PSF Direct: 3174 Configuration (3/30/2000)

Infoprint Manager for Windows NT and Windows 2000

3174 Local or Remote Token-Ring Example: Table of Contents

Infoprint Manager for Windows NT and Windows 2000

Overview on PSF Direct and Communication Server for NT

The following topic contains an overview of the components you need to configure PSF Direct on SNA networks. This topic contains the following:

- [What is PSF Direct?](#)

- [What is IBM SecureWay Communications Server for NT?](#)

- [What are the Available Network Connections?](#)

What is PSF Direct?

PSF Direct provides a direct connection between an MVS, VSE, VM, or AS/400 system and a printer defined to IBM Infoprint Manager for NT. 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 NT workstation. Because the mainframe controls the print process, it returns job-completion and error messages to the mainframe.

PSF Direct uses Communication Server LU6.2 protocols to communicate between the mainframe and the NT system; then PSF Direct uses one of several protocols to communicate between the NT system and the printer:

- 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 IBM Infoprint server on NT.

After PSF Direct is installed, 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 NT.
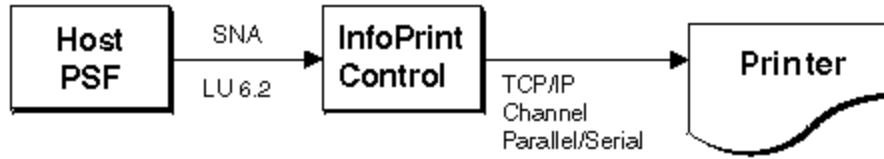
What is IBM SecureWay Communications Server for NT?

The IBM SecureWay Communications Server for NT is required 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.

Infoprint Manager for NT allows you to create a PSF Direct Host Receiver whether or not you have completed the IBM SecureWay Communications Server node configuration.

PSF Direct requires IBM SecureWay Communications Server for 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.

Because Infoprint Manager for NT allows you to create a PSF Direct Host Receiver whether or not you have completed the IBM SecureWay Communications Server node configuration, 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**, you should 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 (a default path of *C*:\IBMCS\pcscfg.exe where *C* is the drive where you installed IBM SecureWay Communications Server for NT) and the **Communications Server Node Operations** interface (a default path of *C*:\IBMCS\pcsnops.exe where *C* is the drive where you installed IBM SecureWay Communications Server for NT), so they can be easily invoked from your desktop.

What are the Available Network Connections?

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

1. Local or Remote 37xx Token-Ring Configuration:
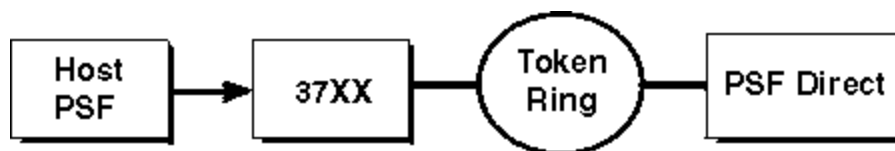
2. Local 3172 Token-Ring Configuration:
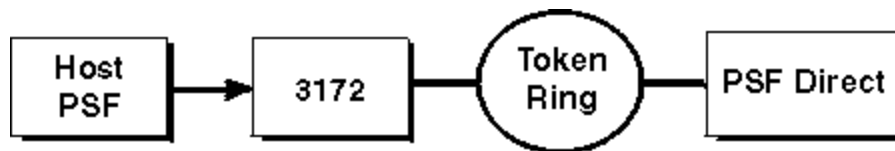
3. Local 3174 Token-Ring Gateway Configuration:
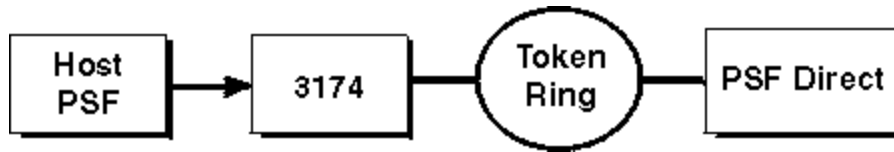
4. Remote 3174 Token-Ring Gateway Configuration:
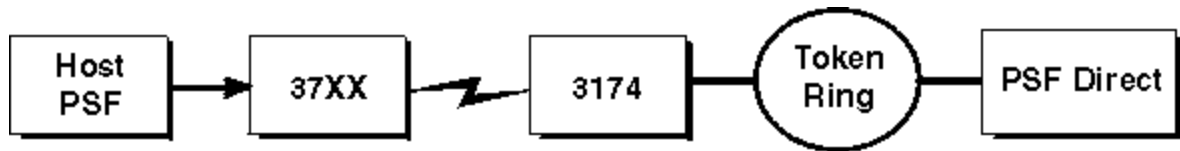
Configuration Planning

All PSF Direct configuration examples require that you understand the following information before creating each individual configuration:

- [Understanding PSF Direct Configuration Requirements](#)

- [Preconfiguration Decisions for all PSF Direct Examples](#)

- [Host Configuration Examples](#)

- [Accessing the Communications Server for NT Profiles](#)

- [Communications Server for NT Configuration Profile Examples](#)

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, the internal components of the network and details of their operation must be described.

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) and the connection between them is a **session**. A **mode** describes a session's characteristics, or guidelines for exchanging data.

The application view displayed in the figure below 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.
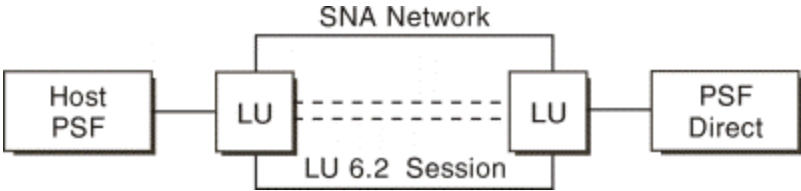
As the application view suggests, only a few values are required to configure the host PSF program and PSF Direct so they can communicate. The following figure displays the values used by both applications. Note that each configuration parameter references a logical unit or mode provided by the SNA network.
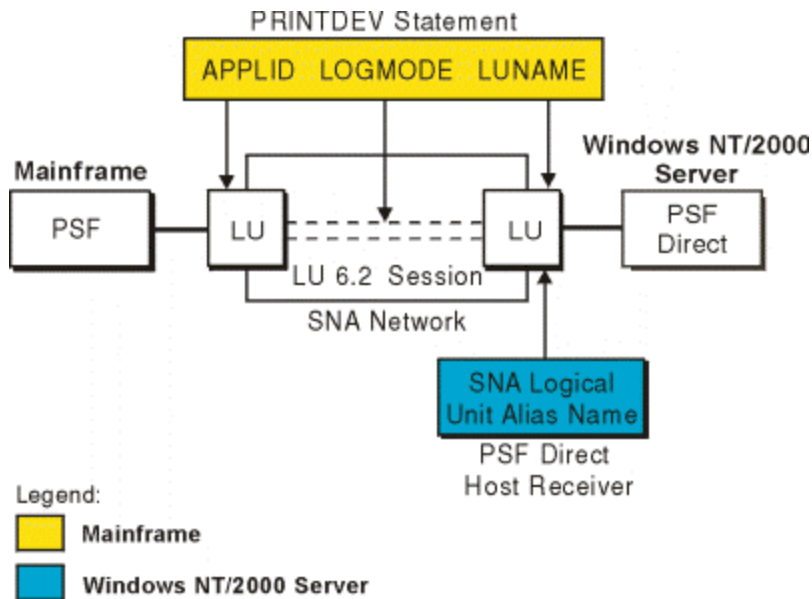
Host **PSF PRINTDEV** Statement Parameters:

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 entires, 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:

SNA Logical Unit Alias name

Specifies the name of the local ID that points to the logical unit that PSF Direct uses on the Windows NT server.

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.

Network internals view for a 37xx Communications Controller:
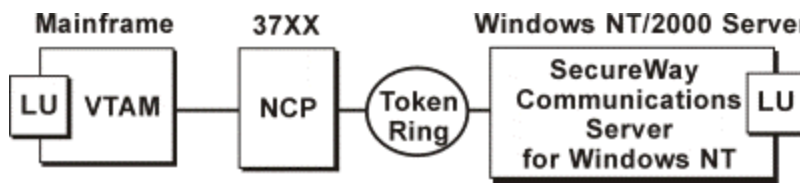
Network internals view for a Local 3172 Communications Controller:

Network internals view for a Local 3174 Communications Controller:

Network internals view for a Remote 3174 Communications Controller:
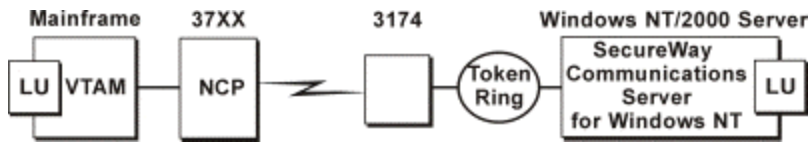
The network internals view illustrates that many components comprise an SNA network. Most of the components have detailed configuration requirements. Many of those requirements are described within the five configuration topics.

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. These interrelated parameters must be configured consistently to make end-to-end communication possible.

Several figures follow. They illustrate some of the key interrelationships among configuration parameters for SNA network components.

Key Configuration Parameter Interrelationships

The following image illustrates the interrelationships required when defining logical unit (LU) names:
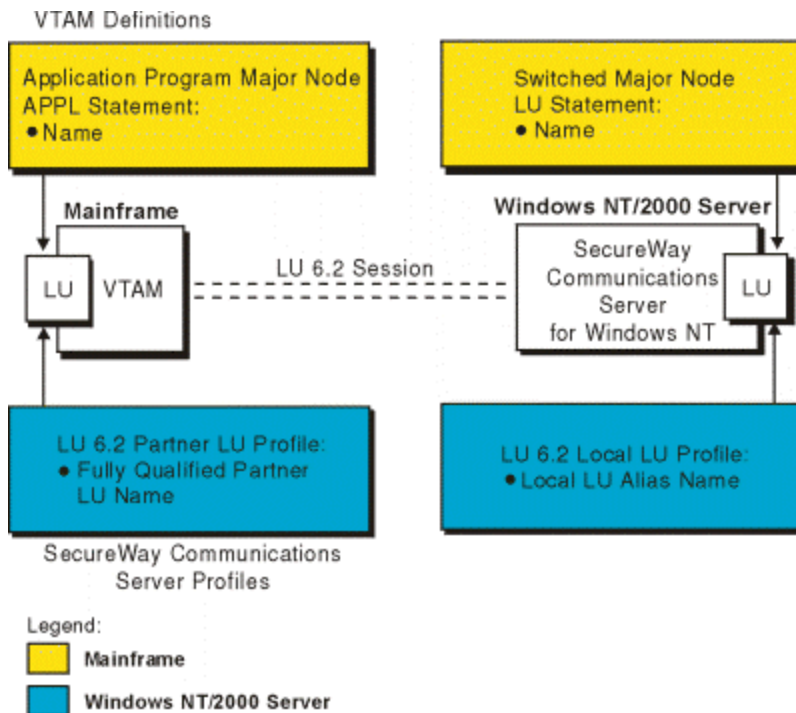
The following image illustrates the interrelationships required when defining the local address of the logical unit provided by SecureWay Communications Server for NT:
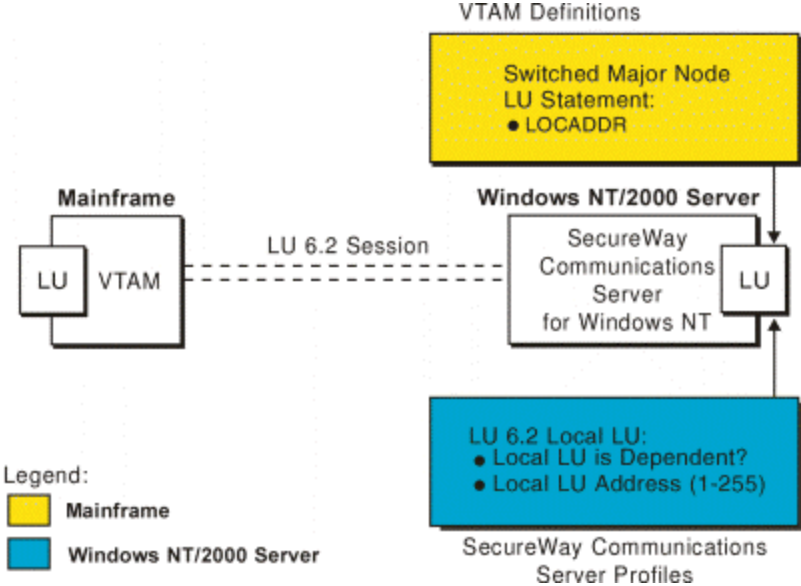
The following image illustrates the interrelationships required when defining session characteristics:
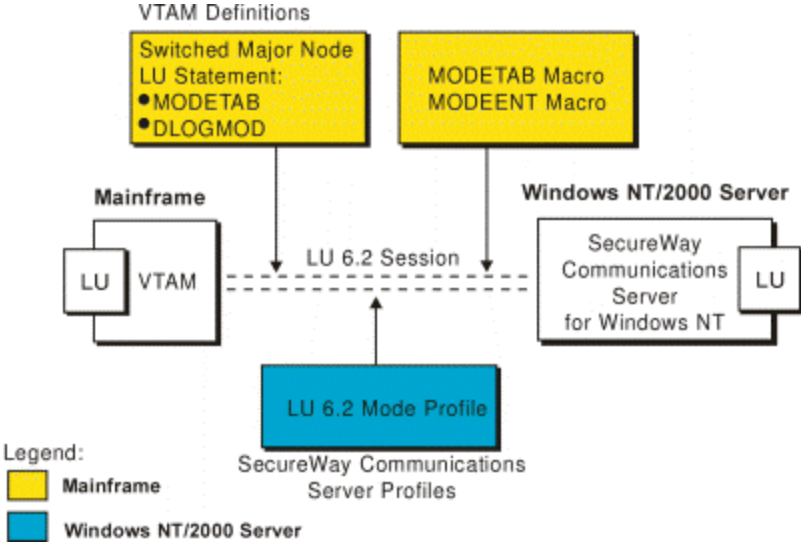
The following image illustrates the interrelationships required when defining the name of the physical unit/control point provided by SecureWay Communications Server for NT:
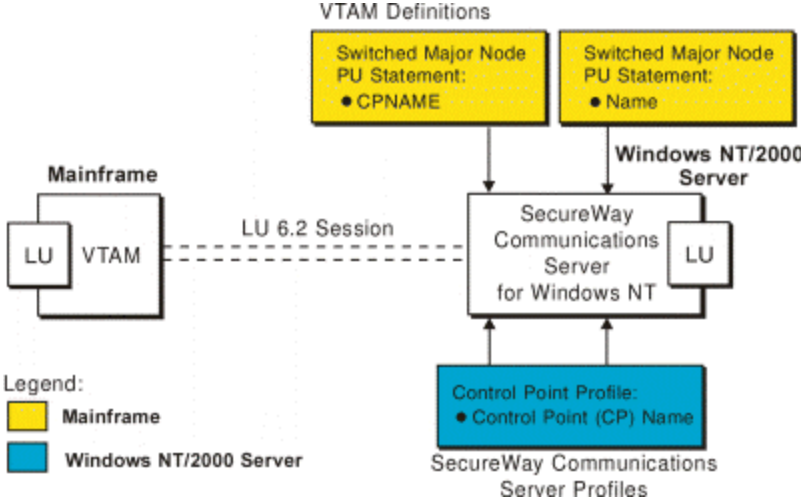
The following image illustrates the interrelationships required when defining the token-ring addresses used in the 37xx configuration:
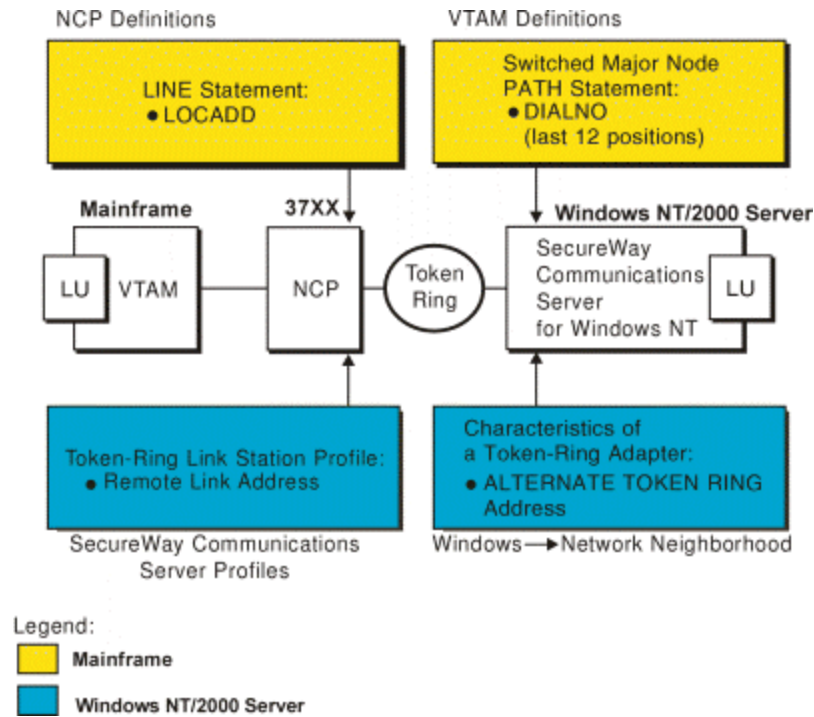
The following image illustrates the interrelationships required when defining the token-ring addresses used in the Local 3172 configuration:
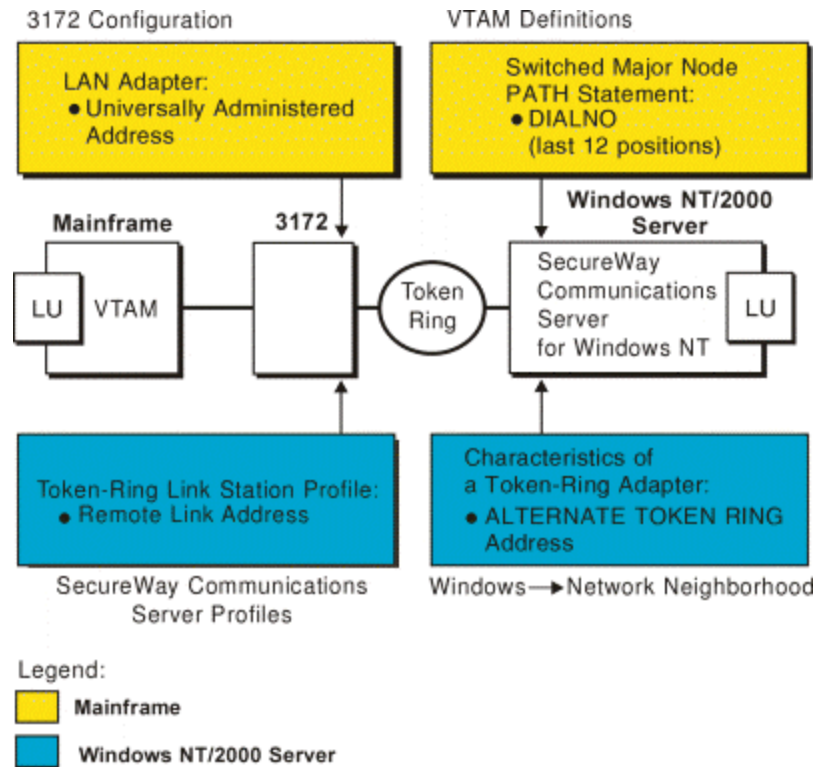
The following image illustrates the interrelationships required when defining the token-ring addresses used in either the Local or the Remote 3172 configuration:
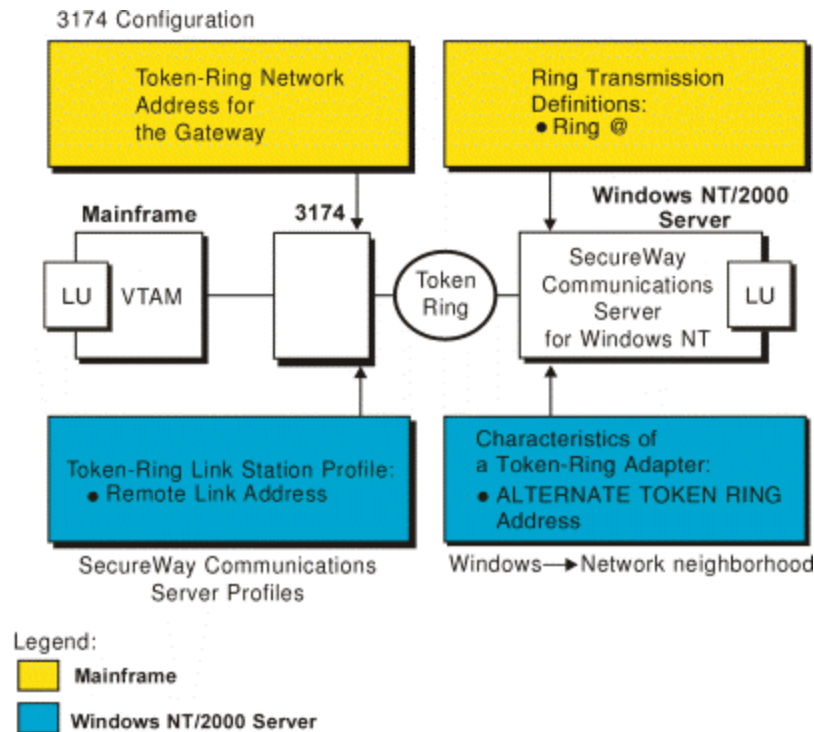
Preconfiguration Decisions for All PSF Direct Examples

Note that for each configuration example you must perform the following tasks, which are defined within the configuration examples:

- Defining devices for IBM SecureWay Communications Server and Infoprint Windows NT

- Using an alternate token-ring address for a Windows NT server

- Decide whether to define a dependent or an independent LU

- Configuring an LU 6.2 Partner LU on your Infoprint Windows NT Server

- Enable SNA API Clients on your Infoprint Windows NT server

Defining Devices for IBM SecureWay Communications Server and Infoprint Windows NT

Devices must be defined for both Communications Server and Infoprint Windows NT so that the token-ring (or ethernet) card can be used to carry the SNA data from the PSF host program. Usually, a device must be made available once, and then remains available, even after Windows NT is shutdown and restarted. For each configuration example, you accomplish this task through Device Configuration, the second of the IBM SecureWay Communications Server for NT configuration profiles provided in each example.

Using 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 might be necessary. For example, if the **DIALNO** operand is included in a 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, it might be necessary to 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 an token-ring adapter in a Windows NT or Windows 2000 server, you must refer to the operating system online help because different levels of the operating systems can vary.

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, for example, 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.

Decide 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 NAU address.

A dependent LU requires the following 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 on the **Define a LAN Connection** window, 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 a **base LU name** value.

An independent LU requires the following 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 **Define a Local LU 6.2 (Basic)** window, leaving the Dependent LU unchecked.

4. Specify the **Define a Local LU 6.2 (Advanced)** window.

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.

Enable SNA API Clients on your Infoprint Microsoft NT Server

Access these panels by clicking on the plus (+) sign next to **Client Resources** and right-clicking on the **SNA API Clients** box. Then, follow the instructions provided below:

1. From the **SNA Clients** panel, check the **Enable SNA API Client Services** box.

2. Single-click on the **OK** button at the bottom of the screen to save these specifications to the appropriate `*.acg` file, where `*` is the first-qualifier name of the `.acg` file that you named on the **Welcome to Communications Server Configuration!** window.

Local or Remote Local 3174 Token-Ring Gateway Example

The following images display both a local and a remote 3174 Token-Ring example, respectively:

Host PSF

3174
Establishment
Controller

Token
Ring

Infoprint Control
with
PSF Direct

Host PSF

37XX
Communication
Controller

3174
Establishment
Controller

Token
Ring

Infoprint Control
with
PSF Direct
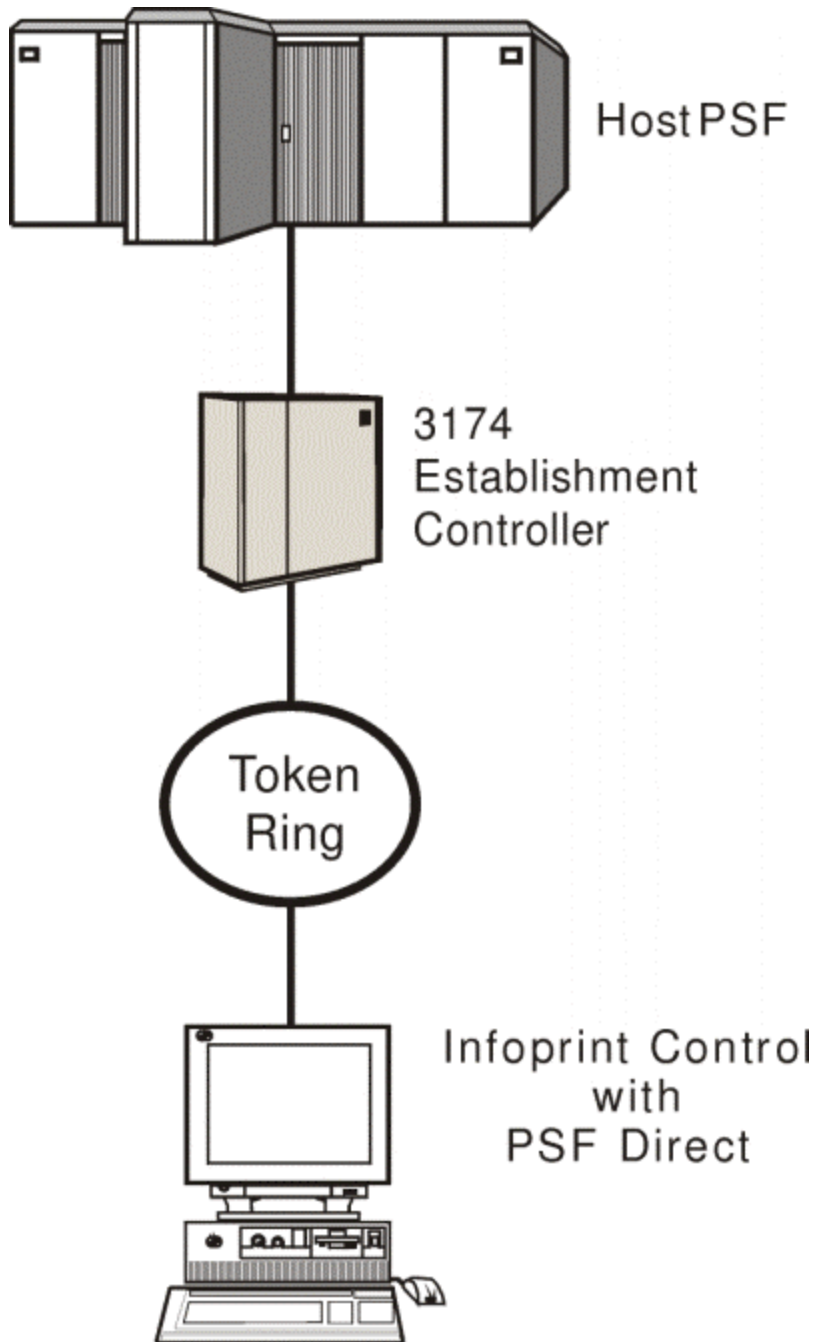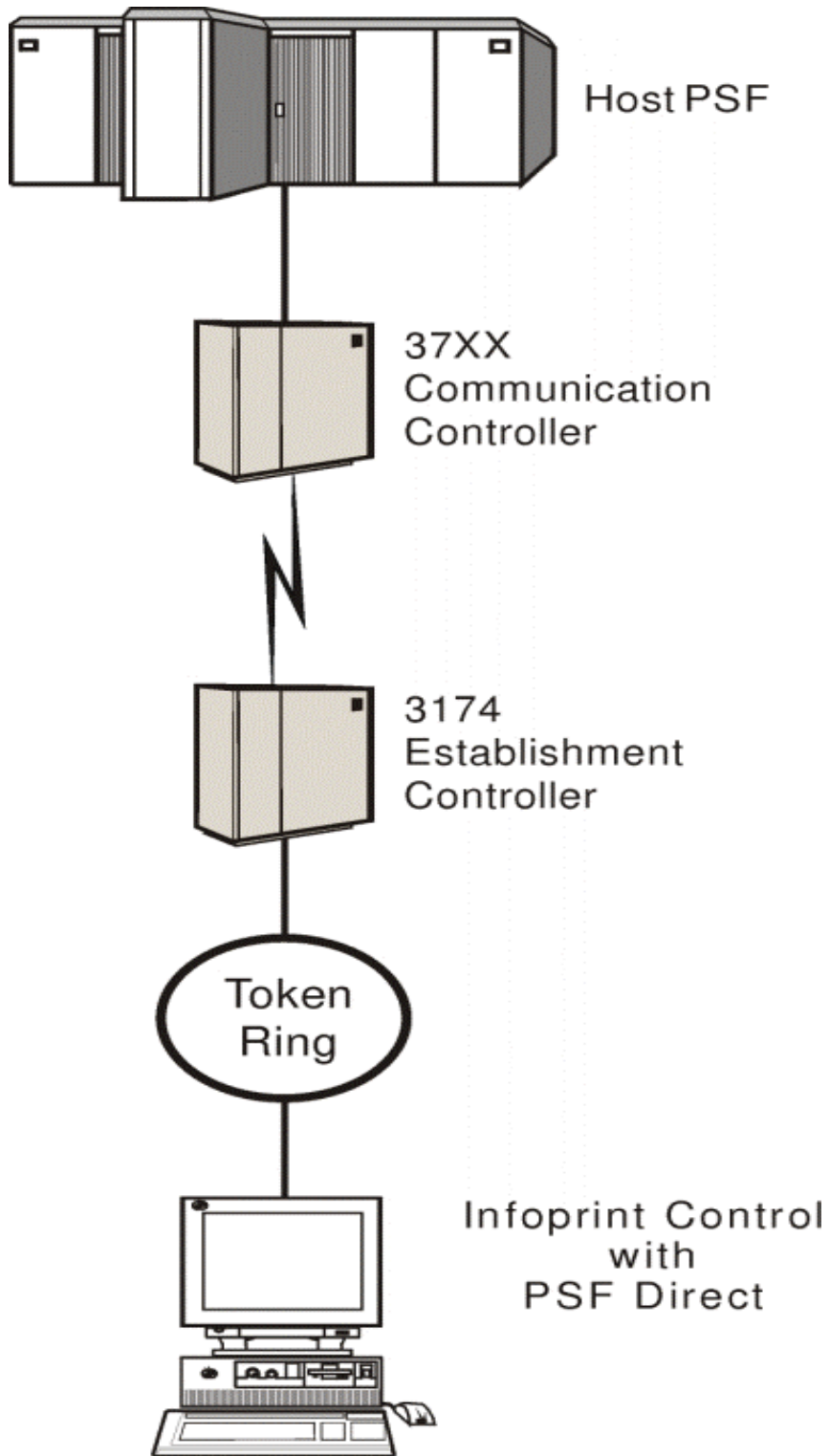
This configuration example defines a Dependent LU.

For an explanation of pertinent configuration parameters, see Guidelines for Configuring Local or Remote Local 3174 Token-Ring.

Host Configuration Examples

The following local Local 3174 Token-Ring Gateway example uses MVS and JES2. For an explanation of pertinent configuration parameters, see Guidelines for Configuring Local or Remote Local 3174 Token-Ring Gateway.

JES2 Initialization Statement Example

For more information about this example, refer to the guidelines for Specifying the JES2 Initialization Statement.

```
PRT618
CLASS=Y,MARKS=YES,START=NO,MODE=FSS,FSS=WTRES600,    X

   PRMODE=(LINE,PAGE),UCS=0
```

JES2 External Writer Procedure Example

For more information about this example, refer to the guidelines for Configuring the Host PSF Printer.

Note that if an installation has multiple printers defined for receiving PSF Direct jobs, those printers are defined here in separate **PRT** statements. This example defines a single **PRT** statement for a device named PRT618.

```
//WTRES618 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
```

VTAM Start Option List (ATCSTRxx) Example

For more information about this example, refer to the guidelines for Specifying the VTAM Start Option List (ATCSTRxx) .

```
CONFIG=00,          ATCCON MEMBER OF VTAMLST    x

NETID=USIBMBQ,      NETWORK IDENTIFIER          x

SSCPID=1,           SSCP IDENTIFIER             x

:
```

VTAM Configuration List (ATCCONnn) Example

For more information about this example, refer to the guidelines for Specifying the VTAM Configuration List (ATCCONnn).

```
PSFAPPLS,                                       x

:
```

VTAM Application Program Major Node and Application Program Example

For more information about this example, refer to the guidelines for Specifying the VTAM Application Program Major Node and Application Program .

```
PSFAPPLS,    VBUILD TYPE=APPL                   x

FSAES618,    APPL AUTH=ACQ,EAS=1,SONSCIP=YES    x

:
```

VTAM Mode Table and Entry Example

For more information about this example, refer to the guidelines for [Specifying the VTAM Mode Table and Entry vtapmng1](#).

```
MODEIBM      MODETAB                                                 x

IBM3820T     MODEENT LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07',     x

:                    PRIPROC=X'B0',SECPROT=X'B0',COMPROT=X'D0B1'     x

                     PSERVIC=X'0602000000000000000000200'           x

                     PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'       x

                     RUSIZES=X'8787'
```

VTAM Local Major Node Example

For more information about this example, refer to the guidelines for [VTAM Local Major Node vtapmng1](#).

```
:

PSFDC5MJ     VBUILD TYPE=LOCAL

*

PSFDC5PU     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
```

3174 Establishment Controller Configuration Example

For more information about this example, refer to the guidelines for 3174 Establishment Controller Configuration Definitions.

```
:         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

C2      4000 3000 1002                    2     7
```

Accessing the Communications Server for NT Profiles

Use the following procedure to access the IBM SecureWay Communications Server for NT applications described in the What is Communications Server for NT? topic.

Note that the following presumes 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 on the **SNA Node Configuration** icon that resides on your desktop:
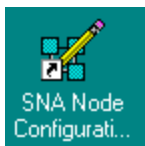
2. At the **Welcome to Communications Server Configuration!** pop-up window, single-click the **New** button (for a new configuration) and click on the **Next>** button.

3. Check the **Advanced** box, which causes the display to turn to grey (displayed below) and single-click the **Finish** button.
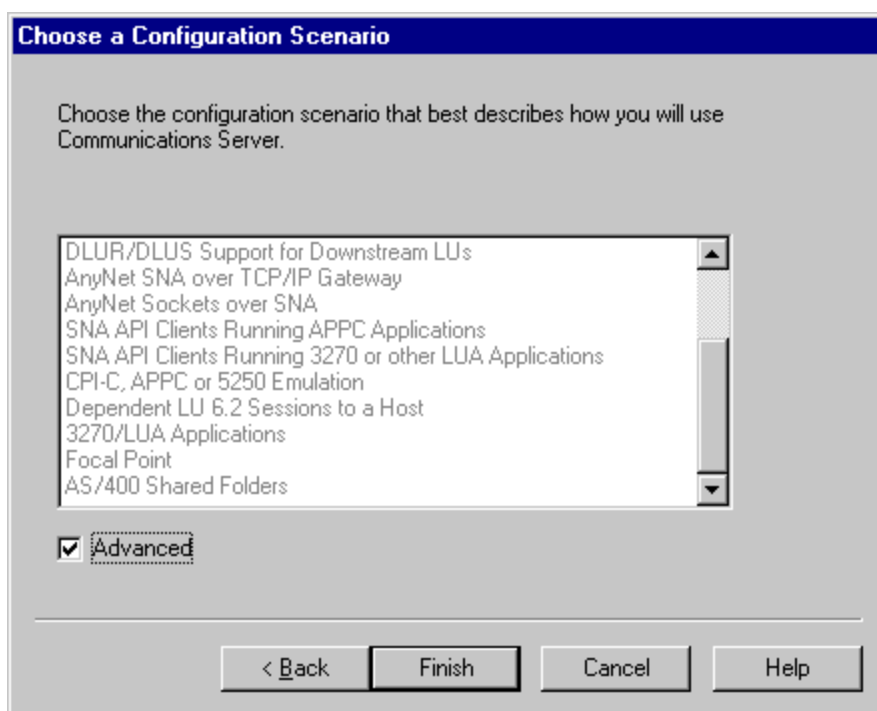
4. From the **Communications Server SNA Node Configuration** window (displayed below), you are ready to begin configuring your system for PSF Direct.
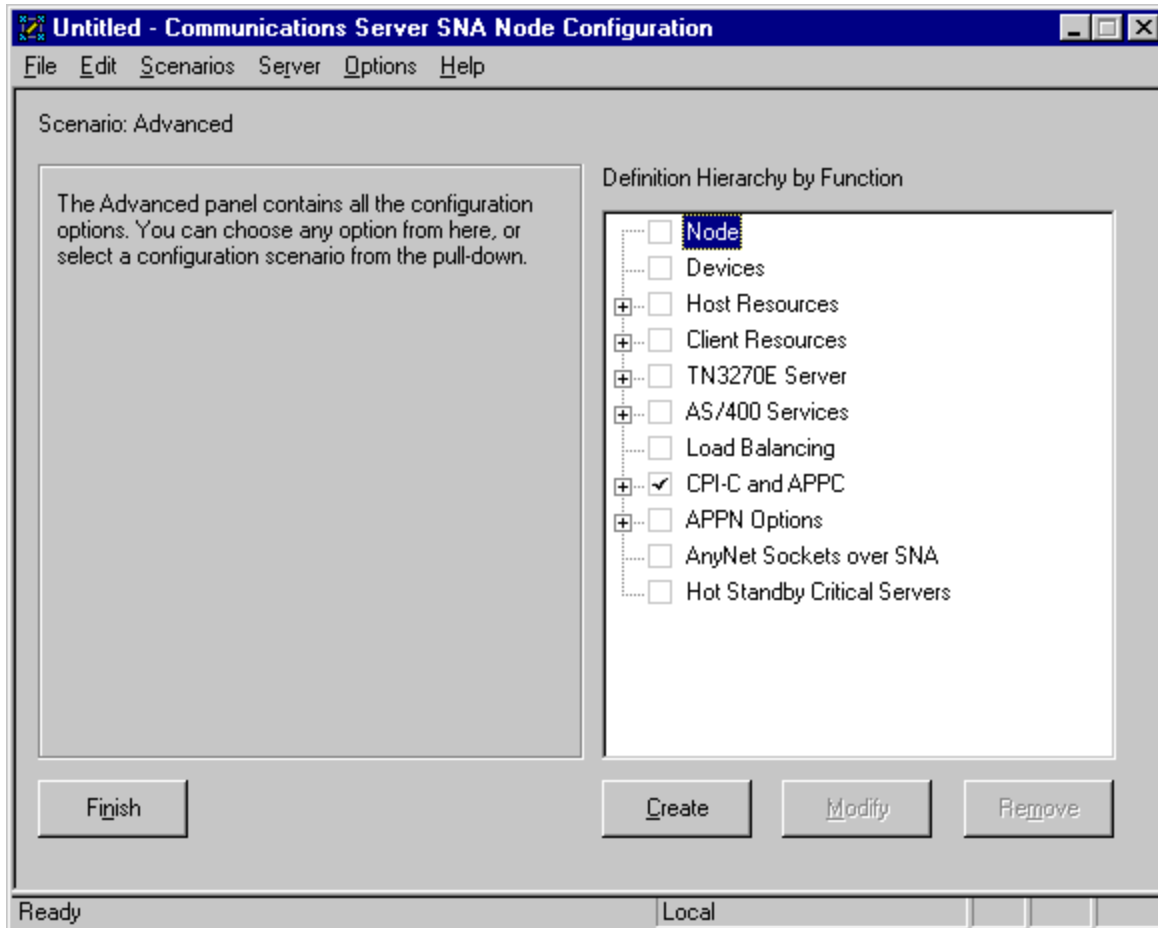
Communications Server for NT Configuration Profile Examples

From the preceding display of the **Communications Server SNA Node Configuration** window, there are 7 configuration steps that you must complete. The following examples provide images with the appropriate examples filled in.

3174 Node Setup
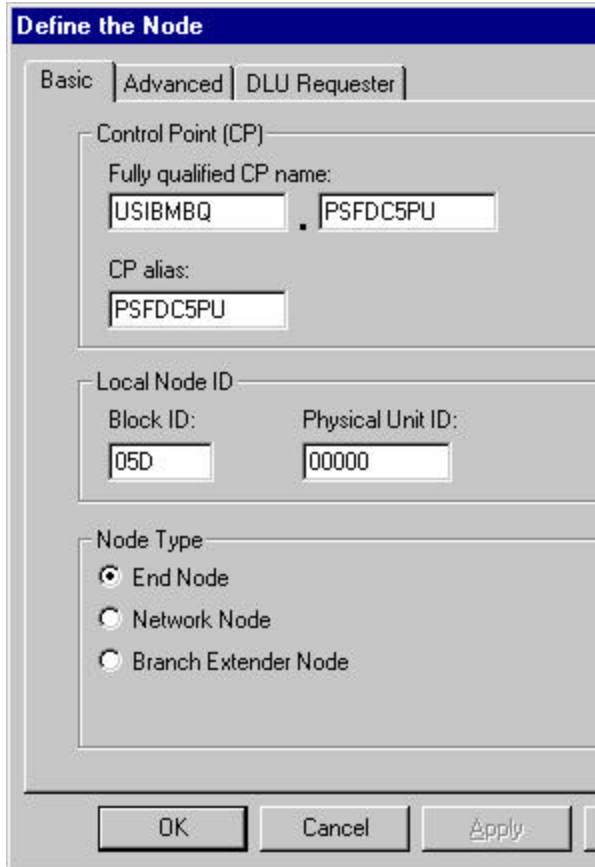
You access this panel by right-clicking on the checked **Node** box of the **Communications Server SNA Node Configuration** window (displayed below) and selecting the **Create** option.

For more information about this configuration view, refer to the guidelines for .

Basic Configuration
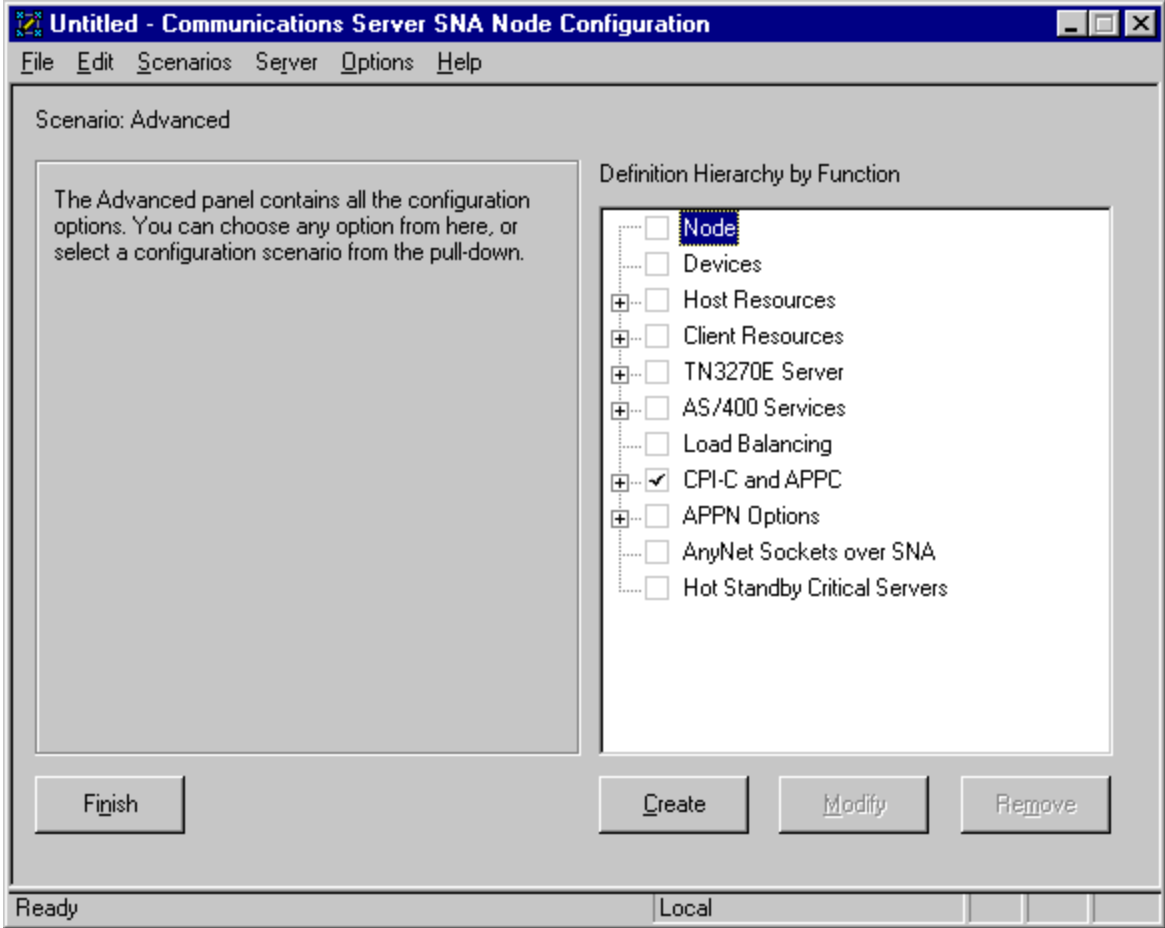
You access the following view by single-clicking on the **Advanced** tab that appears at the top of the panel. For more information about this configuration view, refer to the guidelines for 3174 Node setup -- Advanced Configuration. Note that the **Advanced Configuration** tab takes the Communication Server for NT defaults and is shown for reference only.

Advanced Configuration
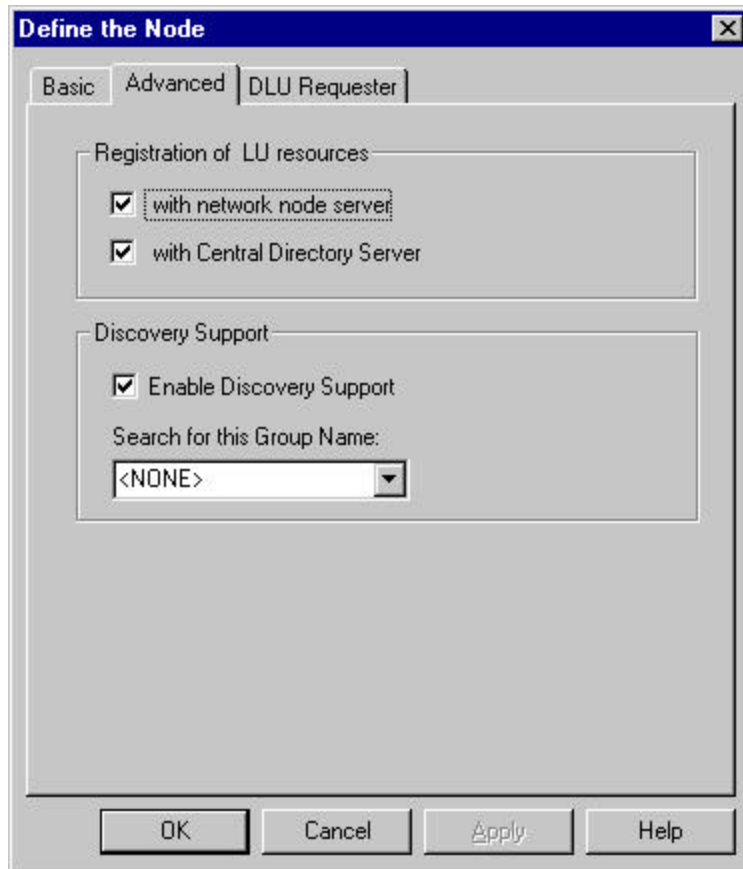
You access the following view by single-clicking on the **DLU Requester** tab that appears at the top of the panel. Note that the **DLU Requester** tab takes the Communication Server for NT defaults and is shown for reference only.

DLU Requester

Once you have completed specifying all three tabs, single-click on the **OK** button at the bottom of the screen to save these specifications to the appropriate `*.acg` file.

3174 Device Configuration

You access these panels by right-clicking on the **Devices** box of the **Communications Server SNA Node Configuration** window (displayed below) and selecting the **Create** option.
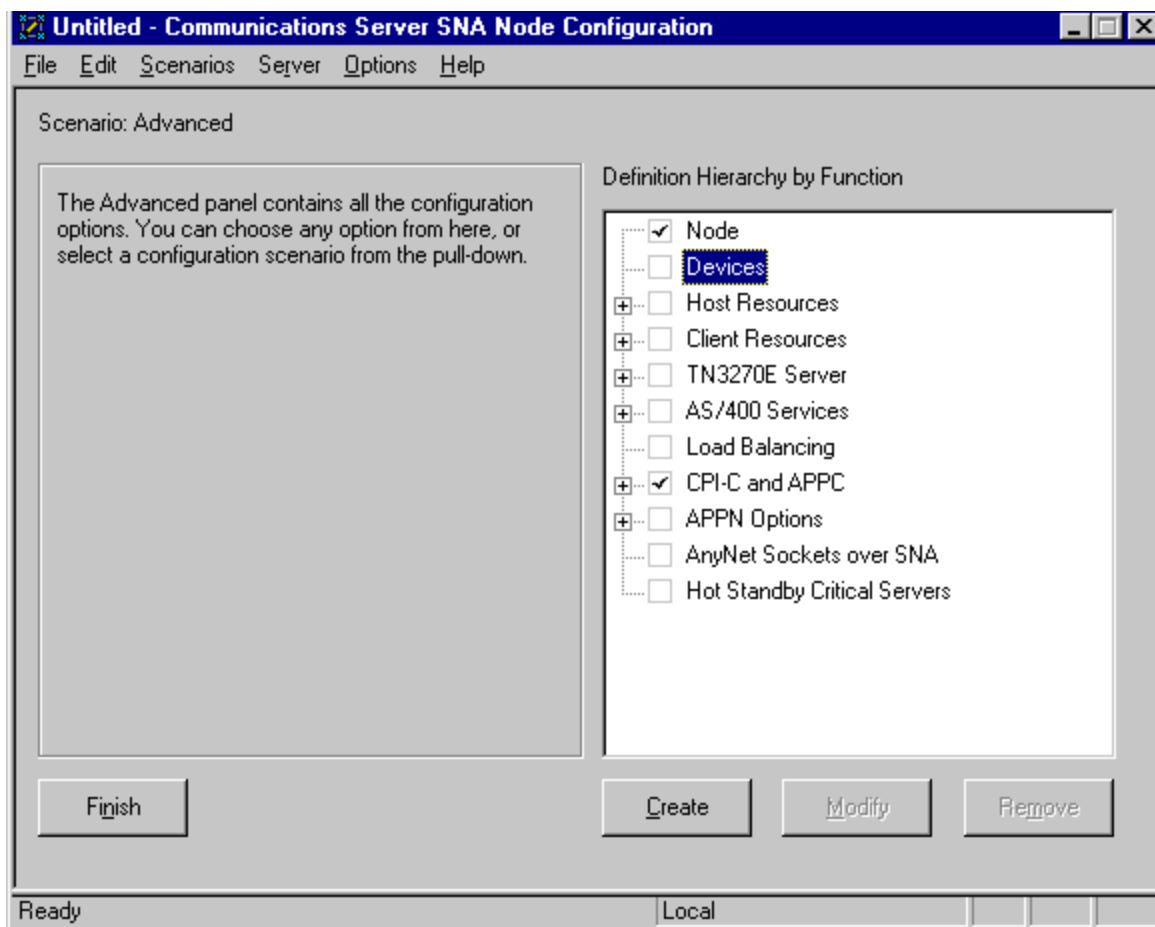
In the **Device Type** pop-up window, select `LAN`:
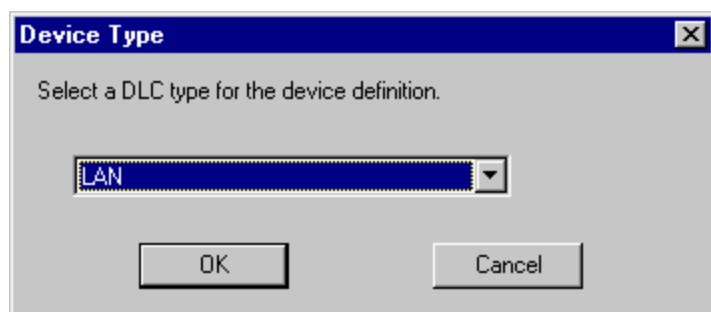
Click **OK**.

On the **Define a LAN Device** window, note that you may have more than one adapter defined at your installation. Ensure that you select the proper token-ring LAN adapter (depending upon your installation may display both token-ring and ethernet adapters).

For more information about this configuration view, refer to the guidelines for .

Basic Configuration

You access the following view by single-clicking on the **Advanced** tab that appears at the top of the panel. For more information about this configuration view, refer to the guidelines for 3174 Device setup -- Advanced Configuration. Note that the **Advanced Configuration** tab takes the Communication Server for NT defaults and is shown for reference only.

Advanced Configuration

You access the following view by single-clicking on the **Performance** tab that appears at the top of the panel. Note that the **Performance Configuration** tab takes the Communication Server for NT defaults and is shown for reference only. If you are migrating from an AIX operating system to a Windows NT operating system, see 3174 Device Performance Configuration for how values are mapped:

Performance Configuration

You access the following view by single-clicking on the **Reactivation** tab that appears at the top of the panel. Note that the **Reactivation Configuration** tab takes the Communication Server for NT defaults and is shown for reference only.

Reactivation Configuration

Once you have completed specifying all three tabs, single-click on the **OK** button at the bottom of the screen to save these specifications to the appropriate `*.acg` file.

3174 Peer Connection Configuration

For more information about this example, refer to the guidelines for <u>Local 3174</u> <u>Peer Connection</u> <u>Configuration</u>.

You access these panels by right-clicking on the **Host Connection** value within the **Host Resources** list and selecting the **Create** option.

For more information about this configuration view, refer to the guidelines for [3174 Peer -- Basic Configuration](#). Note that the **Link station name** field contents will vary, depending upon the number of links at your installation.

Basic Configuration

You access the following view by single-clicking on the **Advanced** tab that appears at the top of the panel. For more information about this configuration view, refer to the guidelines for 3174 Peer -- Advanced Configuration. Note that the **Advanced Configuration** tab takes the IBM SecureWay Communication Server for NT defaults and is shown for reference only.

Advanced Configuration

Define a LAN Connection

Basic | Advanced | Adjacent Node | Reactivation

- ☑ Activate link at start
- ☐ HPR support
- ☐ APPN support
- ☑ Auto-activate support
- ☐ Link to preferred NN server
- ☑ Solicit SSCP sessions

PU name: [LINK0000]

- ☐ Use PU name as CP name
- ☐ Encryption mandatory
- ☐ Compression requested
- ☐ Branch extender connection

Local Node ID

Block ID: [05D]   Physical Unit ID: [00000]

[OK]   [Cancel]   [Apply]

You access the following view by single-clicking on the **Adjacent Node** tab that appears at the top of the panel. Note that the **Adjacent Node** tab takes the Communication Server for NT defaults and is shown for reference only.

Adjacent Node Configuration

You access the following view by single-clicking on the **Reactivation** tab that appears at the top of the panel. Note that the **Reactivation** tab takes the Communication Server for NT defaults and is shown for reference only.

Reactivation Configuration
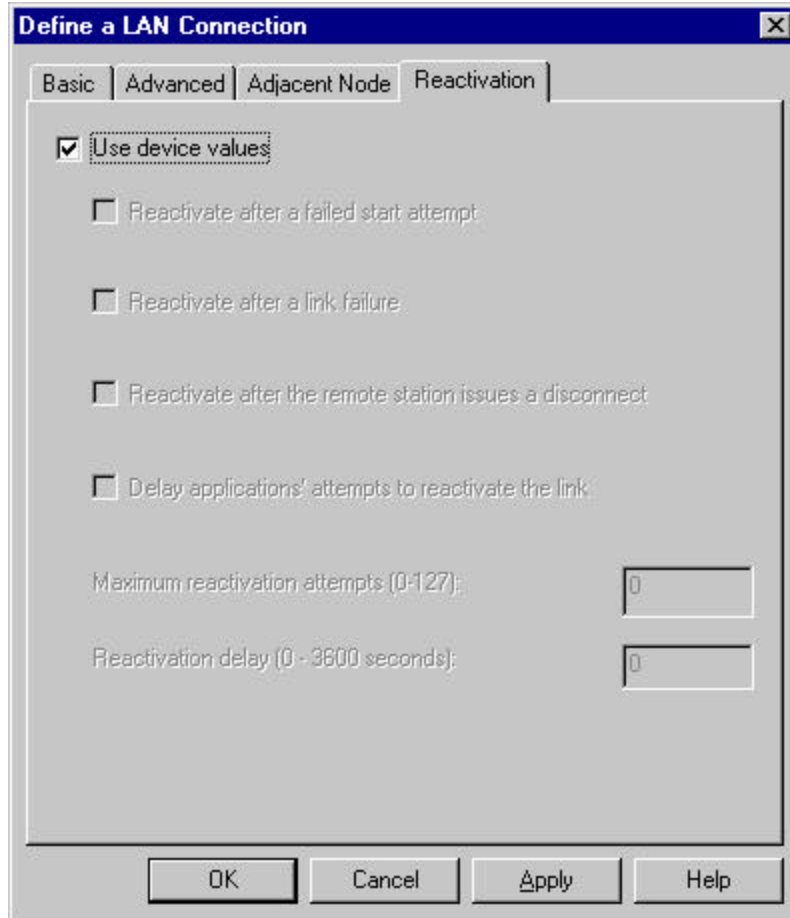
Note that after selecting the **OK** button, a pop-up window appears asking "`Do you want to automatically route all APPC sessions over this connection?`" You must reply `yes`. Then, a pop-up window asks: `Do you wish to create and assign new LUs to this connection?` When you reply yes, the **Host LU Definition** panel appears.
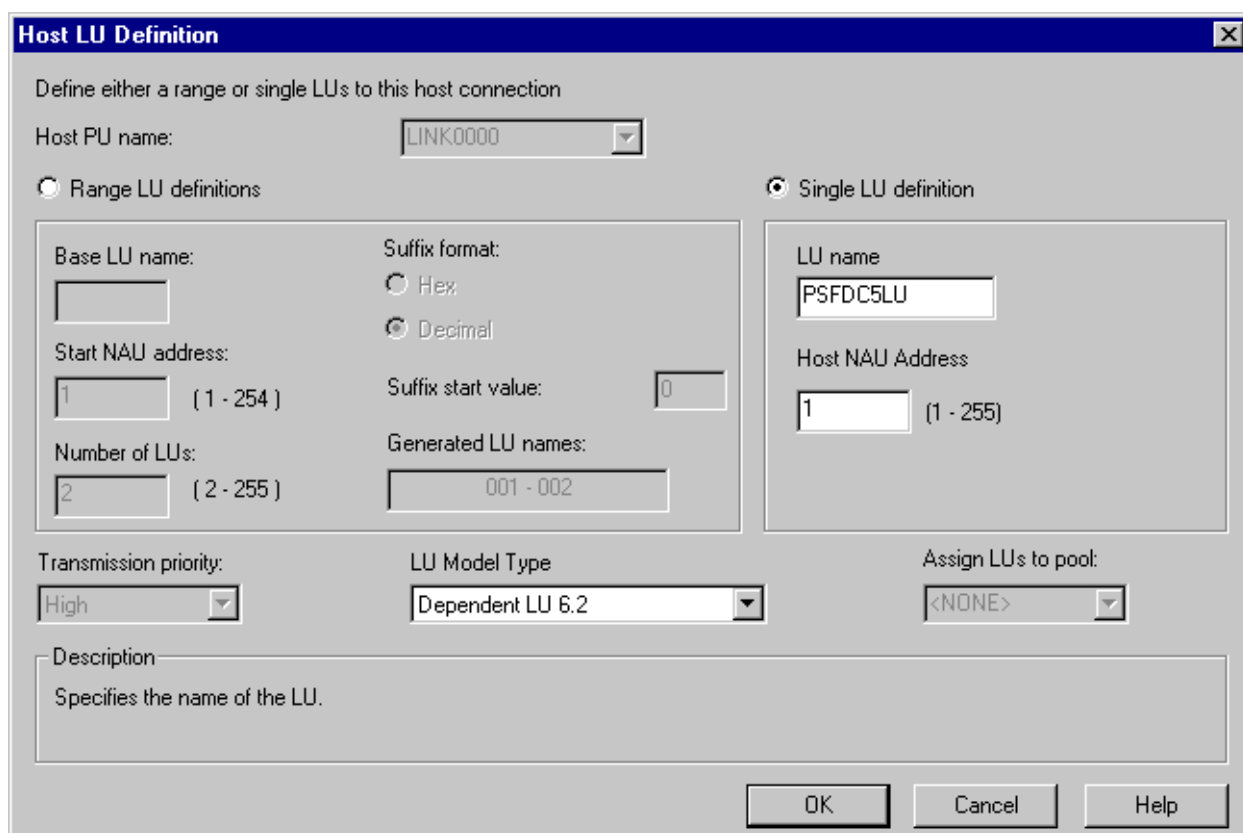
3174 Local LU 6.2 Configuration -- Dependent LU

From this panel, you must:

1. Select the **Single LU definition** button.

2. Specify a name for the LU in the **LU name** field.

3. Select `Dependent LU 6.2` for the **LU Model Type** field.

For an explanation of these values, refer to Guidelines for Local LU 6.2 Configurattion for 3172.

Note that these values are specified in the **Host LU Definition** panel displayed immediately below:

Once you single-click the **OK** button, these values are saved in the `*.acg` file.

To see this defined LU, click open the Host Connections view until you display the link
(`LINK0000`) and the Dependent LU (`PSFDC5LU`):
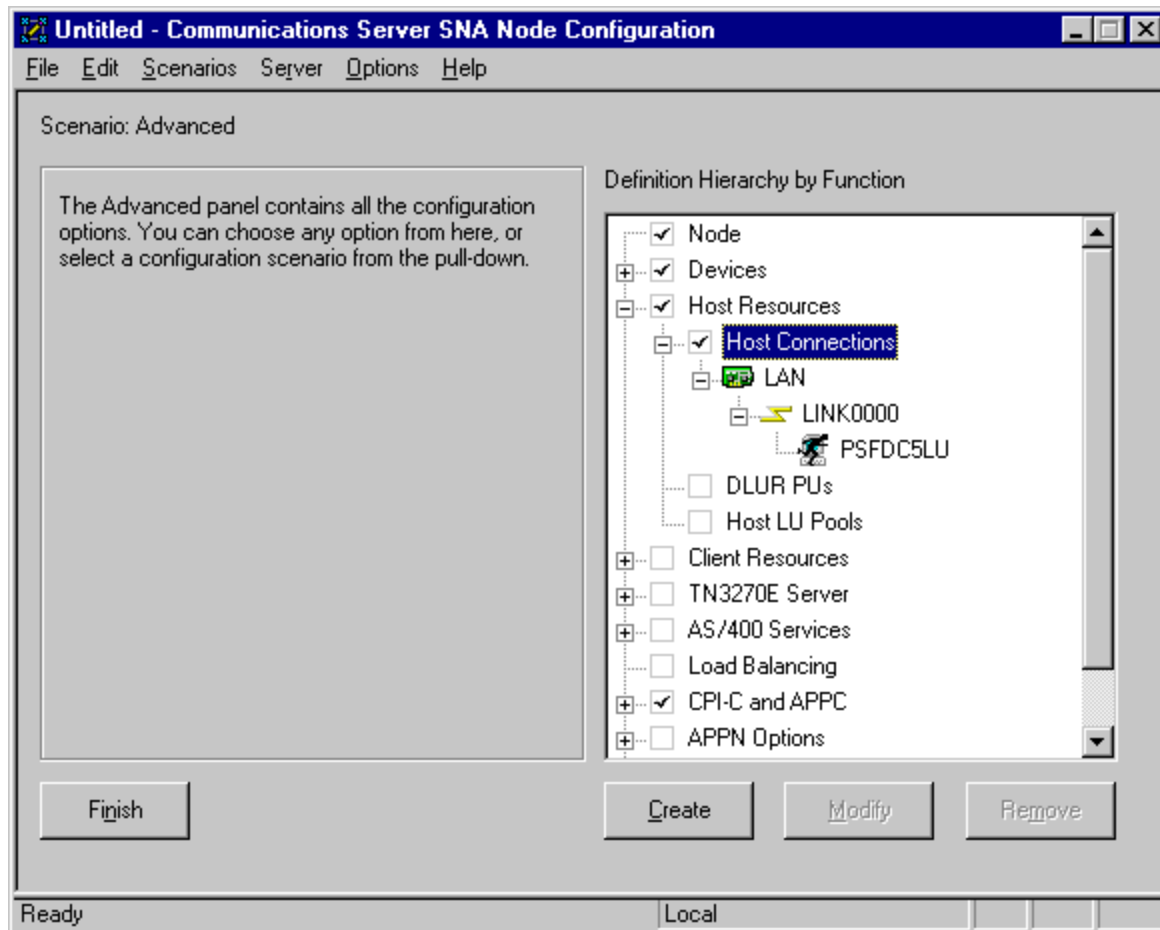
Enabling SNA API Clients for 3174

For more information about this example, refer to the guidelines for Enabling SNA API Clients
on your Infoprint Microsoft NT Server.

You access these panels by clicking the **Client Resources** box and then right-clicking on the
SNA API Clients box (displayed below) and selecting the **Create** option, as shown on the
following page.
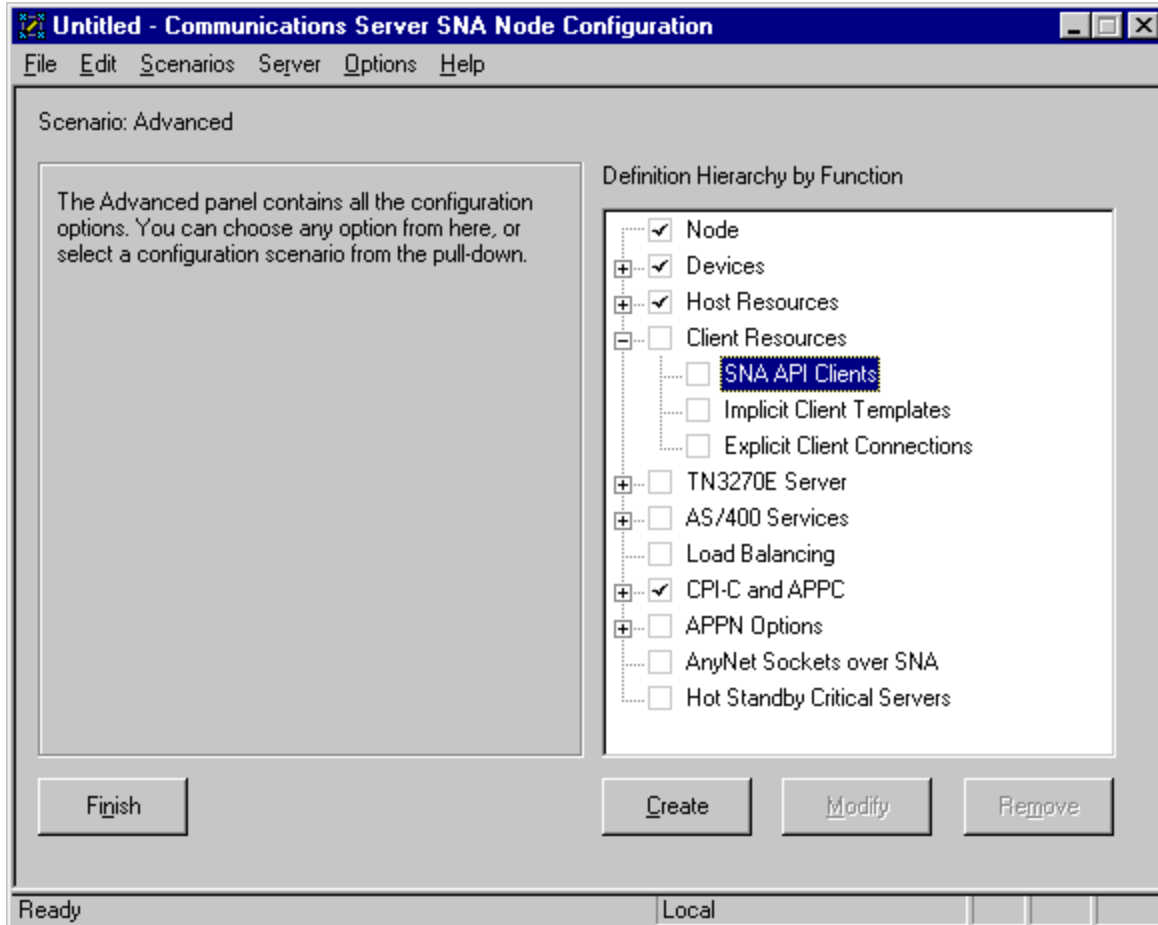
From the SNA Clients panel, check the **Enable SNA API Client Services** box.
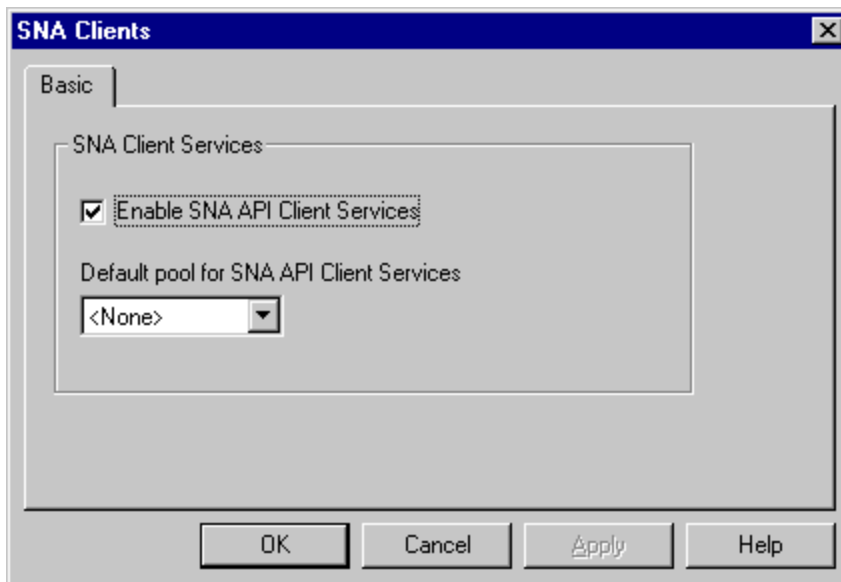
Single-click on the **OK** button to save these specifications to the appropriate `*.acg` file.

3174 Partner LU 6.2 Configuration

For more information about this example, refer to the guidelines for Partner LU 6.2 Configuration for 3174parlu1d .

You access these panels by clicking on the checked **CPI-C and APPC** box of the **Communications Server SNA Node Configuration** window and then right-clicking on the **Partner LU 6.2 LUs** box (displayed below) and selecting the **Create** option.
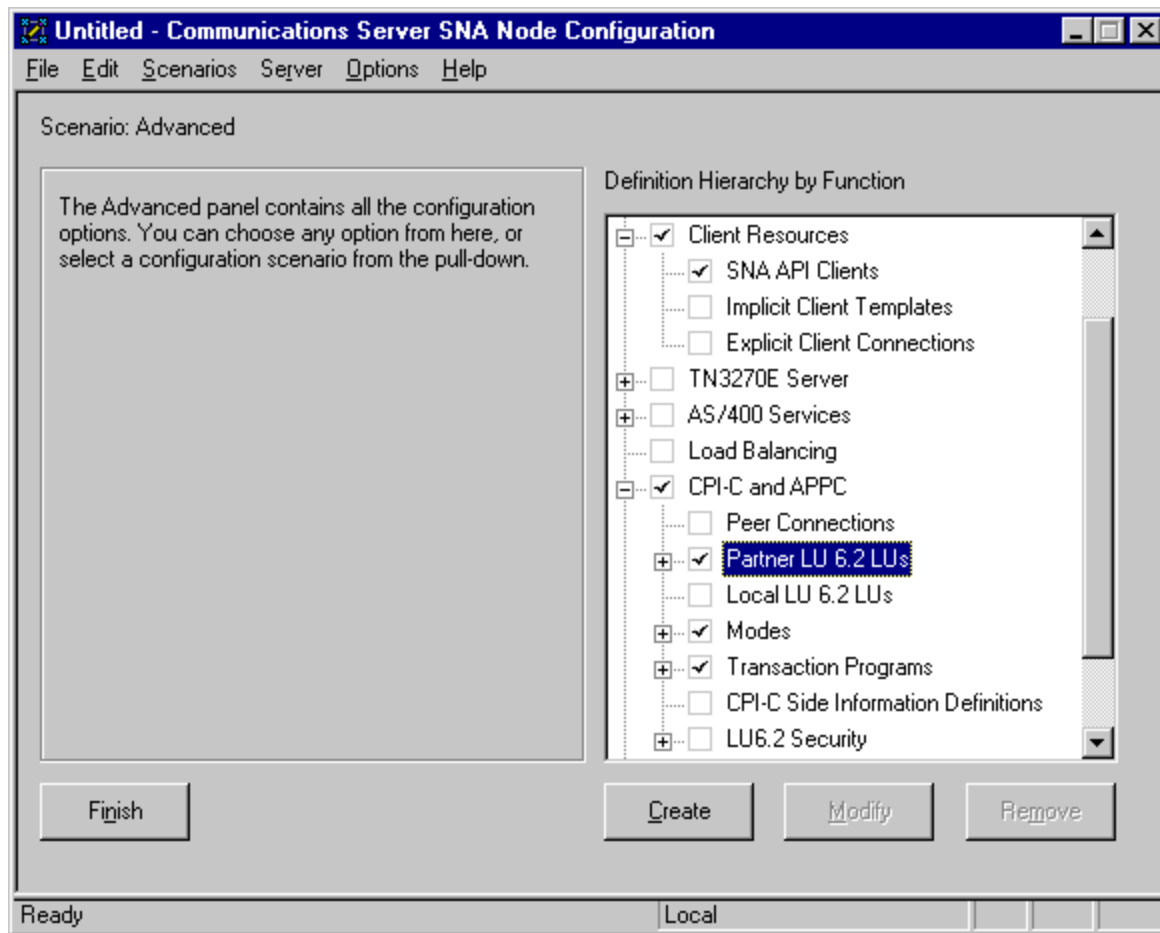
For more information about this configuration view, refer to the guidelines for 3174 Partner LU 6.2 setup -- Basic Configuration. Note that neither panel takes the Communication Server for NT defaults.

Basic Configuration

For more information about this configuration view, refer to the guidelines for [3174 Partner LU 6.2 setup -- Advanced Configuration](#). You access the following view by single-clicking on the **Advanced** tab that appears at the top of the panel.

Advanced Configuration
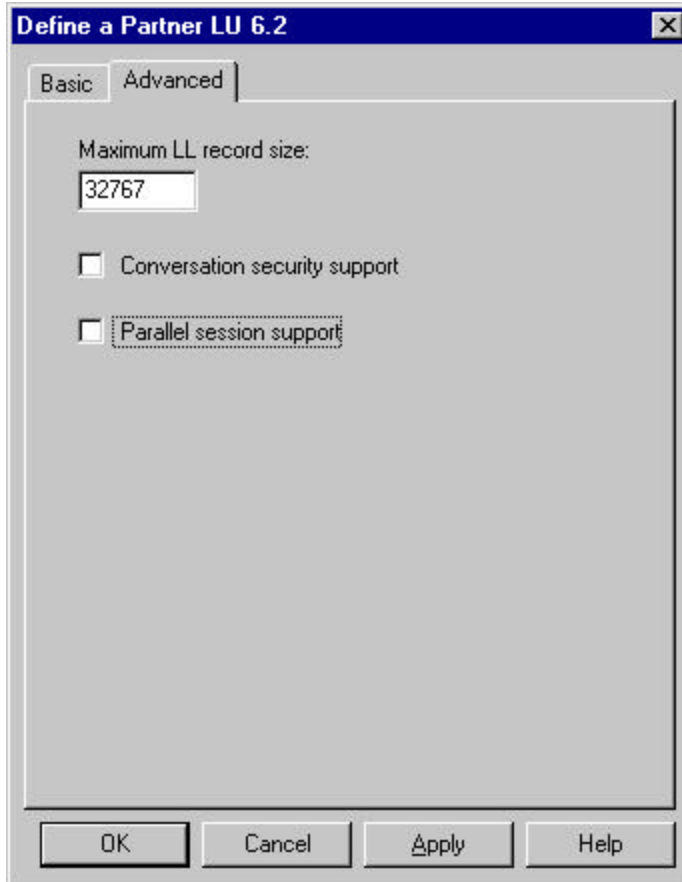
Once you have completed specifying both tabs, single-click on the **OK** button at the bottom of the screen to save these specifications to the appropriate `*.acg` file.

3174 Mode Configuration
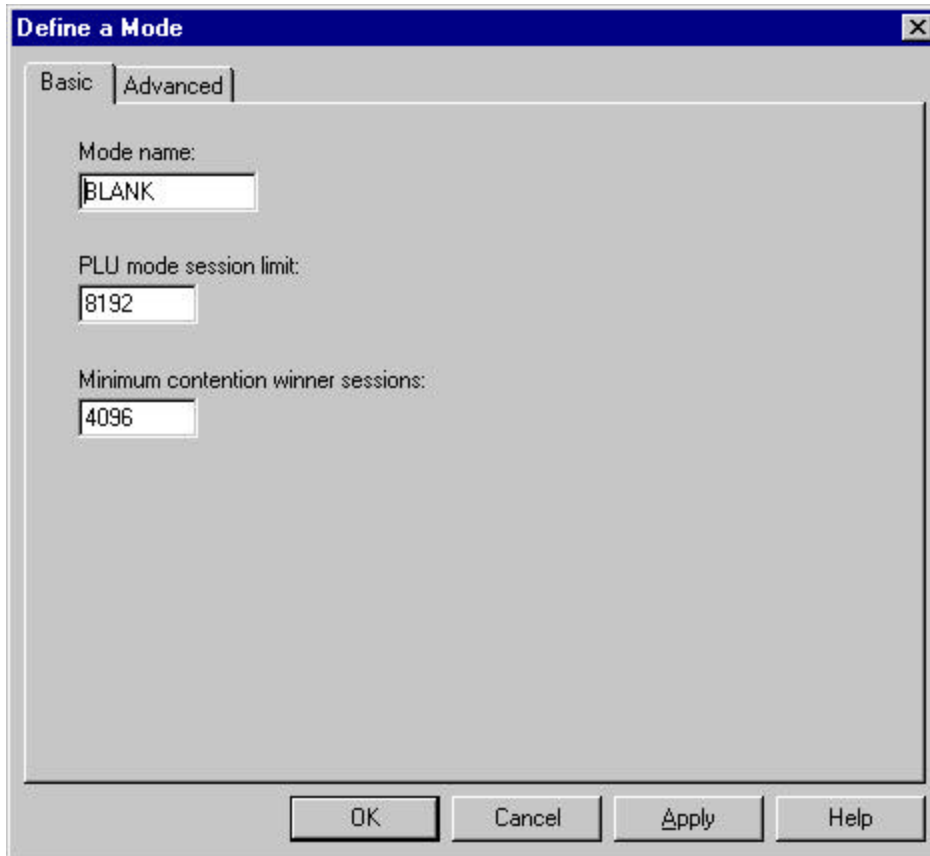
For more information about this example, refer to the guidelines for Configuring Modes for 3174
.

You access these panels by right-clicking on the **Modes** box (displayed below) and selecting the **Create** option.
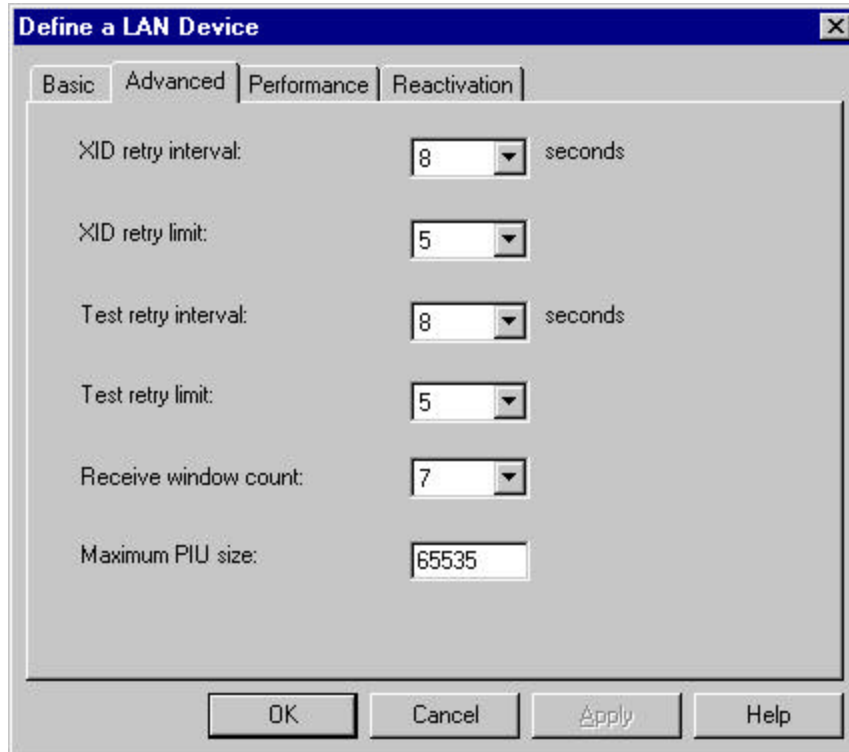
For more information about this configuration view, refer to the guidelines for <u>3174 Mode setup</u> <u>-- Basic Configuration</u>.

Basic Configuration

You access the following view by single-clicking on the **Advanced** tab that appears at the top of the panel. For more information about this configuration view, refer to the guidelines for 3174 Mode setup -- Advanced Configuration. Note that if the default Maximum RU size displayed below does not work, you might have to change this field to '1024'.

Advanced Configuration

Once you have completed specifying both tabs, single-click on the **OK** button at the bottom of the screen to save these specifications to the appropriate `*.acg` file.

3174 Transaction Program Configuration

For more information about this example, refer to the guidelines for 3174 Transaction Program Configuration. Access these panels by right-clicking on the **Transaction Programs** box (displayed below) and selecting the **Create** option.
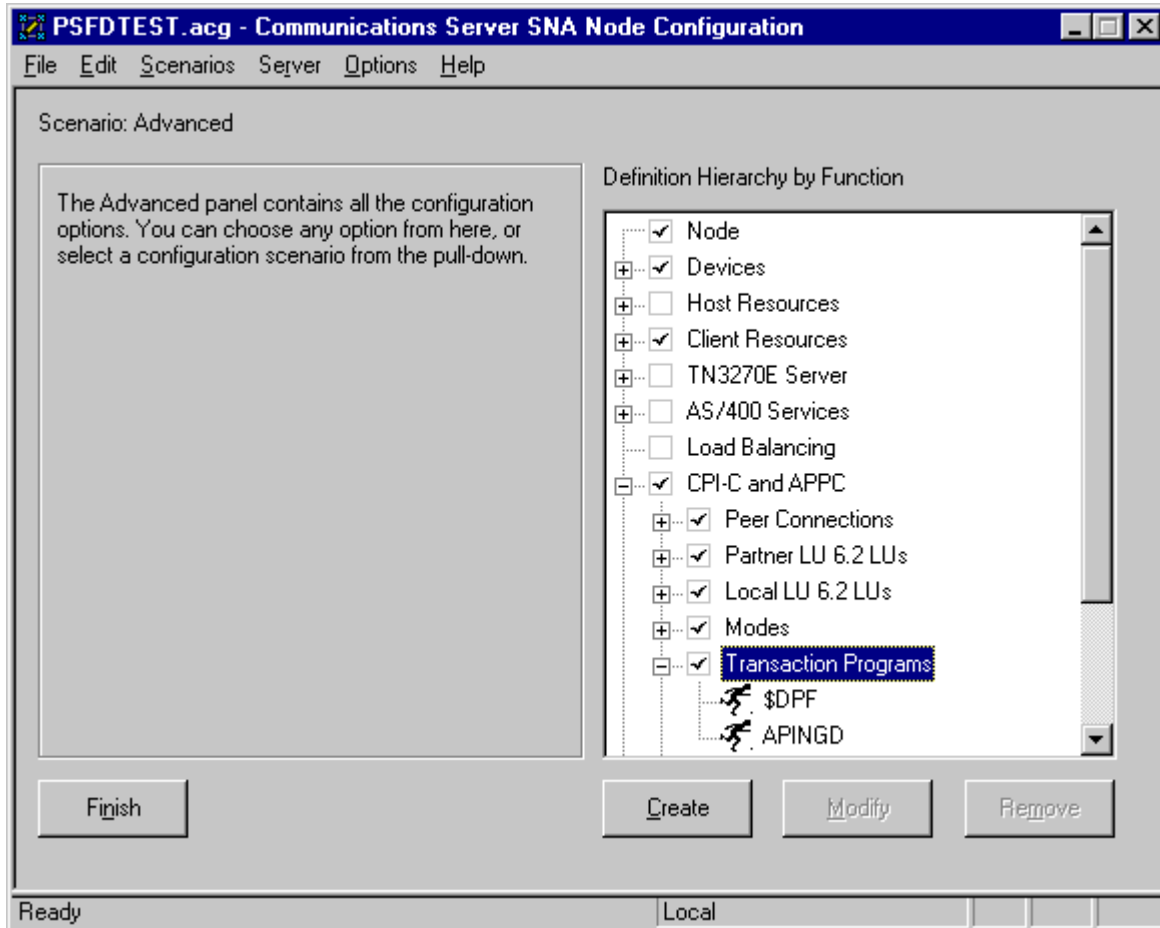
For more information about this configuration view, refer to the guidelines for 3174 Transaction Program setup -- Basic Configuration.

Basic Configuration

```
┌─────────────────────────────────────────────────────┐
│ Define a Transaction Program                      [×] │
├─────────────────────────────────────────────────────┤
│  ┌──────┐┌──────────┐                                │
│  │Basic ││ Advanced │                                │
│ ─┘      └┴──────────┴──────────────────────────────  │
│                                                       │
│    TP name:                                           │
│    ┌─────────────────────────────────────────────┐  │
│    │$DPF                                          │  │
│    └─────────────────────────────────────────────┘  │
│                                                       │
│    ☐  Service TP                                      │
│                                                       │
│    Complete pathname:                                 │
│    ┌─────────────────────────────────────────────┐  │
│    │i:\ipmntinst\bin\ainhr.exe                    │  │
│    └─────────────────────────────────────────────┘  │
│                                                       │
│    Program parameters:                                │
│    ┌─────────────────────────────────────────────┐  │
│    │                                              │  │
│    └─────────────────────────────────────────────┘  │
│                                                       │
│    Conversation type:     ┌───────────────┬───┐     │
│                           │Basic          │ ▼ │     │
│                           └───────────────┴───┘     │
│                                                       │
│    Synchronization level: ┌───────────────┬───┐     │
│                           │Any            │ ▼ │     │
│                           └───────────────┴───┘     │
│                                                       │
│    ☐  Conversation security required                  │
│                                                       │
│                                                       │
│  ┌────────┐  ┌────────┐  ┌────────┐  ┌────────┐     │
│  │  OK    │  │ Cancel │  │ Apply  │  │  Help  │     │
│  └────────┘  └────────┘  └────────┘  └────────┘     │
└─────────────────────────────────────────────────────┘
```

You access the following view by single-clicking on the **Advanced** tab that appears at the top of the panel. For more information about this configuration view, refer to the guidelines for 3174 Transaction Program setup -- Advanced Configuration.
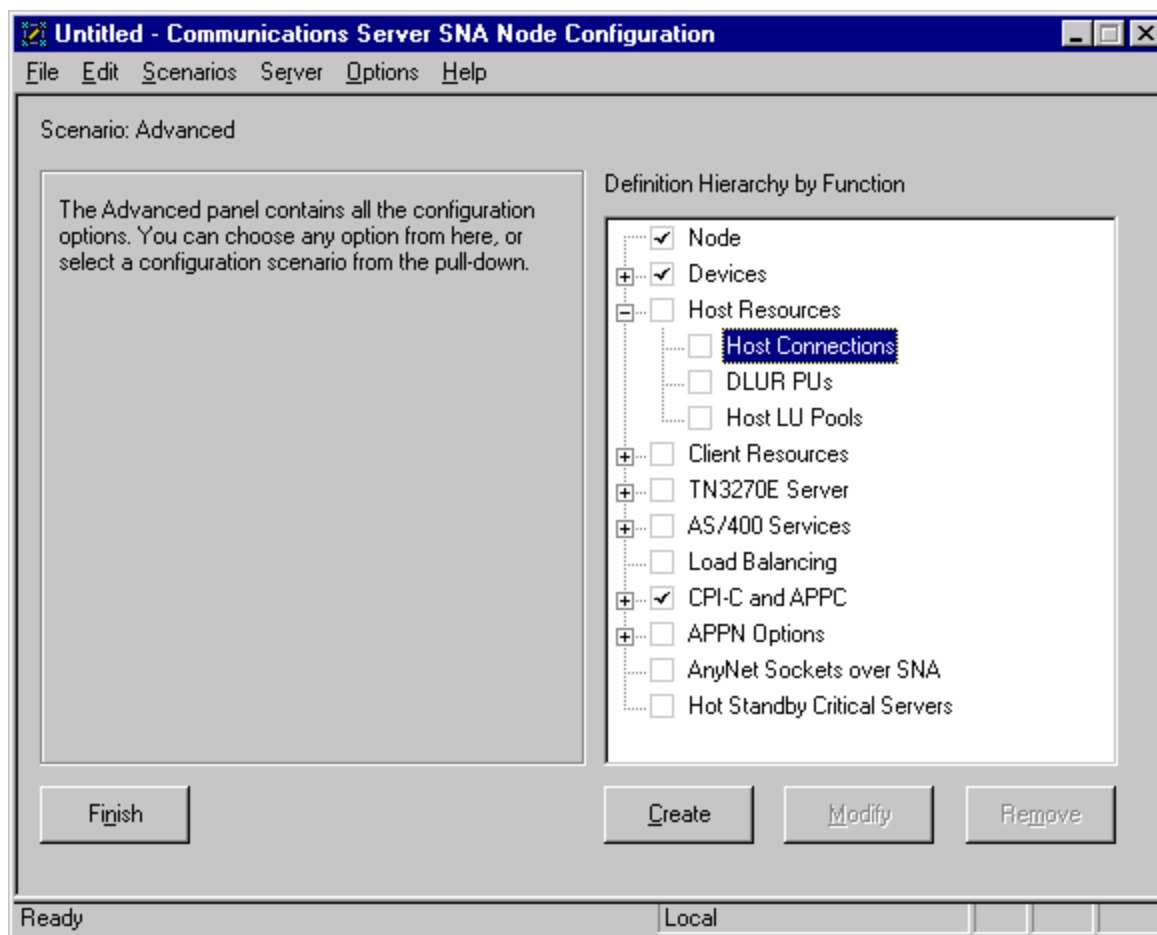

Advanced Configuration

Once you have completed specifying both tabs, single-click on the **OK** button at the bottom of the screen to save these specifications to the appropriate `*.acg` file.

Once you have completed creating this configuration, see Starting an IBM SecureWay Communications Server for NT Configuration.

Guidelines for Configuring Local or Remote Local 3174 Token-Ring Gateway

The following provides guidance for implementing the examples displayed in Local or Remote Local 3174 Configuration Worksheet Examples. Note that a subset of the example below displays the pertinent parameters and describing 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 **<u>WCONNECT</u>)** indicates that the value is a system default.

When <u>Specifying Communications Server for NT Configuration Profiles</u>(the last guidelines section cited in the list below), please note that Communications Server creates a *xxx*.`ACG` file (where *xxx* represents the file name you select at the **Welcome to Communications Server Configuration!** window when you first try to configure the node). This *xxx*.`ACG` file is located in the `C:\IBMCS\private` drive, where C is the drive where you choose to install 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 ManagerCommunications Server *xxx* .`NDF` file.

3174 Host Configuration Information

This section provides guidelines on the following:

- <u>Specifying the JES2 Initialization Statement</u>

- <u>Configuring the Host PSF Printer</u>

- <u>Specifying the VTAM Start Option List (ATCSTRxx)</u>

- <u>Specifying the VTAM Configuration List (ATCCONnn)</u>

- <u>Specifying the VTAM Application Program Major Node and Application Program</u>

- <u>Specifying the VTAM Mode Table and Entry</u>

- <u>VTAM Local Major Node</u>

- <u>3174 Establishment Controller Configuration Definitions</u>

Specifying the JES2 Initialization Statement

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

To see a specific example, see JES2 Initialization Statement Example.

Configuring the Host PSF Printer

To see a specific example of the following, see JES2 External Writer Procedure Example.

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

- PSF/MVS **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*

. . .

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 portion of the **Fully qualified partner LU name** parameter in the Communications Server for NT LU 6.2 Partner LU profile.

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** parameter in an Communications Server for NT LU 6.2 Local LU profile.

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 is started.

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 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 host PSF program must be restarted by the operator.

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.

Specifying the VTAM Start Option List (ATCSTRxx)

To see a specific example of the following, see VTAM Start Option List (ATCSTRxx) Example.

You must specify the values illustrated and described below:

```
CONFIG=nn,            ATCCON MEMBER OF VTAMLST    x

NETID=network_id,     NETWORK IDENTIFIER          x

SSCPID=nn,            SSCP IDENTIFIER             x

:
```

CONFIG

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

NETID

> Specifies the network identifier for the host system. The first portion of the **Fully qualified partner LU name** parameter in the Communications Server for NT LU 6.2 Partner LU profile 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 in the PSF Direct Host Receiver profile must be the hexadecimal equivalent of the SSCPID value. The **SNA System Services Control Point ID** must be in the form `05xxxxxxxxxx` 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`.

Specifying the VTAM Configuration List (ATCCONnn)

To see a specific example of the following, see VTAM Configuration List (ATCCONnn) Example.

The VTAM configuration list indicates the application program major nodes that should be made available when VTAM is started. Include the application program major node that contains the application program that PSF uses:

appl_pr0g_major_node ,   x

:

Specifying the VTAM Application Program Major Node and Application Program

To see a specific example of the following, see VTAM Application Program Major Node and Application Program Example.

The pertinent operands for the VTAM Application Program Major Node and Application Program are illustrated and described below:


```
appl_prog_major_node ,  VBUILD TYPE=APPL                          x

appl_prog ,             APPL AUTH=ACQ,EAS=1,SONSCIP=YES        x

:
```


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.*

Specifying the VTAM Mode Table and Entry

To see a specific example of the following, see <u>VTAM Mode Table and Entry Example</u>.

The operands for the VTAM Mode Table are illustrated 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'0602000000000000000000200'                 x

                PSNDPAC=X'10',SRCVPAC=X'10',SSNDPAC=X'00'            x

                RUSIZES=X'8787'
```

PSNDPAC

Specifies the primary send pacing count. This value influences performance and can be adjusted as desired. Specifying `X'10'` yields good throughput in most configurations.

SRCVPAC

Specifies the secondary receive pacing count. This value influences performance and can be adjusted as desired. Specifying `X'10'` yields 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. Specifying `X'8787'` means 1024 bytes for both RU sizes and yields good throughput in most configurations.

Other configuration parameters are influenced by the RUSIZES specification. These include:

- the **Maximum RU size** parameter in the Communications Server for NT Mode profile.

- the **MAXSTL** operand in the NCP **LINE** statement.

Specifying the VTAM Local Major Node

To see a specific example of the following, see [VTAM Local Major Node Example](#).

The operands for the VTAM Local Node are illustrated 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
```

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 that 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 X 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

`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, the **Local LU is dependent?** parameter in the Communications Server for NT LU 6.2 Local LU profile must be `no`.

To use a dependent logical unit, specify a value between 1 and 255 for **LOCADDR**. Also, in the Communications Server for NT LU 6.2 Local LU profile, specify `yes` for the **Local LU is dependent?** parameter, and the **LOCADDR** value for the **Local LU address** parameter.

3174 Establishment Controller Configuration Definitions

To see a specific example of the following, see .

The keywords and values for the 3174 Establishment Controller definitions are illustrated 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      4000 nnnn nnnn

 nn      nnnn nnnn nnnn                    2    7
```

900: Token-Ring Network 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 when the Ring Address Assignment panel is presented. 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 when the Ring Address Assignment panel is presented.

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

SAP

Accept the default Service Access Point value, ð4, or specify it explicitly.

940: Ring Transmission Definition

This configuration item includes two pertinent parameters:

F

Indirectly specifies the transmit I-frame size.

To prevent segmentation of basic information units (BIUs), 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** parameter in the Communication Server for NT LU 6.2 Mode profile.

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** parameter in the Communications Server for NT Token-Ring SNA DLC profile specifies the maximum number of frames 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 parameter.

If the transmit window size (W) is less than the Receive window count parameter, extremely poor throughput can result. In most cases, the default transmit window size (W) value is 2. The default Receive window count value is 8. You must adjust these default values to yield acceptable throughput.

Specifying Communications Server for NT Configuration Profiles

This section contains guidelines for configuring the Communications Server for NT Profiles. To access these profiles, see Accessing the Communications Server for NT Profiles.

3174 Node setup

The following describes how to specify the PSF Direct values that are displayed in the Local 3174 Note Setup example.

Basic Configuration

To view an example screen with these values, see 3174 Node Basic.

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 (rather than **IDBLK** and **IDNUM**), then the **Control Point (CP) name** must match the **CPNAME** operand. By convention, the **CPNAME** is usually the same as 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.

CP alias

Specifies an alternative name for the **CP**. Local applications can use this name, instead of the fully-qualified **CP** name, to refer to the local **CP**.

Local Node ID -

Specifies both the **Block ID** -- a 3-digit hexadecimal string that identifies the product type in an SNA network -- and the **Physical Unit ID** -- 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 (rather than **CPNAME**), then the **Local Node ID** value in the Node setup profile must match the combined **IDBLK** and **IDNUM** operands. The **IDBLK** operand is normally `071` for Communications Server for NT. Either the **CPNAME** operand or both the **IDBLK** and **IDNUM** operands are required. **CPNAME** can only be used with PU type 2.1 nodes, such as 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 `End node` default.

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

Advanced Configuration

This panel should be allowed to default as specified in the 3174 Node Setup -- Advanced example.

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 criteria. By adjusting the search parameter, a node may search for APPN network nodes, nodes that provide SNA boundary function, or AS/400s. Select the check box to enable Discovery Support.

3174 Device Configuration

The following describes how to specify the PSF Direct values that are displayed in the 3174 Device Configuration example.

From the pop-up **Device Type** window, select **LAN** for 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. The **Adapter number** is the only parameter that you should have to either set or change.

Basic Configuration

To view an example screen with these values, see 3174 Device Basic.

Port name

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

Adapter number

Specifies a value from 0 to 7 that uniquely identifies this adapter. Specify this value after you specify LAN as the DLC type.

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.

Advanced Configuration

For this panel, you should take the defaults that are specified in the 3174 Device Advanced example and described below.

XID retry interval

Specifies the time the link station waits for a reply to a previous XID command before resending that command. Specify 60. If the link station is a calling link station, this value causes it to try to establish a link connection with the Local 3174 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. If the link station is a calling link station, this value indicates that there is no limit on the number of attempts the link station makes to establish a link connection with the Local 3174 communication controller. The interval between the attempts is defined by the previous parameter. 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 attemtps 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 3174 communication controller sends before waiting for a link-level acknowledgement. If the **MAXOUT** operand is less than the **Receive window count** parameter, extremely poor throughput can result. The default **MAXOUT** value is 1. The default **Receive window count** value is 8. These defaults must be adjusted to yield acceptable throughput.

Maximum PIU size

Specifies a value between 99 and 65535 bytes that represents the maximum number of bytes that are contained in the data buffer used by SNA sessions 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.

Performance Configuration

For this panel, you should take the defaults that are specified in the 3174 Device Performance example.

If you are migrating from an AIX operating system to a Windows NT operating system, see below for how values are mapped:

Windows NT Parameter	AIX Value
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

Reactivation Configuration

For this panel, you should take the defaults that are specified in the 3174 Device Reactivation example

Local 3174 Peer-to-Peer Connection Configuration

The following describes how to specify the PSF Direct values that are displayed in the Local 3174 Peer-to-Peer Connection Configuration example. This configuration is a call setup because NT searches for and calls the host PSF program.

Basic Configuration

To view an example screen with these values, see 3174 Peer Basic.

Link station name

> Specifies a 1- to 8-byte character string that is used to identify a connection

Device name

> Specifies the name of the port associated with this link station. This value must match the **Port name** value specified under the Basic options for Device configuration.

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 currently 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).

Advanced Configuration

To view an example screen with these values, see <u>3174 Peer Advanced</u>.

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 CP-CP sessions are supported on this connection. 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. This definition can be changed.

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.

Note that the remaining two panels in the Peer-to-Peer Connection Configuration (**Adjacent Node** and **Reactivation**) should take their default values.

 Local LU 6.2 Configuration for 3174

The following describes how to specify the PSF Direct values that are displayed in the <u>3174 Local Local LU 6.2 Configuration -- Dependent LU </u>example.

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-byte character string name of a type of network accessible 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 has been defined at the Host PSF program, as indicated in the Local 3174 Worksheet Example.

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. This is where you select `Dependent LU 6.2` for the value.

Partner LU 6.2 Configuration for 3174

The following describes how to specify the PSF Direct values that are displayed in the Local 3174 Partner LU 6.2 Configuration example, which is used to point the personal computer to the host PSF program..

Basic Configuration

To view an example screen with these values, see 3174 Partner LU 6.2 Basic.

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 (ATCSTRxx)**. The logical unit name portion must match the **APPLID** parameter on the PSF/MVS **PRINTDEV** statement, the PSF/VSE **PRINTDEV** statement, or 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.

Advanced Configuration

To view an example screen with these values, see [3174 Partner LU 6.2 Advanced](#).

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 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.

Mode Configuration for 3174

The following describes how to specify the PSF Direct values that are displayed in the 3174 Mode Configuration example.

Basic Configuration

To view an example screen with these values, see 3174 Mode Basic.

Mode name

Specifies the characteristics for the session that will be allocated for the conversation. This value is used by the initiator. 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 can be activated by a local logical unit (LU) using this mode to win a contention with a partner. Take the default.

Advanced Configuration

To view an example screen with these values, see 3174 Mode Advanced.

3/30/2000

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 lesser of this parameter's value and the **SRCVPAC** value in the VTAM **MODEENT** statement. Specifying `16` yields 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 is started using this mode. Specify `0` so no parallel sessions can be started 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.

Transaction Program Configuration for 3174

The following describes how to specify the PSF Direct values that are displayed in the 3174 Transaction Program Configuration example. Note that check box values that should not be selected and most default values are not described.

Basic Configuration

To view an example screen with these values, see 3174 Transaction Basic.

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. Select $DPF. For users migrating from an AIX operating system to a Windowns 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 be executed. The location can include the drive, the directory, the subdirectory, and the file name. For the 3174 Transaction Basic example, i:\ipmntinst 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) using an LU 6.2 session. Select **Basic** for Basic conversation for system TPs.

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 associated with a request for access to those resources. 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.

Advanced Configuration

To view an example screen with these values, see 3174 Transaction Advanced.

Ensure that **Dynamically loaded** and **Background process** (the two items checked in the 3174 Transaction Program Advanced example) are the only items checked. If you specify other options, this transaction program will not work.

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 LU's 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 execute in the background. Only 32-bit programs can multitask in the Windows NT environment. Select the check box to use the background process.

Remote 3174 Token-Ring Configuration Worksheets

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

- Use the [Remote 3174 Worksheet Example](#) to see how Communications Server for NT configuration settings used in the Remote 3174 Token-Ring Example related to other configuration settings

- Use the [Remote 3174 Worksheet Sample](#) to record Communications Server for NT values used at your installation that related to other configuration settings.

Remote 3174 Worksheet Example

Communication Server	Value	Infoprint Manager	VTAM	3174
Control Point: Control Point (CP) name	**NT01**		PU: name	
Token-Ring SNA-DLC: Receive window count	**7**			item 941: W
Token-Ring Link Station: Remote link address	**400030001001**			item 900
LU 6.2 Local LU: Local LU name	**PSFD0101**	LUNAME	LU: name	
LU 6.2 Local LU: Local LU is dependent?	**yes**		LU: LOCADDR	
LU 6.2 Local LU:	**1**		LU:	

Local LU address			LOCADDR	
LU 6.2 Partner LU: Fully qualified partner LU name	**USIBMBQ.FSAES833**	APPLID	ATCSTRxx: NETID APPL: name	
LU 6.2 Side Information: Fully qualified partner LU name	**USIBMBQ.FSAES833**	APPLID	ATCSTRxx: NETID APPL: name	
LU 6.2 Mode: Receive pacing window	**16**		MODEENT: SRCVPAC	
LU 6.2 Mode Maximum RU size	**512**		MODEENT: RUSIZES	

Remote 3174 Worksheet Sample

Communication Server	Value	Infoprint Manager	VTAM	3174
Control Point: Control Point (CP) name			PU: name	
Token-Ring SNA-DLC: Receive window count				item 941: W
Token-Ring Link Station: Remote link address				item 900
LU 6.2 Local LU: Local LU name		LUNAME	LU: name	
LU 6.2 Local LU: Local LU is dependent?			LU: LOCADDR	
LU 6.2 Local LU: Local LU address			LU: LOCADDR	
LU 6.2 Partner LU: Fully qualified partner LU name		APPLID	ATCSTRxx: NETID APPL: name	
LU 6.2 Side Information: Fully qualified		APPLID	ATCSTRxx: NETID APPL:	

partner LU name			name	
LU 6.2 Mode: Receive pacing window			MODEENT: SRCVPAC	
LU 6.2 Mode Maximum RU size			MODEENT: RUSIZES	

Starting an IBM SecureWay Communications Server for NT Configuration

Use the following procedure to start all IBM SecureWay Communications Server for NT configurations that you created from the Network Configuration Examples and Guidelines.

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

2. From the **Communications Server Node Operations** window, click on 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 `*.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 with a `Link`*xxxx* description (where *xxxx* represents the number of links on your system) appears. When the lightning bolt icon turns completely yellow, the link is active and PSF Direct is ready to receive jobs from the host PSF system. If the lightning bolt turns completely red, the link has failed and you need to review your configuration on both the Infoprint Manager Windows NT server and the PSF host program.

Configuring PSF Direct

PSF Direct acts as a communication protocol converter that 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 called **logical units**. An LU 6.2 session runs through the network and connects the two logical units, as displayed in the end-to-end view of logical components of a PSF Direct configuration displayed below.
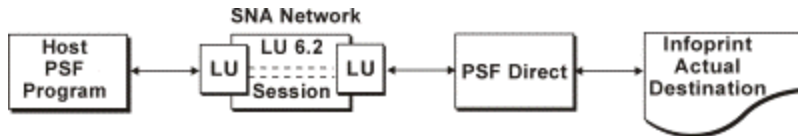
When you configure a PSF Direct Receiver, you associate a logical unit with an Infoprint actual destination (as shown below):

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. See the Administrative procedure "Selecting a type of actual destination," which can be found at the Infoprint Manager for Windows NT sitelet at **http://www.ibm.com/printers**. When you create an Infoprint actual destination, Infoprint adds the facilities required for Infoprint to communicate with the printer. These include a subdirectory and files in the **\var\psf** directory.

For PSF Direct, 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-based source as well as from a host system, 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** and refer to the online help in the **Infoprint Manager Administration GUI.**

To configure the PSF Direct destination created above, 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** and 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. Ensure that the Infoprint Windows NT server is running and 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 facilities 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. Rather than obtaining print data from the Infoprint queue, 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 so you can 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. From the **Management Console for Infoprint Manager Server...** window, 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 that matches 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 and 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 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.

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 both Controlling the Wait Period for a PSF Direct Host Receiver.

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 and STOPPED displaying in the **Status** column.

10. Within a minute or two, the PSF Direct Receiver that you just created will change marking from red to green and RUNNING will display in the **Status** column. At this point, you can submit jobs from the MVS host system for printing directly on Infoprint Manager printers.

For examples of PSF Direct Receivers created for different host programs, see PSF Direct Host Receiver: Examples.

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 causes IBM SecureWay Communications Server for NT to begin the PSF Direct host receiver.

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) and 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 the session was used by a PSF Direct host receiver, that PSF Direct host receiver ends.

For information about stopping a PSF Direct host receiver working with a shared Infoprint actual destination, refer to both Manually Stopping a PSF Direct Host Receiver and Automatically Stopping a PSF Direct Host Receiver.

Displaying the Status of a PSF Direct Destination on the Windows NT/2000 System

Infoprint provides two methods for users to display the status of a PSF Direct host receiver:

- the **Infoprint Manager Management Console**

- the **psfstat** command

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.

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**.

Specifying `psfstat` from a Command Prompt window could display the following:

Printer	Attachment	Data	Printer status	Active	Waiting
3827	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

This display indicates that

1. Printer 3827 is not active.

2. Printer 4000wa is printing data from Infoprint Manager (`[Queue]`) and operator intervention is required at the printer.

3. 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.

4. Printer ps14 is printing data from Infoprint Manager.

5. Receiver PSFMVS is in session with the host system and is waiting for printer 4000wb.

6. Receiver PSFVM1 is in session with the host system and is connected to printer 4000wb.

7. Receiver PSFVSE1 is in session with the host system and is idle, but connected to printer 4000wb.

Note that the **psfstat** command can be used to display information about any Infoprint actual destination, not just those used by PSF Direct host receivers. For the syntax of the **psfstat** command, see the *Infoprint Manager Reference*.

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 attached by PSF Direct. For example, an MVS 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 point in 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 topic describes how to configure and manage the switching of an Infoprint actual destination between data sources:

- [Switching between data sources](#)

- [Sharing an Infoprint actual destination](#)

- [Displaying the status of a shared Infoprint actual destination](#)

Switching between Data Sources

Switching an Infoprint actual destination between data sources requires two steps:

1. The PSF Direct host receiver using an Infoprint actual destination must end; or the Infoprint process printing from the IBM Infoprint Windows NT server must end. When this process ends, the Infoprint actual destination becomes available to another program.

2. A PSF Direct host receiver or Infoprint process that prints from the IBM Infoprint Windows NT server must wait for the Infoprint actual destination while it is used by another program.

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 MVS host operator can "purge" the printer 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 *Infoprint Manager Reference*. 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](#).

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/MVS. 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 a host PSF program that does not offer a "Disconnect Interval" configuration parameter, 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 IBM Infoprint Windows NT Server if it has completed the Infoprint spool data and the specified interval elapses with no new IBM Infoprint Windows NT Server 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, which 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.

The following table summarizes the time limits for Infoprint printing:

Selected 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 Notebook**.	9999 seconds (infinite)

Sharing an Infoprint Actual Destination: An Example

The following example illustrates how an Infoprint actual destination could be shared between two host PSF programs using PSF Direct and 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:

- Host PSF Program Configuration: Examples

- Infoprint Actual Destination: PSF Tuning Options

- PSF Direct Host Receiver: Examples

Host PSF Program Configuration: Examples

For two host PSF programs to share an Infoprint actual destination, they must specify similar **PRINTDEV** statements. Note that the colon (:) indicates that the complete statement would contain more parameters.

Selected PSF/MVS **PRINTDEV** parameters:

```
//  PRT833 PRINTDEV

:

//          DISCINTV=60,       /*DISCONNECT INTERVAL -- SECONDS
                                */

::

//  PRT833 ENDCNTL
```

Selected PSF/VSE **PRINTDEV** parameters:

```
    PRT100
    0    PRINTDEV

:

          DISCINTV=60,     DISCONNECT INTERVAL -- SECONDS

::
```

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 from the **Printer Properties** 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 (or **destination-release-timer** attribute) specifies the amount of time between jobs (in seconds) that Infoprint waits before giving up control of an actual destination. 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 and 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 and 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, but not to report intervention conditions to the host PSF program.

If an **intervention-timer** value of 3600 were used instead, the PSF Direct receivers that use this printer would notify the host PSF program if an intervention condition were not addressed within an hour. The host PSF program would issue an operator message and end the SNA session with the PSF Direct receiver. The **intervention-timer** would also cause the PSF program that prints from the IBM Infoprint Windows NT server to end if an intervention condition were not addressed within an hour.

For continuous-forms printers, set the **Non-process-runout-timer** field at a lower value than what is set for the **Release-time (sec)** attribute. For example, if the `destination-release-timer = 60` seconds, the non-process-runout-timer attribute should be reduced to `30` seconds.

PSF Direct Host Receiver: Examples

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.

Sample PSF Direct host receiver values for a PSF/MVS host:

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`

Sample PSF Direct host receiver values for a PSF/MVS host:

SNA Logical Unit Name	`VSE1`
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`

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 **psfstat** displays about an Infoprint actual destination includes the program that currently controls the printer and a list of the programs waiting to gain control of the printer.

For example, **psfstat** might display the following:

Printer	Attachment	Data	Printer status	Active	Waiting
------	----------	----	------------	----------	--------------
4000wb	TCP/IP	IPDS	intervention	MVS1	[Queue],VSE1

LU name	Printer	Atta chme nt	Data	Printer status	Receiver Status
------	----------	-------	------------	----------	---------------
MVS1	4000wb	TCP/ IP	IPDS	interventi on	sess/prtr_con n
VSE1	4000wb	TCP/ IP	IPDS	interventi on	sess/prtr_bus y

This **psfstat** output shows that the printer is currently dedicated to printing data from the MVS spool. There is also data on the IBM Infoprint Windows NT server (`[Queue]`) and the VSE spool waiting to print.

When the MVS 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 will acquire the printer next.

The **psfstat** output also indicates that the printer requires intervention.

For more information about the **psfstat** command, see both [Displaying the Status of a PSF Direct Destination on NT](#) and the *Infoprint Manager Reference*.