum commands: 5
- Maximum names: 2

3. If you are using IBM LAN Support Program Version 1.30.1 on the Windows target, you can improve the performance of the mouse during a session by including the following parameter in the DXMT0MOD.SYS statement: **PBA=0**.

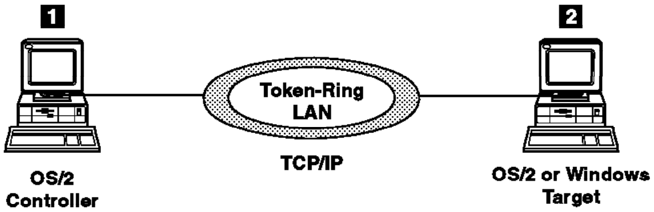
4. Save and close the CONFIG.SYS file.

5. Stop all applications on the workstation and shut down the workstation.

You have completed the configuration for this scenario. You are ready to start the DCAF session. For instructions on starting a session, see the Distributed Console Access Facility User's Guide. For diagnosis and problem solving for this scenario, see "Diagnosis" in topic 3.14.2.

3.17 Controller to a Target via TCP/IP

This scenario describes how to set up a direct TCP/IP connection between controller and target workstations on a token-ring LAN. Figure 109 shows the setup.



PICTURE 92

Figure 109. Example of Direct TCP/IP Connection between Controller and Target Workstations on a LAN

3.17.1 Before You Start

Before you start, there are some things that you should do or know first.

- The following instructions assume that TCP/IP is installed in default directory **c:\tcpip**. If you installed it in a different drive and directory, modify all the instructions accordingly.
- In the example, the maximum transmit unit value is 4400 for a 16-mega token-ring adapter. If you have a different token-ring adapter, use the maximum transmit unit value for your token-ring adapter.

Make sure that the following programs (see Table 22) are installed on the workstations.

Table 22. Software Needed for Controller to Gateway via TCP/IP Configuration

Controller Workstation 1	**Target Workstation 2**
• OS/2 Version 2.1 • DCAF 1.31 controller • TCP/IP 2.0	• Operating System - OS/2 Version 2.1 for OS/2 targets - DOS 6.3 and MS-Windows Version 3.1 for Windows targets

	• DCAF 1.31 OS/2 or Windows target • TCP/IP 2.0 for OS/2 targets or TCP/IP 2.1.1 for Windows targets

On each workstation, do the following configuration tasks:

- Update the network configuration
- Update the service configuration
- Create or update the HOSTS file (optional)

3.17.2 Updating the Controller TCP/IP Configuration

Update the following parameters on the controller:

3.17.2.1 Updating the Network Configuration

To update the network configuration, complete the following steps:

1. At an OS/2 prompt, type **c:\tcpip\bin\tcpipcfg**. The TCP/IP configuration notebook appears.

2. Select the Enable LAN adapter 0 check box.

3. In the IP address field, type your workstation IP address. This is a unique number that you (or your network administrator) assigns to each workstation in the network. It is a string composed of four numerical substrings, divided by a period (nnn.nnn.nnn.nnn.). The range for each substring is 0-255.

4. In the MTU field, type **4400**. Now update the Services configuration.

3.17.2.2 Updating the Services Configuration

To update the services configuration,

1. Select the Services tab. The Services notebook page appears.
2. In the This machine's hostname field, type **CTRLHOST**.
3. In the Domain Name field, type your workstation domain name.
4. To validate your changes and close the TCP/IP notebook, press **Alt+F4**.
5. Select Save.

3.17.2.3 Creating the HOSTS File

This task is optional. If you know the IP address of the target, you can use it to add the target to the DCAF directory and connect to the target without creating or using the HOSTS file on your workstation or the target. See "Adding a Workstation" in topic 3.18.1 for instructions on adding the target to your DCAF directory. Use the same entries that you use in configuring the target.

If you want to use the HOSTS file, create the HOSTS file (or update it if it already exists). This is a simple ASCII text file, containing the IP address and name of your workstation. It enables the controller and target to "see" each other in the TCP/IP network. To create or update the HOSTS file complete the following steps:

1. At an OS/2 prompt, type **c:\tcpip\etc** and press the **Enter** push button.

2. Edit the file HOSTS.

3. In the HOSTS file, type the following:

   IPaddress CTRLHOST /*Comment*/
   IPaddress TARGHOST /*Comment*/

4. Save and close the file.

5. Close all the applications running on the controller and shut down the controller.

You have completed all the updates for the controller. Add the target to the DCAF directory on the controller. Use the same entries that you use in configuring the target.

3.17.3 Updating the Target TCP/IP Configuration

Update the following configuration parameters on the target workstation:

3.17.3.1 Updating the Network Configuration

To update the network configuration, complete the following steps:

1. At an OS/2 prompt, type **c:\tcpip\bin\tcpipcfg**. The TCP/IP configuration notebook appears.

2. Select the Enable LAN adapter 0 check box.

3. In the IP address field, type <u>your workstation IP address</u>. This is a unique number that you (or your network administrator) assigns to each workstation in the network. It is a string composed of four numerical substrings, divided by a period (<u>nnn.nnn.nnn.nnn.</u>). The range for each substring is 0-255.

4. In the MTU field, type **4400**. Now update the Services configuration.

3.17.3.2 Updating the Services Configuration

To update the services configuration,

1. Select the Services tab. The Services notebook page appears.
2. In the This machine's hostname field, type **TARGHOST**.
3. In the Domain Name field, type <u>your workstation domain name</u>.
4. To validate your changes and close the TCP/IP notebook, press Alt+F4.
5. Select Save.

3.17.3.3 Creating the HOSTS File

Perform this task only if you created a HOSTS file on the controller for this scenario. If, on the controller, you used the IP address to add the target to the DCAF directory, skip this task.

To update the network configuration, create the HOSTS file (or update it if it already exists). This is a simple ASCII text file, containing the IP address and name of your workstation. It enables the controller and target to "see" each other in the TCP/IP network. To create or update the HOSTS file complete the following steps:

1. At an OS/2 prompt, type **c:\tcpip\etc** and press the **Enter** push button.

2. Edit the file HOSTS.

3. In the HOSTS file, type the following:

   ```
   IPaddress    CTRLHOST    /*Comment*/
   IPaddress    TARGHOST    /*Comment*/
   ```

4. Save and close the file.

You have completed all the updates for the target. Close all the applications running on the target and shut down the target.

You have completed the configuration for this scenario. You are now ready to start the DCAF session. See the Distributed Console Access Facility User's Guide and Distributed Console Access Facility Target User's Guide.

3.17.4 Diagnosing Common Problems

This section includes the problems that could arise when you set up this or a similar scenario.

3.17.4.1 On the Controller, the Host Cannot Be Found

The controller cannot find the target in the network. Check that you updated the HOSTS file with the IP address and name of the target.

3.17.4.2 On the Target, the Address Cannot Be Assigned

The local port number, assigned to the target during personalization, is used by another application. Personalize the target TCP/IP parameters and change the value for the Local Port number field. See "DCAF - TCP/IP Parameters" in topic 2.8.1.2 for the OS/2 target or "DCAF - TCP/IP Parameters" in topic 2.8.2.1.2 for the Windows target for instructions.

3.17.4.3 The Session with Windows Target Does Not Start

When you try to connect a target running Microsoft Windows for Workgroups, the session does not start. To fix the problem, make sure that in the Windows for Workgroups Network Setup application the selected option under Networks is No Windows support for networks.

3.18 Updating the DCAF Workstation Directory

A description of the workstation (target or gateway) with which the controller connects directly must appear in the DCAF directory. This chapter describes how to add new workstations to the DCAF directory.

Note: The EQNLR.INI file, which keeps record of the workstations in the DCAF directory, can be corrupted. It is recommended that you always make a backup copy of the EQNLR.INI file after you have established a stable list of workstations in the DCAF directory.

3.18.1 Adding a Workstation

For every workstation with which you want to start a session, add a workstation description to your directory.

- Add the target for a direct session with a target.
- Add the LAN directory, not the target, for a session on a LAN through a LAN directory. The target is added to the LAN directory, not to the DCAF directory.
- Add the gateway for a basic session through a gateway.
- Add the gateway and define the administrator for a secure session. You define the administrator in "Defining the Security Administrator Description" in topic 3.18.2.

Each workstation has a two-part description:

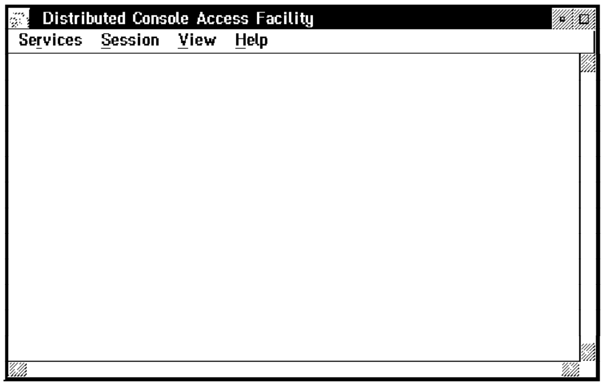
- General. The general description contains information about the name and kind of workstation, its communication protocol, and its level of security.
- Protocol. The protocol description contains configuration information specific to the workstation communication protocol.

Note: During the session, only the Find choice is available on the Workstation pull-down menu of the DCAF - Directory window.

3.18.1.1 General Description

To add a workstation to your directory, perform the following steps:

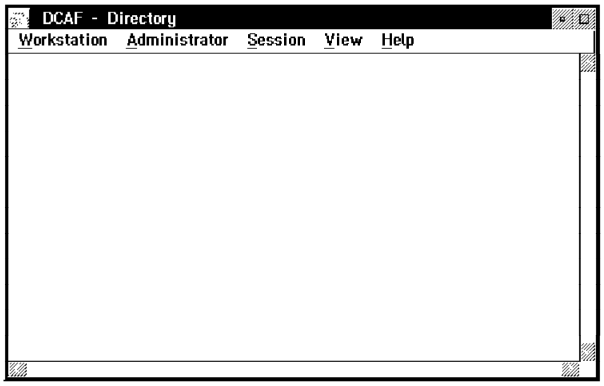
1. To start the DCAF controller, first choose the DCAF folder from the desktop, and then choose the DCAF Controller icon. First, the IBM logo, then the Distributed Console Access Facility - Controller window appears.



PICTURE 93

Figure 110. DCAF Controller Window

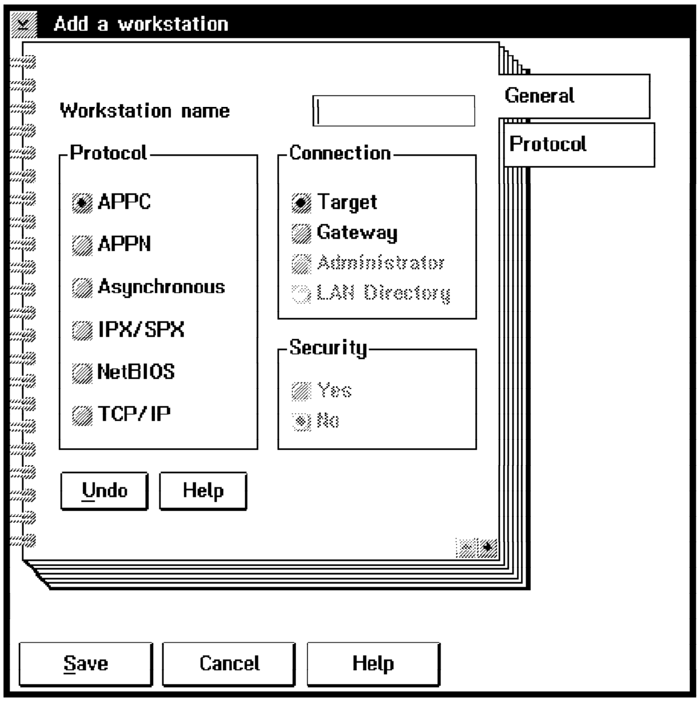
2. From Session on the menu bar of the Distributed Console Access Facility - Controller window, choose Open a Workstation Directory.... The DCAF - Directory window (Figure 111) appears.



PICTURE 94

Figure 111. DCAF Directory Window

3. From Workstation on the menu bar, choose Add.... The Add Workstation notebook (Figure 112) appears.



PICTURE 95

Figure 112. Add Workstation General Notebook

4. In the Workstation name field, type the workstation name. This is a name that you or the network administrator create in order to recognize the workstation, for example, IPX_TARGET_PHOENIX.

   Character guidelines for the workstation name:

   - 1-62 characters in length
   - Upper- or lowercase letters (A-Z, a-z)
   - Digits (0-9)
   - Embedded blanks are not valid

5. From the Protocol list box, select the communications protocol that you use to connect to the workstation.

   - APPC
   - APPN
   - Asynchronous
   - IPX/SPX
   - NetBIOS
   - TCP/IP

6. From the Connection list box, select the kind of workstation that you connect to.

   - Target
   - Gateway
   - LAN Directory

7. From the Security list box, select whether the workstation needs DCAF security. Select Yes if the workstation uses DCAF security; select No if the workstation uses basic DCAF (no password or password only). The Security list box is unavailable if you select the IPX/SPX or TCP/IP protocol.

You are ready to provide the protocol description.

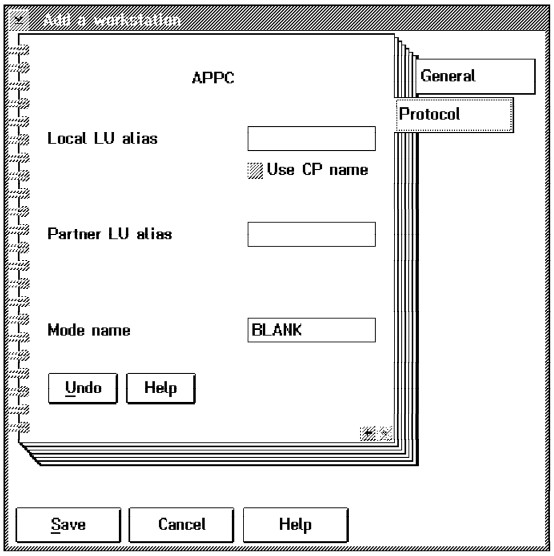
3.18.1.2 Protocol Description

Provide a protocol description for each workstation in the DCAF directory. Select the Protocol tab. If, on the General notebook page, you select:

- APPC, the APPC page appears (see Figure 113 in topic 3.18.1.2.1)
- APPN, the APPN page appears (see Figure 114 in topic 3.18.1.2.2)
- Asynchronous, the Asynchronous page appears (see Figure 115 in topic 3.18.1.2.3)
- IPX/SPX, the IPX/SPX page appears (see Figure 116 in topic 3.18.1.2.4)
- NetBIOS, the NetBIOS page appears (see Figure 117 in topic 3.18.1.2.5)
- TCP/IP, the TCP/IP page appears (see Figure 118 in topic 3.18.1.2.6)

3.18.1.2.1 APPC Protocol Description

Define the following APPC parameters for the workstation.



PICTURE 96

Figure 113. APPC Protocol Page

1. If you are using the CP name (local node name) of the workstation, select the Use CP Namecheck box. When thecheck box is selected, the Local LU Alias field is unavailable. Skip to Step 3. Otherwise, leave it unselected.

2. In the Local LU Alias field, type your controller LU name.

   Character guidelines:

   - It is 1-8 characters in length.
   - It can be any combination of characters, except left parenthesis, right parenthesis, comma, semicolon, blank.

- It cannot start with @.

3. In the Partner LU Alias field, type the LU name of the workstation to which you are connecting.

   Character guidelines:

   - It is 1-8 characters in length.
   - It can be any combination of characters, except left parenthesis, right parenthesis, comma, semicolon, blank.
   - It cannot start with @.

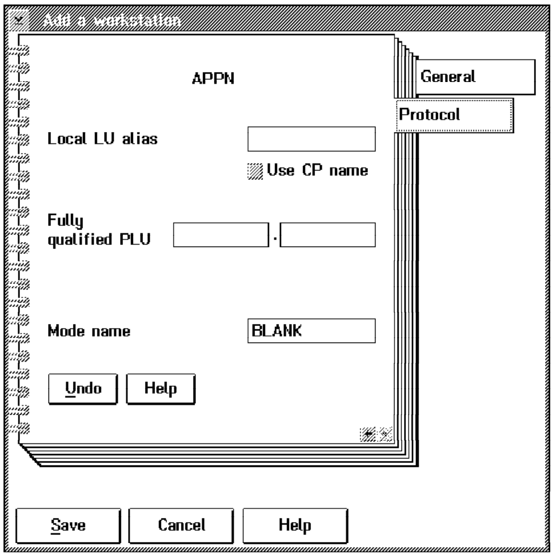
4. In the Mode Name field, type the mode name for DCAF in your network. Valid characters are the same as for the local LU alias.

If you add more than one workstation to the directory, press the Save push button after each workstation description.

When you have completed the workstation descriptions, close the notebook. The added workstations appear in your workstation directory list when you close the notebook. Be sure that the communications are configured before you start a session with a new workstation. See "Configuring" in topic 3.0 to see how to configure the communications.

3.18.1.2.2 APPN Protocol Description

Define the following APPN parameters for the workstation.



PICTURE 97

Figure 114. APPN Protocol Page

1. If you are using the CP name (local node name) of the workstation, select the Use CP Namecheck box. When thecheck box is selected, the Local LU Alias field is unavailable. Skip to Step 3. Otherwise, leave it unselected.

2. In the Local LU Alias field, type your controller LU name.

Character guidelines:

- It is 1-8 characters in length.
- It can be any combination of characters, except left parenthesis, right parenthesis, comma, semicolon, blank.
- It cannot start with @.

3. In the Fully Qualified PLU field, type your node ID and the destination workstation LU name

   Character guidelines are the same as for the local LU alias.

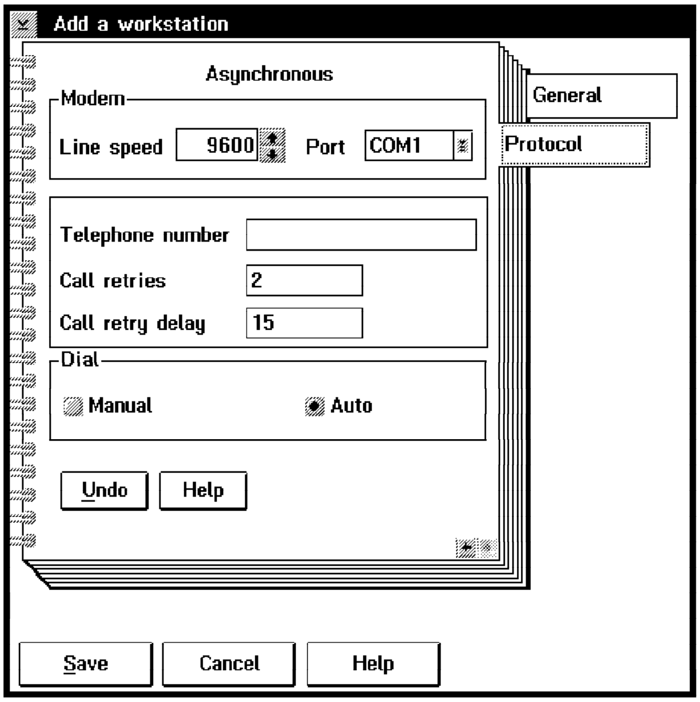
4. In the Mode Name field, type the mode name for DCAF in your network.

If you add more than one workstation to the directory, press the Save push button after each workstation description.

When you have completed the workstation descriptions, close the notebook. The added workstations appear in your workstation directory list when you close the notebook. Be sure that the communications are configured before you start a session with a new workstation. See "Configuring" in topic 3.0 to see how to configure the communications.

3.18.1.2.3 Asynchronous Protocol Description

Define the following asynchronous parameters for the workstation.



PICTURE 98

Figure 115. Asynchronous Protocol Page

1. From the Modem list box, in the Line Speed field, select the modem transmission rate in bits per second. For asynchronous connections, use the highest line speed supported by your modem for best

performance.

The values are:

- 1200
- 2400
- 4800
- 9600
- 19200
- 38400
- 48000
- 56000
- 57800
- 64000

The default is 9600.

2. In the Port field, select the asynchronous communication port number that the destination workstation uses.

   The range is 1-3. The default is 1.

3. In the Telephone Number field, type the modem telephone number of the workstation.

   The maximum number of characters is 250.

4. In the Call Retries field, type the number of times you want DCAF to redial the telephone number if it cannot make the connection immediately. The range is 0-20. The default is 2.

5. In the Call Retry Delay field, type the pause in between retries in seconds. The range is 1-1200. The default is 15.

6. In the Dial box, select the kind of dialing, automatic or manual, for the workstation modem.

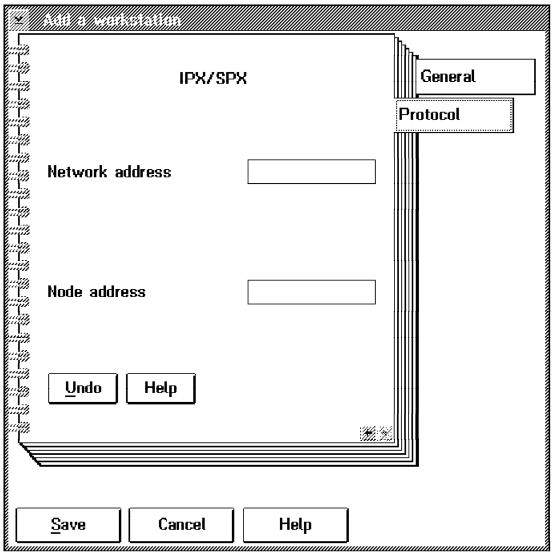
If you add more than one workstation to the directory, press the Save push button after each workstation description.

When you have completed the workstation descriptions, close the notebook. The added workstations appear in your workstation directory list when you close the notebook. Be sure that the communications are configured before you start a session with a new workstation. See "Configuring" in topic 3.0 to see how to configure the communications.

3.18.1.2.4 IPX/SPX Protocol Description

Define the following IPX/SPX parameters for the workstation:

- Network address
- Node address



PICTURE 99

Figure 116. IPX Protocol Page

1. In the Network Address field, type the network address of the workstation.

   To find the network address, do the following: Start the DCAF workstation and the IPX/SPX communication type. The network and node addresses appear next to the started IPX/SPX communication type in the workstation window. The network address is the first eight digits in the hexadecimal value that appears next to the started IPX/SPX communication type in the workstation window.

   Character guidelines for hexadecimal format:

   - Exactly 8 characters in length
   - Upper- or lowercase letters (A-F, a-f)
   - Digits (0-9)
   - The range is 00000000-FFFFFFFE

2. In the Node Address field, type the node address of the workstation.

   You can find the workstation node address in one of the following three ways:

   - Start the DCAF workstation and the IPX/SPX communication type. The target network and node address appear next to the started IPX/SPX communication type in the workstation window. The node address is the last twelve digits in the hexadecimal value that appears next to the started IPX/SPX communication type in the workstation window.

   - If the workstation has LAPS, check the LANTRAN.LOG file in the IBMCOM directory for its universally administered address (UAA).

   - Use the reference diskette to get the UAA.

   Character guidelines for hexadecimal format:

   - Exactly 12 characters in length
   - Upper- or lowercase letters (A-F, a-f)
   - Digits (0-9)
   - The range is 000000000000-FFFFFFFFFFFF

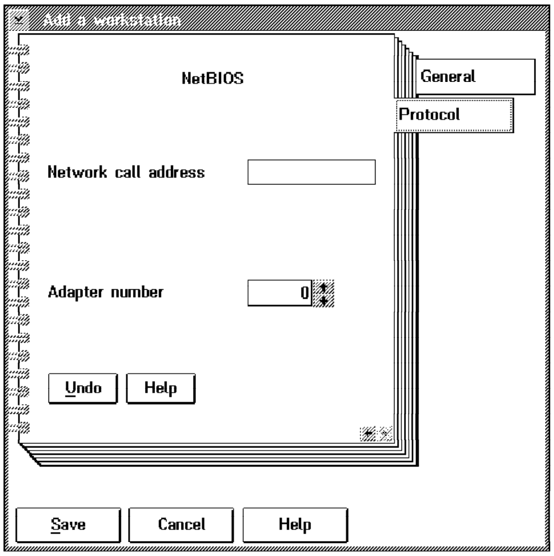
If you add more than one workstation to the directory, press the Save push button after each workstation description.

When you have completed the workstation descriptions, close the notebook. The added workstations appear in your workstation directory list when you close the notebook. Be sure that the communications are configured before you start a session with a new workstation. See "Configuring" in topic 3.0 to see how to configure the communications.

3.18.1.2.5 NetBIOS Protocol Description

Define the following NetBIOS parameters for the workstation:

- Network address
- Adapter number



PICTURE 100

Figure 117. NetBIOS Protocol Page

1. In the Network Call Address field, type the network call address of the workstation if you are defining a target.

   You can find the adapter address of the workstation in one of the following ways:

   - Start the workstation and LAN communication type. The OS/2 or Windows target window displays the LAN identifier. The DOS target window displays the LAN identifier when you press the hot key.

   - If the workstation has LAPS, check the LANTRAN.LOG file in the IBMCOM directory for its universally administered address (UAA).

   - Use the reference diskette to find the workstation UAA.

   Type the LAN directory name if you are defining a LAN directory. The default LAN directory name is DCAFLAN. It is case sensitive.

   Character guidelines for hexadecimal format:

   - Exactly 12 characters in length

- Upper- or lowercase letters (A-F, a-f)
- Digits (0-9)
- Special characters

2. In the Adapter Number field, select the adapter number of the workstation.

   The range is 0-3. The default is 0.

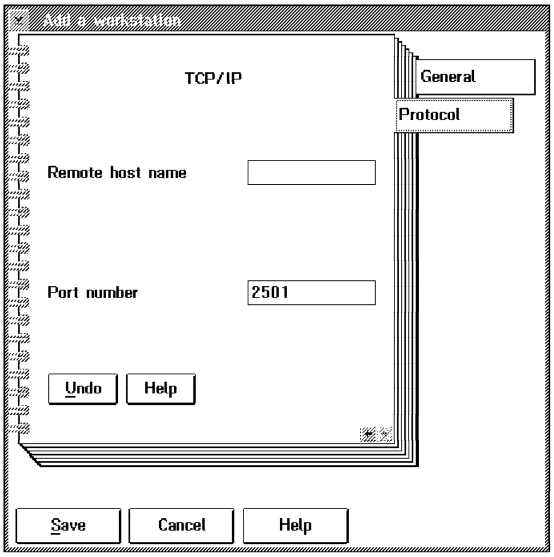
If you add more than one workstation to the directory, press the Save push button after each workstation description.

When you have completed the workstation descriptions, close the notebook. The added workstations appear in your workstation directory list when you close the notebook. Be sure that the communications are configured before you start a session with a new workstation. See "Configuring" in topic 3.0 to see how to configure the communications.

3.18.1.2.6 TCP/IP Protocol Description

Define the following TCP/IP parameters for the workstation:

- Remote host name
- Port number



PICTURE 101

Figure 118. TCP/IP Protocol Page

1. In the Remote Host Name field, type host name or the IP address of the destination workstation. Use the host name only if you are sure that your workstation and IP address and the destination workstation and IP address are listed in HOSTS files on both workstations.

   Character guidelines:

   - It is 1-256 characters in length.
   - Upper- or lowercase letters (A-Z, a-z).
   - Digits (0-9).
   - All special characters except blanks.

2. In the Port Number field, type the port number of the destination

workstation. For DCAF, the range is 1024-65534. The default is 2500 if you define a target. The default is 2501 if you define a LAN directory.

If you add more than one workstation to the directory, press the Save push button after each workstation description.

When you have completed the workstation descriptions, close the notebook. The added workstations appear in your workstation directory list when you close the notebook. Be sure that the communications are configured before you start a session with a new workstation. See "Configuring" in topic 3.0 to see how to configure the communications.

3.18.2 Defining the Security Administrator Description

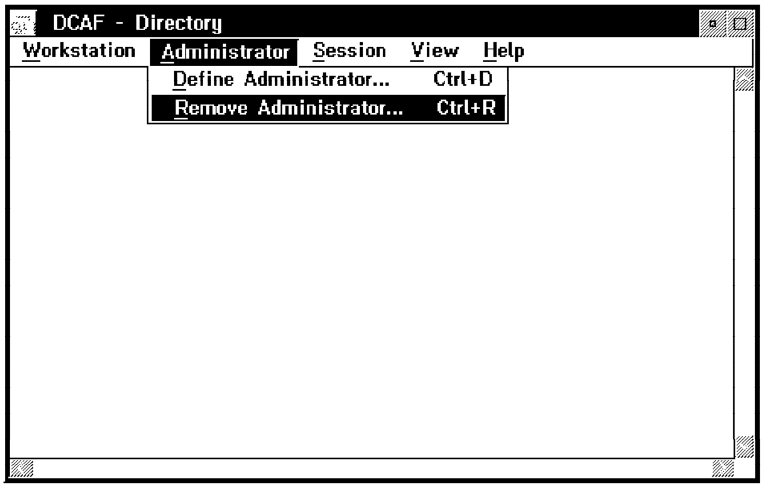
Perform this task only if you connect to secure gateways or targets. This task enables your controller to send updates when you change your pass phrase to the security administrator. The security administrator updates your pass phrase in its database of security information and then distributes it across the secure network.

3.18.2.1 General Description

To define or change a security administrator description, perform the following steps:

1. To start the DCAF controller, first choose the DCAF folder from the desktop, and then choose the DCAF Controller icon. First, the IBM logo, then the Distributed Console Access Facility - Controller window (Figure 110 in topic 3.18.1.1) appears.

2. From Session on the menu bar of the Distributed Console Access Facility - Controller window, choose Open a Workstation Directory.... The DCAF - Directory window appears.

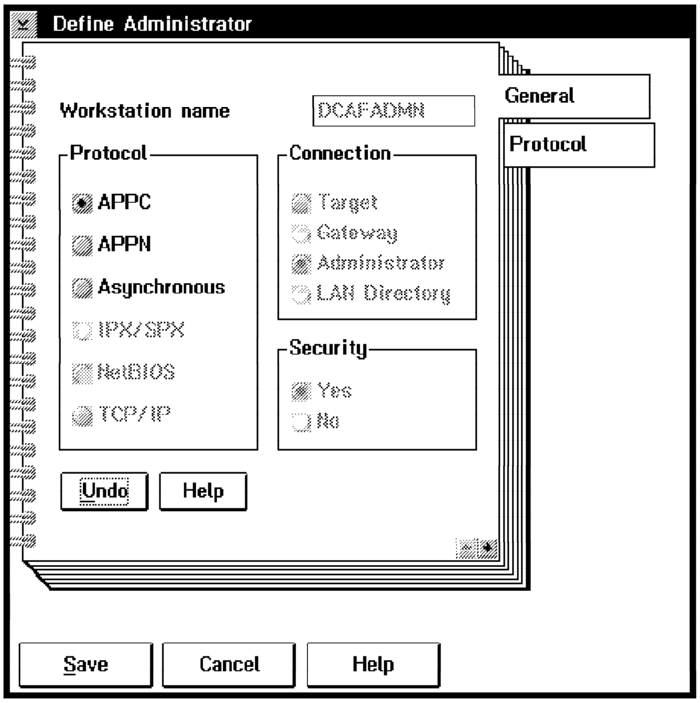


PICTURE 102

Figure 119. Defining the Administrator

3. From Administrator on the menu bar (Figure 119), choose Define Administrator....

The Define Administrator notebook (Figure 120) appears.



PICTURE 103

Figure 120. Define Administrator General Notebook

4. The Workstation name field is unavailable because there is one security administrator in the DCAF environment and its name must be DCAFADMN. From the Protocol list box, select the communications protocol that you use to connect to the workstation.

   - APPC
   - APPN
   - Asynchronous

You are ready to provide the protocol description.

3.18.2.2 Protocol Description

Provide a protocol description for the communication type that you use to connect to the security administrator. From the Define Administrator notebook, select the Protocol tab. If, on the General notebook page, you selected:

- APPC, the APPC page (Figure 113 in topic 3.18.1.2.1) appears. Follow the instructions in ″APPC Protocol Description″ in topic 3.18.1.2.1.

- APPN, the APPN page (Figure 114 in topic 3.18.1.2.2) appears. Follow the instructions in ″APPN Protocol Description″ in topic 3.18.1.2.2.

- Asynchronous, the Asynchronous page (Figure 115 in topic 3.18.1.2.3) appears. Follow the instructions in ″Asynchronous Protocol Description″ in topic 3.18.1.2.3.