Infoprint Manager for Windows NT
and Windows 2000

Configuring PSF Direct for Infoprint Manager

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Note
Before using this information and the product it supports, be sure to read the general information in "Notices" on page 241.

Second Edition (August 2000)

This edition applies to IBM Infoprint Manager for Windows NT and Windows 2000 Version 1 Release 1 and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters. Be sure to use the correct edition for the level of the product.

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Contents

Figures

Tables

Chapter 1. Overview of PSF Direct and Communication Server for Windows NT®

This chapter contains an overview of the components you need to configure Print Services Facility™ Direct (PSF Direct) on Systems Network Architecture (SNA) networks. It contains the following subtopics:

What is PSF Direct?

PSF Direct provides a direct connection between a host system and a printer defined to IBM® Infoprint® Manager for Windows NT and Windows® 2000. The host system can be an OS/390®, VSE, VM, or Application System/400® (AS/400®) system. PSF Direct gives you control of key print processes from your mainframe console. An Infoprint physical printer appears to be directly attached to your mainframe system. Jobs print without delay because they are not spooled by the Windows NT workstation. Because the mainframe controls the print process, it returns job-completion and error messages to the mainframe.

PSF Direct uses Communication Server LU 6.2 protocols to communicate between the mainframe and the Windows NT system. Then PSF Direct uses one of several protocols to communicate between the Windows NT system and the printer:

- Transmission Control Protocol/Internet Protocol (TCP/IP)
- Channel
- Parallel/Serial

These protocols provide you with access to TCP/IP, channel, or parallel/serial printers that otherwise you might not be able to attach from the mainframe.

To use PSF Direct, you need the IBM SecureWay® Communications Server product to communicate between the mainframe and NT. You create printer definitions on the mainframe so that print jobs can be directed to the NT printer. Then, you define the printer to the Infoprint server on NT.

After you install PSF Direct, you send the job to the printer, using normal print-submission processes. Because PSF Direct is a direct pipeline to the printer, you need to end the PSF Direct session before you can use the printer to print from another mainframe or from IBM Infoprint Manager for Windows NT.

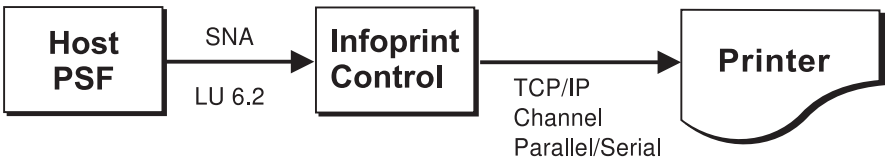

Figure 1. Printing with PSF Direct

What is IBM SecureWay Communications Server for Windows NT?

You need the IBM SecureWay Communications Server for Windows NT to configure and to use PSF Direct. IBM SecureWay Communications Server is an implementation of SNA for the NT operating system running on the NT workstation. It enables an NT workstation to communicate with other nodes in an SNA network.

PSF Direct requires IBM SecureWay Communications Server for Windows NT system software Version 6, Release 01, with maintenance that includes the following authorized program analysis report (APAR) fixes:

- APAR JR13453
- APAR JR14098
- APAR JR13599

Note that the second APAR (JR13599) is necessary only if you will be creating more than one Communications Server profile for dependent LUs.

Infoprint Manager for Windows NT allows you to create a PSF Direct host receiver whether or not you have completed the IBM SecureWay Communications Server node configuration. Therefore, it does not matter whether you install Infoprint Manager or Communications Server first.

To install IBM SecureWay Communications Server from the CD-ROM:

1. Select the **Install Products** icon that appears on the main window.
2. Choose a **Server** install.
3. From the Communications Server Installation window, select only the **Communications Server for Windows NT** option to use the PSF Direct function.

Once you have completed the installation, create shortcuts for both the SNA Node Configuration interface and the Communications Server Node Operations interface, so that you can easily invoke them from your desktop. (The default path for the SNA Node Configuration interface is *C*:\IBMCS\pcscfg.exe. The default path for the Communications Server Node Operations interface is *C*:\IBMCS\pcsnops.exe. In both paths, *C* is the drive where you installed IBM SecureWay Communications Server for Windows NT.)

What are the Available Network Connections?

This document includes detailed examples and guidelines for several common SNA configurations. The diagrams in this section illustrate the network configurations, with references to more detailed information.

- Local 37*xx* token-ring configuration (Figure 2). This configuration is described in "Chapter 4. Local or Remote 37xx Token-Ring Configuration" on page 15.

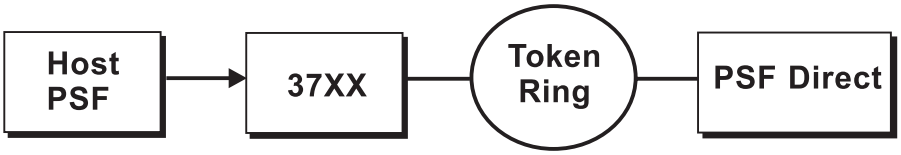

Figure 2. Local 37xx Token-Ring Configuration: Simplified View

- Remote 37*xx* token-ring configuration (Figure 3). This configuration is described in "Chapter 4. Local or Remote 37xx Token-Ring Configuration" on page 15.

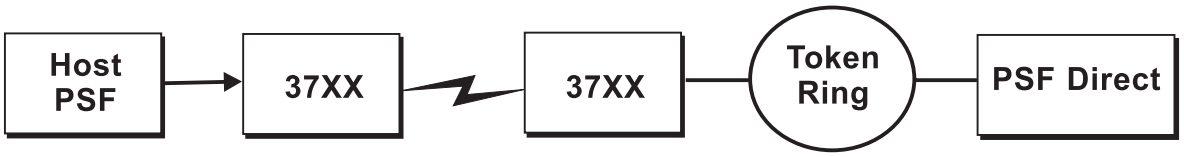

Figure 3. Remote 37xx Token-Ring Configuration: Simplified View

- Local 3172 token-ring configuration (Figure 4). This configuration is described in "Chapter 5. Local 3172 Token-Ring Configuration" on page 61.

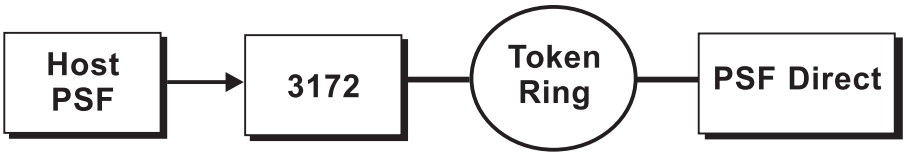

Figure 4. Local 3172 Token-Ring Configuration: Simplified View

- Local 3174 token-ring gateway configuration (Figure 5). This configuration is described in "Chapter 6. Local 3174 Token-Ring Gateway Configuration" on page 107.

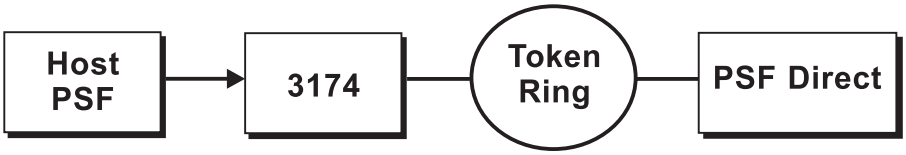

Figure 5. Local 3174 Token-Ring Gateway Configuration: Simplified View

- Remote 3174 token-ring gateway configuration (Figure 6). This configuration is described in "Chapter 7. Remote 3174 Token-Ring Gateway Configuration" on page 149.

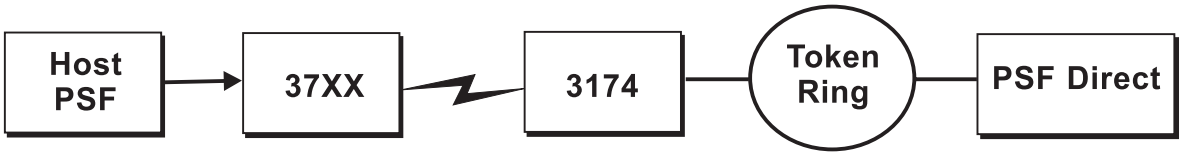

Figure 6. Remote 3174 Token-Ring Gateway Configuration: Simplified View

- Local or remote AS/400 token-ring configuration (Figure 7). These configurations are described in "Chapter 8. Local or Remote AS/400 Token-Ring Gateway Configuration" on page 191.

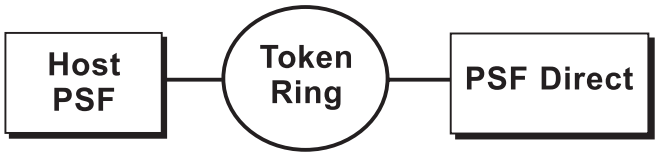

Figure 7. Local or Remote AS/400 Token-Ring Configuration: Simplified View

Chapter 2. Understanding PSF Direct Configuration Requirements

An SNA network provides powerful communication capabilities to applications without requiring that the applications be aware of the equipment and transmission facilities that comprise the network. So, an SNA application like PSF Direct can communicate using an SDLC telecommunications link between two continents or a token-ring LAN in a single room.

To configure an SNA application, one normally need only identify the communication partner and the guidelines for exchanging data.

To configure an SNA network, you must describe the internal components of the network and details of their operation.

Considering two views of an SNA network, an application view and a network internals view, aids in understanding PSF Direct configuration requirements. An overview of the key configuration parameter interrelationships when defining logical unit (LU) names follows.

Application View of an SNA Network

An SNA network provides two access points for communication and a logical connection between the two access points. In SNA terminology, the access points are **logical units** (LUs). The connection between them is a **session**. A **mode** describes a session's characteristics, or guidelines for exchanging data.

The application view displayed in Figure 8 illustrates the interface that SNA provides to applications, such as the host PSF program and the PSF Direct component of Infoprint Manager. These applications are isolated from details of the internal components of the SNA network.

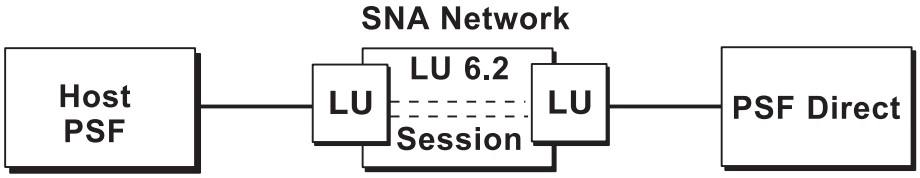

Figure 8. SNA Network: Application View

As the application view suggests, only a few values are required to configure the host PSF program and PSF Direct so they can communicate. Figure 9 on page 6 displays the values used by both applications. Note that each configuration parameter refers to a logical unit or mode provided by the SNA network.

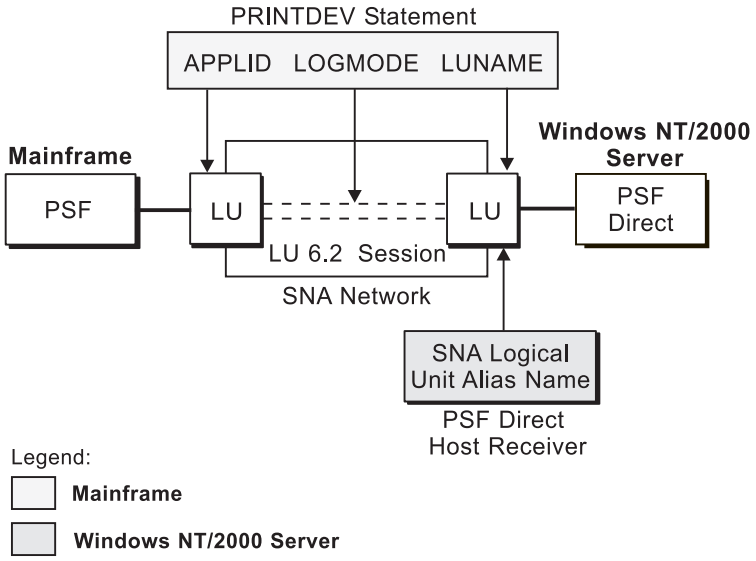

Figure 9. Application View with Configuration Parameters

Host PSF **PRINTDEV** statement parameters:

APPLID
Specifies the name of the logical unit that the host PSF program uses.

LUNAME
Specifies the name of the logical unit that PSF Direct uses.

LOGMODE
Specifies the session characteristics for communication between the two logical units.

Individual modes, or mode entries, are grouped into a table that contains several modes. **LOGMODE** identifies a mode entry. You identify the mode table through the SNA network definitions for the logical unit that PSF Direct uses.

PSF Direct host receiver parameters:

Local LU alias
Specifies the local ID that points to the logical unit that PSF Direct uses on the Windows NT server. For an independent LU, you define this parameter on the **Basic** tab of the Define a Local LU 6.2 notebook. For a dependent LU, it is the same as the LU name.

Because there may be several PSF Direct host receivers on an NT workstation and several NT workstations in an SNA network, each PSF Direct host receiver must have a unique logical unit name.

Network Internals View of an SNA Network

While the application view illustrates the relationship of an SNA network to the applications that use it, the network internals view aids in understanding the components of an SNA network and how they must be configured.

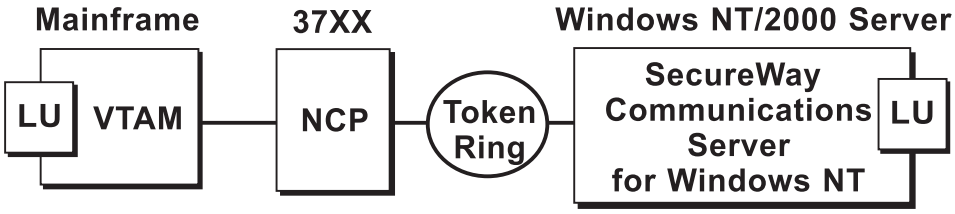

Figure 10. SNA Network: Network Internals View for a 37xx Communications Controller

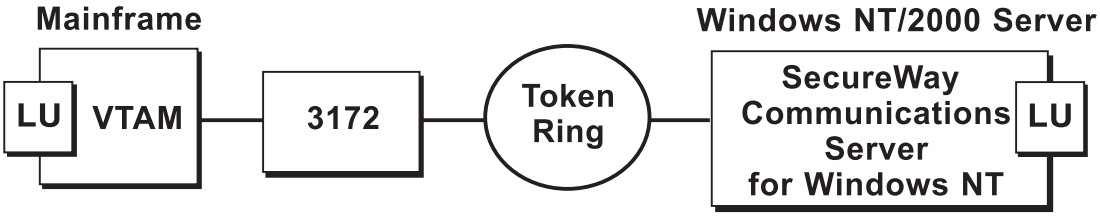

Figure 11. SNA Network: Network Internals View for a Local 3172 Communications Controller

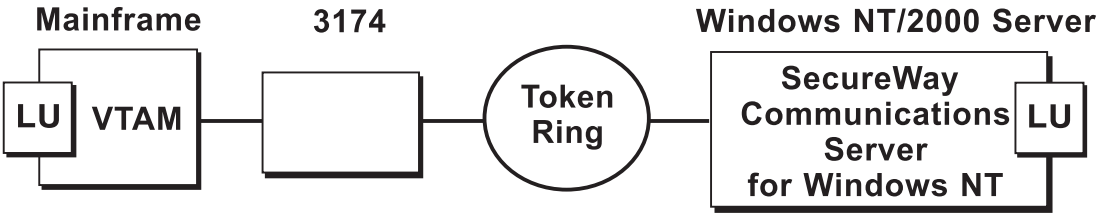

Figure 12. SNA Network: Network Internals View for a Local 3174 Communications Controller

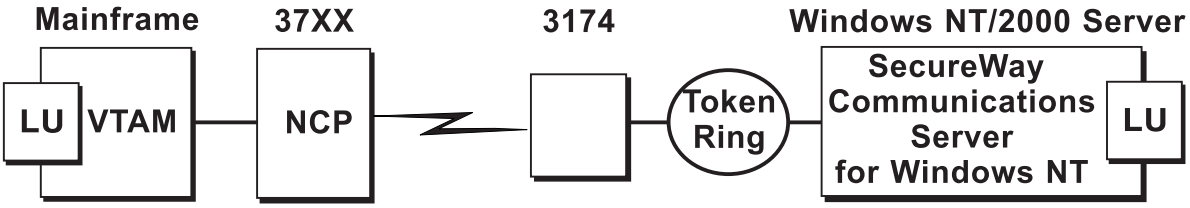

Figure 13. SNA Network: Network Internals View for a Remote 3174 Communications Controller

The network internals views illustrate that many components comprise an SNA network. Most of the components have detailed configuration requirements. Many of those requirements are described in the five configuration chapters.

First, however, it is important to understand that several network components have configuration parameters whose values are related to configuration parameters for other network components. You must configure these interrelated parameters consistently to make end-to-end communication possible.

"Key Configuration Parameter Interrelationships" on page 8 contains several figures. They illustrate some of the key interrelationships among configuration parameters for SNA network components.

Key Configuration Parameter Interrelationships

Figure 14 illustrates the interrelationships required when defining logical unit (LU) names.

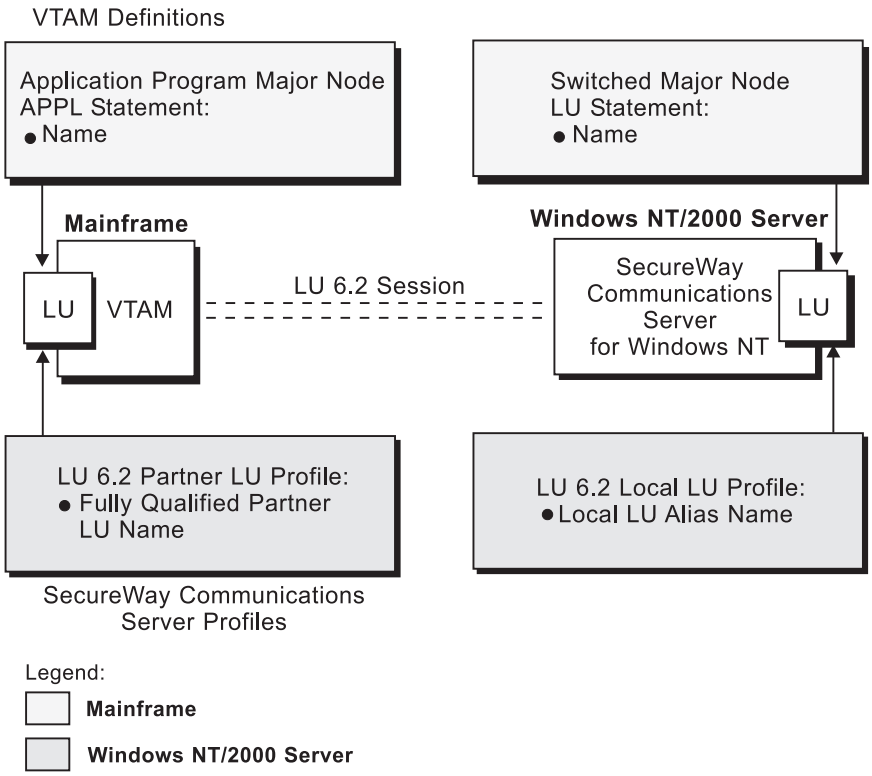

Figure 14. Logical Unit Names

Figure 15 illustrates the interrelationships required when defining the local address of the logical unit provided by SecureWay Communications Server for NT.

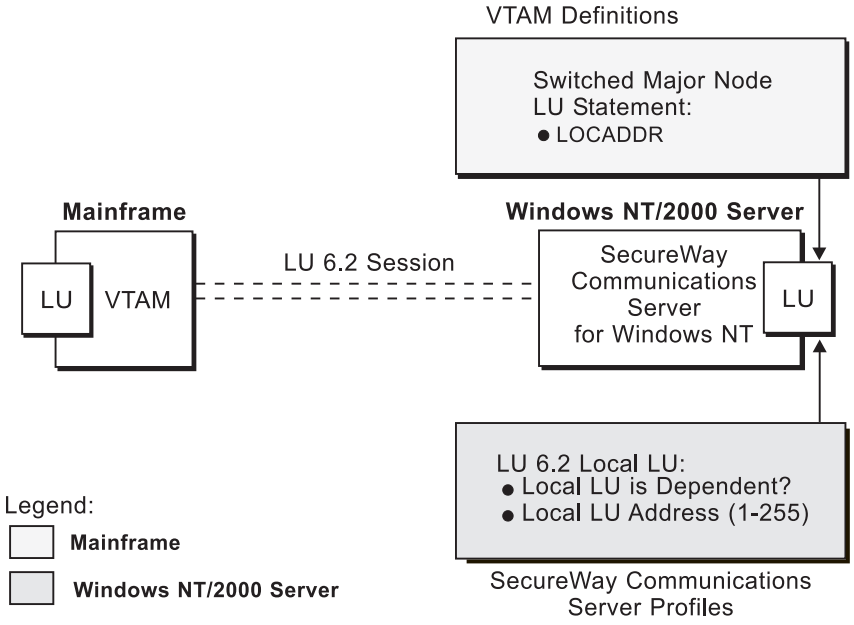

Figure 15. Local Address of Logical Unit

Figure 16 illustrates the interrelationships required when defining session characteristics.

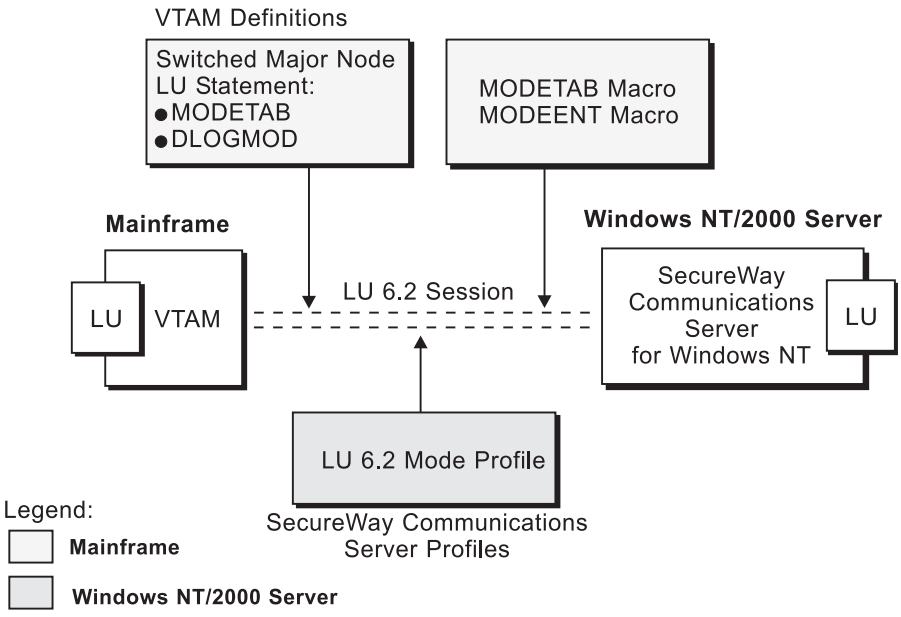

Figure 16. Session Characteristics

Figure 17 illustrates the interrelationships required when defining the names of the physical unit (PU) and control point (CP) provided by SecureWay Communications Server for NT.

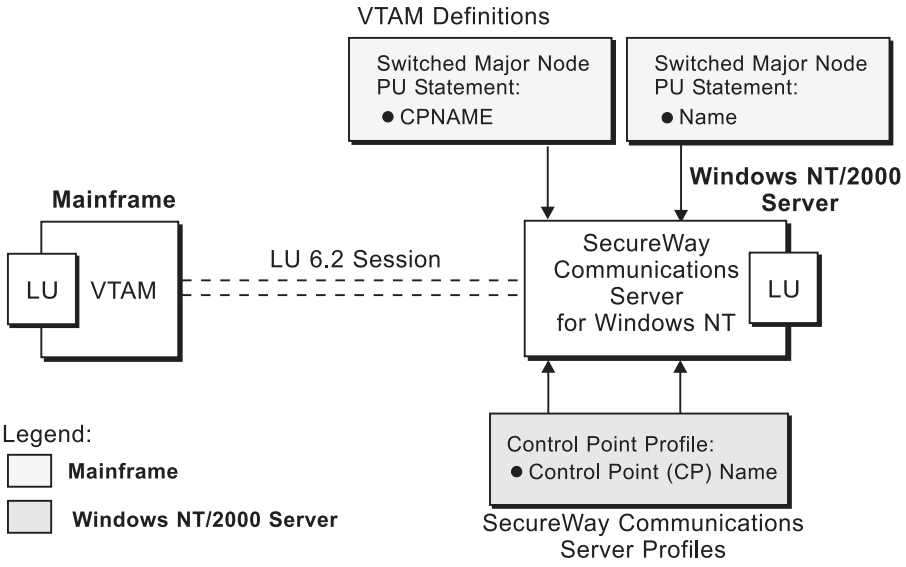

Figure 17. Physical Unit and Control Point Names

Figure 18 illustrates the interrelationships required when defining the token-ring addresses used in the 37*xx* configuration.

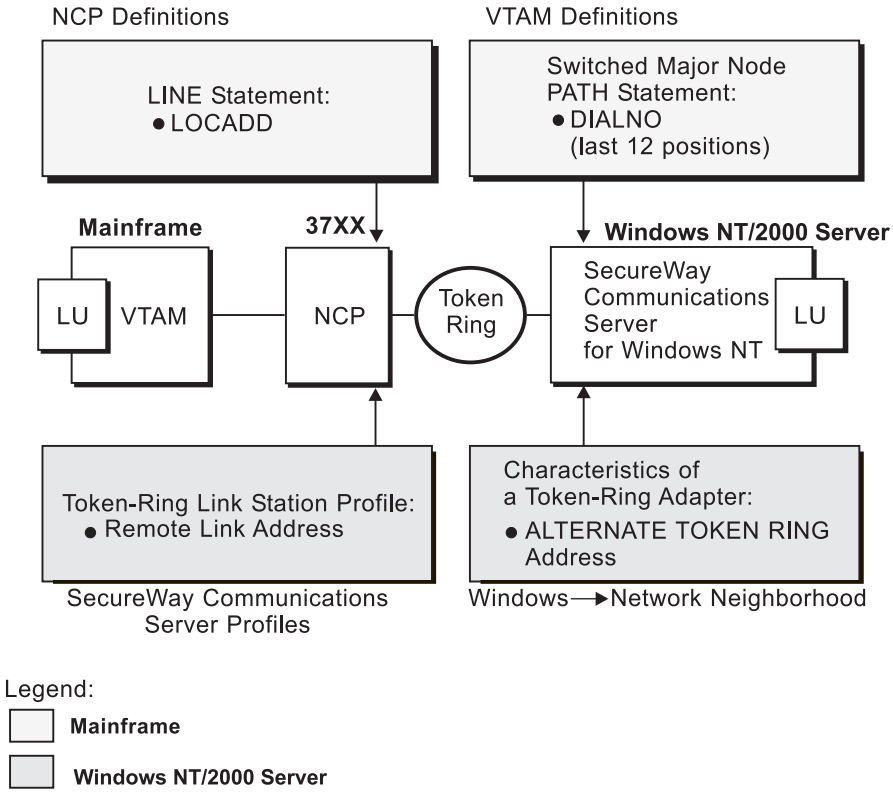

Figure 18. Token-Ring Addresses for 37xx Configuration

Figure 19 illustrates the interrelationships required when defining the token-ring addresses used in the local 3172 configuration.

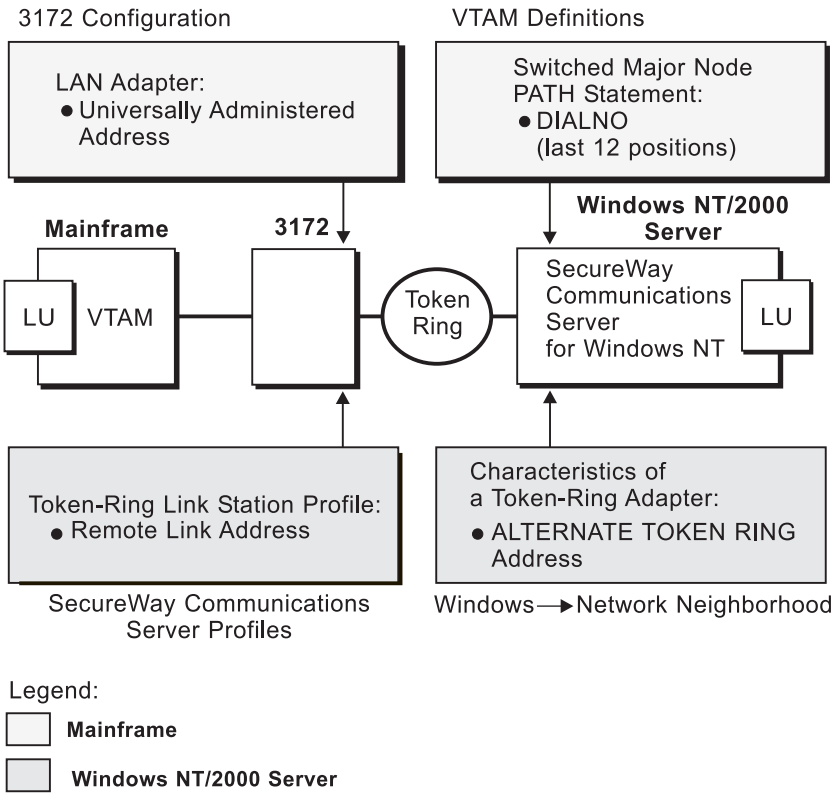

Figure 19. Token-Ring Addresses for Local 3172 Configuration

Figure 20 illustrates the interrelationships required when defining the token-ring addresses used in either the local or the remote 3174 configuration.

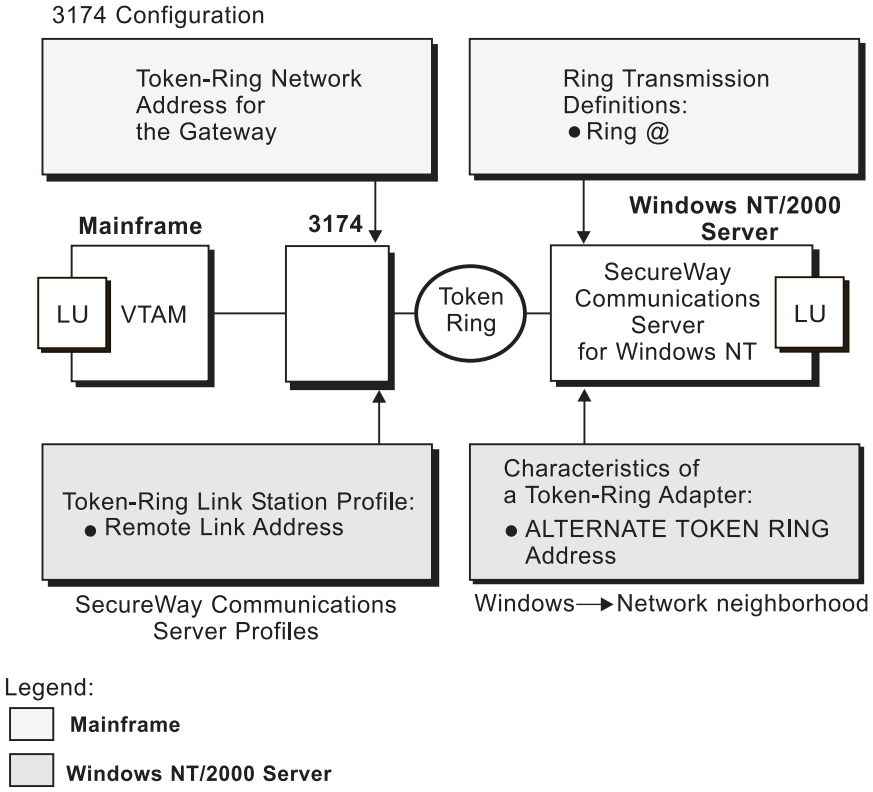

Figure 20. Token-Ring Addresses for Local or Remote 3174 Configuration

Chapter 3. Preconfiguration Tasks

For each configuration, you must perform the following tasks:

- "Defining Devices for IBM SecureWay Communications Server and Infoprint Windows NT"
- "Defining an Alternate Token-Ring Address for a Windows NT Server". This task is required for local and remote 3174 token-ring gateway configurations. It is optional for other configurations.
- "Deciding whether to Define a Dependent or an Independent LU" on page 14
- "Configuring an LU 6.2 Partner LU on Your Infoprint Windows NT Server" on page 14

Defining Devices for IBM SecureWay Communications Server and Infoprint Windows NT

You must define devices for both Communications Server and Infoprint Manager for Windows NT and Windows 2000, so that the token-ring (or Ethernet) card can carry the SNA data from the PSF host program. Usually, a device must be made available once. It then remains available, even after Windows NT shuts down and restarts. For each configuration example, you accomplish this task through device configuration, the second of the IBM SecureWay Communications Server for NT configuration profiles in each example.

Defining an Alternate Token-Ring Address for a Windows NT Server

A token-ring address, often called a **MAC address**, has 12 hexadecimal digits, for example, `10005AC8B0EA`. Each device in a token-ring network must have a unique address. To facilitate unique token-ring addressing, every manufacturer assigns a distinct address called a **universal MAC address** to each token-ring adapter. By default, a token-ring adapter in a Windows NT server uses the token-ring address that the manufacturer assigned when the adapter was made. However, Windows NT systems allow you to define an **alternate token-ring address**, also called a **local MAC address**.

In some configurations, an alternate token-ring address is necessary. For example:

- The 3174 Establishment Controller requires an alternate token-ring address for the gateway and prefers alternate addresses for devices attached to the gateway.
- If the **DIALNO** operand is included in a Virtual Telecommunications Access Method (VTAM®) switched major node **PATH** statement, an alternate token-ring address is generally required. The **DIALNO** operand accepts only digits in the 0-9 range; however, most universal MAC addresses (assigned by the manufacturer) include at least one digit in the A-F range. In these instances, you must use an alternate token-ring address that does not contain any digits in the A-F range.

Generally, the first four digits of alternate token-ring addresses must be `4000`.

To assign an alternate token-ring address to a token-ring adapter in a Windows NT server, you must refer to the operating system online help. Different levels of the operating systems can vary.

For example, if you want to assign an alternate token-ring address to a token-ring adapter on a Microsoft® Windows NT Version 4.00.1381 system, use the following procedure:

1. Specify the **My Computer-->Control Panel-->Network** path.
2. Select the **Adapters** tab.
3. Highlight the token-ring adapter and click the **Properties...** button.
4. From the IBM Auto 16/4 Token-Ring Adapter Card Setup pop-up, specify the local MAC address in the **Network Address** field.
5. Shut down and reboot your Infoprint Windows NT server so the new address can take effect.

Deciding whether to Define a Dependent or an Independent LU

You will usually add an LU 6.2 Local LU profile for each logical unit used by PSF Direct, whether the logical unit is dependent or independent. Whenever possible, you should define an independent LU, because they are easier to manage. With a dependent LU, you must assign a session ID and track its network addressable unit (NAU) address.

A dependent LU requires you to perform the following tasks from the Communications Server SNA Node Configuration window:

1. Click the plus sign (**+**) next to **Host Resources** to access **Host Connections**.
2. Highlight **Host Connections** and select the **Create** option.
3. Fill in all the values in the Define a LAN Connection notebook, then specify **OK**.
4. At the `Do you wish to create and assign new LUs to this connection?` pop-up dialog, specify **YES**.
5. Fill in the Host LU Definition window, specifying an **LU name** value.

An independent LU requires you to perform the following tasks from the Communications Server SNA Node Configuration window:

1. Select and define **Peer Connections**, while leaving **Host Resources** empty.
2. Select the **Local LU 6.2 LUs** option under the **CPI-C and APPC** heading.
3. Specify the values on the **Basic** tab of the Define a Local LU 6.2 notebook, leaving the **Dependent LU** box unchecked.
4. Specify the values on the **Advanced** tab of the Define a Local LU 6.2 notebook.

Configuring an LU 6.2 Partner LU on Your Infoprint Windows NT Server

You must configure an LU 6.2 Partner LU profile for each logical unit used by a host PSF program. Some IBM SecureWay Communications Server for NT documentation indicates that an LU 6.2 Partner LU profile is not required if the local LU is an independent logical unit. However, because the logical unit used by the host PSF program does not support parallel sessions, IBM SecureWay Communications Server for NT requires an LU 6.2 profile in all PSF Direct configurations.

Chapter 4. Local or Remote 37xx Token-Ring Configuration

Figure 21 shows local and remote 37*xx* token-ring configurations.

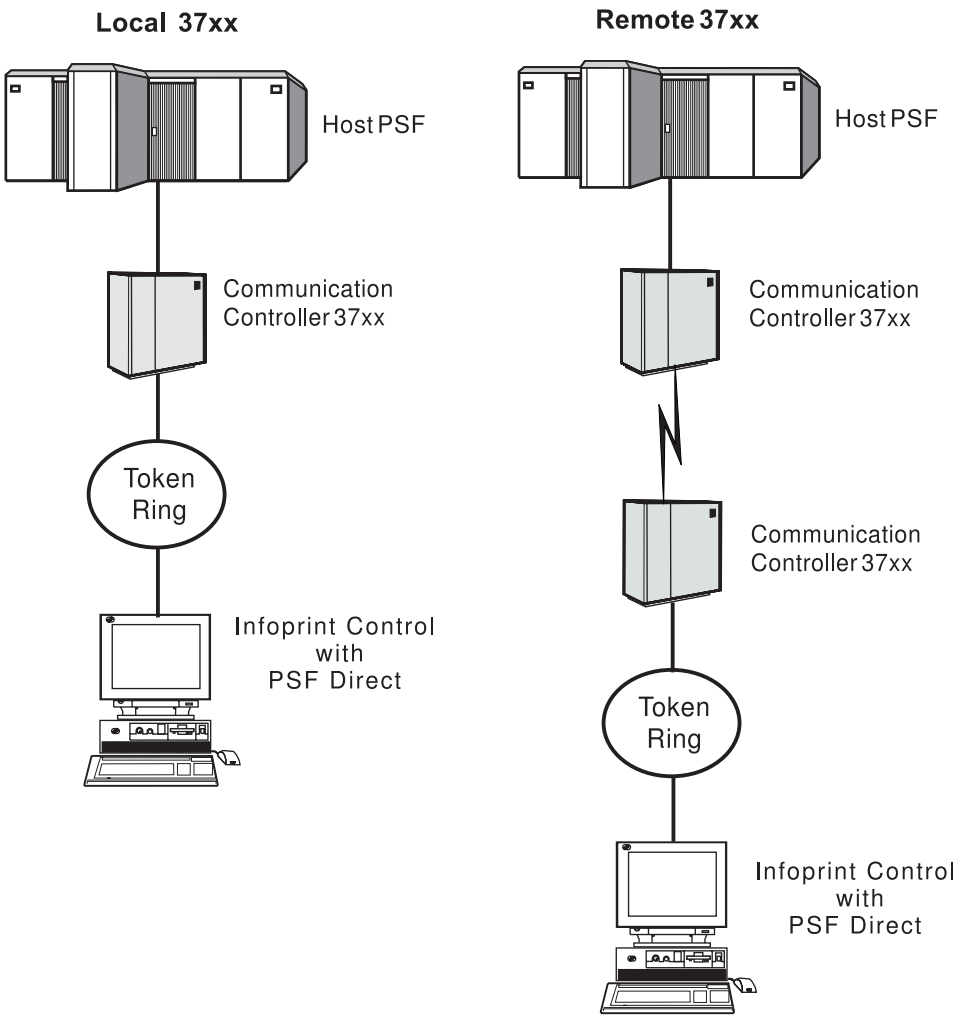

Figure 21. Local and Remote 37xx Token-Ring Configurations

This chapter describes how to create a local or remote 37*xx* token-ring configuration. It contains guidelines and examples for the following tasks:

- "Specifying Communications Server for NT Configuration Profiles" on page 28
  - "Accessing the Communications Server for NT Profiles" on page 28
  - "37xx Node Setup" on page 30
  - "37xx Device Configuration" on page 34
  - "Enabling SNA API Clients for 37xx" on page 39
  - "37xx Peer Connections Configuration" on page 41
  - "Partner LU 6.2 Configuration for 37xx" on page 46
  - "Local LU 6.2 Configuration for 37xx" on page 49
  - "Mode Configuration for 37xx" on page 52
  - "Transaction Program Configuration for 37xx" on page 55

Note: Before performing this configuration, review "Chapter 3. Preconfiguration Tasks" on page 13.

At the end of the chapter, there are two configuration work sheets. The first work sheet (Table 2 on page 59) is filled out with the values from the examples. The second work sheet (Table 3 on page 60) is blank for your own values.

Local or Remote 37xx Host Configuration

This section provides guidelines and examples for the following tasks:

- "Specifying the JES2 Initialization Statement"
- "Configuring the Host PSF Printer" on page 17
- "Specifying the VTAM Start Option List (ATCSTRxx)" on page 19
- "Specifying the VTAM Configuration List (ATCCONnn)" on page 20
- "Specifying the VTAM Application Program Major Node and Application Program" on page 21
- "Specifying the VTAM Mode Table and Entry" on page 21
- "Specifying the VTAM Switched Major Node" on page 22
- "Defining the Network Control Program (NCP)" on page 26

For each task, this section shows the pertinent parameters. It describes which of these require you to specify *variable_names* and which require a specific name or number, such as **MODETAB=MODEIBM** or **FMPROF=X'13'**. An underlined value (such as **WCONNECT**) indicates that the value is a system default.

Specifying the JES2 Initialization Statement

Define the host PSF printer as you would any other SNA-attached printer. For example, on an OS/390 system you must provide either JES2 or JES3 initialization statements.

Figure 22 shows an example.

```
PRT618 CLASS=Y,MARKS=YES,START=NO,MODE=FSS,FSS=WTRES600,   X
  PRMODE=(LINE,PAGE),UCS=0
```

Figure 22. JES2 Initialization Statement Example (37xx)

Configuring the Host PSF Printer

The manner in which a host PSF printer is configured depends on the operating system. You will use one of the following statements:

- PSF for OS/390 **PRINTDEV** statement
- PSF/VSE **PRINTDEV** statement
- Parameters in the PSF/VM **OPTIONS PDM** file

On each operating system, PSF supports specification of both the application program ID (**APPLID**) and the logical unit name (**LUNAME**).

```
.
.
.
APPLID=appl_prog
LUNAME=lu_name
.
.
.
```

Figure 23. Host PSF Printer Guidelines (37xx)

On some operating systems, PSF also supports other configuration parameters. The following text describes these parameters (listed in order of importance) and notes whether they are required or optional:

APPLID (required)
Specifies the application program that is the SNA logical unit provided by VTAM and used by PSF. The **APPLID** value must match:

- An **APPL** statement name in a VTAM application program major node
- The second part of the **Partner LU name** field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 58 on page 47)

LUNAME (required)
Specifies the SNA logical unit with which PSF tries to initiate a session. The **LUNAME** value must match:

- An **LU** statement name in a VTAM switched major node
- The **Local LU name** field on the **Basic** tab of the Define a Local LU 6.2 notebook (Figure 61 on page 50)

LOGMODE (optional)
Specifies the VTAM logon mode table entry that defines characteristics of the session between the logical units identified by the **APPLID** and **LUNAME** parameters. The **LOGMODE** parameter identifies an entry within a logon mode table. The **MODETAB** operand on the VTAM switched major node **LU** statement identifies the logon mode table. If you omit the **LOGMODE** parameter, the **DLOGMOD** operand on the VTAM switched major node **LU** statement identifies the entry within the logon mode table.

Note that if the logical unit identified by the **LUNAME** parameter is a cross-domain resource, you must not use the **LOGMODE** parameter.

SETUP (optional)
Specify **SETUP=FORMS** to cause JES to issue forms setup messages to the operator.

By default, JES issues forms setup messages to the operator for channel-attached printers, but does not issue forms setup messages to the operator for SNA-attached printers.

MGMTMODE ={IMMED | OUTAVAIL | DIALIN} (optional)
Determines how the host PSF program and PSF Direct initiate communication.

IMMED
Causes the host PSF program to initiate communication when it starts.

OUTAVAIL
Causes the host PSF program to initiate communication when there is available output to print.

DIALIN
Causes the host PSF program to initiate communication only after a switched line becomes available. The switched line can become available either when VTAM dials out or when the remote node dials in.

Note that if you specify **DIALIN**:

- Do not use the **LOGMODE** parameter.
- Include the **LOGAPPL** operand on the VTAM switched major node **LU** statement.
- Ensure that the **LOGAPPL** operand on the VTAM switched major node **LU** statement matches the **APPLID** value.

FAILURE={WCONNECT | STOP} (optional)
Specifies whether or not the host PSF program re-attempts communication after a printer or communication failure. If you do not specify a value for the **FAILURE** parameter, it defaults to **WCONNECT**.

WCONNECT
Specifies that the host PSF program attempts to communicate again.

STOP Specifies that the operator must restart the host PSF program.

DISCINTV (optional)
Specifies the interval (in seconds) that the host PSF program waits for output to become available to print. If no output becomes available, the host PSF program ends communication with the printer.

Specify `0` to cause the host PSF program to maintain communication indefinitely. If you do not specify a value for **DISCINTV**, it defaults to `0`.

Figure 24 on page 19 shows an example of a single **PRINTDEV** statement for a device named PRT618. Note that if an installation has multiple printers defined for receiving PSF Direct jobs, you must define a separate **PRINTDEV** statement for each printer.

```
//WTRES600 PROC
//*
//STEP01 EXEC PGM=APSPPIEP,REGION=4096K
//*
//STEPLIB DD DSN=SYSTEM.PSF.V220.LINKLIB,DISP=SHR
//*
//JOBHDR OUTPUT PAGEDEF=A06462,    /* JOB HEADER PAGEDEF     */
//              FORMDEF=A10110     /* JOB HEADER FORMDEF     */
//JOBTLR OUTPUT PAGEDEF=A06462,    /* JOB TRAILER PAGEDEF    */
//              FORMDEF=A10110     /* JOB TRAILER FORMDEF    */
//DSHDR OUTPUT  PAGEDEF=A06462,    /* DATA SET HEADER PAGEDEF*/
//              FORMDEF=A10110     /* DATA SET HEADER FORMDEF*/
//MSGDS OUTPUT  PAGEDEF=A06462,    /* MESSAGE DATASET PAGEDEF*/
//              FORMDEF=A10110     /* MESSAGE DATASET FORMDEF*/
//*
//FONT01 DD DSN=SYS1.FONTLIB,DISP=SHR
//OLAY01 DD DSN=SYS1.OVERLIB,DISP=SHR
//PSEG01 DD DSN=SYS1.PSEGLIB,DISP=SHR
//FDEF01 DD DSN=SYS1.FDEFLIB,DISP=SHR
//PDEF01 DD DSN=SYS1.PDEFLIB,DISP=SHR
//*
//PRT618 PRINTDEV FONTDD=*.FONT01, /* FONT LIBRARY DD       */
//                OVLYDD=*.OLAY01, /* OVERLAY LIBRARY DD    */
//                PSEGDD=*.PSEG01, /* SEGMENT LIBRARY DD    */
//                PDEFDD=*.OLAY01, /* PAGEDEF LIBRARY DD    */
//                FDEFDD=*.OLAY01, /* FORMDEF LIBRARY DD    */
//                JOBHDR=*.JOBHDR, /* JOB HEADER DD         */
//                JOBTLR=*.JOBTLR, /* JOB TRAILER DD        */
//                DSHDR=*.DSHDR,   /* DATA SET HEADER DD    */
//                MESSAGE=*.MSGDS, /* MESSAGE DATA DD       */
//                PAGEDEF=A06462,  /* DEFAULT PAGEDEF       */
//                FORMDEF=A10110,  /* DEFAULT FORMDEF       */
//                CHARS=(GT10,GC15,GB10,GR10,), /* DEFAULT FONT SET*/
//                PIMSG=YES,       /* ACCUMULATE DATA SET MESSAGES */
//                SETUP=FORMS,     /* ISSUE FORMS SETUP MESSAGES   */
//                MGMTMODE=OUTAVAIL,/* START WHEN OUTPUT AVAILABLE */
//                DISCINTV=60,      /* DISCONNECT INTERVAL -- SECS */
//                LOGMODE=IBM3820T, /* LOGON MODE TABLE ENTRY      */
//                APPLID=FSAES618,  /*        APPLICATION PGM NAME */
//                LUNAME=PSFDC4LU   /* LOGICAL UNIT NAME           */
//PRT618 ENDCNTL
```

Figure 24. JES2 External Writer Procedure Example (37xx)

Specifying the VTAM Start Option List (ATCSTRxx)

You must specify the values illustrated in Figure 25 and described below.

```
CONFIG=nn,         ATCCON MEMBER OF VTAMLST     X
NETID=network_id,  NETWORK IDENTIFIER           X
SSCPID=nn,         SSCP IDENTIFIER              X
.
.
.
```

Figure 25. VTAM Start Option List (ATCSTRxx) Guidelines (37xx)

CONFIG
Specifies the **ATCCON***nn* member to use.

NETID
Specifies the network identifier for the host system. The first part of the

Partner LU name field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 58 on page 47) must match the **NETID** value.

SSCPID

Specifies the system services control point (SSCP) at the host. The SSCPID is a decimal integer from 0 to 65535.

The SSCP, normally VTAM, provides several network management functions. They include managing dependent logical units and accepting Network Management Vector Transports, such as alerts. Alerts often include information about devices that are unavailable or require corrective action.

To configure a PSF Direct host receiver to send alerts to this SSCP, the least significant portion of the **SNA System Services Control Point ID** value defined for the PSF Direct host receiver must be the hexadecimal equivalent of the SSCPID value. (For information about configuring the host receiver, see "Defining the PSF Direct Host Receiver" on page 232.) The **SNA System Services Control Point ID** must be in the form **05***xxxxxxxxxx*, where *x* is a hexadecimal digit.

For example, to configure a PSF Direct host receiver to send alerts to an SSCP with an **SSCPID** value of 283 , the host receiver's **SNA System Services Control Point ID** value must be 05000000011B.

Figure 26 shows an example.

```
CONFIG=00,       ATCCON MEMBER OF VTAMLST     X
NETID=USIBMBQ,   NETWORK IDENTIFIER           X
SSCPID=1,        SSCP IDENTIFIER              X
.
.
.
```

Figure 26. VTAM Start Option List (ATCSTRxx) Example (37xx)

Specifying the VTAM Configuration List (ATCCONnn)

The VTAM configuration list indicates the application program major nodes that should become available when VTAM starts. Include the application program major node that contains the application program that PSF uses.

```
appl_prog_major_node,          X
.
.
.
```

Figure 27. VTAM Configuration List (ATCCONnn) Guidelines (37xx)

Figure 28 shows an example.

```
PSFAPPLS,                      X
.
.
.
```

Figure 28. VTAM Configuration List (ATCCONnn) Example (37xx)

Specifying the VTAM Application Program Major Node and Application Program

The pertinent operands for the VTAM application program major node and application program are illustrated in Figure 29 and described below.

```
appl_prog_major_node, VBUILD TYPE=APPL                X
appl_prog,            APPL AUTH=ACQ,EAS=1,SONSCIP=YES  X
.
.
.
```

Figure 29. VTAM Application Program Major Node and Application Program Guidelines (37xx)

The host PSF program does not support application programs that use **APPC=YES** or **PARSESS=YES**. The default value for both **APPC** and **PARSESS** is **NO**.

Figure 30 shows an example.

```
PSFAPPLS,   VBUILD TYPE=APPL                          X
FSAES618,   APPL AUTH=ACQ,EAS=1,SONSCIP=YES           X
.
.
.
```

Figure 30. VTAM Application Program Major Node and Application Program Example (37xx)

Specifying the VTAM Mode Table and Entry

The operands for the VTAM mode table are illustrated in Figure 31 and described below.

```
table_name   MODETAB                                              X
entry_name   MODEENT LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07', X
.
.
.
             PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'          X
             PSERVIC=X'060200000000000000000200'                  X
             PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'            X
             RUSIZES=X'8787'
```

Figure 31. VTAM Mode Table and Entry Guidelines (37xx)

PSNDPAC
Specifies the primary send pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

SRCVPAC
Specifies the secondary receive pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

RUSIZES
Specifies the maximum Request Unit (RU) sizes from the primary and secondary logical units. The RU sizes influence performance and can be adjusted as desired. A value of X'8787' means 1024 bytes for both RU sizes and produces good throughput in most configurations.

The **RUSIZES** specification influences other configuration parameters. These include:

- The **Maximum RU size** field on the **Advanced** tab of the Define a Mode notebook (Figure 65 on page 54)
- The **MAXSTL** operand in the IBM Network Control Program (NCP) **LINE** statement

Figure 32 shows an example.

```
MODEIBM     MODETAB                                              X
IBM3820T    MODEENT  LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07',  X
.
.
.
                     PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'  X
                     PSERVIC=X'060200000000000000000200'          X
                     PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'    X
                     RUSIZES=X'8787'
```

Figure 32. VTAM Mode Table and Entry Example (37xx)

Specifying the VTAM Switched Major Node

A different set of statements and values is required depending on whether:

- A *calling* Communications Server for NT link station initiates a link connection with a 37*xx* communication controller.
- A *listening* Communications Server for NT link station waits for the 37*xx* communication controller to initiate a link connection.

A calling Communications Server link station requires the statements and values shown in Figure 33.

```
.
.
.
node_name VBUILD TYPE=SWNET
*
pu_name   PU     ADDR=nn,            ADDRESS REQUIRED, BUT IGNORED  X
                 CPNAME=cp_name,     CONTROL POINT NAME             X
                 IDBLK=nnn,          BLOCK ID                       X
                 IDNUM=nnnnn,        PHYSICAL UNIT ID               X
.
.
.
                 MAXOUT=7,           LINK LEVEL WINDOW              X
                 MODETAB=mode_table, LOGON MODE TABLE               X
                 DLOGMOD=mode_entry, LOGON MODE TABLE ENTRY         X
                 VPACING=0,          NO PACING TO BOUNDARY NODE
*
lu_name          LU   LOCADDR=nn,    INDEPENDENT LU
```

Figure 33. VTAM Switched Major Node Guidelines: Calling Link Station (37xx)

A listening Communications Server link station requires the statements and values shown in Figure 34 on page 23.

```
.
.
.
node_name VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1
*
pu_name   PU     ADDR=nn,            ADDRESS REQUIRED, BUT IGNORED  X
                 CPNAME=cp_name,     CONTROL POINT NAME             X
                 IDBLK=nnn,          BLOCK ID                       X
                 IDNUM=nnnnn,        PHYSICAL UNIT ID               X
.
.
.
                 MAXOUT=7,           LINK LEVEL WINDOW              X
                 MODETAB=mode_table, LOGON MODE TABLE               X
                 DLOGMOD=mode_entry, LOGON MODE TABLE ENTRY         X
                 VPACING=0,          NO PACING TO BOUNDARY NODE
*
path_name PATH   DIALNO=xx044000nnnnnnnn,
                 GRPNM=ncp_group,
*
lu_name          LU   LOCADDR=nn,    INDEPENDENT LU
```

Figure 34. VTAM Switched Major Node Guidelines: Listening Link Station (37xx)

The following describes the pertinent operands on the **VBUILD** statement:

TYPE Specify **SWNET** to indicate that the node is a switched major node.

MAXGRP
Specifies the number of unique path groups (**GROUP** names) that are defined in the **GRPNM** operand of all **PATH** statements within the switched major node. There is one unique path group in the switched major node guideline presented in Figure 34.

MAXNO
Specifies the number of unique token-ring addresses that are defined in the **DIALNO** operand of all **PATH** statements within the switched major node. There is one unique token-ring address in the switched major node guideline presented in Figure 34.

The following describes the pertinent operands on the **PU** statement.

Note: The **DLOGMOD**, **MODETAB**, and **VPACING** operands are **LU** operands, but are included here on the **PU** statement. VTAM definitions support a "sift-down effect" that allows you to code an operand on a higher-level statement so you do not need to code it on each lower-level statement for which the same value is desired. There is only one logical unit in the guideline presented here, so the sift-down effect is for demonstration only. If the **DLOGMOD**, **MODETAB**, and **VPACING** operands are specified on the **PU** statement, they do not have to be specified on any of the **LU** statements.

ADDR
Specifies the address of the physical unit. Note that this operand is required, but ignored.

CPNAME (optional)
Identifies the control point. The value specified for **CPNAME** must match the second part of the **Fully qualified CP name** field on the **Basic** tab of the Define the Node notebook (Figure 41 on page 31). By convention, the **CPNAME** value usually matches the **PU** name.

Either the **CPNAME** operand or both the **IDBLK** and the **IDNUM** operands are required. **CPNAME** can only be used with PU type 2.1 nodes, such as Communications Server for NT.

IDBLK (optional)
Specifies a 3–digit hexadecimal string that identifies the product type in a SNA network. The combined values of the **IDBLK** and **IDNUM** operands must match the **Local Node ID** value on the **Basic** tab of the Define the Node notebook (Figure 41 on page 31).

Either the **CPNAME** operand or both the **IDBLK** and the **IDNUM** operands are required.

IDNUM (optional)
Specifies a 5–digit hexadecimal string that identifies a physical unit. The combined values of the **IDBLK** and **IDNUM** operands must match the **Local Node ID** value on the **Basic** tab of the Define the Node notebook (Figure 41 on page 31).

Either the **CPNAME** operand or both the **IDBLK** and the **IDNUM** operands are required.

MAXDATA (optional)
Specifies the maximum amount of data (in bytes) that the physical unit can receive in one path information unit (PIU). This amount includes the transmission header (TH) and the request/response header (RH).

Note that **MAXDATA** is ignored for type 2.1 nodes, such as Communications Server for NT, that are attached through an NCP with peripheral node type 2.1 support. The type 2.1 node indicates the maximum path information unit (PIU) size when the connection is established. The value that SNA Server/6000 supplies can be configured using the **Maximum PIU size** field on the **Advanced** tab of the Define a LAN Device notebook (Figure 47 on page 36).

MAXOUT
Specifies the maximum number of PIUs that are sent to the physical unit before waiting for a response from that physical unit. For optimum performance, the **MAXOUT** value must be equal to, or greater than, the **Receive window count** field in the **Advanced** tab of the Define a LAN Device notebook (Figure 47 on page 36). The **Receive window count** field specifies how many frames are received by the link station before Communications Server for NT sends an acknowledgement.

MAXPATH (optional)
Specifies the number of dial-out paths to the physical unit. Figure 34 on page 23 shows one dial-out path.

MODETAB
Specifies the name of the logon mode table that contains entries that describe session characteristics.

DLOGMOD
Specifies the name of the logon mode table entry that describes session characteristics.

VPACING
Determines how VTAM paces the flow of the data from VTAM to the boundary node to which the logical unit is connected. In this configuration, the boundary node is the communication controller. A value of zero means

that no pacing is performed for sessions with the logical unit, or that the largest possible pacing is used if the session is adaptively paced.

The following describes the pertinent operands on the **PATH** statement:

DIALNO=*xx***044000***nnnnnnnn* **(optional)**
This parameter value has three parts:

xx Specifies the token-ring interface coupler (TIC) number in the communication controller.

04 Specifies the service access point (SAP). This value must always be `04`.

4000*nnnnnnnn*
Specifies the token-ring address of the token-ring adapter in the NT workstation. Although token-ring addresses include twelve hexadecimal digits, the VTAM **DIALNO** operand only accepts digits in the range 0-9. Therefore, an alternate token-ring address that contains only digits in the range 0-9 must be assigned to the token-ring adapter in the NT workstation.

GRPNM
Refers to a logical **GROUP** statement in the NCP definitions.

The following describes the pertinent operands on the **LU** statement:

LOCADDR
LOCADDR=0 specifies that this logical unit is an independent logical unit. An SSCP-LU session does not have to be established prior to an LU-LU session with an independent logical unit. For independent logical units, do *not* select **Dependent LU** on the **Basic** tab of the Define a Local LU 6.2 notebook (Figure 61 on page 50).

SSCPFM
The **SSCPFM** operand indicates the type of request units (RUs) that the logical unit supports over its SSCP-LU session. The guidelines illustrated for both the calling link station and the listening link station use an independent logical unit. Therefore, the **SSCPFM** operand is not specified. If you require a dependent logical unit, specify **SSCPFM=USSSCS**.

Figure 35 on page 26 and Figure 36 on page 26 show examples for a calling link station.

```
.
.
.
PSFDC4SW  VBUILD TYPE=SWNET
*
DEVTESTB  PU     ADDR=04,             ADDRESS REQUIRED, BUT IGNORED  X
                 CPNAME=DEVTESTB,     CONTROL POINT NAME             X
.
.
.
                 MAXDATA=1033,        MAXIMUM PIU SIZE               X
                 MODETAB=MODEIBM,     LOGON MODE TABLE               X
                 DLOGMOD=IBM3820T,    LOGON MODE TABLE ENTRY         X
                 VPACING=0,           NO PACING TO BOUNDARY MODE
*
          PATH   DIALNO=400059550067, TOKEN-RING ADAPTER ADDRESS     X
                 GRPNM=PSFDC461       NO PACING TO BOUNDARY NODE
*
PSFDC4LU  LU     LOCADDR=0,           INDEPENDENT LU
```

Figure 35. VTAM Switched Major Node Example with CPNAME (37xx)

```
.
.
.
PSFDC4SW  VBUILD TYPE=SWNET
*
DEVTESTB  PU     ADDR=04,             ADDRESS REQUIRED, BUT IGNORED  X
                 IDBLK=05D,           BLOCK ID                       X
                 IDNUM=C021B,         PHYSICAL UNIT ID               X
.
.
.
                 MAXDATA=1033,        MAXIMUM PIU SIZE               X
                 MODETAB=MODEIBM,     LOGON MODE TABLE               X
                 DLOGMOD=IBM3820T,    LOGON MODE TABLE ENTRY         X
                 VPACING=0,           NO PACING TO BOUNDARY MODE
*
          PATH   DIALNO=400059550067, TOKEN-RING ADAPTER ADDRESS     X
                 GRPNM=PSFDC461       NO PACING TO BOUNDARY NODE
*
PSFDC4LU  LU     LOCADDR=0,           INDEPENDENT LU
```

Figure 36. VTAM Switched Major Node Example with IDBLK and IDNUM (37xx)

Defining the Network Control Program (NCP)

The keywords and values for the Network Control Program (NCP) definitions are illustrated in Figure 37 on page 27 and described below.

The Network Control Program (NCP) definitions include a physical group and a logical group. The **PORTADD** keyword on the **LINE** statement and the **PHYPORT** keyword on the logical **GROUP** statement both refer to the same port number.

```
.
.
.
pgroup_name   GROUP ECLTYPE=PHYSICAL,             PHYSICAL GROUP                X
                    ISTATUS=ACTIVE,               INITIAL STATUS                X
line_name     LINE  ADDRESS=(line_number,FULL),   LINE NUM AND DATA TRANS MODE  X
                    LOCADD=4000nnnnnnnn,          TOKEN RING ADDRESS FOR LINE   X
.
.
.
                    MAXTSL=nnnn,                  MAXIMUM BYTES OF DATA         X
                    PORTADD=port_number,          PORT ADDRESS                  X
                    RVCBUFC=4095,                 BUFFER CAPACITY               X
pu_name       PU
lu_name       LU    ISTATUS=INACTIVE,             INITIAL STATUS                X
*
lgroup_name   GROUP ECLTYPE=LOGICAL,              LOGICAL GROUP                 X
                    ISTATUS=ACTIVE,               INITIAL STATUS                X
                    AUTOGEN=n,                    # OF LINE AND PU PAIRS GENNED X
                    CALL=INOUT,                   CALL IN OR OUT                X
                    PHYPORT=port_number           CORRELATES WITH PORTADD
*
```

Figure 37. Network Control Program Definition Guidelines (37xx)

The following describes the pertinent keywords on the **LINE** statement:

ADDRESS
Specifies the relative line number and data transfer mode for the line.

LOCADD
Indicates the token-ring address that the token-ring interface coupler (TIC) uses.

MAXTSL
Specifies the maximum amount of data (in bytes) that can be transmitted over the token-ring connection. Note that this amount includes both the transmission header (TH) and the request/response header (RH). **MAXTSL** must be greater than or equal to the maximum size of a path information unit (PIU).

PORTADD
Assigns a port number to the physical line.

RCVBUFC
Specifies the NCP/Token-Ring interconnection (NTRI) buffer capacity for receiving data from a telecommunication link during one data transfer. The value must be greater than or equal to the maximum size of a path information unit (PIU)

The following describes the pertinent keywords on the logical **GROUP** statement:

AUTOGEN
Specifies how many **LINE** and **PU** statements the NCP/EP definition facility (NDF) should automatically add to this group.

CALL Specifies whether the link station in the communication controller should call out to the remote link station, or whether the remote link station should call into the communication controller link station. Specify **CALL=INOUT**, which enables either calling or listening link stations to be configured in Communications Server for NT. **CALL** is a **LINE** statement operand that sifts down to each of the automatically-generated **LINE** statements.

PHYPORT
Associates the logical lines in this group with a particular physical line. The **PHYPORT** value must match the **PORTADD** value on the **LINE** statement for the physical line.

Figure 38 shows an example.

```
.
.
.
G31P          GROUP ECLTYPE=PHYSICAL,            PHYSICAL GROUP                X
                    ISTATUS=ACTIVE,              INITIAL STATUS                X
LN31          LINE  ADDRESS=(1088,FULL),         LINE NUM AND DATA TRANS MODE  X
                    LOCADD=400023101088,         TOKEN RING ADDRESS FOR LINE   X
.
.
.
                    MAXTSL=1033,                 MAXIMUM BYTES OF DATA         X
                    PORTADD=1,                   PORT ADDRESS                  X
                    RVCBUFC=4095,                BUFFER CAPACITY               X
PU31          PU
LU31          LU    ISTATUS=INACTIVE,            INITIAL STATUS                X
*
G31L          GROUP ECLTYPE=LOGICAL,             LOGICAL GROUP                 X
                    ISTATUS=ACTIVE,              INITIAL STATUS                X
                    AUTOGEN=8,                   # OF LINE AND PU PAIRS GENNED X
                    CALL=INOUT,                  CALL IN OR OUT                X
                    PHYPORT=1                    CORRELATES WITH PORTADD
*
```

Figure 38. Network Control Program Definition Examples (37xx)

Specifying Communications Server for NT Configuration Profiles

This section contains instructions and guidelines for configuring the Communications Server for NT profiles. It includes the following tasks:

- "Accessing the Communications Server for NT Profiles"
- "37xx Node Setup" on page 30
- "37xx Device Configuration" on page 34
- "Enabling SNA API Clients for 37xx" on page 39
- "37xx Peer Connections Configuration" on page 41
- "Partner LU 6.2 Configuration for 37xx" on page 46
- "Local LU 6.2 Configuration for 37xx" on page 49
- "Mode Configuration for 37xx" on page 52
- "Transaction Program Configuration for 37xx" on page 55

Accessing the Communications Server for NT Profiles

Use the following procedure to access the IBM SecureWay Communications Server for NT applications that are described in "What is IBM SecureWay Communications Server for Windows NT?" on page 2.

Note that this procedure assumes that you have dragged the icons for **SNA Node Configuration** and **SNA Node Operations** to your desktop after they were created at installation.

1. From your NT desktop view, double-click the **SNA Node Configuration** icon that resides on your desktop:

2. At the Welcome to Communications Server Configuration! pop-up window, select the **New** button for a new configuration) and click the **Next>** button.

   Communications Server creates an *xxx*.acg file (where *xxx* represents the file name you select in this window. This *xxx*.acg file resides in the *C*:\IBMCS\private directory, where *C* is the drive where you installed IBM SecureWay Communications Server for NT. For users migrating from PSF Direct on an OS/2® operating system, this *xxx*.acg file is the equivalent of the OS/2 Communications Manager Communications Server *xxx*.ndf file.

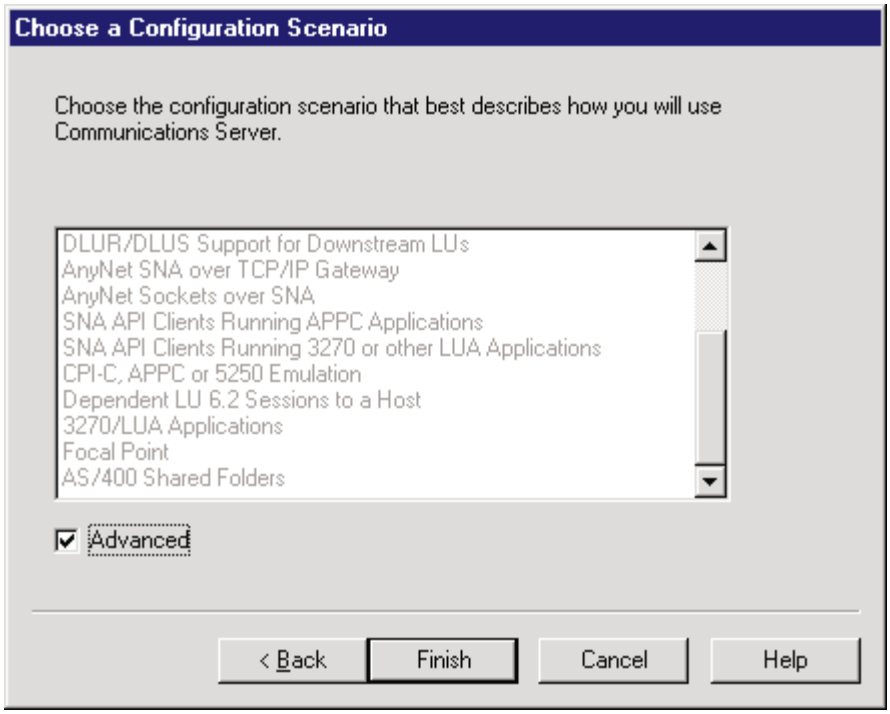

Figure 39. Choose a Configuration Scenario Window (37xx)

3. In the Choose a Configuration Scenario window (Figure 39), check the **Advanced** box, which causes the display to turn gray. Click the **Finish** button.
4. From the Communications Server SNA Node Configuration window (Figure 40 on page 30), you are ready to begin configuring your system for PSF Direct.

37xx Node Setup

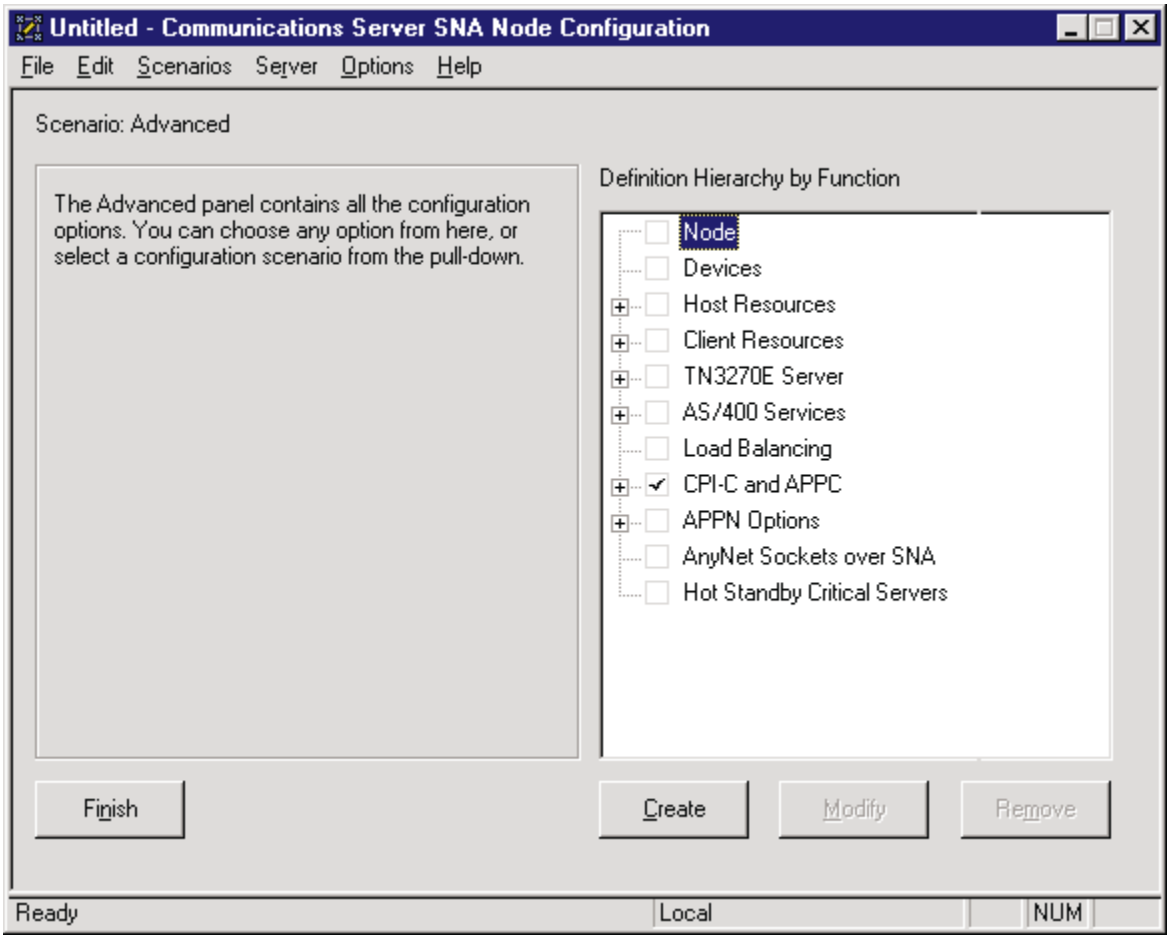

Figure 40. Communications Server SNA Node Configuration Window: Node (37xx)

In the Communications Server SNA Node Configuration window (Figure 40), right-click the **Node** box and select the **Create** option. The Define the Node notebook opens at the **Basic** tab.

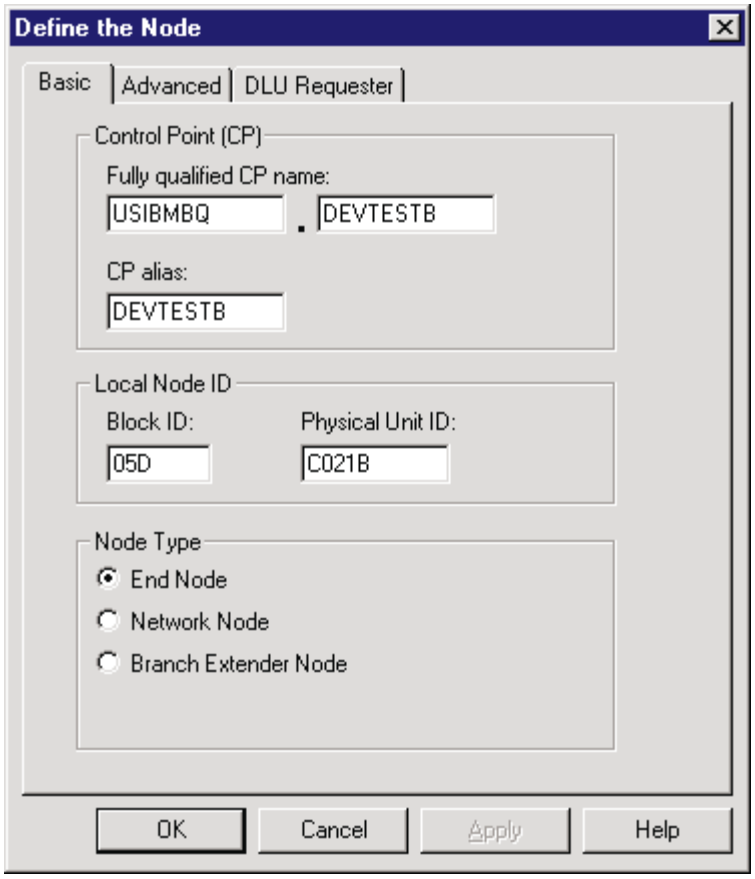

Figure 41. Define the Node Notebook: Basic Tab (37xx)

On the **Basic** tab (Figure 41), specify values for the following parameters:

Fully qualified Control Point (CP) name
Specifies the name of the component that manages the resources of that node. If the **CPNAME** operand is used in the VTAM switched major node **PU** statement (see "Specifying the VTAM Switched Major Node" on page 22), then the second part of this value must match the **CPNAME** operand. By convention, the **CPNAME** is usually the same as the **PU** name.

CP alias
Specifies an alternative name for the CP. Local applications can use this name, instead of the **Fully qualified Control Point (CP) name**, to refer to the local CP.

Local Node ID
Specifies both the **Block ID** and the **Physical Unit ID**. The **Block ID** is a 3-digit hexadecimal string that identifies the product type in an SNA network. The **Physical Unit ID** is a 5-digit hexadecimal string that identifies a physical unit (PU).

If the **IDBLK** and **IDNUM** operands are used in the VTAM switched major node **PU** statement (see "Specifying the VTAM Switched Major Node" on page 22), then the **Local Node ID** value must match the combined **IDBLK** and **IDNUM** operands. The **IDBLK** operand is normally `071` for Communications Server for NT.

If you are migrating from an AIX® operating system, **Local Node ID** matches the **XID Node ID** parameter.

Node Type
Specifies the type of node. Take the default value, **End node**.

If you are migrating from an AIX operating system, **Node Type** matches the **Control Point Type** parameter.

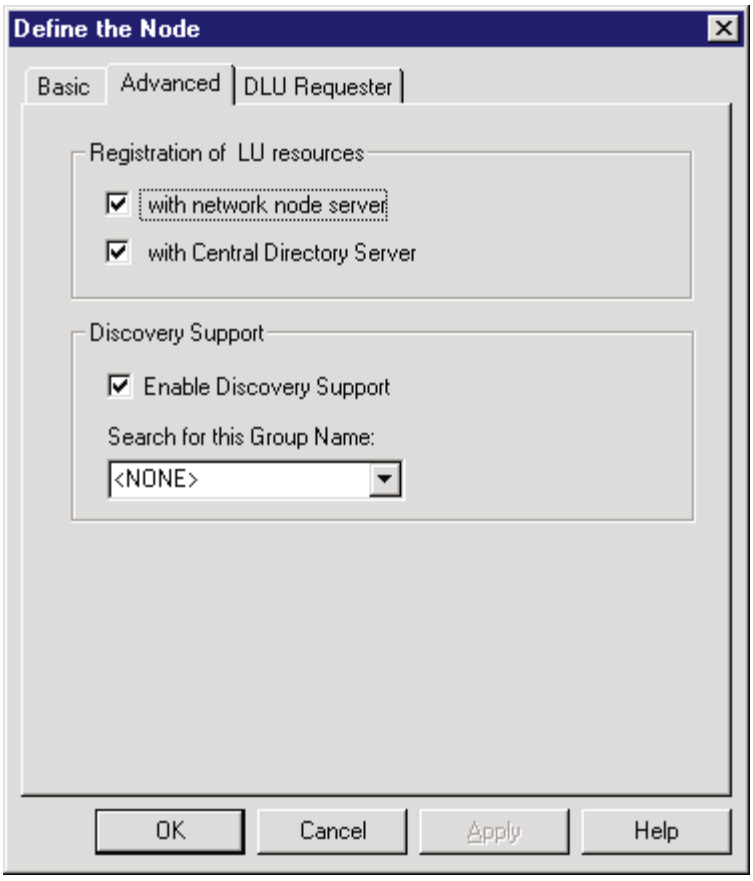

Figure 42. Define the Node Notebook: Advanced Tab (37xx)

On the **Advanced** tab (Figure 42), specify values for the following parameters:

Registration of LU resources
Specifies that directory information about the local logical units (LUs) 6.2 is sent to the server. As the example shows, check both the **Network node server** and the **Central Directory Server**.

Discovery Support
Specifies a LAN address resolution protocol that can be used to find another node that matches given search values. Adjust the search parameter to search for APPN® network nodes, nodes that provide SNA boundary function, or AS/400s. Select the check box to enable discovery support.

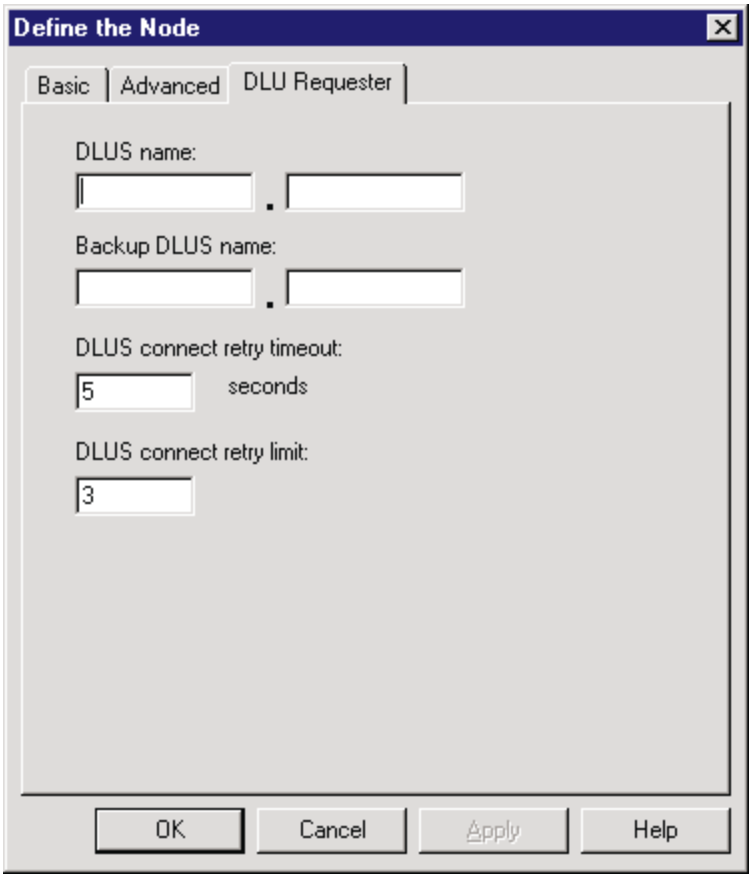

Figure 43. Define the Node Notebook: DLU Requester Tab (37xx)

On the **DLU Requester** tab (Figure 43), accept the default values for the following parameters:

DLUS connect retry timeout
Specifies the time between attempts to reconnect a dependent logical unit server (DLUS). This parameter is based on the **DLUS connect retry limit** parameter. Take the default of 5.

DLUS connect retry limit
Specifies the maximum number of attempts to reconnect a DLUS without receiving an acknowledgment in the time set by the **DLUS connect retry timeout** parameter. Take the default of 3.

Click **OK** to save these configuration settings.

37xx Device Configuration

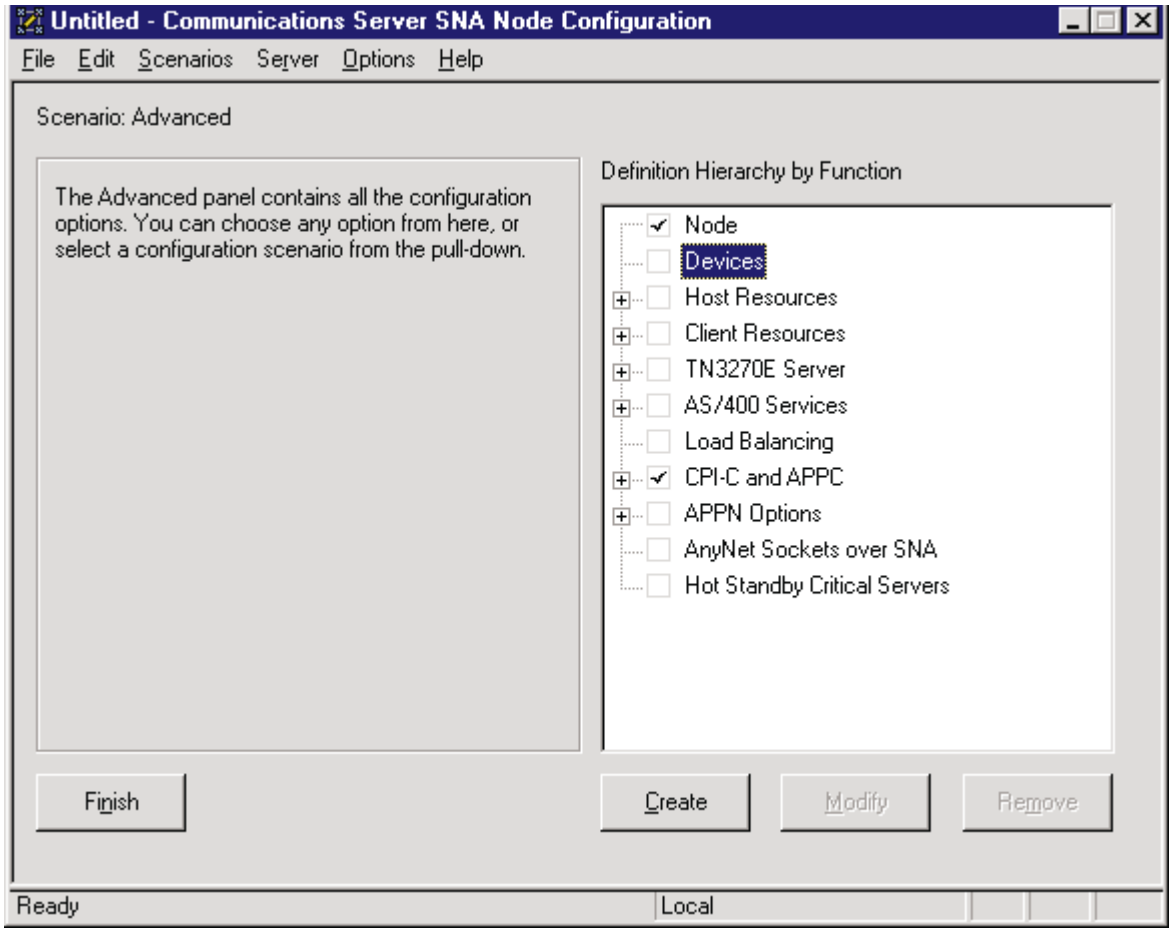

Figure 44. Communications Server SNA Node Configuration Window: Devices (37xx)

In the Communications Server SNA Node Configuration window (Figure 44), right-click the **Devices** box and select the **Create** option. The Device Type pop-up window (Figure 45) opens.

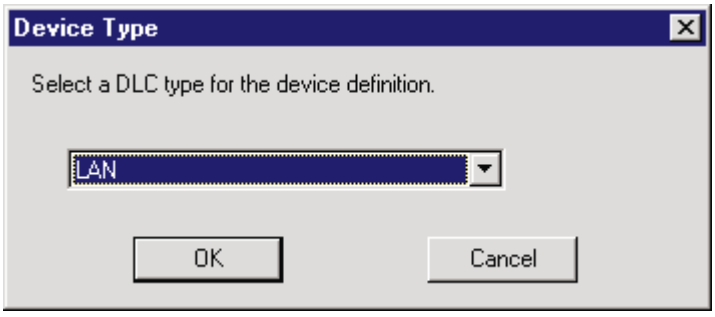

Figure 45. Device Type Window (37xx)

Select **LAN** as your data link control (DLC) type. A DLC is a set of rules that nodes on a data link (such as an SDLC link or a token ring) use to accomplish an orderly exchange of information.

Click **OK** to save this configuration setting.

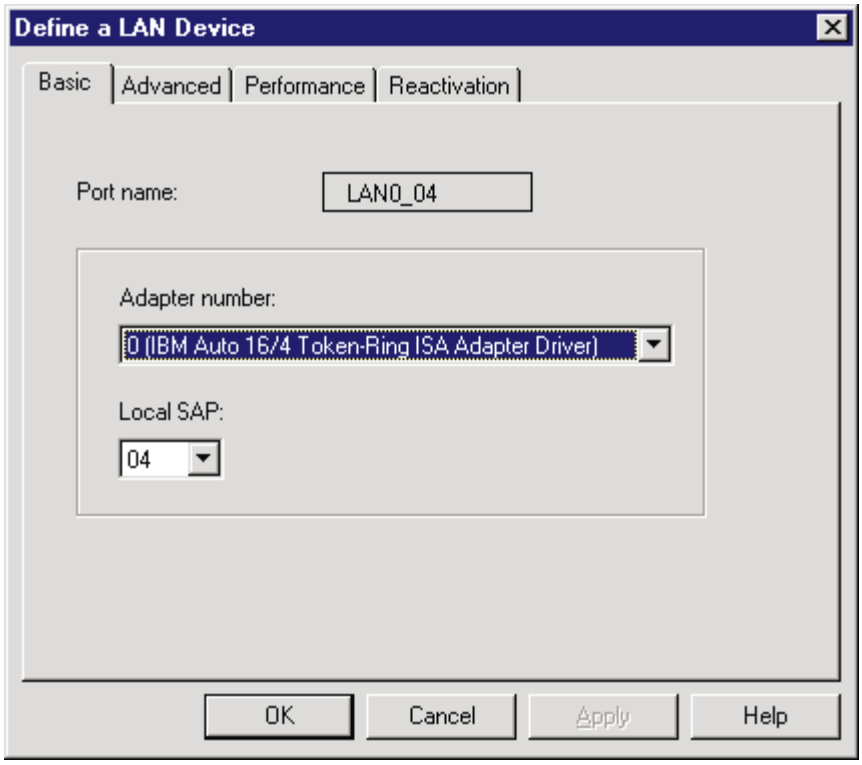

Figure 46. Define a LAN Device Notebook: Basic Tab (37xx)

On the **Basic** tab of the Define a LAN Device notebook (Figure 46), supply the following values:

Port name
Specifies the port name of the physical connection to the link hardware. This value consists of the word **LAN**, the adapter number, and the local SAP number, with an underscore between the adapter number and the local SAP number. Accept the value that is displayed.

Adapter number
Specifies a value from 0 to 7 that uniquely identifies this adapter. You may have both token-ring and ethernet adapters defined at your installation. Ensure that you select the proper token-ring LAN adapter.

Local SAP
Specifies the local service access point (SAP) number of the local port as a hexadecimal value from 04 through FC. Note that this number must be a multiple of four. Take the default of `04`.

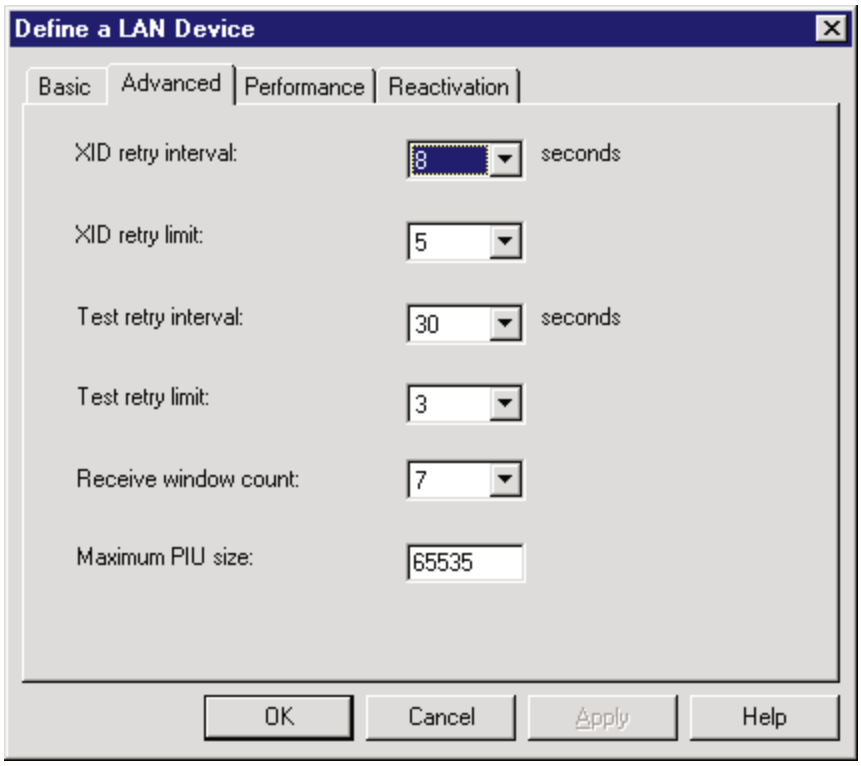

Figure 47. Define a LAN Device Notebook: Advanced Tab (37xx)

On the **Advanced** tab (Figure 47), supply the following values:

XID retry interval
Specifies the time the link station waits for a reply to a previous **XID** command before resending that command. Specify 8. If the link station is a calling link station, this value causes it to try to establish a link connection with the 37*xx* communication controller every 8 seconds, until a link connection can be established. If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **Response Timeout** parameter from the **Token-Ring SNA DLC** profile.

XID retry limit
Specifies the maximum number of times an **XID** command will be retransmitted before Communications Server for NT presumes that the link is broken and stops retrying. Specify 5. The previous parameter defines the interval between the attempts. If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **XID Retransmit count** parameter from the **Token-Ring SNA DLC** profile.

Test retry interval
Specifies the time between attempts to find the adjacent link station on the LAN. This parameter is needed to establish communication with the network and does not necessarily relate to VTAM or the PSF host system. The number of times an **XID** is sent is based on the configured **XID retry limit**.

Test retry limit
Specifies the number of times Communications Server attempts to find the adjacent link station on the LAN. Specify a value from 3 to 30.

Receive window count
Specifies a value that should be equal to the **MAXOUT** value in the VTAM

switched major node **PU** statement. The **Receive window count** defines the size of the link-level window. It specifies the maximum number of frames to receive before sending a link-level acknowledgement. The VTAM **PU MAXOUT** value indicates the number of frames the 37*xx* communication controller sends before waiting for a link-level acknowledgement. If the **MAXOUT** operand is less than the **Receive window count** field, extremely poor throughput can result. The default **MAXOUT** value is 1. The default **Receive window count** value is 8. You must adjust these defaults to produce acceptable throughput.

Maximum PIU size
Specifies a value between 99 and 65535 bytes that represents the maximum number of bytes in the data buffer that SNA sessions use for this link. If the **Maximum PIU size** exceeds the frame size supported by your local device driver, the value will be reduced to match the frame size.

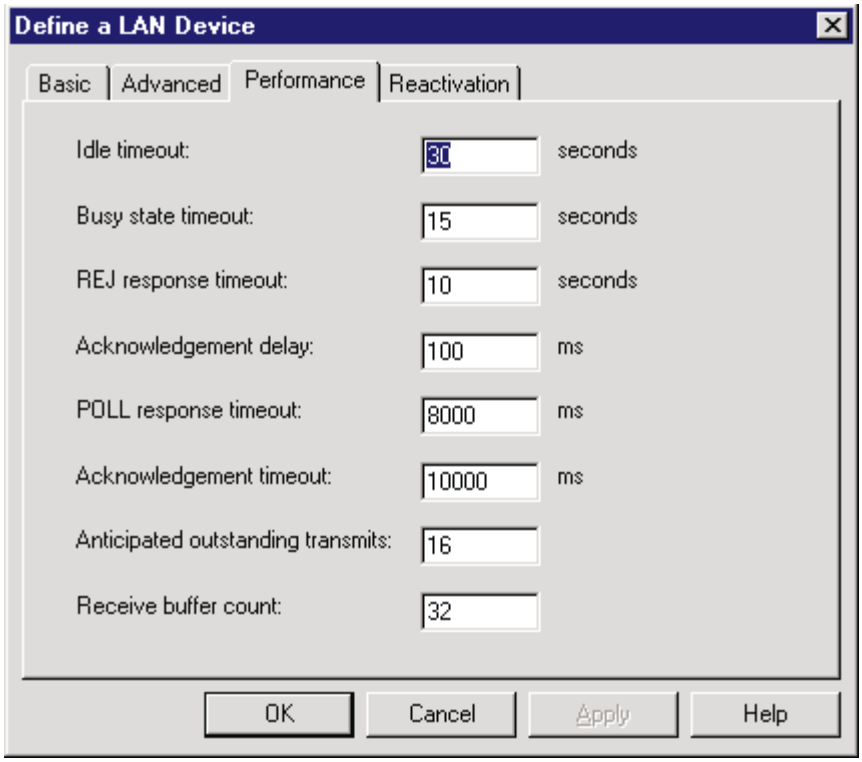

Figure 48. Define a LAN Device Notebook: Performance Tab (37xx)

On the **Performance** tab (Figure 48), accept the default values.

If you are migrating from an AIX operating system to a Windows NT operating system, see Table 1 on page 38 for a map of the parameters on the **Performance** tab to the corresponding AIX values.

Table 1. Windows NT and AIX Parameters for LAN Device Performance (37xx)

Windows NT Parameter	AIX Parameter
Idle timeout	Inactivity time-out
Busy state timeout	n/a
Acknowledgement delay	n/a
Acknowledgement timeout	Acknowledgement timeout
POLL response timeout	n/a
Anticipated outstanding transmits	Transmit window count
Receive buffer count	n/a

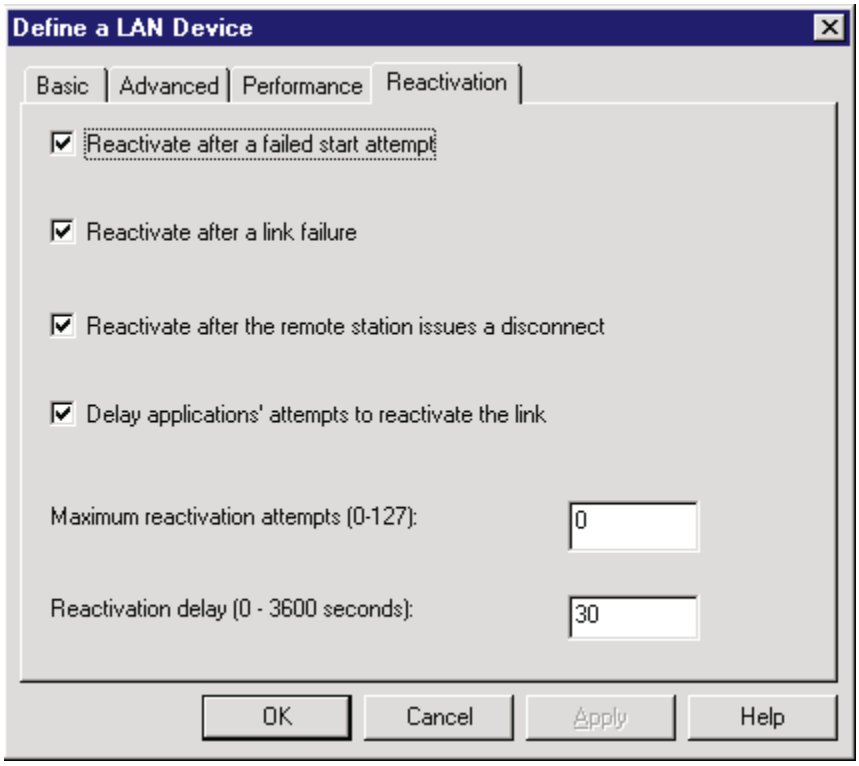

Figure 49. Define a LAN Device Notebook: Reactivation Tab (37xx)

On the **Reactivation** tab (Figure 49), accept the default values.

Click **OK** to save these configuration settings.

Enabling SNA API Clients for 37xx

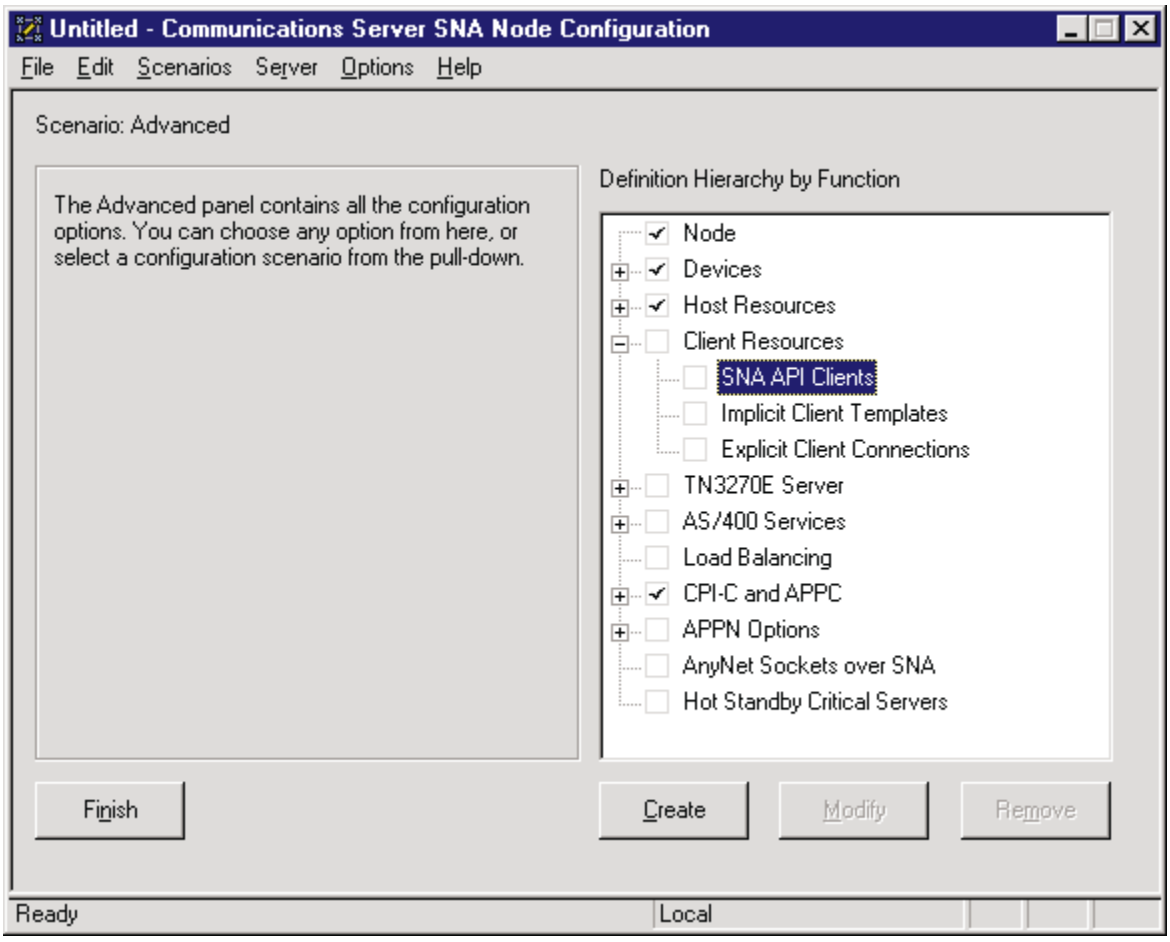

Figure 50. Communications Server SNA Node Configuration Window: SNA API Clients (37xx)

In the Communications Server SNA Node Configuration window (Figure 50), right-click the **Client Resources** box, then the **SNA API Clients** box. The SNA Clients window opens.

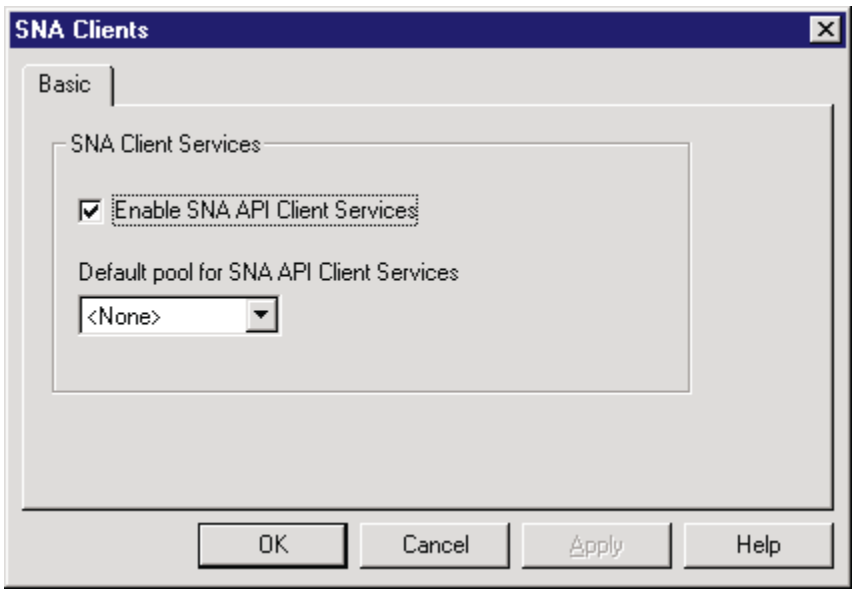

Figure 51. SNA Clients Window (37xx)

In the SNA Clients window (Figure 51), check the **Enable SNA API Client Services** box.

Click **OK** to save these specifications to the *xxx*.acg file.

37xx Peer Connections Configuration

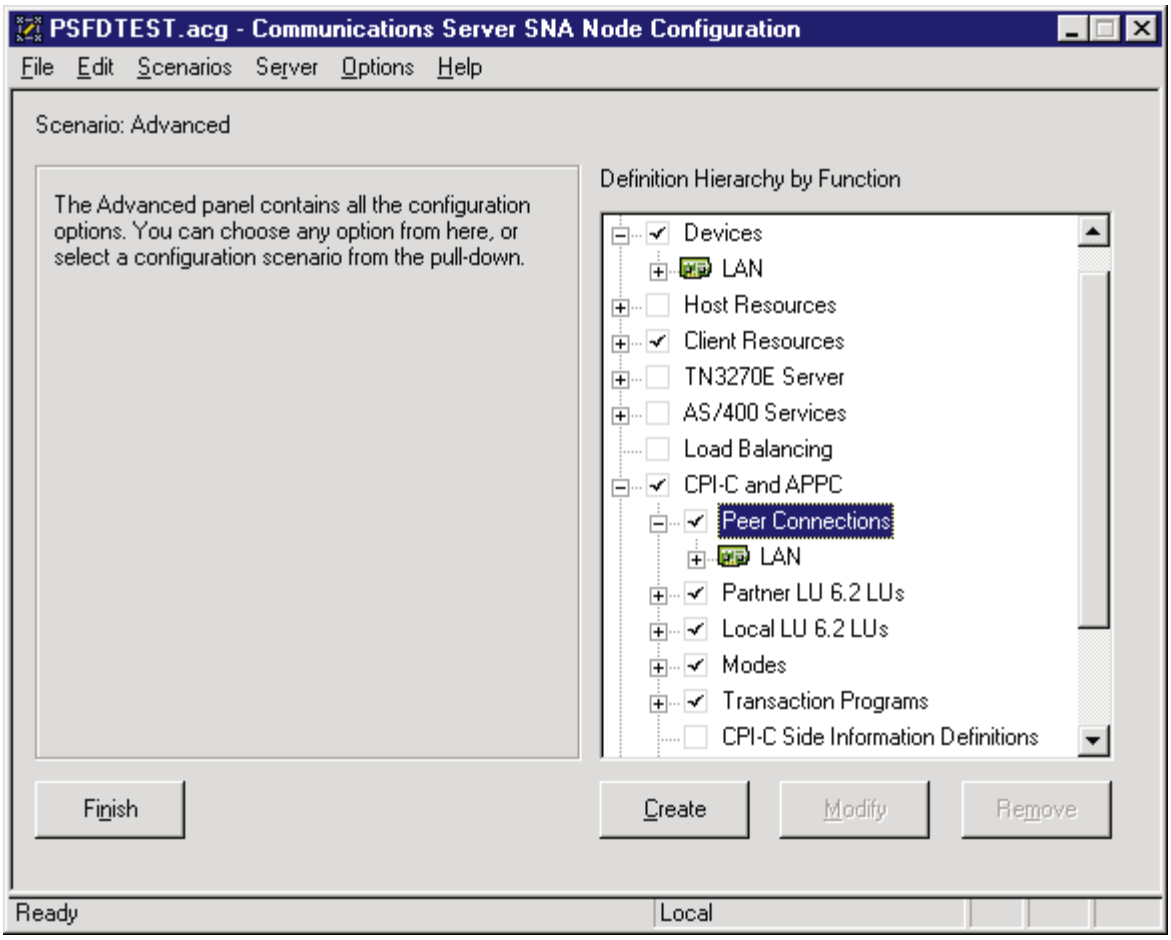

Figure 52. Communications Server SNA Node Configuration Window: Peer Connections (37xx)

In the Communications Server SNA Node Configuration window (Figure 52), right-click the **CPI-C and APPC** box, then the **Peer Connections** box. Select the **Create** option. The Define a LAN Connection notebook opens at the **Basic** tab.

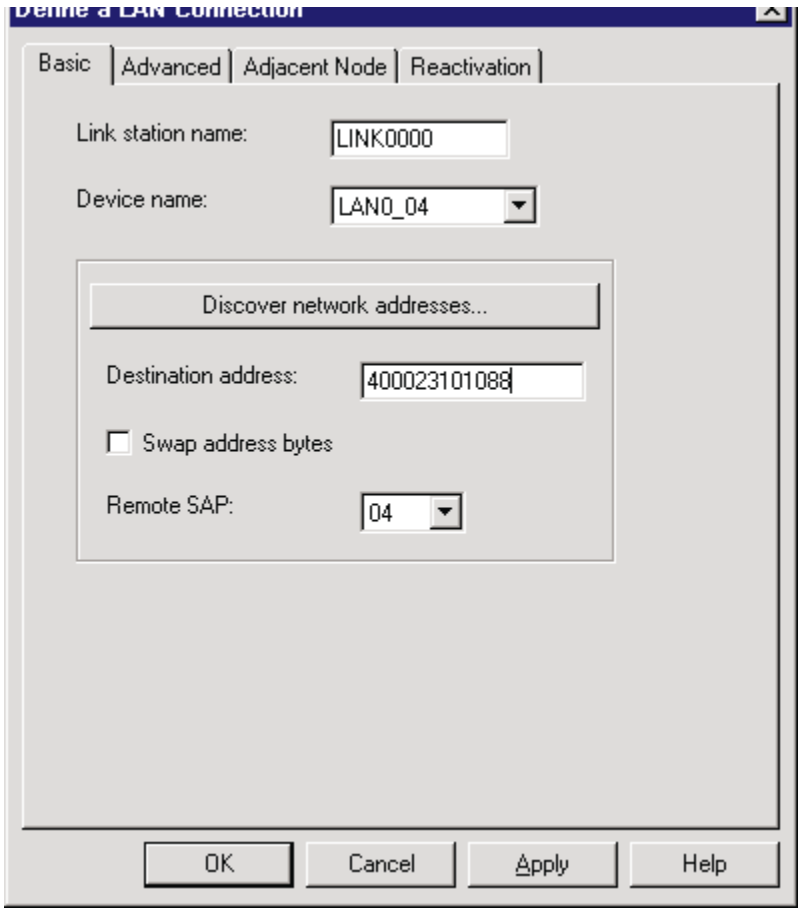

Figure 53. Define a LAN Connection Notebook: Basic Tab (37xx)

On the **Basic** tab (Figure 53), supply the following values:

Link station name
Specifies a 1- to 8-byte character string that is used to identify a connection. The contents of this field will vary, depending on the number of links at your installation.

Device name
Specifies the name of the port associated with this link station. This value must match the **Port name** value specified on the **Basic** tab of the Define a LAN Device notebook (Figure 46 on page 35).

Destination address
Specifies a 12-character hexadecimal string that specifies the address to activate a connection to the destination. This value must be specified so the NT system can search for and call the PSF host program.

Swap address bytes
Check this box to bit-swap the address in the **Destination address** field. You may need to select this check box if the next link in the network is an Ethernet link. If not, you can use the default (unchecked).

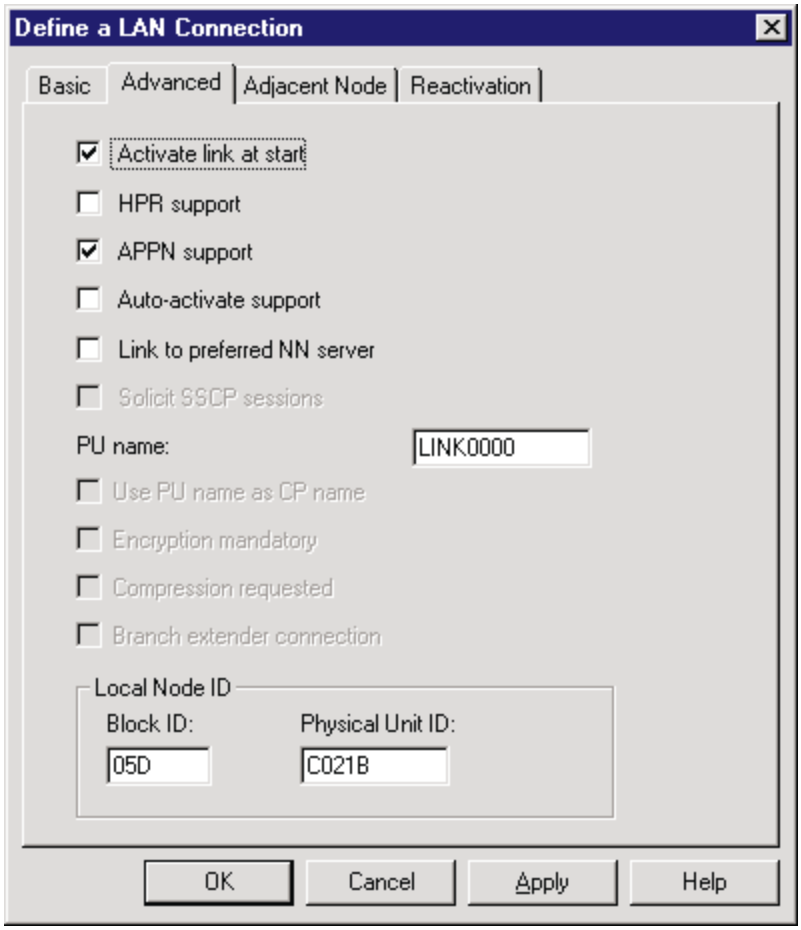

Figure 54. Define a LAN Connection Notebook: Advanced Tab (37xx)

On the **Advanced** tab (Figure 54), supply the following values:

Activate link at start
Specifies that you will use the link reactivation values specified in the port (device) link reactivation definition. Ensure that you select this check box.

APPN support
Specifies whether this connection supports CP-CP sessions. Select the check box to specify APPN support.

PU name
Specifies the physical unit (PU) name. This is the name of the component that manages and monitors the resources (such as attached links and adjacent link station) associated with a node. The default PU name is automatically created. You can change this definition.

Block ID
Identifies the product type in an SNA network.

Physical Unit ID
Identifies the physical unit (PU) or component that manages and monitors the resources (such as attached links and adjacent link stations) associated with a node.

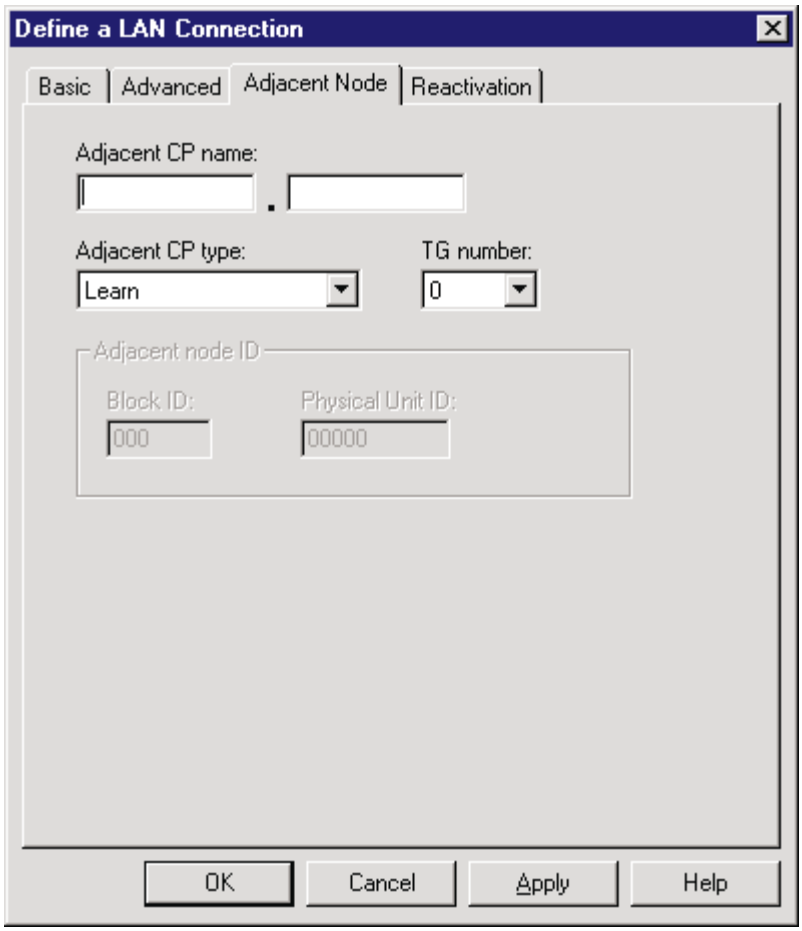

Figure 55. Define a LAN Connection Notebook: Adjacent Node Tab (37xx)

On the **Adjacent Node** tab (Figure 55), accept the default values.

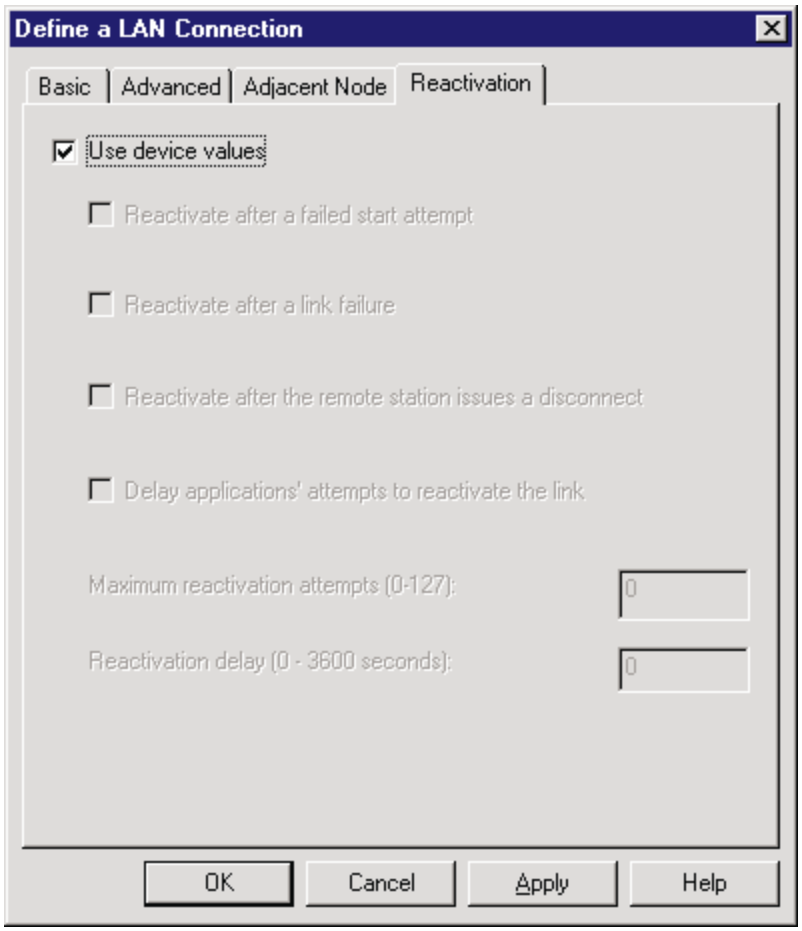

Figure 56. Define a LAN Connection Notebook: Reactivation Tab (37xx)

On the **Reactivation** tab (Figure 56), accept the default values.

Note that after you select **OK**, a pop-up window appears asking:

```
Do you want to automatically route all APPC sessions over this connection?
```

You must reply `yes` before the configuration is accepted.

Partner LU 6.2 Configuration for 37xx

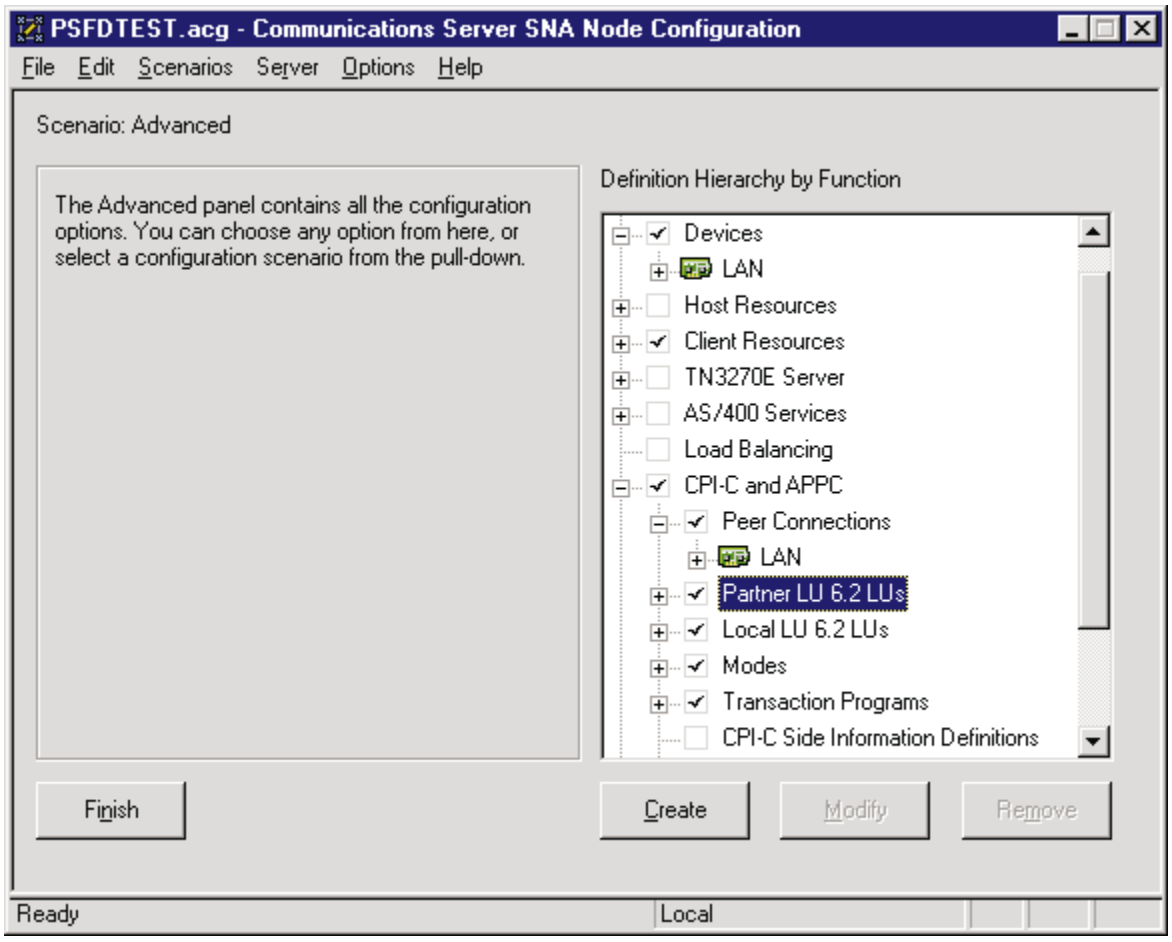

Figure 57. Communications Server SNA Node Configuration Window: Partner LU 6.2 LUs (37xx)

In the Communications Server SNA Node Configuration window (Figure 57), right-click the **CPI-C and APPC** box, then the **Partner LU 6.2 LUs** box. Select the **Create** option. The Define a Partner LU 6.2 notebook opens at the **Basic** tab.

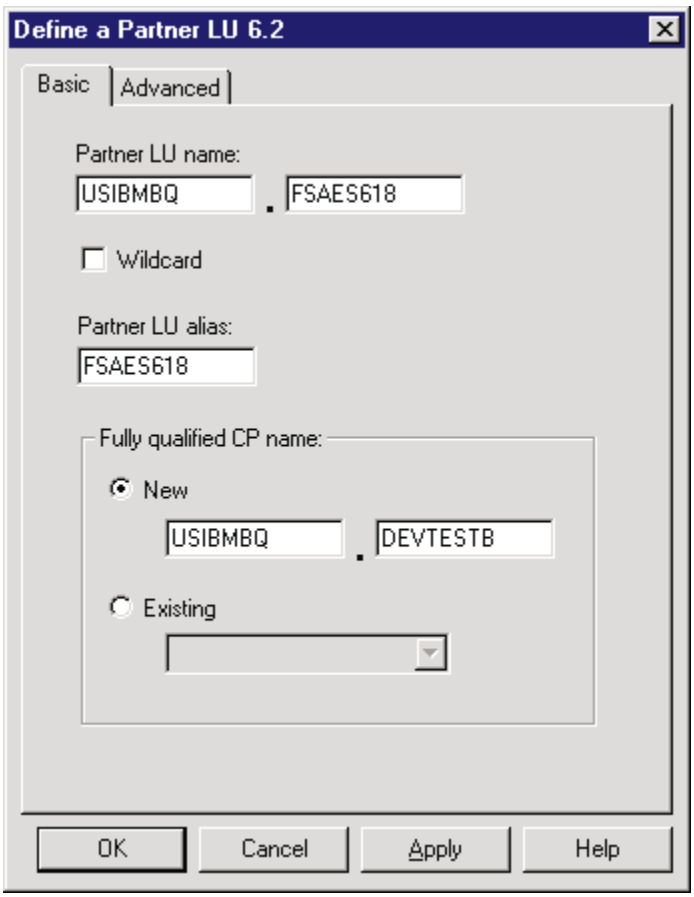

Figure 58. Define a Partner LU 6.2 Notebook: Basic Tab (37xx)

On the **Basic** tab (Figure 58), supply the following values:

Partner LU name
Specifies the network identifier of the network in which the host PSF program resides (followed by a period), and the logical unit name used by the host PSF program. The network identifier portion must match the **NETID** value in the VTAM start option list (ATCSTR*xx*) (see "Specifying the VTAM Start Option List (ATCSTRxx)" on page 19). The logical unit name portion must match the **APPLID** parameter in one of these places:

- The PSF for OS/390 **PRINTDEV** statement
- The PSF/VSE **PRINTDEV** statement
- The PSF/VM **OPTIONS PDM** file

That **APPLID** parameter on the PSF host system must also match an **APPL** statement in a VTAM application program major node. (Do not check the **Wildcard** check box.)

Partner LU alias
Specifies the alternate name for the partner LU. Local applications can use this name, instead of the fully qualified LU name, to refer to the partner LU. While you can choose any meaningful value, IBM recommends specifying the second qualifier of the **Partner LU name**.

Fully qualified CP name
Select: **New** to enter the fully qualified CP name of the partner LU's

owning control point. Communications Server for NT requires this field. Infoprint Manager uses this field as the target for any alerts sent by the PSF Direct program.

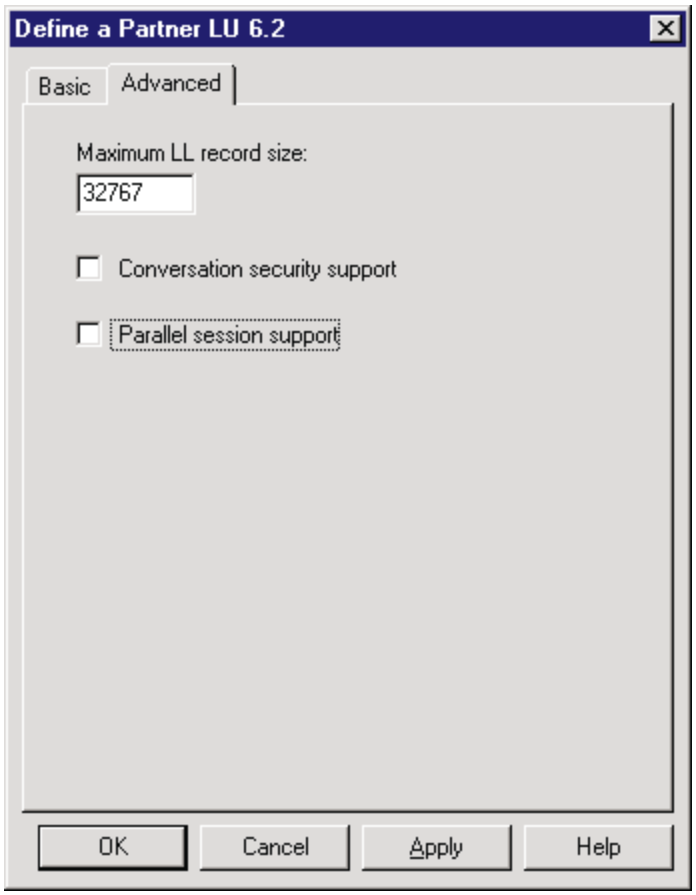

Figure 59. Define a Partner LU 6.2 Notebook: Advanced Tab (37xx)

On the **Advanced** tab (Figure 59), supply the following values:

Maximum LL record size
Specifies a value between 0 and 32767 as the maximum size of the logical record in the data stream for basic conversations. Specify the default (32767), because the PSF host program and the PSF Direct host receiver should both be able to handle the full range.

Conversation security support
Specifies that the partner logical unit (LU) is authorized to validate the user identifiers for the local LUs. Select the check box to specify conversation security support if you have matching support on the host PSF program. If not, leave this box unchecked.

Parallel session support
Specifies whether the partner LU supports two or more currently active sessions between the same two LUs by using different pairs of network addresses or session identifiers. Because neither PSF Direct nor the PSF host programs support two sessions with the same partner LU, do not select this check box.

Click **OK** to save these specifications to the *xxx*.acg file.

Local LU 6.2 Configuration for 37xx

Dependent or Independent LU?
This procedure configures an *independent* LU. You cannot use it to configure a *dependent* LU. If you require dependent LUs, see "Deciding whether to Define a Dependent or an Independent LU" on page 14.

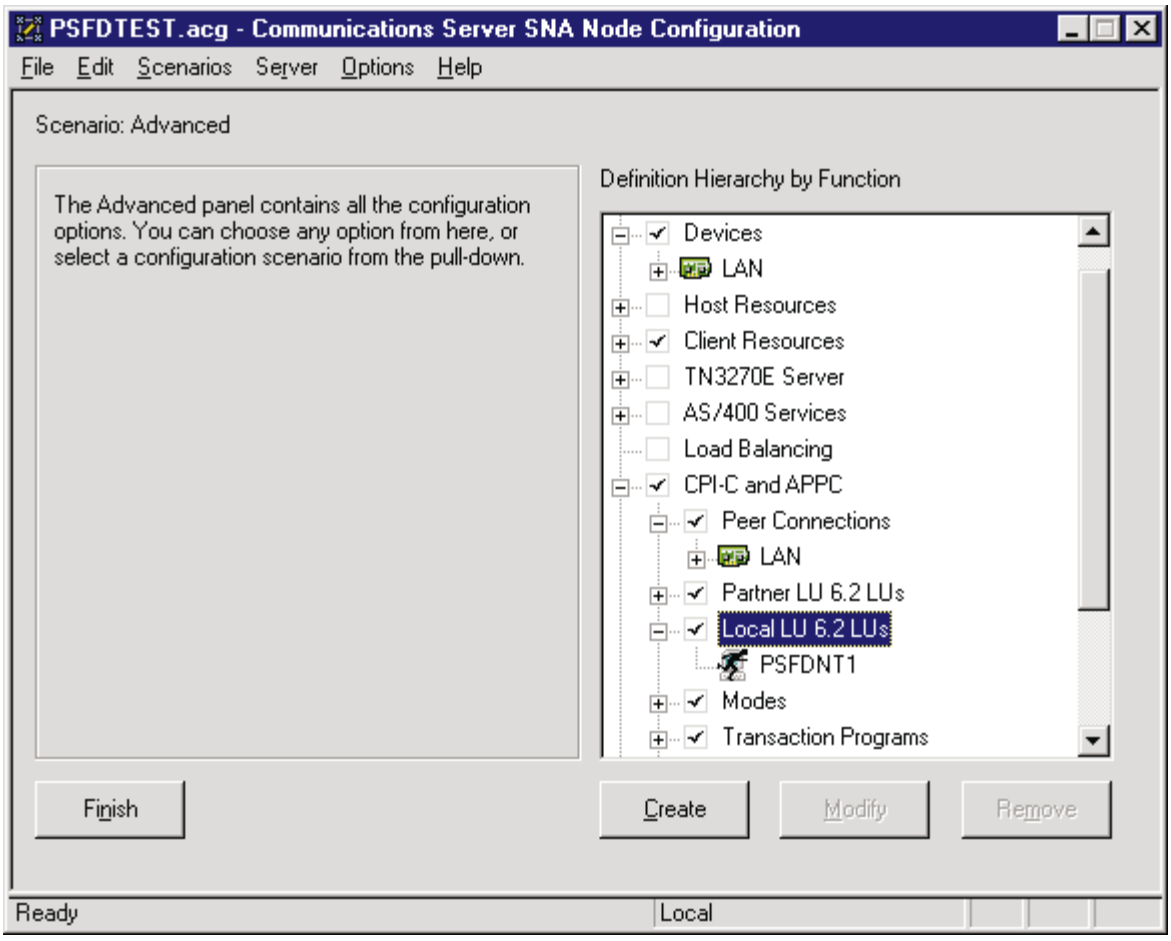

Figure 60. Communications Server SNA Node Configuration Window: Local LU 6.2 LUs (37xx)

In the Communications Server SNA Node Configuration window (Figure 60), right-click the **CPI-C and APPC** box, then the **Local LU 6.2 LUs** box. Select the **Create** option. The Define a Local LU 6.2 notebook opens at the **Basic** tab.

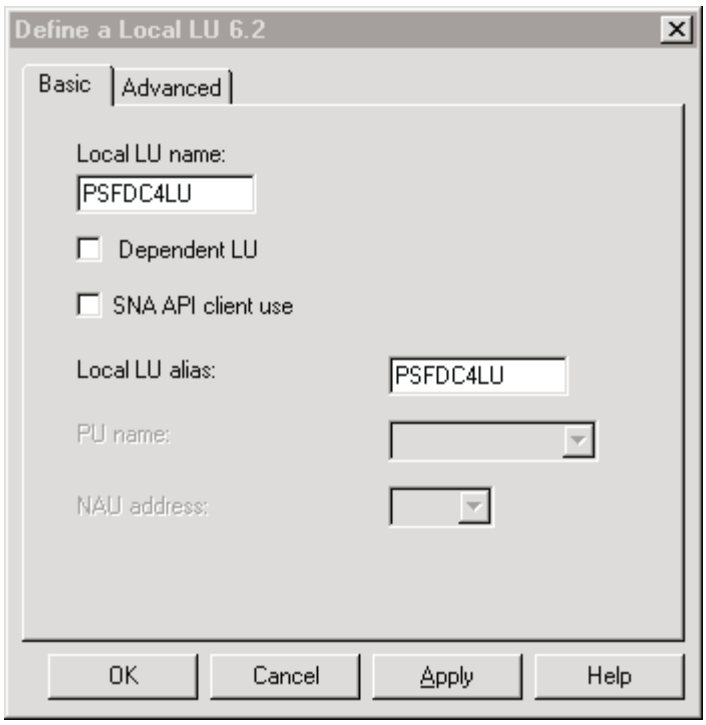

Figure 61. Define a Local LU 6.2 Notebook: Basic Tab (37xx)

On the **Basic** tab (Figure 61), supply the following values:

Local LU name
Specifies a 1- to 8-byte character string that identifies your workstation and gives transaction programs access to the network. This name must match the partner LU that has been defined at the host PSF program.

Local LU alias
Specifies the name for the local LU that is used by Infoprint Manager when configuring the PSF Direct host receiver.

Dependent LU
Specifies whether this LU requires assistance from a system services control point (SSCP) in order to initiate an LU-LU session. When this check box is selected, the LU must be specified as dependent on the host PSF program. Because this procedure is for an independent LU, do not check the box.

SNA API client use
Because this LU will be used by a server-based transaction program (TP), do not check this box.

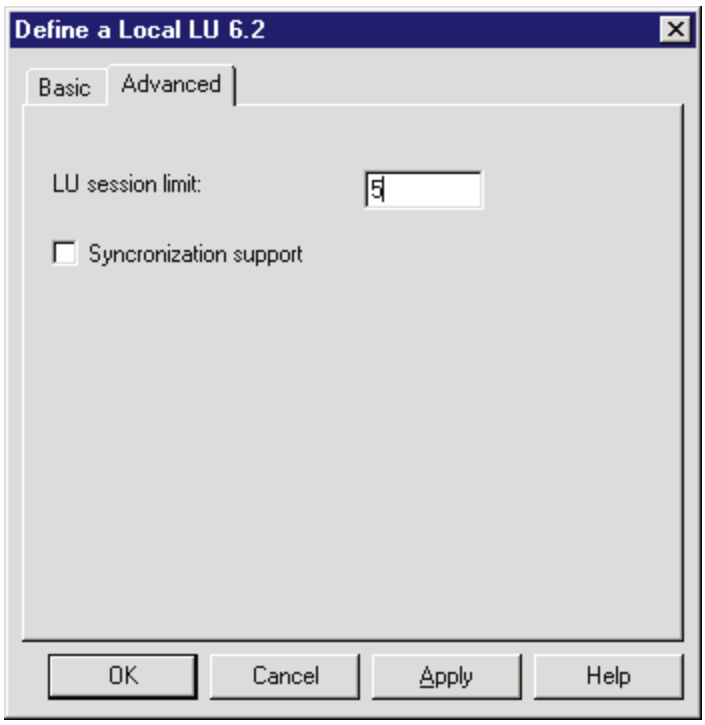

Figure 62. Define a Local LU 6.2 Notebook: Advanced Tab (37xx)

On the **Advanced** tab (Figure 62), supply the following values:

LU session limit
Specifies the maximum number of sessions that the LU supports as a value between 0 and 65535. Specify 5.

Note: The application program supports only one LU session at a time, but the SNA session can support more.

Synchronization support
Select this check box if another application is supplying synchronization point management (DB/2, for example). In this instance, do not select it.

Click **OK** to save these specifications to the *xxx*.acg file.

Mode Configuration for 37xx

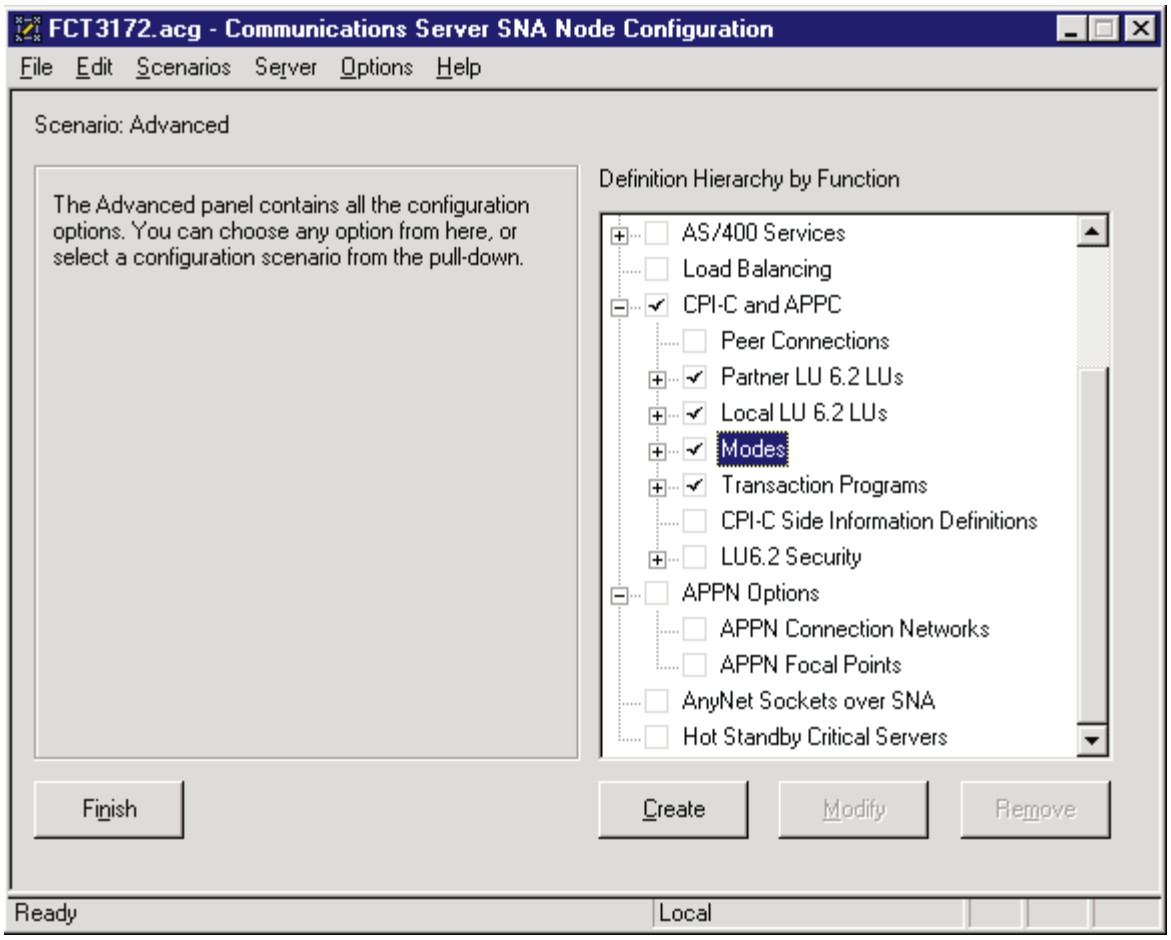

Figure 63. Communications Server SNA Node Configuration Window: Modes (37xx)

In the Communications Server SNA Node Configuration window (Figure 63), right-click the **CPI-C and APPC** box, then the **Modes** box. Select the **Create** option. The Define a Mode notebook opens at the **Basic** tab.

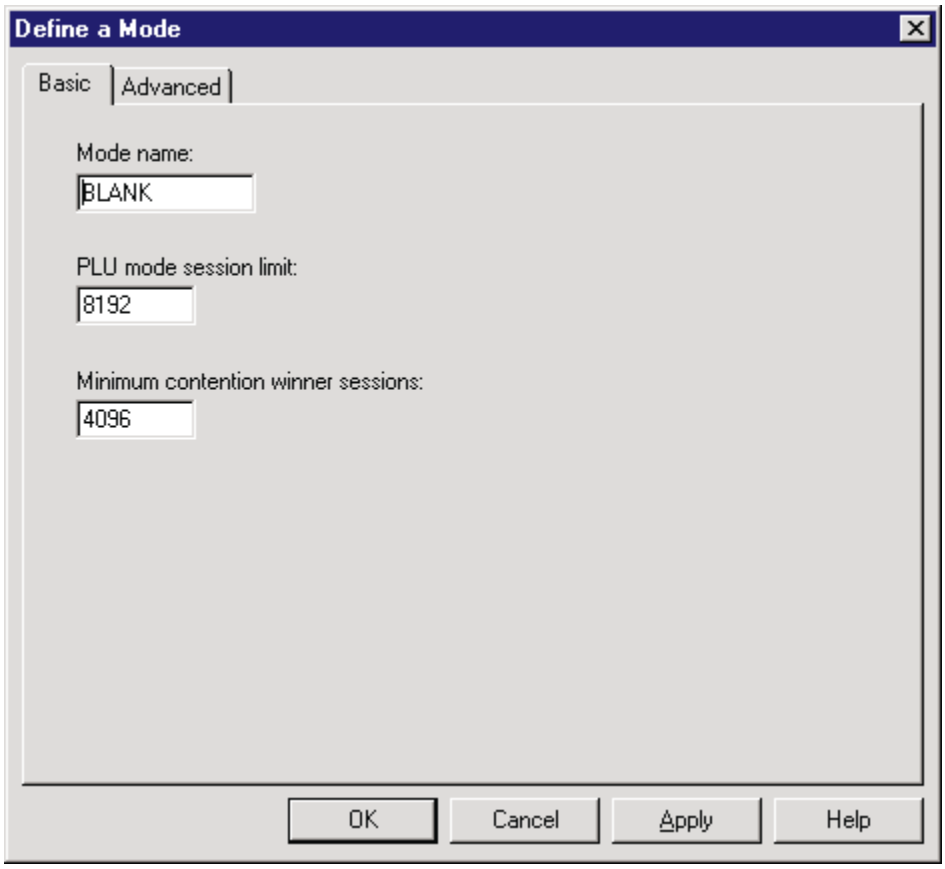

Figure 64. Define a Mode Notebook: Basic Tab (37xx)

On the **Basic** tab (Figure 64), supply the following values:

Mode name
Specifies the characteristics for the session that will be allocated for the conversation. The initiator uses this value. The **Mode name** in the **BLANK** profile is 8 spaces.

PLU mode session limit
Specifies a value between 0 and 32767 as the primary logical unit (PLU) mode session limit, or maximum number of concurrently active LU-LU sessions that a particular LU can support. Take the default.

Minimum contention winner sessions
Specifies a value between 0 and 32767 as the minimum number of sessions that a local LU using this mode can activate to win a contention with a partner. Take the default.

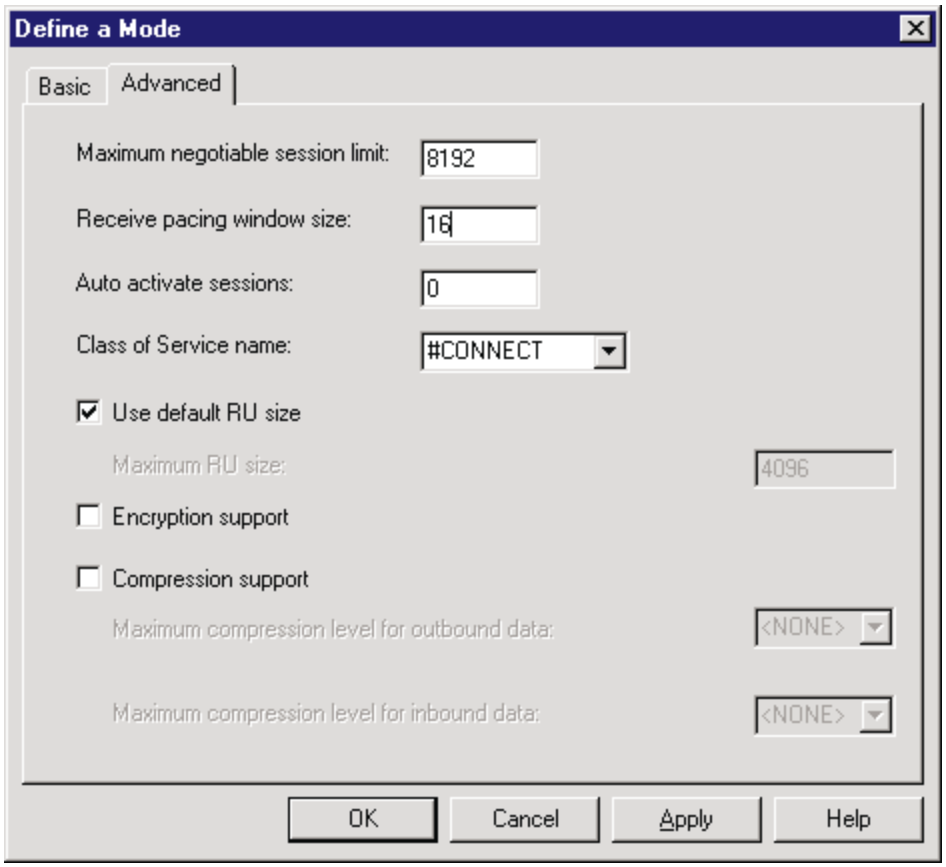

Figure 65. Define a Mode Notebook: Advanced Tab (37xx)

On the **Advanced** tab (Figure 65), supply the following values:

Maximum negotiable session limit
Specifies a value between 0 and 32767 as the maximum number of sessions allowed in this mode between any local logical unit (LU) and partner LU. Take the default.

Receive pacing window size
Specifies the secondary receive pacing count. The lesser of this parameter's value and the **SRCVPAC** value in the VTAM **MODEENT** statement is used. (See "Specifying the VTAM Mode Table and Entry" on page 21.) A value of 16 produces good throughput in most configurations. This parameter influences performance and can be adjusted as desired.

Auto activate sessions
Specifies a value between 0 and 32767 as the number of parallel LU 6.2 sessions to automatically start when an initial session starts using this mode. Specify 0 so that no parallel sessions can start automatically for this application.

Class of Service name
Specifies the name of a set of transport network characteristics. Select the default: **#CONNECT** .

Use default RU size
Instructs the node to use the default maximum size for the request/response unit (RU) sent and received on the sessions. Do not select the check box.

Maximum RU size
Set this value to 1024, if it does not automatically specify that value when you remove the check from the **Use default RU size** parameter above.

Click **OK** to save these specifications to the *xxx*.acg file.

Transaction Program Configuration for 37xx

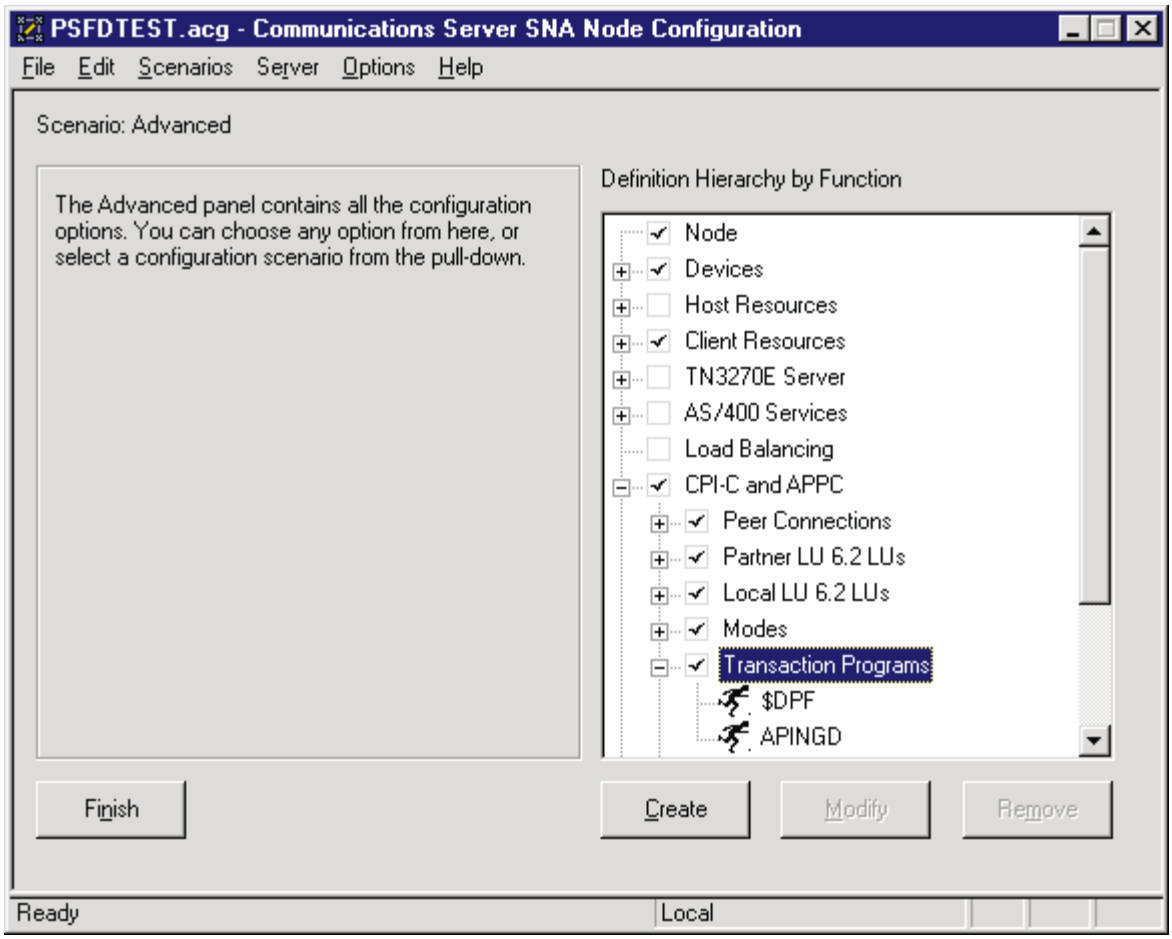

Figure 66. Communications Server SNA Node Configuration Window: Transaction Programs (37xx)

In the Communications Server SNA Node Configuration window (Figure 66), right-click the **CPI-C and APPC** box, then the **Transaction Programs** box. Select the **Create** option. The Define a Transaction Program notebook opens at the **Basic** tab.

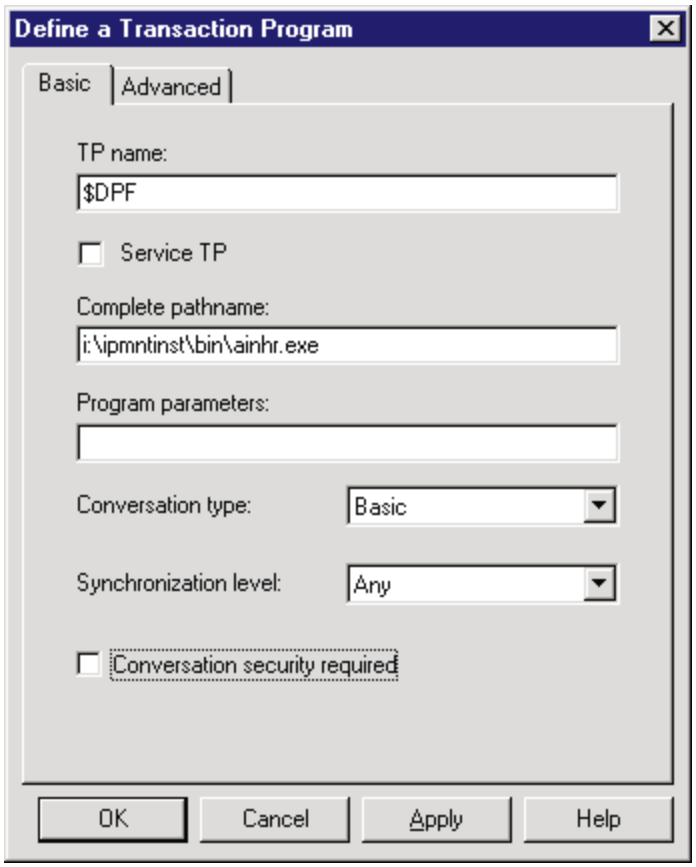

Figure 67. Define a Transaction Program Notebook: Basic Tab (37xx)

On the **Basic** tab (Figure 67), supply the following values:

TP name
Specifies a 1- to 64-byte character string for the program that uses the advanced program-to-program communications (APPC) system to communicate with a partner application program at the partner node. Enter **$DPF**. If you are migrating from an AIX operating system to a Windows NT operating system, note that this value changes from a binary `30F0F0F0` to a non-binary **$DPF**. Ensure that the **Service TP** check box is unchecked because it indicates a non-binary value.

Complete pathname
Specifies an 1- to 255-byte character string that describes the location of the program to run. The location can include the drive, the directory, the subdirectory, and the file name. In this example, `d:\ipmntinst\bin\ainhr.exe` specifies the location where Infoprint Manager for NT is installed on your system.

Conversation type
Specifies the conversation type allowed to start the transaction programs (TPs) that use an LU 6.2 session. Select **Basic**.

Synchronization level
Specifies the level allowed on allocation requests that start the local and remote transaction programs (TPs). Select **Any**.

Conversation security required
Allows controlled access to system resources through security parameters.

If this check box is selected, conversation security information is required to start the TP. Incoming allocation requests for this TP without the conversation security information will be rejected. Do not check this box.

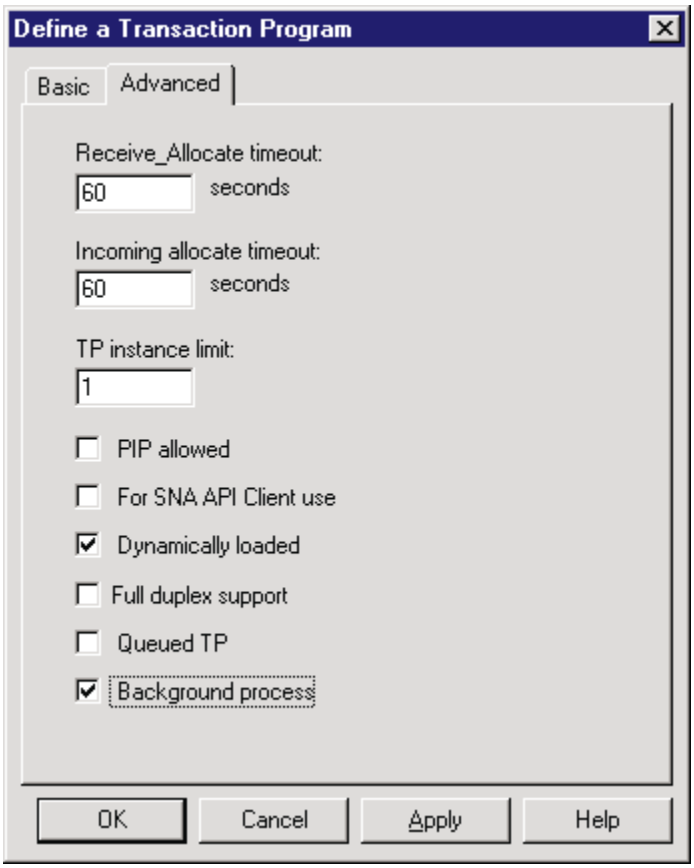

Figure 68. Define a Transaction Program Notebook: Advanced Tab (37xx)

On the **Advanced** tab (Figure 68), supply the following values:

Receive_Allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that a **Receive_Allocate** verb will be queued while waiting for an **Attach**. Specify `60` .

Incoming allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that an incoming **Attach** will be queued waiting for a **Receive_Allocate**. Specify `60` .

TP instance limit
Specifies a value between 0 and 65535 seconds that identifies the maximum number of concurrently active TP instances. Specify at least 1 (or the number of LUs that you have defined). 0 means no limit.

Dynamically loaded
Specifies whether the transaction program (TP) can be dynamically started by an allocation request received on a conversation. Select the check box to dynamically load the TP.

Background process
Specifies that the program will run in the background. Only 32-bit programs can multitask in the Windows NT environment. Select the check box to use the background process.

Note: Ensure that **Dynamically loaded** and **Background process** (the two items checked in Figure 68 on page 57) are the only items checked. If you specify other options, this transaction program will not work.

Click **OK** to save these specifications to the *xxx*.acg file.

Once you have completed creating this configuration, go to "Chapter 9. Starting an IBM SecureWay Communications Server for Windows NT Configuration" on page 229.

Local or Remote 37xx Token-Ring Configuration Work Sheets

Use the following work sheets to configure PSF Direct on both the host PSF and Infoprint Manager for NT:

- Use Table 2 to see how Communications Server for NT configuration settings relate to other configuration settings.
- Use Table 3 on page 60 to record your own Communications Server for NT values.

37xx Token-Ring Configuration Work Sheet Example

Table 2. 37xx Token-Ring Configuration Work Sheet Example

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**NCP**
Define the Node: Fully-qualified CP name	**DEVTESTB**		PU *name* PU CPNAME	
Define the Node: Local Node ID	**05DC021B**		PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count	**7**		PU MAXOUT	
Define a LAN Device: Maximum PIU size	**65535**			
Define a LAN Connection: Destination address	**400023101088**			LINE LOCADD
Define a Partner LU 6.2: Partner LU name	**USIBMBQ.FSAES618**	APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Local LU 6.2: Local LU name	**PSFDC4LU**	LUNAME	LU *name*	
Define a Local LU 6.2: Dependent LU	Not selected (address **0**)		LU LOCADDR	
Define a Mode: Mode name	**BLANK**			
Define a Mode: Receive pacing window size	**16**		MODEENT SRCVPAC	
Define a Mode: Maximum RU size	**1024**		MODEENT RUSIZES	

37xx Token-Ring Configuration Blank Work Sheet

Table 3. 37xx Token-Ring Configuration Blank Work Sheet

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**NCP**
Define the Node: Fully-qualified CP name			PU *name* PU CPNAME	
Define the Node: Local Node ID			PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count			PU MAXOUT	
Define a LAN Device: Maximum PIU size				
Define a LAN Connection: Destination address				LINE LOCADD
Define a Partner LU 6.2: Partner LU name		APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Local LU 6.2: Local LU name		LUNAME	LU *name*	
Define a Local LU 6.2: Dependent LU			LU LOCADDR	
Define a Mode: Mode name				
Define a Mode: Receive pacing window size			MODEENT SRCVPAC	
Define a Mode: Maximum RU size			MODEENT RUSIZES	

Chapter 5. Local 3172 Token-Ring Configuration

Figure 69 shows a local 3172 token-ring configuration.

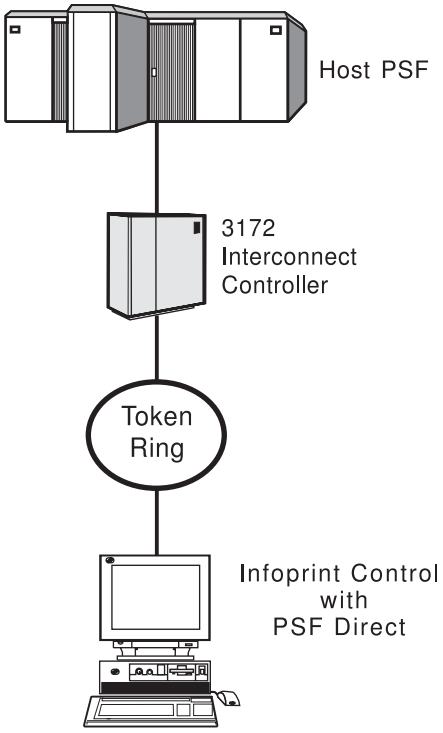

Figure 69. Local 3172 Token-Ring Configuration

This chapter describes how to create a local 3172 token-ring configuration. It contains guidelines and examples for the following tasks:

- "Partner LU 6.2 Configuration for Local 3172" on page 91
- "Local LU 6.2 Configuration for Local 3172" on page 94
- "Mode Configuration for Local 3172" on page 97
- "Transaction Program Configuration for Local 3172" on page 100

Note: Before performing this configuration, review "Chapter 3. Preconfiguration Tasks" on page 13.

At the end of the chapter, there are two configuration work sheets. The first work sheet (Table 5 on page 104) is filled out with the values from the examples. The second work sheet (Table 6 on page 105) is blank for your own values.

Local 3172 Host Configuration

This section provides guidelines and examples for the following tasks:

- "Specifying the JES2 Initialization Statement"
- "Configuring the Host PSF Printer"
- "Specifying the VTAM Start Option List (ATCSTRxx)" on page 65
- "Specifying the VTAM Configuration List (ATCCONnn)" on page 66
- "Specifying the VTAM Application Program Major Node and Application Program" on page 67
- "Specifying the VTAM Mode Table and Entry" on page 67
- "Specifying the VTAM Switched Major Node" on page 68
- "Specifying the VTAM External Communication Adapter (XCA) Major Node" on page 72

For each task, this section shows the pertinent parameters. It describes which of these require you to specify *variable_names* and which require a specific name or number, such as **MODETAB=MODEIBM** or **FMPROF=X'13'**. An underlined value (such as **WCONNECT**) indicates that the value is a system default.

Specifying the JES2 Initialization Statement

Define the host PSF printer as you would any other Systems Network Architecture (SNA)-attached printer. For example, on an OS/390 system you must provide either JES2 or JES3 initialization statements.

Figure 70 shows an example.

```
PRT618 CLASS=Y,MARKS=YES,START=NO,MODE=FSS,FSS=WTRES600,   X
  PRMODE=(LINE,PAGE),UCS=0
```

Figure 70. JES2 Initialization Statement Example (Local 3172)

Configuring the Host PSF Printer

The manner in which a host PSF printer is configured depends on the operating system. You will use one of the following statements:

- Print Services Facility (PSF) for OS/390 **PRINTDEV** statement
- PSF/VSE **PRINTDEV** statement
- Parameters in the PSF/VM **OPTIONS PDM** file

On each operating system, PSF supports specification of both the application program ID (**APPLID**) and the logical unit name (**LUNAME**).

```
.
.
.
APPLID=appl_prog
LUNAME=lu_name
.
.
.
```

Figure 71. Host PSF Printer Guidelines (Local 3172)

On some operating systems, PSF also supports other configuration parameters. The following text describes these parameters (listed in order of importance) and notes whether they are required or optional:

APPLID (required)
Specifies the application program that is the SNA logical unit provided by Virtual Telecommunications Access Method (VTAM) and used by PSF. The **APPLID** value must match:

- An **APPL** statement name in a VTAM application program major node
- The second part of the **Partner LU name** field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 106 on page 92)

LUNAME (required)
Specifies the SNA logical unit with which PSF tries to initiate a session. The **LUNAME** value must match:

- An **LU** statement name in a VTAM switched major node
- The **Local LU name** field on the **Basic** tab of the Define a Local LU 6.2 notebook (Figure 109 on page 95)

LOGMODE (optional)
Specifies the VTAM logon mode table entry that defines characteristics of the session between the logical units identified by the **APPLID** and **LUNAME** parameters. The **LOGMODE** parameter identifies an entry within a logon mode table. The **MODETAB** operand on the VTAM switched major node **LU** statement identifies the logon mode table. If you omit the **LOGMODE** parameter, the **DLOGMOD** operand on the VTAM switched major node **LU** statement identifies the entry within the logon mode table.

Note that if the logical unit identified by the **LUNAME** parameter is a cross-domain resource, you must not use the **LOGMODE** parameter.

SETUP (optional)
Specify **SETUP=FORMS** to cause the Job Entry Subsystem (JES) to issue forms setup messages to the operator.

By default, JES issues forms setup messages to the operator for channel-attached printers, but does not issue forms setup messages to the operator for SNA-attached printers.

MGMTMODE ={IMMED | OUTAVAIL | DIALIN} (optional)
Determines how the host PSF program and PSF Direct initiate communication.

IMMED
Causes the host PSF program to initiate communication when it starts.

OUTAVAIL
Causes the host PSF program to initiate communication when there is available output to print.

DIALIN
Causes the host PSF program to initiate communication only after a switched line becomes available. The switched line can become available either when VTAM dials out or when the remote node dials in.

Note that if you specify **DIALIN**:

- Do not use the **LOGMODE** parameter.
- Include the **LOGAPPL** operand on the VTAM switched major node **LU** statement.
- Ensure that the **LOGAPPL** operand on the VTAM switched major node **LU** statement matches the **APPLID** value.

FAILURE={WCONNECT | STOP} (optional)
Specifies whether or not the host PSF program re-attempts communication after a printer or communication failure. If you do not specify a value for the **FAILURE** parameter, it defaults to **WCONNECT**.

WCONNECT
Specifies that the host PSF program attempts to communicate again.

STOP Specifies that the operator must restart the host PSF program.

DISCINTV (optional)
Specifies the interval (in seconds) that the host PSF program waits for output to become available to print. If no output becomes available, the host PSF program ends communication with the printer.

Specify `0` to cause the host PSF program to maintain communication indefinitely. If you do not specify a value for **DISCINTV**, it defaults to `0`.

Figure 72 on page 65 shows an example of a single **PRTDEV** statement for a device named PRT618. Note that if an installation has multiple printers defined for receiving PSF Direct jobs, you must define a separate **PRTDEV** statement for each printer.

```
//WTRES600 PROC
//*
//STEP01 EXEC PGM=APSPPIEP,REGION=4096K
//*
//STEPLIB DD DSN=SYSTEM.PSF.V220.LINKLIB,DISP=SHR
//*
//JOBHDR OUTPUT PAGEDEF=A06462,    /* JOB HEADER PAGEDEF     */
//              FORMDEF=A10110     /* JOB HEADER FORMDEF     */
//JOBTLR OUTPUT PAGEDEF=A06462,    /* JOB TRAILER PAGEDEF    */
//              FORMDEF=A10110     /* JOB TRAILER FORMDEF    */
//DSHDR OUTPUT  PAGEDEF=A06462,    /* DATA SET HEADER PAGEDEF*/
//              FORMDEF=A10110     /* DATA SET HEADER FORMDEF*/
//MSGDS OUTPUT  PAGEDEF=A06462,    /* MESSAGE DATASET PAGEDEF*/
//              FORMDEF=A10110     /* MESSAGE DATASET FORMDEF*/
//*
//FONT01 DD DSN=SYS1.FONTLIB,DISP=SHR
//OLAY01 DD DSN=SYS1.OVERLIB,DISP=SHR
//PSEG01 DD DSN=SYS1.PSEGLIB,DISP=SHR
//FDEF01 DD DSN=SYS1.FDEFLIB,DISP=SHR
//PDEF01 DD DSN=SYS1.PDEFLIB,DISP=SHR
//*
//PRT618 PRINTDEV FONTDD=*.FONT01, /* FONT LIBRARY DD       */
//                OVLYDD=*.OLAY01, /* OVERLAY LIBRARY DD    */
//                PSEGDD=*.PSEG01, /* SEGMENT LIBRARY DD    */
//                PDEFDD=*.OLAY01, /* PAGEDEF LIBRARY DD    */
//                FDEFDD=*.OLAY01, /* FORMDEF LIBRARY DD    */
//                JOBHDR=*.JOBHDR, /* JOB HEADER DD         */
//                JOBTLR=*.JOBTLR, /* JOB TRAILER DD        */
//                DSHDR=*.DSHDR,   /* DATA SET HEADER DD    */
//                MESSAGE=*.MSGDS, /* MESSAGE DATA DD       */
//                PAGEDEF=A06462,  /* DEFAULT PAGEDEF       */
//                FORMDEF=A10110,  /* DEFAULT FORMDEF       */
//                CHARS=(GT10,GC15,GB10,GR10,), /* DEFAULT FONT SET*/
//                PIMSG=YES,       /* ACCUMULATE DATA SET MESSAGES */
//                SETUP=FORMS,     /* ISSUE FORMS SETUP MESSAGES   */
//                MGMTMODE=OUTAVAIL,/* START WHEN OUTPUT AVAILABLE */
//                DISCINTV=60,      /* DISCONNECT INTERVAL -- SECS */
//                LOGMODE=IBM3820T, /* LOGON MODE TABLE ENTRY      */
//                APPLID=FSAES618,  /* APPLICATION PGM NAME        */
//                LUNAME=PSFDC4LU   /* LOGICAL UNIT NAME           */
//PRT618 ENDCNTL
```

Figure 72. JES2 External Writer Procedure Example (Local 3172)

Specifying the VTAM Start Option List (ATCSTRxx)

You must specify the values illustrated in Figure 73 and described below.

```
CONFIG=nn,         ATCCON MEMBER OF VTAMLST     X
NETID=network_id,  NETWORK IDENTIFIER           X
SSCPID=nn,         SSCP IDENTIFIER              X
.
.
.
```

Figure 73. VTAM Start Option List (ATCSTRxx) Guidelines (Local 3172)

CONFIG
Specifies the **ATCCON***nn* member to use.

NETID
Specifies the network identifier for the host system. The first part of the

Partner LU name field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 106 on page 92) must match the **NETID** value.

SSCPID

Specifies the system services control point (SSCP) at the host. The SSCPID is a decimal integer from 0 to 65535.

The SSCP, normally VTAM, provides several network management functions. They include managing dependent logical units and accepting Network Management Vector Transports, such as alerts. Alerts often include information about devices that are unavailable or require corrective action.

To configure a PSF Direct host receiver to send alerts to this SSCP, the least significant portion of the **SNA System Services Control Point ID** value defined for the PSF Direct host receiver must be the hexadecimal equivalent of the SSCPID value. (For information about configuring the host receiver, see "Defining the PSF Direct Host Receiver" on page 232.) The **SNA System Services Control Point ID** must be in the form **05***xxxxxxxxxx*, where *x* is a hexadecimal digit.

For example, to configure a PSF Direct host receiver to send alerts to an SSCP with an **SSCPID** value of 283 , the host receiver's **SNA System Services Control Point ID** value must be 05000000011B.

Figure 74 shows an example.

```
CONFIG=00,       ATCCON MEMBER OF VTAMLST     X
NETID=USIBMBQ,   NETWORK IDENTIFIER           X
SSCPID=1,        SSCP IDENTIFIER              X
.
.
.
```

Figure 74. VTAM Start Option List (ATCSTRxx) Example (Local 3172)

Specifying the VTAM Configuration List (ATCCONnn)

The VTAM configuration list indicates the application program major nodes that should become available when VTAM starts. Include the application program major node that contains the application program that PSF uses.

```
appl_prog_major_node,          X
.
.
.
```

Figure 75. VTAM Configuration List (ATCCONnn) Guidelines (Local 3172)

Figure 76 shows an example.

```
PSFAPPLS,                      X
.
.
.
```

Figure 76. VTAM Configuration List (ATCCONnn) Example (Local 3172)

Specifying the VTAM Application Program Major Node and Application Program

The pertinent operands for the VTAM application program major node and application program are illustrated in Figure 77 and described below.

```
appl_prog_major_node, VBUILD TYPE=APPL                X
appl_prog,            APPL AUTH=ACQ,EAS=1,SONSCIP=YES  X
.
.
.
```

Figure 77. VTAM Application Program Major Node and Application Program Guidelines (Local 3172)

The host PSF program does not support application programs that use **APPC=YES** or **PARSESS=YES**. The default value for both **APPC** and **PARSESS** is **NO**.

Figure 78 shows an example.

```
PSFAPPLS,   VBUILD TYPE=APPL                          X
FSAES618,   APPL AUTH=ACQ,EAS=1,SONSCIP=YES           X
.
.
.
```

Figure 78. VTAM Application Program Major Node and Application Program Example (Local 3172)

Specifying the VTAM Mode Table and Entry

The operands for the VTAM mode table are illustrated in Figure 79 and described below.

```
table_name   MODETAB                                              X
entry_name   MODEENT LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07', X
.
.
.
             PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'          X
             PSERVIC=X'060200000000000000000200'                  X
             PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'            X
             RUSIZES=X'8787'
```

Figure 79. VTAM Mode Table and Entry Guidelines (Local 3172)

PSNDPAC
Specifies the primary send pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

SRCVPAC
Specifies the secondary receive pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

RUSIZES
Specifies the maximum request unit (RU) sizes from the primary and secondary logical units. The RU sizes influence performance and can be adjusted as desired. A value of X'8787' means 1024 bytes for both RU sizes and produces good throughput in most configurations.

The **RUSIZES** specification influences other configuration parameters. These include:

- The **Maximum RU size** field on the **Advanced** tab of the Define a Mode notebook (Figure 113 on page 99)
- The **MAXSTL** operand in the IBM Network Control Program (NCP) **LINE** statement

Figure 80 shows an example.

```
MODEIBM     MODETAB                                              X
IBM3820T    MODEENT  LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07',  X
.
.
.
                     PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'  X
                     PSERVIC=X'060200000000000000000200'          X
                     PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'    X
                     RUSIZES=X'8787'
```

Figure 80. VTAM Mode Table and Entry Example (Local 3172)

Specifying the VTAM Switched Major Node

A different set of statements and values is required depending on whether:

- A *calling* Communications Server for NT link station initiates a link connection with a 37*xx* communication controller.
- A *listening* Communications Server for NT link station waits for the 37*xx* communication controller to initiate a link connection.

A calling Communications Server link station requires the statements and values shown in Figure 81.

```
.
.
.
node_name VBUILD TYPE=SWNET
*
pu_name   PU     ADDR=nn,            ADDRESS REQUIRED, BUT IGNORED  X
                 CPNAME=cp_name,     CONTROL POINT NAME             X
                 IDBLK=nnn,          BLOCK ID                       X
                 IDNUM=nnnnn,        PHYSICAL UNIT ID               X
.
.
.
                 MAXOUT=7,           LINK LEVEL WINDOW              X
                 MODETAB=mode_table, LOGON MODE TABLE               X
                 DLOGMOD=mode_entry, LOGON MODE TABLE ENTRY         X
                 VPACING=0,          NO PACING TO BOUNDARY NODE
*
lu_name          LU   LOCADDR=nn,    INDEPENDENT LU
```

Figure 81. VTAM Switched Major Node Guidelines: Calling Link Station (Local 3172)

A listening Communications Server link station requires the statements and values shown in Figure 82 on page 69.

```
.
.
.
node_name VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1
*
pu_name   PU     ADDR=nn,            ADDRESS REQUIRED, BUT IGNORED  X
                 CPNAME=cp_name,     CONTROL POINT NAME             X
                 IDBLK=nnn,          BLOCK ID                       X
                 IDNUM=nnnnn,        PHYSICAL UNIT ID               X
.
.
.
                 MAXOUT=7,           LINK LEVEL WINDOW              X
                 MODETAB=mode_table, LOGON MODE TABLE               X
                 DLOGMOD=mode_entry, LOGON MODE TABLE ENTRY         X
                 VPACING=0,          NO PACING TO BOUNDARY NODE
*
path_name PATH   DIALNO=xx044000nnnnnnnn,
                 GRPNM=ncp_group,
*
lu_name          LU   LOCADDR=nn,    INDEPENDENT LU
```

Figure 82. VTAM Switched Major Node Guidelines: Listening Link Station (Local 3172)

The following describes the pertinent operands on the **VBUILD** statement:

TYPE Specify **SWNET** to indicate that the node is a switched major node.

MAXGRP
Specifies the number of unique path groups (**GROUP** names) that are defined in the **GRPNM** operand of all **PATH** statements within the switched major node. There is one unique path group in the switched major node guideline presented in Figure 82.

MAXNO
Specifies the number of unique token-ring addresses that are defined in the **DIALNO** operand of all **PATH** statements within the switched major node. There is one unique token-ring address in the switched major node guideline presented in Figure 82.

The following describes the pertinent operands on the **PU** statement.

Note: The **DLOGMOD**, **MODETAB**, and **VPACING** operands are **LU** operands, but are included here on the **PU** statement. VTAM definitions support a "sift-down effect" that allows you to code an operand on a higher-level statement so you do not need to code it on each lower-level statement for which the same value is desired. There is only one logical unit in the guideline presented here, so the sift-down effect is for demonstration only. If the **DLOGMOD**, **MODETAB**, and **VPACING** operands are specified on the **PU** statement, they do not have to be specified on any of the **LU** statements.

ADDR
Specifies the address of the physical unit. Note that this operand is required, but ignored.

CPNAME (optional)
Identifies the control point (CP). The value specified for **CPNAME** must match the second part of the **Fully qualified CP name** field on the **Basic** tab of the Define the Node notebook (Figure 89 on page 76). By convention, the **CPNAME** value usually matches the **PU** name.

Either the **CPNAME** operand or both the **IDBLK** and the **IDNUM** operands are required. **CPNAME** can only be used with PU type 2.1 nodes, such as Communications Server for NT.

IDBLK (optional)
Specifies a 3–digit hexadecimal string that identifies the product type in a SNA network. The combined values of the **IDBLK** and **IDNUM** operands must match the **Local Node ID** value on the **Basic** tab of the Define the Node notebook (Figure 89 on page 76).

Either the **CPNAME** operand or both the **IDBLK** and the **IDNUM** operands are required.

IDNUM (optional)
Specifies a 5–digit hexadecimal string that identifies a physical unit. The combined values of the **IDBLK** and **IDNUM** operands must match the **Local Node ID** value on the **Basic** tab of the Define the Node notebook (Figure 89 on page 76).

Either the **CPNAME** operand or both the **IDBLK** and the **IDNUM** operands are required.

MAXDATA (optional)
Specifies the maximum amount of data (in bytes) that the physical unit can receive in one path information unit (PIU). This amount includes the transmission header (TH) and the request/response header (RH).

Note that **MAXDATA** is ignored for type 2.1 nodes, such as Communications Server for NT, that are attached through an NCP with peripheral node type 2.1 support. The type 2.1 node indicates the maximum path information unit (PIU) size when the connection is established. The value that SNA Server/6000 supplies can be configured using the **Maximum PIU size** field on the **Advanced** tab of the Define a LAN Device notebook (Figure 95 on page 81).

MAXOUT
Specifies the maximum number of PIUs that are sent to the physical unit before waiting for a response from that physical unit. For optimum performance, the **MAXOUT** value must be equal to, or greater than, the **Receive window count** field in the **Advanced** tab of the Define a LAN Device notebook (Figure 95 on page 81). The **Receive window count** field specifies how many frames are received by the link station before Communications Server for NT sends an acknowledgement.

MAXPATH (optional)
Specifies the number of dial-out paths to the physical unit. Figure 82 on page 69 shows one dial-out path.

MODETAB
Specifies the name of the logon mode table that contains entries that describe session characteristics.

DLOGMOD
Specifies the name of the logon mode table entry that describes session characteristics.

VPACING
Determines how VTAM paces the flow of the data from VTAM to the boundary node to which the logical unit is connected. In this configuration, the boundary node is the communication controller. A value of zero means

that no pacing is performed for sessions with the logical unit, or that the largest possible pacing is used if the session is adaptively paced.

The following describes the pertinent operands on the **PATH** statement:

DIALNO=*xx***044000***nnnnnnnn* **(optional)**
This parameter value has three parts:

xx Specifies the token-ring interface coupler (TIC) number in the communication controller.

04 Specifies the service access point (SAP). This value must always be `04`.

4000*nnnnnnnn*
Specifies the token-ring address of the token-ring adapter in the NT workstation. Although token-ring addresses include twelve hexadecimal digits, the VTAM **DIALNO** operand only accepts digits in the range 0-9. Therefore, an alternate token-ring address that contains only digits in the range 0-9 must be assigned to the token-ring adapter in the NT workstation.

GRPNM
Refers to a logical **GROUP** statement in the NCP definitions.

The following describes the pertinent operands on the **LU** statement:

LOCADDR
LOCADDR=0 specifies that this logical unit is an independent logical unit. An SSCP-LU session does not have to be established prior to an LU-LU session with an independent logical unit. For independent logical units, do *not* select **Dependent LU** on the **Basic** tab of the Define a Local LU 6.2 notebook (Figure 109 on page 95).

SSCPFM (optional)
The **SSCPFM** operand indicates the type of request units (RUs) that the logical unit supports over its SSCP-LU session. The guidelines illustrated for both the calling link station and the listening link station use an independent logical unit. Therefore, the **SSCPFM** operand is not specified. If you require a dependent logical unit, specify **SSCPFM=USSSCS**.

Figure 83 on page 72 and Figure 84 on page 72 show examples for a calling link station.

```
.
.
.
PSFDC4SW  VBUILD TYPE=SWNET
*
DEVTESTB  PU     ADDR=04,             ADDRESS REQUIRED, BUT IGNORED  X
                 CPNAME=DEVTESTB,     CONTROL POINT NAME             X
.
.
.
                 MAXDATA=1033,        MAXIMUM PIU SIZE               X
                 MODETAB=MODEIBM,     LOGON MODE TABLE               X
                 DLOGMOD=IBM3820T,    LOGON MODE TABLE ENTRY         X
                 VPACING=0,           NO PACING TO BOUNDARY MODE
*
          PATH   DIALNO=400059550067, TOKEN-RING ADAPTER ADDRESS     X
                 GRPNM=PSFDC461       NO PACING TO BOUNDARY NODE
*
PSFDC4LU  LU     LOCADDR=0,           INDEPENDENT LU
```

Figure 83. VTAM Switched Major Node Example with CPNAME (Local 3172)

```
.
.
.
PSFDC4SW  VBUILD TYPE=SWNET
*
DEVTESTB  PU     ADDR=04,             ADDRESS REQUIRED, BUT IGNORED  X
                 IDBLK=05D,           BLOCK ID                       X
                 IDNUM=00000,         PHYSICAL UNIT ID               X
.
.
.
                 MAXDATA=1033,        MAXIMUM PIU SIZE               X
                 MODETAB=MODEIBM,     LOGON MODE TABLE               X
                 DLOGMOD=IBM3820T,    LOGON MODE TABLE ENTRY         X
                 VPACING=0,           NO PACING TO BOUNDARY MODE
*
          PATH   DIALNO=400059550067, TOKEN-RING ADAPTER ADDRESS     X
                 GRPNM=PSFDC461       NO PACING TO BOUNDARY NODE
*
PSFDC4LU  LU     LOCADDR=0,           INDEPENDENT LU
```

Figure 84. VTAM Switched Major Node Example with IDBLK and IDNUM (Local 3172)

Specifying the VTAM External Communication Adapter (XCA) Major Node

The keywords and values for the 3172 establishment controller definitions are illustrated in Figure 85 and described below.

```
node_name     VBUILD  TYPE=XCA
port_name     PORT    ADAPNO=n,     X
                      CUADDR=nnn,   X
                      MEDIUM=RING
group_name    GROUP   DIAL=YES
line_name     LINE    CALL=INOUT
pu_name       PU
```

Figure 85. VTAM XCA Major Node Guidelines (Local 3172)

The following describes the pertinent operands on the **VBUILD** statement:

TYPE Specify **XCA** to indicate that the node is an External Communication Adapter major node.

The following describes the pertinent operands on the **PORT** statement:

ADAPNO
Specifies the adapter number in the 3172 interconnect controller.

CUADDR
Defines the 3-digit hexadecimal channel control unit address that is used for the attached local area network (LAN).

MEDIUM
Specify **RING** for a token-ring network.

The following describes the pertinent operands on the **GROUP** statement:

DIAL Specify **YES** to indicate that the lines in the group require switched line control protocols.

The following describes the pertinent operands on the **LINE** statement:

CALL Specifies whether the link station in the 3172 interconnect controller should call out to the remote link station, or whether the remote link station should call into the 3172 interconnect controller link station. Specify **CALL=INOUT**, which enables either calling or listening link stations to be configured in SecureWay Communication Server for Windows NT.

Figure 86 shows an example.

```
PSFDC4XA    VBUILD   TYPE=XCA
*
PSFDC4P1    PORT     ADAPNO=3,    X
                     CUADDR=5FF,  X
                     TIMER=60,    X
                     MEDIUM=RING
*
PSFDC4G1    GROUP    DIAL=YES
*
PSFDC4LI    LINE     CALL=INOUT
*
PSFDC4P1    PU
```

Figure 86. VTAM XCA Major Node Example (Local 3172)

Specifying Communications Server for NT Configuration Profiles

This section contains instructions and guidelines for configuring the Communications Server for NT profiles. It includes the following tasks:

- "Mode Configuration for Local 3172" on page 97
- "Transaction Program Configuration for Local 3172" on page 100

Accessing the Communications Server for NT Profiles

Use the following procedure to access the IBM SecureWay Communications Server for NT applications that are described in "What is IBM SecureWay Communications Server for Windows NT?" on page 2.

Note that this procedure assumes that you have dragged the icons for **SNA Node Configuration** and **SNA Node Operations** to your desktop after they were created at installation.

1. From your NT desktop view, double-click the **SNA Node Configuration** icon that resides on your desktop:

2. At the Welcome to Communications Server Configuration! pop-up window, select the **New** button for a new configuration) and click the **Next>** button.

   Communications Server creates an *xxx*.acg file (where *xxx* represents the file name you select in this window. This *xxx*.acg file resides in the *C*:\IBMCS\private directory, where *C* is the drive where you installed IBM SecureWay Communications Server for NT. For users migrating from PSF Direct on an OS/2 operating system, this *xxx*.acg file is the equivalent of the OS/2 Communications Manager Communications Server *xxx*.ndf file.

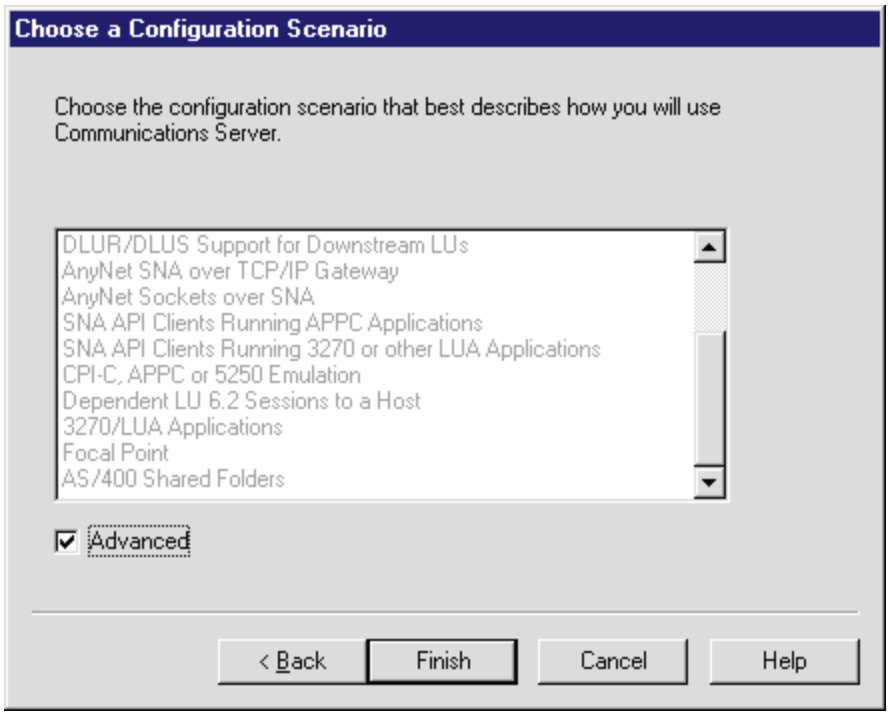

Figure 87. Choose a Configuration Scenario Window (Local 3172)

3. In the Choose a Configuration Scenario window (Figure 87 on page 74), check the **Advanced** box, which causes the display to turn gray. Click the **Finish** button.
4. From the Communications Server SNA Node Configuration window (Figure 88), you are ready to begin configuring your system for PSF Direct.

Local 3172 Node Setup

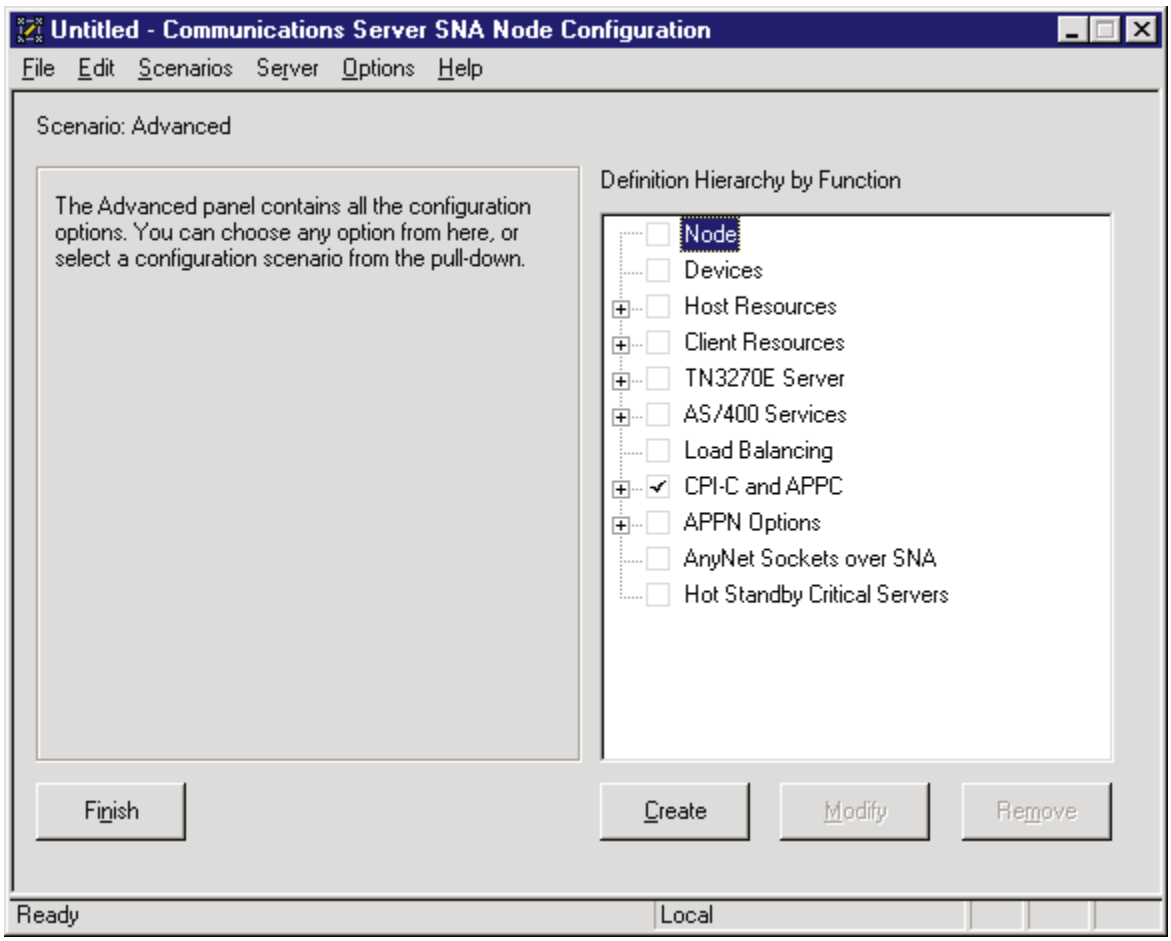

Figure 88. Communications Server SNA Node Configuration Window: Node (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 88), right-click the **Node** box and select the **Create** option. The Define the Node notebook opens at the **Basic** tab.

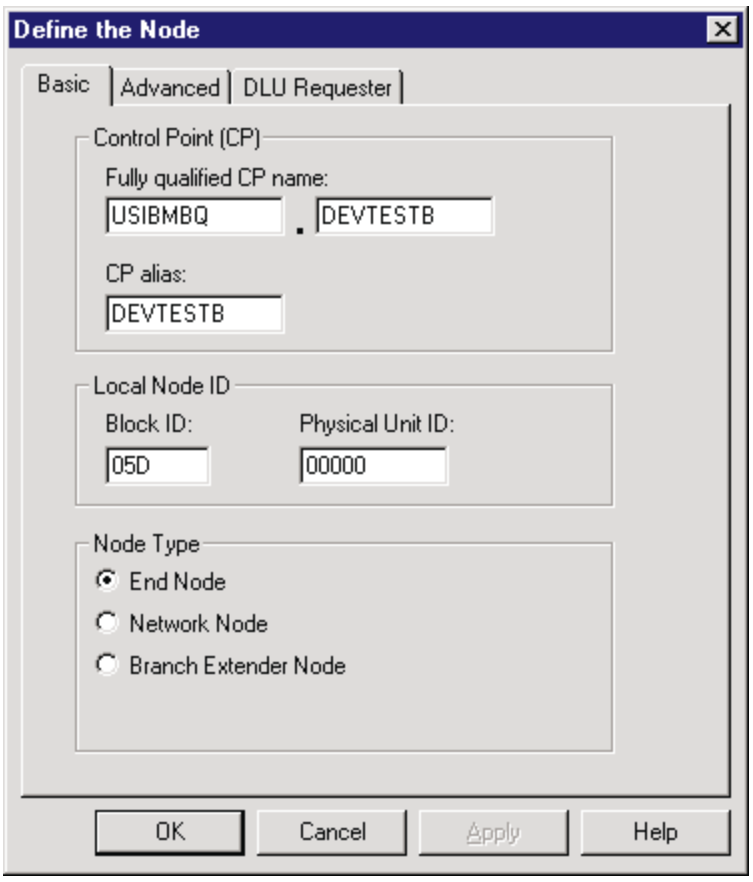

Figure 89. Define the Node Notebook: Basic Tab (Local 3172)

On the **Basic** tab (Figure 89), specify values for the following parameters:

Fully qualified Control Point (CP) name
Specifies the name of the component that manages the resources of that node. If the **CPNAME** operand is used in the VTAM switched major node **PU** statement (see "Specifying the VTAM Switched Major Node" on page 68), then the second part of this value must match the value of the **CPNAME** operand. By convention, the **CPNAME** is usually the same as the **PU** name.

CP alias
Specifies an alternative name for the CP. Local applications can use this name, instead of the **Fully qualified Control Point (CP) name**, to refer to the local CP.

Local Node ID
Specifies both the **Block ID** and the **Physical Unit ID**. The **Block ID** is a 3-digit hexadecimal string that identifies the product type in an SNA network. The **Physical Unit ID** is a 5-digit hexadecimal string that identifies a physical unit (PU).

If the **IDBLK** and **IDNUM** operands are used in the VTAM switched major node **PU** statement (see "Specifying the VTAM Switched Major Node" on page 68), then the **Local Node ID** value must match the combined values of the**IDBLK** and **IDNUM** operands. The **IDBLK** operand is normally `071` for Communications Server for NT.

If you are migrating from an AIX operating system, **Local Node ID** matches the **XID Node ID** parameter.

Node Type
Specifies the type of node. Take the default value, **End node**.

If you are migrating from an AIX operating system, **Node Type** matches the **Control Point Type** parameter.

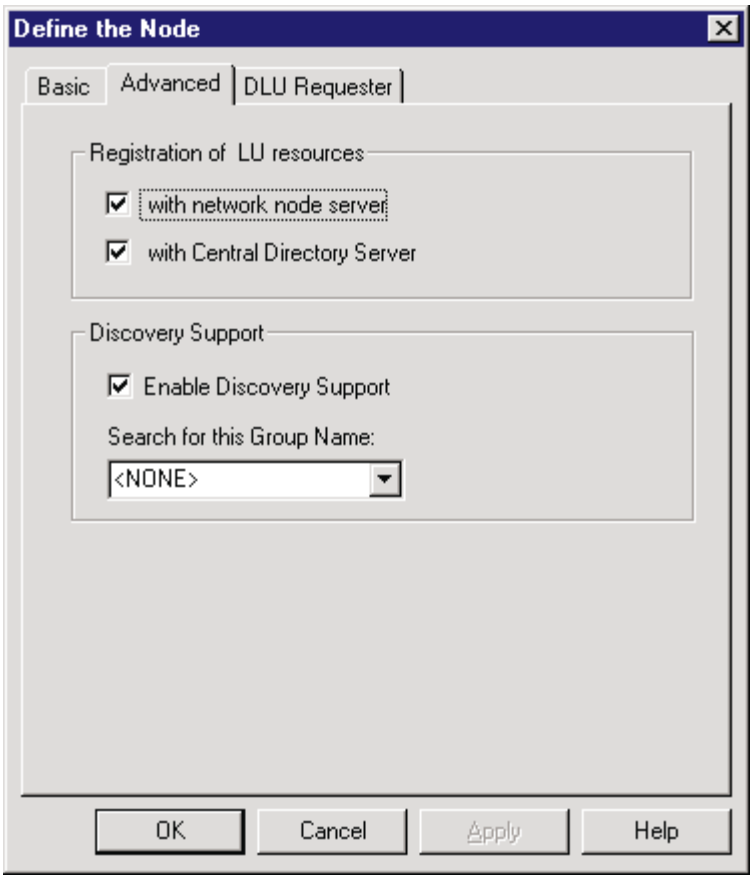

Figure 90. Define the Node Notebook: Advanced Tab (Local 3172)

On the **Advanced** tab (Figure 90), specify values for the following parameters:

Registration of LU resources
Specifies that directory information about the local logical units (LUs) 6.2 is sent to the server. As the example shows, check both the **Network node server** and the **Central Directory Server**.

Discovery Support
Specifies a LAN address resolution protocol that can be used to find another node that matches given search values. Adjust the search parameter to search for APPN network nodes, nodes that provide SNA boundary function, or AS/400s. Select the check box to enable discovery support.

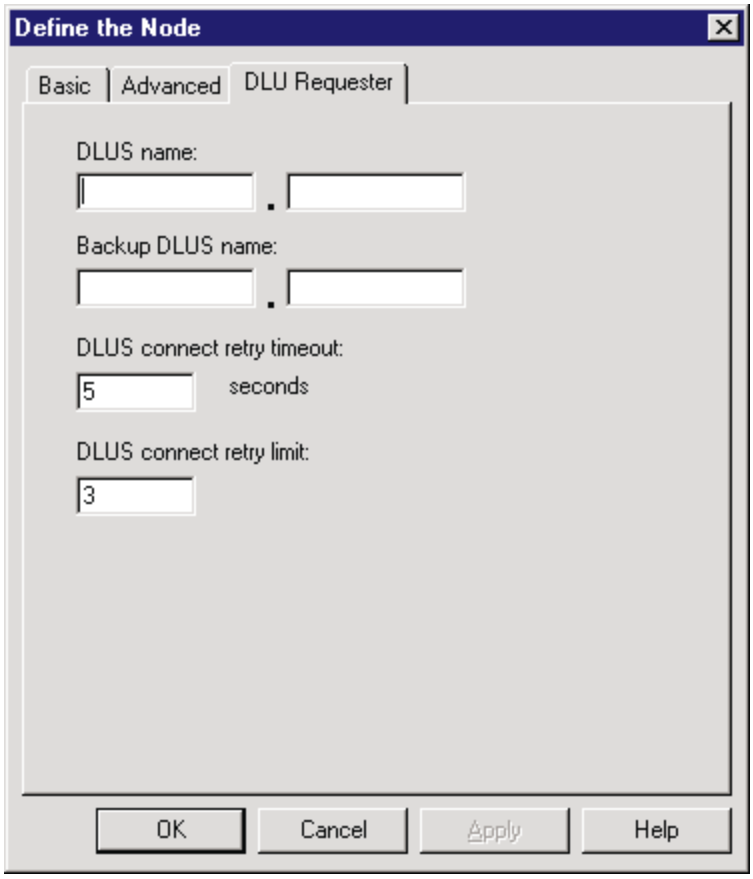

Figure 91. Define the Node Notebook: DLU Requester Tab (Local 3172)

On the **DLU Requester** tab (Figure 91), accept the default values for the following parameters:

DLUS connect retry timeout
Specifies the time between attempts to reconnect a dependent logical unit server (DLUS). This parameter is based on the **DLUS connect retry limit** parameter. Take the default of 5.

DLUS connect retry limit
Specifies the maximum number of attempts to reconnect a DLUS without receiving an acknowledgment in the time set by the **DLUS connect retry timeout** parameter. Take the default of 3.

Click **OK** to save these configuration settings.

Local 3172 Device Configuration

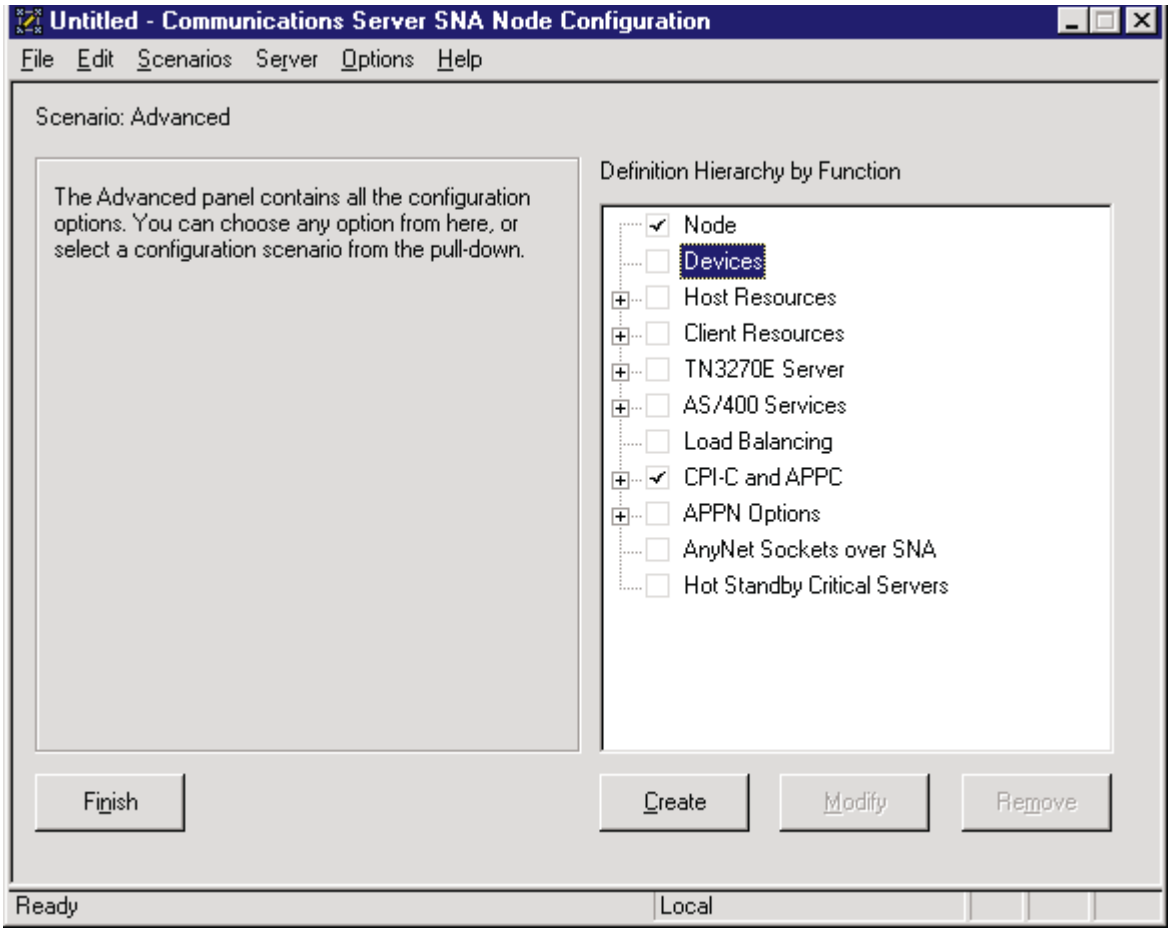

Figure 92. Communications Server SNA Node Configuration Window: Devices (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 92), right-click the **Devices** box and select the **Create** option. The Device Type pop-up window (Figure 93) opens.

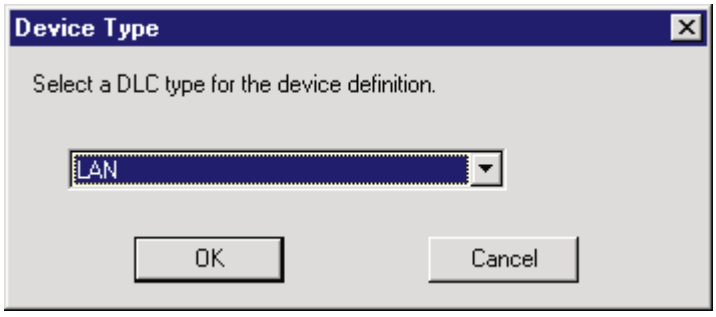

Figure 93. Device Type Window (Local 3172)

Select **LAN** as your data link control (DLC) type. A DLC is a set of rules that nodes on a data link (such as an SDLC link or a token ring) use to accomplish an orderly exchange of information.

Click **OK** to save this configuration setting.

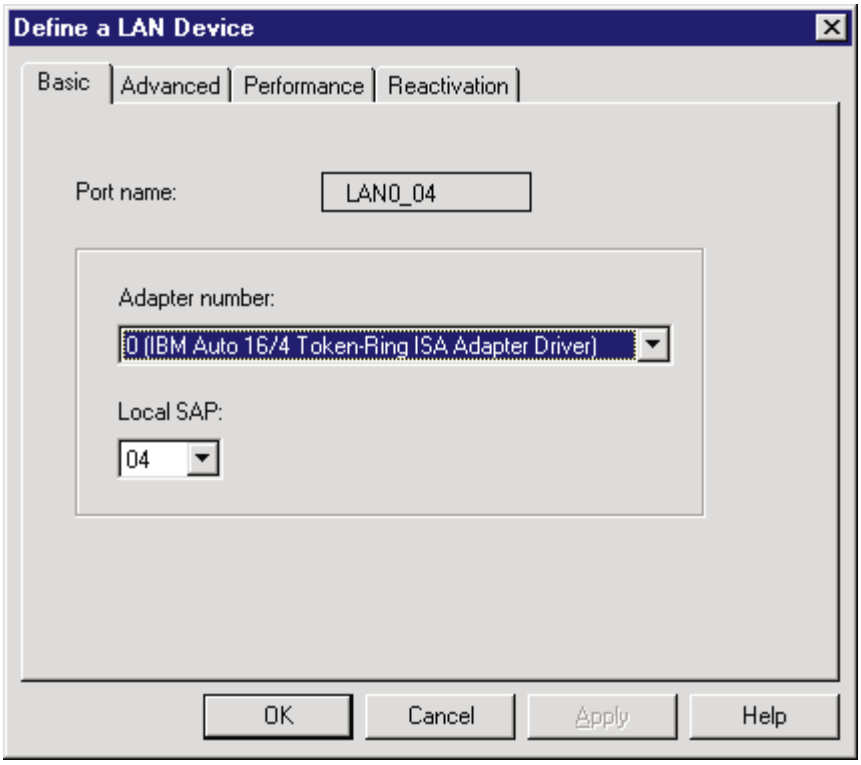

Figure 94. Define a LAN Device Notebook: Basic Tab (Local 3172)

On the **Basic** tab of the Define a LAN Device notebook (Figure 94), supply the following values:

Port name
Specifies the port name of the physical connection to the link hardware. This value consists of the word **LAN**, the adapter number, and the local SAP number, with an underscore between the adapter number and the local SAP number. Accept the value that is displayed.

Adapter number
Specifies a value from 0 to 7 that uniquely identifies this adapter. You may have both token-ring and ethernet adapters defined at your installation. Ensure that you select the proper token-ring LAN adapter.

Local SAP
Specifies the local service access point (SAP) number of the local port as a hexadecimal value from 04 through FC. Note that this number must be a multiple of four. Take the default of `04`.

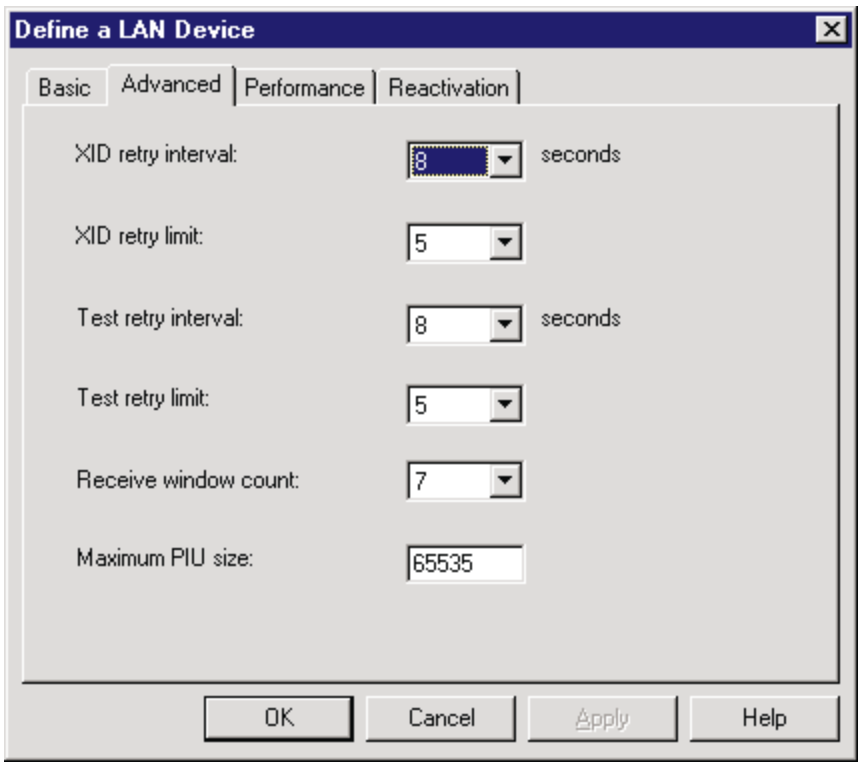

Figure 95. Define a LAN Device Notebook: Advanced Tab (Local 3172)

On the **Advanced** tab (Figure 95), supply the following values:

XID retry interval
Specifies the time the link station waits for a reply to a previous **XID** command before resending that command. Specify 8. If the link station is a calling link station, this value causes it to try to establish a link connection with the local 3172 communication controller every 8 seconds, until a link connection can be established.

If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **Response Timeout** parameter from the **Token-Ring SNA DLC** profile.

XID retry limit
Specifies the maximum number of times an **XID** command will be retransmitted before Communications Server for NT presumes that the link is broken and stops retrying. Specify 5. The previous parameter defines the interval between the attempts.

If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **XID Retransmit count** parameter from the **Token-Ring SNA DLC** profile.

Test retry interval
Specifies the time between attempts to find the adjacent link station on the LAN. This parameter is needed to establish communication with the network and does not necessarily relate to VTAM or the PSF host system. The number of times an **XID** is sent is based on the configured **XID retry limit**.

Test retry limit
Specifies the number of times Communications Server attempts to find the adjacent link station on the LAN. Specify a value from 3 to 30.

Receive window count
Specifies a value that should be equal to the **MAXOUT** value in the VTAM switched major node **PU** statement. The **Receive window count** defines the size of the link-level window. It specifies the maximum number of frames to receive before sending a link-level acknowledgement. The VTAM **PU MAXOUT** value indicates the number of frames the local 3172 communication controller sends before waiting for a link-level acknowledgement. If the **MAXOUT** operand is less than the **Receive window count** field, extremely poor throughput can result. The default **MAXOUT** value is 1. The default **Receive window count** value is 8. You must adjust these defaults to produce acceptable throughput.

Maximum PIU size
Specifies a value between 99 and 65535 bytes that represents the maximum number of bytes in the data buffer that SNA sessions use for this link. If the **Maximum PIU size** exceeds the frame size supported by your local device driver, the value will be reduced to match the frame size.

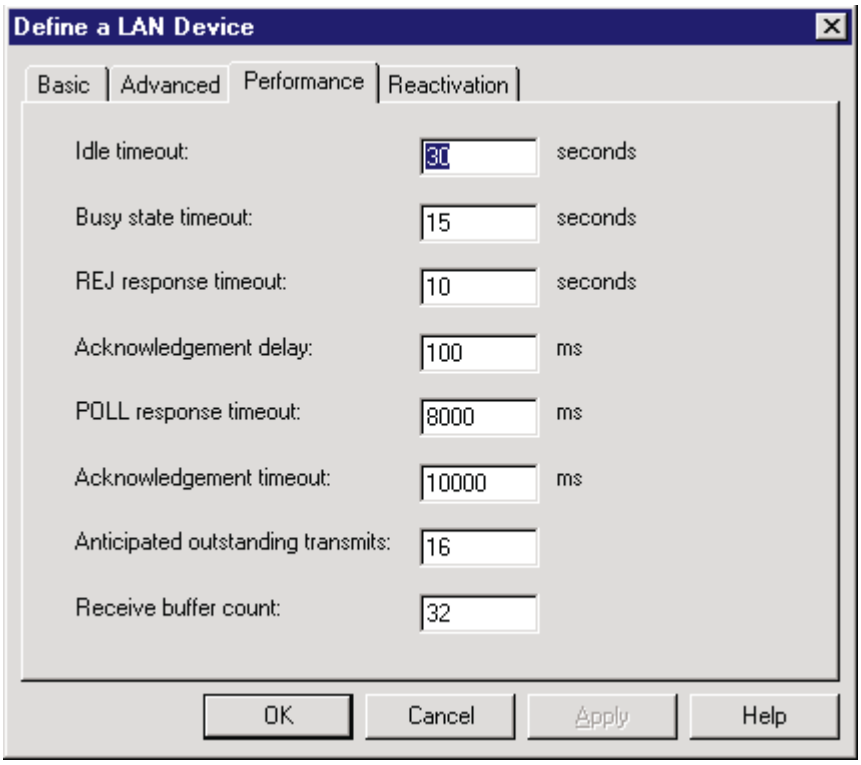

Figure 96. Define a LAN Device Notebook: Performance Tab (Local 3172)

On the **Performance** tab (Figure 96), accept the default values.

If you are migrating from an AIX operating system to a Windows NT operating system, see Table 4 on page 83 for a map of the parameters on the **Performance** tab to the corresponding AIX values.

Table 4. Windows NT and AIX Parameters for LAN Device Performance (Local 3172)

Windows NT Parameter	AIX Parameter
Idle timeout	Inactivity time-out
Busy state timeout	n/a
Acknowledgement delay	n/a
Acknowledgement timeout	Acknowledgement timeout
POLL response timeout	n/a
Anticipated outstanding transmits	Transmit window count
Receive buffer count	n/a

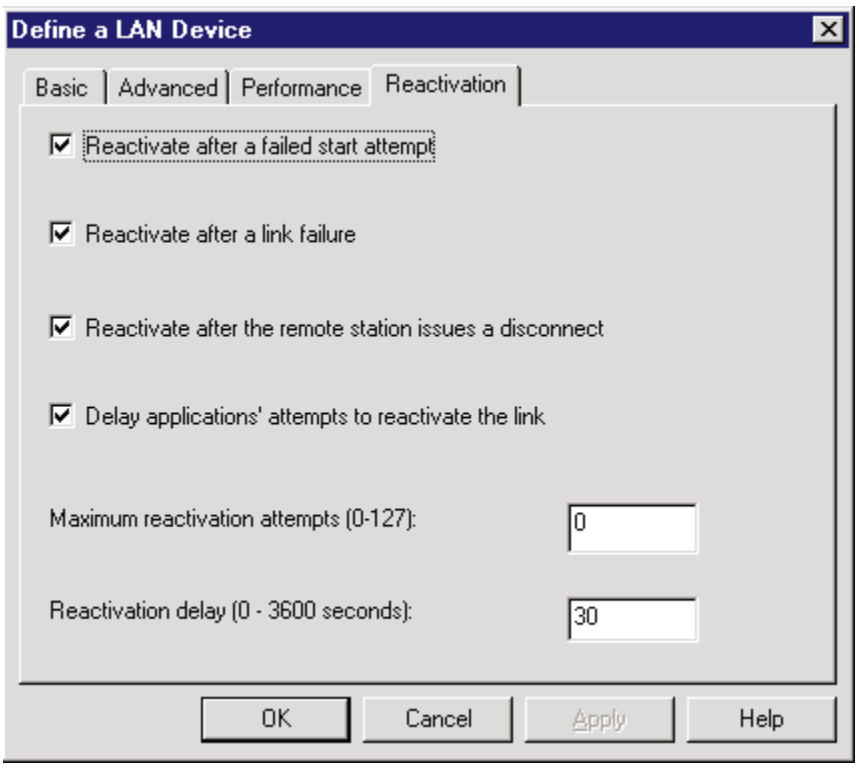

Figure 97. Define a LAN Device Notebook: Reactivation Tab (Local 3172)

On the **Reactivation** tab (Figure 97), accept the default values.

Click **OK** to save these configuration settings.

Enabling SNA API Clients for Local 3172

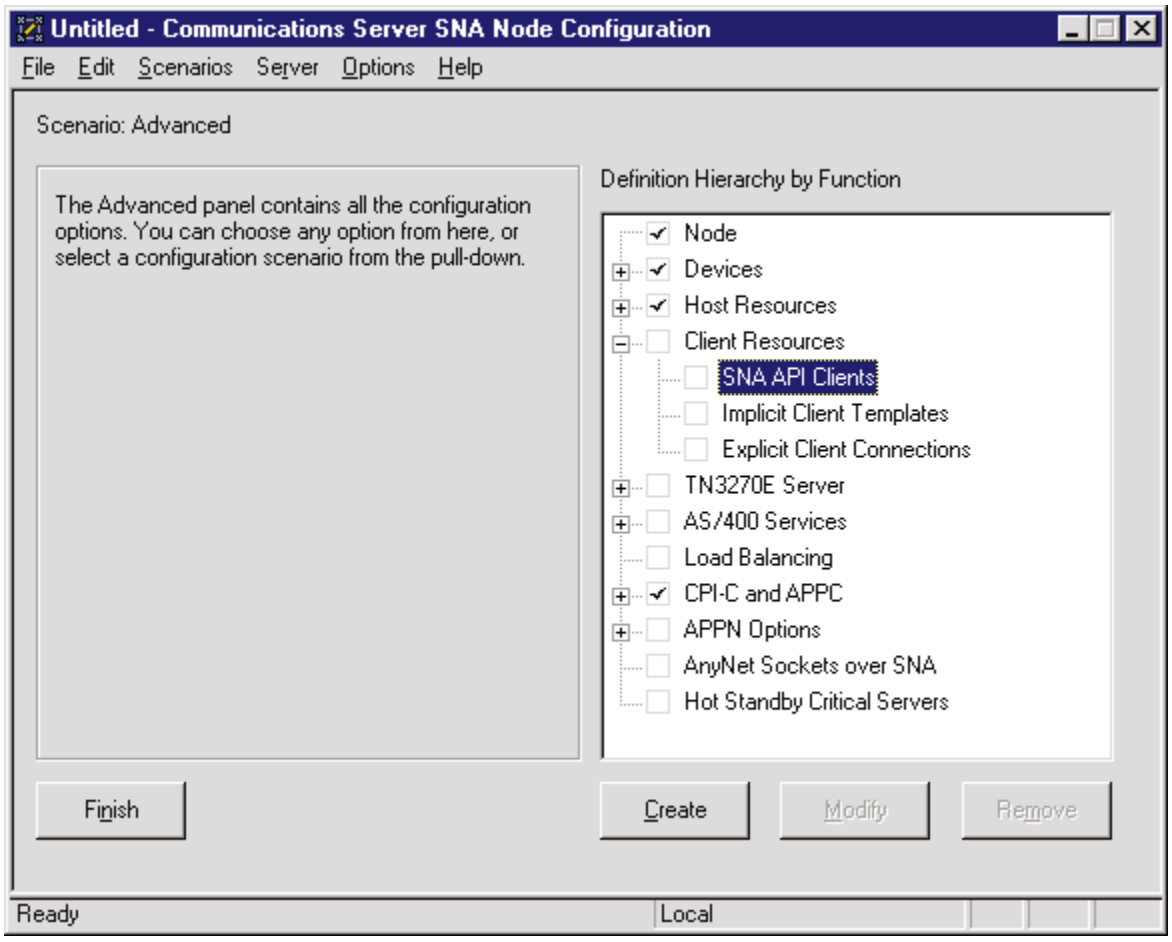

Figure 98. Communications Server SNA Node Configuration Window: SNA API Clients (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 98), right-click the **Client Resources** box, then the **SNA API Clients** box. The SNA Clients window opens.

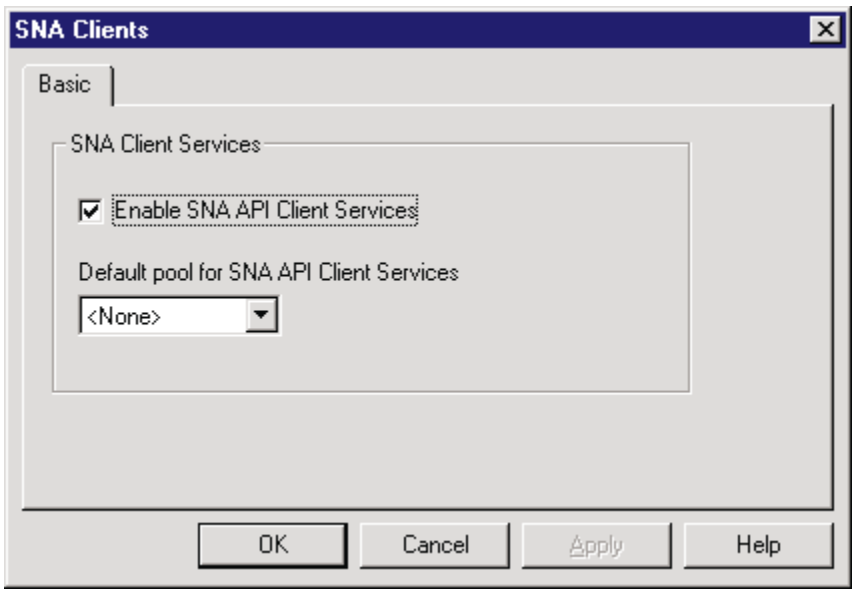

Figure 99. SNA Clients Window (Local 3172)

In the SNA Clients window (Figure 99), check the **Enable SNA API Client Services** box.

Click **OK** to save these specifications to the *xxx*.acg file.

Local 3172 Peer Connections Configuration

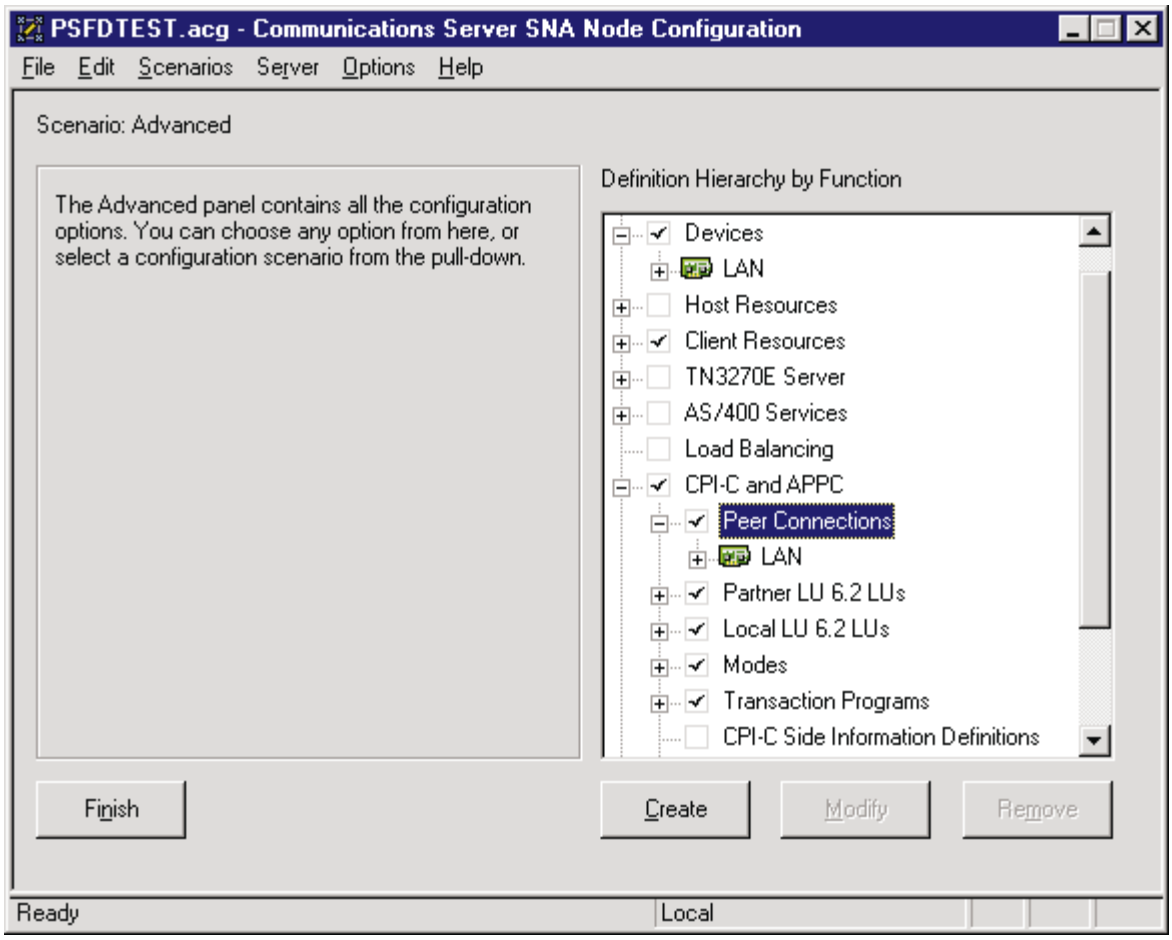

Figure 100. Communications Server SNA Node Configuration Window: Peer Connections (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 100), right-click the **CPI-C and APPC** box, then the **Peer Connections** box. Select the **Create** option. The Define a LAN Connection notebook opens at the **Basic** tab.

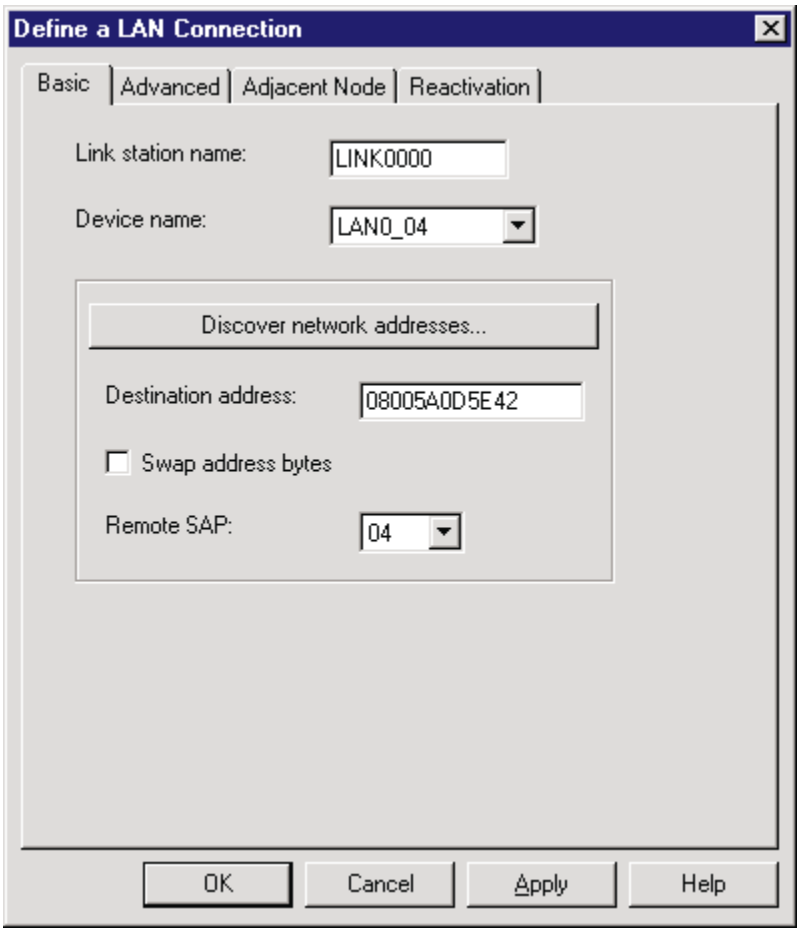

Figure 101. Define a LAN Connection Notebook: Basic Tab (Local 3172)

On the **Basic** tab (Figure 101), supply the following values:

Link station name
Specifies a 1- to 8-byte character string that is used to identify a connection. The contents of this field will vary, depending on the number of links at your installation.

Device name
Specifies the name of the port associated with this link station. This value must match the **Port name** value specified on the **Basic** tab of the Define a LAN Device notebook (Figure 94 on page 80).

Destination address
Specifies a 12-character hexadecimal string that specifies the address to activate a connection to the destination. This value must be specified so the NT system can search for and call the PSF host program.

Swap address bytes
Check this field to bit-swap the address in the **Destination address** field. You may need to select this check box if the next link in the network is an Ethernet link. If not, you can use the default (unchecked).

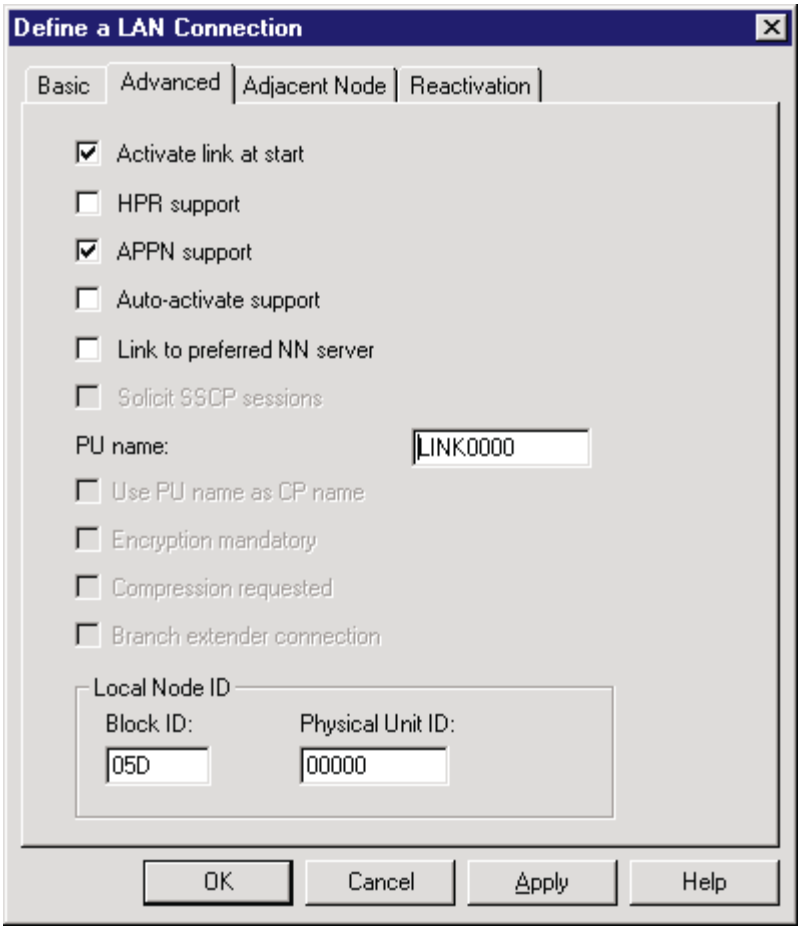

Figure 102. Define a LAN Connection Notebook: Advanced Tab (Local 3172)

On the **Advanced** tab (Figure 102), supply the following values:

Activate link at start
Specifies that you will use the link reactivation values specified in the port (device) link reactivation definition. Ensure that you select this check box.

APPN support
Specifies whether this connection supports CP-CP sessions. Select the check box to specify APPN support.

PU name
Specifies the physical unit (PU) name. This is the name of the component that manages and monitors the resources (such as attached links and adjacent link station) associated with a node. The default PU name is automatically created. You can change this definition.

Block ID
Identifies the product type in an SNA network.

Physical Unit ID
Identifies the physical unit (PU) or component that manages and monitors the resources (such as attached links and adjacent link stations that are associated with a node.

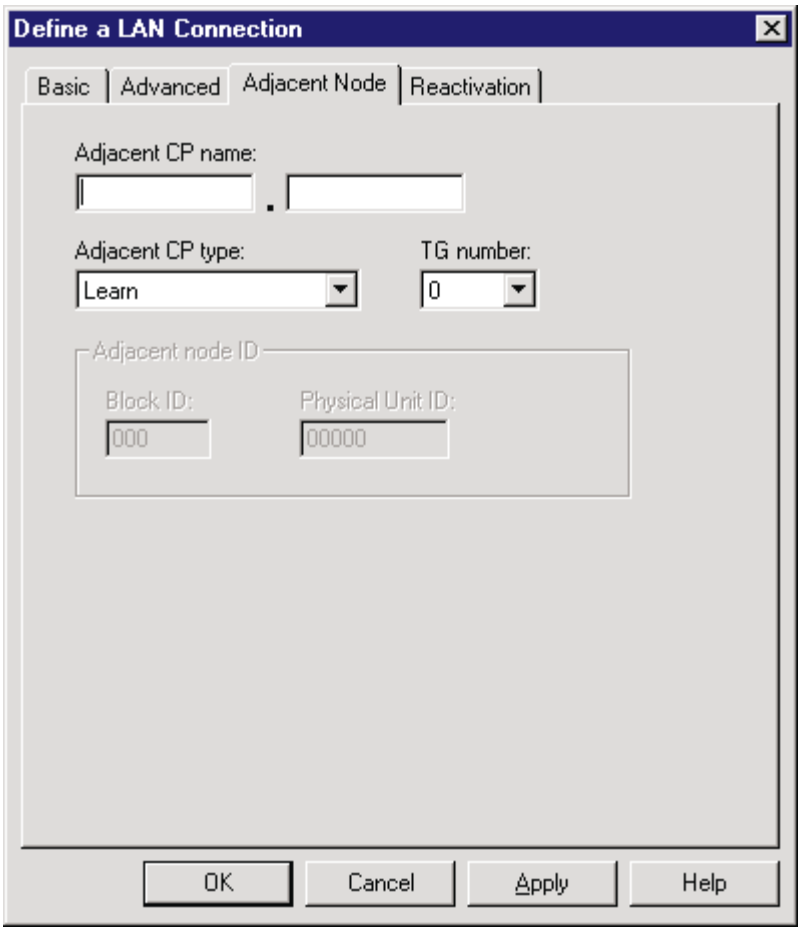

Figure 103. Define a LAN Connection Notebook: Adjacent Node Tab (Local 3172)

On the **Adjacent Node** tab (Figure 103), accept the default values.

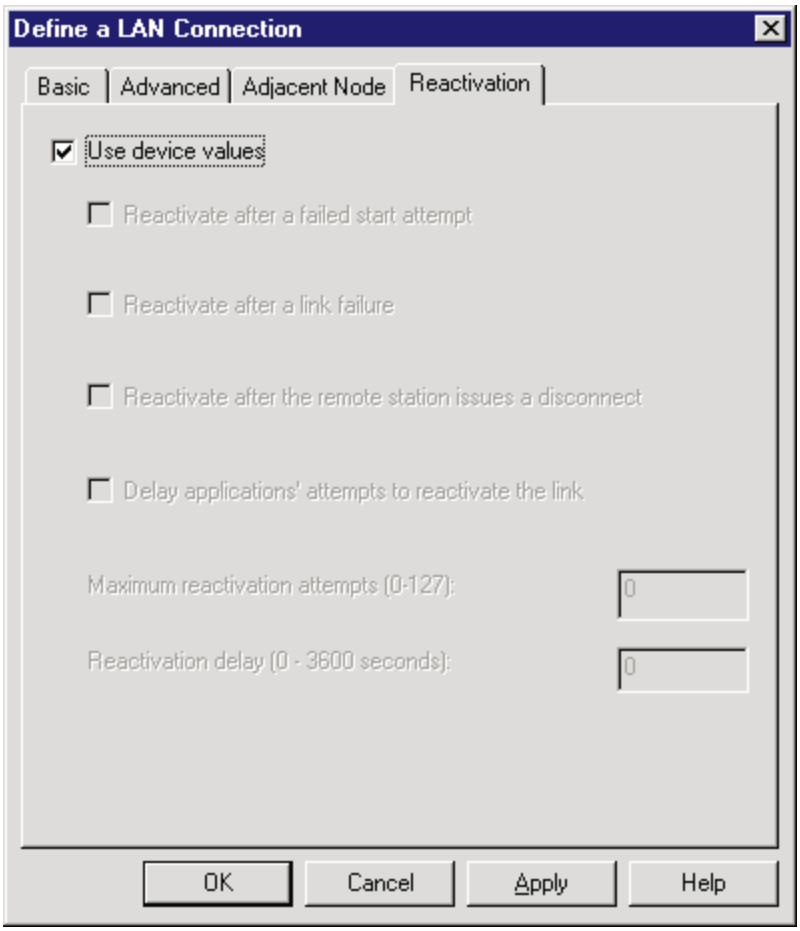

Figure 104. Define a LAN Connection Notebook: Reactivation Tab (Local 3172)

On the **Reactivation** tab (Figure 104), accept the default values.

Note that after you select **OK**, a pop-up window appears asking:

```
Do you want to automatically route all APPC sessions over this connection?
```

You must reply `yes` before the configuration is accepted.

Partner LU 6.2 Configuration for Local 3172

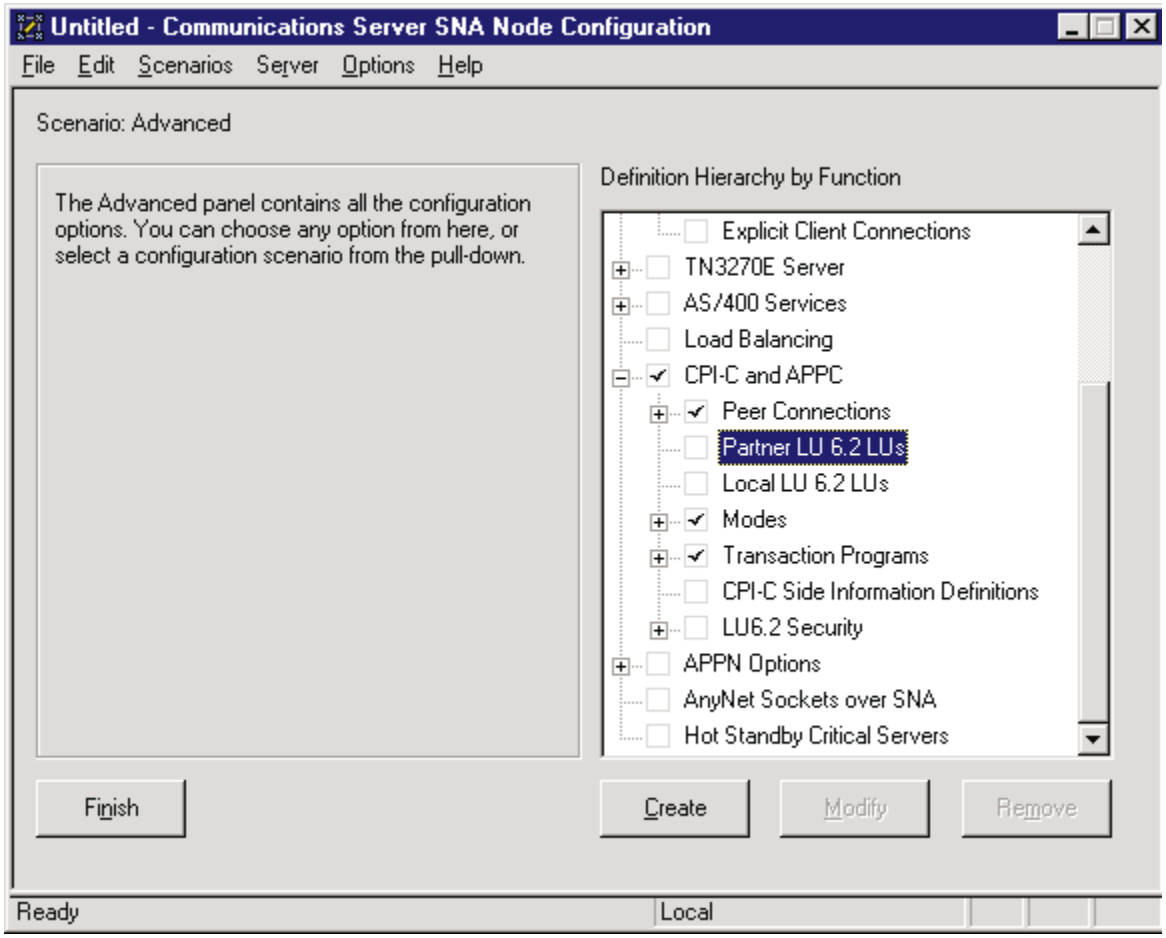

Figure 105. Communications Server SNA Node Configuration Window: Partner LU 6.2 LUs (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 105), right-click the **CPI-C and APPC** box, then the **Partner LU 6.2 LUs** box. Select the **Create** option. The Define a Partner LU 6.2 notebook opens at the **Basic** tab.

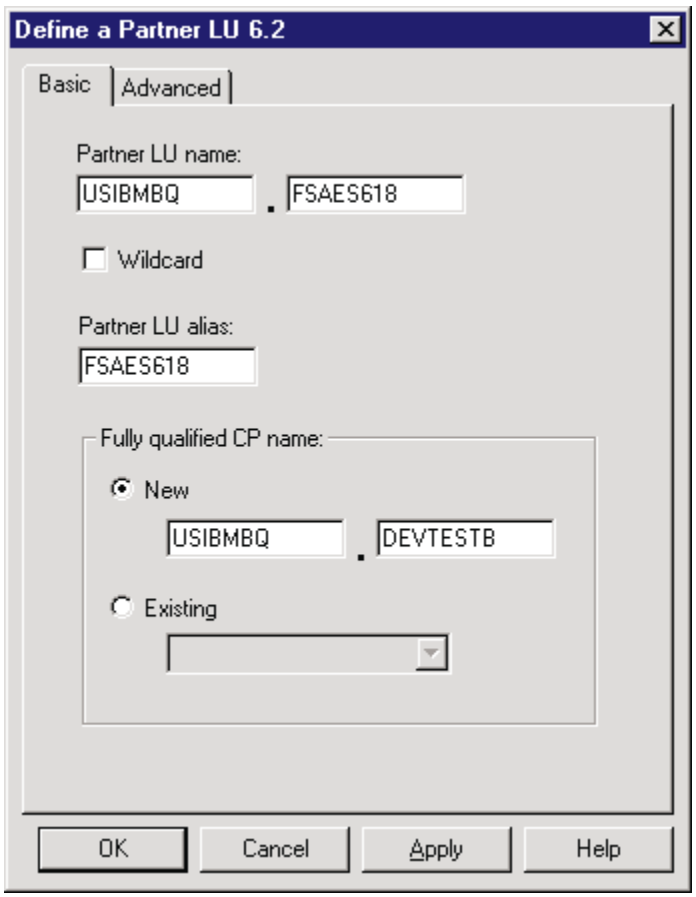

Figure 106. Define a Partner LU 6.2 Notebook: Basic Tab (Local 3172)

On the **Basic** tab (Figure 106), supply the following values:

Partner LU name
Specifies the network identifier of the network in which the host PSF program resides (followed by a period), and the logical unit name used by the host PSF program. The network identifier portion must match the **NETID** value in the VTAM start option list (ATCSTR*xx*) (see "Specifying the VTAM Start Option List (ATCSTRxx)" on page 65). The logical unit name portion must match the **APPLID** parameter in one of these places:

- The PSF for OS/390 **PRINTDEV** statement
- The PSF/VSE **PRINTDEV** statement
- the PSF/VM **OPTIONS PDM** file

That **APPLID** parameter on the PSF host system must also match an **APPL** statement in a VTAM application program major node. (Do not check the **Wildcard** check box.)

Partner LU alias
Specifies the alternate name for the partner LU. Local applications can use this name, instead of the fully qualified LU name, to refer to the partner LU. While you can choose any meaningful value, IBM recommends specifying the second qualifier of the **Partner LU name**.

Fully qualified CP name
Select: **New** to enter the fully qualified CP name of the partner LU's

owning control point. Communications Server for NT requires this field. Infoprint Manager uses this field as the target for any alerts sent by the PSF Direct program.

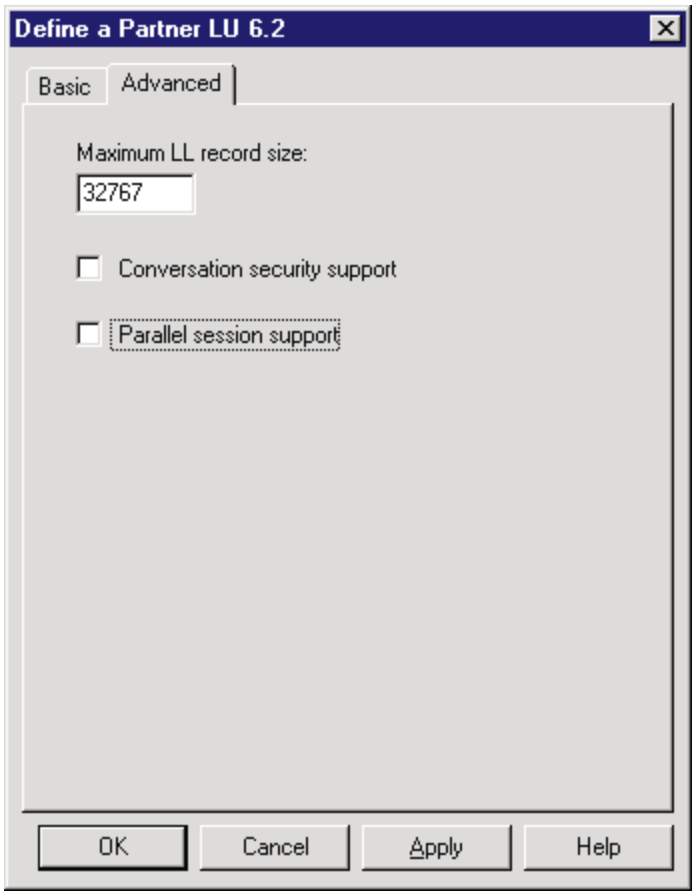

Figure 107. Define a Partner LU 6.2 Notebook: Advanced Tab (Local 3172)

On the **Advanced** tab (Figure 107), supply the following values:

Maximum LL record size
Specifies a value between 0 and 32767 as the maximum size of the logical record in the data stream for basic conversations. Specify the default (32767), because the PSF host program and the PSF Direct host receiver should both be able to handle the full range.

Conversation security support
Specifies that the partner logical unit (LU) is authorized to validate the user identifiers for the local LUs. Select the check box to specify conversation security support if you have matching support on the host PSF program. If not, leave this box unchecked.

Parallel session support
Specifies whether the partner LU supports two or more currently active sessions between the same two LUs by using different pairs of network addresses or session identifiers. Because neither PSF Direct nor the PSF host programs support two sessions with the same partner LU, do not select this check box.

Click **OK** to save these specifications to the *xxx*.acg file.

Local LU 6.2 Configuration for Local 3172

Dependent or Independent LU?
This procedure configures an *independent* LU. You cannot use it to configure a *dependent* LU. If you require dependent LUs, see "Deciding whether to Define a Dependent or an Independent LU" on page 14.

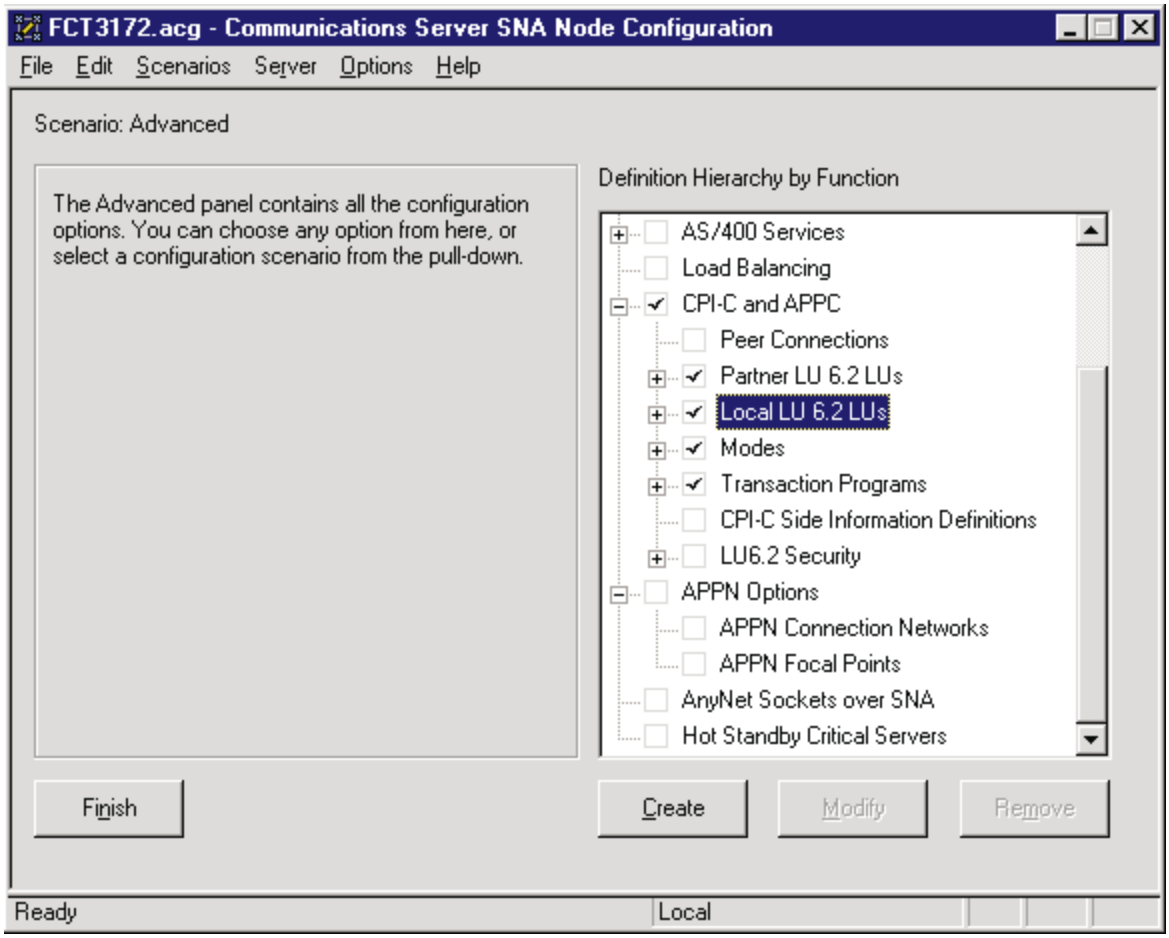

Figure 108. Communications Server SNA Node Configuration Window: Local LU 6.2 LUs (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 108), right-click the **CPI-C and APPC** box, then the **Local LU 6.2 LUs** box. Select the **Create** option. The Define a Local LU 6.2 notebook opens at the **Basic** tab.

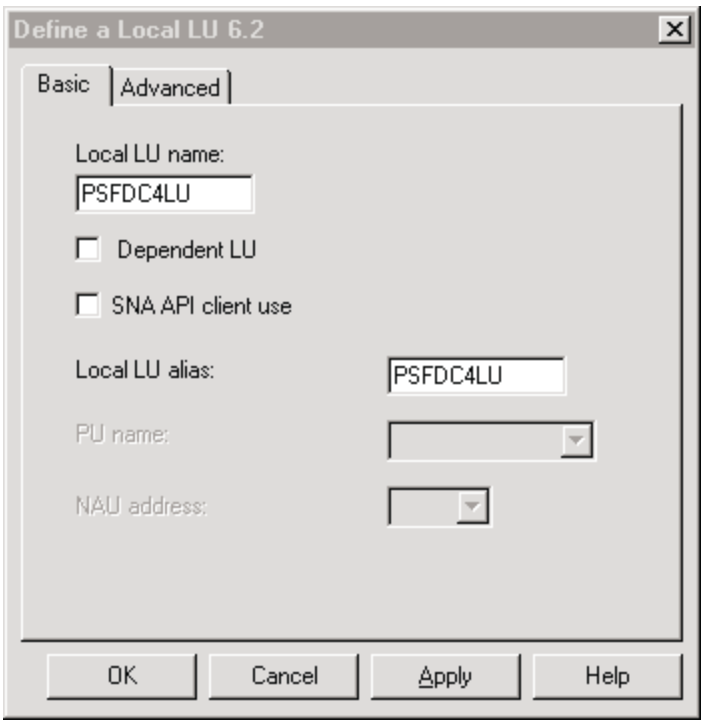

Figure 109. Define a Local LU 6.2 Notebook: Basic Tab (Local 3172)

On the **Basic** tab (Figure 109), supply the following values:

Local LU name
Specifies a 1- to 8-byte character string that identifies your workstation and gives transaction programs access to the network. This name must match the partner LU that you have defined at the host PSF program.

Local LU alias
Specifies the name for the local LU that is used by Infoprint Manager when configuring the PSF Direct host receiver.

Dependent LU
Specifies whether this LU requires assistance from a system services control point (SSCP) in order to initiate an LU-LU session. When this check box is selected, the LU must be specified as dependent on the host PSF program. Because this procedure is for an independent LU, do not check the box.

SNA API client use
Because this LU will be used by a server-based transaction program (TP), do not check this box.

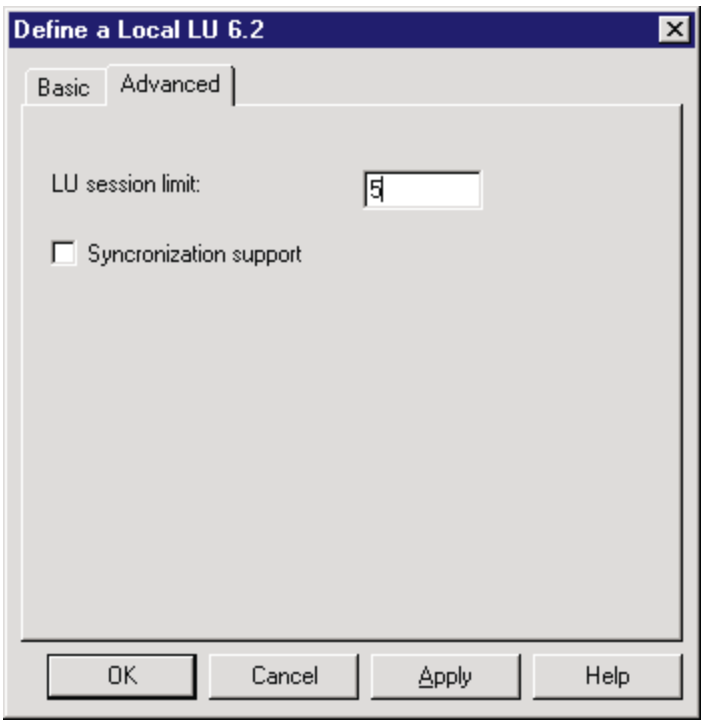

Figure 110. Define a Local LU 6.2 Notebook: Advanced Tab (Local 3172)

On the **Advanced** tab (Figure 110), supply the following values:

LU session limit
Specifies the maximum number of sessions that the LU supports as a value between 0 and 65535. Specify 5.

Note: The application program supports only one LU session at a time, but the SNA session can support more.

Synchronization support
Select this check box if another application is supplying synchronization point management (DB/2, for example). In this instance, do not select it.

Click **OK** to save these specifications to the *xxx*.acg file.

Mode Configuration for Local 3172

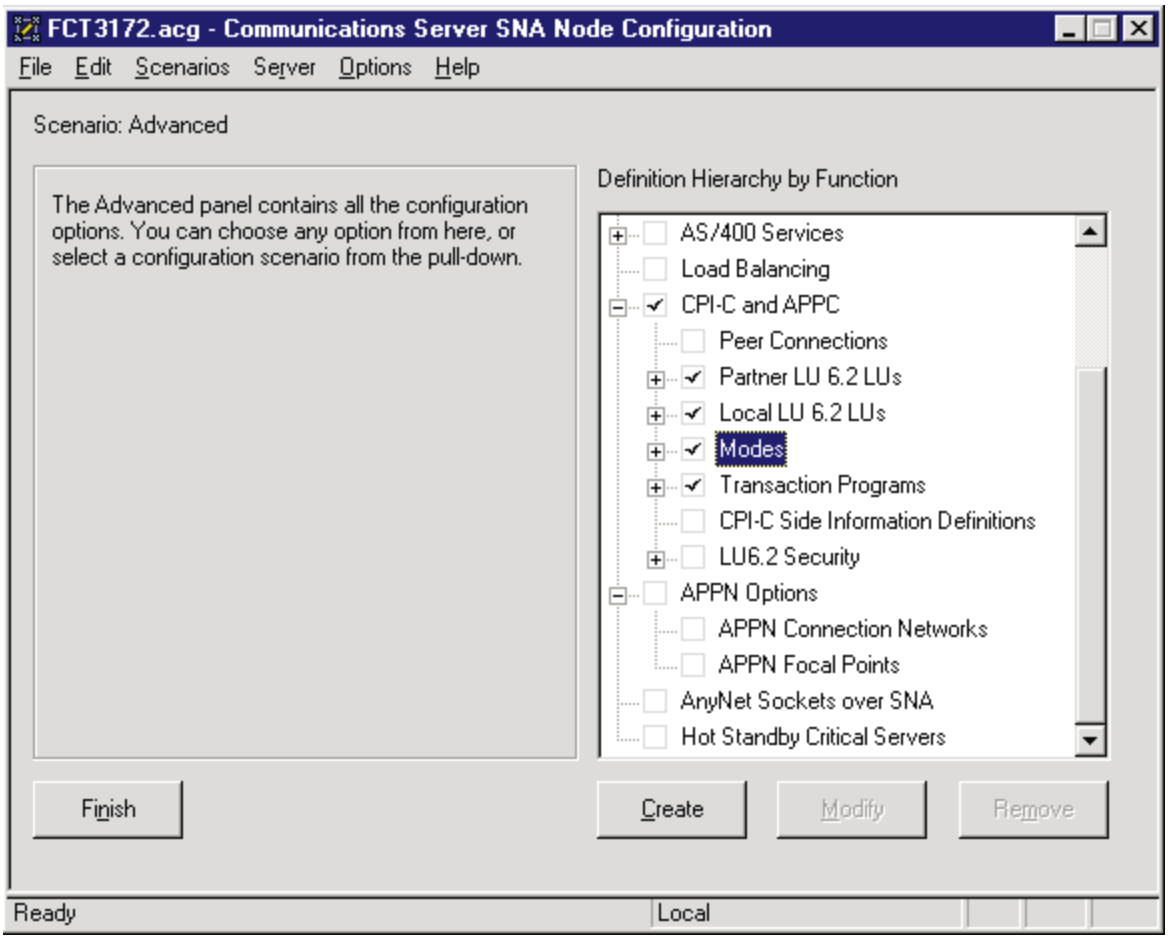

Figure 111. Communications Server SNA Node Configuration Window: Modes (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 111), right-click the **CPI-C and APPC** box, then the **Modes** box. Select the **Create** option. The Define a Mode notebook opens at the **Basic** tab.

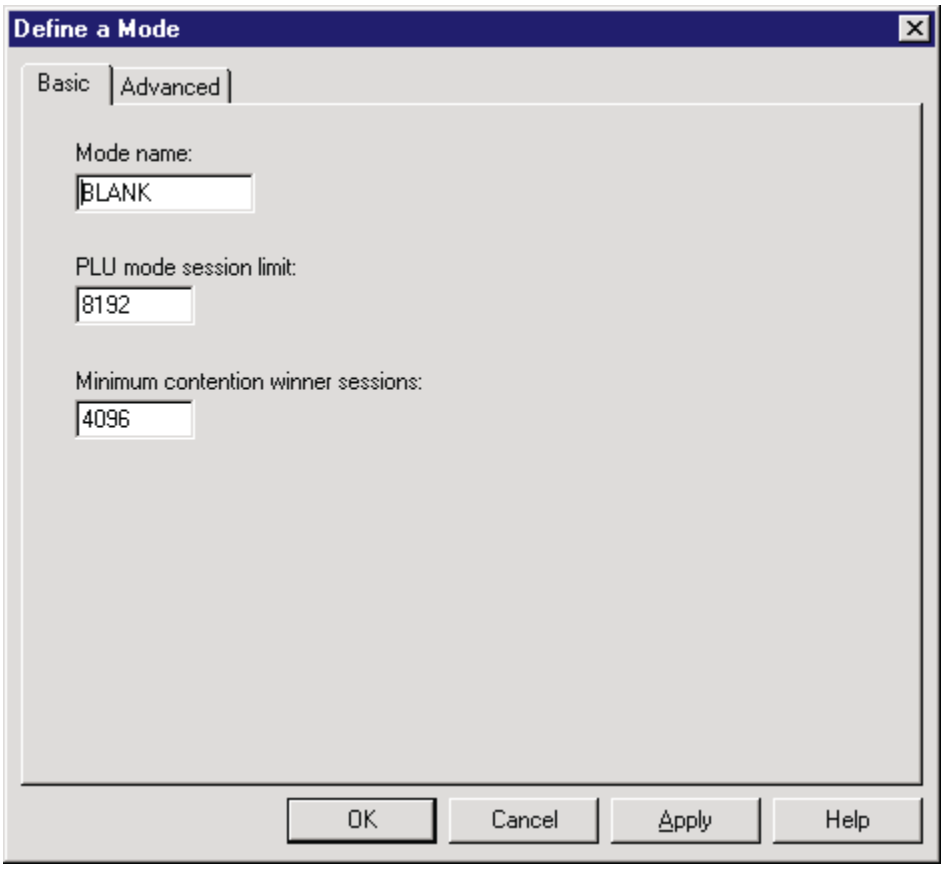

Figure 112. Define a Mode Notebook: Basic Tab (Local 3172)

On the **Basic** tab (Figure 112), supply the following values:

Mode name
Specifies the characteristics for the session that will be allocated for the conversation. The initiator uses this value. The **Mode name** in the **BLANK** profile is 8 spaces.

PLU mode session limit
Specifies a value between 0 and 32767 as the primary logical unit (PLU) mode session limit, or maximum number of concurrently active LU-LU sessions that a particular LU can support. Take the default.

Minimum contention winner sessions
Specifies a value between 0 and 32767 as the minimum number of sessions that a local LU using this mode can activate to win a contention with a partner. Take the default.

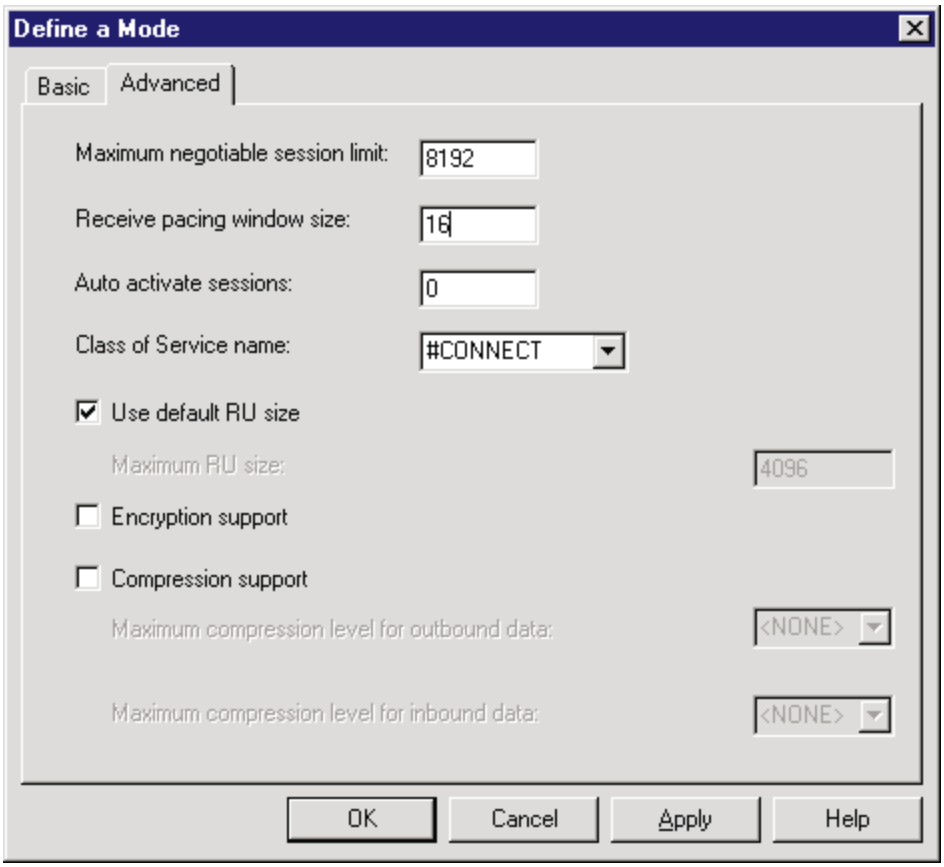

Figure 113. Define a Mode Notebook: Advanced Tab (Local 3172)

On the **Advanced** tab (Figure 113), supply the following values:

Maximum negotiable session limit
Specifies a value between 0 and 32767 as the maximum number of sessions allowed in this mode between any local logical unit (LU) and partner LU. Take the default.

Receive pacing window size
Specifies the secondary receive pacing count. The lesser of this parameter's value and the **SRCVPAC** value in the VTAM **MODEENT** statement is used. (See "Specifying the VTAM Mode Table and Entry" on page 67.) A value of 16 produces good throughput in most configurations. This parameter influences performance and can be adjusted as desired.

Auto activate sessions
Specifies a value between 0 and 32767 as the number of parallel LU 6.2 sessions to automatically start when an initial session starts using this mode. Specify 0 so that no parallel sessions can start automatically for this application.

Class of Service name
Specifies the name of a set of transport network characteristics. Select the default: **#CONNECT** .

Use default RU size
Instructs the node to use the default maximum size for the request/response unit (RU) sent and received on the sessions. Do not select the check box.

Maximum RU size
Set this value to 1024, if it does not automatically specify that value when you remove the check from the **Use default RU size** parameter above.

Click **OK** to save these specifications to the *xxx*.acg file.

Transaction Program Configuration for Local 3172

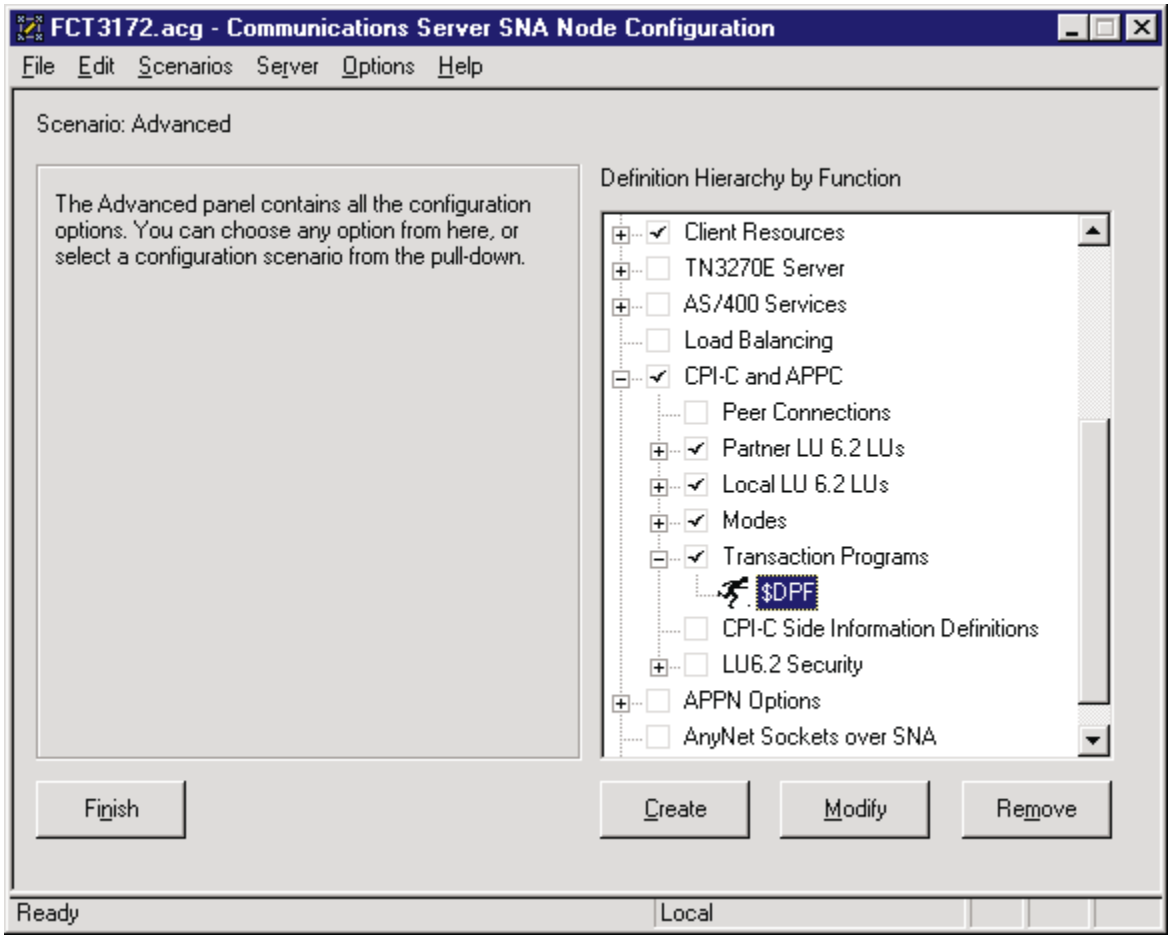

Figure 114. Communications Server SNA Node Configuration Window: Transaction Programs (Local 3172)

In the Communications Server SNA Node Configuration window (Figure 114), right-click the **CPI-C and APPC** box, then the **Transaction Programs** box. Select the **Create** option. The Define a Transaction Program notebook opens at the **Basic** tab.

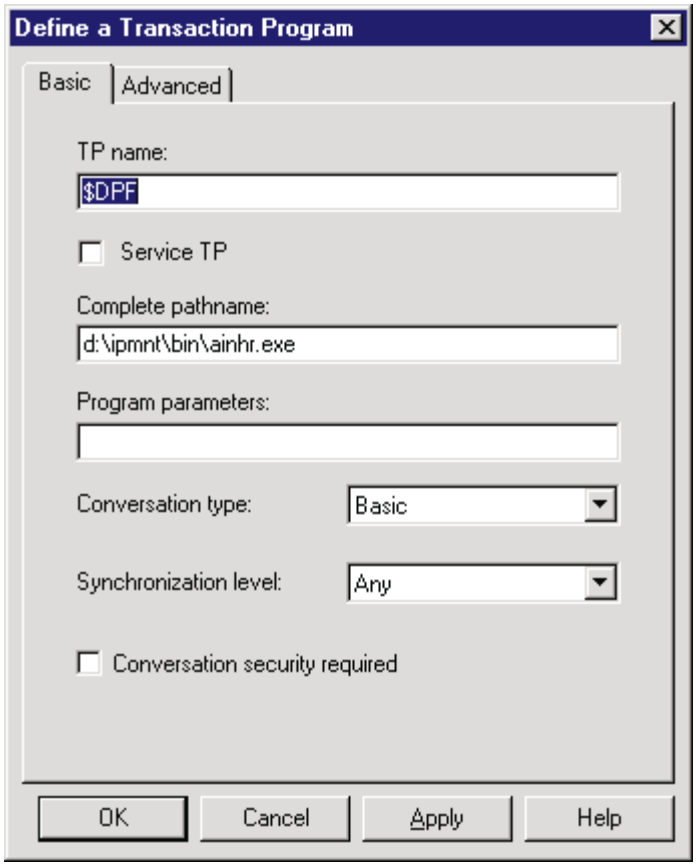

Figure 115. Define a Transaction Program Notebook: Basic Tab (Local 3172)

On the **Basic** tab (Figure 115), supply the following values:

TP name
Specifies a 1- to 64-byte character string for the program that uses the advanced program-to-program communications (APPC) system to communicate with a partner application program at the partner node. Enter **$DPF**. If you are migrating from an AIX operating system to a Windows NT operating system, note that this value changes from a binary `30F0F0F0` to a non-binary **$DPF**. Ensure that the **Service TP** check box is unchecked because it indicates a non-binary value.

Complete pathname
Specifies an 1- to 255-byte character string that describes the location of the program to run. The location can include the drive, the directory, the subdirectory, and the file name. In this example, `d:\ipmnt\bin\ainhr.exe` specifies the location where Infoprint Manager for NT is installed on your system.

Conversation type
Specifies the conversation type allowed to start the transaction programs (TPs) that use an LU 6.2 session. Select **Basic**.

Synchronization level
Specifies the level allowed on allocation requests that start the local and remote transaction programs (TPs). Select **Any**.

Conversation security required
Allows controlled access to system resources through security parameters.

If this check box is selected, conversation security information is required to start the TP. Incoming allocation requests for this TP without the conversation security information will be rejected. Do not check this box.

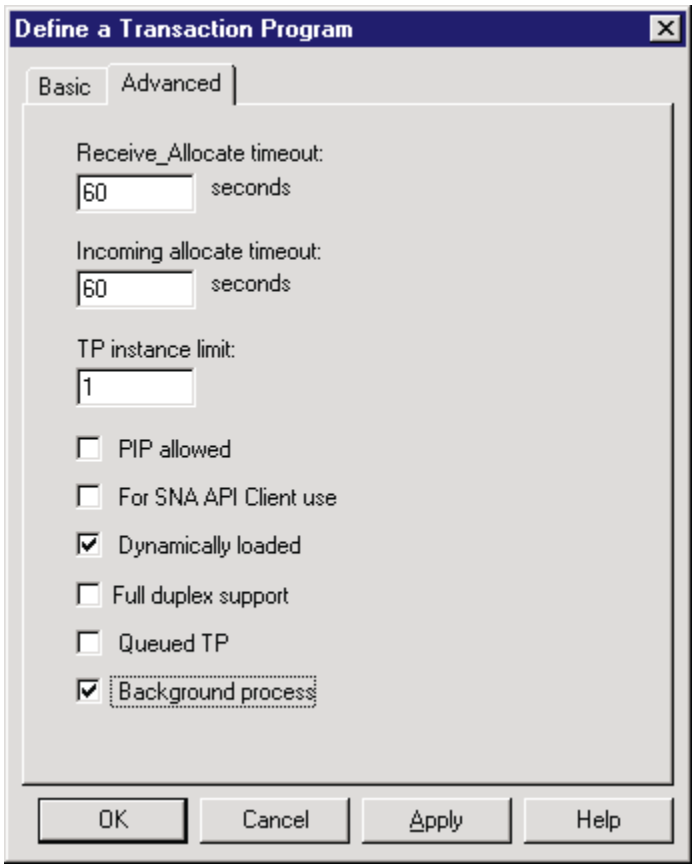

Figure 116. Define a Transaction Program Notebook: Advanced Tab (Local 3172)

On the **Advanced** tab (Figure 116), supply the following values:

Receive_Allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that a **Receive_Allocate** verb will be queued while waiting for an **Attach**. Specify `60`.

Incoming allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that an incoming **Attach** will be queued waiting for a **Receive_Allocate**. Specify `60`.

TP instance limit
Specifies a value between 0 and 65535 seconds that identifies the maximum number of concurrently active TP instances. Specify at least 1 (or the number of LUs that you have defined). 0 means no limit.

Dynamically loaded
Specifies whether the transaction program (TP) can be dynamically started by an allocation request received on a conversation. Select the check box to dynamically load the TP.

Background process
Specifies that the program will run in the background. Only 32-bit programs can multitask in the Windows NT environment. Select the check box to use the background process.

Note: Ensure that **Dynamically loaded** and **Background process** (the two items checked in Figure 116 on page 102) are the only items checked. If you specify other options, this transaction program will not work.

Click **OK** to save these specifications to the *xxx*.acg file.

Once you have completed creating this configuration, go to "Chapter 9. Starting an IBM SecureWay Communications Server for Windows NT Configuration" on page 229.

Local 3172 Token-Ring Configuration Work Sheets

Use the following work sheets to configure PSF Direct on both the host PSF and Infoprint Manager for NT:

- Use Table 5 to see how Communications Server for NT configuration settings relate to other configuration settings.
- Use Table 6 on page 105 to record your own Communications Server for NT values.

Local 3172 Token-Ring Configuration Work Sheet Example

Table 5. Local 3172 Token-Ring Configuration Work Sheet Example

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**3172**
Define the Node: Fully-qualified CP name	**DEVTESTB**		PU *name* PU CPNAME	
Define the Node: Local Node ID	**05D00000**		PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count	**7**		PU MAXOUT	
Define a LAN Device: Maximum PIU size	**65535**			
Define a LAN Connection: Destination address	**08005A0D5E42**			Universal MAC address
Define a Partner LU 6.2: Partner LU name	**USIBMBQ.FSAES618**	APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Local LU 6.2: Local LU name	**PSFDC4LU**	LUNAME	LU *name*	
Define a Local LU 6.2: Dependent LU	Not selected (address **0**)		LU LOCADDR	
Define a Mode: Mode name	**BLANK**			
Define a Mode: Receive pacing window size	**16**		MODEENT SRCVPAC	
Define a Mode: Maximum RU size	**1024**		MODEENT RUSIZES	

Local 3172 Token-Ring Configuration Blank Work Sheet

Table 6. Local 3172 Token-Ring Configuration Blank Work Sheet

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**3172**
Define the Node: Fully-qualified CP name			PU *name* PU CPNAME	
Define the Node: Local Node ID			PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count			PU MAXOUT	
Define a LAN Device: Maximum PIU size				
Define a LAN Connection: Destination address				Universal MAC address
Define a Partner LU 6.2: Partner LU name		APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Local LU 6.2: Local LU name		LUNAME	LU *name*	
Define a Local LU 6.2: Dependent LU			LU LOCADDR	
Define a Mode: Mode name				
Define a Mode: Receive pacing window size			MODEENT SRCVPAC	
Define a Mode: Maximum RU size			MODEENT RUSIZES	

Chapter 6. Local 3174 Token-Ring Gateway Configuration

Figure 117 shows a local 3174 token-ring gateway configuration.

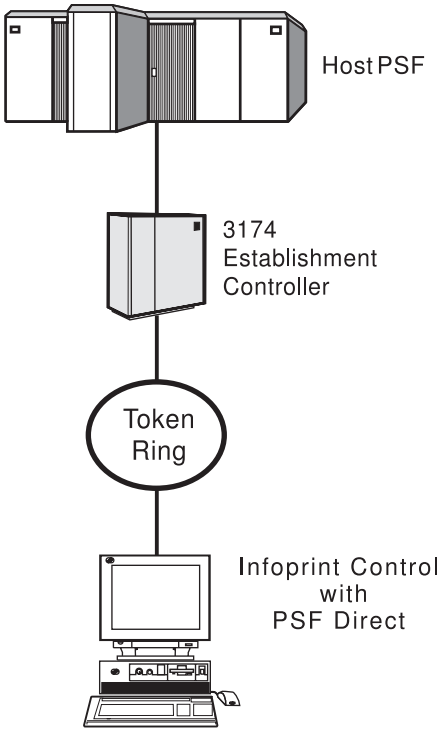

Figure 117. Local 3174 Token-Ring Gateway Configuration

This chapter describes how to create a local 3174 token-ring gateway configuration. It contains guidelines and examples for the following tasks:

– "Partner LU 6.2 Configuration for Local 3174" on page 137
– "Mode Configuration for Local 3174" on page 140
– "Transaction Program Configuration for Local 3174" on page 143

Note: Before performing this configuration, review "Chapter 3. Preconfiguration Tasks" on page 13. You must define an alternate token-ring address (local MAC address) for your Infoprint Windows NT server.

At the end of the chapter, there are two configuration work sheets. The first work sheet (Table 8 on page 147) is filled out with the values from the examples. The second work sheet (Table 9 on page 148) is blank for your own values.

Local 3174 Host Configuration

This section provides guidelines and examples for the following tasks:

- "Specifying the JES2 Initialization Statement"
- "Configuring the Host PSF Printer"
- "Specifying the VTAM Start Option List (ATCSTRxx)" on page 111
- "Specifying the VTAM Configuration List (ATCCONnn)" on page 112
- "Specifying the VTAM Application Program Major Node and Application Program" on page 113
- "Specifying the VTAM Mode Table and Entry" on page 113
- "Specifying the VTAM Local Major Node" on page 114
- "Configuring the 3174 Establishment Controller" on page 115

For each task, this section shows the pertinent parameters. It describes which of these require you to specify *variable_names* and which require a specific name or number, such as **MODETAB=MODEIBM** or **FMPROF=X'13'**. An underlined value (such as **WCONNECT**) indicates that the value is a system default.

Specifying the JES2 Initialization Statement

Define the host PSF printer as you would any other Systems Network Architecture (SNA)-attached printer. For example, on an OS/390 system you must provide either JES2 or JES3 initialization statements.

Figure 118 shows an example.

```
PRT618 CLASS=Y,MARKS=YES,START=NO,MODE=FSS,FSS=WTRES600,   X
  PRMODE=(LINE,PAGE),UCS=0
```

Figure 118. JES2 Initialization Statement Example (Local 3174)

Configuring the Host PSF Printer

The manner in which a host PSF printer is configured depends on the operating system. You will use one of the following statements:

- Print Services Facility (PSF) for OS/390 **PRINTDEV** statement
- PSF/VSE **PRINTDEV** statement
- Parameters in the PSF/VM **OPTIONS PDM** file

On each operating system, PSF supports specification of both the application program ID (**APPLID**) and the logical unit name (**LUNAME**).

```
.
.
.
APPLID=appl_prog
LUNAME=lu_name
.
.
.
```

Figure 119. Host PSF Printer Guidelines (Local 3174)

On some operating systems, PSF also supports other configuration parameters. The following text describes these parameters (listed in order of importance) and notes whether they are required or optional:

APPLID (required)
Specifies the application program that is the SNA logical unit provided by Virtual Telecommunications Access Method (VTAM) and used by PSF. The **APPLID** value must match:

- An **APPL** statement name in a VTAM application program major node
- The second part of the **Partner LU name** field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 154 on page 138)

LUNAME (required)
Specifies the SNA logical unit with which PSF tries to initiate a session. The **LUNAME** value must match:

- An **LU** statement name in a VTAM switched major node
- The **LU name** field in the Host LU Definition window (Figure 149 on page 133)

LOGMODE (optional)
Specifies the VTAM logon mode table entry that defines characteristics of the session between the logical units identified by the **APPLID** and **LUNAME** parameters. The **LOGMODE** parameter identifies an entry within a logon mode table. The **MODETAB** operand on the VTAM **LU** statement identifies the logon mode table. If you omit the **LOGMODE** parameter, the **DLOGMOD** operand on the VTAM **LU** statement identifies the entry within the logon mode table.

Note that if the logical unit identified by the **LUNAME** parameter is a cross-domain resource, you must not use the **LOGMODE** parameter.

SETUP (optional)
Specify **SETUP=FORMS** to cause the Job Entry Subsystem (JES) to issue forms setup messages to the operator.

By default, JES issues forms setup messages to the operator for channel-attached printers, but does not issue forms setup messages to the operator for SNA-attached printers.

MGMTMODE ={IMMED | OUTAVAIL | DIALIN} (optional)
Determines how the host PSF program and PSF Direct initiate communication.

IMMED
Causes the host PSF program to initiate communication when it starts.

OUTAVAIL
Causes the host PSF program to initiate communication when there is available output to print.

DIALIN
Causes the host PSF program to initiate communication only after a switched line becomes available. The switched line can become available either when VTAM dials out or when the remote node dials in.

Note that if you specify **DIALIN**:

- Do not use the **LOGMODE** parameter.
- Include the **LOGAPPL** operand on the VTAM **LU** statement.
- Ensure that the **LOGAPPL** operand on the VTAM **LU** statement matches the **APPLID** value.

FAILURE={WCONNECT | STOP} (optional)
Specifies whether or not the host PSF program re-attempts communication after a printer or communication failure. If you do not specify a value for the **FAILURE** parameter, it defaults to **WCONNECT**.

WCONNECT
Specifies that the host PSF program attempts to communicate again.

STOP Specifies that the operator must restart the host PSF program.

DISCINTV (optional)
Specifies the interval (in seconds) that the host PSF program waits for output to become available to print. If no output becomes available, the host PSF program ends communication with the printer.

Specify `0` to cause the host PSF program to maintain communication indefinitely. If you do not specify a value for **DISCINTV**, it defaults to `0`.

Figure 120 on page 111 shows an example of a single **PRTDEV** statement for a device named PRT618. Note that if an installation has multiple printers defined for receiving PSF Direct jobs, you must define a separate **PRTDEV** statement for each printer.

```
//WTRES600 PROC
//*
//STEP01 EXEC PGM=APSPPIEP,REGION=4096K
//*
//STEPLIB DD DSN=SYSTEM.PSF.V220.LINKLIB,DISP=SHR
//*
//JOBHDR OUTPUT PAGEDEF=A06462,    /* JOB HEADER PAGEDEF     */
//              FORMDEF=A10110     /* JOB HEADER FORMDEF     */
//JOBTLR OUTPUT PAGEDEF=A06462,    /* JOB TRAILER PAGEDEF    */
//              FORMDEF=A10110     /* JOB TRAILER FORMDEF    */
//DSHDR OUTPUT  PAGEDEF=A06462,    /* DATA SET HEADER PAGEDEF*/
//              FORMDEF=A10110     /* DATA SET HEADER FORMDEF*/
//MSGDS OUTPUT  PAGEDEF=A06462,    /* MESSAGE DATASET PAGEDEF*/
//              FORMDEF=A10110     /* MESSAGE DATASET FORMDEF*/
//*
//FONT01 DD DSN=SYS1.FONTLIB,DISP=SHR
//OLAY01 DD DSN=SYS1.OVERLIB,DISP=SHR
//PSEG01 DD DSN=SYS1.PSEGLIB,DISP=SHR
//FDEF01 DD DSN=SYS1.FDEFLIB,DISP=SHR
//PDEF01 DD DSN=SYS1.PDEFLIB,DISP=SHR
//*
//PRT618 PRINTDEV FONTDD=*.FONT01, /* FONT LIBRARY DD       */
//                OVLYDD=*.OLAY01, /* OVERLAY LIBRARY DD    */
//                PSEGDD=*.PSEG01, /* SEGMENT LIBRARY DD    */
//                PDEFDD=*.OLAY01, /* PAGEDEF LIBRARY DD    */
//                FDEFDD=*.OLAY01, /* FORMDEF LIBRARY DD    */
//                JOBHDR=*.JOBHDR, /* JOB HEADER DD         */
//                JOBTLR=*.JOBTLR, /* JOB TRAILER DD        */
//                DSHDR=*.DSHDR,   /* DATA SET HEADER DD    */
//                MESSAGE=*.MSGDS, /* MESSAGE DATA DD       */
//                PAGEDEF=A06462,  /* DEFAULT PAGEDEF       */
//                FORMDEF=A10110,  /* DEFAULT FORMDEF       */
//                CHARS=(GT10,GC15,GB10,GR10,), /* DEFAULT FONT SET*/
//                PIMSG=YES,       /* ACCUMULATE DATA SET MESSAGES */
//                SETUP=FORMS,     /* ISSUE FORMS SETUP MESSAGES   */
//                MGMTMODE=OUTAVAIL,/* START WHEN OUTPUT AVAILABLE */
//                DISCINTV=60,      /* DISCONNECT INTERVAL -- SECS */
//                LOGMODE=IBM3820T, /* LOGON MODE TABLE ENTRY      */
//                APPLID=FSAES618,  /*        APPLICATION PGM NAME */
//                LUNAME=PSFDC5LU   /* LOGICAL UNIT NAME           */
//PRT618 ENDCNTL
```

Figure 120. JES2 External Writer Procedure Example (Local 3174)

Specifying the VTAM Start Option List (ATCSTRxx)

You must specify the values illustrated in Figure 121 and described below.

```
CONFIG=nn,         ATCCON MEMBER OF VTAMLST     X
NETID=network_id,  NETWORK IDENTIFIER           X
SSCPID=nn,         SSCP IDENTIFIER              X
.
.
.
```

Figure 121. VTAM Start Option List (ATCSTRxx) Guidelines (Local 3174)

CONFIG
Specifies the **ATCCON***nn* member to use.

NETID
Specifies the network identifier for the host system. The first part of the

Partner LU name field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 154 on page 138) must match the **NETID** value.

SSCPID

Specifies the system services control point (SSCP) at the host. The SSCPID is a decimal integer from 0 to 65535.

The SSCP, normally VTAM, provides several network management functions. They include managing dependent logical units and accepting Network Management Vector Transports, such as alerts. Alerts often include information about devices that are unavailable or require corrective action.

To configure a PSF Direct host receiver to send alerts to this SSCP, the least significant portion of the **SNA System Services Control Point ID** value defined for the PSF Direct host receiver must be the hexadecimal equivalent of the SSCPID value. (For information about configuring the host receiver, see "Defining the PSF Direct Host Receiver" on page 232.) The **SNA System Services Control Point ID** must be in the form **05***xxxxxxxxxx*, where *x* is a hexadecimal digit.

For example, to configure a PSF Direct host receiver to send alerts to an SSCP with an SSCPID value of 283, the host receiver's **SNA System Services Control Point ID** value must be 05000000011B.

Figure 122 shows an example.

```
CONFIG=00,       ATCCON MEMBER OF VTAMLST     X
NETID=USIBMBQ,   NETWORK IDENTIFIER           X
SSCPID=1,        SSCP IDENTIFIER              X
.
.
.
```

Figure 122. VTAM Start Option List (ATCSTRxx) Example (Local 3174)

Specifying the VTAM Configuration List (ATCCONnn)

The VTAM configuration list indicates the application program major nodes that should become available when VTAM starts. Include the application program major node that contains the application program that PSF uses.

```
appl_prog_major_node,          X
.
.
.
```

Figure 123. VTAM Configuration List (ATCCONnn) Guidelines (Local 3174)

Figure 124 shows an example.

```
PSFAPPLS,                      X
.
.
.
```

Figure 124. VTAM Configuration List (ATCCONnn) Example (Local 3174)

Specifying the VTAM Application Program Major Node and Application Program

The pertinent operands for the VTAM application program major node and application program are illustrated in Figure 125 and described below.

```
appl_prog_major_node, VBUILD TYPE=APPL                X
appl_prog,            APPL AUTH=ACQ,EAS=1,SONSCIP=YES  X
.
.
.
```

Figure 125. VTAM Application Program Major Node and Application Program Guidelines (Local 3174)

The host PSF program does not support application programs that use **APPC=YES** or **PARSESS=YES**. The default value for both **APPC** and **PARSESS** is **NO**.

Figure 126 shows an example.

```
PSFAPPLS,   VBUILD TYPE=APPL                          X
FSAES618,   APPL AUTH=ACQ,EAS=1,SONSCIP=YES           X
.
.
.
```

Figure 126. VTAM Application Program Major Node and Application Program Example (Local 3174)

Specifying the VTAM Mode Table and Entry

The operands for the VTAM mode table are illustrated in Figure 127 and described below.

```
table_name   MODETAB                                          X
entry_name   MODEENT LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07', X
.
.
.
             PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'       X
             PSERVIC=X'060200000000000000000200'               X
             PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'         X
             RUSIZES=X'8787'
```

Figure 127. VTAM Mode Table and Entry Guidelines (Local 3174)

PSNDPAC
Specifies the primary send pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

SRCVPAC
Specifies the secondary receive pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

RUSIZES
Specifies the maximum request unit (RU) sizes from the primary and secondary logical units. The RU sizes influence performance and can be adjusted as desired. A value of X'8787' means 1024 bytes for both RU sizes and produces good throughput in most configurations.

The **RUSIZES** specification influences other configuration parameters. These include:

- The **Maximum RU size** field on the **Advanced** tab of the Define a Mode notebook (Figure 158 on page 142)
- The **MAXSTL** operand in the IBM Network Control Program (NCP) **LINE** statement

Figure 128 shows an example.

```
MODEIBM     MODETAB                                              X
IBM3820T    MODEENT  LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07',  X
.
.
.
                     PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'  X
                     PSERVIC=X'060200000000000000000200'          X
                     PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'    X
                     RUSIZES=X'8787'
```

Figure 128. VTAM Mode Table and Entry Example (Local 3174)

Specifying the VTAM Local Major Node

The operands for the VTAM local major node are illustrated in Figure 129 and described below.

```
.
.
.
node_name    VBUILD TYPE=LOCAL
*
pu_name      PU     CUADDR=nnn,           CHANNEL CONTROL UNIT ADDRESS   X
                    MAXBFRU=nn,           VTAM BUFFERS FOR RECEIVING     X
                    MODETAB=mode_entry,   LOGON MODE TABLE               X
                    DLOGMOD=mode_entry,   LOGON MODE TABLE ENTRY         X
                    VPACING=0,            NO PACING TO BOUNDARY NODE
*
lu_name      LU     LOCADDR=nn,           DEPENDENT LU
```

Figure 129. VTAM Local Major Node Guidelines (Local 3174)

The following describes the pertinent operands on the **VBUILD** statement:

TYPE Specify **LOCAL** to indicate that the node is a local major node.

The following describes the pertinent operands on the **PU** statement.

Note: The **DLOGMOD**, **MODETAB**, and **VPACING** operands are **LU** operands, but are included here on the **PU** statement. VTAM definitions support a "sift-down effect" that allows you to code an operand on a higher-level statement so you do not need to code it on each lower-level statement for which the same value is desired. There is only one logical unit in the guideline presented here, so the sift-down effect is for demonstration only. If the **DLOGMOD**, **MODETAB**, and **VPACING** operands are specified on the **PU** statement, they do not have to be specified on any of the **LU** statements.

CUADDR
Specifies the 3-digit hexadecimal number that identifies the channel control

unit address used when activating the physical unit. The value must match a channel control unit address supplied when the operating system was generated.

MAXBFRU
Specifies the number of buffer units that VTAM uses to receive data from the physical unit. These buffer units are elements of the IOBUF buffer pool.

Always specify **MAXBFRU** so that the baseno value for the IOBUF multiplied by **MAXBFRU** is equal to or greater than the **maximum RU size** used by the controller:

```
baseno × MAXBFRU ≥ maximum_RU_size
```

For example, a **MAXBFRU** value of 10 is adequate for a baseno value of 128 and a maximum RU size of 1024.

MODETAB
Specifies the name of the logon mode table that contains entries that describe session characteristics.

DLOGMOD
Specifies the name of the logon mode table entry that describes session characteristics.

VPACING
Determines how VTAM paces the flow of data from VTAM to the boundary node that performs pacing for the channel-attached SNA device. A value of zero means that no pacing is performed for sessions with the logical unit, or that the largest possible pacing is used if the session is adaptively paced.

The following describes the pertinent operands on the **LU** statement:

LOCADDR
To use a dependent logical unit, specify a value between 1 and 255 for **LOCADDR**. Also, in the Host LU Definition window (Figure 149 on page 133), specify **Dependent LU 6.2** for the **LU model type** field, and the **LOCADDR** value for the **Host NAU address** field.

Figure 130 shows an example.

```
.
.
.
PSFDC5MJ    VBUILD TYPE=LOCAL
*
PSFDC5PU    PU     CUADDR=790,          CHANNEL CONTROL UNIT ADDRESS   X
                   MAXBFRU=10,          VTAM BUFFERS FOR RECEIVING     X
                   MODETAB=MODEIBM,     LOGON MODE TABLE               X
                   DLOGMOD=IBM3820T,    LOGON MODE TABLE ENTRY         X
                   VPACING=0,           NO PACING TO BOUNDARY NODE
*
PSFDC5LU    LU     LOCADDR=1,           DEPENDENT LU
```

Figure 130. VTAM Local Major Node Example (Local 3174)

Configuring the 3174 Establishment Controller

The keywords and values for the 3174 establishment controller are illustrated in Figure 131 on page 116 and described below.

```
.
.
.
     CONFIGURATION SUPPORT C RELEASE 3
900: TOKEN-RING ADDRESS FOR THE GATEWAY
          4000 nnnn nnnn
940: RING ADDRESS ASSIGNMENT
     S@   Ring@,             SAP
.
.
.
     nn   4000 nnnn nnnn
     nn   nnnn nnnn nnnn     04
          DLOGMOD=IBM3820T,
941: RING TRANSMISSION DEFINITION
                             F    W
     nn   nnnn nnnn nnnn
     nn   nnnn nnnn nnnn     n    n
```

Figure 131. 3174 Establishment Controller Guidelines (Local 3174)

900: Token-Ring Address for the Gateway
Specify the token-ring address for the gateway. The address must be a local MAC address in the form **4000** *nnnn nnnn* .

940: Ring Address Assignment
This configuration item includes several pertinent parameters:

S@ Indicates the subchannel address. Values are supplied automatically on the **Ring Address Assignment** panel. The first **S@** value specifies the subchannel address for the gateway. The remaining **S@** values specify subchannel addresses for ring-attached physical units.

Ring@ Indicates the token-ring address. The first **Ring@** value specifies the token-ring address for the gateway and is supplied automatically on the **Ring Address Assignment** panel.

Specify a token-ring address for each ring-attached physical unit. Local MAC addresses are preferable to universal MAC addresses. Local MAC addresses are in the form **4000** *nnnn nnnn*.

SAP Accept the default service access point (SAP) value, `04`.

941: Ring Transmission Definition
This configuration item includes two pertinent parameters:

F Indirectly specifies the transmit I-frame size.

To prevent basic information units (BIUs) from being broken into pieces, choose a transmit I-frame size that is at least 9 bytes larger than the maximum RU size. The maximum RU size is the lesser of the value represented by the VTAM **MODEENT** statement **RUSIZES** operand and the **Maximum RU size** field on the **Advanced** tab of the Define a Mode notebook (Figure 158 on page 142).

W Specifies the transmit window size. The transmit window size is the number of frames that the 3174 sends to the physical unit before waiting for a link-level acknowledgement.

The **Receive window count** field on the **Advanced** tab of the Define a LAN Device notebook (Figure 141 on page 125) specifies

the maximum number of frames that Communications Server for NT receives before sending a link-level acknowledgement.

For optimum performance, the transmit window size (**W**) should be equal to the **Receive window count**. If the transmit window size is less than the **Receive window count**, extremely poor throughput can result. In most cases, the default transmit window size value is 2. The default **Receive window count** value is 8. You must adjust these default values to produce acceptable throughput.

```
.
.
.
     CONFIGURATION SUPPORT C RELEASE 3
900: TOKEN-RING ADDRESS FOR THE GATEWAY
          4000 3000 1001
940: RING ADDRESS ASSIGNMENT
     S@   Ring@,             SAP
.
.
.
     C1   4000 3000 1001
     C2   4000 3000 1002     04
          DLOGMOD=IBM3820T,
941: RING TRANSMISSION DEFINITION
                             F    W
     C1   4000 3000 1001
     C1   4000 3000 1002     2    7
```

Figure 132. 3174 Establishment Controller Example (Local 3174)

Specifying Communications Server for NT Configuration Profiles

This section contains instructions and guidelines for configuring the Communications Server for NT profiles. It includes the following tasks:

- "Accessing the Communications Server for NT Profiles"
- "Local 3174 Node Setup" on page 119
- "Local 3174 Device Configuration" on page 123
- "Local 3174 Peer Connections Configuration" on page 128
- "Local LU 6.2 Configuration for Local 3174" on page 132
- "Enabling SNA API Clients for Local 3174" on page 135
- "Partner LU 6.2 Configuration for Local 3174" on page 137
- "Mode Configuration for Local 3174" on page 140
- "Transaction Program Configuration for Local 3174" on page 143

Accessing the Communications Server for NT Profiles

Use the following procedure to access the IBM SecureWay Communications Server for NT applications that are described in "What is IBM SecureWay Communications Server for Windows NT?" on page 2.

Note that this procedure assumes that you have dragged the icons for **SNA Node Configuration** and **SNA Node Operations** to your desktop after they were created at installation.

1. From your NT desktop view, double-click the **SNA Node Configuration** icon that resides on your desktop:

2. At the **Welcome to Communications Server Configuration!** pop-up window, select the **New** button for a new configuration) and click the **Next>** button.

   Communications Server creates an *xxx*.acg file (where *xxx* represents the file name you select in this window. This *xxx*.acg file resides in the *C*:\IBMCS\private directory, where *C* is the drive where you installed IBM SecureWay Communications Server for NT. For users migrating from PSF Direct on an OS/2 operating system, this *xxx*.acg file is the equivalent of the OS/2 Communications Manager Communications Server *xxx*.ndf file.

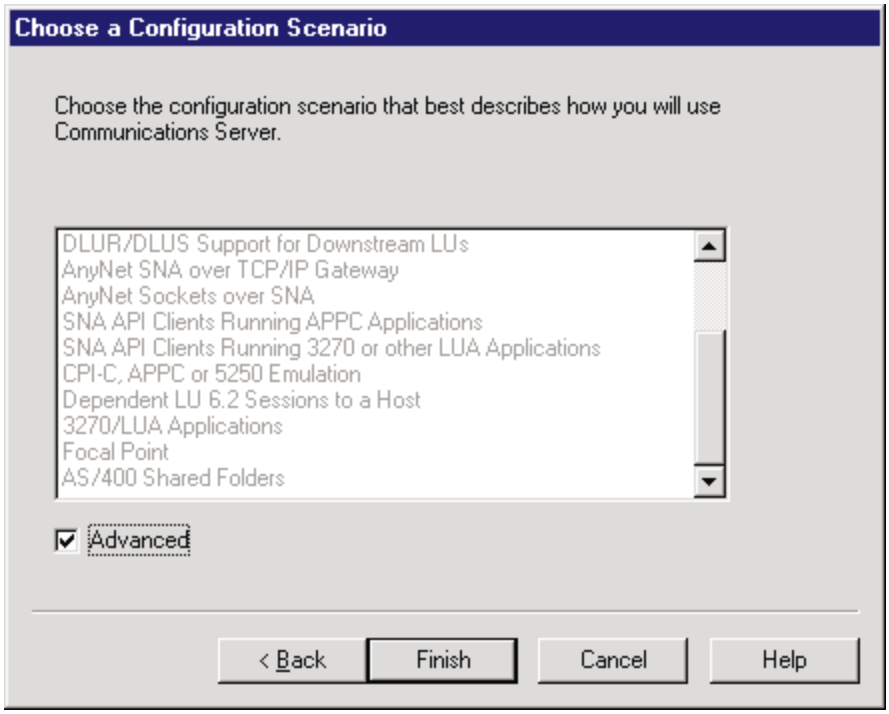

Figure 133. Choose a Configuration Scenario Window (Local 3174)

3. In the Choose a Configuration Scenario window (Figure 133), check the **Advanced** box, which causes the display to turn gray. Click the **Finish** button.
4. From the Communications Server SNA Node Configuration window (Figure 134 on page 119), you are ready to begin configuring your system for PSF Direct.

Local 3174 Node Setup

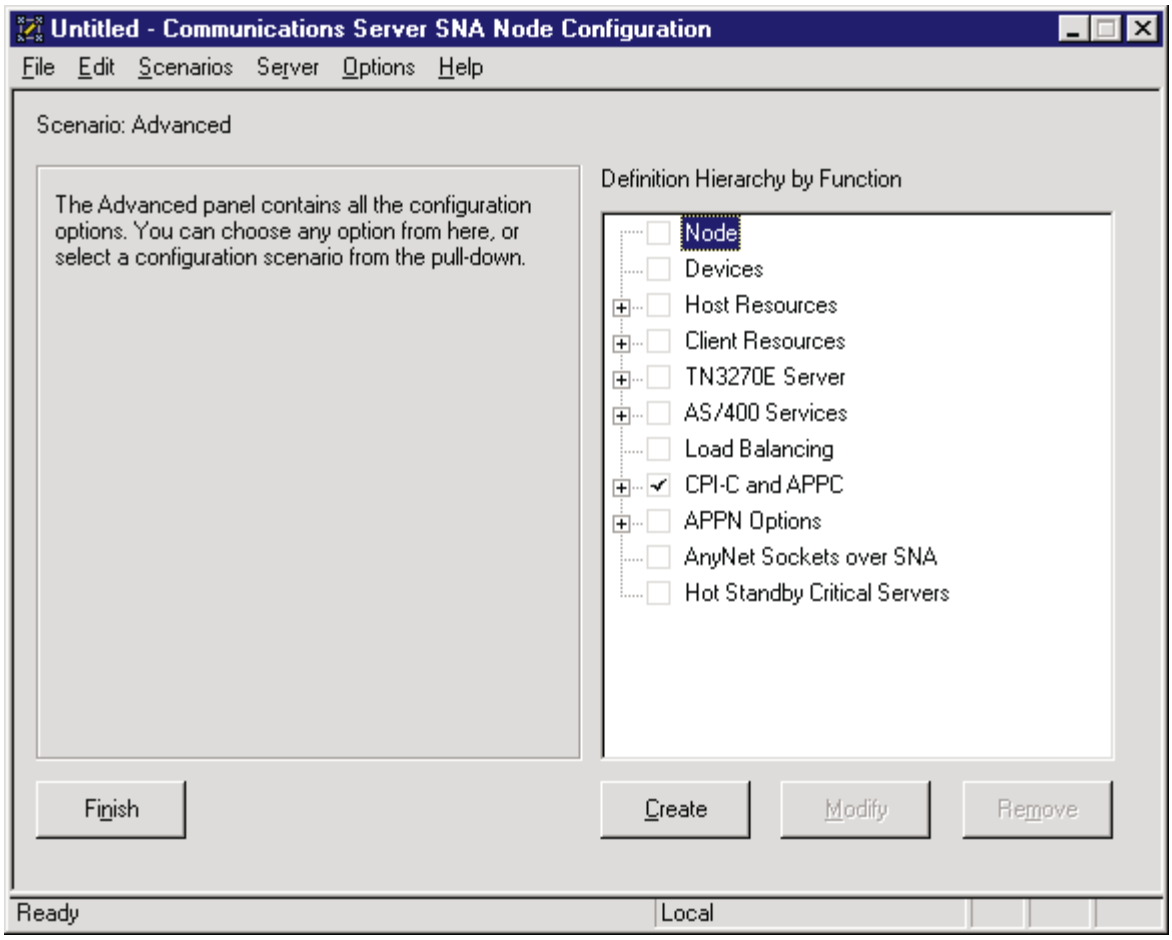

Figure 134. Communications Server SNA Node Configuration Window: Node (Local 3174)

In the Communications Server SNA Node Configuration window (Figure 134), right-click the **Node** box and select the **Create** option. The Define the Node notebook opens at the **Basic** tab.

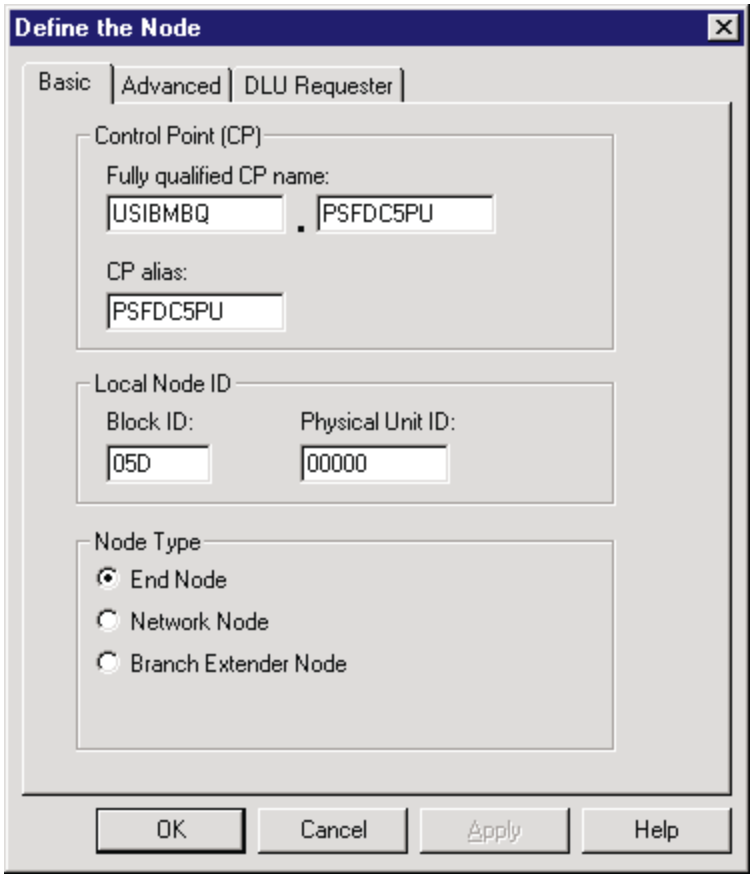

Figure 135. Define the Node Notebook: Basic Tab (Local 3174)

On the **Basic** tab (Figure 135), specify values for the following parameters:

Fully qualified Control Point (CP) name
Specifies the name of the component that manages the resources of that node. If the **CPNAME** operand is used in the VTAM **PU** statement, then the second part of this value must match the **CPNAME** operand. By convention, the **CPNAME** is usually the same as the **PU** name.

CP alias
Specifies an alternative name for the CP. Local applications can use this name, instead of the **Fully qualified Control Point (CP)** name, to refer to the local CP.

Local Node ID
Specifies both the **Block ID** and the **Physical Unit ID**. The **Block ID** is a 3-digit hexadecimal string that identifies the product type in an SNA network. The **Physical Unit ID** is a 5-digit hexadecimal string that identifies a physical unit (PU).

If the **IDBLK** and **IDNUM** operands are used in the VTAM **PU** statement, then the **Local Node ID** value must match the combined **IDBLK** and **IDNUM** operands. The **IDBLK** operand is normally `071` for Communications Server for NT.

If you are migrating from an AIX operating system, **Local Node ID** matches the **XID Node ID** parameter.

Node Type

Specifies the type of node. Take the default value, **End node**.

If you are migrating from an AIX operating system, **Node Type** matches the **Control Point Type** parameter.

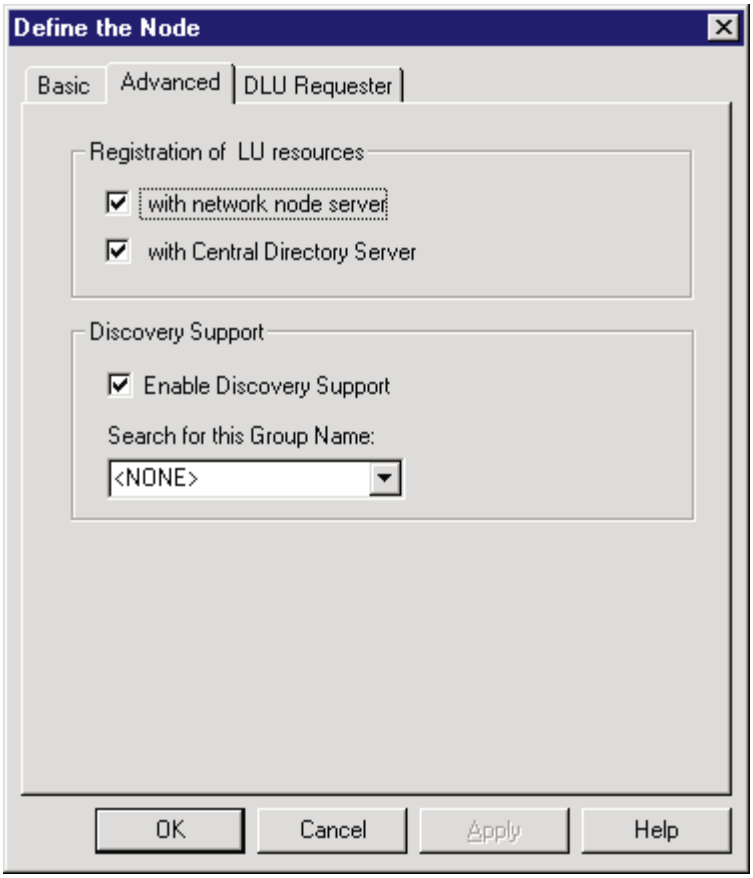

Figure 136. Define the Node Notebook: Advanced Tab (Local 3174)

On the **Advanced** tab (Figure 136), specify values for the following parameters:

Registration of LU resources

Specifies that directory information about the local logical units (LUs) 6.2 is sent to the server. As the example shows, check both the **Network node server** and the **Central Directory Server**.

Discovery Support

Specifies a LAN address resolution protocol that can be used to find another node that matches given search values. Adjust the search parameter to search for APPN network nodes, nodes that provide SNA boundary function, or AS/400s. Select the check box to enable discovery support.

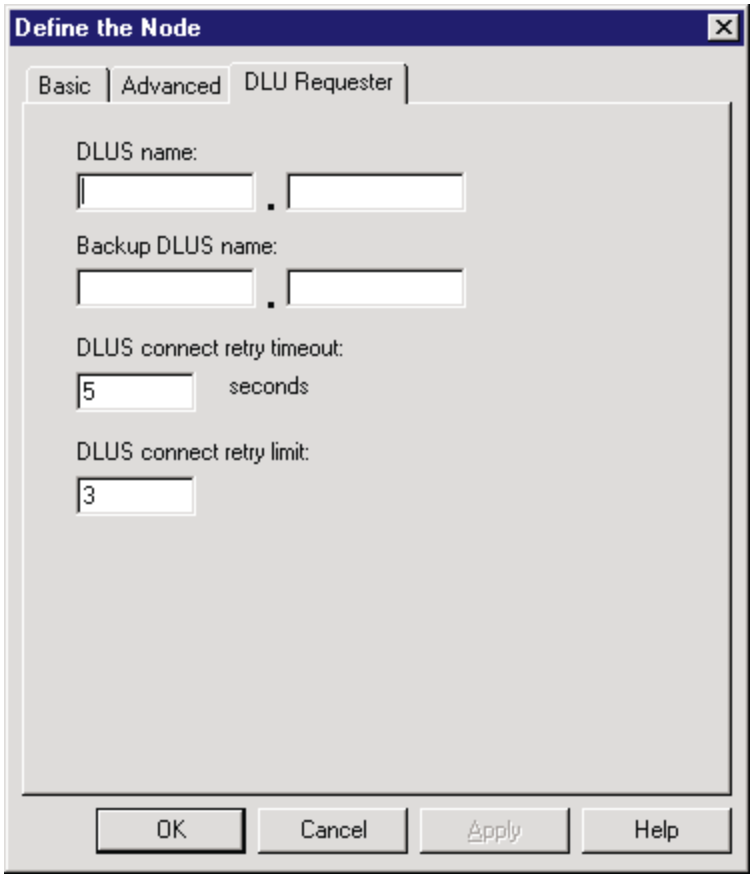

Figure 137. Define the Node Notebook: DLU Requester Tab (Local 3174)

On the **DLU Requester** tab (Figure 137), accept the default values for the following parameters:

DLUS connect retry timeout
Specifies the time between attempts to reconnect a dependent logical unit server (DLUS). This parameter is based on the **DLUS connect retry limit** parameter. Take the default of 5.

DLUS connect retry limit
Specifies the maximum number of attempts to reconnect a DLUS without receiving an acknowledgment in the time set by the **DLUS connect retry timeout** parameter. Take the default of 3.

Click **OK** to save these configuration settings.

Local 3174 Device Configuration

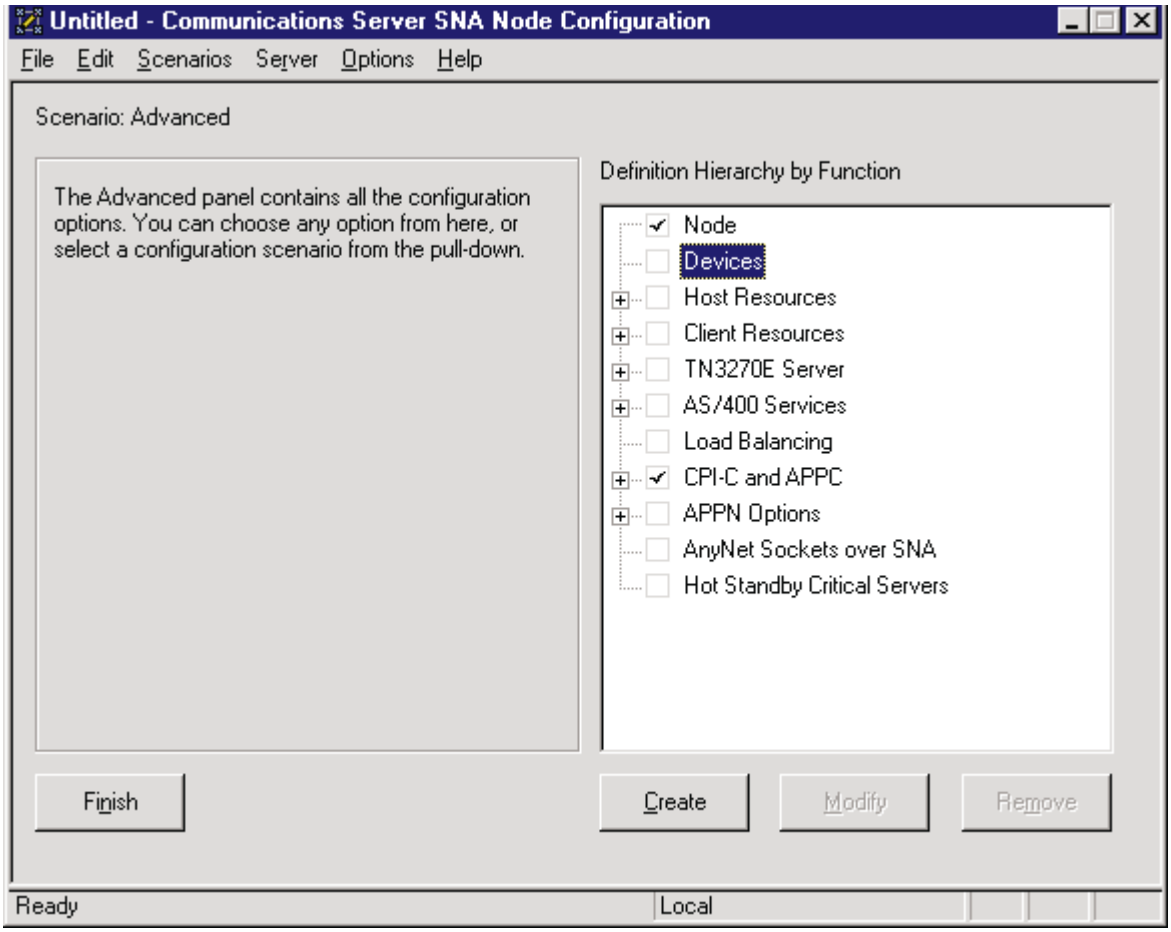

Figure 138. Communications Server SNA Node Configuration Window: Devices (Local 3174)

In the Communications Server SNA Node Configuration window (Figure 138), right-click the **Devices** box and select the **Create** option. The Device Type pop-up window (Figure 139) opens.

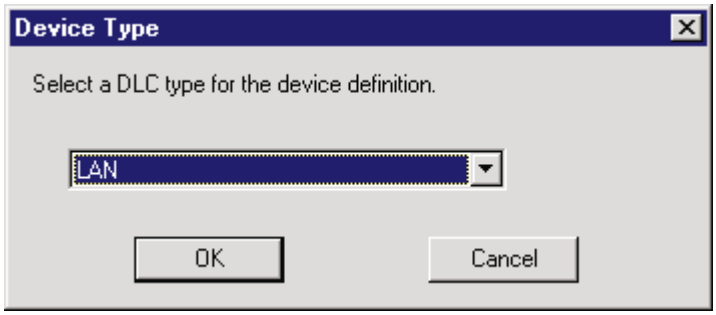

Figure 139. Device Type Window (Local 3174)

Select **LAN** as your data link control (DLC) type. A DLC is a set of rules that nodes on a data link (such as an SDLC link or a token ring) use to accomplish an orderly exchange of information.

Click **OK** to save this configuration setting.

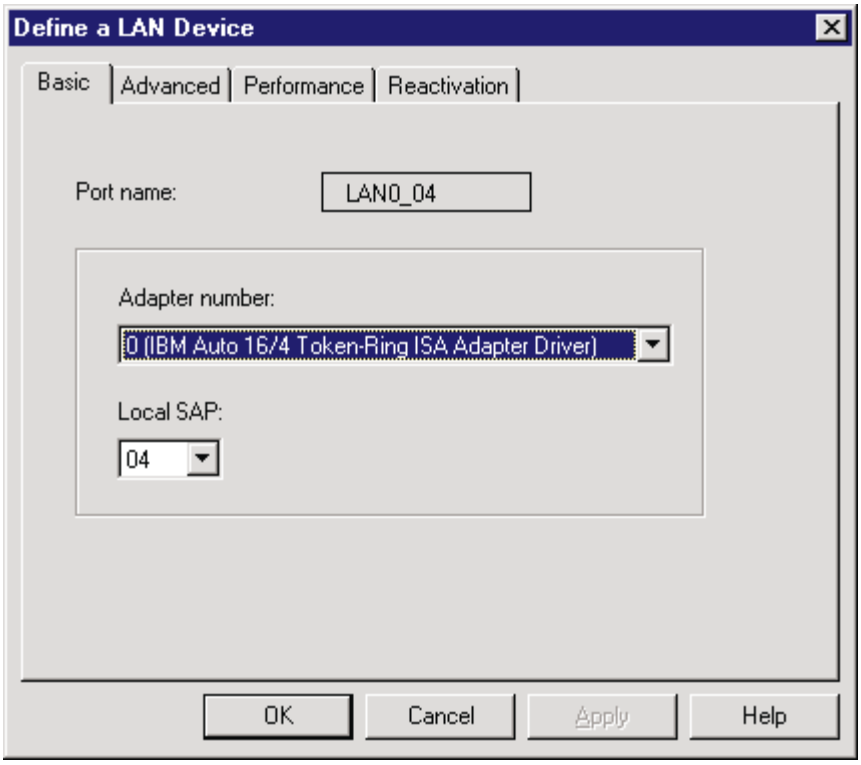

Figure 140. Define a LAN Device Notebook: Basic Tab (Local 3174)

On the **Basic** tab of the Define a LAN Device notebook (Figure 140), supply the following values:

Port name
Specifies the port name of the physical connection to the link hardware. This value consists of the word **LAN**, the adapter number, and the local SAP number, with an underscore between the adapter number and the local SAP number. Accept the value that is displayed.

Adapter number
Specifies a value from 0 to 7 that uniquely identifies this adapter. You may have both token-ring and ethernet adapters defined at your installation. Ensure that you select the proper token-ring LAN adapter.

Local SAP
Specifies the local service access point (SAP) number of the local port as a hexadecimal value from 04 through FC. Note that this number must be a multiple of four. Take the default of `04`.

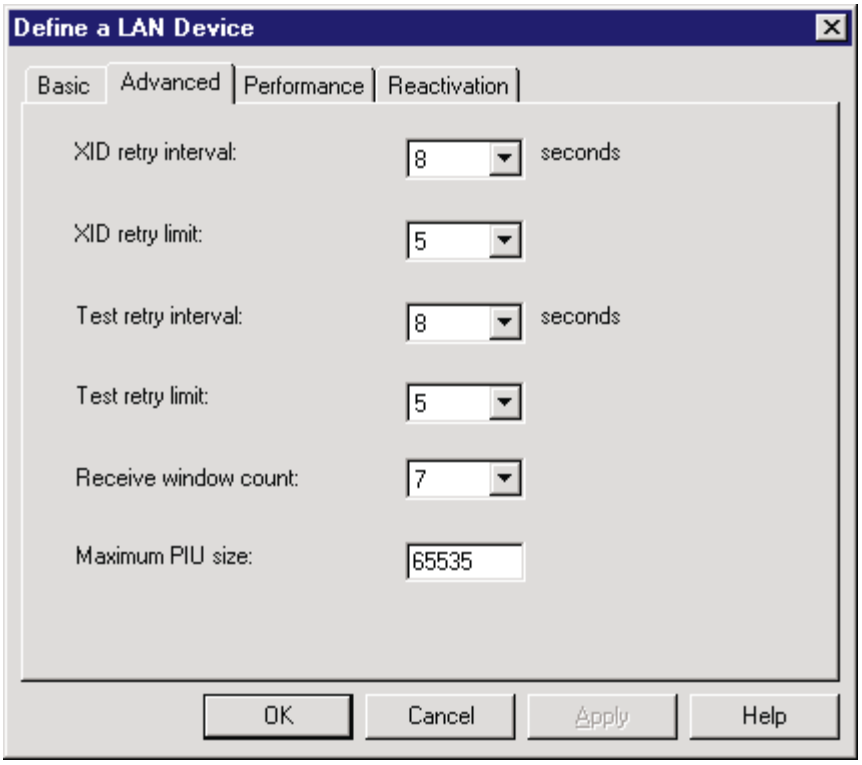

Figure 141. Define a LAN Device Notebook: Advanced Tab (Local 3174)

On the **Advanced** tab (Figure 141), supply the following values:

XID retry interval
Specifies the time the link station waits for a reply to a previous **XID** command before resending that command. Specify `60`. This value causes the link station to try to establish a link connection with the communication controller every 60 seconds, until a link connection can be established. If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **Response Timeout** parameter from the **Token-Ring SNA DLC** profile.

XID retry limit
Specifies the maximum number of times an **XID** command will be retransmitted before Communications Server for NT presumes that the link is broken and stops retrying. Specify `0`. This value indicates that there is no limit on the number of attempts the link station makes to establish a link connection with the communication controller. The previous parameter defines the interval between the attempts. If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **XID Retransmit count** parameter from the **Token-Ring SNA DLC** profile.

Test retry interval
Specifies the time between attempts to find the adjacent link station on the LAN. This parameter is needed to establish communication with the network and does not necessarily relate to VTAM or the PSF host system. The number of times an **XID** is sent is based on the configured **XID retry limit**.

Test retry limit
Specifies the number of times Communications Server attempts to find the adjacent link station on the LAN. Specify a value from 3 to 30.

Receive window count
Defines the size of the link-level window. This value specifies the maximum number of frames to receive before sending a link-level acknowledgement.

Maximum PIU size
Specifies a value between 99 and 65535 bytes that represents the maximum number of bytes in the data buffer that SNA sessions use for this link. If the value of the **Maximum PIU size** exceeds the frame size supported by your local device driver, the value will be reduced to match the frame size.

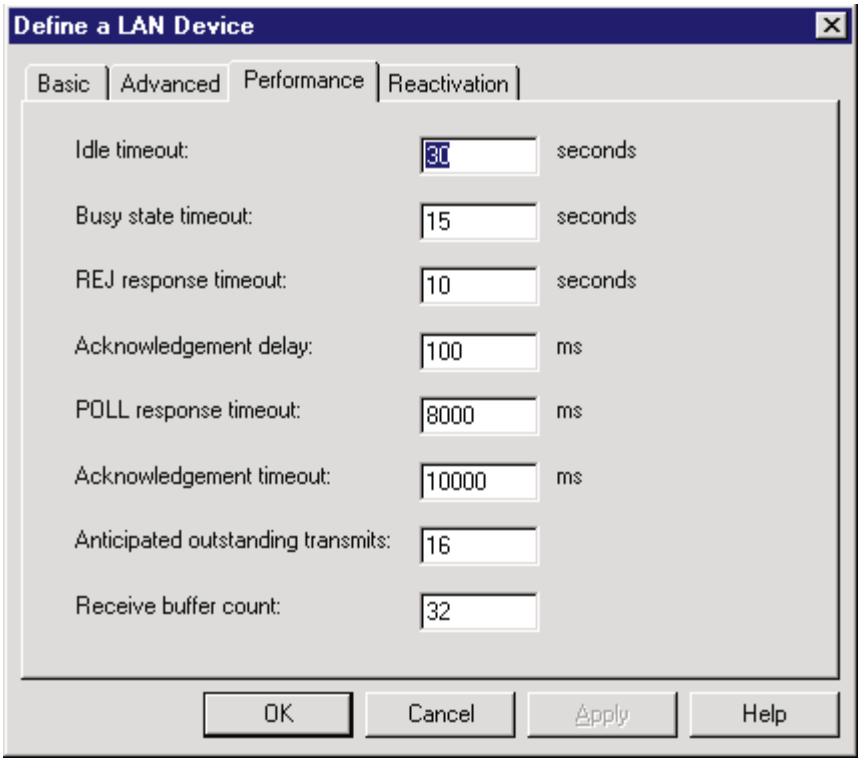

Figure 142. Define a LAN Device Notebook: Performance Tab (Local 3174)

On the **Performance** tab (Figure 142), accept the default values.

If you are migrating from an AIX operating system to a Windows NT operating system, see Table 7 on page 127 for a map of the parameters on the **Performance** tab to the corresponding AIX values.

Table 7. Windows NT and AIX Parameters for LAN Device Performance (Local 3174)

Windows NT Parameter	AIX Parameter
Idle timeout	Inactivity time-out
Busy state timeout	n/a
Acknowledgement delay	n/a
Acknowledgement timeout	Acknowledgement timeout
POLL response timeout	n/a
Anticipated outstanding transmits	Transmit window count
Receive buffer count	n/a

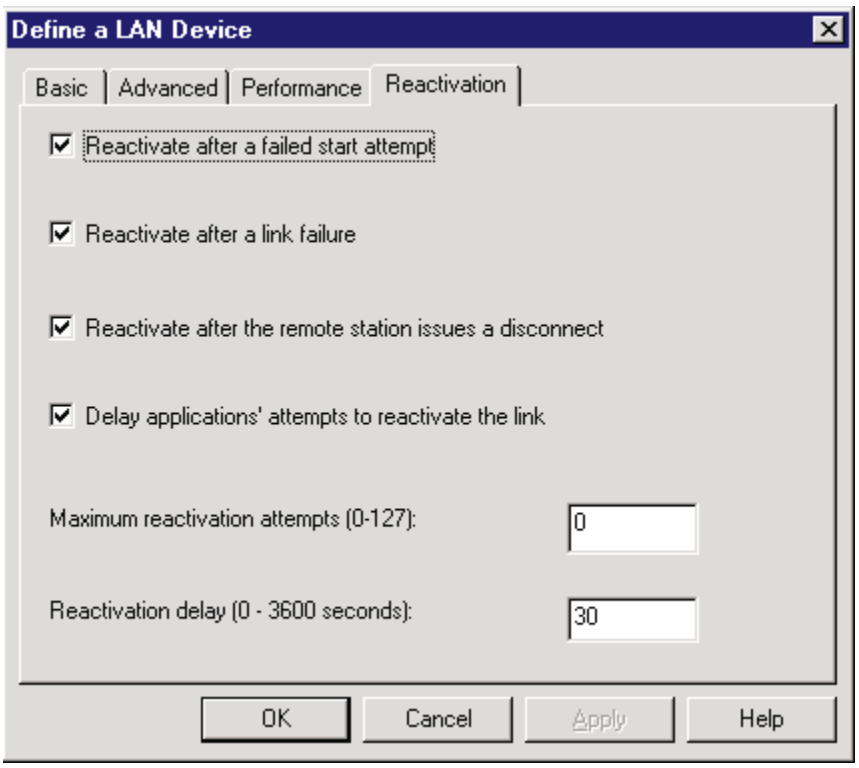

Figure 143. Define a LAN Device Notebook: Reactivation Tab (Local 3174)

On the **Reactivation** tab (Figure 143), accept the default values.

Click **OK** to save these configuration settings.

Local 3174 Peer Connections Configuration

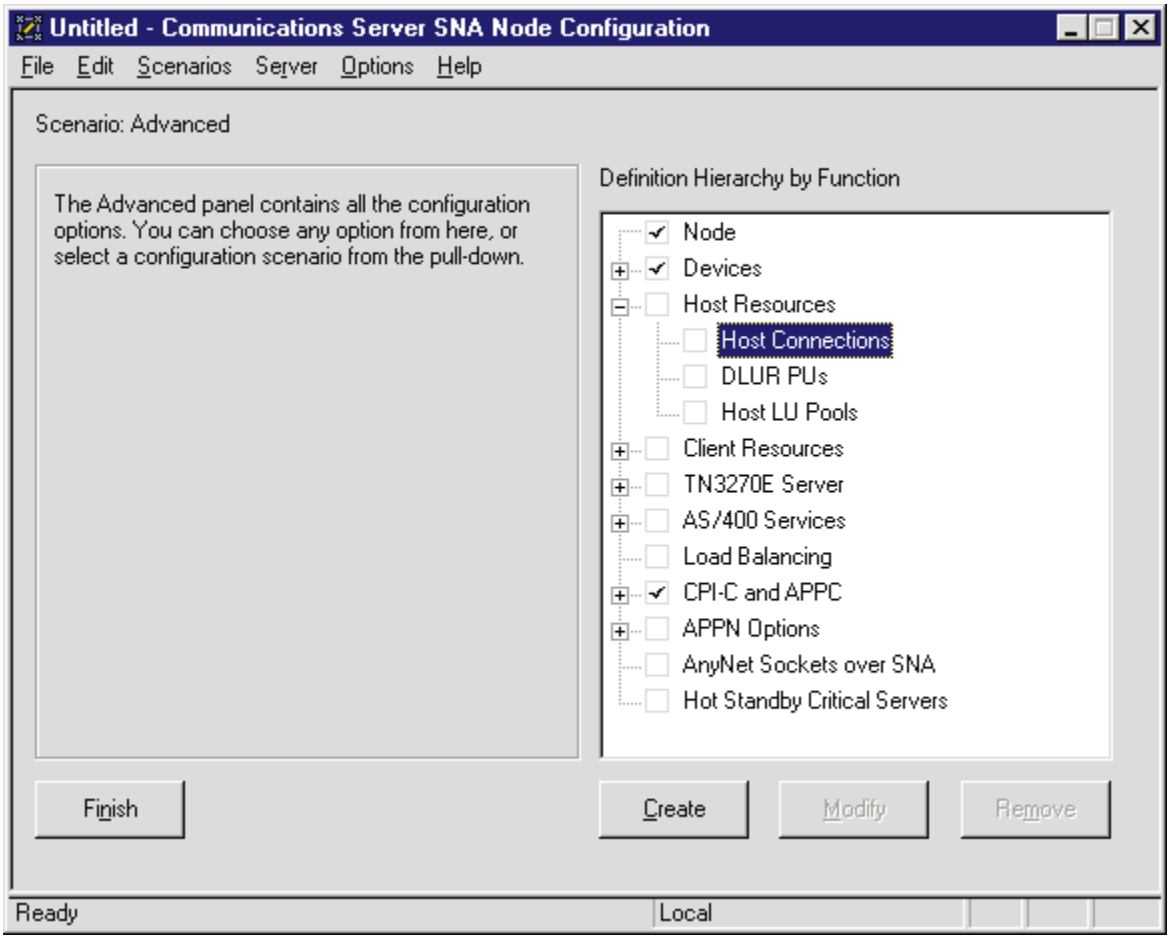

Figure 144. Communications Server SNA Node Configuration Window: Host Connections (Local 3174)

In the Communications Server SNA Node Configuration window (Figure 144), right-click the **Host Resources** box, then the **Host Connections** box. Select the **Create** option. The Define a LAN Connection notebook opens at the **Basic** tab.

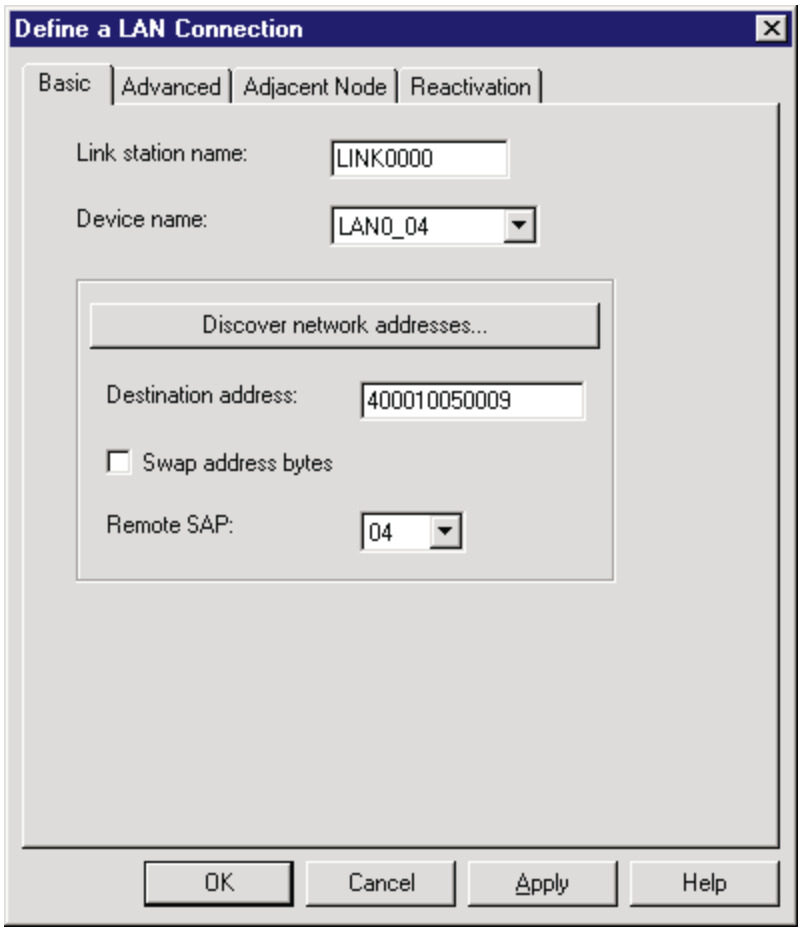

Figure 145. Define a LAN Connection Notebook: Basic Tab (Local 3174)

On the **Basic** tab (Figure 145), supply the following values:

Link station name
Specifies a 1- to 8-byte character string that is used to identify a connection. The contents of this field will vary, depending on the number of links at your installation.

Device name
Specifies the name of the port associated with this link station. This value must match the **Port name** value specified on the **Basic** tab of the Define a LAN Device notebook (Figure 140 on page 124).

Destination address
Specifies a 12-character hexadecimal string that specifies the address to activate a connection to the destination. This value must be specified so the NT system can search for and call the PSF host program.

Swap address bytes
Check this field to bit-swap the address in the **Destination address** field. You may need to select this check box if the next link in the network is an Ethernet link. If not, you can use the default (unchecked).

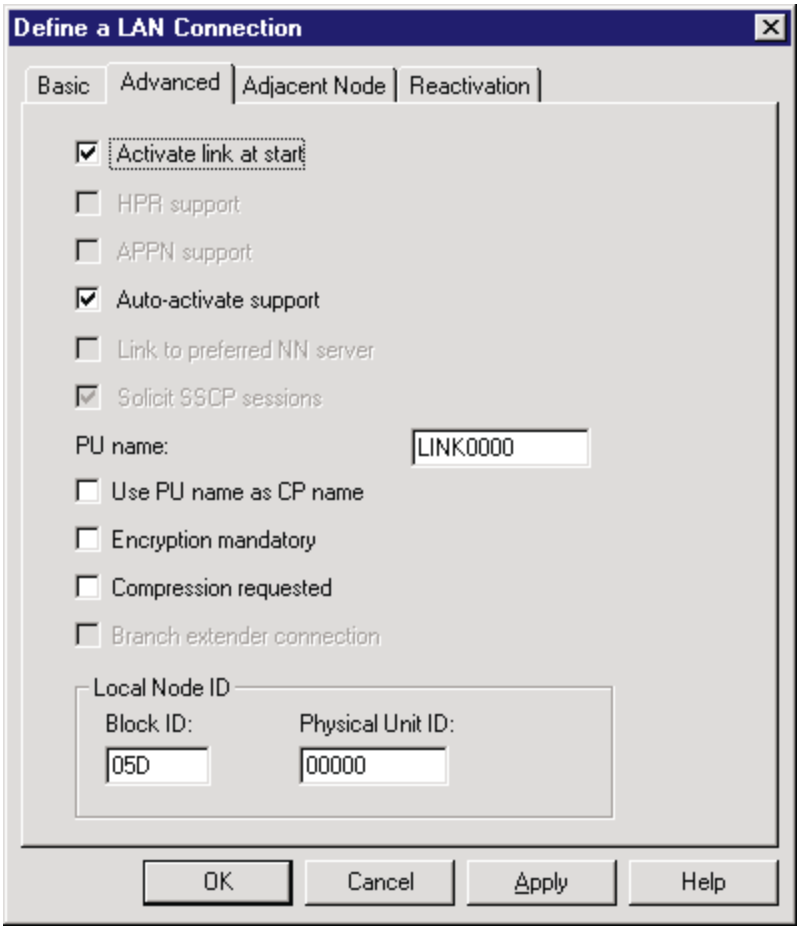

Figure 146. Define a LAN Connection Notebook: Advanced Tab (Local 3174)

On the **Advanced** tab (Figure 146), supply the following values:

Activate link at start
Specifies that you will use the link reactivation values specified in the port (device) link reactivation definition. Ensure that you select this check box.

APPN support
Specifies whether this connection supports CP-CP sessions. Select the check box to specify APPN support.

PU name
Specifies the physical unit (PU) name is the name of the component that manages and monitors the resources (such as attached links and adjacent link station) associated with a node. The default PU name is automatically created. You can change this definition.

Block ID
Identifies the product type in an SNA network.

Physical Unit ID
Identifies the physical unit (PU) or component that manages and monitors the resources (such as attached links and adjacent link stations) associated with a node.

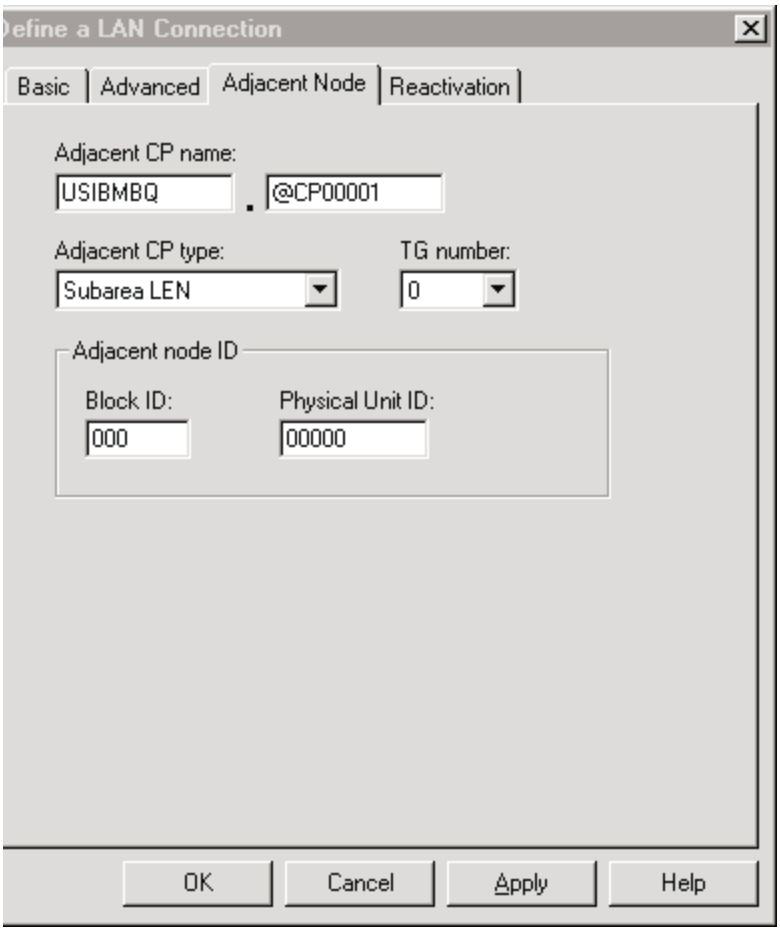

Figure 147. Define a LAN Connection Notebook: Adjacent Node Tab (Local 3174)

On the **Adjacent Node** tab (Figure 147), accept the default values.

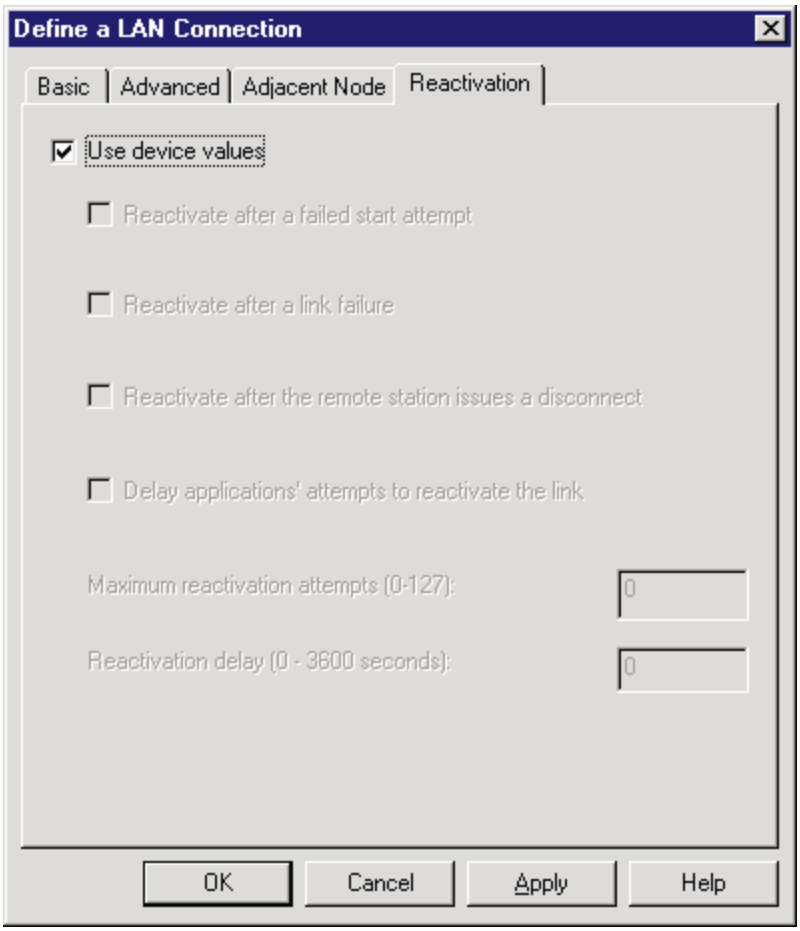

Figure 148. Define a LAN Connection Notebook: Reactivation Tab (Local 3174)

On the **Reactivation** tab (Figure 148), accept the default values.

Note that after you select **OK**, a pop-up window appears asking:

```
Do you want to automatically route all APPC sessions over this connection?
```

You must reply `yes`. Then, a pop-up window asks:

```
Do you wish to create and assign new LUs to this connection?
```

When you reply `yes`, the Host LU Definition window (Figure 149 on page 133) appears.

Local LU 6.2 Configuration for Local 3174

Dependent or Independent LU?

This procedure configures a *dependent* LU. You cannot use it to configure an *independent* LU. If you require independent LUs, see "Deciding whether to Define a Dependent or an Independent LU" on page 14.

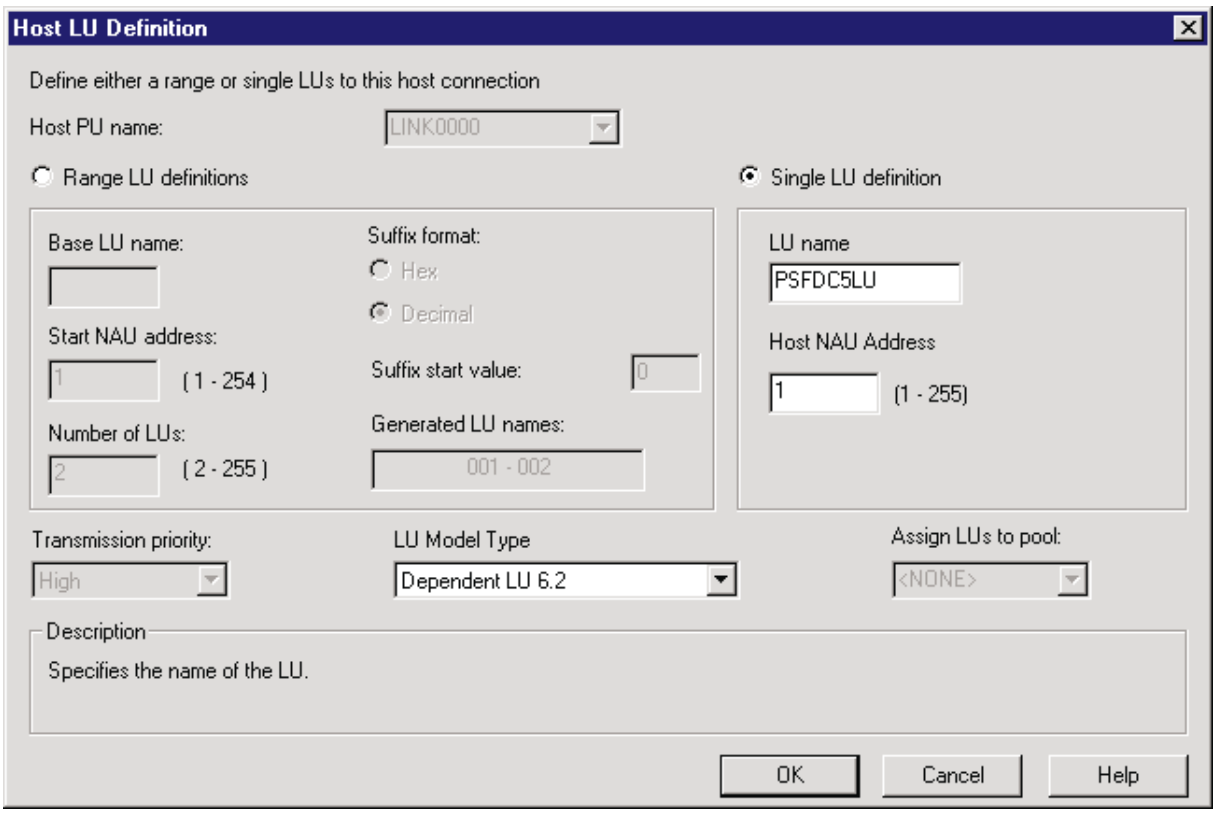

Figure 149. Host LU Definition Window (Local 3174)

In the Host LU Definition window (Figure 149), supply the following values:

Single LU Definition
Specifies that the host link definition can be assigned a single LU definition. Select this button to indicate that the host LU definition is assigned a single link definition.

LU Name
Specifies a 1- to 8-character name of a type of network addressable unit (NAU) that enables end users to communicate with each other and gain access to network resources. The first character must be an uppercase alphabetic character (A-Z) or a special character (@,#,$). The remaining characters can be alphanumeric characters (A-Z, 0-9) or special characters (@,#,$). This name must match the Partner LU that is defined for the host PSF program.

Host NAU Address
Specifies a value between 1 and 255 for a dependent LU. This value must match the **LOCADDR** value on the VTAM **LU** statement (see "Specifying the VTAM Local Major Node" on page 114).

LU Model Type
Specifies the model type and number of the LU that is used by Infoprint Manager when configuring the PSF Direct host receiver. Select **Dependent LU 6.2**.

Click **OK** to save these specifications to the *xxx*.acg file.

To see this defined LU, click the **Host Connections** box in the Communications Server SNA Node Configuration window (Figure 150) until you display the link (`LINK0000`) and the Dependent LU (`PSDC5LU`).

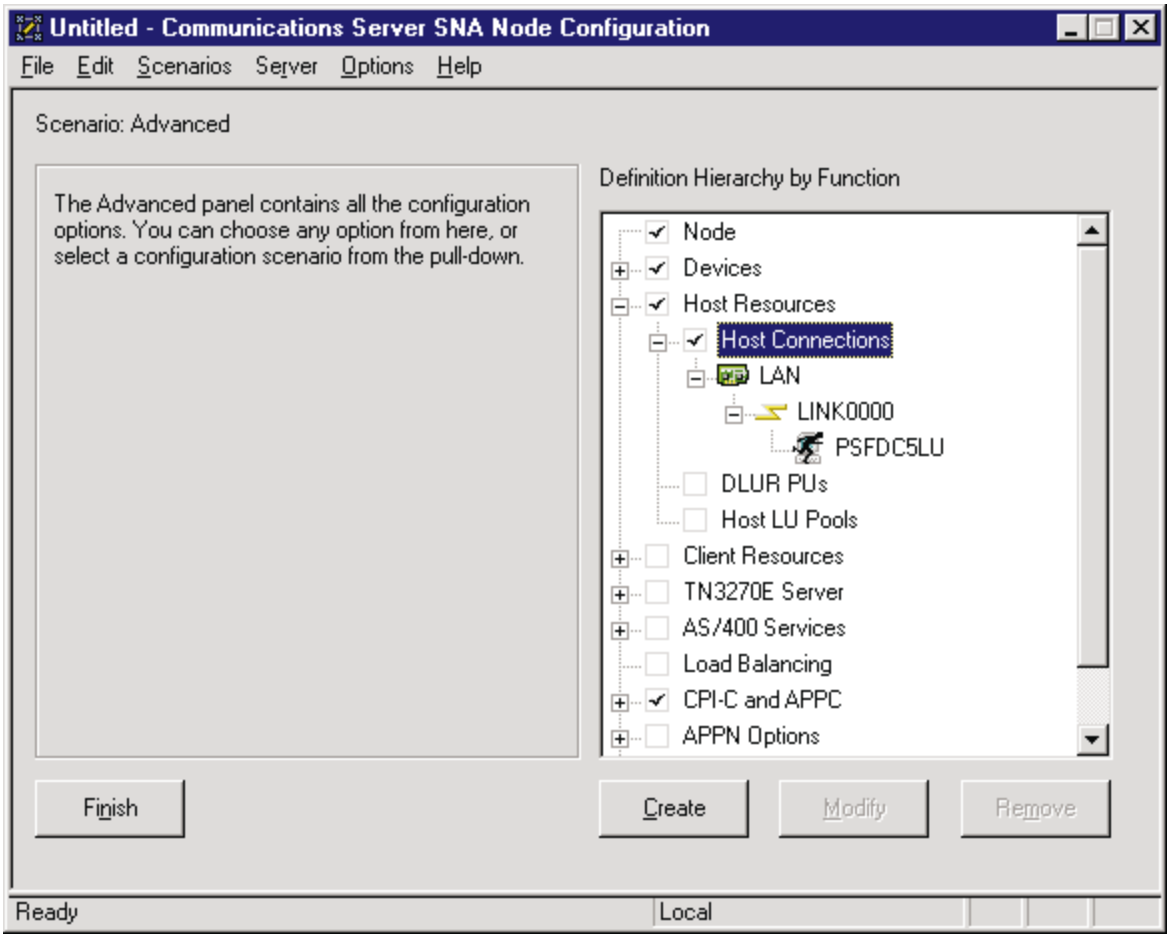

Figure 150. Communications Server SNA Node Configuration Window: Defined LU (Local 3174)

Enabling SNA API Clients for Local 3174

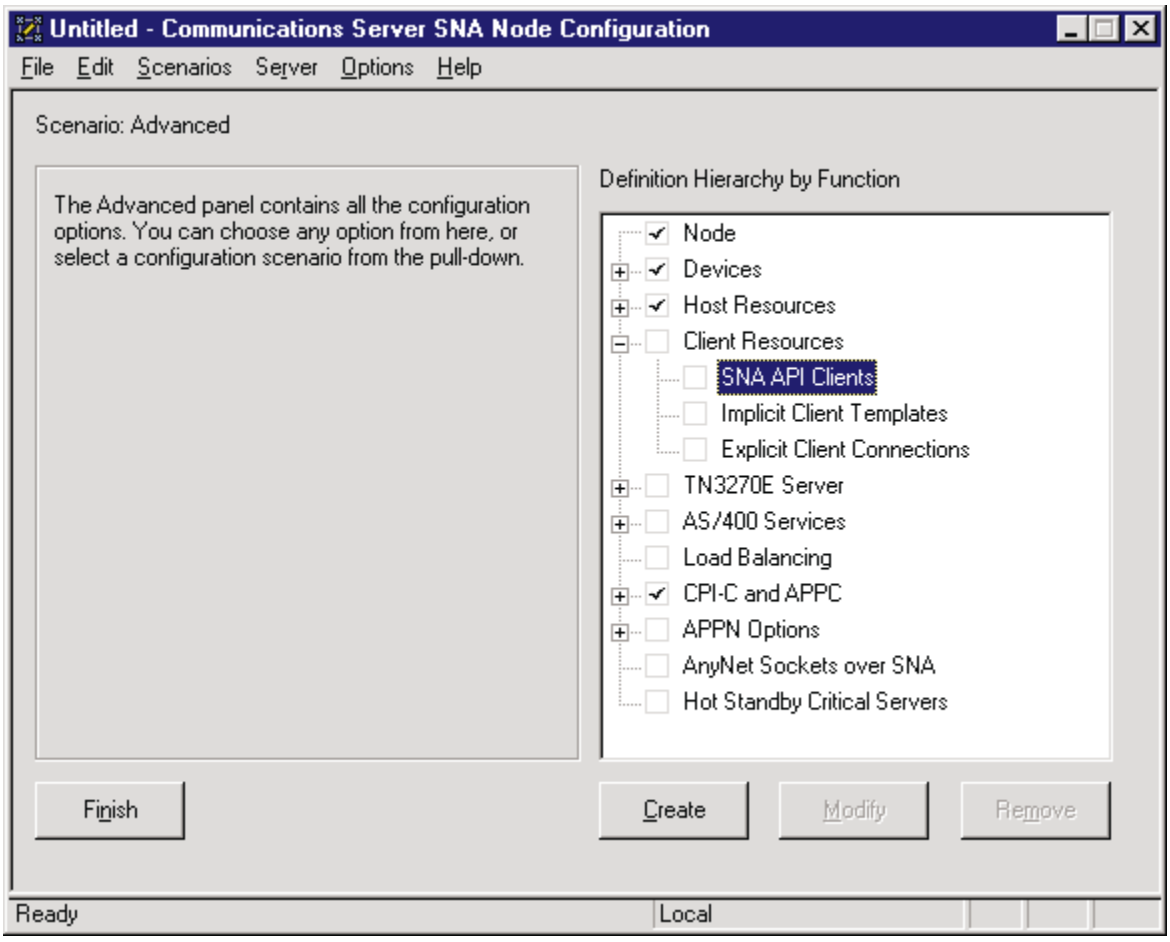

Figure 151. Communications Server SNA Node Configuration Window: SNA API Clients (Local 3174)

In the Communications Server SNA Node Configuration window (Figure 151), right-click the **Client Resources** box, then the **SNA API Clients** box. The SNA Clients window opens.

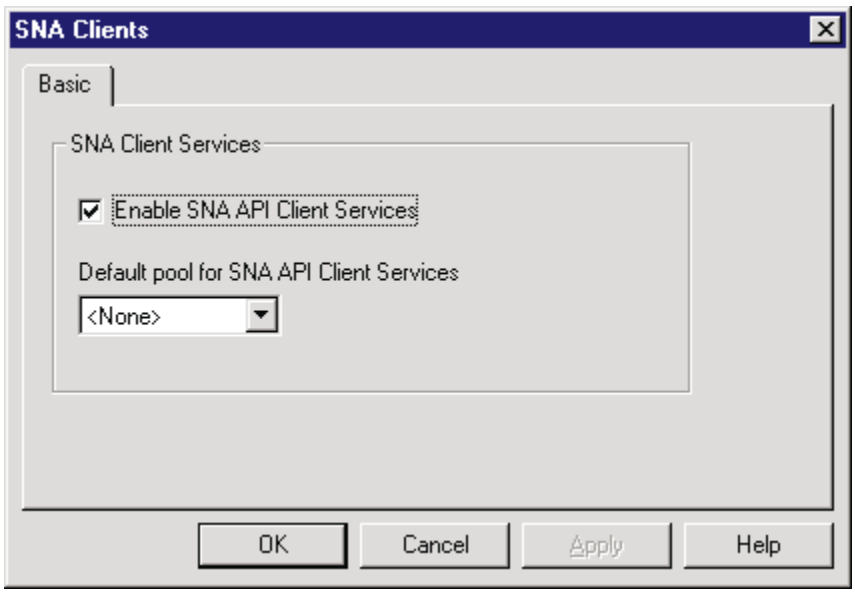

Figure 152. SNA Clients Window (Local 3174)

In the SNA Clients window (Figure 152), check the **Enable SNA API Client Services** box.

Click **OK** to save these specifications to the *xxx*.acg file.

Partner LU 6.2 Configuration for Local 3174

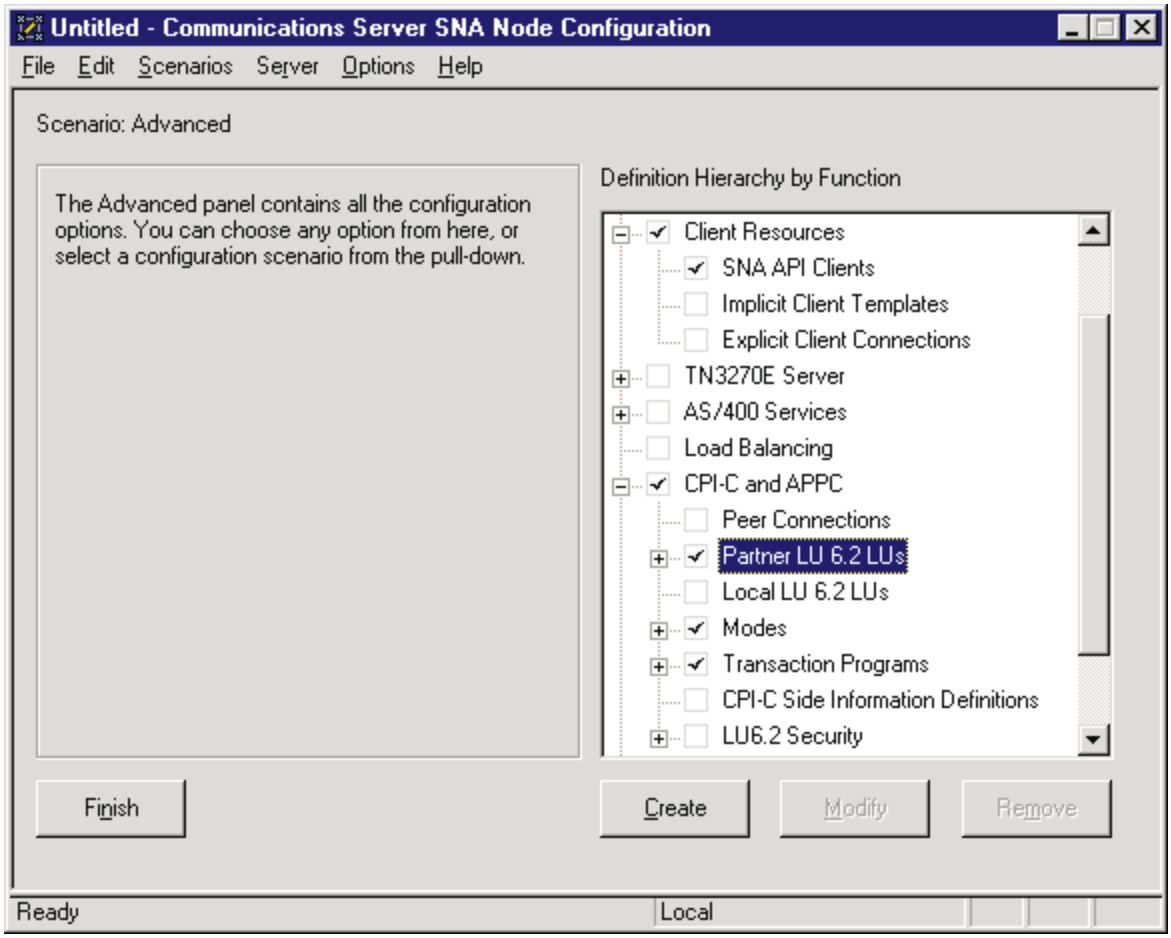

Figure 153. Communications Server SNA Node Configuration Window: Partner LU 6.2 LUs (Local 3174)

In the Communications Server SNA Node Configuration window (Figure 153), right-click the **CPI-C and APPC** box, then the **Partner LU 6.2 LUs** box. Select the **Create** option. The Define a Partner LU 6.2 notebook opens at the **Basic** tab.

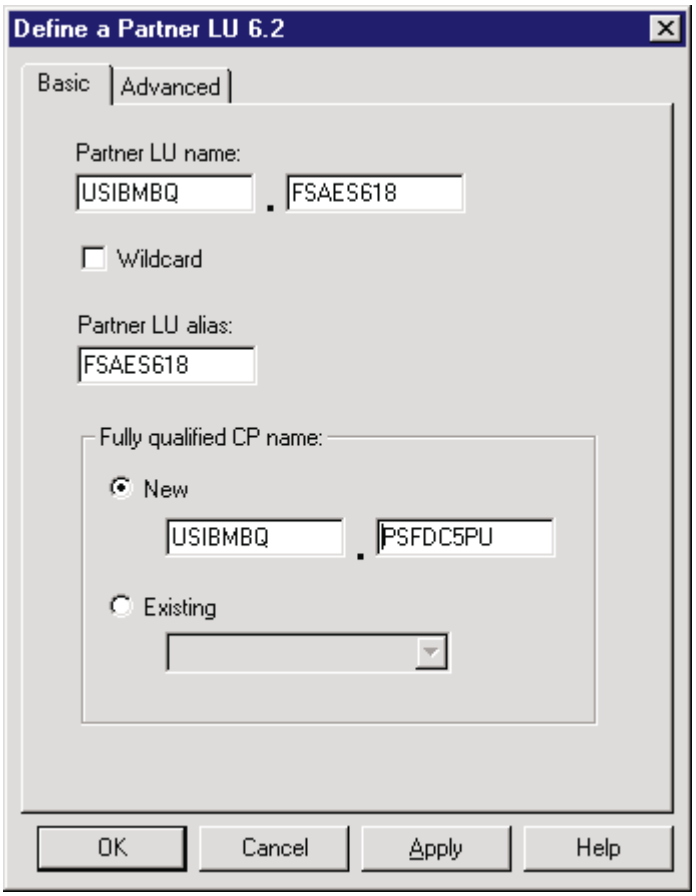

Figure 154. Define a Partner LU 6.2 Notebook: Basic Tab (Local 3174)

On the **Basic** tab (Figure 154), supply the following values:

Partner LU name
Specifies the network identifier of the network in which the host PSF program resides (followed by a period), and the logical unit name used by the host PSF program. The network identifier portion must match the **NETID** value in the VTAM start option list (ATCSTR*xx*) (see "Specifying the VTAM Start Option List (ATCSTRxx)" on page 111). The logical unit name portion must match the **APPLID** parameter in one of these places:

- The PSF for OS/390 **PRINTDEV** statement
- The PSF/VSE **PRINTDEV** statement
- The PSF/VM **OPTIONS PDM** file

That **APPLID** parameter on the PSF host system must also match an **APPL** statement in a VTAM application program major node. (Do not check the **Wildcard** check box.)

Partner LU alias
Specifies the alternate name for the partner LU. Local applications can use this name, instead of the fully qualified LU name, to refer to the partner LU. While you can choose any meaningful value, IBM recommends specifying the second qualifier of the **Partner LU name**.

Fully qualified CP name
Select **New** to enter the fully qualified CP name of the partner LU's

owning control point. Communications Server for NT requires this field. Infoprint Manager uses this field as the target for any alerts sent by the PSF Direct program.

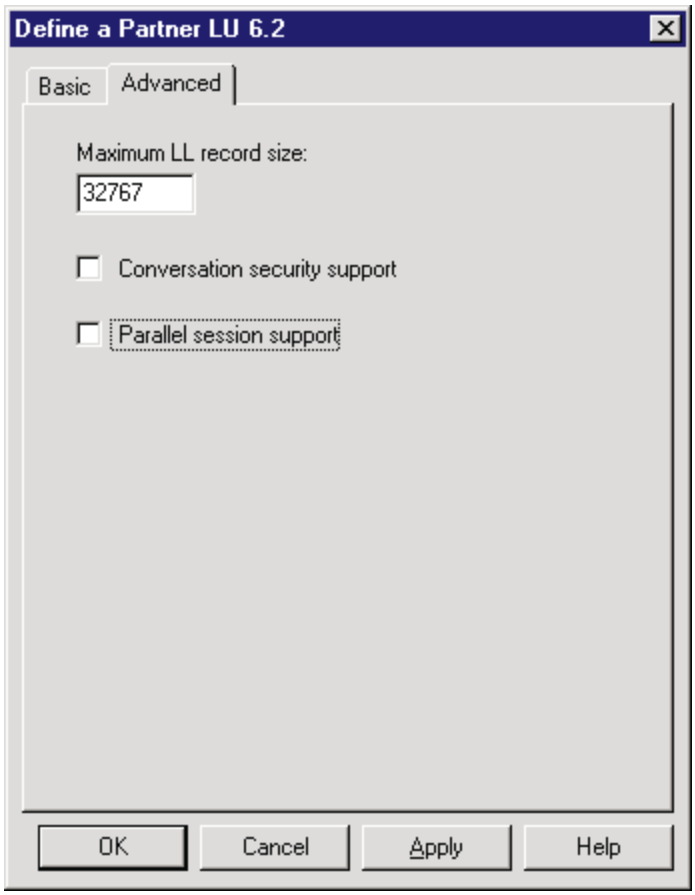

Figure 155. Define a Partner LU 6.2 Notebook: Advanced Tab (Local 3174)

On the **Advanced** tab (Figure 155), supply the following values:

Maximum LL record size
Specifies a value between 0 and 32767 as the maximum size of the logical record in the data stream for basic conversations. Specify the default (32767), because the PSF host program and the PSF Direct host receiver should both be able to handle the full range.

Conversation security support
Specifies that the partner logical unit (LU) is authorized to validate the user identifiers for the local LUs. Select the check box to specify conversation security support if you have matching support on the host PSF program. If not, leave this box unchecked.

Parallel session support
Specifies whether the partner LU supports two or more currently active sessions between the same two LUs by using different pairs of network addresses or session identifiers. Because neither PSF Direct nor the PSF host programs support two sessions with the same partner LU, do not select this check box.

Click **OK** to save these specifications to the *xxx*.acg file.

Mode Configuration for Local 3174

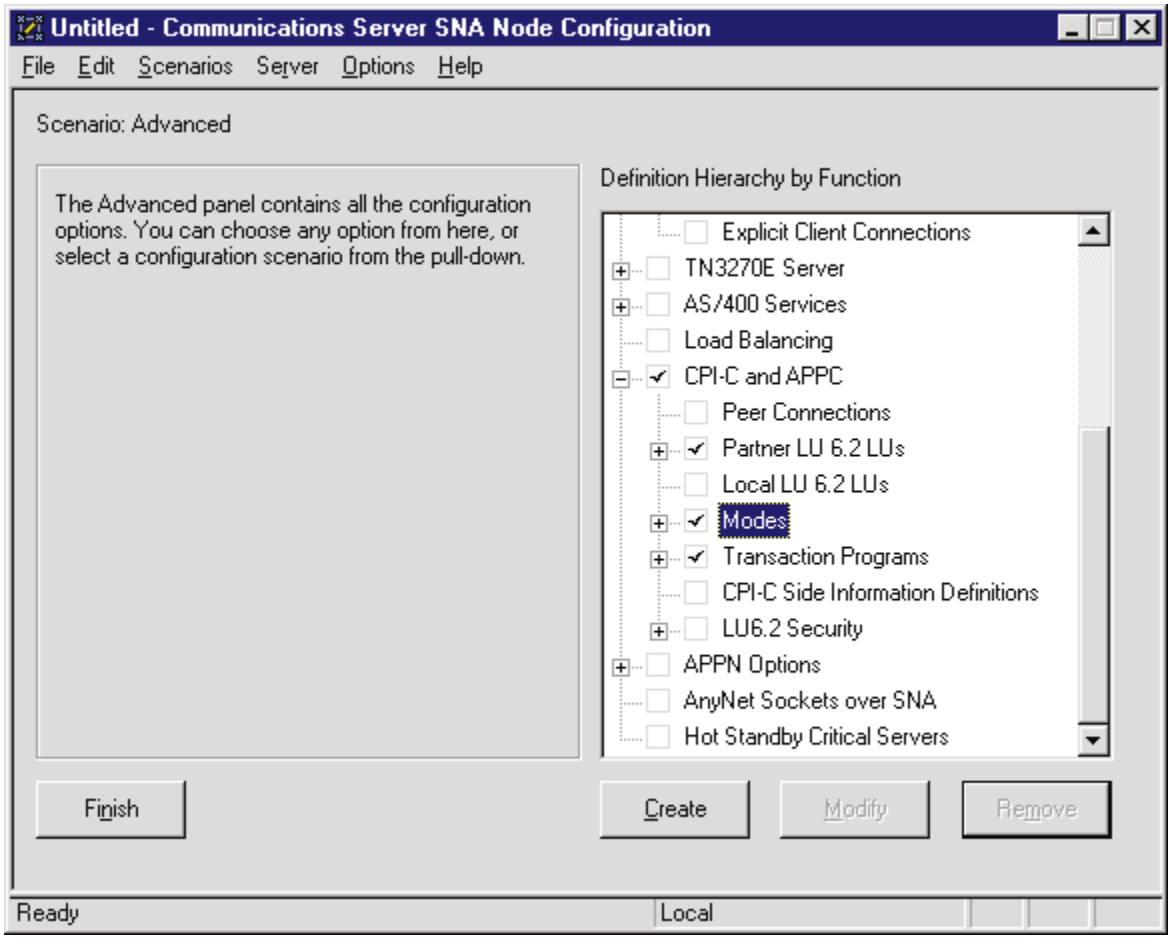

Figure 156. Communications Server SNA Node Configuration Window: Modes (Local 3174)

In the Communications Server SNA Node Configuration window (Figure 156), right-click the **CPI-C and APPC** box, then the **Modes** box. Select the **Create** option. The Define a Mode notebook opens at the **Basic** tab.

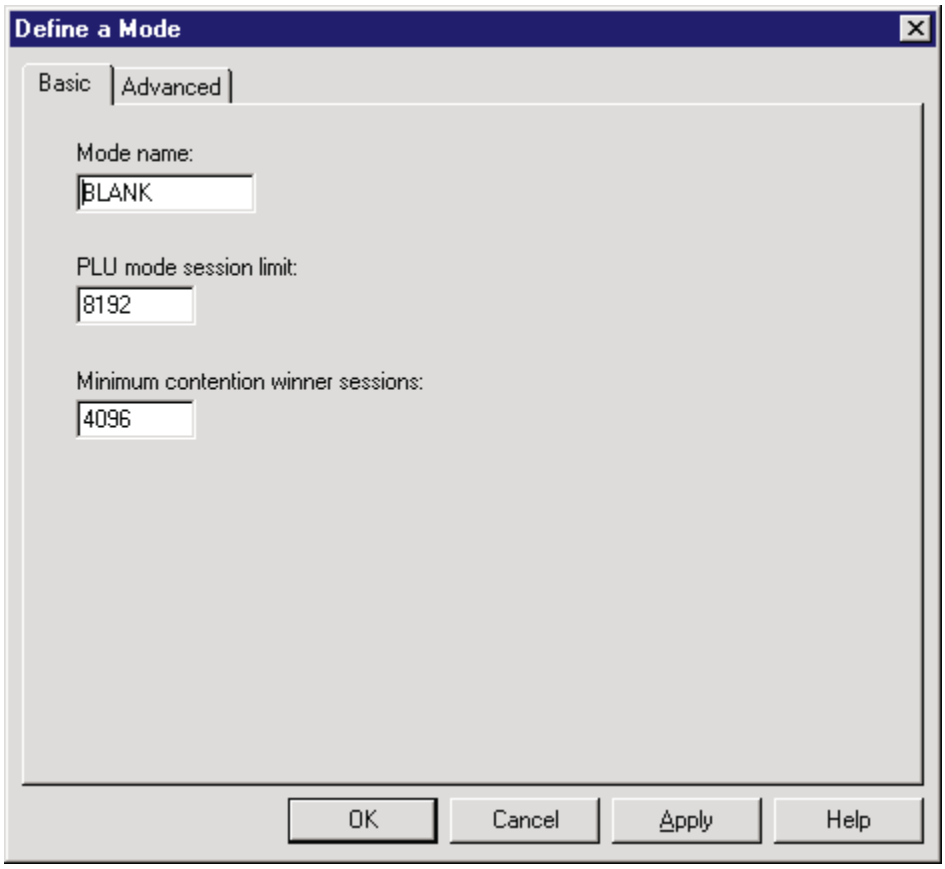

Figure 157. Define a Mode Notebook: Basic Tab (Local 3174)

On the **Basic** tab (Figure 157), supply the following values:

Mode name
Specifies the characteristics for the session that will be allocated for the conversation. The initiator uses this value. The **Mode name** in the **BLANK** profile is 8 spaces.

PLU mode session limit
Specifies a value between 0 and 32767 as the primary logical unit (PLU) mode session limit, or maximum number of concurrently active LU-LU sessions that a particular LU can support. Take the default.

Minimum contention winner sessions
Specifies a value between 0 and 32767 as the minimum number of sessions that a local LU using this mode can activate to win a contention with a partner. Take the default.

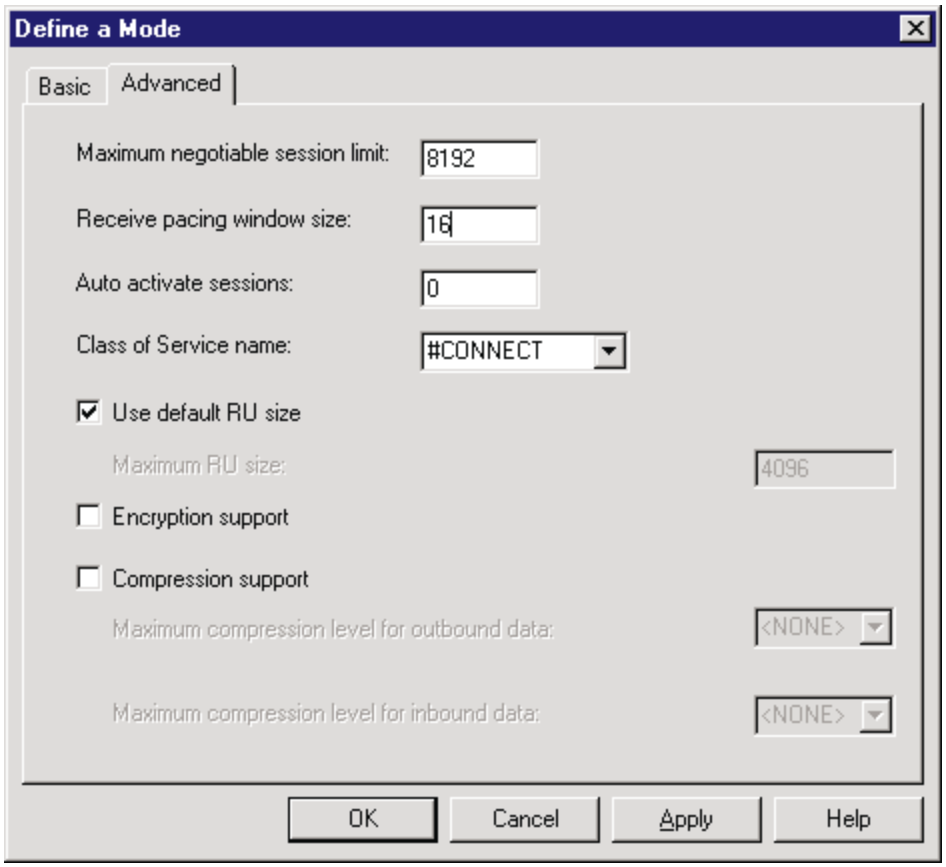

Figure 158. Define a Mode Notebook: Advanced Tab (Local 3174)

On the **Advanced** tab (Figure 158), supply the following values:

Maximum negotiable session limit
Specifies a value between 0 and 32767 as the maximum number of sessions allowed in this mode between any local logical unit (LU) and partner LU. Take the default.

Receive pacing window size
Specifies the secondary receive pacing count. The lesser of this parameter's value and the **SRCVPAC** value in the VTAM **MODEENT** statement is used. (See "Specifying the VTAM Mode Table and Entry" on page 113.) A value of 16 produces good throughput in most configurations. This parameter influences performance and can be adjusted as desired.

Auto activate sessions
Specifies a value between 0 and 32767 as the number of parallel LU 6.2 sessions to automatically start when an initial session starts using this mode. Specify 0 so that no parallel sessions can start automatically for this application.

Class of Service name
Specifies the name of a set of transport network characteristics. Select the default: **#CONNECT** .

Use default RU size
Instructs the node to use the default maximum size for the request/response unit (RU) sent and received on the sessions. Do not select the check box.

Maximum RU size
Set this value to 1024, if it does not automatically specify that value when you remove the check from the **Use default RU size** parameter above.

Click **OK** to save these specifications to the *xxx*.acg file.

Transaction Program Configuration for Local 3174

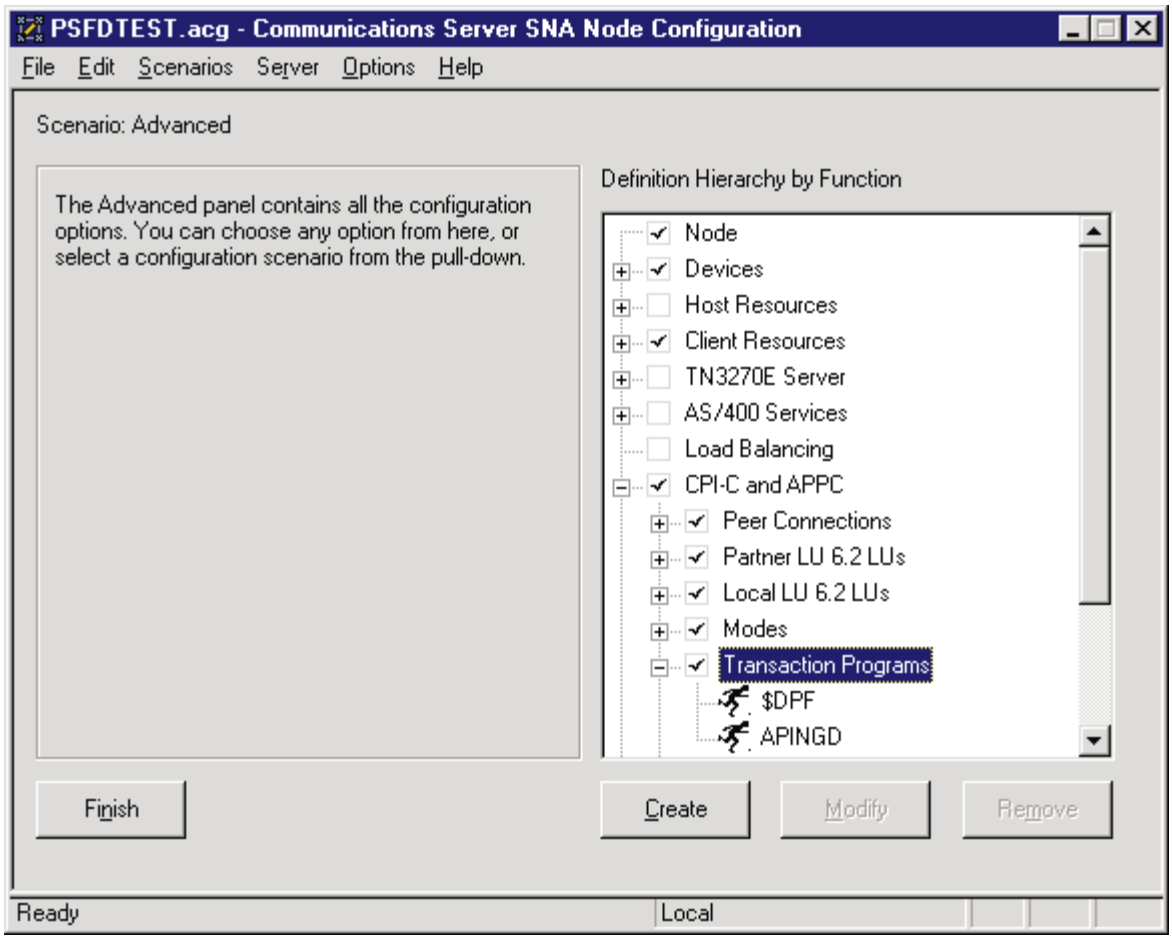

Figure 159. Communications Server SNA Node Configuration Window: Transaction Programs (Local 3174)

In the Communications Server SNA Node Configuration window (Figure 159), right-click the **CPI-C and APPC** box, then the **Transaction Programs** box. Select the **Create** option. The Define a Transaction Program notebook opens at the **Basic** tab.

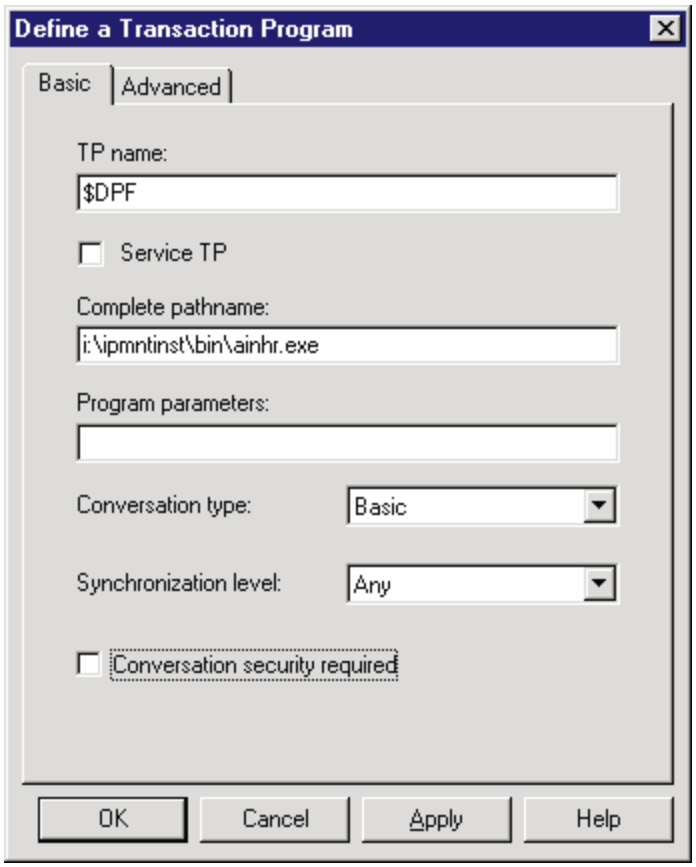

Figure 160. Define a Transaction Program Notebook: Basic Tab (Local 3174)

On the **Basic** tab (Figure 160), supply the following values:

TP name
Specifies a 1- to 64-byte character string for the program that uses the advanced program-to-program communications (APPC) system to communicate with a partner application program at the partner node. Enter `$DPF`. If you are migrating from an AIX operating system to a Windows NT operating system, note that this value changes from a binary `30F0F0F0` to a non-binary `$DPF`. Ensure that the **Service TP** check box is unchecked because it indicates a non-binary value.

Complete pathname
Specifies an 1- to 255-byte character string that describes the location of the program to run. The location can include the drive, the directory, the subdirectory, and the file name. In this example, `i:\ipmntinst\bin\ainhr.exe` specifies the location where Infoprint Manager for NT is installed on your system.

Conversation type
Specifies the conversation type allowed to start the transaction programs (TPs) that use an LU 6.2 session. Select **Basic**.

Synchronization level
Specifies the level allowed on allocation requests that start the local and remote transaction programs (TPs). Select **Any**.

Conversation security required
Allows controlled access to system resources through security parameters.

If this check box is selected, conversation security information is required to start the TP. Incoming allocation requests for this TP without the conversation security information will be rejected. Do not check this box.

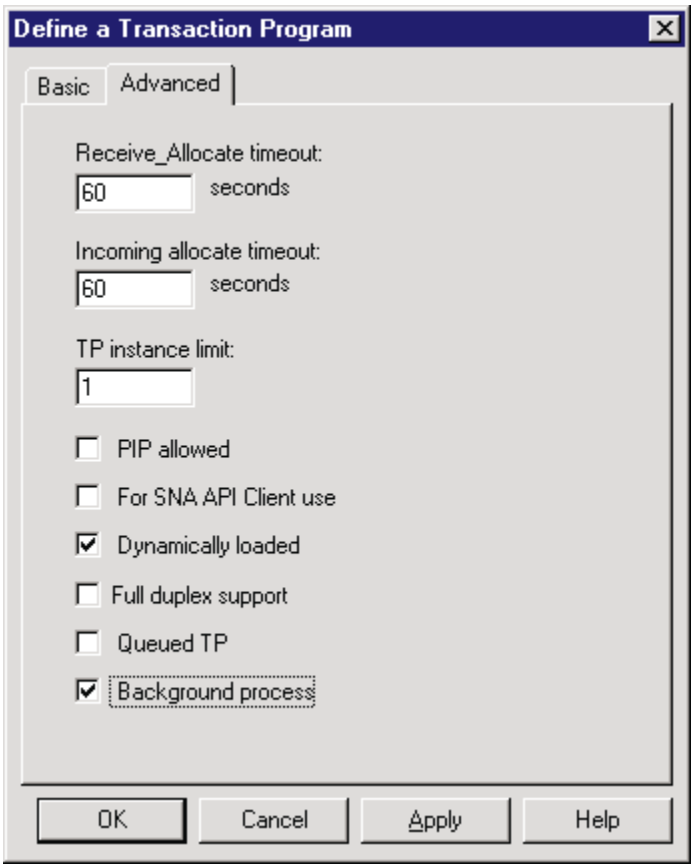

Figure 161. Define a Transaction Program Notebook: Advanced Tab (Local 3174)

On the **Advanced** tab (Figure 161), supply the following values:

Receive_Allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that a **Receive_Allocate** verb will be queued while waiting for an **Attach**. Specify `60`.

Incoming allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that an incoming **Attach** will be queued waiting for a **Receive_Allocate**. Specify `60`.

TP instance limit
Specifies a value between 0 and 65535 seconds that identifies the maximum number of concurrently active TP instances. Specify at least 1 (or the number of LUs that you have defined). 0 means no limit.

Dynamically loaded
Specifies whether the transaction program (TP) can be dynamically started by an allocation request received on a conversation. Select the check box to dynamically load the TP.

Background process
Specifies that the program will run in the background. Only 32-bit programs can multitask in the Windows NT environment. Select the check box to use the background process.

Note: Ensure that **Dynamically loaded** and **Background process** (the two items checked in Figure 161 on page 145) are the only items checked. If you specify other options, this transaction program will not work.

Click **OK** to save these specifications to the *xxx*.acg file.

Once you have completed creating this configuration, go to "Chapter 9. Starting an IBM SecureWay Communications Server for Windows NT Configuration" on page 229.

Local 3174 Token-Ring Gateway Configuration Work Sheets

Use the following work sheets to configure PSF Direct on both the host PSF and Infoprint Manager for NT:

- Use Table 8 to see how Communications Server for NT configuration settings relate to other configuration settings.
- Use Table 9 on page 148 to record your own Communications Server for NT values.

Local 3174 Token-Ring Gateway Configuration Work Sheet Example

Table 8. Local 3174 Token-Ring Gateway Configuration Work Sheet Example

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**3174**
Define the Node: Fully-qualified CP name	**PSFDC5PU**		PU *name* PU CPNAME	
Define the Node: Local Node ID	**05D00000**		PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count	**7**			Item 941: W
Define a LAN Device: Maximum PIU size	**65535**			
Define a LAN Connection: Destination address	**400030001001**			Item 900 (local MAC address)
Host LU Definition: LU name	**PSFDC5LU**	LUNAME	LU *name*	
Host LU Definition: LU Model Type	**Dependent LU 6.2**		LU LOCADDR	
Host LU Definition: Host NAU Address	**1**		LU LOCADDR	
Define a Partner LU 6.2: Partner LU name	**USIBMBQ.FSAES618**	APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Mode: Mode name	**BLANK**			
Define a Mode: Receive pacing window size	**16**		MODEENT SRCVPAC	
Define a Mode: Maximum RU size	**1024**		MODEENT RUSIZES	

Local 3174 Token-Ring Gateway Configuration Blank Work Sheet

Table 9. Local 3174 Token-Ring Gateway Configuration Blank Work Sheet

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**3174**
Define the Node: Fully-qualified CP name			PU *name* PU CPNAME	
Define the Node: Local Node ID			PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count				Item 941: W
Define a LAN Device: Maximum PIU size				
Define a LAN Connection: Destination address				Item 900 (local MAC address)
Host LU Definition: LU name		LUNAME	LU *name*	
Host LU Definition: LU Model Type			LU LOCADDR	
Host LU Definition: Host NAU Address			LU LOCADDR	
Define a Partner LU 6.2: Partner LU name		APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Mode: Mode name				
Define a Mode: Receive pacing window size			MODEENT SRCVPAC	
Define a Mode: Maximum RU size			MODEENT RUSIZES	

Chapter 7. Remote 3174 Token-Ring Gateway Configuration

Figure 162 shows a remote 3174 token-ring gateway configuration.

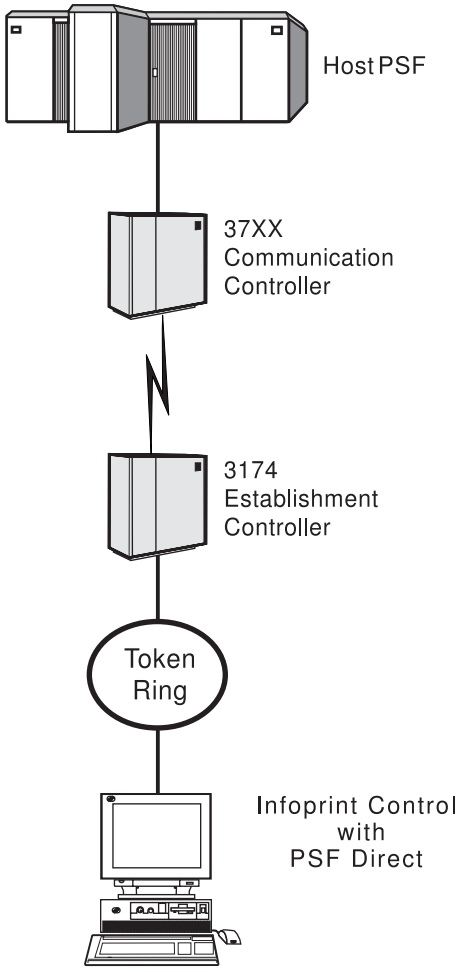

Figure 162. Remote 3174 Token-Ring Gateway Configuration

This chapter describes how to create a remote 3174 token-ring gateway configuration. It contains guidelines and examples for the following tasks:

- "Remote 3174 Node Setup" on page 160
- "Remote 3174 Device Configuration" on page 164
- "Remote 3174 Peer Connections Configuration" on page 169
- "Local LU 6.2 Configuration for Remote 3174" on page 173
- "Enabling SNA API Clients for Remote 3174" on page 176
- "Partner LU 6.2 Configuration for Remote 3174" on page 178
- "Mode Configuration for Remote 3174" on page 181
- "Transaction Program Configuration for Remote 3174" on page 184

Note: Before performing this configuration, review "Chapter 3. Preconfiguration Tasks" on page 13. You must define an alternate token-ring address (local MAC address) for your Infoprint Windows NT server.

At the end of the chapter, there are two configuration work sheets. The first work sheet (Table 11 on page 188) is filled out with the values from the examples. The second work sheet (Table 12 on page 189) is blank for your own values.

Remote 3174 Host Configuration

This section provides guidelines and examples for the following tasks:

- "Specifying the JES2 Initialization Statement"
- "Configuring the Host PSF Printer"
- "Specifying the VTAM Start Option List (ATCSTRxx)" on page 153
- "Specifying the VTAM Configuration List (ATCCONnn)" on page 154
- "Specifying the VTAM Application Program Major Node and Application Program" on page 155
- "Specifying the VTAM Mode Table and Entry" on page 155
- "Configuring the 3174 Establishment Controller" on page 156

For each task, this section shows the pertinent parameters. It describes which of these require you to specify *variable_names* and which require a specific name or number, such as **MODETAB=MODEIBM** or **FMPROF=X'13'**. An underlined value (such as **WCONNECT**) indicates that the value is a system default.

Specifying the JES2 Initialization Statement

Define the host PSF printer as you would any other Systems Network Architecture (SNA)-attached printer. For example, on an OS/390 system you must provide either JES2 or JES3 initialization statements.

Figure 163 shows an example.

```
PRT618 CLASS=Y,MARKS=YES,START=NO,MODE=FSS,FSS=WTRES600,   X
  PRMODE=(LINE,PAGE),UCS=0
```

Figure 163. JES2 Initialization Statement Example (Remote 3174)

Configuring the Host PSF Printer

The manner in which a host PSF printer is configured depends on the operating system. You will use one of the following statements:

- Print Services Facility (PSF) for OS/390 **PRINTDEV** statement
- PSF/VSE **PRINTDEV** statement

- Parameters in the PSF/VM **OPTIONS PDM** file

On each operating system, PSF supports specification of both the application program ID (**APPLID**) and the logical unit name (**LUNAME**).

```
.
.
.
APPLID=appl_prog
LUNAME=lu_name
.
.
.
```

Figure 164. Host PSF Printer Guidelines (Remote 3174)

On some operating systems, PSF also supports other configuration parameters. The following text describes these parameters (listed in order of importance) and notes whether they are required or optional:

APPLID (required)
Specifies the application program that is the SNA logical unit provided by Virtual Telecommunications Access Method (VTAM) and used by PSF. The **APPLID** value must match:

- An **APPL** statement name in a VTAM application program major node
- The second part of the **Partner LU name** field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 197 on page 179)

LUNAME (required)
Specifies the SNA logical unit with which PSF tries to initiate a session. The **LUNAME** value must match:

- An **LU** statement name in a VTAM switched major node
- The **LU name** field in the Host LU Definition window (Figure 192 on page 174)

LOGMODE (optional)
Specifies the VTAM logon mode table entry that defines characteristics of the session between the logical units identified by the **APPLID** and **LUNAME** parameters. The **LOGMODE** parameter identifies an entry within a logon mode table. The **MODETAB** operand on the VTAM **LU** statement identifies the logon mode table. If you omit the **LOGMODE** parameter, the **DLOGMOD** operand on the VTAM **LU** statement identifies the entry within the logon mode table.

Note that if the logical unit identified by the **LUNAME** parameter is a cross-domain resource, you must not use the **LOGMODE** parameter.

SETUP (optional)
Specify **SETUP=FORMS** to cause the Job Entry Subsystem (JES) to issue forms setup messages to the operator.

By default, JES issues forms setup messages to the operator for channel-attached printers, but does not issue forms setup messages to the operator for SNA-attached printers.

MGMTMODE ={IMMED | OUTAVAIL | DIALIN} (optional)
Determines how the host PSF program and PSF Direct initiate communication.

IMMED
Causes the host PSF program to initiate communication when it starts.

OUTAVAIL
Causes the host PSF program to initiate communication when there is available output to print.

DIALIN
Causes the host PSF program to initiate communication only after a switched line becomes available. The switched line can become available either when VTAM dials out or when the remote node dials in.

Note that if you specify **DIALIN**:

- Do not use the **LOGMODE** parameter.
- Include the **LOGAPPL** operand on the VTAM **LU** statement.
- Ensure that the **LOGAPPL** operand on the VTAM **LU** statement matches the **APPLID** value.

FAILURE={WCONNECT | STOP} (optional)
Specifies whether or not the host PSF program re-attempts communication after a printer or communication failure. If you do not specify a value for the **FAILURE** parameter, it defaults to **WCONNECT**.

WCONNECT
Specifies that the host PSF program attempts to communicate again.

STOP Specifies that the operator must restart the host PSF program.

DISCINTV (optional)
Specifies the interval (in seconds) that the host PSF program waits for output to become available to print. If no output becomes available, the host PSF program ends communication with the printer.

Specify `0` to cause the host PSF program to maintain communication indefinitely. If you do not specify a value for **DISCINTV**, it defaults to `0`.

Figure 165 on page 153 shows an example of a single **PRTDEV** statement for a device named PRT618. Note that if an installation has multiple printers defined for receiving PSF Direct jobs, you must define a separate **PRTDEV** statement for each printer.

```
//WTRES600 PROC
//*
//STEP01 EXEC PGM=APSPPIEP,REGION=4096K
//*
//STEPLIB DD DSN=SYSTEM.PSF.V220.LINKLIB,DISP=SHR
//*
//JOBHDR OUTPUT PAGEDEF=A06462,    /* JOB HEADER PAGEDEF     */
//              FORMDEF=A10110     /* JOB HEADER FORMDEF     */
//JOBTLR OUTPUT PAGEDEF=A06462,    /* JOB TRAILER PAGEDEF    */
//              FORMDEF=A10110     /* JOB TRAILER FORMDEF    */
//DSHDR OUTPUT  PAGEDEF=A06462,    /* DATA SET HEADER PAGEDEF*/
//              FORMDEF=A10110     /* DATA SET HEADER FORMDEF*/
//MSGDS OUTPUT  PAGEDEF=A06462,    /* MESSAGE DATASET PAGEDEF*/
//              FORMDEF=A10110     /* MESSAGE DATASET FORMDEF*/
//*
//FONT01 DD DSN=SYS1.FONTLIB,DISP=SHR
//OLAY01 DD DSN=SYS1.OVERLIB,DISP=SHR
//PSEG01 DD DSN=SYS1.PSEGLIB,DISP=SHR
//FDEF01 DD DSN=SYS1.FDEFLIB,DISP=SHR
//PDEF01 DD DSN=SYS1.PDEFLIB,DISP=SHR
//*
//PRT618 PRINTDEV FONTDD=*.FONT01, /* FONT LIBRARY DD       */
//                OVLYDD=*.OLAY01, /* OVERLAY LIBRARY DD    */
//                PSEGDD=*.PSEG01, /* SEGMENT LIBRARY DD    */
//                PDEFDD=*.OLAY01, /* PAGEDEF LIBRARY DD    */
//                FDEFDD=*.OLAY01, /* FORMDEF LIBRARY DD    */
//                JOBHDR=*.JOBHDR, /* JOB HEADER DD         */
//                JOBTLR=*.JOBTLR, /* JOB TRAILER DD        */
//                DSHDR=*.DSHDR,   /* DATA SET HEADER DD    */
//                MESSAGE=*.MSGDS, /* MESSAGE DATA DD       */
//                PAGEDEF=A06462,  /* DEFAULT PAGEDEF       */
//                FORMDEF=A10110,  /* DEFAULT FORMDEF       */
//                CHARS=(GT10,GC15,GB10,GR10,), /* DEFAULT FONT SET*/
//                PIMSG=YES,       /* ACCUMULATE DATA SET MESSAGES */
//                SETUP=FORMS,     /* ISSUE FORMS SETUP MESSAGES   */
//                MGMTMODE=OUTAVAIL,/* START WHEN OUTPUT AVAILABLE */
//                DISCINTV=60,      /* DISCONNECT INTERVAL -- SECS */
//                LOGMODE=IBM3820T, /* LOGON MODE TABLE ENTRY      */
//                APPLID=FSAES618,  /*        APPLICATION PGM NAME */
//                LUNAME=PSFDC5LU   /* LOGICAL UNIT NAME           */
//PRT618 ENDCNTL
```

Figure 165. JES2 External Writer Procedure Example (Remote 3174)

Specifying the VTAM Start Option List (ATCSTRxx)

You must specify the values illustrated in Figure 166 and described below.

```
CONFIG=nn,         ATCCON MEMBER OF VTAMLST     X
NETID=network_id,  NETWORK IDENTIFIER           X
SSCPID=nn,         SSCP IDENTIFIER              X
.
.
.
```

Figure 166. VTAM Start Option List (ATCSTRxx) Guidelines (Remote 3174)

CONFIG

Specifies the **ATCCON***nn* member to use.

NETID

Specifies the network identifier for the host system. The first part of the **Partner LU name** field on the **Basic** tab of the Define a Partner LU 6.2 notebook (Figure 197 on page 179) must match the **NETID** value.

SSCPID

Specifies the system services control point (SSCP) at the host. The SSCPID is a decimal integer from 0 to 65535.

The SSCP, normally VTAM, provides several network management functions. They include managing dependent logical units and accepting Network Management Vector Transports, such as alerts. Alerts often include information about devices that are unavailable or require corrective action.

To configure a PSF Direct host receiver to send alerts to this SSCP, the least significant portion of the **SNA System Services Control Point ID** value defined for the PSF Direct host receiver must be the hexadecimal equivalent of the SSCPID value. (For information about configuring the host receiver, see "Defining the PSF Direct Host Receiver" on page 232.) The **SNA System Services Control Point ID** must be in the form **05***xxxxxxxxxx*, where *x* is a hexadecimal digit.

For example, to configure a PSF Direct host receiver to send alerts to an SSCP with an SSCPID value of 283, the host receiver's **SNA System Services Control Point ID** value must be `05000000011B`.

Figure 167 shows an example.

```
CONFIG=00,       ATCCON MEMBER OF VTAMLST     X
NETID=USIBMBQ,   NETWORK IDENTIFIER           X
SSCPID=1,        SSCP IDENTIFIER              X
.
.
.
```

Figure 167. VTAM Start Option List (ATCSTRxx) Example (Remote 3174)

Specifying the VTAM Configuration List (ATCCONnn)

The VTAM configuration list indicates the application program major nodes that should become available when VTAM starts. Include the application program major node that contains the application program that PSF uses.

```
appl_prog_major_node,          X
.
.
.
```

Figure 168. VTAM Configuration List (ATCCONnn) Guidelines (Remote 3174)

Figure 169 on page 155 shows an example.

```
PSFAPPLS,                    X
.
.
.
```

Figure 169. VTAM Configuration List (ATCCONnn) Example (Remote 3174)

Specifying the VTAM Application Program Major Node and Application Program

The pertinent operands for the VTAM application program major node and application program are illustrated in Figure 170 and described below.

```
appl_prog_major_node, VBUILD TYPE=APPL                X
appl_prog,            APPL AUTH=ACQ,EAS=1,SONSCIP=YES  X
.
.
.
```

Figure 170. VTAM Application Program Major Node and Application Program Guidelines (Remote 3174)

The host PSF program does not support application programs that use **APPC=YES** or **PARSESS=YES**. The default value for both **APPC** and **PARSESS** is **NO**.

Figure 171 shows an example.

```
PSFAPPLS,   VBUILD TYPE=APPL                          X
FSAES618,   APPL AUTH=ACQ,EAS=1,SONSCIP=YES           X
.
.
.
```

Figure 171. VTAM Application Program Major Node and Application Program Example (Remote 3174)

Specifying the VTAM Mode Table and Entry

The operands for the VTAM mode table are illustrated in Figure 172 and described below.

```
table_name   MODETAB                                          X
entry_name   MODEENT LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07', X
.
.
.
             PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'       X
             PSERVIC=X'060200000000000000000200'               X
             PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'         X
             RUSIZES=X'8787'
```

Figure 172. VTAM Mode Table and Entry Guidelines (Remote 3174)

PSNDPAC

Specifies the primary send pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

SRCVPAC

Specifies the secondary receive pacing count. This value influences performance and can be adjusted as desired. A value of X'10' produces good throughput in most configurations.

RUSIZES

Specifies the maximum request unit (RU) sizes from the primary and secondary logical units. The RU sizes influence performance and can be adjusted as desired. A value of X'8787' means 1024 bytes for both RU sizes and produces good throughput in most configurations.

The **RUSIZES** specification influences other configuration parameters. These include:

- The **Maximum RU size** field on the **Advanced** tab of the Define a Mode notebook (Figure 201 on page 183)
- The **MAXSTL** operand in the IBM Network Control Program (NCP) **LINE** statement

Figure 173 shows an example.

```
MODEIBM     MODETAB                                              X
IBM3820T    MODEENT  LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07',  X
.
.
.
                     PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'B0B1'  X
                     PSERVIC=X'060200000000000000000200'          X
                     PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'    X
                     RUSIZES=X'8787'
```

Figure 173. VTAM Mode Table and Entry Example (Remote 3174)

Configuring the 3174 Establishment Controller

The keywords and values for the 3174 Establishment Controller are illustrated in Figure 174 and described below.

```
.
.
.
     CONFIGURATION SUPPORT C RELEASE 3
900: TOKEN-RING ADDRESS FOR THE GATEWAY
          4000 nnnn nnnn
940: RING ADDRESS ASSIGNMENT
     S@   Ring@,             SAP
.
.
.
     nn   4000 nnnn nnnn
     nn   nnnn nnnn nnnn     04
          DLOGMOD=IBM3820T,
941: RING TRANSMISSION DEFINITION
                             F    W
     nn   nnnn nnnn nnnn
     nn   nnnn nnnn nnnn     n    n
```

Figure 174. 3174 Establishment Controller Guidelines (Remote 3174)

900: Token-Ring Address for the Gateway

Specify the token-ring address for the gateway. The address must be a local MAC address in the form **4000** *nnnn nnnn* .

940: Ring Address Assignment

This configuration item includes several pertinent parameters:

S@ Indicates the subchannel address. Values are supplied automatically on the **Ring Address Assignment** panel. The first **S@** value specifies the subchannel address for the gateway. The remaining **S@** values specify subchannel addresses for ring-attached physical units.

Ring@ Indicates the token-ring address. The first **Ring@** value specifies the token-ring address for the gateway and is supplied automatically on the **Ring Address Assignment** panel.

Specify a token-ring address for each ring-attached physical unit. Local MAC addresses are preferable to universal MAC addresses. Local MAC addresses are in the form **4000** *nnnn nnnn*.

SAP Accept the default service access point (SAP) value, `04`.

941: Ring Transmission Definition

This configuration item includes two pertinent parameters:

F Indirectly specifies the transmit I-frame size.

To prevent basic information units (BIUs) from being broken into pieces, choose a transmit I-frame size that is at least 9 bytes larger than the maximum RU size. The maximum RU size is the lesser of the value represented by the VTAM **MODEENT** statement **RUSIZES** operand and the **Maximum RU size** field on the **Advanced** tab of the Define a Mode notebook (Figure 201 on page 183).

W Specifies the transmit window size. The transmit window size is the number of frames that the 3174 sends to the physical unit before waiting for a link-level acknowledgement.

The **Receive window count** field on the **Advanced** tab of the Define a LAN Device notebook (Figure 184 on page 166) specifies the maximum number of frames that Communications Server for NT receives before sending a link-level acknowledgement.

For optimum performance, the transmit window size (**W**) should be equal to the **Receive window count**. If the transmit window size is less than the **Receive window count**, extremely poor throughput can result. In most cases, the default transmit window size value is `2`. The default **Receive window count** value is `8`. You must adjust these default values to produce acceptable throughput.

```
.
.
.
     CONFIGURATION SUPPORT C RELEASE 3
900: TOKEN-RING ADDRESS FOR THE GATEWAY
          4000 3000 1001
940: RING ADDRESS ASSIGNMENT
     S@   Ring@,             SAP
.
.
.
     C1   4000 3000 1001
     C2   4000 3000 1002     04
          DLOGMOD=IBM3820T,
941: RING TRANSMISSION DEFINITION
                             F    W
     C1   4000 3000 1001
     C1   4000 3000 1002     2    7
```

Figure 175. 3174 Establishment Controller Example (Remote 3174)

Specifying Communications Server for NT Configuration Profiles

This section contains instructions and guidelines for configuring the Communications Server for NT profiles. It includes the following tasks:

- "Accessing the Communications Server for NT Profiles"
- "Remote 3174 Node Setup" on page 160
- "Remote 3174 Device Configuration" on page 164
- "Remote 3174 Peer Connections Configuration" on page 169
- "Local LU 6.2 Configuration for Remote 3174" on page 173
- "Enabling SNA API Clients for Remote 3174" on page 176
- "Partner LU 6.2 Configuration for Remote 3174" on page 178
- "Mode Configuration for Remote 3174" on page 181
- "Transaction Program Configuration for Remote 3174" on page 184

Accessing the Communications Server for NT Profiles

Use the following procedure to access the IBM SecureWay Communications Server for NT applications that are described in "What is IBM SecureWay Communications Server for Windows NT?" on page 2.

Note that this procedure assumes that you have dragged the icons for **SNA Node Configuration** and **SNA Node Operations** to your desktop after they were created at installation.

1. From your NT desktop view, double-click the **SNA Node Configuration** icon that resides on your desktop:

2. At the Welcome to Communications Server Configuration! pop-up window, select the **New** button for a new configuration) and click the **Next>** button.

Communications Server creates an *xxx*.acg file (where *xxx* represents the file name you select in this window. This *xxx*.acg file resides in the *C*:\IBMCS\private directory, where *C* is the drive where you installed IBM SecureWay Communications Server for NT. For users migrating from PSF Direct on an OS/2 operating system, this *xxx*.acg file is the equivalent of the OS/2 Communications Manager Communications Server *xxx*.ndf file.

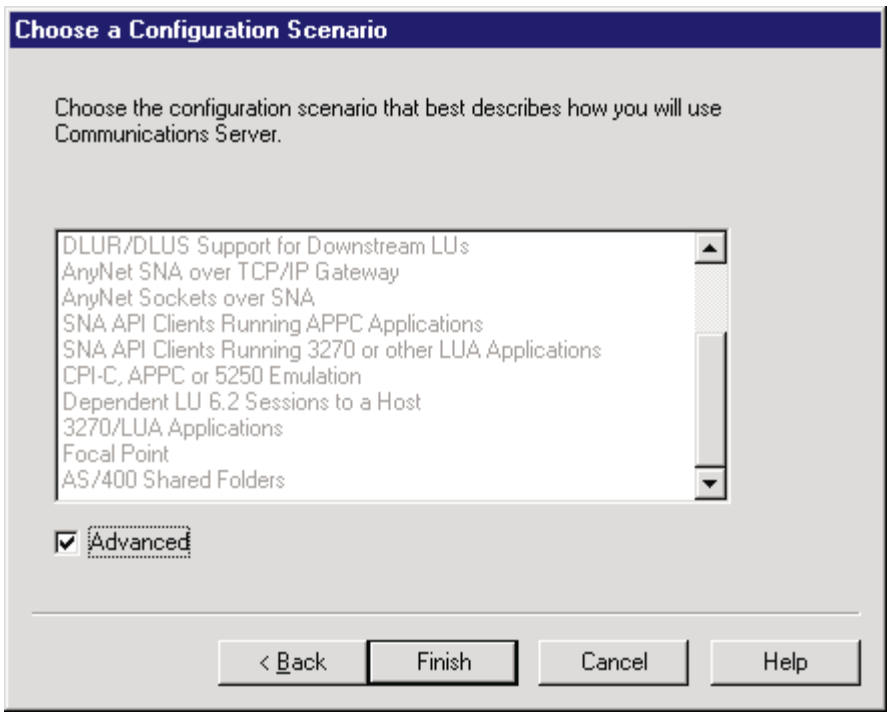

Figure 176. Choose a Configuration Scenario Window (Remote 3174)

3. In the Choose a Configuration Scenario window (Figure 176), check the **Advanced** box, which causes the display to turn gray. Click the **Finish** button.
4. From the Communications Server SNA Node Configuration window (Figure 177 on page 160), you are ready to begin configuring your system for PSF Direct.

Remote 3174 Node Setup

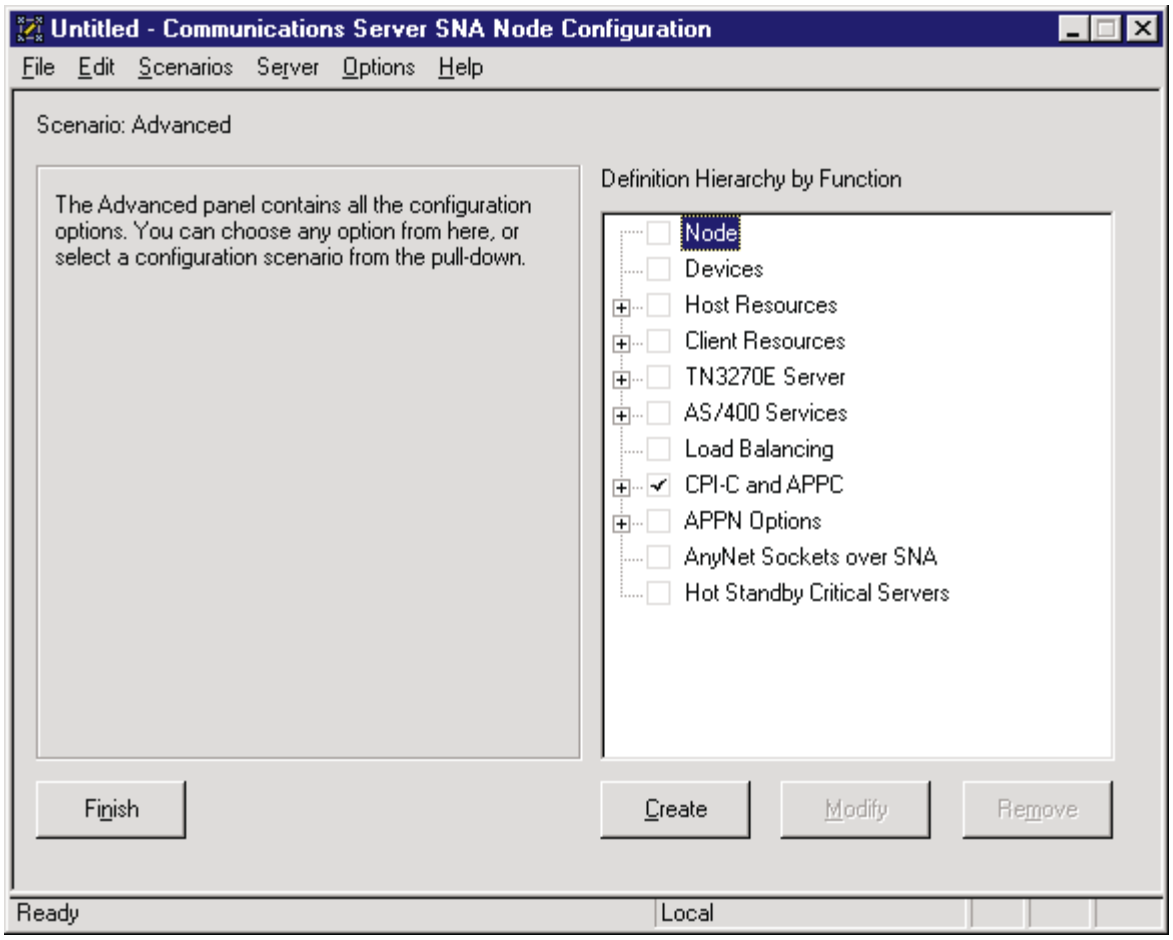

Figure 177. Communications Server SNA Node Configuration Window: Node (Remote 3174)

In the Communications Server SNA Node Configuration window (Figure 177), right-click the **Node** box and select the **Create** option. The Define the Node notebook opens at the **Basic** tab.

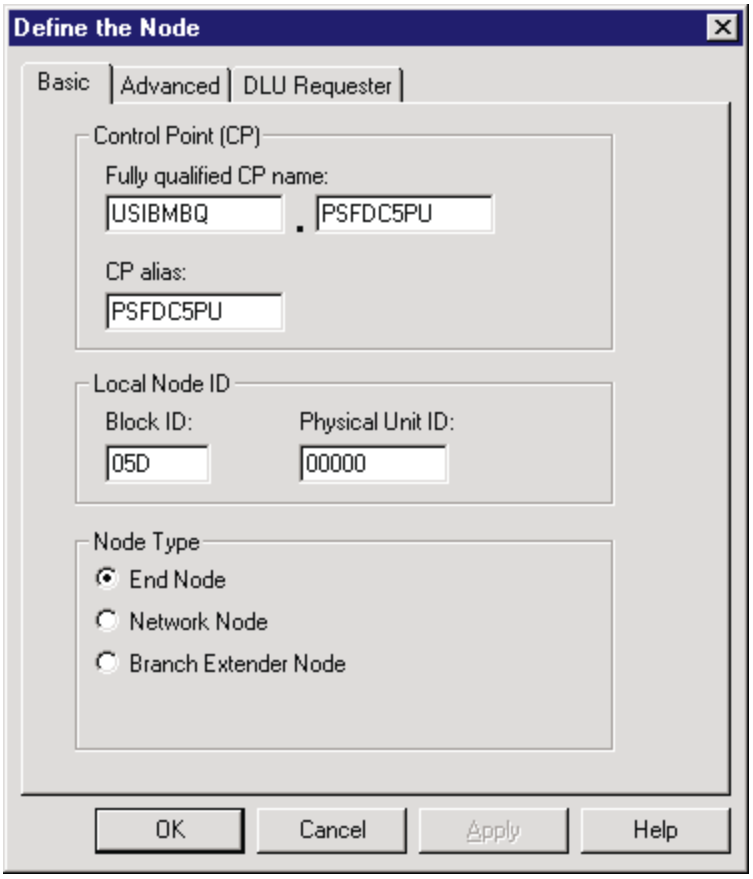

Figure 178. Define the Node Notebook: Basic Tab (Remote 3174)

On the **Basic** tab (Figure 178), specify values for the following parameters:

Fully qualified Control Point (CP) name
Specifies the name of the component that manages the resources of that node. If the **CPNAME** operand is used in the VTAM **PU** statement, then the second part of this value must match the **CPNAME** operand. By convention, the **CPNAME** is usually the same as the **PU** name.

CP alias
Specifies an alternative name for the CP. Local applications can use this name, instead of the **Fully qualified Control Point (CP)** name, to refer to the local CP.

Local Node ID
Specifies both the **Block ID** and the **Physical Unit ID**. The **Block ID** is a 3-digit hexadecimal string that identifies the product type in an SNA network. The **Physical Unit ID** is a 5-digit hexadecimal string that identifies a physical unit (PU).

If the **IDBLK** and **IDNUM** operands are used in the VTAM **PU** statement, then the **Local Node ID** value must match the combined **IDBLK** and **IDNUM** operands. The **IDBLK** operand is normally `071` for Communications Server for NT.

If you are migrating from an AIX operating system, **Local Node ID** matches the **XID Node ID** parameter.

Node Type

Specifies the type of node. Take the default value, **End node**.

If you are migrating from an AIX operating system, **Node Type** matches the **Control Point Type** parameter.

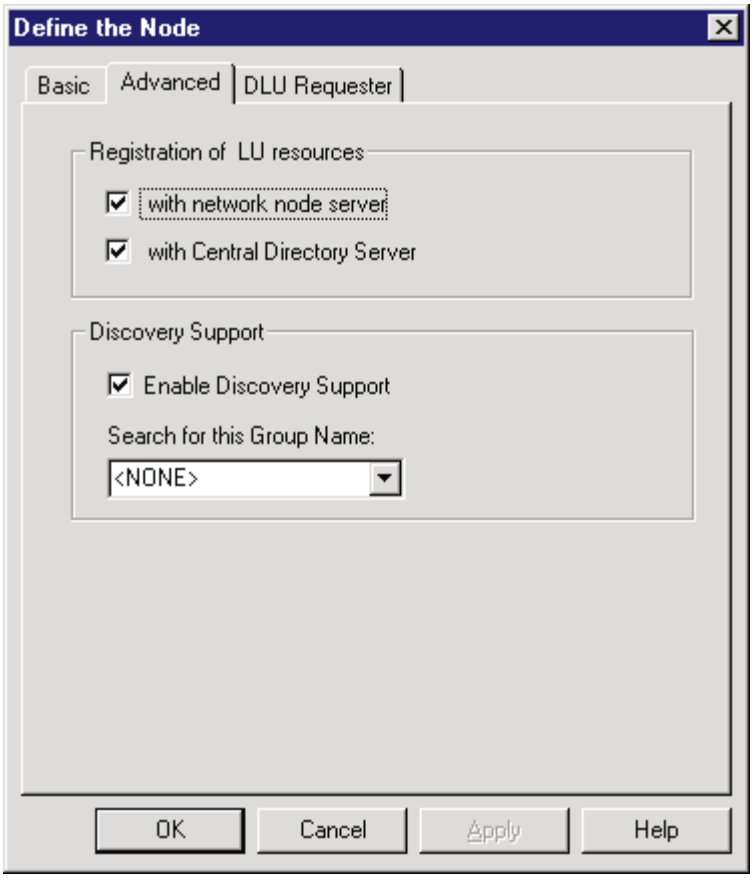

Figure 179. Define the Node Notebook: Advanced Tab (Remote 3174)

On the **Advanced** tab (Figure 179), specify values for the following parameters:

Registration of LU resources

Specifies that directory information about the local logical units (LUs) 6.2 is sent to the server. As the example shows, check both the **Network node server** and the **Central Directory Server**.

Discovery Support

Specifies a LAN address resolution protocol that can be used to find another node that matches given search values. Adjust the search parameter to search for APPN network nodes, nodes that provide SNA boundary function, or AS/400s. Select the check box to enable discovery support.

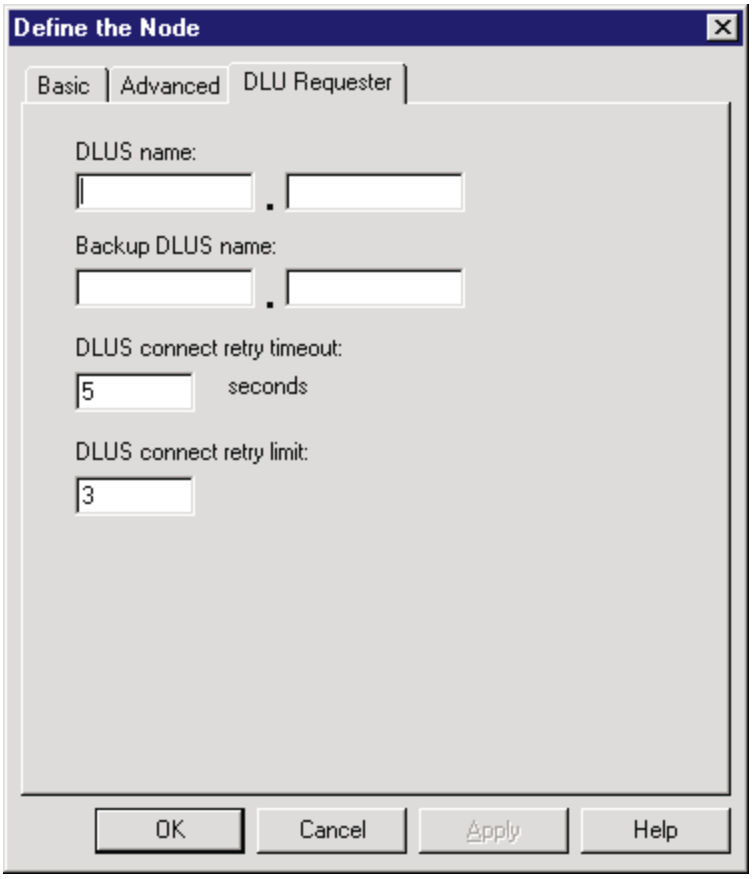

Figure 180. Define the Node Notebook: DLU Requester Tab (Remote 3174)

On the **DLU Requester** tab (Figure 180), accept the default values for the following parameters:

DLUS connect retry timeout
Specifies the time between attempts to reconnect a dependent logical unit server (DLUS). This parameter is based on the **DLUS connect retry limit** parameter. Take the default of 5.

DLUS connect retry limit
Specifies the maximum number of attempts to reconnect a DLUS without receiving an acknowledgment in the time set by the **DLUS connect retry timeout** parameter. Take the default of 3.

Click **OK** to save these configuration settings.

Remote 3174 Device Configuration

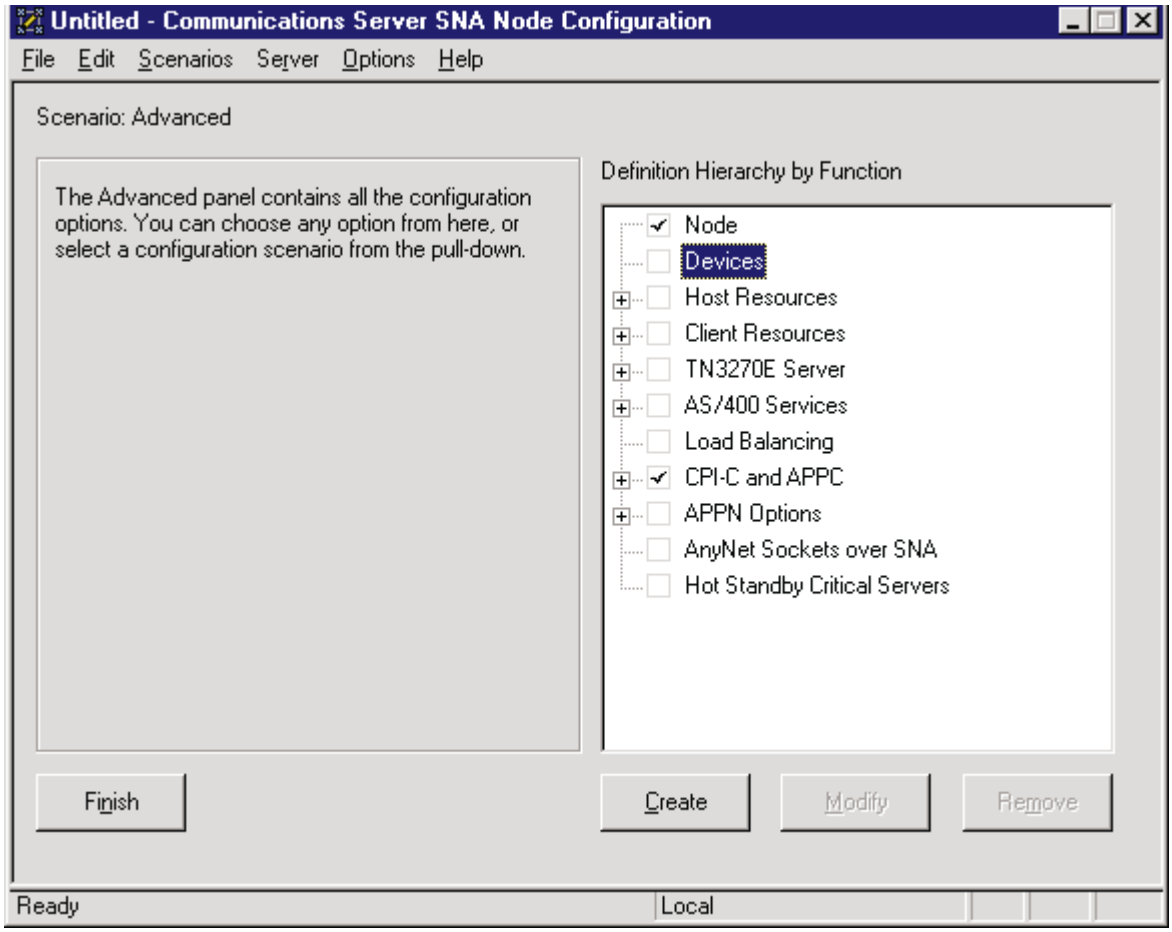

Figure 181. Communications Server SNA Node Configuration Window: Devices (Remote 3174)

In the Communications Server SNA Node Configuration window (Figure 181), right-click the **Devices** box and select the **Create** option. The Device Type pop-up notebook (Figure 182) opens.

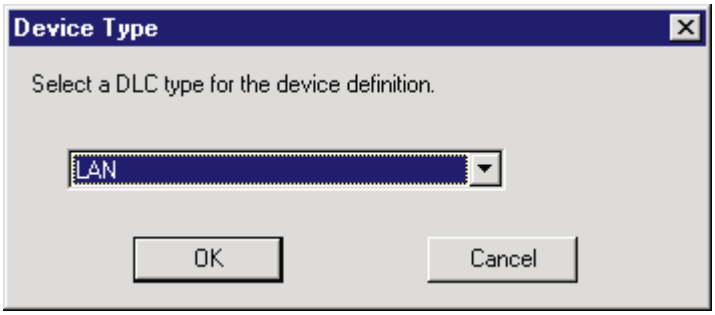

Figure 182. Device Type Window (Remote 3174)

Select **LAN** as your data link control (DLC) type. A DLC is a set of rules that nodes on a data link (such as an SDLC link or a token ring) use to accomplish an orderly exchange of information.

Click **OK** to save this configuration setting.

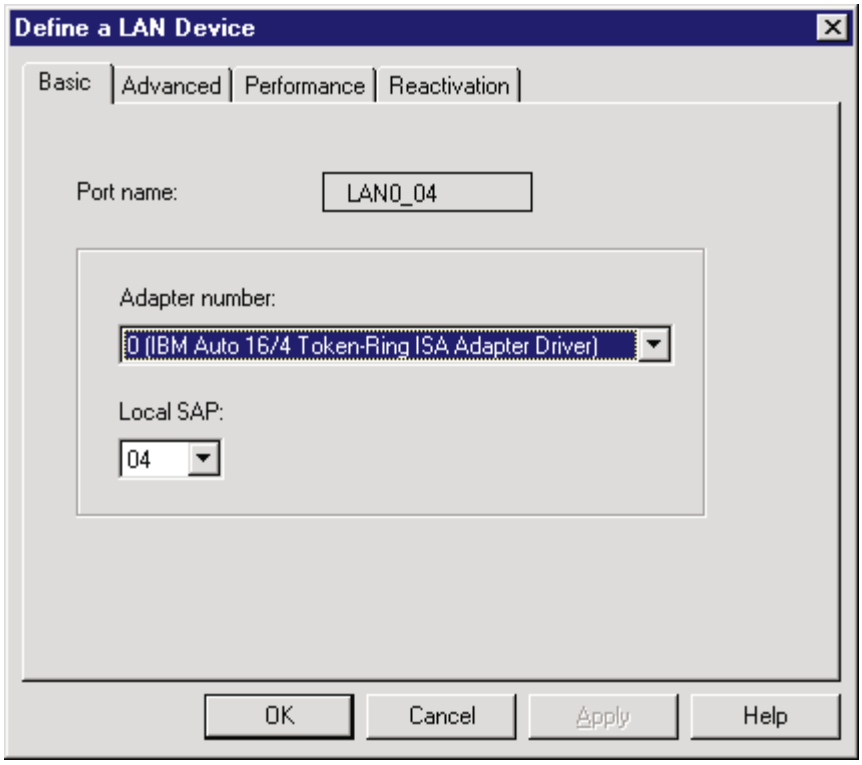

Figure 183. Define a LAN Device Notebook: Basic Tab (Remote 3174)

On the **Basic** tab of the Define a LAN Device notebook (Figure 183), supply the following values:

Port name
Specifies the port name of the physical connection to the link hardware. This value consists of the word **LAN**, the adapter number, and the local SAP number, with an underscore between the adapter number and the local SAP number. Accept the value that is displayed.

Adapter number
Specifies a value from 0 to 7 that uniquely identifies this adapter. You may have both token-ring and ethernet adapters defined at your installation. Ensure that you select the proper token-ring LAN adapter.

Local SAP
Specifies the local service access point (SAP) number of the local port as a hexadecimal value from 04 through FC. Note that this number must be a multiple of four. Take the default of `04`.

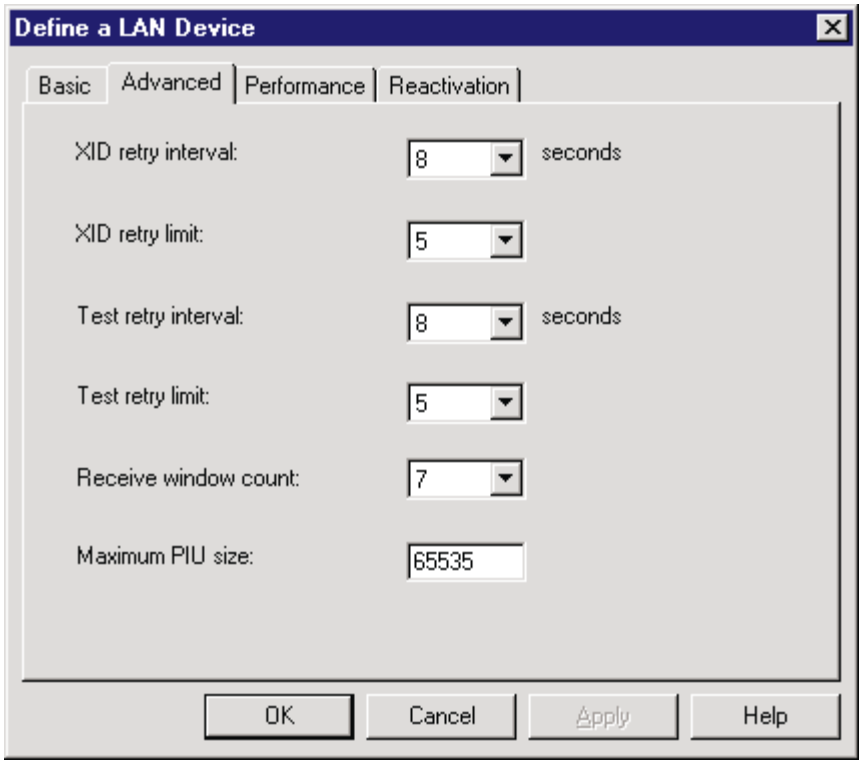

Figure 184. Define a LAN Device Notebook: Advanced Tab (Remote 3174)

On the **Advanced** tab (Figure 184), supply the following values:

XID retry interval
Specifies the time the link station waits for a reply to a previous **XID** command before resending that command. Specify `60`. This value causes the link station to try to establish a link connection with the communication controller every 60 seconds, until a link connection can be established. If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **Response Timeout** parameter from the **Token-Ring SNA DLC** profile.

XID retry limit
Specifies the maximum number of times an **XID** command will be retransmitted before Communications Server for NT presumes that the link is broken and stops retrying. Specify `0`. This value indicates that there is no limit on the number of attempts the link station makes to establish a link connection with the communication controller. The previous parameter defines the interval between the attempts. If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **XID Retransmit count** parameter from the **Token-Ring SNA DLC** profile.

Test retry interval
Specifies the time between attempts to find the adjacent link station on the LAN. This parameter is needed to establish communication with the network and does not necessarily relate to VTAM or the PSF host system. The number of times an **XID** is sent is based on the configured **XID retry limit**.

Test retry limit
Specifies the number of times Communications Server attempts to find the adjacent link station on the LAN. Specify a value from 3 to 30.

Receive window count
Defines the size of the link-level window. This value specifies the maximum number of frames to receive before sending a link-level acknowledgement.

Maximum PIU size
Specifies a value between 99 and 65535 bytes that represents the maximum number of bytes in the data buffer that SNA sessions use for this link. If the value of the **Maximum PIU size** exceeds the frame size supported by your local device driver, the value will be reduced to match the frame size.

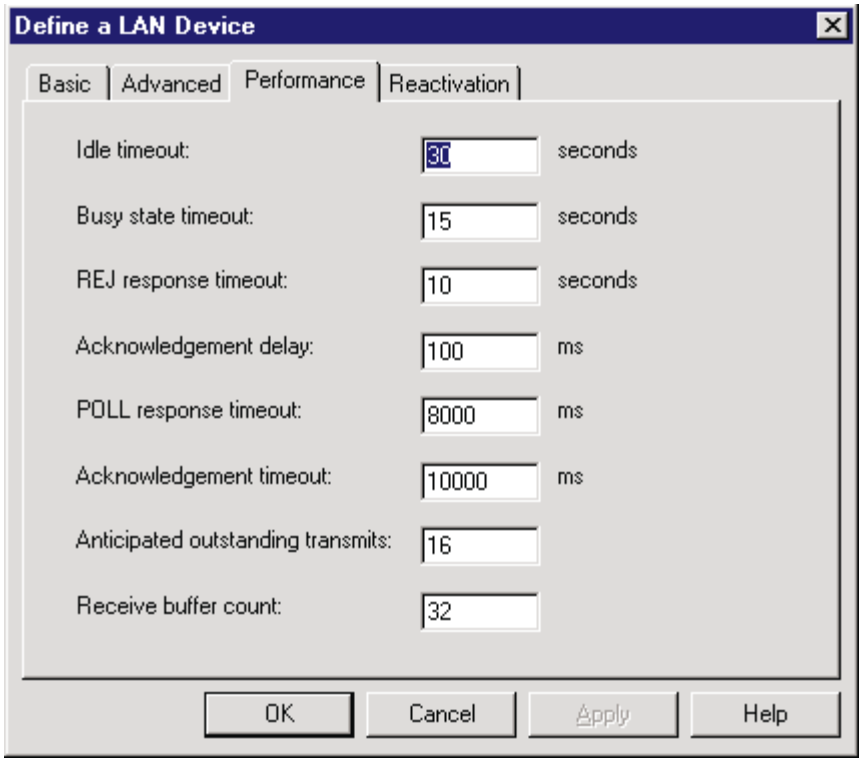

Figure 185. Define a LAN Device Notebook: Performance Tab (Remote 3174)

On the **Performance** tab (Figure 185), accept the default values.

If you are migrating from an AIX operating system to a Windows NT operating system, see Table 10 on page 168 for a map of the parameters on the **Performance** tab to the corresponding AIX values.

Table 10. Windows NT and AIX Parameters for LAN Device Performance (Remote 3174)

Windows NT Parameter	AIX Parameter
Idle timeout	Inactivity time-out
Busy state timeout	n/a
Acknowledgement delay	n/a
Acknowledgement timeout	Acknowledgement timeout
POLL response timeout	n/a
Anticipated outstanding transmits	Transmit window count
Receive buffer count	n/a

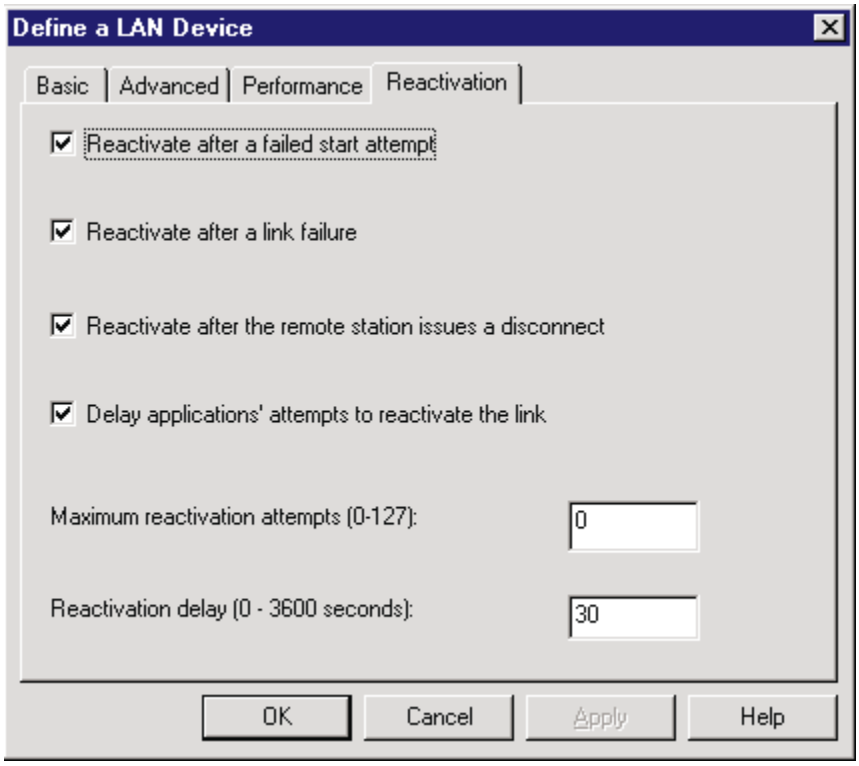

Figure 186. Define a LAN Device Notebook: Reactivation Tab (Remote 3174)

On the **Reactivation** tab (Figure 186), accept the default values.

Click **OK** to save these configuration settings.

Remote 3174 Peer Connections Configuration

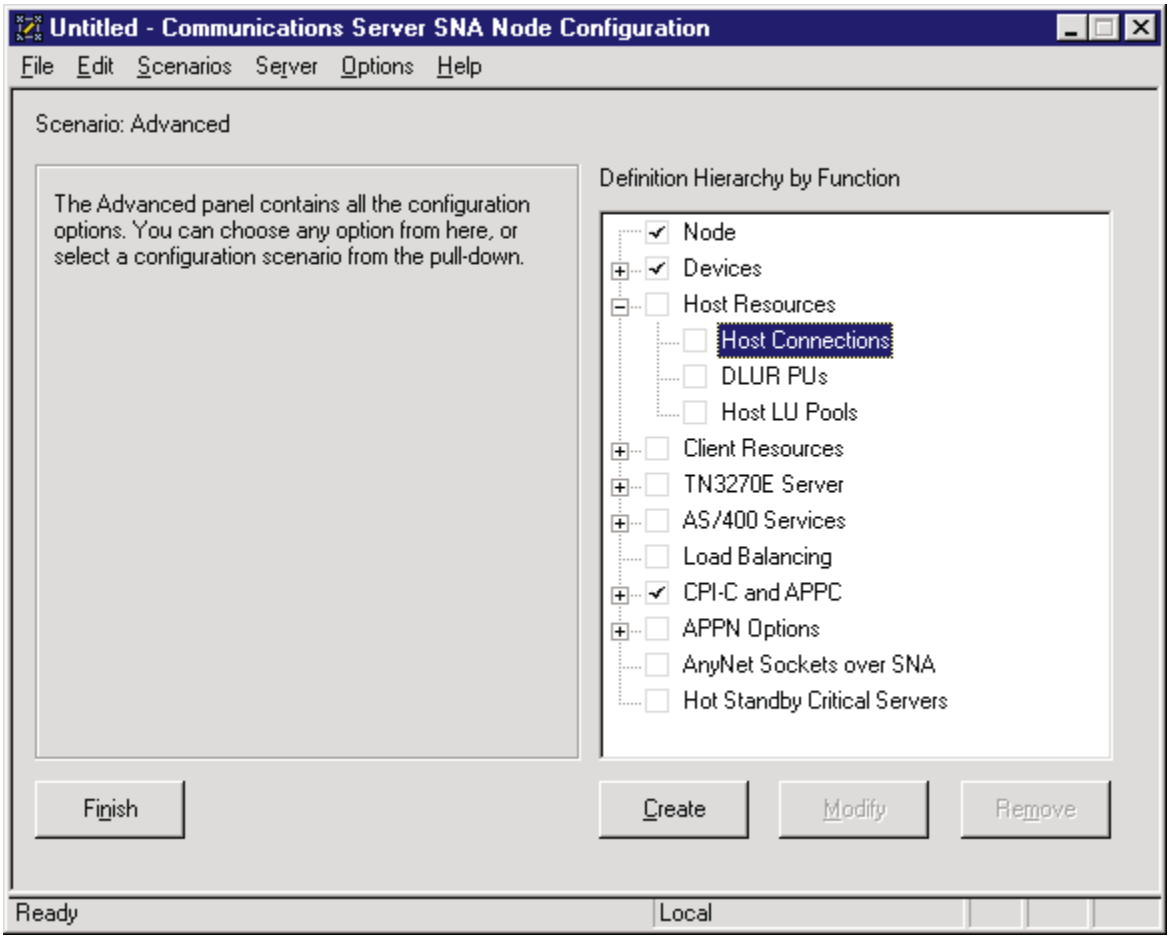

Figure 187. Communications Server SNA Node Configuration Window: Host Connections (Remote 3174)

In the Communications Server SNA Node Configuration window (Figure 187), right-click the **Host Resources** box, then the **Host Connections** box. Select the **Create** option. The Define a LAN Connection notebook opens at the **Basic** tab.

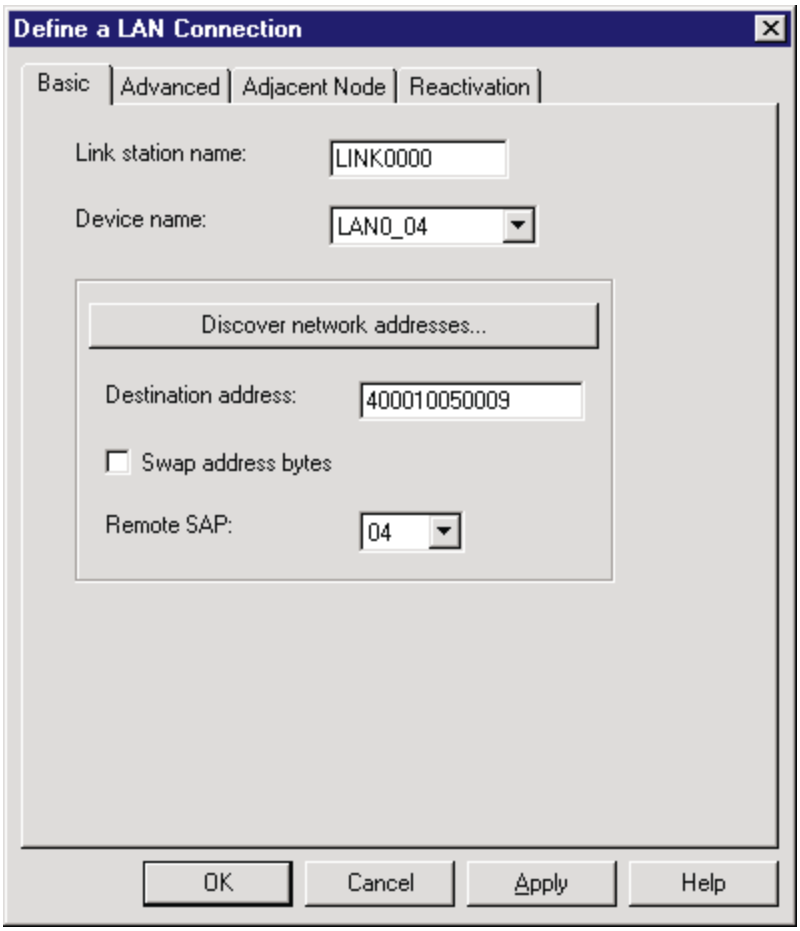

Figure 188. Define a LAN Connection Notebook: Basic Tab (Remote 3174)

On the **Basic** tab (Figure 188), supply the following values:

Link station name
Specifies a 1- to 8-byte character string that is used to identify a connection. The contents of this field will vary, depending on the number of links at your installation.

Device name
Specifies the name of the port associated with this link station. This value must match the **Port name** value specified on the **Basic** tab of the Define a LAN Device notebook (Figure 183 on page 165).

Destination address
Specifies a 12-character hexadecimal string that specifies the address to activate a connection to the destination. This value must be specified so the NT system can search for and call the PSF host program.

Swap address bytes
Check this field to bit-swap the address in the **Destination address** field. You may need to select this check box if the next link in the network is an Ethernet link. If not, you can use the default (unchecked).

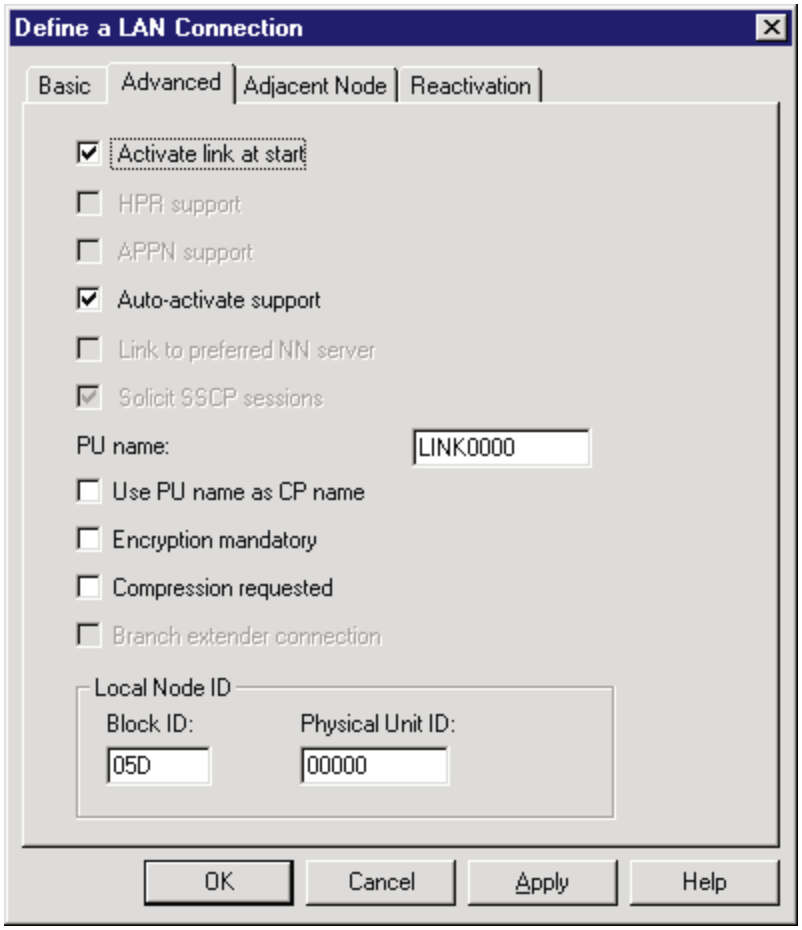

Figure 189. Define a LAN Connection Notebook: Advanced Tab (Remote 3174)

On the **Advanced** tab (Figure 189), supply the following values:

Activate link at start
Specifies that you will use the link reactivation values specified in the port (device) link reactivation definition. Ensure that you select this check box.

APPN support
Specifies whether this connection supports CP-CP sessions. Select the check box to specify APPN support.

PU name
Specifies the physical unit (PU) name is the name of the component that manages and monitors the resources (such as attached links and adjacent link station) associated with a node. The default PU name is automatically created. You can change this definition.

Block ID
Identifies the product type in an SNA network.

Physical Unit ID
Identifies the physical unit (PU) or component that manages and monitors the resources (such as attached links and adjacent link stations) associated with a node.

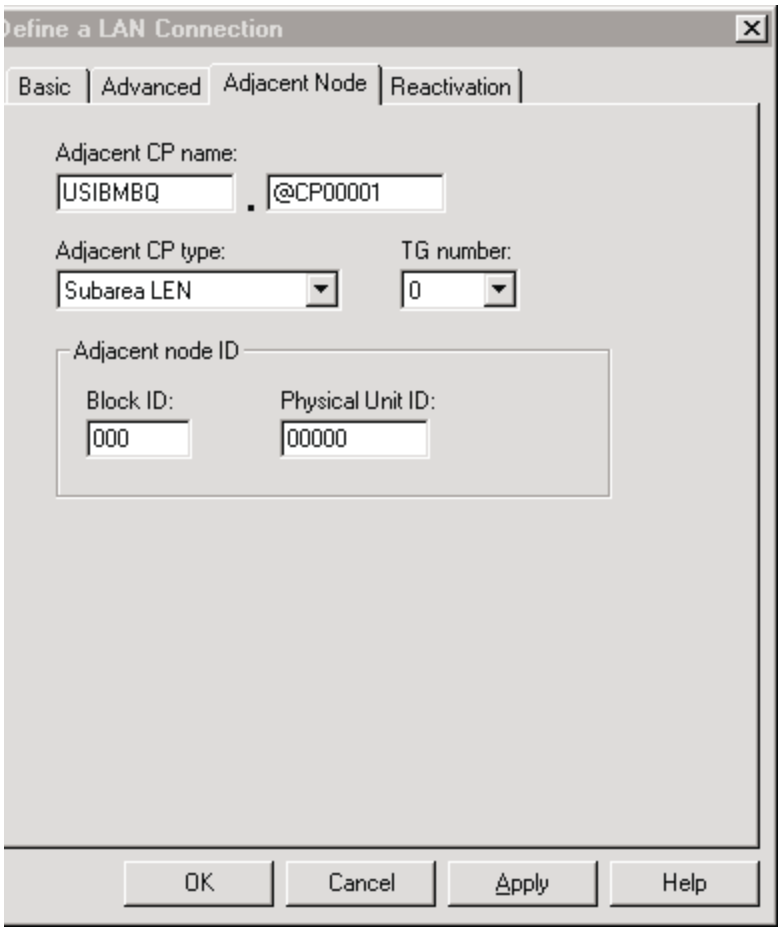

Figure 190. Define a LAN Connection Notebook: Adjacent Node Tab (Remote 3174)

On the **Adjacent Node** tab (Figure 190), accept the default values.

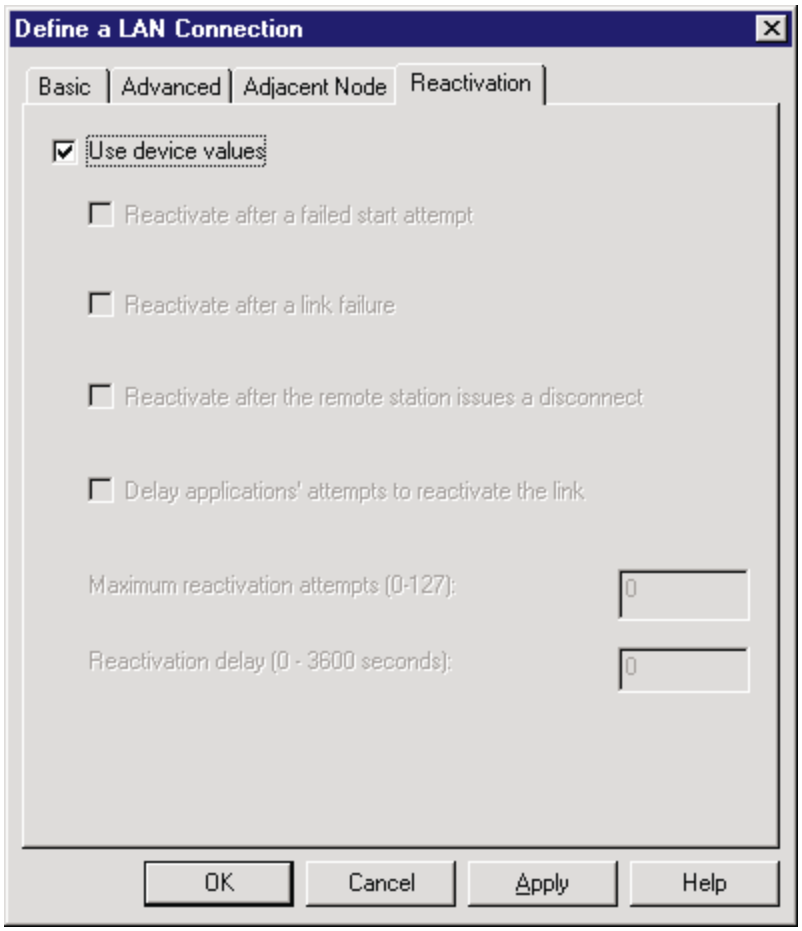

Figure 191. Define a LAN Connection Notebook: Reactivation Tab (Remote 3174)

On the **Reactivation** tab (Figure 191), accept the default values.

Note that after you select **OK**, a pop-up window appears asking:

```
Do you want to automatically route all APPC sessions over this connection?
```

You must reply `yes`. Then, a pop-up window asks:

```
Do you wish to create and assign new LUs to this connection?
```

When you reply `yes`, the Host LU Definition window (Figure 192 on page 174) appears.

Local LU 6.2 Configuration for Remote 3174

Dependent or Independent LU?

This procedure configures a *dependent* LU. You cannot use it to configure an *independent* LU. If you require independent LUs, see "Deciding whether to Define a Dependent or an Independent LU" on page 14.

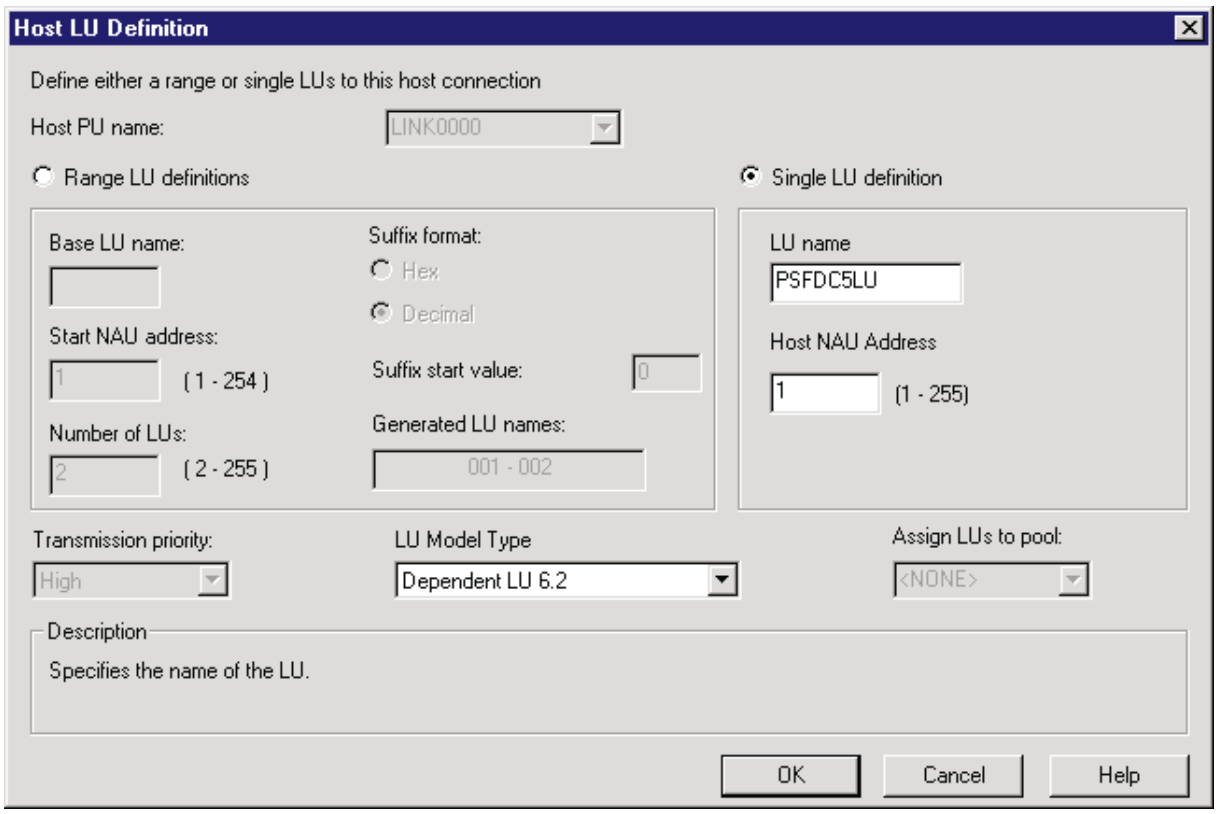

Figure 192. Host LU Definition Window (Remote 3174)

In the Host LU Definition window (Figure 192), supply the following values:

Single LU Definition
Specifies that the host link definition can be assigned a single LU definition. Select this button to indicate that the host LU definition is assigned a single link definition.

LU Name
Specifies a 1- to 8-character name of a type of network addressable unit (NAU) that enables end users to communicate with each other and gain access to network resources. The first character must be an uppercase alphabetic character (A-Z) or a special character (@,#,$). The remaining characters can be alphanumeric characters (A-Z, 0-9) or special characters (@,#,$). This name must match the Partner LU that is defined for the host PSF program.

Host NAU Address
Specifies a value between 1 and 255 for a dependent LU. This value must match the **LOCADDR** value on the VTAM **LU** statement.

LU Model Type
Specifies the model type and number of the LU that is used by Infoprint Manager when configuring the PSF Direct host receiver. Select **Dependent LU 6.2**.

Click **OK** to save these specifications to the *xxx*.acg file.

To see this defined LU, click the **Host Connections** box in the Communications Server SNA Node Configuration window (Figure 193) until you display the link (`LINK0000`) and the Dependent LU (`PSDC5LU`).

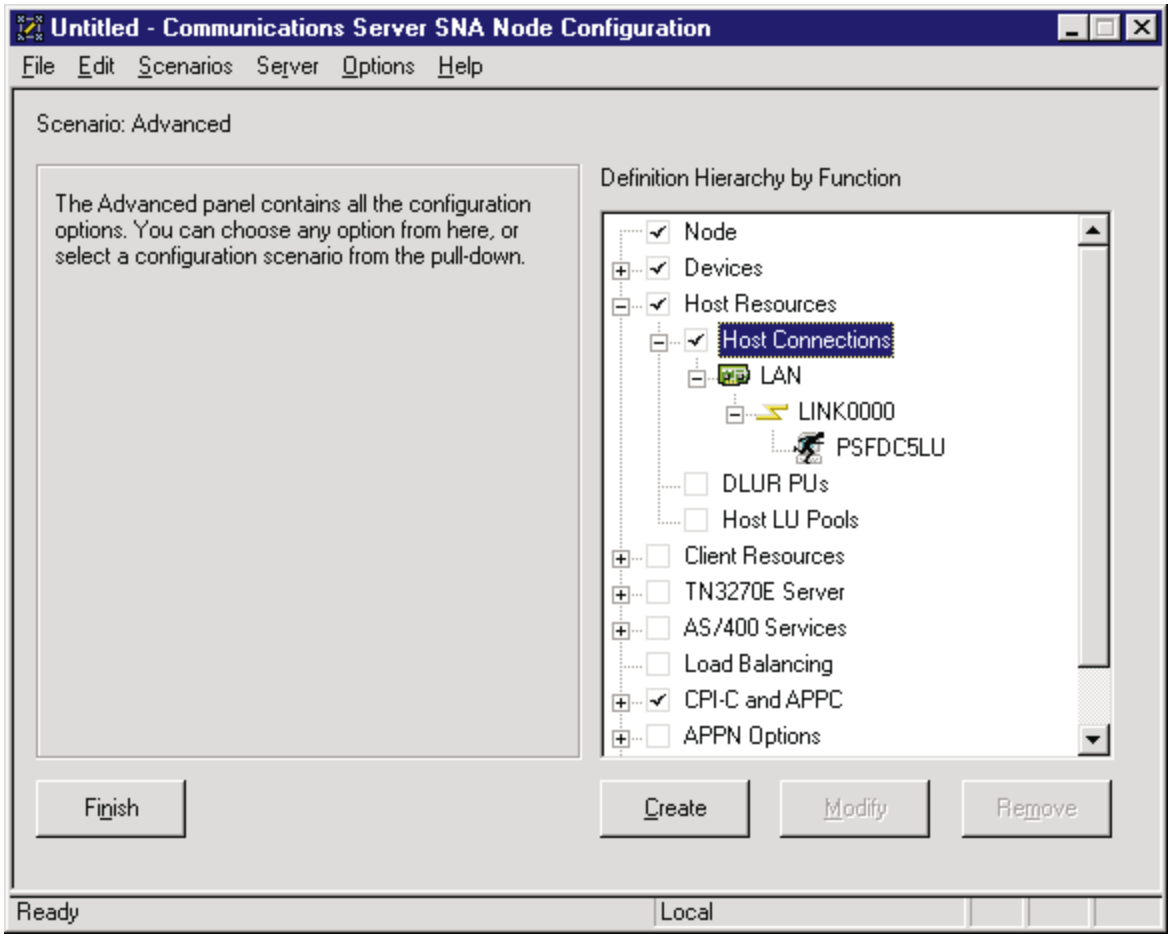

Figure 193. Communications Server SNA Node Configuration Window: Defined LU (Remote 3174)

Enabling SNA API Clients for Remote 3174

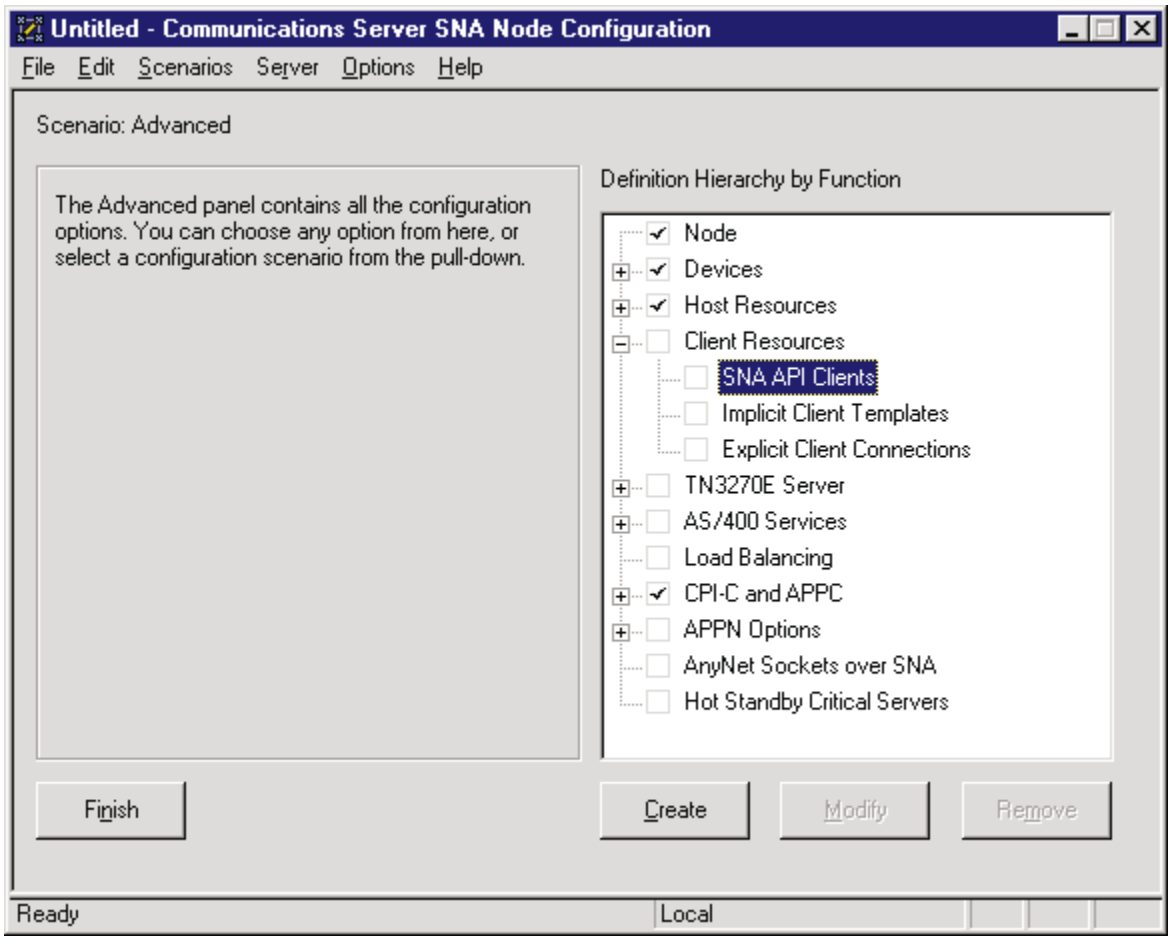

Figure 194. Communications Server SNA Node Configuration Window: SNA API Clients (Remote 3174)

In the Communications Server SNA Node Configuration window (Figure 194), right-click the **Client Resources** box, then the **SNA API Clients** box. The SNA Clients window opens.

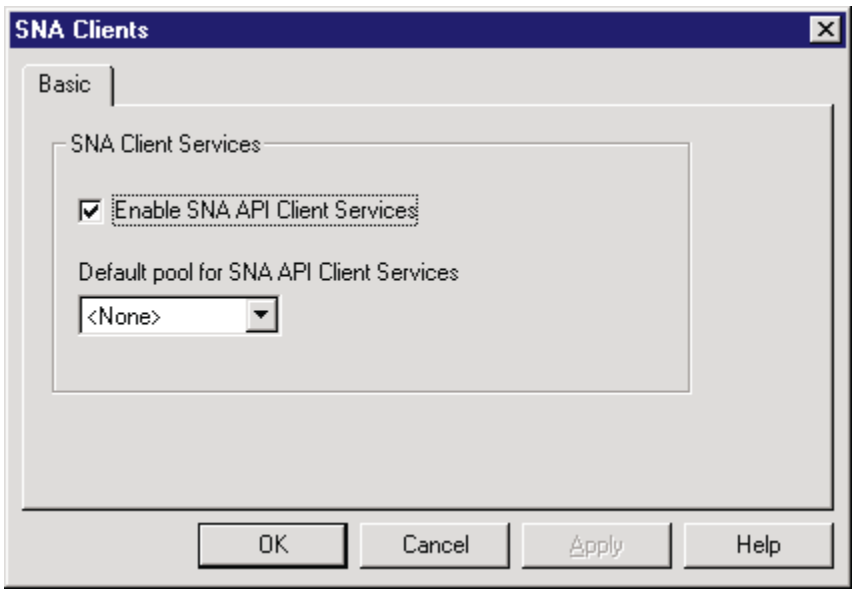

Figure 195. SNA Clients Window (Remote 3174)

In the SNA Clients window (Figure 195), check the **Enable SNA API Client Services** box.

Click **OK** to save these specifications to the *xxx*.acg file.

Partner LU 6.2 Configuration for Remote 3174

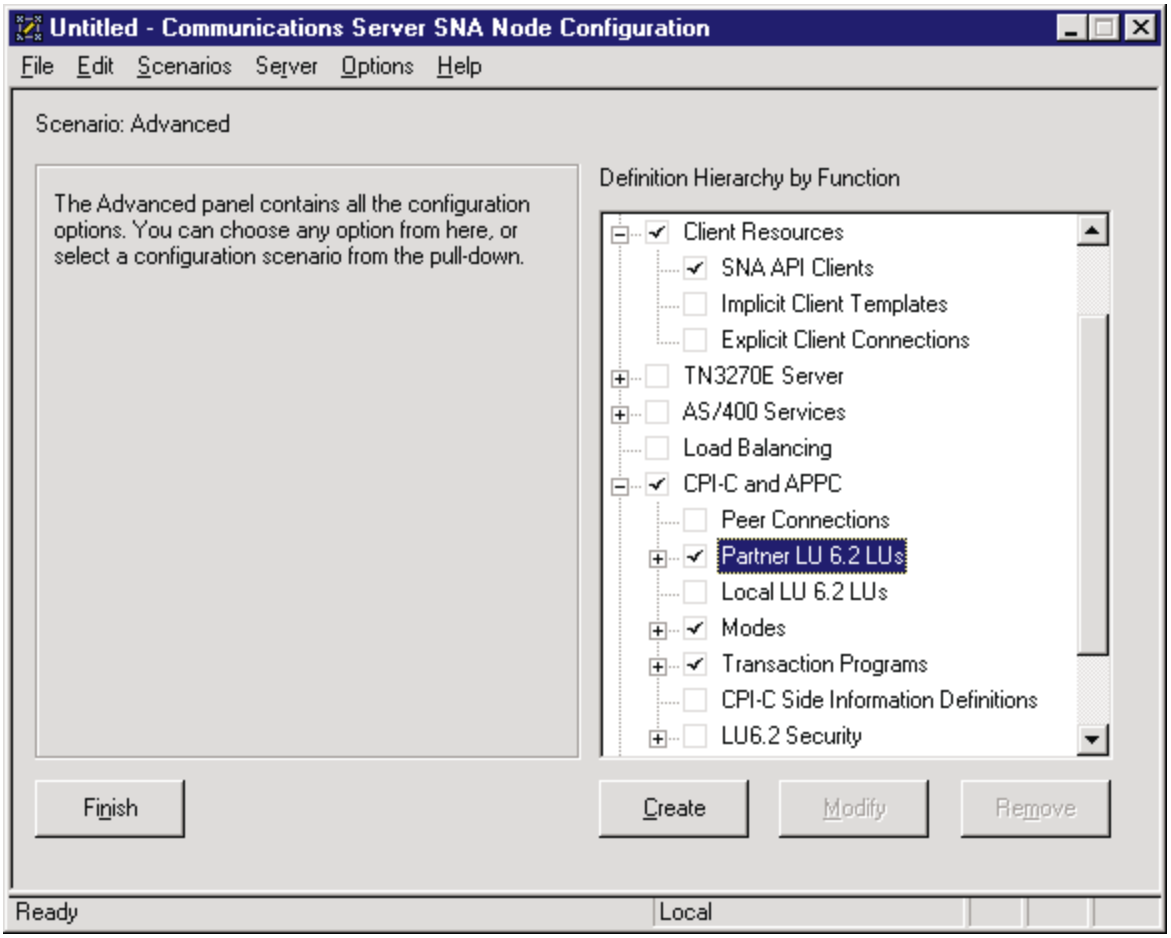

Figure 196. Communications Server SNA Node Configuration Window: Partner LU 6.2 LUs (Remote 3174)

In the Communications Server SNA Node Configuration window (Figure 196), right-click the **CPI-C and APPC** box, then the **Partner LU 6.2 LUs** box. Select the **Create** option. The Define a Partner LU 6.2 notebook opens at the **Basic** tab.

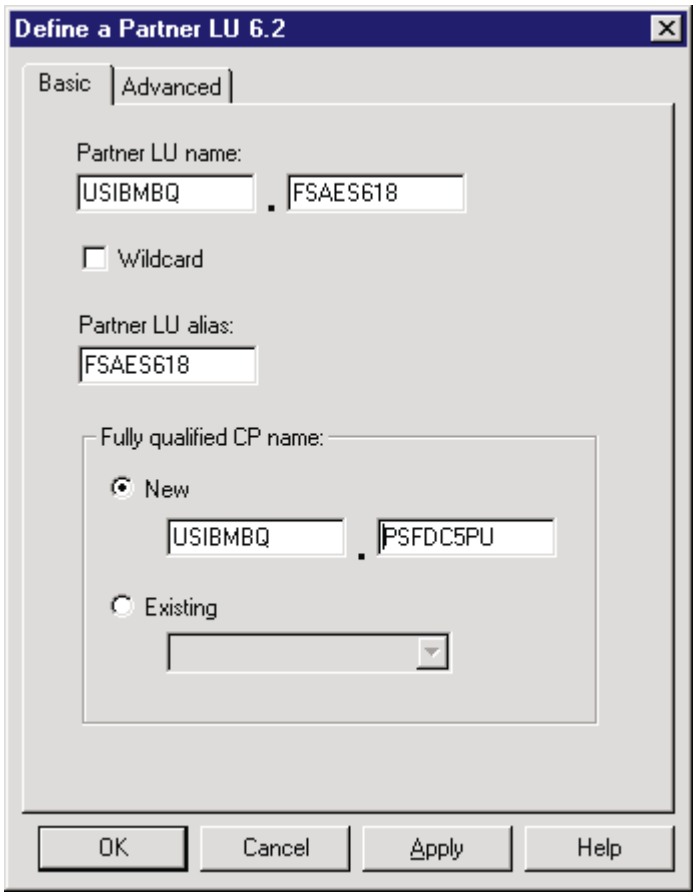

Figure 197. Define a Partner LU 6.2 Notebook: Basic Tab (Remote 3174)

On the **Basic** tab (Figure 197), supply the following values:

Partner LU name
Specifies the network identifier of the network in which the host PSF program resides (followed by a period), and the logical unit name used by the host PSF program. The network identifier portion must match the **NETID** value in the VTAM start option list (ATCSTR*xx*) (see "Specifying the VTAM Start Option List (ATCSTRxx)" on page 153). The logical unit name portion must match the **APPLID** parameter in one of these places:

- The PSF for OS/390 **PRINTDEV** statement
- The PSF/VSE **PRINTDEV** statement
- The PSF/VM **OPTIONS PDM** file

That **APPLID** parameter on the PSF host system must also match an **APPL** statement in a VTAM application program major node. (Do not check the **Wildcard** check box.)

Partner LU alias
Specifies the alternate name for the partner LU. Local applications can use this name, instead of the fully qualified LU name, to refer to the partner LU. While you can choose any meaningful value, IBM recommends specifying the second qualifier of the **Partner LU name**.

Fully qualified CP name
Select **New** to enter the fully qualified CP name of the partner LU's

owning control point. Communications Server for NT requires this field. Infoprint Manager uses this field as the target for any alerts sent by the PSF Direct program.

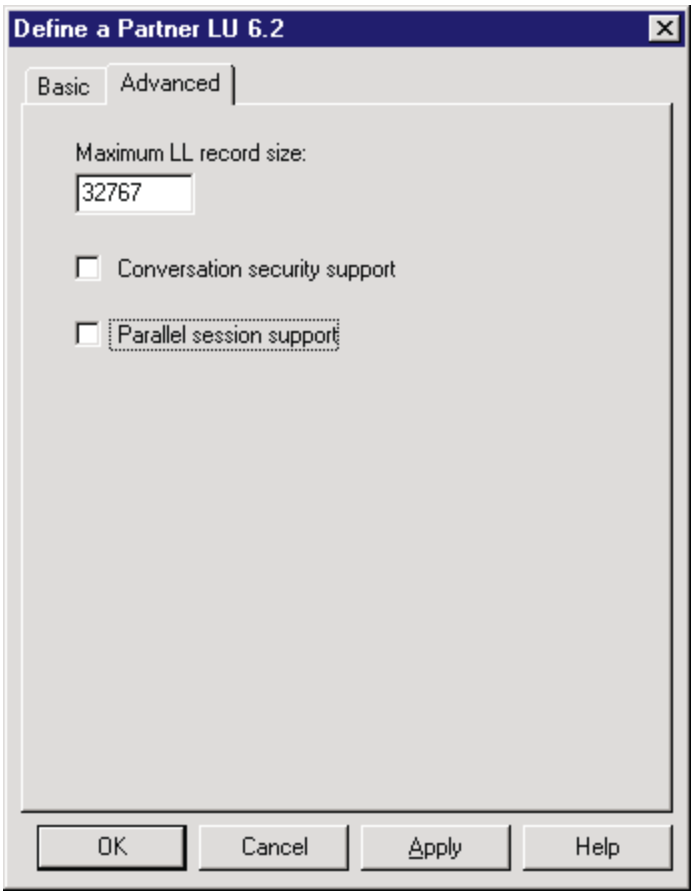

Figure 198. Define a Partner LU 6.2 Notebook: Advanced Tab (Remote 3174)

On the **Advanced** tab (Figure 198), supply the following values:

Maximum LL record size
Specifies a value between 0 and 32767 as the maximum size of the logical record in the data stream for basic conversations. Specify the default (32767), because the PSF host program and the PSF Direct host receiver should both be able to handle the full range.

Conversation security support
Specifies that the partner logical unit (LU) is authorized to validate the user identifiers for the local LUs. Select the check box to specify conversation security support if you have matching support on the host PSF program. If not, leave this box unchecked.

Parallel session support
Specifies whether the partner LU supports two or more currently active sessions between the same two LUs by using different pairs of network addresses or session identifiers. Because neither PSF Direct nor the PSF host programs support two sessions with the same partner LU, do not select this check box.

Click **OK** to save these specifications to the *xxx*.acg file.

Mode Configuration for Remote 3174

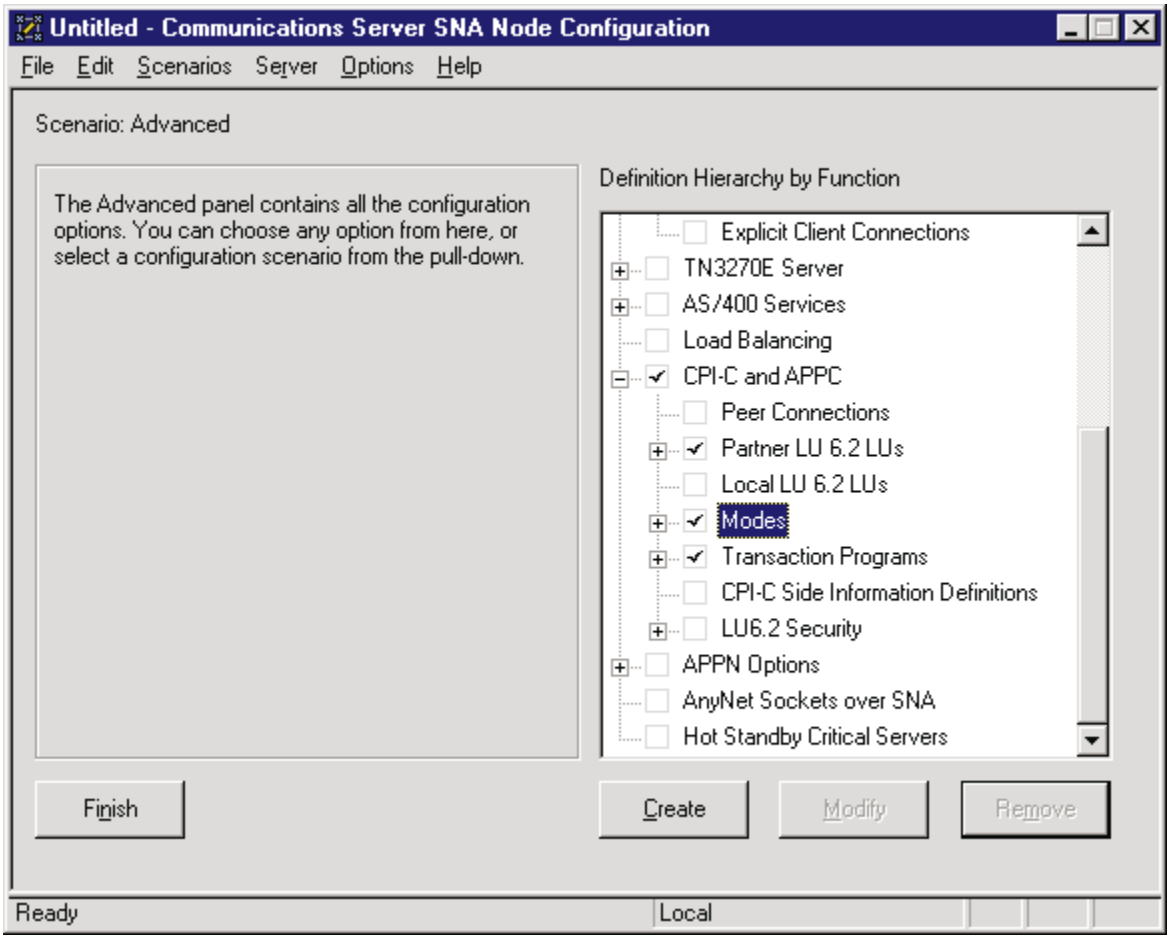

Figure 199. Communications Server SNA Node Configuration Window: Modes (Remote 3174)

In the Communications Server SNA Node Configuration window (Figure 199), right-click the **CPI-C and APPC** box, then the **Modes** box. Select the **Create** option. The Define a Mode notebook opens at the **Basic** tab.

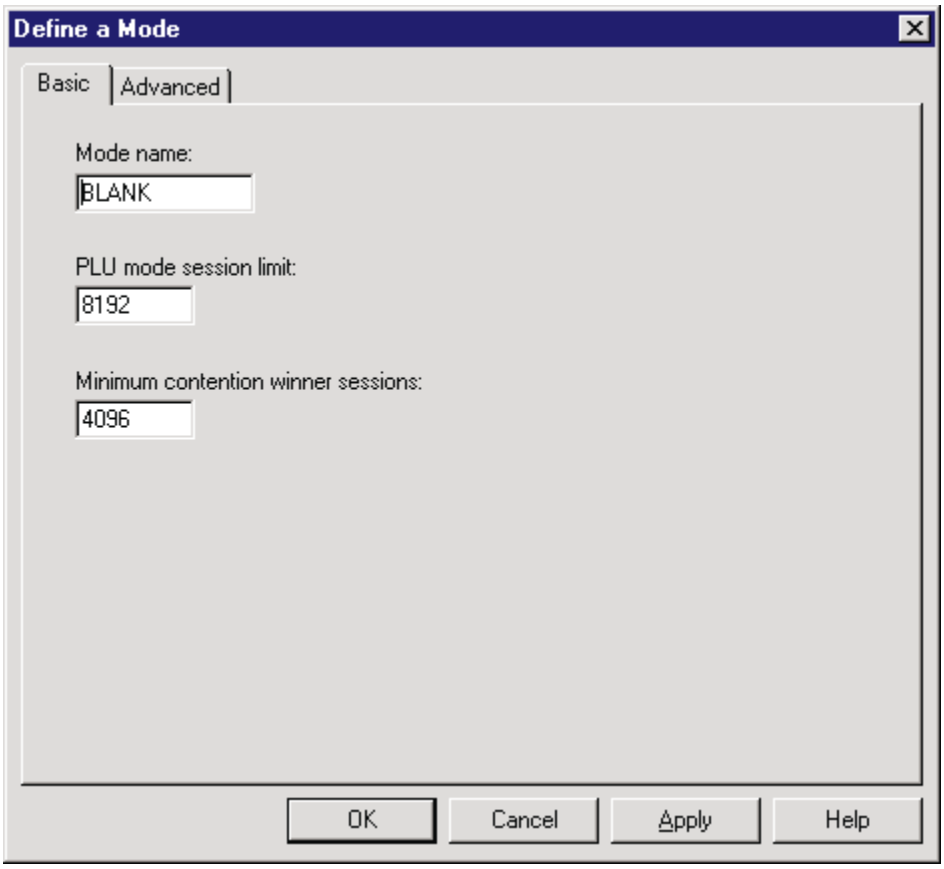

Figure 200. Define a Mode Notebook: Basic Tab (Remote 3174)

On the **Basic** tab (Figure 200), supply the following values:

Mode name
Specifies the characteristics for the session that will be allocated for the conversation. The initiator uses this value. The **Mode name** in the **BLANK** profile is 8 spaces.

PLU mode session limit
Specifies a value between 0 and 32767 as the primary logical unit (PLU) mode session limit, or maximum number of concurrently active LU-LU sessions that a particular LU can support. Take the default.

Minimum contention winner sessions
Specifies a value between 0 and 32767 as the minimum number of sessions that a local LU using this mode can activate to win a contention with a partner. Take the default.

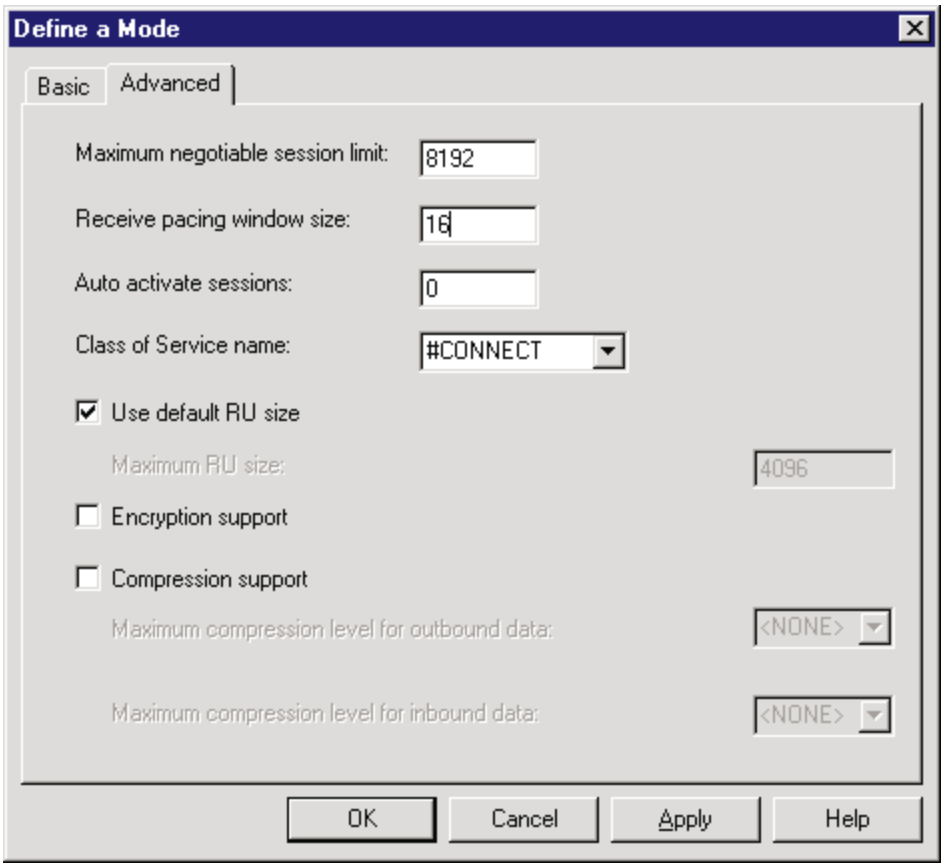

Figure 201. Define a Mode Notebook: Advanced Tab (Remote 3174)

On the **Advanced** tab (Figure 201), supply the following values:

Maximum negotiable session limit
Specifies a value between 0 and 32767 as the maximum number of sessions allowed in this mode between any local logical unit (LU) and partner LU. Take the default.

Receive pacing window size
Specifies the secondary receive pacing count. The lesser of this parameter's value and the **SRCVPAC** value in the VTAM **MODEENT** statement is used. (See "Specifying the VTAM Mode Table and Entry" on page 155.) A value of 16 produces good throughput in most configurations. This parameter influences performance and can be adjusted as desired.

Auto activate sessions
Specifies a value between 0 and 32767 as the number of parallel LU 6.2 sessions to automatically start when an initial session starts using this mode. Specify `0` so that no parallel sessions can start automatically for this application.

Class of Service name
Specifies the name of a set of transport network characteristics. Select the default: **#CONNECT** .

Use default RU size
Instructs the node to use the default maximum size for the request/response unit (RU) sent and received on the sessions. Do not select the check box.

Maximum RU size
Set this value to 1024, if it does not automatically specify that value when you remove the check from the **Use default RU size** parameter above.

Click **OK** to save these specifications to the *xxx*.acg file.

Transaction Program Configuration for Remote 3174

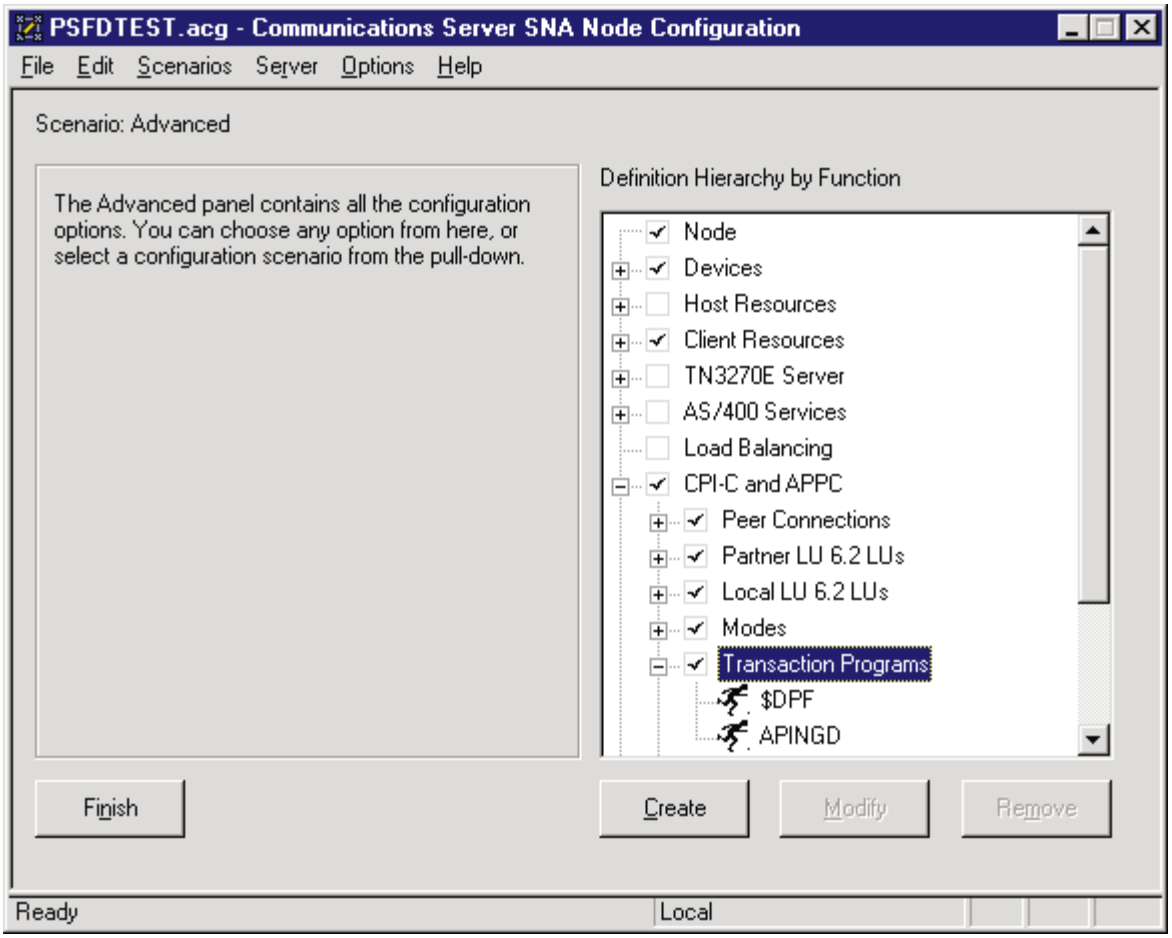

Figure 202. Communications Server SNA Node Configuration Window: Transaction Programs (Remote 3174)

In the Communications Server SNA Node Configuration window (Figure 202), right-click the **CPI-C and APPC** box, then the **Transaction Programs** box. Select the **Create** option. The Define a Transaction Program notebook opens at the **Basic** tab.

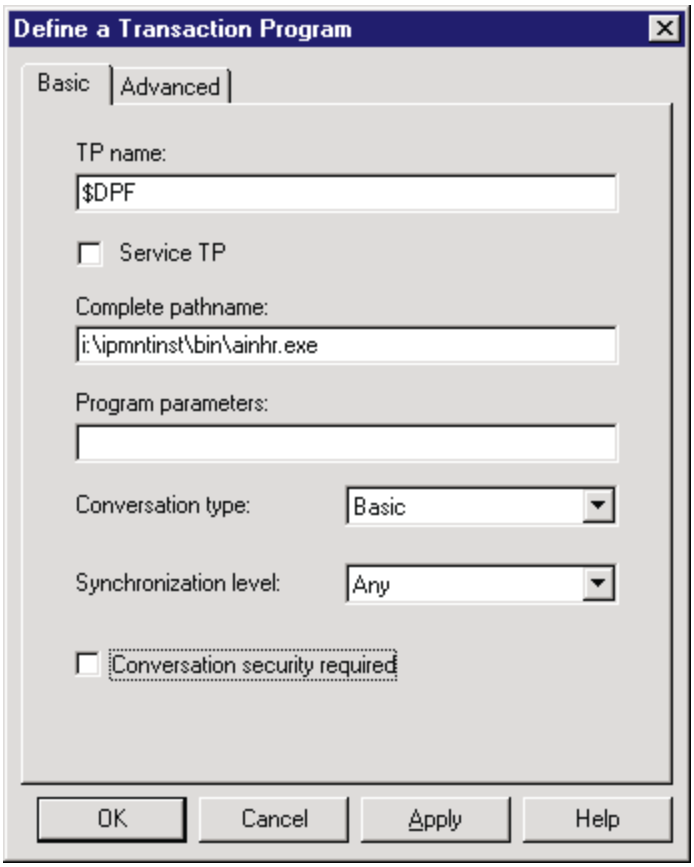

Figure 203. Define a Transaction Program Notebook: Basic Tab (Remote 3174)

On the **Basic** tab (Figure 203), supply the following values:

TP name
Specifies a 1- to 64-byte character string for the program that uses the advanced program-to-program communications (APPC) system to communicate with a partner application program at the partner node. Enter `$DPF`. If you are migrating from an AIX operating system to a Windows NT operating system, note that this value changes from a binary `30F0F0F0` to a non-binary `$DPF`. Ensure that the **Service TP** check box is unchecked because it indicates a non-binary value.

Complete pathname
Specifies an 1- to 255-byte character string that describes the location of the program to run. The location can include the drive, the directory, the subdirectory, and the file name. In this example, `i:\ipmntinst\bin\ainhr.exe` specifies the location where Infoprint Manager for NT is installed on your system.

Conversation type
Specifies the conversation type allowed to start the transaction programs (TPs) that use an LU 6.2 session. Select **Basic**.

Synchronization level
Specifies the level allowed on allocation requests that start the local and remote transaction programs (TPs). Select **Any**.

Conversation security required
Allows controlled access to system resources through security parameters.

If this check box is selected, conversation security information is required to start the TP. Incoming allocation requests for this TP without the conversation security information will be rejected. Do not check this box.

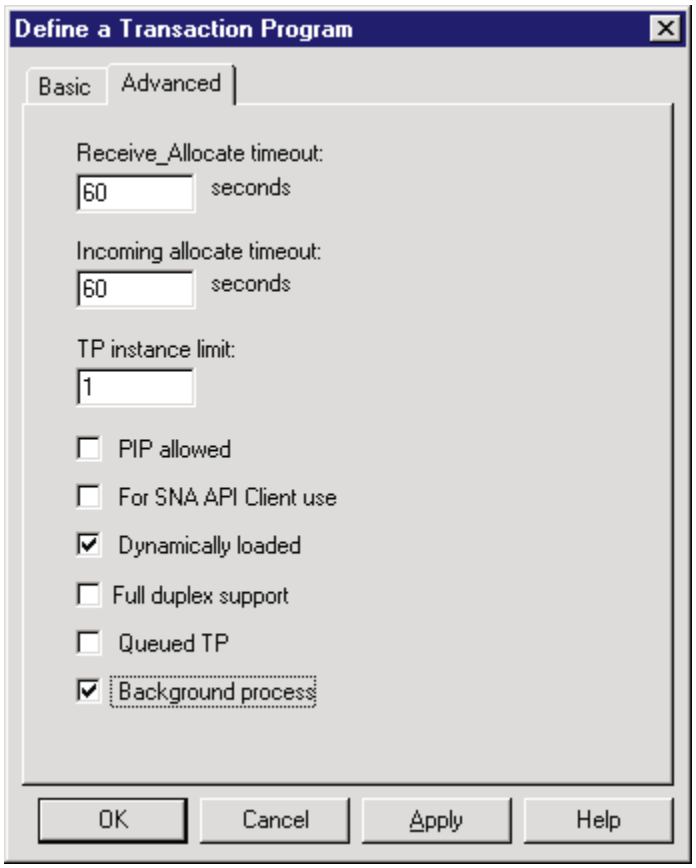

Figure 204. Define a Transaction Program Notebook: Advanced Tab (Remote 3174)

On the **Advanced** tab (Figure 204), supply the following values:

Receive_Allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that a **Receive_Allocate** verb will be queued while waiting for an **Attach**. Specify `60`.

Incoming allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that an incoming **Attach** will be queued waiting for a **Receive_Allocate**. Specify `60`.

TP instance limit
Specifies a value between 0 and 65535 seconds that identifies the maximum number of concurrently active TP instances. Specify at least 1 (or the number of LUs that you have defined). 0 means no limit.

Dynamically loaded
Specifies whether the transaction program (TP) can be dynamically started by an allocation request received on a conversation. Select the check box to dynamically load the TP.

Background process
Specifies that the program will run in the background. Only 32-bit programs can multitask in the Windows NT environment. Select the check box to use the background process.

Note: Ensure that **Dynamically loaded** and **Background process** (the two items checked in Figure 204 on page 186) are the only items checked. If you specify other options, this transaction program will not work.

Click **OK** to save these specifications to the *xxx*.acg file.

Once you have completed creating this configuration, go to "Chapter 9. Starting an IBM SecureWay Communications Server for Windows NT Configuration" on page 229.

Remote 3174 Token-Ring Gateway Configuration Work Sheets

Use the following work sheets to configure PSF Direct on both the host PSF and Infoprint Manager for NT:

- Use Table 11 to see how Communications Server for NT configuration settings relate to other configuration settings.
- Use Table 12 on page 189 to record your own Communications Server for NT values.

Remote 3174 Token-Ring Gateway Configuration Work Sheet Example

Table 11. Remote 3174 Token-Ring Gateway Configuration Work Sheet Example

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**3174**
Define the Node: Fully-qualified CP name	**PSFDC5PU**		PU *name* PU CPNAME	
Define the Node: Local Node ID	**05D00000**		PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count	**7**			Item 941: W
Define a LAN Device: Maximum PIU size	**65535**			
Define a LAN Connection: Destination address	**400030001001**			Item 900 (local MAC address)
Host LU Definition: LU name	**PSFDC5LU**	LUNAME	LU *name*	
Host LU Definition: LU Model Type	**Dependent LU 6.2**		LU LOCADDR	
Host LU Definition: Host NAU Address	**1**		LU LOCADDR	
Define a Partner LU 6.2: Partner LU name	**USIBMBQ.FSAES618**	APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Mode: Mode name	**BLANK**			
Define a Mode: Receive pacing window size	**16**		MODEENT SRCVPAC	
Define a Mode: Maximum RU size	**1024**		MODEENT RUSIZES	

Remote 3174 Token-Ring Gateway Configuration Blank Work Sheet

Table 12. Remote 3174 Token-Ring Gateway Configuration Blank Work Sheet

Communication Server	**Value**	**Infoprint Manager**	**VTAM**	**3174**
Define the Node: Fully-qualified CP name			PU *name* PU CPNAME	
Define the Node: Local Node ID			PU IDBLK PU IDNUM	
Define a LAN Device: Receive window count				Item 941: W
Define a LAN Device: Maximum PIU size				
Define a LAN Connection: Destination address				Item 900 (local MAC address)
Host LU Definition: LU name		LUNAME	LU *name*	
Host LU Definition: LU Model Type			LU LOCADDR	
Host LU Definition: Host NAU Address			LU LOCADDR	
Define a Partner LU 6.2: Partner LU name		APPLID	ATCSTR*xx* NETID APPL *name*	
Define a Mode: Mode name				
Define a Mode: Receive pacing window size			MODEENT SRCVPAC	
Define a Mode: Maximum RU size			MODEENT RUSIZES	

Chapter 8. Local or Remote AS/400 Token-Ring Gateway Configuration

Figure 205 shows a local or remote AS/400 token-ring gateway configuration.

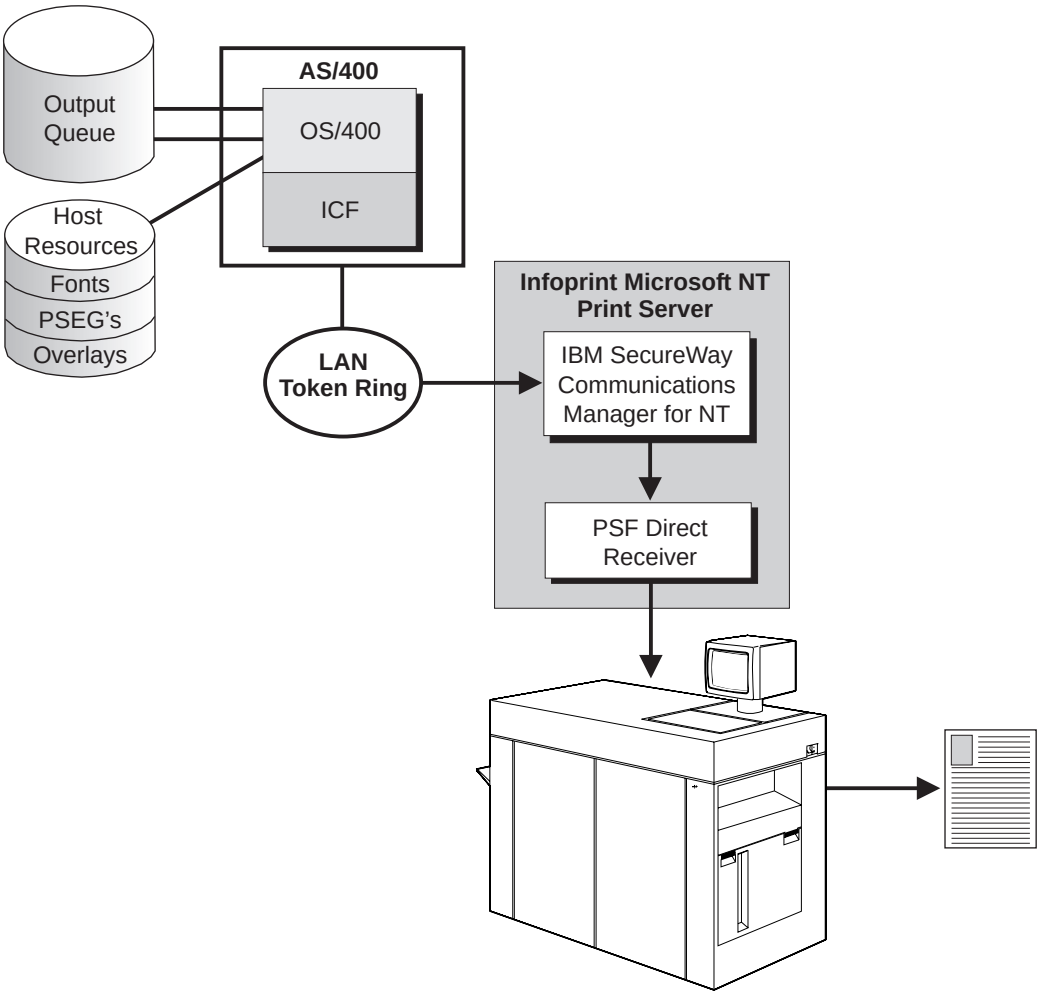

Figure 205. Local or Remote AS/400 Token-Ring Gateway Configuration

This chapter describes how to create a local or remote AS/400 token-ring gateway configuration. It contains guidelines and examples for the following tasks:

- "AS/400 Host Configuration" on page 192
  - "AS/400 Line Descriptions" on page 192
  - "Advanced Program-to-Program Communications (APPC) Controller Descriptions" on page 193
  - "Host Printer Device Description" on page 195
- "Specifying Communications Server for NT Configuration Profiles" on page 196
  - "Accessing the Communications Server for NT Profiles" on page 197
  - "AS/400 Node Setup" on page 198

- "AS/400 Device Configuration" on page 202
- "Enabling SNA API Clients for AS/400" on page 207
- "AS/400 Peer Connections Configuration" on page 209
- "Partner LU 6.2 Configuration for AS/400" on page 214
- "Local LU 6.2 Configuration for AS/400" on page 217
- "Mode Configuration for AS/400" on page 220
- "Transaction Program Configuration for AS/400" on page 223

Note: Before performing this configuration, review "Chapter 3. Preconfiguration Tasks" on page 13.

At the end of the chapter, there are two configuration work sheets. The first work sheet (Table 14 on page 227) is filled out with the values from the examples. The second work sheet (Table 15 on page 228) is blank for your own values.

AS/400 Host Configuration

This section provides guidelines and examples for the following tasks:

- "AS/400 Line Descriptions"
- "Advanced Program-to-Program Communications (APPC) Controller Descriptions" on page 193
- "Host Printer Device Description" on page 195

To learn more about the AS/400 operating system configuration that these commands create to enable your system to work with Print Services Facility (PSF) Direct, access these web pages:

- "AS/400 Information Starting Point" (HTTP://PUBLIB.BOULDER.IBM.COM/pubs/html/as400/infocenter.htm)
- "AS/400 Online Library V4R4 Publications" (http://publib.boulder.ibm.com/pubs/html/as400/online/v4r4eng.htm)

The *OS/400® Printer Device Programming* V4R4 manual, SC41–5713–03, provides a great deal of general information on this topic.

To access the bookshelves directly from the "AS/400 Online Library V4R4 Publications" page:

1. Click on **Category Bookshelves for V4R4**.
2. Select option **5** (**Host Communications**).

To search AS/400 documentation from the "AS/400 Online Library V4R4 Publications" page, select **Search or view all V4R4 books**, in **English**.

AS/400 Line Descriptions

To create a dedicated line for your AS/400, enter the following command on your AS/400 Operating System:

```
CRTLINTRN LIND(line_name) RSRCNAME(resource_name)
```

This command creates output similar to Figure 206 on page 193.

```
5769SS1 V4R4M0 990521
Line description . . . . . :   LIND         TRLANAS44
Option . . . . . :   OPTION       *ALL
Category of line . . . . . :                 *TRLAN
Resource name. . . . . :   RSRCNAME     CMN10
Online at IPL. . . . . :   ONLINE       *YES
Vary on wait . . . . . :   VRYWAIT      *NOWAIT
Network controller . . . . . :   NETCTL       TRLANNET
Maximum controllers. . . . . :   MAXCTL       256
Line speed . . . . . :   LINESPEED    16M
Duplex . . . . . :   DUPLEX       *HALF
Maximum frame size . . . . . :   MAXFRAME     16388
LEC frame size . . . . . :   LECFRAME
Activate LAN manager . . . . . :   ACTLANMGR    *YES
TRLAN manager logging level. . . . :   TRNLOGLVL    *OFF
Current logging level. . . . . :                 *OFF
TRLAN manager mode . . . . . :   TRNMGRMODE   *OBSERVING
Log configuration changes. . . . . :   LOGCFGCHG    *LOG
Token-ring inform of beacon. . . . :   TRNINFBCN    *YES
Local adapter address. . . . . :   ADPTADR      400050103006
Exchange identifier. . . . . :   EXCHID       056E0102
Early token release. . . . . :   ELYTKNRLS    *YES
Error threshold level. . . . . :   THRESHOLD    *OFF
Message queue. . . . . :   MSGQ         *SYSVAL
Current message queue. . . . . :   QSYSOPR
Library. . . . . :   QSYS
      -------------Active Switched Controllers--------------
TRBLDAS41 TRBLDAS45 TRBLDAS51 TRBLDALT TRVMLAB TRBLDAS42 TRBLDAS37
--Source Service Access Points--     --Source Service Access Points--
SSAP    Maximum Frame   Type         SSAP    Maximum Frame   Type
04      *MAXFRAME       *SNA         AA      *MAXFRAME       *NONSNA
12      *MAXFRAME       *NONSNA      C8      *MAXFRAME       *HPR
Link speed . . . . . :   LINKSPEED    16M
Cost/connect time. . . . . :   COSTCNN      0
Cost/byte. . . . . :   COSTBYTE     0
Security for line. . . . . :   SECURITY     *NONSECURE
Propagation delay. . . . . :   PRPDLY       *LAN
User-defined 1 . . . . . :   USRDEF1      128
User-defined 2 . . . . . :   USRDEF2      128
User-defined 3 . . . . . :   USRDEF3      128
Autocreate controller. . . . . :   AUTOCRTCTL   *NO
Recovery limits. . . . . :   CMNRCYLMT
Count limit. . . . . :                 2
Time interval .  . . . . . :                 5
Functional address . . . . . :                 FCNADR
Line description . . . . . :   LIND         TRLANAS44
Option . . . . . :   OPTION       *ALL
Category of line . . . . . :                 *TRLAN
```

Figure 206. AS/400 Line Description Example

Advanced Program-to-Program Communications (APPC) Controller Descriptions

To create an APPC controller description for your AS/400 PSF Direct configuration, enter the following command on your AS/400 Operating System:

```
CRTCTLAPPC CTLD(controller_name) LINKTYPE(*LAN) SWTLINLST(line_name)
   RMTCPNAME(nt_cp_name) RMTNETID (nt_id)(EXCHID(block_id+xid)
   ADPTADR(pc_nic_address0)
```

This command creates output similar to Figure 207 on page 194.

```
5769SS1 V4R4M0 990521
Controller description . . . . . :   CTLD         NTTEST
Option . . . . . :   OPTION       *ALL
Category of controller . . . . . :                *APPC
Link type. . . . . :   LINKTYPE     *LAN
Online at IPL. . . . . :   ONLINE       *NO
Active switched line . . . . . :                  TRLANAS44
Character code . . . . . :   CODE         *EBCDIC
Maximum frame size . . . . . :   MAXFRAME     16393
Current maximum frame size . . . . :              3808
Remote network identifier. . . . . :   RMTNETID     USIBMBQ
Remote control point . . . . . :   RMTCPNAME    NT2
Exchange identifier. . . . . :   EXCHID       05DC021C
Initial connection . . . . . :   INLCNN       *DIAL
Dial initiation. . . . . :   DIALINIT     *LINKTYPE
Switched disconnect. . . . . :   SWTDSC       *YES
Data link role . . . . . :   ROLE         *NEG
LAN remote adapter address . . . . :   ADPTADR      400059550067
LAN DSAP . . . . . :   DSAP         04
LAN SSAP . . . . . :   SSAP         04
Autocreate device. . . . . :   AUTOCRTDEV   *ALL
System job . . . . . :                    QCMNARB03
Message queue. . . . . :   MSGQ         *SYSVAL
Current message queue. . . . . :   QSYSOPR
Library. . . . . :   QSYS
Text . . . . . :   TEXT         *BLANK
Switched line list . . . . . :   SWTLINLST    TRLANAS44
```

Figure 207. APPC Controller Description Example (AS/400) (Part 1 of 2)

```
    --------------------Switched Lines----------------------
Attached devices . . . . . :   DEV
    -------------------Attached Devices---------------------
APPN-capable . . . . . :   APPN         *YES
APPN CP session support. . . . . :   CPSSN        *YES
APPN/HPR capable . . . . . :   HPR
Path switching . . . . . :   HPRPTHSWT    *NO
Branch extender role . . . . . :   BEXROLE      *NETNODE
Remote APPN node type. . . . . :   NODETYPE     *ENDNODE
APPN transmission group number . . :   TMSGRPNBR    1
APPN minimum switched status . . . :   MINSWTSTS    *VRYONPND
Autodelete device. . . . . :   AUTODLTDEV   1440
User-defined 1 . . . . . :   USRDFN1      *LIND
User-defined 2 . . . . . :   USRDFN2      *LIND
User-defined 3 . . . . . :   USRDFN3      *LIND
Model controller description . . . :   MDLCTL       *NO
Control owner. . . . . :   CTLOWN       *USER
Disconnect timer . . . . . :   DSCTMR
Minimum connect timer. . . . . :                170
Disconnection delay timer. . . . . :                30
LAN frame retry. . . . . :   LANFRMRTY    10
LAN connection retry . . . . . :   LANCNNRTY    10
    ------------Display Controller Description-------------
Controller description . . . . . :   CTLD         NTTEST
Option . . . . . :   OPTION       *ALL
Category of controller . . . . . :                *APPC
LAN response timer . . . . . :   LANRSPTMR    30
LAN connection timer . . . . . :   LANCNNTMR    70
LAN acknowledgement timer. . . . . :   LANACKTMR    1
LAN inactivity timer . . . . . :   LANINACTMR   100
LAN acknowledgement frequency. . . :   LANACKFRQ    7
LAN max outstanding frames . . . . :   LANMAXOUT    7
LAN access priority. . . . . :   LANACCPTY    0
LAN window step. . . . . :   LANWDWSTP    *NONE
Recovery limits. . . . . :   CMNRCYLMT
Count limit. . . . . :                2
Time interval. . . . . :                5
```

Figure 207. APPC Controller Description Example (AS/400) (Part 2 of 2)

Host Printer Device Description

To create a host printer definition for your AS/400 PSF Direct configuration, enter the following command on your AS/400 Operating System:

```
CRTDEVPRT DEVD(prtr_devd) DEVCLS(*RMT) TYPE(*IPDS) MODEL(0) AFP(*YES)
   AFPATTACH(*APPC) FONT(font_id) RMTLOCNAME(pc_network_name.pc_luname)
```

This command creates output similiar to Figure 208 on page 196.

```
5769SS1 V4R4M0 990521
Device description . . . . . :   DEVD         NTTEST
Option . . . . . :   OPTION       *ALL
Category of device . . . . . :                *PRT
Automatically created. . . . . :              NO
Device class . . . . . :   DEVCLS       *RMT
Device type. . . . . :   TYPE         *IPDS
Device model . . . . . :   MODEL        0
Advanced function printing . . . . :   AFP          *YES
AFP attachment . . . . . :   AFPATTACH    *APPC
Online at IPL. . . . . :   ONLINE       *NO
Font . . . . . :
Font identifier  . . . . . :                  011
Point size . . . . . :                        *NONE
Form feed. . . . . :   FORMFEED     *AUTOCUT
Separator drawer . . . . . :   SEPDRAWER    *FILE
Separator program. . . . . :   SEPPGM       *NONE
Library. . . . . :
Printer error message. . . . . :   PRTERRMSG    *INQ
Message queue. . . . . :   MSGQ         QSYSOPR
Library. . . . . :                            *LIBL
Current message queue. . . . . :              QSYSOPR
Library. . . . . :   QSYS
Image configuration. . . . . :   IMGCFG       *NONE
Maximum pending requests . . . . . :   MAXPNDRQS    6
Print while converting . . . . . :   PRTCVT       *YES
Form definition. . . . . :   FORMDF       F1C10110
Library .  . . . . . :                        *LIBL
Character identifier . . . . . :   CHRID        *SYSVAL
Remote location. . . . . :   RMTLOCNAME   AS4TEST
Name or address. . . . . :                    USIBMBQ.AS4TEST
Local location . . . . . :   LCLLOCNAME   *NETATR
Mode . . . . . :   MODE         QSPWTR
User-defined object. . . . . :   USRDFNOBJ    *NONE
Object type. . . . . :                        *NONE
Data transform program . . . . . :   USRDTATFM    *NONE
User-defined driver program. . . . :   USRDRVPGM    *NONE
Dependent location name. . . . . :   DEPLOCNAME   *NONE
Allocated to . . . . . :
Job name . . . . . :   NTTEST
User . . . . . :   QSPLJOB
Number . . . . . :                            055699
Text . . . . . :   TEXT         Infoprint/NT
User-defined options . . . . . :   USRDFNOPT
```

Figure 208. Host Printer Device Description Example (AS/400)

Specifying Communications Server for NT Configuration Profiles

This section contains instructions and guidelines for configuring the Communications Server for NT profiles. It includes the following tasks:

• "Transaction Program Configuration for AS/400" on page 223

Accessing the Communications Server for NT Profiles

Use the following procedure to access the IBM SecureWay Communications Server for NT applications that are described in "What is IBM SecureWay Communications Server for Windows NT?" on page 2.

Note that this procedure assumes that you have dragged the icons for **SNA Node Configuration** and **SNA Node Operations** to your desktop after they were created at installation.

1. From your NT desktop view, double-click the **SNA Node Configuration** icon that resides on your desktop:

2. At the Welcome to Communications Server Configuration! pop-up window, select the **New** button for a new configuration) and click the **Next>** button.

   Communications Server creates an *xxx*.acg file (where *xxx* represents the file name you select in this window. This *xxx*.acg file resides in the *C*:\IBMCS\private directory, where *C* is the drive where you installed IBM SecureWay Communications Server for NT. For users migrating from PSF Direct on an OS/2 operating system, this *xxx*.acg file is the equivalent of the OS/2 Communications Manager Communications Server *xxx*.ndf file.

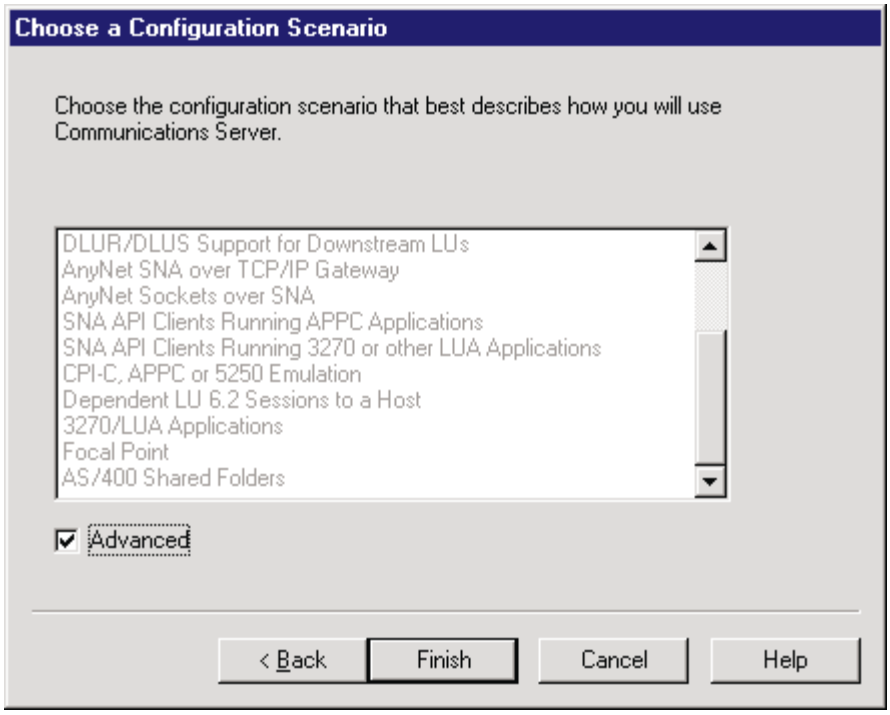

Figure 209. Choose a Configuration Scenario Window (AS/400)

3. In the Choose a Configuration Scenario window (Figure 209), check the **Advanced** box, which causes the display to turn gray. Click the **Finish** button.

4. From the Communications Server SNA Node Configuration window (Figure 210), you are ready to begin configuring your system for PSF Direct.

AS/400 Node Setup

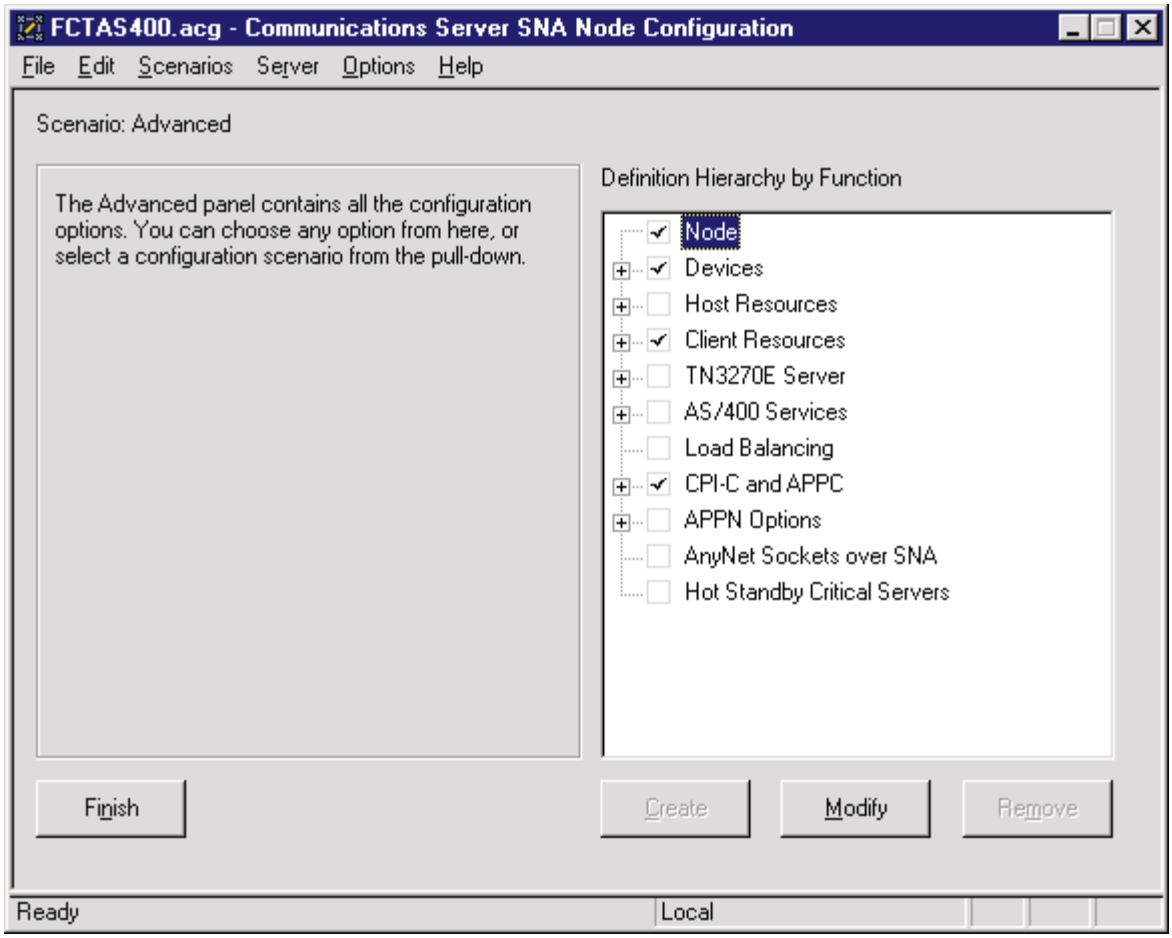

Figure 210. Communications Server SNA Node Configuration Window: Node (AS/400)

In the Communications Server SNA Node Configuration window (Figure 210), right-click the **Node** box and select the **Create** option. The Define the Node notebook opens at the **Basic** tab.

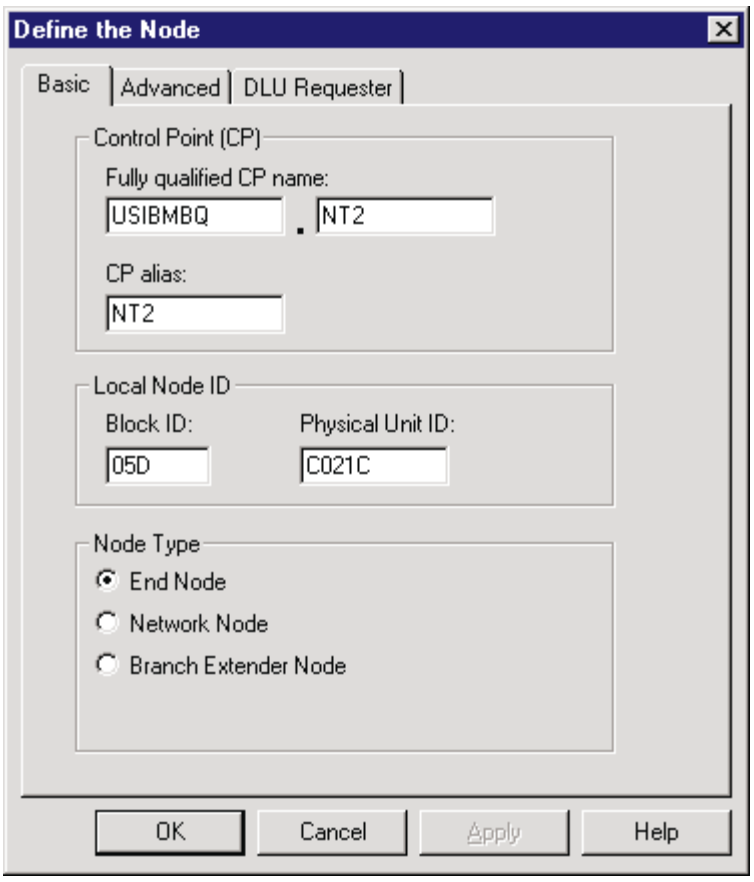

Figure 211. Define the Node Notebook: Basic Tab (AS/400)

On the **Basic** tab (Figure 211), specify values for the following parameters:

Fully qualified Control Point (CP) name
Specifies the name of the component that manages the resources of that node.

CP alias
Specifies an alternative name for the CP. Local applications can use this name, instead of the **Fully qualified Control Point (CP) name**, to refer to the local CP.

Local Node ID
Specifies both the **Block ID** and the **Physical Unit ID**. The **Block ID** is a 3-digit hexadecimal string that identifies the product type in an SNA network. The **Physical Unit ID** is a 5-digit hexadecimal string that identifies a physical unit (PU).

The OS/400 operating system uses this identifier to establish a link with this workstation when attached to a token-ring network. The value must be unique within the network and must match the AS/400 APPC controller description **EXCHID** parameter.

If you are migrating from an AIX operating system, **Local Node ID** matches the **XID Node ID** parameter.

Node Type
Specifies the type of node. Take the default value, **End node**.

If you are migrating from an AIX operating system, **Node Type** matches the **Control Point Type** parameter.

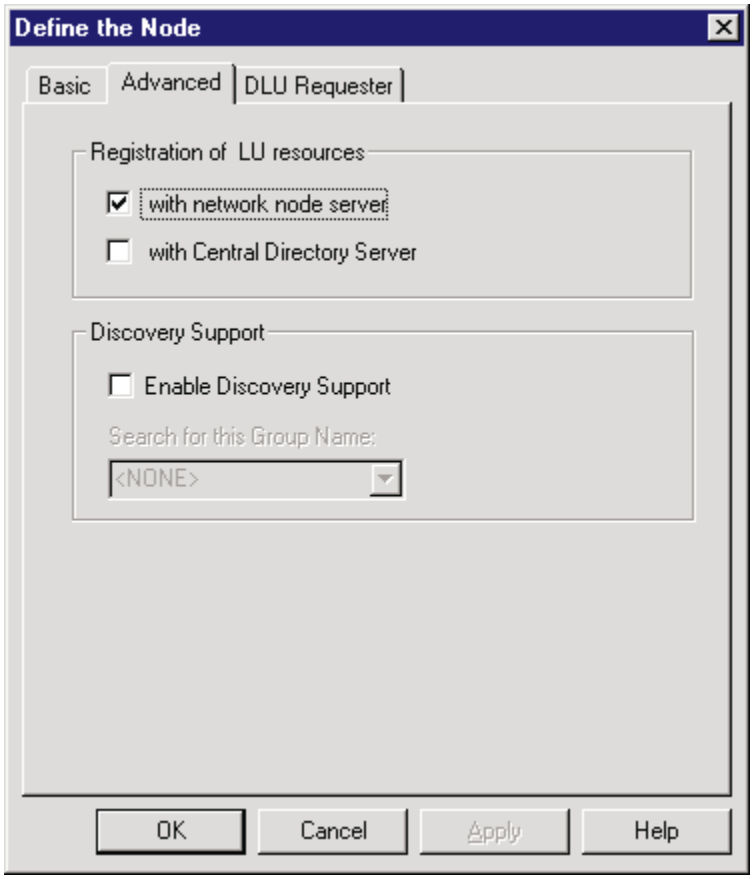

Figure 212. Define the Node Notebook: Advanced Tab (AS/400)

On the **Advanced** tab (Figure 212), specify values for the following parameters:

Registration of LU resources
Specifies that directory information about the local logical units (LUs) 6.2 is sent to the server. As the example shows, check both the **Network node server** and the **Central Directory Server**.

Discovery Support
Specifies a LAN address resolution protocol that can be used to find another node that matches given search values. Adjust the search parameter to search for APPN network nodes, nodes that provide SNA boundary function, or AS/400s. Select the check box to enable discovery support.

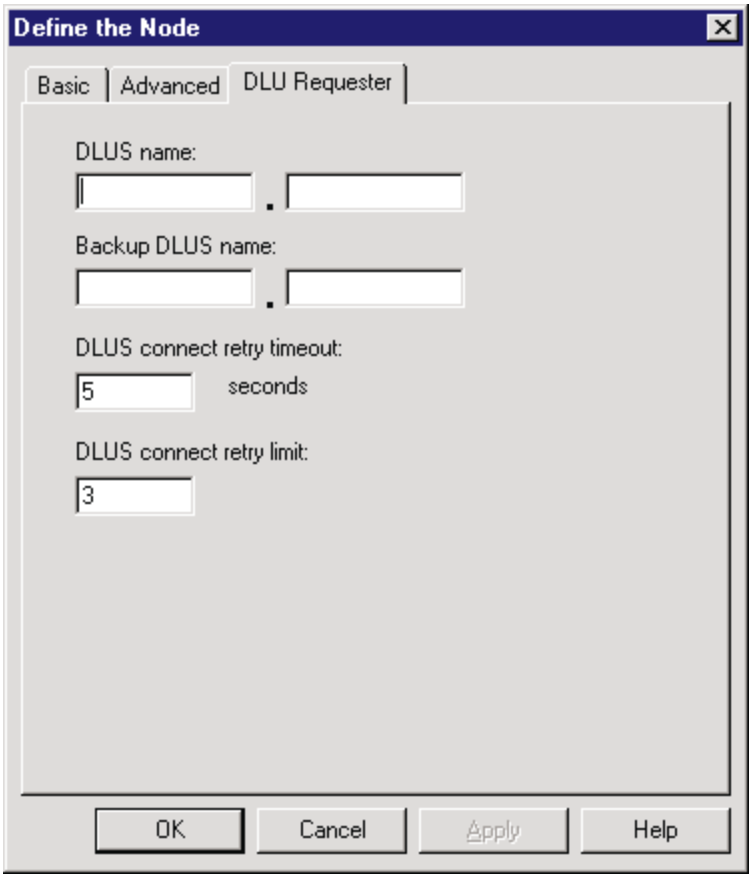

Figure 213. Define the Node Notebook: DLU Requester Tab (AS/400)

On the **DLU Requester** tab (Figure 213), accept the default values for the following parameters:

DLUS connect retry timeout
Specifies the time between attempts to reconnect a dependent logical unit server (DLUS). This parameter is based on the **DLUS connect retry limit** parameter. Take the default of 5.

DLUS connect retry limit
Specifies the maximum number of attempts to reconnect a DLUS without receiving an acknowledgment in the time set by the **DLUS connect retry timeout** parameter. Take the default of 3.

Click **OK** to save these configuration settings.

AS/400 Device Configuration

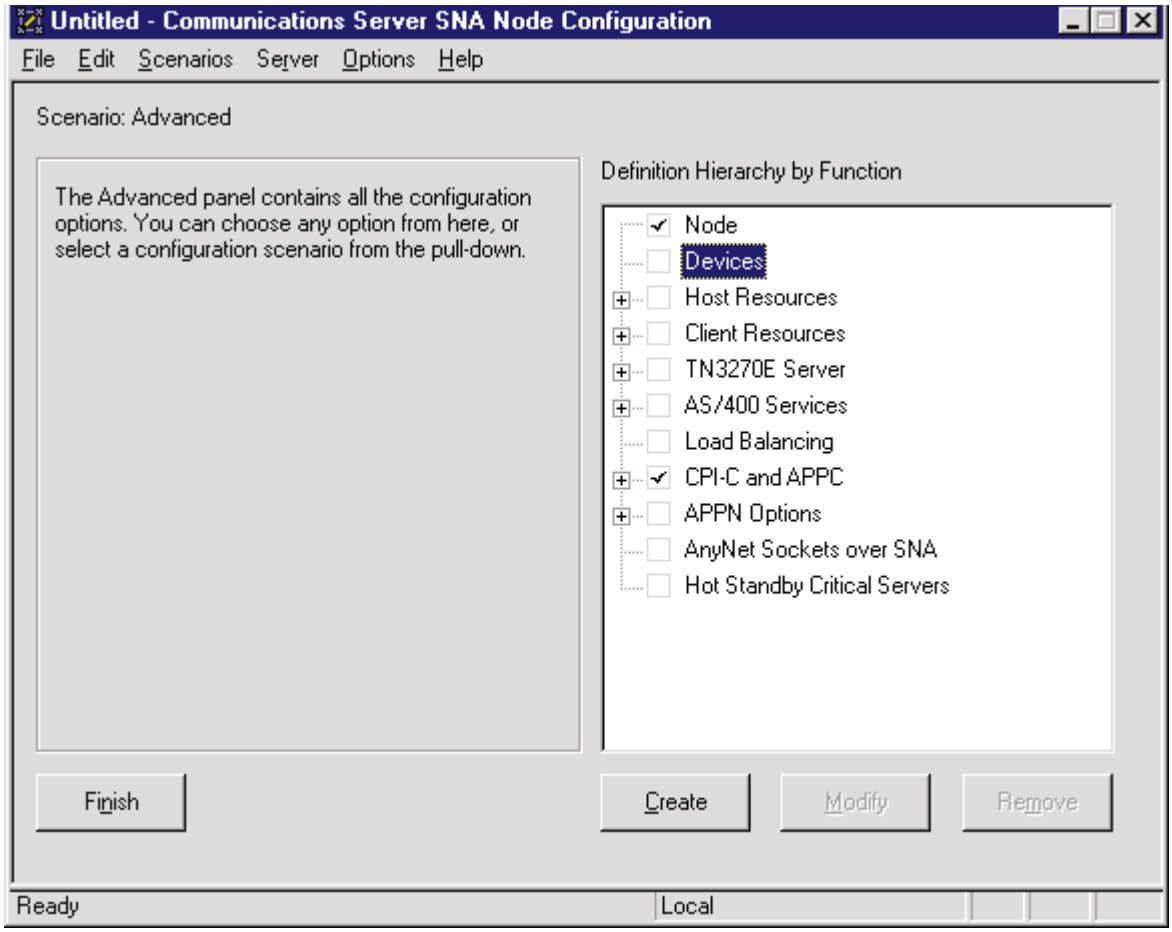

Figure 214. Communications Server SNA Node Configuration Window: Devices (AS/400)

In the Communications Server SNA Node Configuration window (Figure 214), right-click the **Devices** box and select the **Create** option. The Device Type pop-up notebook (Figure 215) opens.

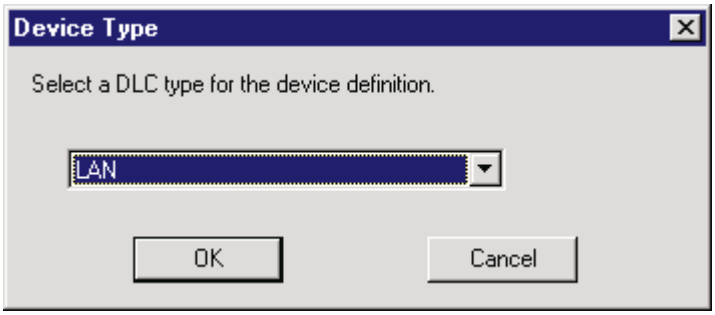

Figure 215. Device Type Window (AS/400)

Select **LAN** as your data link control (DLC) type. A DLC is a set of rules that nodes on a data link (such as an SDLC link or a token ring) use to accomplish an orderly exchange of information.

Click **OK** to save this configuration setting.

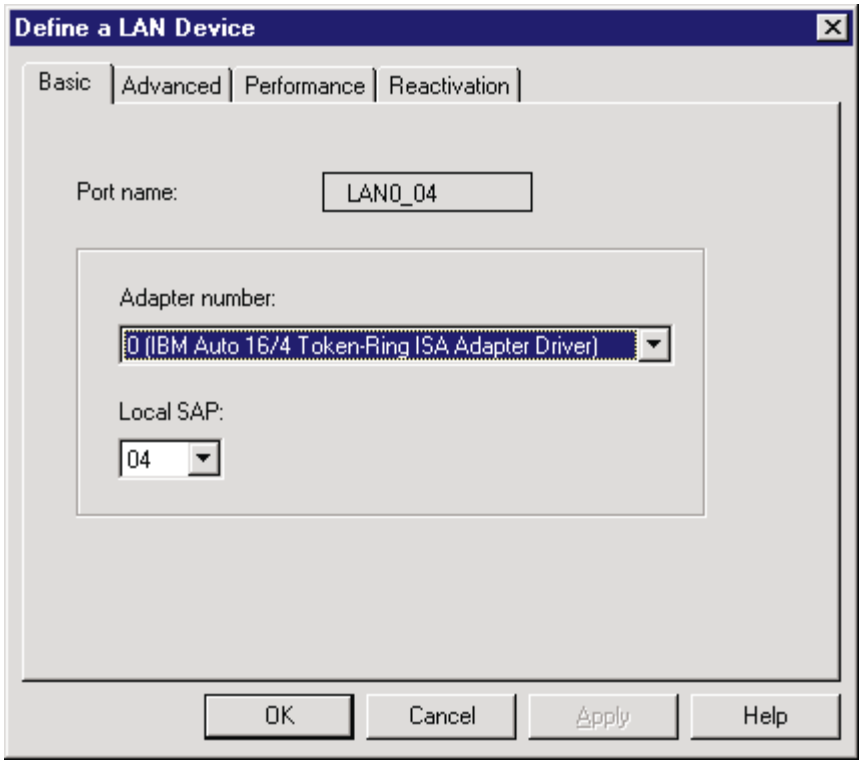

Figure 216. Define a LAN Device Notebook: Basic Tab (AS/400)

On the **Basic** tab of the Define a LAN Device notebook (Figure 216), supply the following values:

Port name
Specifies the port name of the physical connection to the link hardware. This value consists of the word **LAN**, the adapter number, and the local SAP number, with an underscore between the adapter number and the local SAP number. Accept the value that is displayed.

Adapter number
Specifies a value from 0 to 7 that uniquely identifies this adapter. You may have both token-ring and ethernet adapters defined at your installation. Ensure that you select the proper token-ring LAN adapter.

Local SAP
Specifies the local service access point (SAP) number of the local port as a value from 04 through FC. Note that this number must be a multiple of four. Take the default of `04`.

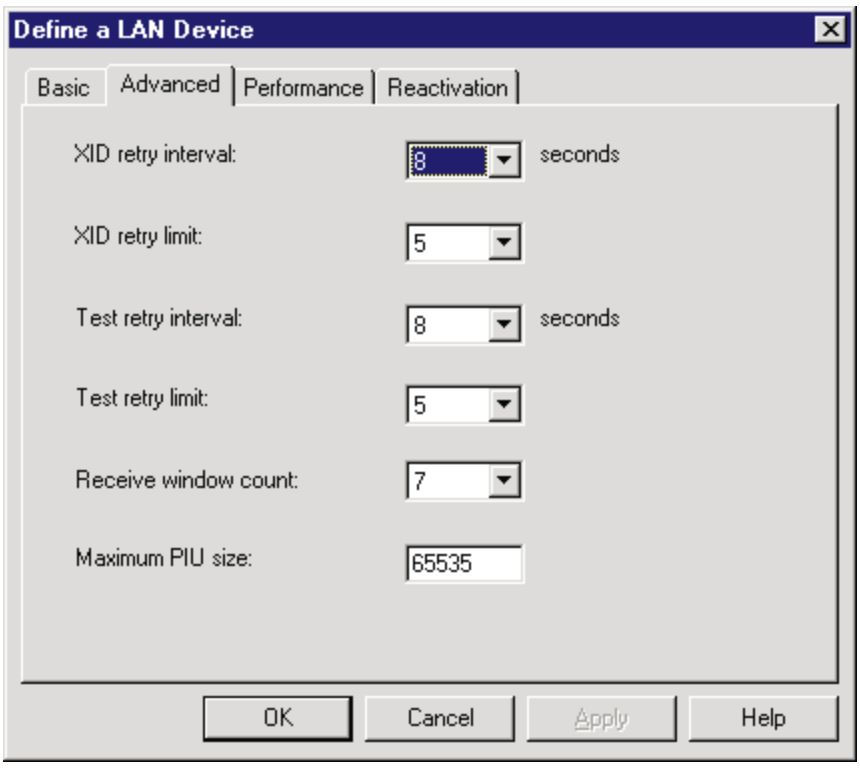

Figure 217. Define a LAN Device Notebook: Advanced Tab (AS/400)

On the **Advanced** tab (Figure 217), supply the following values:

XID retry interval
Specifies the time the link station waits for a reply to a previous **XID** command before resending that command. Specify 8. If the link station is a calling link station, this value causes it to try to establish a link connection with the communication controller every 8 seconds, until a link connection can be established.

If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **Response Timeout** parameter from the **Token-Ring SNA DLC** profile.

XID retry limit
Specifies the maximum number of times an **XID** command will be retransmitted before Communications Server for NT presumes that the link is broken and stops retrying. Specify 5. The previous parameter defines the interval between the attempts.

If you are migrating from an AIX operating system to a Windows NT operating system, this parameter replaces the **XID Retransmit count** parameter from the **Token-Ring SNA DLC** profile.

Test retry interval
Specifies the time between attempts to find the adjacent link station on the LAN. This parameter is needed to establish communication with the network and does not necessarily relate to the PSF host system. The number of times an **XID** is sent is based on the configured **XID retry limit**.

Test retry limit
Specifies the number of times Communications Server attempts to find the adjacent link station on the LAN. Specify a value from 3 to 30.

Receive window count

Defines the size of the link-level window and specifies the maximum number of frames to receive before sending a link-level acknowledgement. The default **Receive window count** value is 8. You must adjust this default to produce acceptable throughput.

Maximum PIU size

Specifies a value between 99 and 65535 bytes that represents the maximum number of bytes in the data buffer that SNA sessions use for this link. If the value of the **Maximum PIU size** exceeds the frame size supported by your local device driver, the value will be reduced to match the frame size.

In this example, the screen shows a value of 65535, but the value of the **MAXFRAME** operand is 16388 in Figure 206 on page 193 and 16393 in Figure 207 on page 194. The smallest value, 16388, is used.

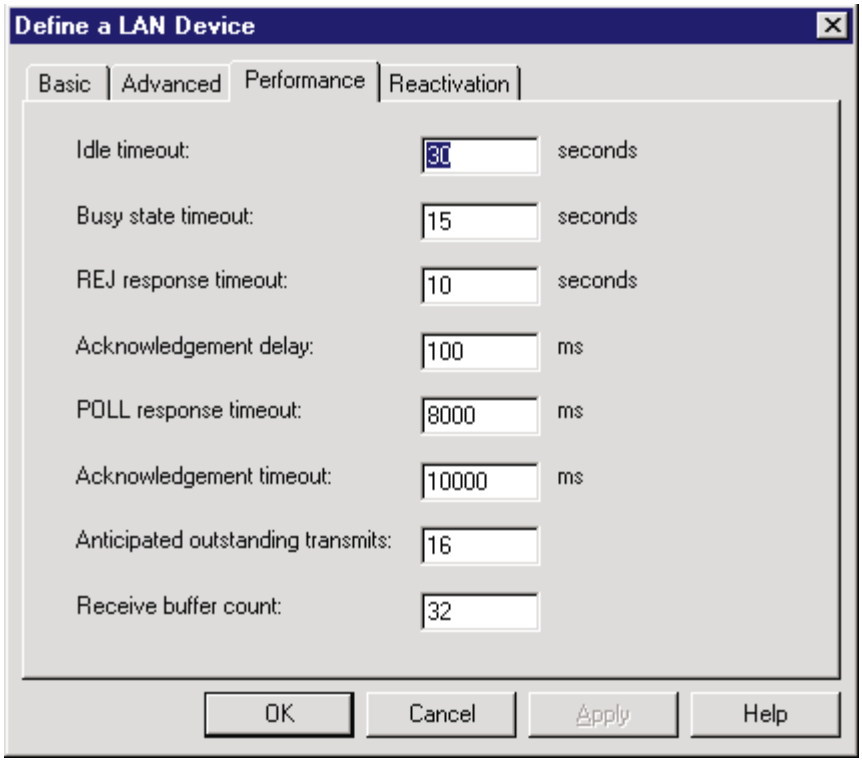

Figure 218. Define a LAN Device Notebook: Performance Tab (AS/400)

On the **Performance** tab (Figure 218), accept the default values.

If you are migrating from an AIX operating system to a Windows NT operating system, see Table 13 on page 206 for a map of the parameters on the **Performance** tab to the corresponding AIX values.

Table 13. Windows NT and AIX Parameters for LAN Device Performance (AS/400)

Windows NT Parameter	AIX Parameter
Idle timeout	Inactivity time-out
Busy state timeout	n/a
Acknowledgement delay	n/a
Acknowledgement timeout	Acknowledgement timeout
POLL response timeout	n/a
Anticipated outstanding transmits	Transmit window count
Receive buffer count	n/a

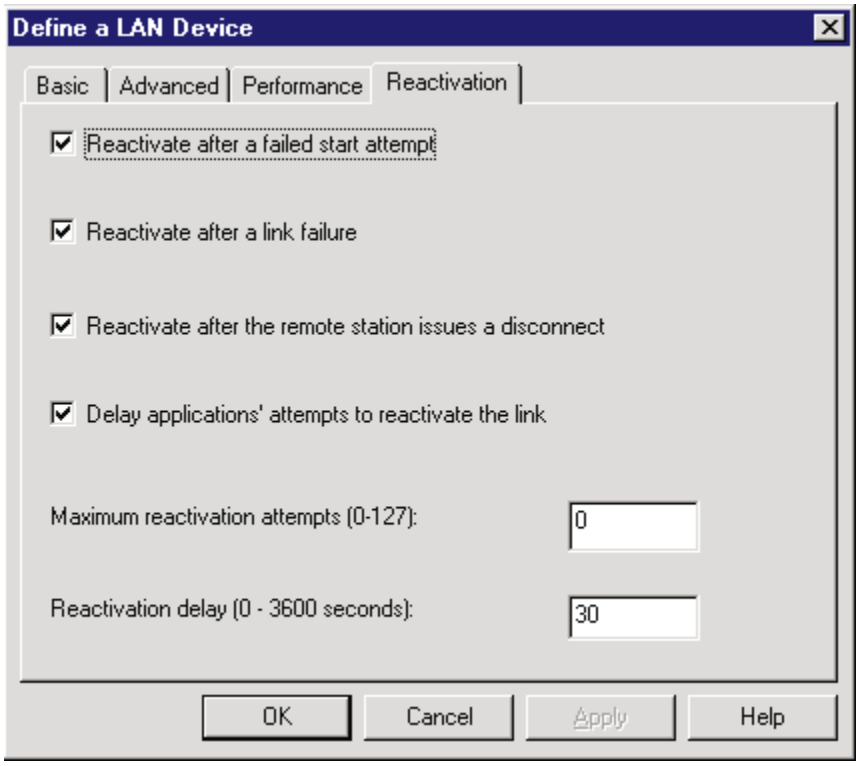

Figure 219. Define a LAN Device Notebook: Reactivation Tab (AS/400)

On the **Reactivation** tab (Figure 219), accept the default values.

Click **OK** to save these configuration settings.

Enabling SNA API Clients for AS/400

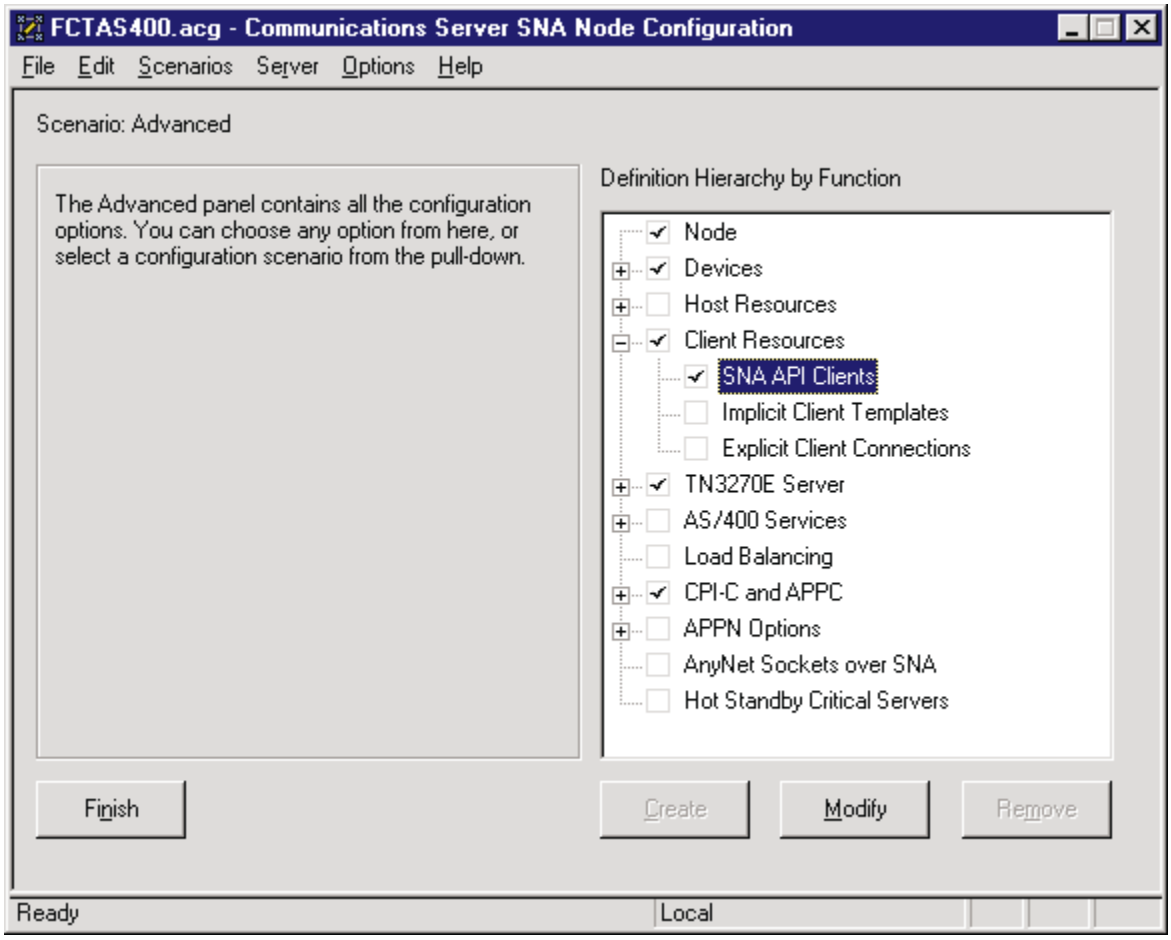

Figure 220. Communications Server SNA Node Configuration Window: SNA API Clients (AS/400)

In the Communications Server SNA Node Configuration window (Figure 220), right-click the **Client Resources** box, then the **SNA API Clients** box. The SNA Clients window opens.

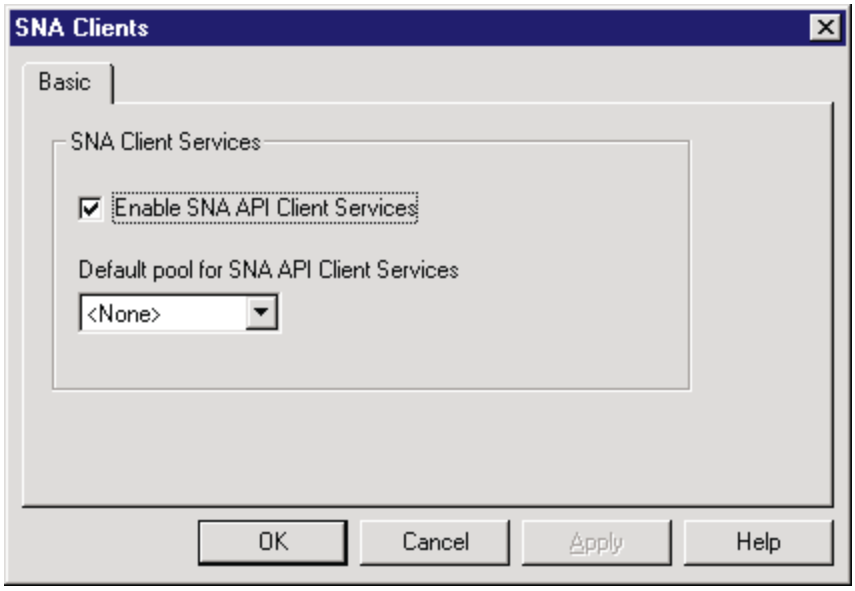

Figure 221. SNA Clients Window (AS/400)

In the SNA Clients window (Figure 221), check the **Enable SNA API Client Services** box.

Click **OK** to save these specifications to the *xxx*.acg file.

AS/400 Peer Connections Configuration

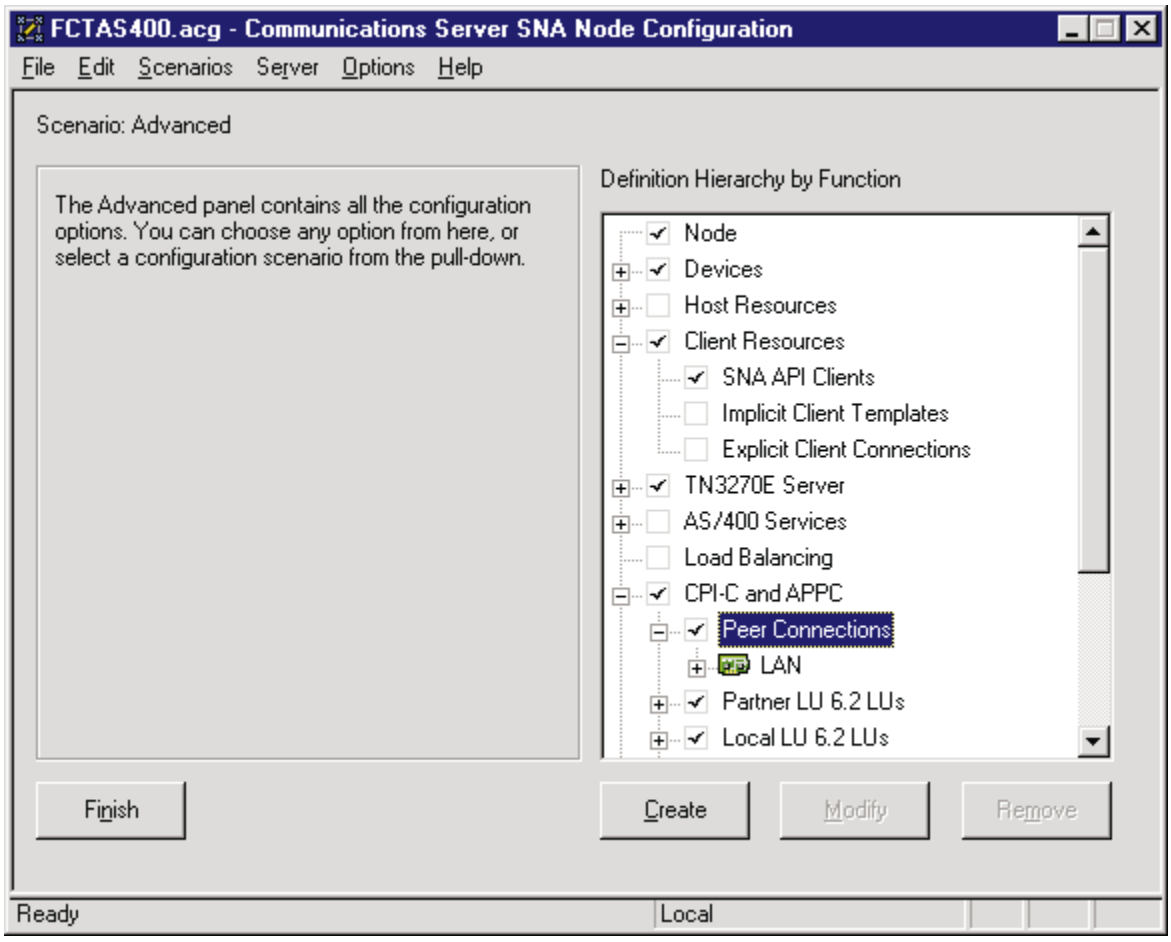

Figure 222. Communications Server SNA Node Configuration Window: Peer Connections (AS/400)

In the Communications Server SNA Node Configuration window (Figure 222), right-click the **CPI-C and APPC** box, then the **Peer Connections** box. Select the **Create** option. The Define a LAN Connection notebook opens at the **Basic** tab.

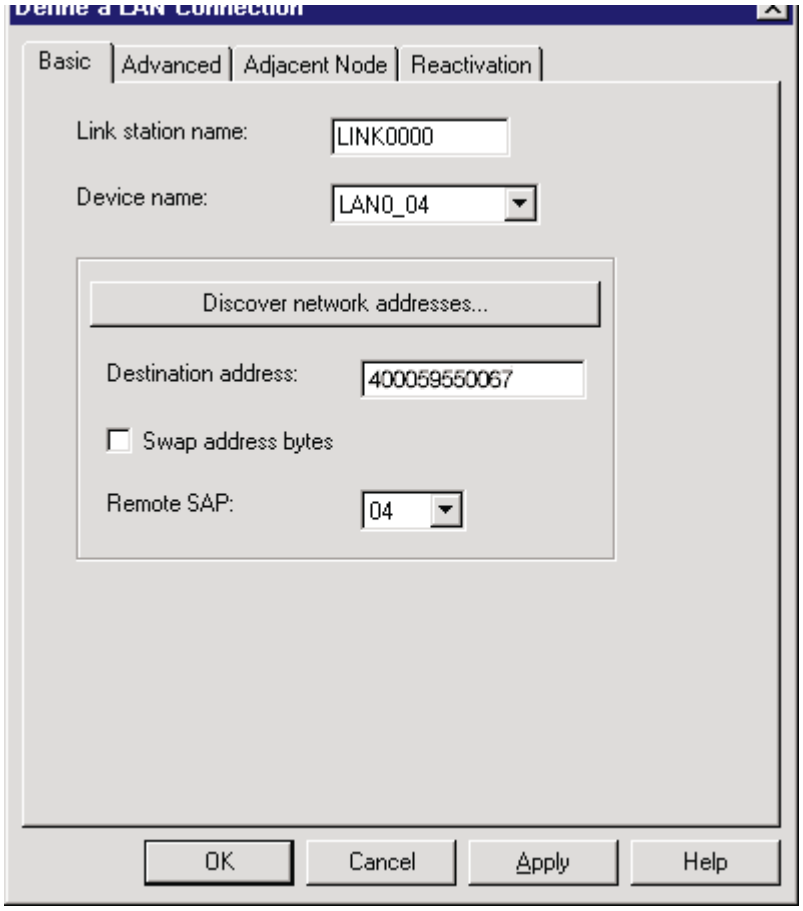

Figure 223. Define a LAN Connection Notebook: Basic Tab (AS/400)

On the **Basic** tab (Figure 223), supply the following values:

Link station name
Specifies a 1- to 8-byte character string that is used to identify a connection. The contents of this field will vary, depending on the number of links at your installation.

Device name
Specifies the name of the port associated with this link station. This value must match the **Port name** value specified on the **Basic** tab of the Define a LAN Device notebook (Figure 216 on page 203).

Destination address
Specifies a 12-character hexadecimal string that specifies the address to activate a connection to the destination. This value must be specified so the NT system can search for and call the PSF host program.

Swap address bytes
Check this field to bit-swap the address in the **Destination address** field. You may need to select this check box if the next link in the network is an Ethernet link. If not, you can use the default (unchecked).

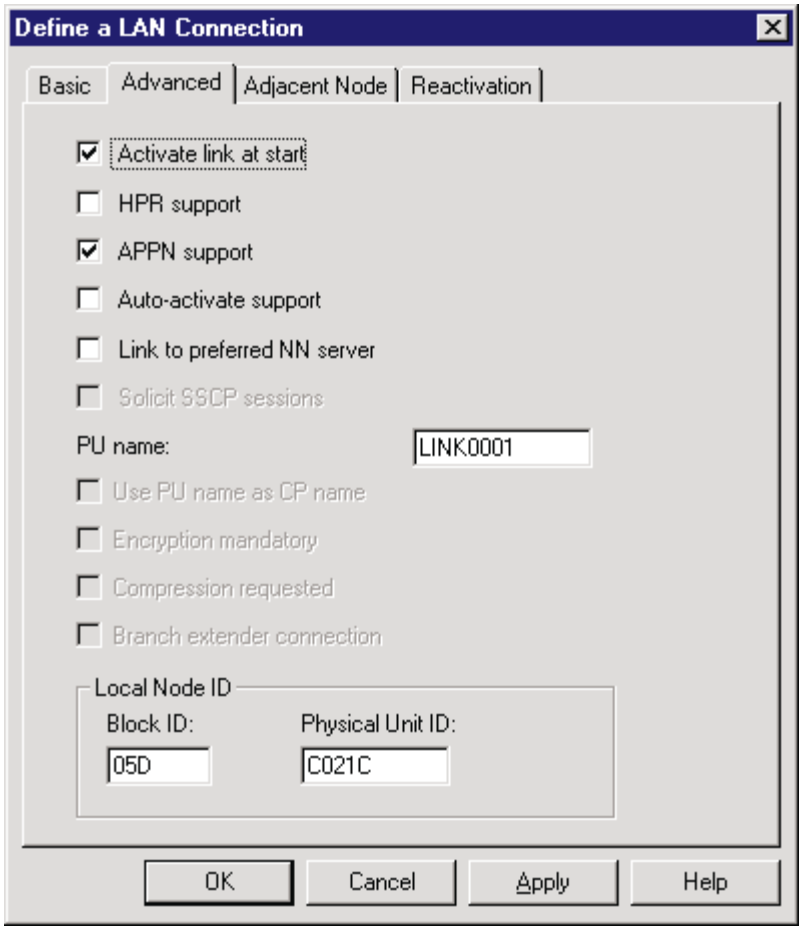

Figure 224. Define a LAN Connection Notebook: Advanced Tab (AS/400)

On the **Advanced** tab (Figure 224), supply the following values:

Activate link at start
Specifies that you will use the link reactivation values specified in the port (device) link reactivation definition. Ensure that you select this check box.

APPN support
Specifies whether this connection supports CP-CP sessions. Select the check box to specify APPN support.

PU name
Specifies the physical unit (PU) name. This is the name of the component that manages and monitors the resources (such as attached links and adjacent link station) associated with a node. The default PU name is automatically created. You can change this definition.

Block ID
Identifies the product type in an SNA network.

Physical Unit ID
Identifies the physical unit (PU) or component that manages and monitors the resources (such as attached links and adjacent link stations) associated with a node.

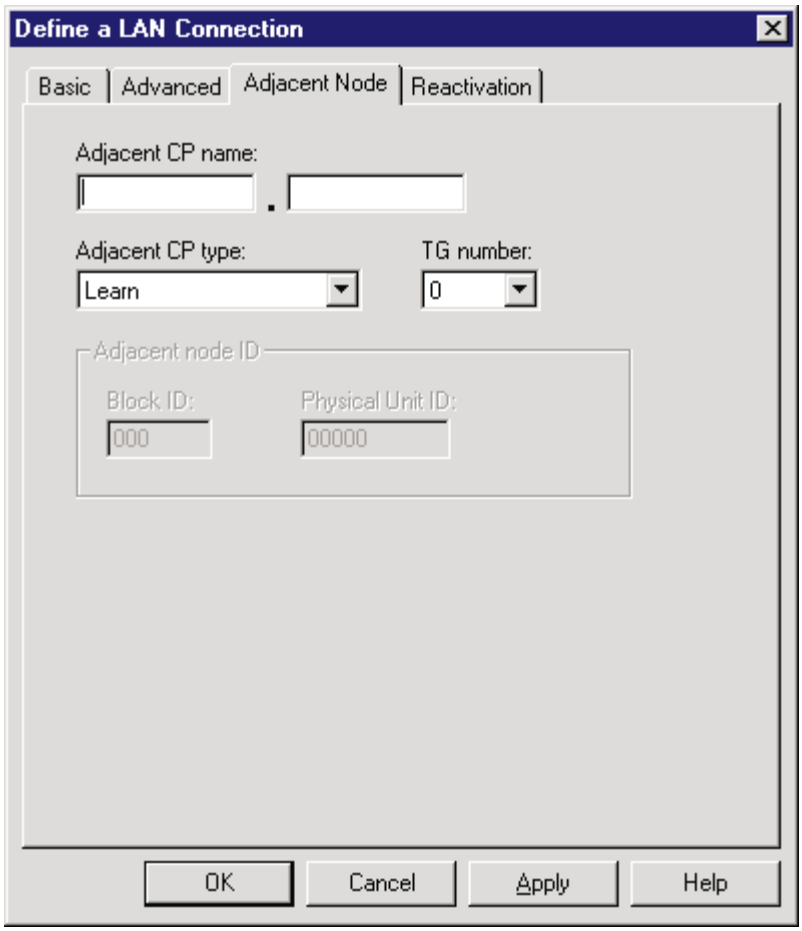

Figure 225. Define a LAN Connection Notebook: Adjacent Node Tab (AS/400)

On the **Adjacent Node** tab (Figure 225), accept the default values.

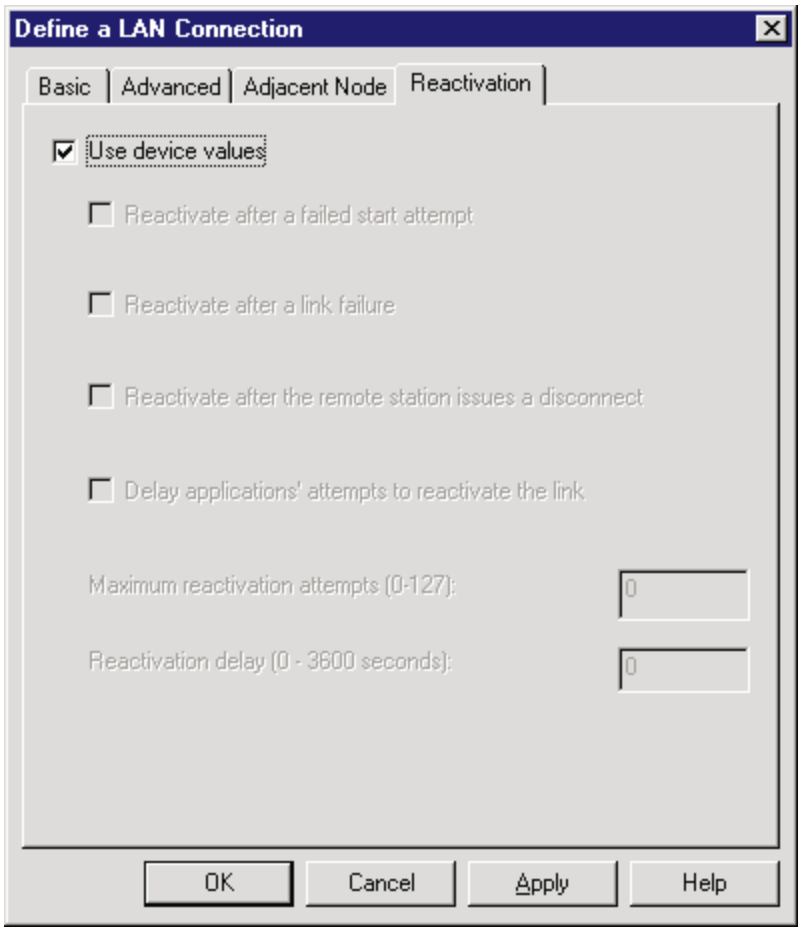

Figure 226. Define a LAN Connection Notebook: Reactivation Tab (AS/400)

On the **Reactivation** tab (Figure 226), accept the default values.

Note that after you select **OK**, a pop-up window appears asking:

```
Do you want to automatically route all APPC sessions over this connection?
```

You must reply `yes` before the configuration is accepted.

Partner LU 6.2 Configuration for AS/400

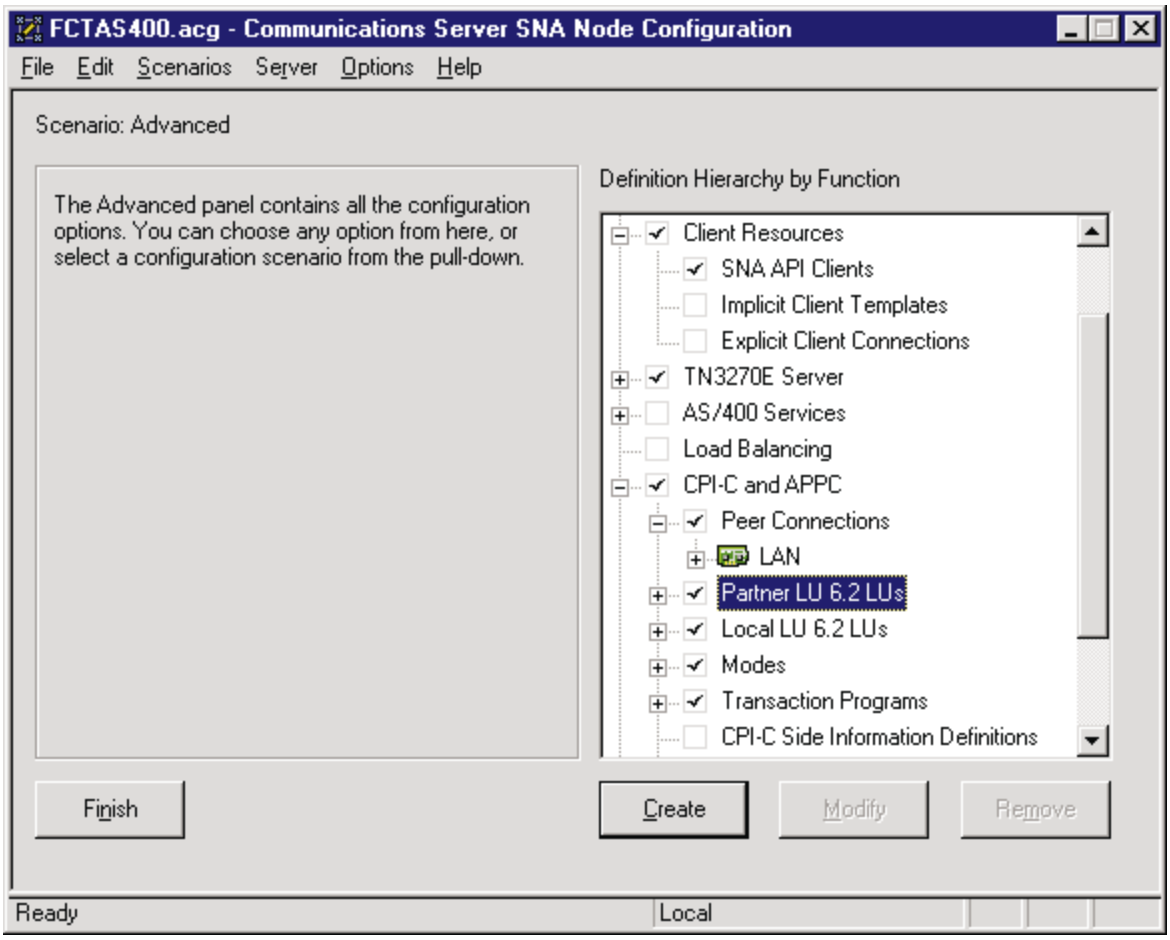

Figure 227. Communications Server SNA Node Configuration Window: Partner LU 6.2 LUs (AS/400)

In the Communications Server SNA Node Configuration window (Figure 227), right-click the **CPI-C and APPC** box, then the **Partner LU 6.2 LUs** box. Select the **Create** option. The Define a Partner LU 6.2 notebook opens at the **Basic** tab.

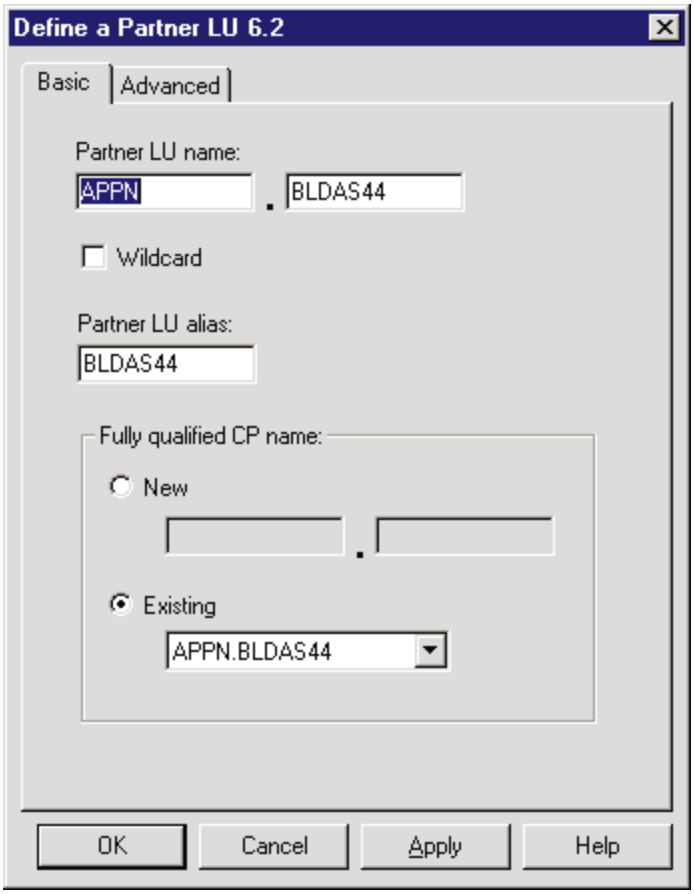

Figure 228. Define a Partner LU 6.2 Notebook: Basic Tab (AS/400)

On the **Basic** tab (Figure 228), supply the following values:

Partner LU name
Specifies the network identifier of the network in which the host PSF program resides (followed by a period), and the logical unit name used by the host PSF program. The AS/400 network name (first qualifier) is obtained from the local network ID in the AS/400 network attributes. The primary logical unit (PLU) (second qualifier) is obtained from the AS/400 **LCLLOCNAME** parameter in the AS/400 printer device description. If that device is ***NETATR** , use the value specified for the default local location in the AS/400 network attributes.(Do not check the **Wildcard** check box.)

Partner LU alias
Specifies the alternate name for the partner LU. Local applications can use this name, instead of the fully qualified LU name, to refer to the partner LU. This is the PSF Direct receiver to be used when the OS/400 operating system activates its real LU. While you can choose any meaningful value, IBM recommends specifying the second qualifier of the **Partner LU name**.

Fully qualified CP name
Select: **New** to enter the fully qualified CP name of the partner LU's owning control point. Communications Server for NT requires this field. Infoprint Manager uses this field as the target for any alerts sent by the PSF Direct program.

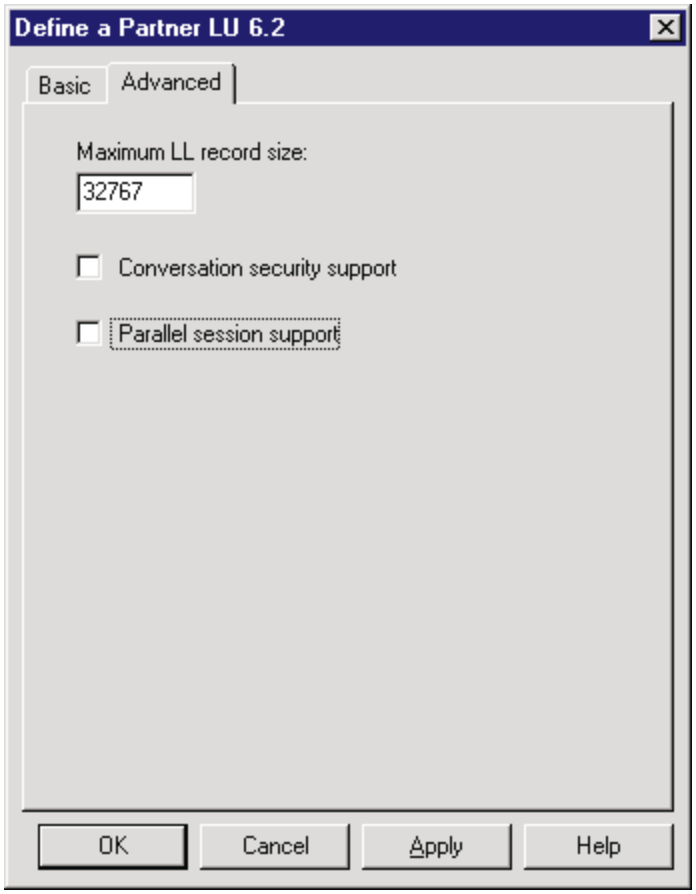

Figure 229. Define a Partner LU 6.2 Notebook: Advanced Tab (AS/400)

On the **Advanced** tab (Figure 229), supply the following values:

Maximum LL record size
Specifies a value between 0 and 32767 as the maximum size of the logical record in the data stream for basic conversations. Specify the default (32767), because the PSF host program and the PSF Direct host receiver should both be able to handle the full range.

Conversation security support
Specifies that the partner logical unit (LU) is authorized to validate the user identifiers for the local LUs. Select the check box to specify conversation security support if you have matching support on the host PSF program. If not, leave this box unchecked.

Parallel session support
Specifies whether the partner LU supports two or more currently active sessions between the same two LUs by using different pairs of network addresses or session identifiers. Because neither PSF Direct nor the PSF host programs support two sessions with the same partner LU, do not select this check box.

Click **OK** to save these specifications to the *xxx*.acg file.

Local LU 6.2 Configuration for AS/400

Dependent or Independent LU?

This procedure configures an *independent* LU. You cannot use it to configure a *dependent* LU. If you require dependent LUs, see "Deciding whether to Define a Dependent or an Independent LU" on page 14.

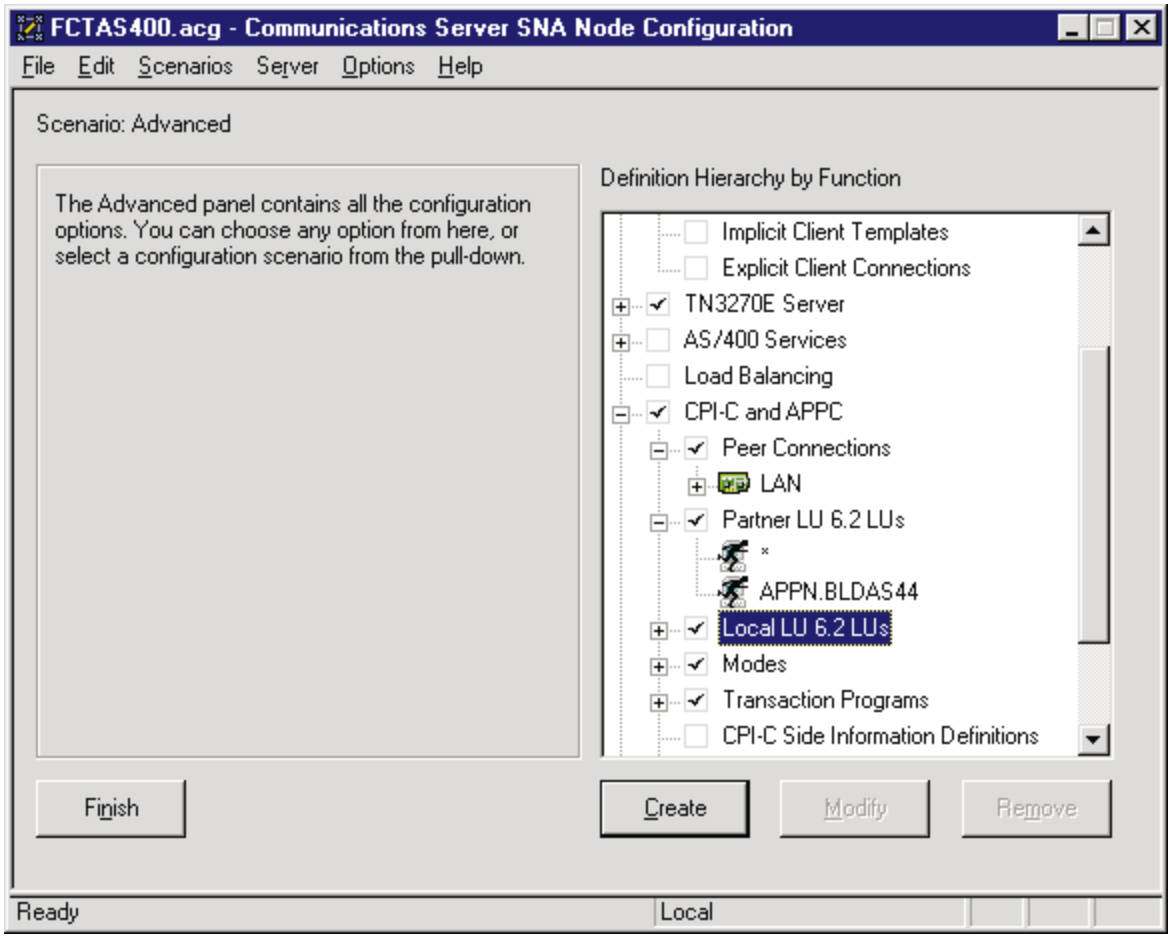

Figure 230. Communications Server SNA Node Configuration Window: Local LU 6.2 LUs (AS/400)

In the Communications Server SNA Node Configuration window (Figure 230), right-click the **CPI-C and APPC** box, then the **Local LU 6.2 LUs** box. Select the **Create** option. The Define a Local LU 6.2 notebook opens at the **Basic** tab.

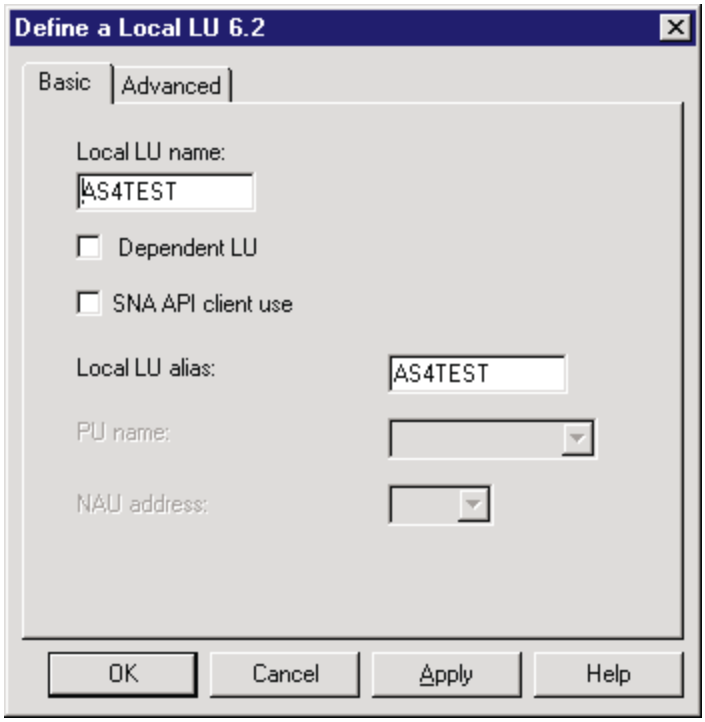

Figure 231. Define a Local LU 6.2 Notebook: Basic Tab (AS/400)

On the **Basic** tab (Figure 231), supply the following values:

Local LU name
Specifies a 1- to 8-byte character string that identifies your workstation and gives transaction programs access to the network. This name must match the partner LU that has been defined at the host PSF program and the **RMTLOCNAME** parameter in the AS/400 printer device description.

Local LU alias
Specifies the name for the local LU that is used by Infoprint Manager when configuring the PSF Direct host receiver. This is the network addressable unit (NAU) for this LU. AS/400 creates this parameter value, which corresponds to the **LOCADR** parameter in the APPC device description. By default, that value is X'00', which means that the AS/400 is an independent LU.

Dependent LU
Specifies whether this LU requires assistance from a system services control point (SSCP) in order to initiate an LU-LU session. When this check box is selected, the LU must be specified as dependent on the host PSF program. Because this procedure is for an independent LU, do not check the box.

SNA API client use
Because this LU will be used by a server-based transaction program (TP), do not check this box.

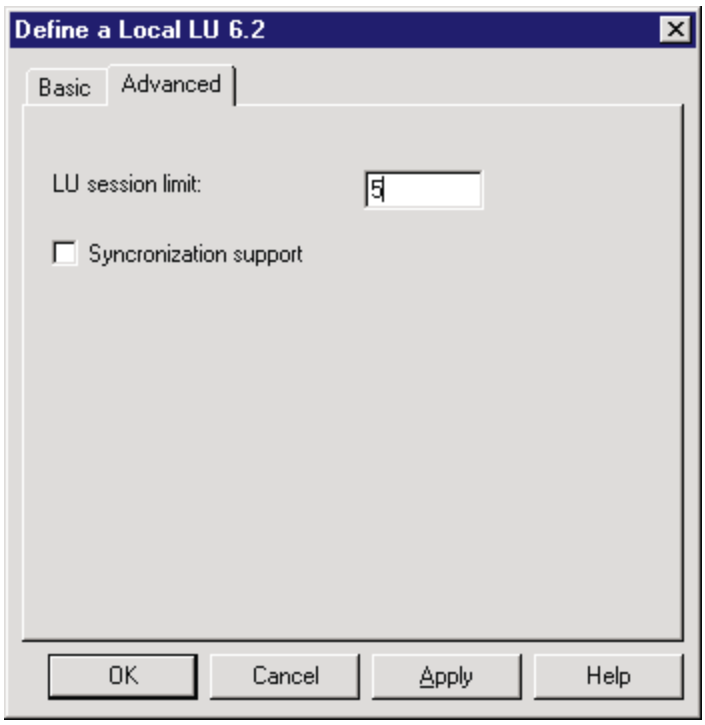

Figure 232. Define a Local LU 6.2 Notebook: Advanced Tab (AS/400)

On the **Advanced** tab (Figure 232), supply the following values:

LU session limit
Specifies the maximum number of sessions that the LU supports as a value between 0 and 65535. Specify 5.

Note: The application program supports only one LU session at a time, but the SNA session can support more.

Synchronization support
Select this check box if another application is supplying synchronization point management (DB/2, for example). In this instance, do not select it.

Click **OK** to save these specifications to the *xxx*.acg file.

Mode Configuration for AS/400

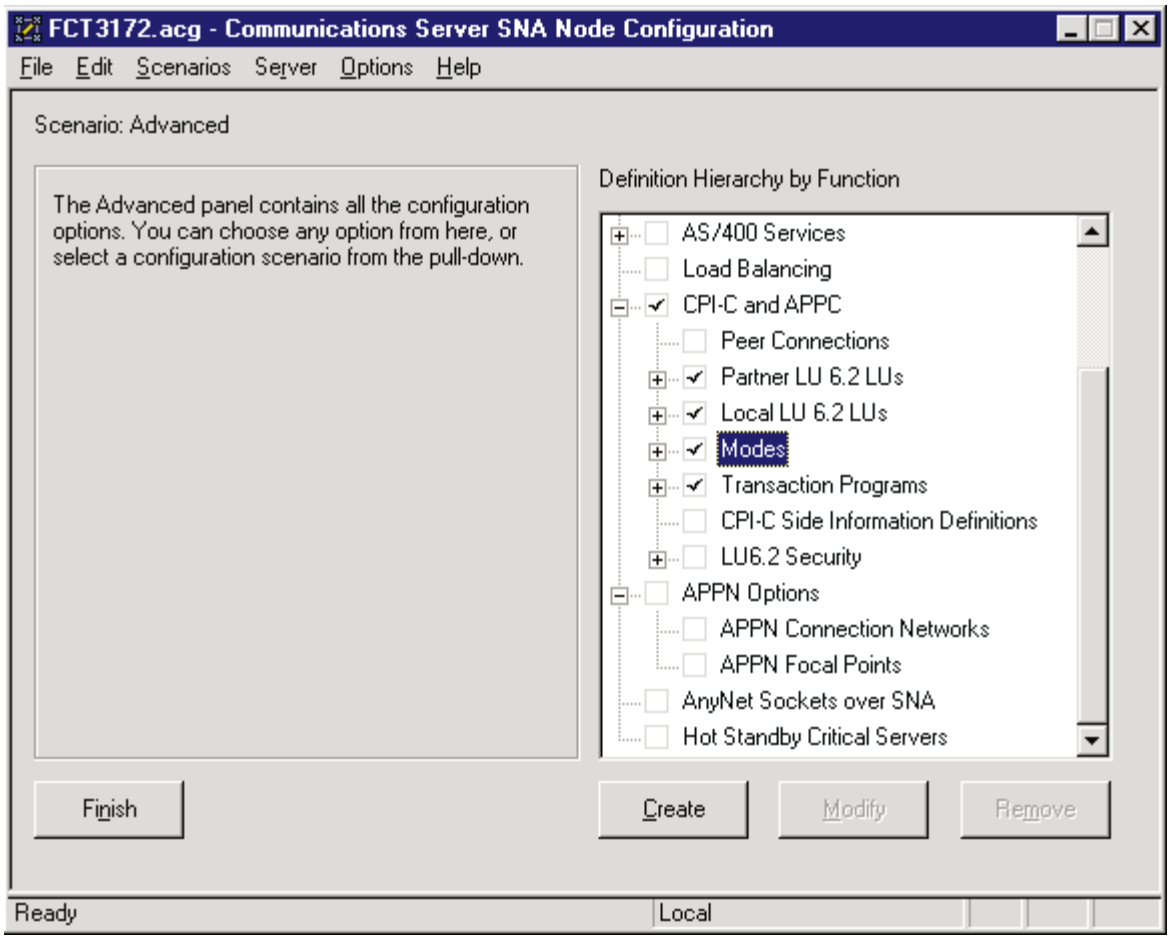

Figure 233. Communications Server SNA Node Configuration Window: Modes (AS/400)

In the Communications Server SNA Node Configuration window (Figure 233), right-click the **CPI-C and APPC** box, then the **Modes** box. Select the **Create** option. The Define a Mode notebook opens at the **Basic** tab.

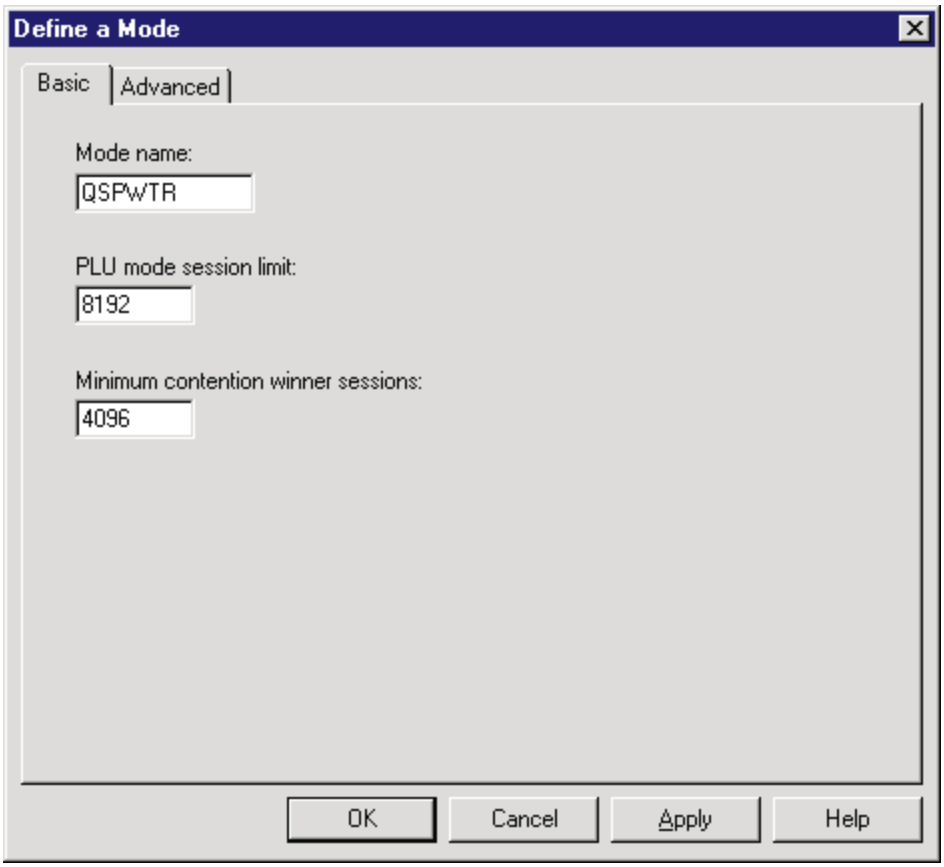

Figure 234. Define a Mode Notebook: Basic Tab (AS/400)

On the **Basic** tab (Figure 234), supply the following values:

Mode name
Specifies the characteristics for the session that will be allocated for the conversation. The initiator uses this value. It defines the modes available for Transaction Programs that do not use IBM SecureWay Communications Server for NT-supplied modes. This value should match the AS/400 **MODE** parameter in the AS/400 printer device description.

PLU mode session limit
Specifies a value between 0 and 32767 as the primary logical unit (PLU) mode session limit, or maximum number of concurrently active LU-LU sessions that a particular LU can support. Take the default.

Minimum contention winner sessions
Specifies a value between 0 and 32767 as the minimum number of sessions that a local LU using this mode can activate to win a contention with a partner. Take the default.

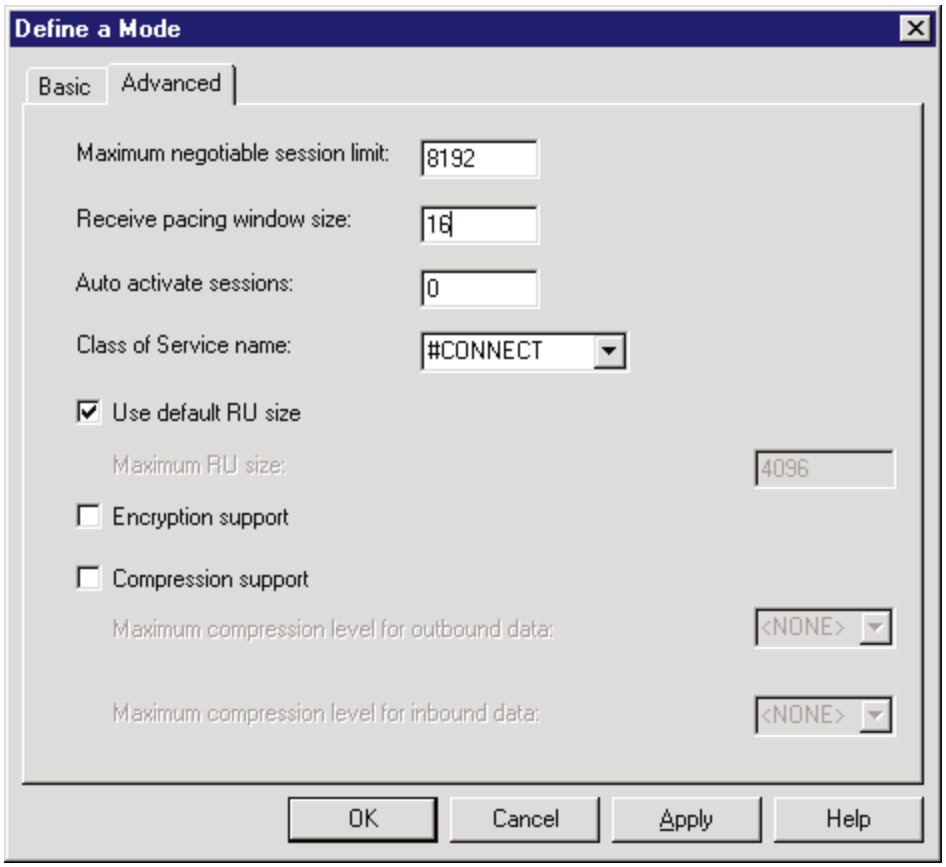

Figure 235. Define a Mode Notebook: Advanced Tab (AS/400)

On the **Advanced** tab (Figure 235), supply the following values:

Maximum negotiable session limit
Specifies a value between 0 and 32767 as the maximum number of sessions allowed in this mode between any local logical unit (LU) and partner LU. Take the default.

Receive pacing window size
Specifies the secondary receive pacing count. A value of 16 produces good throughput in most configurations. This parameter influences performance and can be adjusted as desired.

Auto activate sessions
Specifies a value between 0 and 32767 as the number of parallel LU 6.2 sessions to automatically start when an initial session starts using this mode. Specify 0 so that no parallel sessions can start automatically for this application.

Class of Service name
Specifies the name of a set of transport network characteristics. Select the default: **#CONNECT** .

Use default RU size
Instructs the node to use the default maximum size for the request/response unit (RU) sent and received on the sessions. Do not select the check box.

Maximum RU size
Set this value to 1024, if it does not automatically specify that value when you remove the check from the **Use default RU size** parameter above.

Click **OK** to save these specifications to the *xxx*.acg file.

Transaction Program Configuration for AS/400

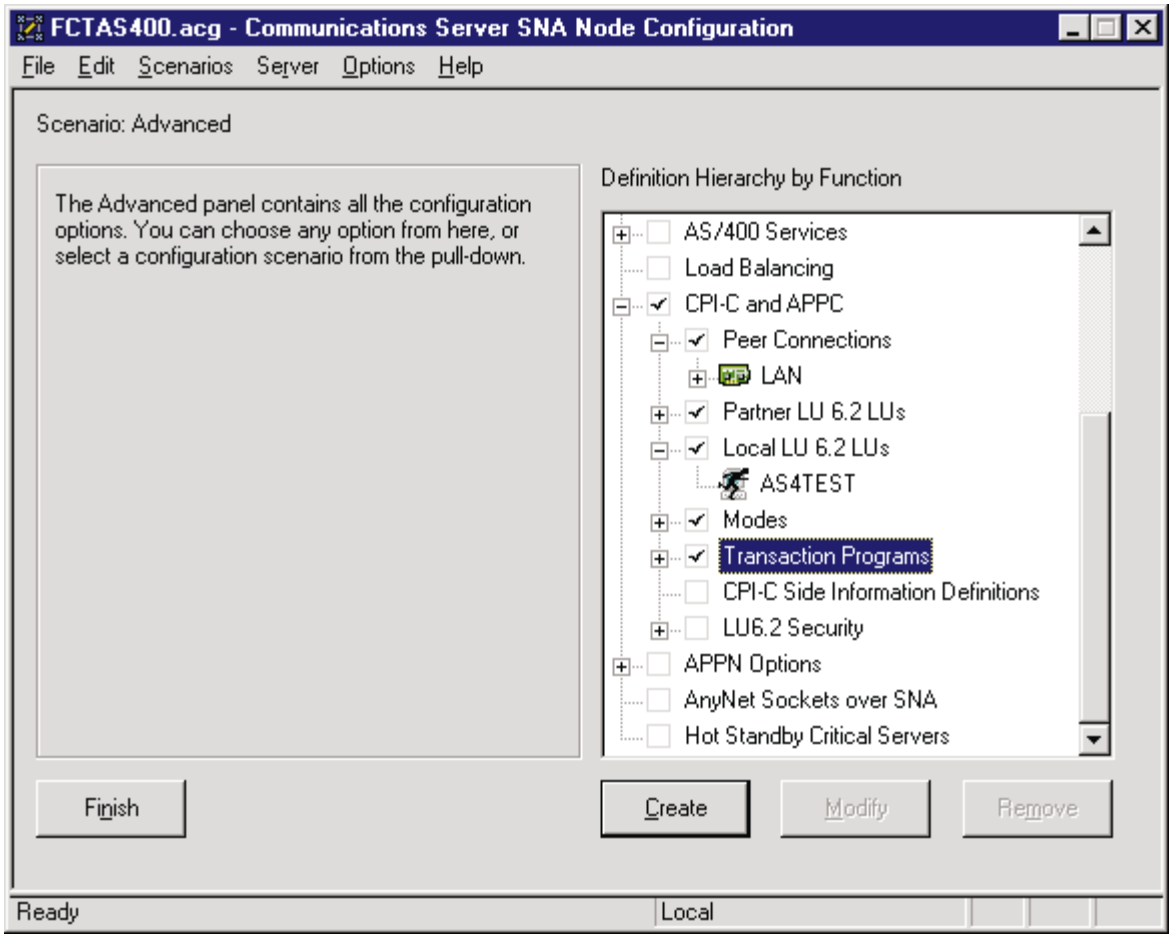

Figure 236. Communications Server SNA Node Configuration Window: Transaction Programs (AS/400)

In the Communications Server SNA Node Configuration window (Figure 236), right-click the **CPI-C and APPC** box, then the **Transaction Programs** box. Select the **Create** option. The Define a Transaction Program notebook opens at the **Basic** tab.

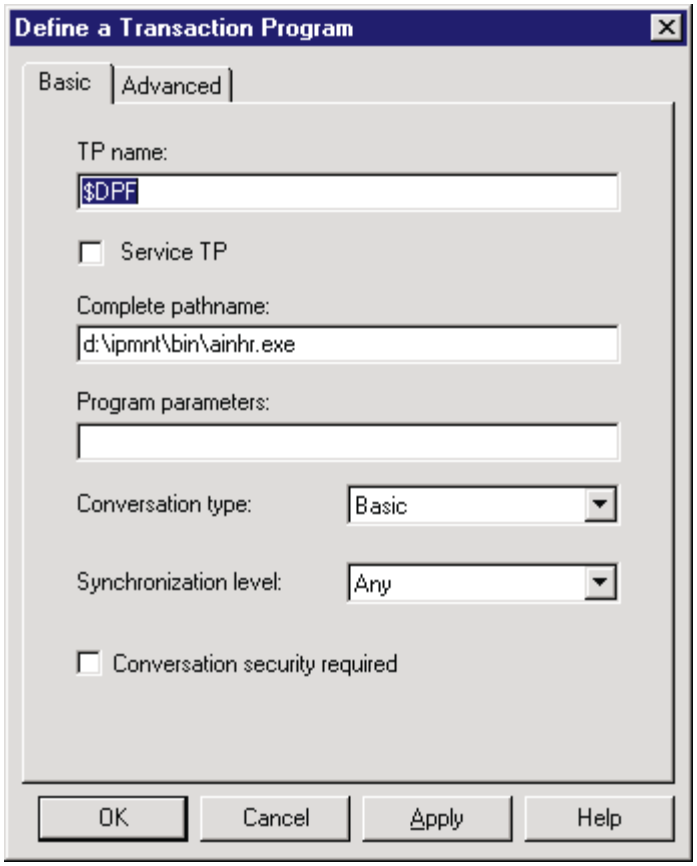

Figure 237. Define a Transaction Program Notebook: Basic Tab (AS/400)

On the **Basic** tab (Figure 237), supply the following values:

TP name
Specifies a 1- to 64-byte character string for the program that uses the advanced program-to-program communications (APPC) system to communicate with a partner application program at the partner node. Enter **$DPF**.

If you are migrating from an AIX operating system to a Windows NT operating system, note that this value changes from a binary `30F0F0F0` to a non-binary **$DPF**. Ensure that the **Service TP** check box is unchecked because it indicates a non-binary value.

Complete pathname
Specifies an 1- to 255-byte character string that describes the location of the program to run. The location can include the drive, the directory, the subdirectory, and the file name. In this example, `d:\ipmnt\bin\ainhr.exe` specifies the location where Infoprint Manager for NT is installed on your system.

Conversation type
Specifies the conversation type allowed to start the transaction programs (TPs) that use an LU 6.2 session. Select **Basic**.

Synchronization level
Specifies the level allowed on allocation requests that start the local and remote transaction programs (TPs). Select **Any**.

Conversation security required
Allows controlled access to system resources through security parameters. If this check box is selected, conversation security information is required to start the TP. Incoming allocation requests for this TP without the conversation security information will be rejected. Do not check this box.

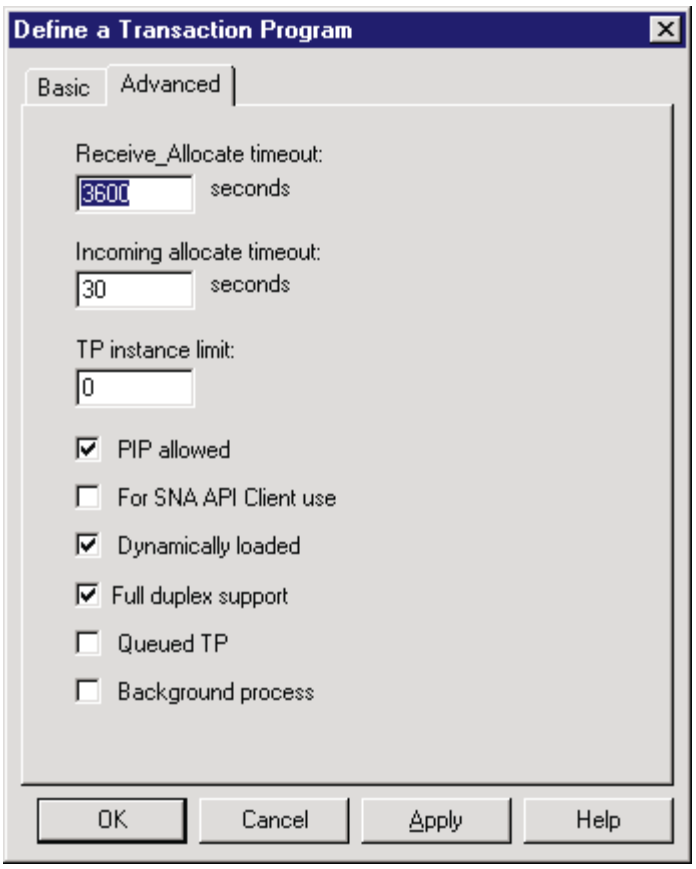

Figure 238. Define a Transaction Program Notebook: Advanced Tab (AS/400)

On the **Advanced** tab (Figure 238), supply the following values:

Receive_Allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that a **Receive_Allocate** verb will be queued while waiting for an **Attach**. Specify `3600` .

Incoming allocate timeout
Specifies a value between 0 and 65535 seconds that identifies the time that an incoming **Attach** will be queued waiting for a **Receive_Allocate**. Specify `30` .

TP instance limit
Specifies a value between 0 and 65535 seconds that identifies the maximum number of concurrently active TP instances. Specify at least 1 (or the number of LUs that you have defined). 0 means no limit.

Dynamically loaded
Specifies whether the transaction program (TP) can be dynamically started by an allocation request received on a conversation. Select the check box to dynamically load the TP.

Background process
Specifies that the program will run in the background. Only 32-bit programs can multitask in the Windows NT environment. Select the check box to use the background process.

Note: Ensure that **Dynamically loaded** and **Background process** (the two items checked in Figure 238 on page 225) are the only items checked. If you specify other options, this transaction program will not work.

Click **OK** to save these specifications to the *xxx*.acg file.

Once you have completed creating this configuration, go to "Chapter 9. Starting an IBM SecureWay Communications Server for Windows NT Configuration" on page 229.

Local or Remote AS/400 Token-Ring Configuration Work Sheets

Use the following work sheets to configure PSF Direct on both the host PSF and Infoprint Manager for NT:

- Use Table 14 to see how Communications Server for NT configuration settings relate to other configuration settings.
- Use Table 15 on page 228 to record your own Communications Server for NT values.

AS/400 Token-Ring Configuration Work Sheet Example

Table 14. AS/400 Token-Ring Configuration Work Sheet Example

Communication Server	Value	Token-Ring Line Description	APPC Controller Description	Printer Device Description	Network Attributes
Define the Node: Fully-qualified CP name	**USIBMBQ.NT2**		RMTNETID RMTCPNAME	RMTLOCNAME	
Define the Node: Local Node ID	**05DC021C**		EXCHID		
Define a LAN Device: Receive window count	**7**				
Define a LAN Device: Maximum PIU size	**16388**	MAXFRAME	MAXFRAME		
Define a LAN Connection: Destination address	**400059550067**	ADPTADR	ADPTADR		
Define a Partner LU 6.2: Partner LU name	**APPN.BLDAS44**			LCLLOCNAME	Local network ID
Define a Local LU 6.2: Local LU name	**AS4TEST**			RMTLOCNAME	
Define a Local LU 6.2: Dependent LU	Not selected (address **0**)				
Define a Mode: Mode name	**QSPWTR**			MODE	
Define a Mode: Receive pacing window size	**16**				
Define a Mode: Maximum RU size	**1024**				

AS/400 Token-Ring Configuration Blank Work Sheet

Table 15. AS/400 Token-Ring Configuration Blank Work Sheet

Communication Server	Value	Token-Ring Line Description	APPC Controller Description	Printer Device Description	Network Attributes
Define the Node: Fully-qualified CP name			RMTNETID RMTCPNAME	RMTLOCNAME	
Define the Node: Local Node ID			EXCHID		
Define a LAN Device: Receive window count					
Define a LAN Device: Maximum PIU size		MAXFRAME	MAXFRAME		
Define a LAN Connection: Destination address		ADPTADR	ADPTADR		
Define a Partner LU 6.2: Partner LU name				LCLLOCNAME	Local network ID
Define a Local LU 6.2: Local LU name				RMTLOCNAME	
Define a Local LU 6.2: Dependent LU					
Define a Mode: Mode name				MODE	
Define a Mode: Receive pacing window size					
Define a Mode: Maximum RU size					

Chapter 9. Starting an IBM SecureWay Communications Server for Windows NT Configuration

Use the following procedure to start all IBM SecureWay Communications Server for Windows NT configurations:

1. From your NT desktop view, double-click the **SNA Node Operations** icon that resides on your desktop:

   

2. From the Communications Server Node Operations window, click the plus (+) sign next to **Connections**.
3. If your configuration is an independent LU, highlight **Peer Connections**. If it is a dependent LU, highlight **Host Connections**.
4. From the window's main menu, select **Operations-->Start Node**.
5. From the **Open** pop-up window, select the *xxx*.acg file that represents the configuration you wish to start and click **Open**.

   From the right pane of the Communications Server Node Operations window, a lightning bolt icon labeled **Link***xxxx* appears. (*xxxx* represents the number of links on your system.) When the lightning bolt icon turns completely yellow, the link is active. PSF Direct is ready to receive jobs from the host PSF system. If the lightning bolt turns completely red, the link has failed. You need to review your configuration on both the Infoprint Manager Windows NT server and the PSF host program.

Chapter 10. Configuring PSF Direct

PSF Direct acts as a communication protocol converter. It exchanges data with a host PSF program using an SNA LU 6.2 session and relays the data to an Infoprint actual destination.

From an application perspective, the entire SNA network can be viewed as a black box with two access points that are called **logical units** (LUs). An LU 6.2 session runs through the network and connects the two logical units (Figure 239).

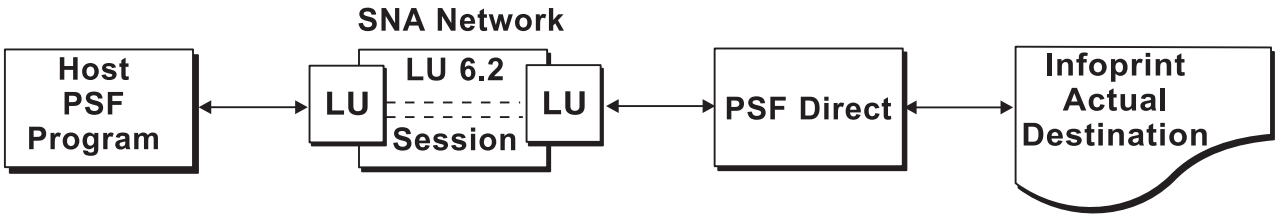

Figure 239. SNA LU 6.2 Session in a PSF Direct Configuration

When you configure a PSF Direct Receiver, you associate a logical unit with an Infoprint actual destination (Figure 240).

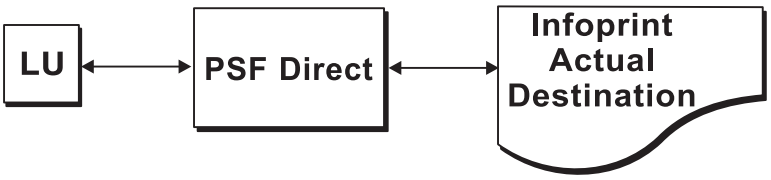

Figure 240. PSF Direct Host Receiver

This chapter contains the following topics:

Creating and Configuring an Infoprint PSF Direct Destination (Printer)

Before creating an actual destination (printer) to send jobs from PSF Direct, you should determine the type of configuration. Refer to *Infoprint Manager for Windows NT and Windows 2000: Getting Started*, G544–5717. When you create an Infoprint actual destination, Infoprint adds the functions that allow Infoprint to communicate with the printer. These include a subdirectory and files in the \var\psf directory.

You can create and configure the Infoprint PSF Direct destination in two ways:

- "Using the Infoprint Manager Administration GUI"
- "Using the Infoprint Manager Management Console"

Using the Infoprint Manager Administration GUI

If you will be using the PSF Direct destination to print data from a PC, you must use the Infoprint Manager Administration GUI to create an actual destination. Use the **Printer-->Create-->PSF** menu to access the Create Printer wizard. Refer to the online help in the Infoprint Manager Administration GUI.

To configure the PSF Direct destination after you create it, you can use the Infoprint Manager Administration GUI. Select the actual destination (printer) you want to configure, then use the **Printer-->Properties** menu to open the Printer Properties notebook. Refer to the online help in the Infoprint Manager Administration GUI.

Using the Infoprint Manager Management Console

If you will be using the PSF Direct destination to print data from PSF host systems only, you can use the Infoprint Manager Management Console to create an actual destination. First, ensure that the Infoprint Windows NT server is running. Then use the **Edit-->New-->Destination** path and select from the range of potential PSF Direct destinations provided. For more information on configuring this destination, see the related Infoprint Manager Management Console help.

To communicate with an Infoprint actual destination, PSF Direct uses the functions that Infoprint created when you added the printer. However, PSF Direct does not accept data from the Infoprint queue that was created for the printer. Instead, PSF Direct uses an SNA LU 6.2 session that you created through IBM SecureWay Communications Server for NT to obtain print data from a host PSF program.

When you add a PSF Direct receiver, you must indicate which Infoprint actual destination the host receiver should use. This procedure is described in "Defining the PSF Direct Host Receiver".

Defining the PSF Direct Host Receiver

IBM recommends setting up the PSF Direct Receiver and managing your PSF Direct operations from the MVS™ Download Receiver Manager window. You can then use the Management Console for Infoprint Manager Server... window to track server events.

To set up a PSF Direct Receiver, use the following procedure:

1. Open the Management Console for Infoprint Manager Server... window. Then use the **Edit-->PSF Direct Receiver Management...** menu to access the PSF Direct Receiver Manager window.

2. Click on the **Add** button.
3. From the **Add PSF Direct Receiver** pop-up menu, specify a value in the **SNA LUNAME** field. This value must match the SNA Logical Unit name defined through the Secure Way Communication Server configuration.
4. Click on the drop-down menu next to the **Target Destination** field. Highlight the Infoprint logical or actual destination to which you want to default for this PSF Direct Receiver.

   This list consists of all the logical and actual destinations that have been defined in the Infoprint Manager Administration GUI.
5. Allow both numeric values in the **SNA System Services Control Point ID** field and the **NMVT Subsystem name** field to default.
6. Specify a numeric value from 0 to 9999 (in seconds) for the **Inactivity limit** field.

   Setting this value to the system default of 9999 causes the PSF Direct receivers to wait indefinitely if the printer is not available. For more information about the **Inactivity limit** field, see "Automatically Stopping a PSF Direct Host Receiver" on page 237.
7. Specify a numeric value from 0 to 9999 (in seconds) for the **Printer busy limit** field.

   Setting this value to the system default of 9999 causes the PSF Direct receivers to wait indefinitely if the printer is not available. For more information on setting this field, see "Controlling the Wait Period for a PSF Direct Host Receiver" on page 237.
8. Once you are satisfied with the fields on the **Add PSF Direct Receiver** pop-up menu, click on the **OK** button.
9. Infoprint adds a PSF Direct Receiver to the main pane, with a red marker. `STOPPED` displays in the **Status** column.
10. Within a minute or two, the marker for the PSF Direct Receiver that you just created will change from red to green. `RUNNING` will display in the **Status** column. At this point, you can submit jobs from the OS/390 host system for printing directly on Infoprint Manager printers.

Table 16 shows an example of configuration values for a PSF Direct host receiver.

Table 16. PSF Direct Host Receiver Values Example

SNA Logical Unit Name	`MVS1`
Target Destination (actual destination)	`4000wb`
Inactivity limit (seconds)	`9999`
Device busy limit (seconds)	`9999`
SNA System Services Control Point ID	`050000000000`
NMVT Subsystem Name	`NMVT`

Starting a PSF Direct Host Receiver

IBM SecureWay Communications Server for NT starts a PSF Direct receiver automatically when a host PSF program causes an SNA LU 6.2 session to be established and allocates an SNA conversation on that session. As a result, a host system operator indirectly causes a PSF Direct host receiver to be run by starting a host PSF program that establishes a SNA LU 6.2 session.

The operator on the Infoprint Manager Windows NT server does not need to do anything to start a PSF Direct host receiver, as long as IBM SecureWay Communications Server for NT is active on the Windows NT server.

Stopping a PSF Direct Host Receiver

A PSF Direct host receiver can be stopped in several ways:

- The host system operator can end the host PSF program that communicates with the PSF Direct host receiver. When the host PSF program ends the SNA conversation with the PSF Direct host receiver, the PSF Direct host receiver automatically ends.
- The host PSF program's **Disconnect Interval** parameter can be exceeded.

  If the host PSF program is waiting for new print files and none become available within the period specified by the **Disconnect Interval** parameter, the host PSF program ends the SNA session with the PSF Direct host receiver. The PSF Direct host receiver then ends.
- The PSF Direct host receiver **Inactivity Limit** can be exceeded.

  If the PSF Direct host receiver is waiting for data from the host PSF program and no data arrives within the period specified by the **Inactivity Limit** value, the PSF Direct host receiver UNBINDs the SNA session with the host system.

  The **Inactivity Limit** defaults to infinite (9999 seconds). It should only be used in some configurations where a printer is shared.
- If an operator at the Windows NT system stops IBM SecureWay Communications Server for NT, all SNA sessions end, causing all PSF Direct host receivers to end. An operator can also use IBM SecureWay Communications Server for NT to stop an individual SNA session. If a PSF Direct host receiver is using the session, that PSF Direct host receiver ends.

For information about stopping a PSF Direct host receiver that is working with a shared Infoprint actual destination, see "Manually Stopping a PSF Direct Host Receiver" on page 236 and "Automatically Stopping a PSF Direct Host Receiver" on page 237.

Displaying the Status of a PSF Direct Destination on the Windows NT System

Infoprint provides two methods for users to display the status of a PSF Direct host receiver:

- "Using the Infoprint Manager Management Console"
- "Using the psfstat Command" on page 235

Using the Infoprint Manager Management Console

The Infoprint Manager Management Console allows you to view the status of Infoprint actual destinations and PSF Direct Receivers. If you click on **PSF Direct Host Receivers** in the left pane, the PSF Direct Host Receivers view shows up in the right pane. If you are not using the Management Console for Infoprint Manager Server... window to track server events, this is the easiest method to display PSF Direct status. However, if you are using the Management Console for Infoprint Manager Server... window to track server events, you should use the **psfstat** command to display status.

Note that if you click **destinations** in the left pane of the Management Console for Infoprint Manager Server... window, Infoprint displays the status of all your actual destinations.

Using the psfstat Command

The **psfstat** command displays information about the status of Infoprint actual destinations and PSF Direct receivers. It tells you whether each Infoprint printer is receiving data from either the Infoprint Manager Windows NT server or from a PSF Direct receiver. The **psfstat** command provides the source of the display provided by the Infoprint Manager Management Console.

If you specify **psfstat** from a command prompt window, the results are similar to Figure 241.

```
Printer   Attachment   Data   Printer status   Active   Waiting
-------   ----------   ----   --------------   ------   -------
3287      channel      IPDS   --               --       --
4000wa    TCP/IP       IPDS   intervention     [Queue]  --
4000wb    TCP/IP       IPDS   ok               PSFVM1   [Queue],PSFMVS
ps14      direct       PS     ok               [Queue]  --

LU name   Printer   Attachment   Data   Printer status   Receiver status
-------   -------   ----------   ----   --------------   ---------------
PSFMVS    4000wb    TCP/IP       IPDS   ok               sess/prtr_busy
PSFVM1    4000wb    TCP/IP       IPDS   ok               sess/prtr_conn
PSFVSE1   4000wb    TCP/IP       IPDS   ok               idle
```

Figure 241. Printer and Receiver Status Example

Figure 241 indicates that:

- Printer 3827 is not active.
- Printer 4000wa is printing data from Infoprint Manager ([Queue]). The printer requires operator intervention.
- Printer 4000wb is printing data from a PSF Direct receiver that uses the SNA logical unit name (**LUNAME**) PSFVM1. Additional data is also available on the Infoprint actual destination and from a PSF Direct receiver that uses the SNA **LUNAME** PSFMVS. The order of the waiting data sources does not indicate which source will access the printer next.
- Printer ps14 is printing data from Infoprint Manager.
- Receiver PSFMVS is in session with the host system and is waiting for printer 4000wb.
- Receiver PSFVM1 is in session with the host system and is connected to printer 4000wb.
- Receiver PSFVSE1 is in session with the host system and is idle, but connected to printer 4000wb.

Note that you can use the **psfstat** command to display information about any Infoprint actual destination, not just those are used by PSF Direct host receivers. For the syntax of the **psfstat** command, refer to the *Infoprint Manager: Reference*, S544–5475.

Displaying the Status of a PSF Direct Destination on the Host System

A host system operator can display the status of any printer managed by the host PSF program, including printers that are attached by PSF Direct. For example, an OS/390 operator can use the JES2 **$DU** command to display printer status.

Using One Infoprint Actual Destination to Print Data from Multiple Sources

One Infoprint actual destination can print data from more than one host PSF program and from the IBM Infoprint Windows NT server. At any time, however, the Infoprint actual destination can only be dedicated to printing data from a single source: one host PSF program or the IBM Infoprint Windows NT server.

This section describes how to configure and manage the switching of an Infoprint actual destination between data sources. It contains the following topics:

Switching between Data Sources

Switching an Infoprint actual destination between data sources requires two steps:

1. The process using the Infoprint actual destination must end, whether that process is a PSF Direct host receiver or a print process from the IBM Infoprint Windows NT server. When this process ends, the Infoprint actual destination becomes available to another program. See the following topics:
   - "Manually Stopping a PSF Direct Host Receiver"
   - "Automatically Stopping a PSF Direct Host Receiver" on page 237
   - "Automatically Stopping Printing from the IBM Infoprint Windows NT Server" on page 237
2. A PSF Direct host receiver or Infoprint process that prints from the IBM Infoprint Windows NT server must wait for other programs to stop using the Infoprint actual destination. See the following topics:
   - "Controlling the Wait Period for a PSF Direct Host Receiver" on page 237
   - "Controlling the Wait Period for Printing from an IBM Infoprint Windows NT Server" on page 237

Manually Stopping a PSF Direct Host Receiver

A host system operator can end a PSF Direct host receiver by ending the host PSF program that communicates with the host receiver. For example, an OS/390 host operator can delete all jobs from the printer by using the **$PPRT***nnn* JES2 command; or the operator can cancel the JES writer procedure.

To end the IBM Infoprint Windows NT server process manually from Infoprint, refer to the **pdshutdown** command as described in the *Infoprint Manager: Reference*, S544–5475. If you merely disable the printer through the **pddisable** command, the Infoprint processes are not stopped, and the PSF Direct host receiver cannot establish a session.

For more detail about shutting down a PSF Direct host receiver, see "Stopping a PSF Direct Host Receiver" on page 234.

Automatically Stopping a PSF Direct Host Receiver

Most host PSF programs have a Disconnect Interval configuration parameter, such as the **DISCINTV PRINTDEV** statement parameter in PSF for OS/390. This parameter causes the host PSF program to end the SNA session with a PSF Direct host receiver if there is no data to print for the specified period. Ending the SNA session with the host receiver causes the host receiver to end.

Some host PSF programs, such as PSF/400, do not offer a Disconnect Interval configuration parameter. To enable PSF Direct host receivers to be automatically ended when they communicate with these host PSF programs, the PSF Direct host receiver configuration panel includes an **Inactivity limit** parameter. The PSF Direct host receiver **Inactivity limit** parameter causes a host receiver to end if it waits for data from the host system for the specified period.

Using the host PSF program's Disconnect Interval is preferable to using the PSF Direct host receiver **Inactivity limit** parameter.

Automatically Stopping Printing from the IBM Infoprint Windows NT Server

Each Infoprint actual destination has an actual destination attribute called the **printer-release-timer** attribute. This attribute causes Infoprint to stop printing from the IBM Infoprint Windows NT Server if it has completed the Infoprint spool data and the specified interval elapses with no new Infoprint data.

Controlling the Wait Period for a PSF Direct Host Receiver

The PSF Direct host receiver **Device busy limit** parameter controls how long a host receiver waits for an Infoprint actual destination to become available. The **Device busy limit** parameter has a default value of `120` seconds. If an Infoprint actual destination is used to print from several sources, increase the **Device busy limit** parameter to `9999`. This value means that the host receiver should wait indefinitely.

While a PSF Direct host receiver is waiting for an Infoprint actual destination to become available, the SNA session with the host system is maintained but no application data is exchanged.

Controlling the Wait Period for Printing from an IBM Infoprint Windows NT Server

By default, the Infoprint program that prints from the IBM Infoprint Windows NT Server waits indefinitely for an Infoprint actual destination to become available. There is no configuration attribute that controls how long the program waits.

Table 17 on page 238 summarizes the time limits for Infoprint printing.

Table 17. Time Limit Parameters

For Device	Function	Option	User Interface	Default Value
PSF Direct Host Receiver	Wait for printer	**Device Busy Limit** field.	PSF Direct Receiver Manager window of Infoprint Manager Management Console	120 seconds
PSF Direct Host Receiver	End program, making printer available	**DISCINTV**	Host PSF configuration program	0 seconds (infinite)
PSF Direct Host Receiver	End program, making printer available	**Inactivity limit** field	PSF Direct Receiver Manager window of Infoprint Manager Management Console	9999 seconds (infinite)
IBM Infoprint Windows NT Server	Wait for printer	none	none	infinite
IBM Infoprint Windows NT Server	End program, making printer available	**printer-release-timer** attribute	On the Infoprint Manager Administration GUI, the **PSF Configuration** tab of the Printer Properties notebook	9999 seconds (infinite)

Sharing an Infoprint Actual Destination: An Example

The example in this section illustrates how to share an Infoprint actual destination between two host PSF programs using PSF Direct. The actual destination can also print data from the IBM Infoprint Windows NT Server. The configuration parameters cause the printer to be switched automatically.

This section consists of the following topics:

- "Configuring the Host PSF Programs"
- "Infoprint Actual Destination: PSF Tuning Options" on page 239

Configuring the Host PSF Programs

For two host PSF programs to share an Infoprint actual destination, they must specify similar **PRINTDEV** statements, like the examples in Figure 242 and Figure 243 on page 239. Note that the complete statement would contain more parameters.

```
// PRT833   PRINTDEV
.
.
.
//         DISCINTV=60, /*DISCONNECT INTERVAL -- SECONDS */
.
.
.
// PRT833   ENDCNTL
```

Figure 242. PRINTDEV Statement for PSF for OS/390 Example

```
   PRT1000  PRINTDEV
.
.
.
            DISCINTV=60,   DISCONNECT INTERVAL -- SECONDS
.
.
.
```

Figure 243. PRINTDEV Statement for PSF/VSE Example

Setting the **DISCINTV** to 60 seconds for both host PSF programs causes each host PSF program to end if all spool data from the printer is completed and no additional data becomes available for 60 seconds. When the host PSF program ends, the PSF Direct host receiver ends, and the Infoprint actual destination becomes available to other programs.

If additional host data becomes available for the Infoprint actual destination, the host PSF program starts again and waits, if necessary, for the printer to become available.

Infoprint Actual Destination: PSF Tuning Options

To allow Infoprint to share the printer with two host PSFs, you must adjust the Infoprint actual destination's PSF tuning options. Use the **Printer Properties** notebook in the Infoprint Manager Administration GUI.

Select the actual destination (printer) you want to configure. Then use the **Printer-->Properties** menu to open the Printer Properties notebook. Select the **Tuning** tab and tune the options described in this section.

- The **Release time (sec)** field specifies the number of seconds that Infoprint waits between jobs before giving up control of an actual destination. (This field is equivalent to the **destination-release-timer** attribute.) Setting this value to 60 seconds causes the Infoprint program that prints from the IBM Infoprint Windows NT server to end if it has printed the files in the printer's queue. No additional files become available for 60 seconds. When the program ends, the Infoprint actual destination becomes available to other programs, such as PSF Direct receivers.

  If additional files are added to the printer's queue on the IBM Infoprint Windows NT server, the Infoprint program that prints from the server starts again. It waits, if necessary, for the printer to become available.
- Accepting the default **intervention-timer** attribute value of 9999 causes the PSF Direct host receivers that use this printer to issue printer intervention messages on the Windows NT system. It does not cause the host receivers to report intervention conditions to the host PSF program.

  If you use a **intervention-timer** value of 3600 instead, the PSF Direct receivers notify the host PSF program if an intervention condition is not addressed within an hour. The host PSF program issues an operator message and ends the SNA session with the PSF Direct receiver. The **intervention-timer** also causes the PSF program that prints from the IBM Infoprint Windows NT server to end if an intervention condition is not addressed within an hour.
- For continuous-forms printers, set the **Non-process-runout timer** field at a lower value than the **Release-time (sec)** attribute. For example, if the **destination-release-timer** attribute value is 60 seconds, reduce the **non-process-runout-timer** attribute value to 30 seconds.

Finally, you must configure the PSF Direct host receivers for each host that will share the printer. This process is described in "Defining the PSF Direct Host Receiver" on page 232.

Displaying the Status of a Shared Infoprint Actual Destination

The **psfstat** command displays information about the status of Infoprint actual destinations and PSF Direct receivers. The information that **psfstat** displays about an Infoprint actual destination includes:

- The program that currently controls the printer
- A list of the programs waiting to gain control of the printer

For example, **psfstat** might display information like Figure 244.

```
Printer   Attachment   Data   Printer status   Active   Waiting
-------   ----------   ----   --------------   ------   -------
4000wb    TCP/IP       IPDS   intervention     MVS1     [Queue],VSE1

LU name   Printer   Attachment   Data   Printer status   Receiver status
-------   -------   ----------   ----   --------------   ---------------
MVS1      4000wb    TCP/IP       IPDS   intervention     sess/prtr_conn
VSE1      4000wb    TCP/IP       IPDS   intervention     sess/prtr_busy
```

Figure 244. Shared Printer Status

Figure 244 shows that the printer is currently dedicated to printing data from the OS/390 spool. The IBM Infoprint Windows NT server ([Queue]) and the VSE spool also contain data that is waiting to print.

When the OS/390 host system releases the printer, the printer will print data either from the IBM Infoprint Windows NT server or the VSE host system. The order in which the two waiting sources are listed does not imply that the IBM Infoprint Windows NT server has been waiting longer or that it will acquire the printer next.

Figure 244 also indicates that the printer requires intervention.

For more information about the **psfstat** command, see "Displaying the Status of a PSF Direct Destination on the Windows NT System" on page 234 and the *Infoprint Manager: Reference*, S544–5475.

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Index

Special Characters

Numerics

A

B

C

D

E

F

G

H

I

J

L

M

N

O

P

R

S

T

U

V

W

X

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