

TME® 10 Software Distribution
for AIX®



Installation Scenarios

Version 3.1.5

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for AIX®



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What's New in This Release

Release 3.1.5 of TME 10 Software Distribution contains the following new or changed functionalities:

Support for New Platforms

TME 10 Software Distribution, Version 3.1.5 adds support for the following platforms:

- Windows 2000 (Professional and Server)
- Windows NT 4.0 (Service Pack 5 and 6a)
- OS/2, version 4.5 (Warp server for e-business)
- AIX, version 4.3.x

New Pristine Scenarios

TME 10 Software Distribution, Version 3.1.5 Client can be installed on a pristine workstation in the following environments:

- Windows 2000 Professional
- Windows 2000 Server
- Windows NT 4.0 Server/Workstation
- OS/2 4.5 (Warp Server for e-business)
- AIX 4.3.3

This is in addition to the following pristine installation environments, which are maintained from the previous release:

- Windows 3.11
- Windows 95
- Windows NT Version 3.51
- OS/2 3.0.x (Warp)

Complete Platform Support Table

Table 1 on page xii shows details of the platforms on which TME 10 Software Distribution is available. The columns in the table contain the following information:

Server Scratch	Indicates whether the Server software can be installed from scratch. Scenarios describing how to carry out the scratch installations can be found in the relevant Quick Beginnings manuals.
Server Upgrade	Indicates which version of the TME 10 Software Distribution Server can be upgraded, by supplying a reference that can be looked up in Table 2 on page xiii. Scenarios describing how to carry out the upgrade can be found in the README file.
Client Scratch	Indicates whether the Client software can be installed from scratch. Scenarios describing how to carry out the scratch installations can be found in the Client Installation and Customization manual.

What's New in This Release

Client Pristine

Indicates whether the Client software can be installed on a pristine workstation (i.e. a workstation with no operating system installed). Scenarios describing how to carry out the pristine installations can be found in the Pristine and Migration Scenarios manual or the Installation Scenarios for AIX manual.

Client Upgrade

Indicates which version of which Client software can be upgraded, by supplying a reference that can be looked up in Table 2 on page xiii. Scenarios describing how to carry out the upgrade can be found in the relevant README files.

<i>Table 1. TME 10 Software Distribution, Version 3.1.5 Platform Support</i>						
Platform		Server		Client		
OS	Version	Scratch	Upgrade	Scratch	Pristine	Upgrade
Windows	2000 Professional	Y		Y	Y	
	2000 Server	Y		Y	Y	
	NT 4.0 (SP5 & 6a)	Y	1	Y	Y	5
	NT 3.51	Y	1	Y	Y	5
	98			Y		6
	95			Y	Y	6
	3.11			Y	Y	7
OS/2	3.0x	Y	2	Y	Y	8, 11
	4.0	Y	2	Y		8, 11
	4.5 (Warp server for e-business)	Y		Y	Y	
AIX	3.2.5 - 4.2.1	Y	3	Y		9
	4.3.3	Y	3	Y	Y	9
NetWare	4.11 - 4.2x	Y	4	Y		10

Table 2 on page xiii shows the products (and versions) that can be upgraded to TME 10 Software Distribution, Version 3.1.5; the Reference column refers to Table 1.

Table 2. Products from which TME 10 Software Distribution, Version 3.1.5 can be upgraded

Reference (see Table 1)	Version installed	CSD or Fix Pack installed
TME 10 Software Distribution		
1	3.1.3 Server for Windows NT	XR21923
2	3.1.3 Server for OS/2	XR21923
3	3.1.4 Server for AIX	99/10
4	3.1.3 Server for NetWare	XR21924
5	3.1.3 Client for Windows NT	XR21923
6	3.1.3 Client for Windows 9x	XR21923
7	3.1.3 Client for Windows 3.1	XR21923
8	3.1.3 Client for OS/2	XR21923
9	3.1.4 Client for AIX	99/10
10	3.1.3 Client for NetWare	XR21924
NetView DM/2		
11	2.1	

Deletion of Pending Requests from Host

In the circumstances where TME 10 Software Distribution is executing software distribution requests from a focal point running Tivoli NetView Distribution Manager (NetView DM for MVS) Release 7, the MVS focal point can now issue a request to delete any distribution requests that are waiting to be processed or are being processed at the TME 10 Software Distribution server.

- In the case of a distribution request waiting to be processed, the original request will be deleted, and a report sent to the focal point confirming the deletion.
- In the case of a distribution request that is in execution when the deletion request arrives, the original request will be completed, and a report sent to the MVS focal point confirming the successful completion of the original request; no report concerning the unfulfilled deletion request will be sent.

In the case of nodes in a distribution network that are not running TME 10 Software Distribution, Version 3.1.5 (i.e. older versions of TME 10 Software Distribution or NetView DM/2) the deletion requests from the MVS focal point will be ignored.

This functionality runs in the background with no intervention required by the operator of the TME 10 Software Distribution server.

Note: As a consequence of this new functionality global names starting with `$DELETE.$PENDING` are reserved, and may not be used.

Changes to Statuses Reported by 'stattg'

The `stattg` command gives details of the status of the agent at the local target. A new parameter has been added to the command to reveal additional information.

In the previous releases, and when used without the new parameter, the command reports these statuses:

<i>Available</i>	Agent running and ready to process a request
<i>Not Available</i>	Agent not running or not accessible
<i>Busy</i>	Agent running a request and not available to process any other request.

There are circumstances in which it is possible for the server to have in its database more than one workstation name for the same agent.

For example, if a workstation has been re-defined to the server for some reason, the operator may have supplied a different workstation name than that originally used, but have used the original hostname. In this event, the agent now has the new workstation name, but the server has both workstation names defined; prior to this release the agent reported itself as being *Available* under both workstation names.

With this release, by using the parameter `-c`, in the event that the agent is *Available* and not *Busy*, the command now returns the status *Unknown* if the hostname of the agent is correct but the workstation name in the status request does not match the workstation name of the agent. Thus, by using the `-c` parameter, polling both workstation names will allow you to identify which is the correct one, as one will return the status *Available* and the other *Unknown*. If the parameter is not used, the original functionality is maintained.

However, before using this parameter you should consider the question of the timing of the `stattg` requests. When an agent receives a `stattg` request it sends the status to the server but is then not immediately available to satisfy another request. This means that a second request, received within, say, one minute of the first request, will return the status *Not Available*. If you are polling two suspect workstation names you should wait for this period before sending the second request.

This also means that if you send a `stattg` request using the asterisk wildcard to obtain the status of all or a group of workstations, the results received will depend on whether the *incorrect* workstation name comes before or after the *correct* one in the server's database:

Incorrect workstation name is polled first

The status of the *incorrect* workstation name will be given as *Unknown*, while the *correct* workstation will give *Not Available*

Correct workstation name is polled first

The status of the *correct* workstation name will be given as *Available* while the *incorrect* workstation will give *Not Available*

Thus, after using the asterisk wildcard with the -c parameter, you should individually poll each workstation name given as *Not Available*, waiting for approximately one minute before issuing each command. Workstations that are genuinely unavailable will report the same status as before; workstations that were unavailable while they were recovering from a previous stattg command will now report their true status.

The full details of the stattg command are given in *TME 10 Software Distribution Command Reference*, *TME 10 Software Distribution for NetWare Command Reference* and *TME 10 Software Distribution for AIX Reference*.

What's New in This Release

Chapter 1. Configuring Single-Server Networks

This chapter describes how to configure networks composed of a single server with a domain of clients that communicate across TCP/IP or APPC links. Change files can be built and cataloged at the server to be subsequently distributed and installed, while data files can be cataloged at the server and then distributed across the network. The server controls the distribution of files within its domain and manages the scheduling and execution of software installation requests.

Figure 1 shows a single-server TCP/IP network system in which a server communicates with three clients.

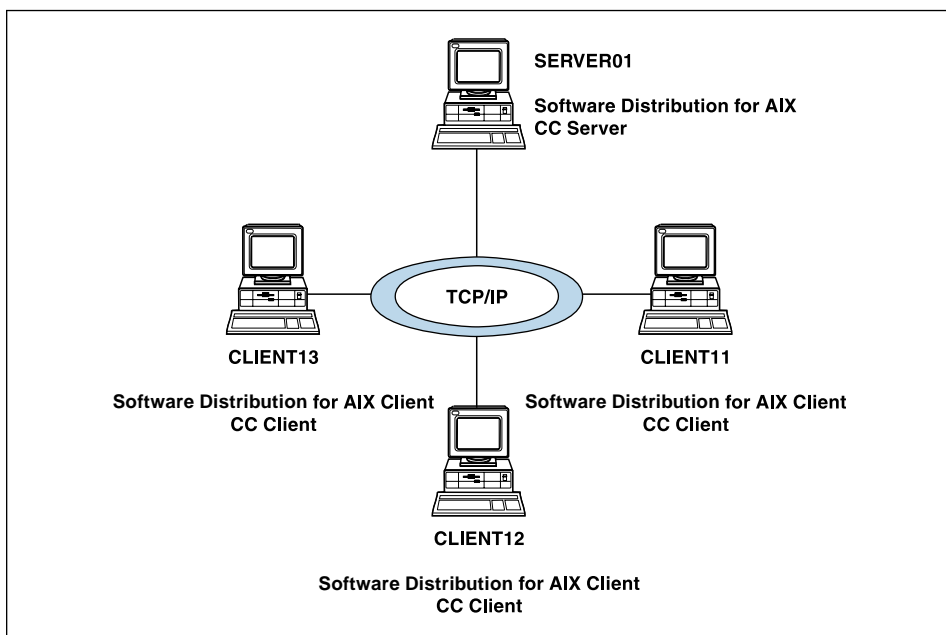


Figure 1. A single-server system connected across TCP/IP

Product Options

Install the following product options in a single-server network:

Required:

- Base
- Server
- Client

Configuration Tasks for TCP/IP Communication

Optional:

- Graphical interface
- NLS package
- Tool

See the *Quick Beginnings* manual for a description of how to install TME 10 Software Distribution options.

You must also install corresponding agent products on the clients in the network.

Configuration Tasks for TCP/IP Communication

Perform the following configuration operations to have a working single-server system:

- Configure TCP/IP at the server and at the clients
- At the server, configure targets for the clients in the domain
- Define server and client users
- At the clients, configure the server name

Configure TCP/IP at SERVER01

You must configure TCP/IP at SERVER01 using SMIT. You need root privileges to do so. Perform the following steps:

1. To load SMIT, on the AIX command line type

`smit`

The System Management menu is displayed. Select:

- ➔ Communications Applications and Services
- ➔ TCP/IP
- ➔ Minimum Configuration & Startup

2. You are prompted to select the network interface you want TCP/IP to run on (for example, token-ring network interface).

The Minimum Configuration & Startup screen for the network interface that you have chosen is displayed. There are many fields that you can set; however, most of them have defaults. Set only the following fields:

Field	Value
HOSTNAME	SERVER01
INTERNET Address	9.87.231.174 The network administrator assigns this value.
Network MASK	255.255.254.0 The network administrator assigns this value.
Ring Speed	16 The network administrator assigns this value.

3. Press Enter to complete the configuration procedure.

Configure TCP/IP at CLIENT11

You must configure TCP/IP at CLIENT11 and the other client workstations using SMIT. You need root privileges to do so. Perform the following steps:

1. To load SMIT, on the AIX command line type

```
smit
```

The System Management menu is displayed. Select:

- ➔ Communications Applications and Services
- ➔ TCP/IP
- ➔ Minimum Configuration & Startup

2. You are prompted to select the network interface you want TCP/IP to run on (for example, token-ring network interface).

The Minimum Configuration & Startup screen for the network interface that you have chosen is displayed. There are many fields that you can set; however, most of them have defaults. Set only the following fields:

Field	Value
HOSTNAME	CLIENT11
INTERNET Address	9.87.231.176 The network administrator assigns this value.
Network MASK	255.255.254.0 The network administrator assigns this value.
Ring Speed	16 The network administrator assigns this value.

3. Press Enter to complete the configuration procedure.

Install TME 10 Software Distribution Client on CLIENT11

You must install the client feature on all the client workstations.

Define Targets

At the server, define the server itself and its clients as targets. You can do so using the graphical interface or the command line interface.

Using the graphical interface: To define targets at SERVER01, perform the following steps:

1. From an AIXTERM window enter the following command to start the graphical interface:

```
nvdmg i
```
2. From the Catalog window select:

Configuration Tasks for TCP/IP Communication

- ▶ Windows
- ▶ Targets
- ▶ Target
- ▶ New Target

3. Fill in the fields on the New Target window as follows:

Name	CLIENT11	CLIENT12	CLIENT13
Change Management	Push	Push	Push
Target address	CLT11	CLT12	CLT13
Target type	Client	Client	Client
Target OS	AIX	AIX	AIX
Server name	SERVER01	SERVER01	SERVER01

Using the command line interface: To update the server definition and local targets using the command line interface, enter the following commands at an AIXTERM window prompt:

```
nvdm updtg SERVER01 -s SRV001
nvdm addtg CLIENT11 -s CLT11
nvdm addtg CLIENT12 -s CLT12
nvdm addtg CLIENT13 -s CLT13
```

Define Users

At the server, you must define all the users of the targets in your domain to TME 10 Software Distribution. You can do so using either the graphical interface or the command line interface.

Using the graphical interface: To define users at SERVER01, perform the following steps:

1. From the Catalog window select:
 - ▶ System
 - ▶ User
2. In the User Management window, enter a User ID and select **New**.
3. Fill in the fields on the New User window as follows:

User ID	AIXUSR01
Password	PSWD01
Verify password	PSWD01
Authorization profile	FNDUSER
Description	This is a user at CLIENT11, CLIENT12, and CLIENT13.
Login Targets	CLIENT11 CLIENT12 CLIENT13

Using the command line interface: To define the users using the command line interface, enter the following commands at a SERVER01 AIXTERM window prompt:

```
nvdms addusr AIXUSR01 FNDUSER -d 'This is a user at CLIENT11' -i PSWD01 ►
- t CLIENT11 -t CLIENT12 -t CLIENT13
```

Refer to the description of the **addusr** command in the *TME 10 Software Distribution Reference* for information about the parameters included in the command.

Configure the Server Name at Client

At each client, you must configure the name of the server that it is locally linked to. Edit the base configuration file, `nvdms.cfg`, which is stored in the `/usr/lpp/netviewdm/db/` directory.

At each of the clients linked to SERVER01, edit the **SERVER** keyword as shown in the following example:

```
# BASE CONFIGURATION FILE
#
# This file should be stored as /usr/lpp/netviewdm/db/nvdms.cfg

WORKSTATION NAME:      CLIENT11
MESSAGE LOG LEVEL:     N
LAN AUTHORIZATION:     0
CONFIGURATION:         CLIENT
MACHINE TYPE:         AIX
LOG FILE SIZE:         50000
TRACE FILE SIZE:       100000
API TRACE FILE SIZE:   1000000
TCP/IP PORT:          729
SERVER:             SERVER01
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:        /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
```

Figure 2. Base Configuration file at a client

Configuration Tasks for APPC Communication

Perform the following operations to configure local APPC communication:

- Configure the client targets at the server
- At the clients, configure the server name
- Configure APPC at the server
- Configure APPC at the clients

Figure 3 shows the configuration, and includes the values used for SERVER01 when configuring SNA Server/6000 Version 2.1 or Communications Server, Version 5.

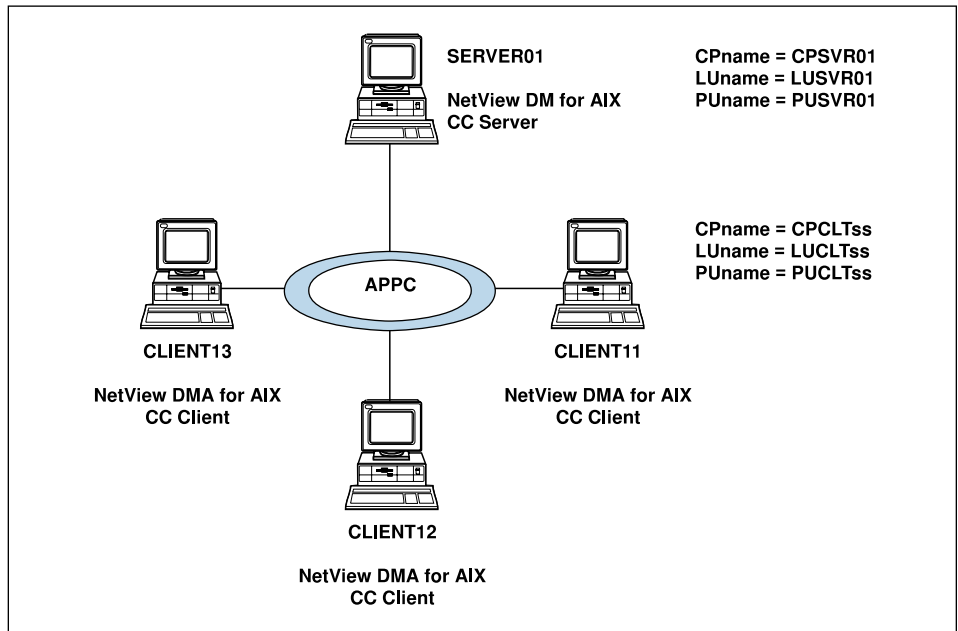


Figure 3. A single-server system connected across APPC

Define Client Targets

At the server the clients as targets. You can do so using the graphical interface or the command line interface.

Using the graphical interface

1. From an AIXTERM window enter the following command to start the graphical interface:
`nvdmg i`
2. From the Catalog window select:
 - ▶ Windows
 - ▶ Targets

- ▶ Target
- ▶ New Target

3. Fill in the fields on the New Target window as follows:

Name	CLIENT11	CLIENT12	CLIENT13
Change Management	Push	Push	Push
Target address	CLT11	CLT12	CLT13
Target type	Client	Client	Client
Target OS	AIX	AIX	AIX
Server name	SERVER01	SERVER01	SERVER01

4. Select the **Protocol type** push button.
5. In the Protocol Type window, select APPC and specify a **Profile name**. The name corresponds to the LU6.2 Side Information Profile you define under SNA Server (see “Define the LU 6.2 Side Information Profiles” on page 13). In this scenario, the profile name is MYCLIENT.
6. Select **OK** twice to define the target.
7. Perform this operation for each client target you must define.

Using the command line interface: To define local targets using the command line interface, enter the following commands at an AIXTERM window prompt:

```
nvdm updtg SERVER01 -s SRV001
nvdm addtg CLIENT11 -s CLT11 -tp appc:MYCLIENT
nvdm addtg CLIENT12 -s CLT12 -tp appc:MYCLIENT
nvdm addtg CLIENT13 -s CLT13 -tp appc:MYCLIENT
```

You can also define the clients using the following values:

```
nvdm addtg CLIENT11 -s CLT11 -tp appc:ITIBM0PC.CLIENT11.LU62
nvdm addtg CLIENT12 -s CLT12 -tp appc:ITIBM0PC.CLIENT12.LU62
nvdm addtg CLIENT13 -s CLT13 -tp appc:ITIBM0PC.CLIENT13.LU62
```

Define Users

At clients, define users in the same way described in “Define Users” on page 4.

Configure the Server Name

At each client, you must configure the name of the server to which it is locally linked. Edit the base configuration file, `nvdm.cfg`, which is stored in the `/usr/lpp/netviewdm/db/` directory.

Edit the SERVER keyword in one of the following ways:

```
SERVER:    SERVER01 SNA MYSERVER
```

Where MYSERVER is the Side Information Profile name, or

```
SERVER:    SERVER SNA ITIBM0PC.SVR01.LU62
```

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Where ITIBM0PC.SVR01.LU62 is the SNA Server/6000 Version 2.1 or Communications Server, Version 5 <netid.luname.lumode>.

Configure APPC at the Server Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3

This section only refers to configuring APPC on a computer running versions of AIX prior to version 4.3.3 with SNA Server/6000 Version 2.1; the APPC configuration for computers running AIX Version 4.3.3 with Communications Server, Version 5 installed is described in “Configure APPC at the Server Using Communications Server, Version 5 on AIX Version 4.3.3” on page 14.

This section describes the steps you must perform to configure APPC at SERVER01 so that it can communicate with the clients in its domain using a token ring adapter. This scenario describes how to configure CLIENT11. You must perform the same configuration operations for each client in the domain.

The configuration procedure defines a series of profiles, many of which reference other profiles. The profiles are:

- SNA control point
- Data link control
- Link station
- Local logical unit
- LU conversation mode
- LU transaction
- Partner LU
- Partner LU location
- Side information

To define these profiles, perform the following preliminary steps:

1. From the System Management menu, select:
 - ➔ Communications Applications and Services
 - ➔ SNA Server/6000
 - ➔ Configure SNA Profiles
 - ➔ Advanced SNA Configuration

Define an SNA Control Point

1. From the Advanced SNA Configuration menu, select:
 - ➔ Control Point
 - ➔ Change/Show a Profile

Enter the following information:

PROFILE name	node_cp
XID node ID	071xxxxx
Network name	ITIBM0PC
Control Point (CP) name	CPSVR01
Control Point alias	CPSVR01
Control Point type	appn_end_node
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define a Token Ring Data Link Control Profile

Perform the following steps to define a physical unit:

1. From the Advanced SNA Configuration menu, select:
 - ➔ Links
 - ➔ Token Ring
 - ➔ Token Ring SNA DLC
 - ➔ Change/Show a Profile
2. Enter the following information on the Change/Show a Token Ring SNA DLC Profile screen:

PROFILE name	tok0
Data link device name	tok0
Solicit SSCP sessions?	yes
CP-CP sessions supported?	yes
Partner required to support CP-CP sessions?	no
All other fields	Accept the default values

3. Press Enter to return to the Advanced SNA Configuration Menu

Define a Token Ring Link Station Profile

Perform the following steps to define a token ring data link station profile:

1. From the Advanced SNA Configuration menu select:
 - ➔ Links
 - ➔ Token Ring
 - ➔ Token Ring Link Station
 - ➔ Change/Change a Profile

A data entry panel is displayed. Enter:

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PROFILE name	CLT11
Use APPN® Control Point's XID node ID?	yes
SNA DLC Profile name	tok0
Stop link station on inactivity?	no
LU address registration?	no
Trace link?	no
Access routing	link_address
Remote link name	leave blank
Remote link address	Enter the adapter card address
Remote SAP address	04
Verify adjacent node?	no
Network ID of adjacent node	ITIBM0PC
CP name of adjacent node	CPCLT11
XID node ID of adjacent node	*
Node type of adjacent node	learn
Solicit SSCP sessions?	yes
Initiate call when link station is activated?	yes
Activate link station at SNA start up?	yes
Activate on demand?	no
CP-CP sessions supported?	yes
If yes, adjacent network node preferred server?	no
Partner required to support CP-CP sessions?	no
Initial TG number	1
Restart on activation?	no
Restart on normal deactivation?	yes
Restart on abnormal deactivation?	no
Effective capacity	4300800
Cost per connect time	0
Cost per byte	0
Security	nonsecure
Propagation delay	lan
User-defined 1	128
User-defined 2	128
User-defined 3	128

2. Press Enter to save this information.
3. Return to the Advanced SNA Configuration menu.

Define the Local Logical Unit Profile

Perform the following steps to define a logical unit:

1. From the Advanced SNA Configuration menu select:
 - ➔ Sessions
 - ➔ LU 6.2
 - ➔ LU 6.2 Local LU
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	NVDMLLU
Local LU name	LUSVR01
Local LU alias	LUSVR01
Local LU is dependent?	no
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define the Conversation Mode

The characteristics of a conversation on a connection are defined by a conversation mode profile. A simple installation has just one mode defined. For this example, define a default conversation mode profile called LU62 as follows.

1. From the Advanced SNA Configuration menu select:
 - ➔ Sessions
 - ➔ LU6.2
 - ➔ LU6.2 Mode
 - ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	LU62
Mode name (AIX Version 4.1 only)	LU62
Maximum number of sessions	Accept the default value
Minimum contention winners	0
Minimum contention losers	0
Auto activate limit	0

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Upper bound for adaptive receive pacing window	16
Receive pacing window	7
Maximum RU size	Accept the default value
Minimum RU size	Accept the default value
Class of Service (COS) name	#connect

2. Press Enter to save changes.
3. Return to the LU6.2 menu.

Define Local Transaction Program Names

To add this profile:

1. From the LU6.2 menu, select:
 - ➔ LU6.2 Transaction Program Name (TPN)
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	fndrbas
Transaction program name	NVDM
Transaction program name is in hexadecimal?	no
PIP data?	no
Conversation type	mapped
Sync level	none
Resource security level	none
Full path to TPN executable	/usr/lpp/netviewdm/bin/fndrbas
Multiple instances supported?	yes
User ID	0
Server synonym name	leave blank
Restart action	once
Communication type	signals
Standard input file device	/dev/console
Standard output file device	/dev/console
Standard error file device	/dev/console

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the LU 6.2 Partner LU Profile

To define a partner LU profile:

1. From the LU6.2 menu, select:

- ➔ LU 6.2 Partner LU
- ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	CLT11
Fully qualified partner LU name	ITIBM0PC.LUCLT11
Partner LU alias	LUCLT11
Parallel sessions supported?	yes
Session security supported?	no
Conversation security level	none
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the Partner LU Location Profile

To define a partner LU location profile:

1. From the LU6.2 menu, select:

- ➔ Partner LU 6.2 Location
- ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	CLT11
Fully qualified partner LU name	ITIBM0PC.LUCLT11
Fully qualified owning control point name	ITIBM0PC.CPCLT11
Local node	no
All other fields	Accept the default values

2. Press Enter to save changes.
3. Return to the LU 6.2 menu.

Define the LU 6.2 Side Information Profiles

The name you supply for the Side Information Profile is used when you define the target to the TME 10 Software Distribution system (in this scenario MYCLIENT is used). You must define a Side Information Profile for each client in the domain. To add the profile:

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1. From the LU6.2 menu, select:

- ➔ LU 6.2 Side Information
- ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	MYCLIENT
Local LU or Control Point Alias	LUSVR01
Partner LU alias	LUSVR01
Fully qualified partner LU name	ITIBM0PC.LUCLT11
Mode name	LU62
Remote transaction program name	NVDM
RTPN in hexadecimal?	no

2. Press Enter to save changes.
3. Return to the Advanced SNA Configuration menu.

Verify the SNA Server/6000 Version 2.1 Configuration

In SNA Server/6000 Version 2.1, the profiles do not become effective until they have been successfully verified. Perform the following steps:

1. Go to the Advanced SNA Configuration menu in SMIT.
2. Select the **Verify Configuration Profiles** option.
3. Select `dynamic_update` in the "Update action of verification successful" field. (You can select `normal_update` if SNA Server/6000 Version 2.1 is not active.)
4. Press Enter to make the changes effective.
5. Press F3 to return to the input screen.
6. Exit from SMIT.

Configure APPC at the Server Using Communications Server, Version 5 on AIX Version 4.3.3

This section only refers to configuring APPC on a computer running AIX Version 4.3.3 with Communications Server, Version 5 installed; the APPC configuration for computers running versions of AIX prior to Version 4.3.3 with SNA Server/6000 Version 2.1 installed is described in "Configure APPC at the Server Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3" on page 8.

This section shows the communications profiles that you must create to configure APPC at SERVER01 so that it can communicate with the clients in its domain using an Ethernet adapter. This scenario describes how to configure CLIENT11. You must perform the same configuration operations for each client in the domain. The profiles are created using the configuration panels of Communications Server, Version 5; the field names in the profiles can easily be matched with the parameters on the panels.

The profiles given here are samples which need to be customized for your specific circumstances. Where TME 10 Software Distribution, Version 3.1.5 for AIX requires a specific value in a parameter, a note following the profile explains the required value. Otherwise, you can accept the default values, or modify them to suit your requirements.

The profiles are contained in three files, as follows:

Node configurations in `sna_node_cfg`

- Configuration file information (details not shown here)
- Node definitions
- Ethernet data link control definitions
- Ethernet port definitions
- Ethernet link station definitions
- Partner logical unit definitions
- Local logical unit definitions
- Mode definitions
- Directory entries
- Transaction program definitions (send and receive)

Transaction program location definitions in `sna_tps`

- Transaction program location definitions

Domain configurations in `sna_dmn_cfg`

- Configuration file information (details not shown here)
- CPIC side information definitions

The panels defining these profiles can be accessed as follows:

From the System Management menu, select:

- ➔ Communications applications and services
- ➔ Communications Server for AIX
- ➔ Configure SNA resources

Note: Unlike SNA Server/6000 Version 2.1, you do not need to actively verify the profiles created, as Communications Server, Version 5 does it automatically for you.

Define Node

```
[define_node]
cp_alias = PPE0014
description = ""
fqcp_name = ITIBM0PC.PPE0014
node_type = END_NODE
mode_to_cos_map_supp = NO
mds_supported = YES
node_id = <05d00014>
max_locates = 1500
dir_cache_size = 255
max_dir_entries = 0
```

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```
locate_timeout = 0
reg_with_nn = YES
reg_with_cds = YES
mds_send_alert_q_size = 100
cos_cache_size = 24
tree_cache_size = 40
tree_cache_use_limit = 40
max_tdm_nodes = 0
max_tdm_tgs = 0
max_isr_sessions = 1000

isr_sessions_upper_threshold = 900
isr_sessions_lower_threshold = 800
isr_max_ru_size = 16384
isr_rcv_pac_window = 8
store_endpt_rscvs = NO
store_isr_rscvs = NO
store_dlur_rscvs = NO

dlur_support = YES
pu_conc_support = YES
nn_rar = 128
max_ls_exception_events = 0
ms_support = NORMAL
queue_nmvt = NO
ptf_flags = NONE
```

Define Ethernet Data Link Control

```
[define_ethernet_dlc]
dlc_name = ETHER0
description = ""
neg_ls_supp = YES
card_type = GDLC_ETHERNET
initially_active = YES
adapter_number = 0
max_saps = 16
ethernet_type = 802_3
```

Note: adapter_number must be set to the last digit of the adapter name (normally zero, if there is only one adapter).

Define Ethernet Port

```
[define_ethernet_port]
port_name = ETSAP0
description = ""
dlc_name = ETHER0
port_type = PORT_SATF
port_number = 1
lsap_address = 0x04
initially_active = YES
implicit_hpr_support = NO
implicit_link_lvl_error = NO
```

```

max_rcv_btu_size = 1492
tot_link_act_lim = 255
inb_link_act_lim = 0
out_link_act_lim = 0
ls_role = LS_NEG
implicit_dspu_services = NONE
implicit_dspu_template = ""
implicit_ls_limit = 0
act_xid_exchange_limit = 9
nonact_xid_exchange_limit = 5

ls_xmit_rcv_cap = LS_TWS
max_ifrm_rcvd = 7
target_pacing_count = 7
max_send_btu_size = 1492
mac_address = <000000000000>
implicit_cp_cp_sess_support = YES
implicit_limited_resource = NO
implicit_deact_timer = 30
effect_cap = 3993600
connect_cost = 0
byte_cost = 0

security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128
local_name = <000000000000>
xid_timeout = 8
xid_retry_limit = 2
t1_timeout = 8
t1_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120

```

Define Ethernet Link Station

```

[define_ethernet_ls]
ls_name = ETHL0STS
description = ""
port_name = ETSAP0
adj_cp_name = <00000000000000000000000000000000>
adj_cp_type = LEARN_NODE
dspu_services = NONE
dspu_name = <0000000000000000>
dlus_name = <00000000000000000000000000000000>
bkup_dlus_name = <00000000000000000000000000000000>
local_node_id = <00000000>
adj_node_id = <05D00161>
mac_address = <0004AC975928>

```

Configuration Tasks for APPC Communication

```
lsap_address = 0x04
max_send_btu_size = 1492
ls_attributes = SNA
cp_cp_sess_support = YES
hpr_supported = NO
hpr_link_lvl_error = NO
auto_act_supp = NO
tg_number = 0
limited_resource = NO
solicit_sscp_sessions = NO
pu_name = <0000000000000000>

disable_remote_act = NO
default_nn_server = NO
link_deact_timer = 30
use_default_tg_chars = YES
effect_cap = 3993600
connect_cost = 0
byte_cost = 0
security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128

target_pacing_count = 7
ls_role = LS_NEG
max_ifrm_rcvd = 0
dlus_retry_timeout = 0
dlus_retry_limit = 0
need_vrfy_fixup = NO
initially_active = NO
react_timer = 30
react_timer_retry = 0

xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 8
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120
```

Define Partner Logical Unit

There should be a Partner LU for every connection with another server using SNA.

```
[define_partner_lu]
plu_alias = LT0161A0
description = ""
fqplu_name = ITIBM0PC.LT0161A0
plu_un_name = LT0161A0
parallel_sess_supp = YES
appcip_routing_preference = NATIVE
max_mc_ll_send_size = 0
conv_security_ver = NO
```

Define Local Logical Unit

```
[define_local_lu]
lu_alias = LT0014A0
list_name = ""
description = ""
lu_name = LT0014A0
lu_session_limit = 0
pu_name = <0000000000000000>
nau_address = 0
default_pool = NO
syncpt_support = NO

lu_attributes = NONE
sscp_id = 0
disable = NO
sys_name = ""
timeout = 60
back_level = NO
```

Define Mode

```
[define_mode]
mode_name = LU62
description = ""
max_neg_sess_lim = 1
plu_mode_session_limit = 1
min_conwin_src = 0
min_conloser_src = 0

auto_act = 0
receive_pacing_win = 7
max_receive_pacing_win = 7
default_ru_size = YES
max_ru_size_upp = 256
max_ru_size_low = 256
cos_name = #CONNECT
```

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Define Directory Entries

```
[define_directory_entry]
resource_name = ITIBM0PC.PPE0161
resourcetype = ENCP_RESOURCE
description = (Auto defined - remote node)
parent_name = <00000000000000000000000000000000>
parent_type = ENCP_RESOURCE
```

```
[define_directory_entry]
resource_name = ITIBM0PC.PPE0161
resourcetype = LU_RESOURCE
description = (Auto defined - default LU)
parent_name = ITIBM0PC.PPE0161
parent_type = ENCP_RESOURCE
```

```
[define_directory_entry]
resource_name = ITIBM0PC.LT0161A0
resourcetype = LU_RESOURCE
description = ""
parent_name = ITIBM0PC.PPE0161
parent_type = ENCP_RESOURCE
```

Define Transaction Program

Two transaction programs must be defined: one for the SEND transactions and one for the RECEIVE transactions.

```
[define_tp]
tp_name = NVDM
description = ""
list_name = ""
conv_type = MAPPED
security_rqd = NO
sync_level = NONE
enabled = YES
pip_allowed = NO
tp_instance_limit = 0
incoming_alloc_timeout = 0
secondary_key = fndrbas
```

Define Transaction Program Location

A transaction program location should be defined for the transaction program.

```
[NVDM]
LUALIAS = ""
DESCRIPTION = ""
USERID = root
GROUP = ""
TIMEOUT = 0
TYPE = NON-QUEUED
STYLE = COMPATIBLE
PATH = /usr/lpp/netviewdm/bin/fndrbas
STDIN = /dev/console
STDOUT = /dev/console
STDERR = /dev/console
```

Define CPIC Side Information

You need to define CPIC side information for the transaction program for each server with which you want to communicate using a SNA/STS connection.

```
[define_cpic_side_info]
sym_dest_name = lab81047
description = ""
lu_alias = LT0014A0
partner_lu_name = ITIBM0PC.LT0161A0
mode_name = LU62
tp_name_type = APPLICATION_TP
tp_name = NVDM
conversation_security_type = NONE
security_user_id = ""
security_password = ""
```

Configure APPC at the Clients Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3

This section only refers to configuring APPC on a computer running versions of AIX prior to version 4.3.3 with SNA Server/6000 Version 2.1; the APPC configuration for computers running AIX Version 4.3.3 with Communications Server, Version 5 installed is described in "Configure APPC at the Client Using Communications Server, Version 5 on AIX Version 4.3.3" on page 28.

This section describes the steps you must perform to configure APPC at CLIENT11 so that it can communicate with SERVER01 using a token-ring adapter. You must perform the same configuration operations at each client in the domain.

The configuration procedure defines a series of profiles, many of which reference other profiles. The profiles are:

- SNA control point
- Data link control
- Link station
- Local logical unit
- LU conversation mode
- LU transaction
- Partner LU

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- Partner LU location
- Side information

To define these profiles, perform the following preliminary steps:

1. From the System Management menu, select:
 - ➔ Communications Applications and Services
 - ➔ SNA Server/6000
 - ➔ Configure SNA Profiles
 - ➔ Advanced SNA Configuration

Define an SNA Control Point

1. From the Advanced SNA Configuration menu, select:
 - ➔ Control Point
 - ➔ Change/Show a Profile

Enter the following information:

PROFILE name	node_cp
XID node ID	071xxxxx
Network name	ITIBM0PC
Control Point (CP) name	CPCLT11
Control Point alias	CPCLT11
Control Point type	appn_end_node
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define a Token Ring Data Link Control Profile

Perform the following steps to define a physical unit:

1. From the Advanced SNA Configuration menu, select:
 - ➔ Links
 - ➔ Token Ring
 - ➔ Token Ring SNA DLC
 - ➔ Change/Show a Profile
2. Enter the following information on the Change/Show a Token Ring SNA DLC Profile screen:

PROFILE name	tok0
Data link device name	tok0
Solicit SSCP sessions?	yes
CP-CP sessions supported?	yes
Partner required to support CP-CP sessions?	no
All other fields	Accept the default values

3. Press Enter and return to the Advanced SNA Configuration Menu

Define a Token Ring Link Station Profile

Perform the following steps to define a token ring data link station profile:

1. From the Advanced SNA Configuration menu select:

- ➔ Links
- ➔ Token Ring
- ➔ Token Ring Link Station
- ➔ Change/Change a Profile

A data entry panel is displayed. Enter:

PROFILE name	SVR01
Use APPN Control Point's XID node ID?	yes
SNA DLC Profile name	tok0
Stop link station on inactivity?	no
LU address registration?	no
Trace link?	no
Access routing	link_address
Remote link name	leave blank
Remote link address	Enter the adapter card address
Remote SAP address	04
Verify adjacent node?	no
Network ID of adjacent node	ITIBM0PC
CP name of adjacent node	CPSVR01
XID node ID of adjacent node	*
Node type of adjacent node	learn
Solicit SSCP sessions?	yes
Initiate call when link station is activated?	no
Activate link station at SNA start up?	yes

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Activate on demand?	no
CP-CP sessions supported?	yes
If yes, adjacent network node preferred server?	no
Partner required to support CP-CP sessions?	no
Initial TG number	1
Restart on activation?	no
Restart on normal deactivation?	yes
Restart on abnormal deactivation?	no
Effective capacity	4300800
Cost per connect time	0
Cost per byte	0
Security	nonsecure
Propagation delay	lan
User-defined 1	128
User-defined 2	128
User-defined 3	128

2. Press Enter to save this information.
3. Return to the Advanced SNA Configuration menu.

Define the Local Logical Unit Profile

Perform the following steps to define a logical unit:

1. From the Advanced SNA Configuration menu select:
 - ➔ Sessions
 - ➔ LU 6.2
 - ➔ LU 6.2 Local LU
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	NVDMLLU
Local LU name	LUCLT11
Local LU alias	LUCLT11
Local LU is dependent?	no
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define the Conversation Mode

The characteristics of a conversation on a connection are defined by a conversation mode profile. A simple installation has just one mode defined. For this example, define a default conversation mode profile called NVDMNORM as follows.

1. From the Advanced SNA Configuration menu select:

- ➔ Sessions
- ➔ LU6.2
- ➔ LU6.2 Mode
- ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	LU62
Mode name	LU62
Maximum number of sessions	1
Minimum contention winners	0
Minimum contention losers	0
Auto activate limit	0
Upper bound for adaptive receive pacing window	16
Receive pacing window	7
Maximum RU size	2816
Minimum RU size	256
Class of Service (COS) name	#connect

2. Press Enter to save changes.
3. Return to the LU6.2 menu.

Define Local Transaction Program Names

To add this profile:

1. From the LU6.2 menu, select:

- ➔ LU6.2 Transaction Program Name (TPN)
- ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	FNDKMPS
Transaction program name	NVDM
Transaction program name is in hexadecimal?	no
PIP data?	no

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Conversation type	mapped
Sync level	none
Resource security level	none
Full path to TPN executable	/usr/lpp/netviewdm/bin/fndcmps
Multiple instances supported?	no
User ID	0
Server synonym name	leave blank
Restart action	once
Communication type	signals
Standard input file device	/dev/console
Standard output file device	/dev/console
Standard error file device	/dev/console

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the LU 6.2 Partner LU Profile

To define a partner LU profile:

1. From the LU6.2 menu, select:
 - ➔ LU 6.2 Partner LU
 - ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	SVR01
Fully qualified partner LU name	ITIBM0PC.LUSVR01
Partner LU alias	LUSVR01
Parallel sessions supported?	yes
Session security supported?	no
Conversation security level	none
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the Partner LU Location Profile

To define a partner LU location profile:

1. From the LU6.2 menu, select:

- ➔ Partner LU 6.2 Location
- ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	SVR01
Fully qualified partner LU name	ITIBM0PC.LUSVR01
Partner LU location method (AIX Version 4.1 only)	owning_cp
If owning_cp, fully qualified owning control point name	ITIBM0PC.CPSVR01
Local node	no
All other fields	Accept the default values

2. Press Enter to save changes.
3. Return to the LU 6.2 menu.

Define the LU 6.2 Side Information Profiles

To add the profile:

1. From the LU6.2 menu, select:
 - ➔ LU 6.2 Side Information
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	MYSERVER
Local LU or Control Point Alias	LUCLT11
Partner LU alias	LUCLT11
Fully qualified partner LU name	ITIBM0PC.LUSVR01
Mode name	LU62
Remote transaction program name	NVDM
RTPN in hexadecimal?	no

2. Press Enter to save changes.
3. Return to the Advanced SNA Configuration menu.

Verify the SNA Server/6000 Version 2.1 Configuration

In SNA Server/6000 Version 2.1, the profiles do not become effective until they have been successfully verified. Perform the following steps:

1. Go to the Advanced SNA Configuration menu in SMIT.
2. Select the **Verify Configuration Profiles** option.
3. Select normal_update in the "Update action of verification successful" field.

Configuration Tasks for APPC Communication

4. Press Enter to make the changes effective.
5. Press F3 to return to the input screen.
6. Exit from SMIT.

Configure APPC at the Client Using Communications Server, Version 5 on AIX Version 4.3.3

This section only refers to configuring APPC on a computer running AIX Version 4.3.3 with Communications Server, Version 5 installed; the APPC configuration for computers running versions of AIX prior to Version 4.3.3 with SNA Server/6000 Version 2.1 installed is described in “Configure APPC at the Clients Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3” on page 21.

This section shows the communications profiles that you must create to configure APPC at CLIENT01 so that it can communicate with SERVER01 using an Ethernet adapter. This scenario describes how to configure CLIENT11. You must perform the same configuration operations for each client in the domain. The profiles are created using the configuration panels of Communications Server, Version 5; the field names in the profiles can easily be matched with the parameters on the panels.

The profiles given here are samples which need to be customized for your specific circumstances. Where TME 10 Software Distribution, Version 3.1.5 for AIX requires a specific value in a parameter, a note following the profile explains the required value. Otherwise, you can accept the default values, or modify them to suit your requirements.

The profiles are contained in three files, as follows:

Node configurations in `sna_node_cfg`

- Configuration file information (details not shown here)
- Node definitions
- Ethernet data link control definitions
- Ethernet port definitions
- Ethernet link station definitions
- Partner logical unit definitions
- Local logical unit definitions
- Mode definitions
- Directory entries
- Transaction program definitions (send and receive)

Transaction program location definitions in `sna_tps`

- Transaction program location definitions

Domain configurations in `sna_domn_cfg`

- Configuration file information (details not shown here)
- CPIC side information definitions

The panels defining these profiles can be accessed as follows:

From the System Management menu, select:

- ➔ Communications applications and services
- ➔ Communications Server for AIX
- ➔ Configure SNA resources

Note: Unlike SNA Server/6000 Version 2.1, you do not need to actively verify the profiles created, as Communications Server, Version 5 does it automatically for you.

Define Node

```
[define_node]
cp_alias = PPE0014
description = ""
fqcp_name = ITIBM0PC.PPE0014
node_type = END_NODE
mode_to_cos_map_supp = NO
mds_supported = YES
node_id = <05d00014>
max_locates = 1500
dir_cache_size = 255
max_dir_entries = 0

locate_timeout = 0
reg_with_nn = YES
reg_with_cds = YES
mds_send_alert_q_size = 100
cos_cache_size = 24
tree_cache_size = 40
tree_cache_use_limit = 40
max_tdm_nodes = 0
max_tdm_tgs = 0
max_isr_sessions = 1000

isr_sessions_upper_threshold = 900
isr_sessions_lower_threshold = 800
isr_max_ru_size = 16384
isr_rcv_pac_window = 8
store_endpt_rscvs = NO
store_isr_rscvs = NO
store_dlur_rscvs = NO

dlur_support = YES
pu_conc_support = YES
nn_rar = 128
max_ls_exception_events = 0
ms_support = NORMAL
queue_nmvt = NO
ptf_flags = NONE
```

Define Ethernet Data Link Control

```
[define_ethernet_dlc]
dlc_name = ETHER0
description = ""
neg_ls_supp = YES
card_type = GDLC_ETHERNET
initially_active = YES
adapter_number = 0
max_saps = 16
ethernet_type = 802_3
```

Note: adapter_number must be set to the last digit of the adapter name (normally zero, of there is only one adapter).

Define Ethernet Port

```
[define_ethernet_port]
port_name = ETSAP0
description = ""
dlc_name = ETHER0
port_type = PORT_SATF
port_number = 1
lsap_address = 0x04
initially_active = YES
implicit_hpr_support = NO
implicit_link_lvl_error = NO

max_rcv_btu_size = 1492
tot_link_act_lim = 255
inb_link_act_lim = 0
out_link_act_lim = 0
ls_role = LS_NEG
implicit_dspu_services = NONE
implicit_dspu_template = ""
implicit_ls_limit = 0
act_xid_exchange_limit = 9
nonact_xid_exchange_limit = 5

ls_xmit_rcv_cap = LS_TWS
max_ifrm_rcvd = 7
target_pacing_count = 7
max_send_btu_size = 1492
mac_address = <000000000000>
implicit_cp_cp_sess_support = YES
implicit_limited_resource = NO
implicit_deact_timer = 30
effect_cap = 3993600
connect_cost = 0
byte_cost = 0
```



```

security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128
local_name = <000000000000>
xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 8
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120

```

Define Ethernet Link Station

```

[define_ethernet_ls]
ls_name = ETHL0STS
description = ""
port_name = ETSAP0
adj_cp_name = <00000000000000000000000000000000>
adj_cp_type = LEARN_NODE
dspu_services = NONE
dspu_name = <0000000000000000>
dlus_name = <00000000000000000000000000000000>
bkup_dlus_name = <00000000000000000000000000000000>
local_node_id = <00000000>
adj_node_id = <05D00161>
mac_address = <0004AC975928>

lsap_address = 0x04
max_send_btu_size = 1492
ls_attributes = SNA
cp_cp_sess_support = YES
hpr_supported = NO
hpr_link_lvl_error = NO
auto_act_supp = NO
tg_number = 0
limited_resource = NO
solicit_sscp_sessions = NO
pu_name = <0000000000000000>

disable_remote_act = NO
default_nn_server = NO
link_deact_timer = 30
use_default_tg_chars = YES
effect_cap = 3993600
connect_cost = 0
byte_cost = 0
security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128

```

Configuration Tasks for APPC Communication

```
target_pacing_count = 7
ls_role = LS_NEG
max_ifrm_rcvd = 0
dlus_retry_timeout = 0
dlus_retry_limit = 0
need_vrfy_fixup = NO
initially_active = NO
react_timer = 30
react_timer_retry = 0

xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 8
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120
```

Define Partner Logical Unit

There should be a Partner LU for every connection with another server using SNA.

```
[define_partner_lu]
plu_alias = LT0161A0
description = ""
fqplu_name = ITIBM0PC.LT0161A0
plu_un_name = LT0161A0
parallel_sess_supp = YES
appcip_routing_preference = NATIVE
max_mc_ll_send_size = 0
conv_security_ver = NO
```

Define Local Logical Unit

```
[define_local_lu]
lu_alias = LT0014A0
list_name = ""
description = ""
lu_name = LT0014A0
lu_session_limit = 0
pu_name = <0000000000000000>
nau_address = 0
default_pool = NO
syncpt_support = NO

lu_attributes = NONE
sscp_id = 0
disable = NO
sys_name = ""
timeout = 60
back_level = NO
```

Define Mode

```
[define_mode]
mode_name = LU62
description = ""
max_neg_sess_lim = 1
plu_mode_session_limit = 1
min_conwin_src = 0
min_conloser_src = 0

auto_act = 0
receive_pacing_win = 7
max_receive_pacing_win = 7
default_ru_size = YES
max_ru_size_upp = 256
max_ru_size_low = 256
cos_name = #CONNECT
```

Define Directory Entries

```
[define_directory_entry]
resource_name = ITIBM0PC.PPE0161
resourcetype = ENCP_RESOURCE
description = (Auto defined - remote node)
parent_name = <00000000000000000000000000000000>
parent_type = ENCP_RESOURCE
```

```
[define_directory_entry]
resource_name = ITIBM0PC.PPE0161
resourcetype = LU_RESOURCE
description = (Auto defined - default LU)
parent_name = ITIBM0PC.PPE0161
parent_type = ENCP_RESOURCE
```

```
[define_directory_entry]
resource_name = ITIBM0PC.LT0161A0
resourcetype = LU_RESOURCE
description ""
parent_name = ITIBM0PC.PPE0161
parent_type = ENCP_RESOURCE
```

Define Transaction Program

Two transaction programs must be defined: one for the SEND transactions and one for the RECEIVE transactions.

```
[define_tp]
tp_name = NVDM
description = ""
list_name = ""
conv_type = MAPPED
security_rqd = NO
sync_level = NONE
enabled = YES
pip_allowed = NO
tp_instance_limit = 0
incoming_alloc_timeout = 0
secondary_key = fndrbas
```

Define Transaction Program Location

A transaction program location should be defined for the transaction program.

```
[NVDM]
LUALIAS = ""
DESCRIPTION = ""
USERID = root
GROUP = ""
TIMEOUT = 0
TYPE = NON-QUEUED
STYLE = COMPATIBLE
PATH = /usr/lpp/netviewdm/bin/fndcmps
STDIN = /dev/console
STDOUT = /dev/console
STDERR = /dev/console
```

Define CPIC Side Information

You need to define CPIC side information for the transaction program for each server with which you want to communicate using a SNA/STS connection.

```
[define_cpic_side_info]
sym_dest_name = lab81047
description = ""
lu_alias = LT0014A0
partner_lu_name = ITIBM0PC.LT0161A0
mode_name = LU62
tp_name_type = APPLICATION_TP
tp_name = NVDM
conversation_security_type = NONE
security_user_id = ""
security_password = ""
```

Chapter 2. Configuring Interconnected Domains

This chapter describes how to configure:

- Networks with more than one TME 10 Software Distribution domain connected across TCP/IP links.
- Networks with more than one TME 10 Software Distribution domain connected across APPC links.

When two servers in separate domains are connected by an APPC or a TCP/IP link, a server can distribute data and software files to any target in the network. It can perform change control operations only on the clients in its own domain, unless the remote administrator option is installed (see Chapter 3, “Configuring Centrally Managed Multidomain Networks” on page 63). Figure 4 shows two single-server domains linked remotely.

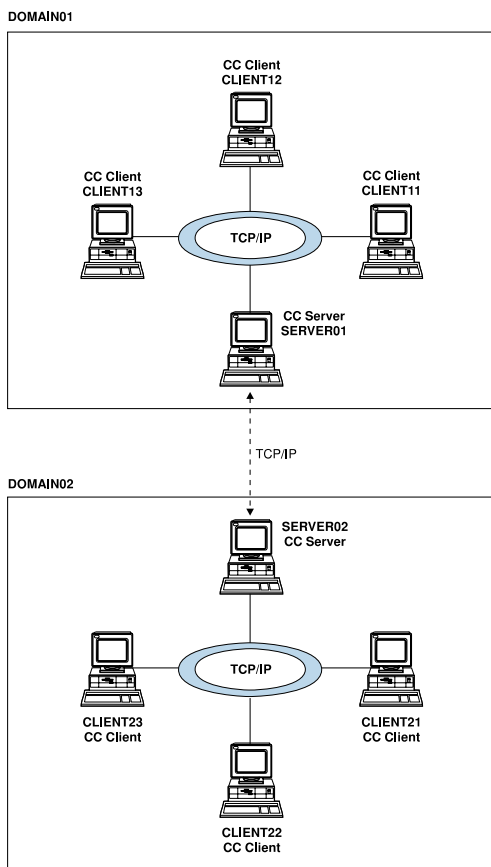


Figure 4. Interconnected domains

Configuration Tasks

Product Options

Install the following product options in an interconnected domain network, regardless of whether you are configuring TCP/IP or APPC links:

Required:

- Base
- Server
- Communication

Optional:

- Plan
- Graphical interface
- NLS package

See the *Quick Beginnings* manual for a description of how to install TME 10 Software Distribution options.

You must also install corresponding agent products on the clients in the network.

Configuration Tasks

Perform the following configuration operations to ensure communication between interconnected domains:

- At servers, define the targets in both domains
- Define users at the server and at the clients
- At clients, configure the server name
- Configure SNA/DS over TCP/IP or APPC links at each server by editing:
 - SNA/DS connection configuration files
 - The routing table
- At each server, configure TME 10 Software Distribution APPC or TCP/IP as the communication protocol

Define Targets

At each server, you must define:

- The servers themselves as targets
- All clients in DOMAIN01 and DOMAIN02 as targets

You can do so using either the graphical interface or the command line interface.

Using the graphical interface:

1. From an AIXTERM window enter the following command to start the graphical interface:
`nvdmg i`

2. From the Catalog window select:

- ➔ Windows
- ➔ Targets
- ➔ Target
- ➔ New Target

3. At SERVER01 and all the clients it communicates with, define SERVER02. At SERVER02 and all the clients it communicates with, define SERVER01. The values for the fields in the fields on the New Target window are:

Name	SERVER01	CLIENT11...	SERVER02	CLIENT21...
Change Management	Push	Push	Push	Push
Target address	SRV01	CLT11	SRV02	CLT21
Target type	Server	Client	Server	Client
Target OS	AIX	AIX	AIX	AIX
Server name	SERVER01	SERVER01	SERVER02	SERVER02
Domain address	SRV01	SRV01	SRV02	SRV02

Using the command line interface: To define the same targets using the command line interface, enter the following commands at an AIXTERM window prompt on SERVER01:

```
nvdn updtg SERVER01 -b server -s SRV01
nvdn addtg CLIENT11 -b client -j SERVER01 -s CLT11
nvdn addtg CLIENT12 -b client -j SERVER01 -s CLT12
nvdn addtg CLIENT13 -b client -j SERVER01 -s CLT13
nvdn addtg SERVER02 -b server -s SRV02
nvdn addtg CLIENT21 -b client -j SERVER02 -s CLT21
nvdn addtg CLIENT22 -b client -j SERVER02 -s CLT22
nvdn addtg CLIENT23 -b client -j SERVER02 -s CLT23
```

Enter the same commands at SERVER02, but for SERVER02 itself enter the updtg command and for SERVER01 enter the addtg command.

Refer to the description of the **addtg** command in the *TME 10 Software Distribution Reference* for information about other parameters that can be included in the command.

Define Users at the Server

At the server, you must define the users of the targets in your domain. You can do so using either the graphical interface or the command line interface.

Using the graphical interface: To define a user in DOMAIN01 at SERVER01, perform the following steps:

1. From the Catalog window select:

- ➔ System
- ➔ User

2. In the User Management window, enter a User ID and select **New**.

3. Fill in the fields on the New User window as follows:

Configuration Tasks

Field	Value
User ID	USER11
Password	PSWD11
Verify password	PSWD11
Authorization profile	FNDUSER
Description	This is a user at CLIENT11, CLIENT12, and CLIENT13.
Login Targets	CLIENT11 CLIENT12 CLIENT13

4. Perform the same steps at SERVER02 to define a user in DOMAIN02.

Using the command line interface: To define a user in DOMAIN01 using the command line interface, enter the following command at a SERVER01 AIXTERM window prompt:

```
nvdm addusr USER11 FNDUSER -d 'This is a user at CLIENT11' -i PSWD11 -t CLIENT11 -t CLIENT12 -t CLIENT 13
```

To define a user in DOMAIN02 using the command line interface, enter the following command at a SERVER02 AIXTERM window prompt:

```
nvdm addusr USER21 FNDUSER -d 'This is a user at CLIENT21' -i PSWD21 -t CLIENT21 -t CLIENT22 -t CLIENT23
```

Refer to the description of the **addusr** command in the *TME 10 Software Distribution Reference* for information about the parameters included in the command.

Configure the Server Name at Clients

At each client, you must configure the name of the server to which it is locally linked. To do so edit the base configuration file, `nvdm.cfg`, which is stored in the `/usr/lpp/netviewdm/db` directory.

At each of the clients in DOMAIN01, edit the **SERVER** keyword as shown in the following example:


```

# BASE CONFIGURATION FILE
#
# This file should be stored as /usr/lpp/netviewdm/db/nvdm.cfg

WORKSTATION NAME:      CLIENT11
MESSAGE LOG LEVEL:     N
LAN AUTHORIZATION:     1
CONFIGURATION:         CLIENT
MACHINE TYPE:          AIX
LOG FILE SIZE:         50000
TRACE FILE SIZE:       100000
MAX CONNECTIONS:       30
API TRACE FILE SIZE:   100000
TCP/IP PORT:           729
SERVER:              SERVER01
REPOSITORY:            /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:           /usr/lpp/netviewdm/backup
WORK AREA:             /usr/lpp/netviewdm/work

```

Figure 5. Base Configuration file at a client in DOMAIN01

At each of the clients in DOMAIN02, edit the SERVER keyword to read SERVER02.

Configure TCP/IP

You must configure TCP/IP at both SERVER01 and SERVER02 using SMIT. You need root privileges to do so. Perform the following steps:

1. To load SMIT, on the AIX command line type

```
smit
```

The System Management menu is displayed. Select:

- ➔ Communications Applications and Services
- ➔ TCP/IP
- ➔ Minimum Configuration & Startup

2. Select the network interface on which you want TCP/IP to run over (for example, token-ring network interface).

The Minimum Configuration & Startup screen for the network interface that you have chosen is displayed. There are many fields that you can set; however, most of them have defaults. Set only the following fields:

Configure TCP/IP

Field	Value
HOSTNAME	SERVER01 at SERVER01 SERVER02 at SERVER02
INTERNET Address	9.87.231.174 at SERVER01 9.87.231.175 at SERVER02 The network administrator assigns this value.
Network MASK	255.255.254.0 The network administrator assigns this value.
Ring Speed	16 The network administrator assigns this value.

3. Press Enter to complete the configuration procedure.

Edit SNA/DS Connection Configuration Files for TCP/IP Links

At SERVER01, edit /usr/lpp/netviewdm/db/snadscon/**conntcp01** as shown below:

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION conntcp01
#
# This connection is used to handle transmissions between SERVER01
# and SERVER02 in a network of interconnected domains.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/conntcp01

PROTOCOL:                TCP/IP
TYPE:                     SNA
REMOTE SERVER NAME:       SERVER02
TCP/IP TIME-OUT:          300
NEXT DSU:                 SRV02.SRV02
TRANSMISSION TIME-OUT:    60
RETRY LIMIT:              3
SEND MU_ID TIME-OUT:      60
RECEIVE MU_ID TIME-OUT:   120
```

Figure 6. SNA/DS Connection Configuration file for TCP/IP link at SERVER01

At SERVER02, edit /usr/lpp/netviewdm/db/snadscon/**conntcp02** as shown below:

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION conntcp02
#
# This connection is used to handle transmissions between SERVER02
# and SERVER01 in a network of interconnected domains.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/conntcp01

PROTOCOL:                TCP/IP
TYPE:                    SNA
REMOTE SERVER NAME:      SERVER01
TCP/IP TIME-OUT:         300
NEXT DSU:                SRV01.SRV01
TRANSMISSION TIME-OUT:   60
RETRY LIMIT:             3
SEND MU_ID TIME-OUT:     60
RECEIVE MU_ID TIME-OUT:  120
```

Figure 7. SNA/DS Connection Configuration file for TCP/IP link at SERVER02

Edit Routing Table for TCP/IP Links

At SERVER01, edit the routing table /usr/lpp/netviewdm/db/routetab as shown below:

```
# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the TCP/IP link between SERVER01 and SERVER02.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  TCP/IP

#
# Domain address      Connection
# and target          Configuration
# address             File Name
#
SRV02.*              conntcp01
```

Figure 8. TCP/IP Routing Table for SERVER01

At SERVER02, edit the routing table /usr/lpp/netviewdm/db/routetab as shown below:

Configuration Tasks for APPC Communication

```
# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the TCP/IP link between SERVER01 and SERVER02.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  TCP/IP

#
# Domain address      Connection
# and target          Configuration
# address             File Name
#

SRV01.*              conntcp02
```

Figure 9. TCP/IP Routing Table for SERVER02

Configuration Tasks for APPC Communication

Perform the following operations to configure APPC communication between servers:

- At each server, define the other server target it is linked to across APPC
- At each server, define the clients it is linked to as described in “Define Targets” on page 36.
- Configure APPC at each server

Figure 10 on page 43 shows the configuration, and includes the values used for SVR01 and SVR02 when configuring SNA Services.

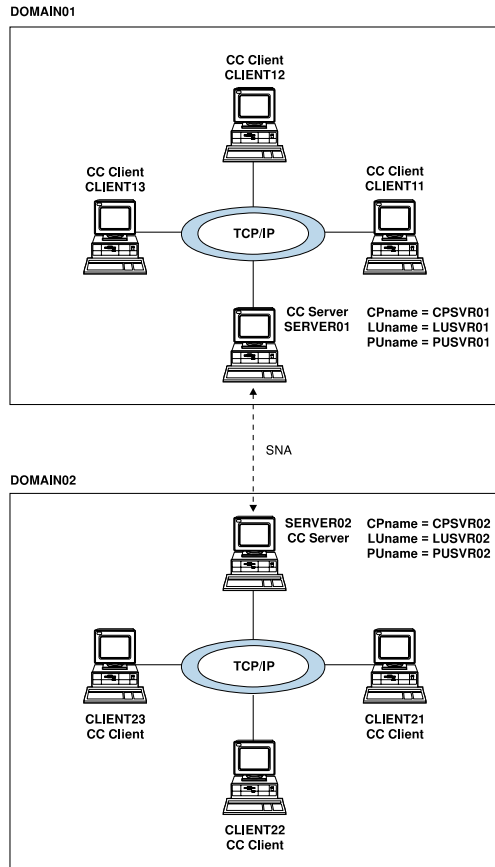


Figure 10. An APPC connection across SNA/DS

Define Server Targets

At server SVR01, define SVR02 as a target linked across SNA/DS. You can do so using the graphical interface or the command line interface.

Using the graphical interface

1. From an AIXTERM window enter the following command to start the graphical interface:

```
nvdmg i
```
2. From the Catalog window select:
 - ▶ Windows
 - ▶ Targets
 - ▶ Target
 - ▶ New Target

Configuration Tasks for APPC Communication

- At both SERVER01 and SERVER02, fill in the fields on the New Target window as follows (you do not have to define SERVER01 or SERVER02 to itself):

Name	SERVER01	SERVER02
Change Management	Manager	Manager
Target address	SRV01	SRV02
Target type	Server	Server
Target OS	AIX	AIX
Server name	SERVER01	SERVER02
Domain address	SRV01	SRV02

- In the New Target window, select the **Protocol type** push button.
- In the Protocol Type window, select APPC and specify a **Profile name**. The name must correspond to the LU6.2 Side Information Profile you define under SNA Server (see “Define the LU 6.2 Side Information Profiles” on page 51). In this scenario, the profile names are SERVER01 and SERVER02.
- Select **OK** twice to define the target.

Using the command line interface: Enter the following commands at an AIXTERM window prompt on both servers:

```
nvdm updtg SERVER01 -b server -s SRV01 -n SRV01
nvdm updtg SERVER02 -b server -s SRV02 -n SRV02
```

Refer to the description of the **updtg** command in the *TME 10 Software Distribution Reference* for information about other parameters that can be included in the command.

Configure APPC at the Server

Configure the following for APPC at each server in the network.

- The AIX communication device
- SNA Server/6000 Version 2.1(for versions of AIX prior to version 4.3.3) or Communications Server, Version 5 (for AIX Version 4.3.3)

The information in this manual concerning SNA Server/6000 Version 2.1 and Communications Server, Version 5 is aimed at helping you configure SNA/DS for this product. It is a summary of basic tasks. Please refer to the *AIX SNA Server/6000 Version 2 Release 1 Configuration Reference* or *Communications Server Configuration Reference* to complete your understanding of SNA configuration. SNA can also be configured using SNA Services/6000 Version 1.2 for previous releases of TME 10 Software Distribution for AIX.

You configure SNA/DS using SMIT, for which you must have root privileges. To load SMIT, on the AIX command line type:

```
smit
```

The System Management menu is displayed. The following sections describe how to configure SNA/DS at SERVER01 starting from this menu.

Configure the AIX Communication Device

This section describes the steps you must perform to add the device driver support for the Data Link Controls (DLC) of the specific SNA/DS communication adapter that you are using.

1. From the System Management menu, select:
 - ➔ Devices
 - ➔ Communication
2. From the Communication menu, select the adapter that corresponds with your SNA communication adapter (for example, Token Ring or SDLC).
3. From the Adapter menu, select:
 - ➔ Services
 - ➔ Data Link Controls
 - ➔ Add a Token Ring Data Link Control (if you selected Token Ring in step 4, for example).
4. The name of the data link control is displayed. Press Enter to add the control to your configuration.

Configure APPC Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3

This section only refers to configuring APPC on a computer running versions of AIX prior to version 4.3.3 with SNA Server/6000 Version 2.1; the APPC configuration for computers running AIX Version 4.3.3 with Communications Server, Version 5 installed are described in “Configure APPC Using Communications Server, Version 5 on AIX Version 4.3.3” on page 52.

This section describes the steps you must perform to configure APPC at SERVER01 so that it can communicate with remote node SERVER02 using a token ring adapter. The configuration procedure defines a series of profiles, many of which reference other profiles. The profiles are:

- SNA node
- SNA control point
- Data link control
- Link station
- Local logical unit
- LU conversation mode
- LU transaction
- Partner LU
- Partner LU location
- Side information

To define these profiles, perform the following preliminary steps:

Configuration Tasks for APPC Communication

1. From the System Management menu, select:
 - ➔ Communications Applications and Services
 - ➔ SNA Server/6000
 - ➔ Configure SNA Profiles
 - ➔ Advanced SNA Configuration

Define an SNA Node

To define these profiles, perform the following preliminary steps:

1. From the Advanced SNA Configuration menu, select:
 - ➔ SNA System Defaults
 - ➔ Change/#Show a Profile

Use the data entry panel to configure the node. For most of the fields, use the defaults. Enter the following information:

PROFILE name	SNA
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define an SNA Control Point

1. From the Advanced SNA Configuration menu, select:
 - ➔ Control Point
 - ➔ Change/Show a Profile

Enter the following information:

PROFILE name	node_cp
XID node ID	071xxxxx
Network name	SERVER01
Control Point (CP) name	CPSVR01
Control Point alias	CPSVR01
Control Point type	appn_end_node
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define a Token Ring Data Link Control Profile

Perform the following steps to define a physical unit:

1. From the Advanced SNA Configuration menu, select:

- ➔ Links
 - ➔ Token Ring
 - ➔ Token Ring SNA DLC
 - ➔ Change/Show a Profile
2. Enter the following information on the Change/Show a Token Ring SNA DLC Profile screen:

PROFILE name	tok0
Data link device name	tok0
All other fields	Accept the default values

3. Press Enter and return to the Advanced SNA Configuration Menu

Define a Token Ring Link Station Profile

Perform the following steps to define a token ring data link station profile:

1. From the Advanced SNA Configuration menu select:
- ➔ Links
 - ➔ Token Ring
 - ➔ Token Ring Link Station
 - ➔ Change/Change a Profile

A data entry panel is displayed. Enter:

PROFILE name	SERVER01
Use APPN Control Point's XID node ID?	no
If no, XID node ID	071xxxxx
SNA DLC Profile name	tok0
Stop link station on inactivity?	no
If yes, Inactivity time-out	0
LU address registration?	no
If yes, LU Address Registration Profile name	Leave blank
Trace link?	Accept the default value.
If yes, Trace size	long
Access routing	link_name
Remote link name	SERVER02
Remote link address	Leave blank
Remote SAP address	04
Verify adjacent node?	no
Network ID of adjacent node	SVR02

Configuration Tasks for APPC Communication

CP name of adjacent node	CPSVR02
XID node ID of adjacent node	071xxxxx
Node type of adjacent node	learn
Solicit SSCP sessions?	yes
Initiate call when link station is activated?	yes Note that when you configure this profile for SERVER02, this field should be set to no, because one end of communication must call while the other listens.
Activate link station at SNA start up?	no
Activate on demand?	no
CP-CP sessions supported?	no
If yes, adjacent network node preferred server?	no
Partner required to support CP-CP sessions?	yes
Initial TG number	0
Restart on activation?	no
Restart on normal deactivation?	no
Effective capacity	4300800
Cost per connect time	0
Cost per byte	0
Security	nonsecure
Propagation delay	lan
User-defined 1	128
User-defined 2	128
User-defined 3	128

2. Press Enter to save this information.
3. Return to the Advanced SNA Configuration menu.

Define the Local Logical Unit Profile

Perform the following steps to define a logical unit:

1. From the Advanced SNA Configuration menu select:
 - ➔ Sessions
 - ➔ LU 6.2
 - ➔ LU 6.2 Local LU
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	SERVER01
Local LU name	LUSVR01
Local LU alias	LUSVR01
Local LU is dependent?	no
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define the Conversation Mode

The characteristics of a conversation on a connection are defined by a conversation mode profile. A simple installation has just one mode defined. For this example, define a default conversation mode profile called LU62 as follows.

1. From the Advanced SNA Configuration menu select:
 - ➔ Sessions
 - ➔ LU6.2
 - ➔ LU6.2 Mode
 - ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	LU62
Mode name	LU62
Maximum number of sessions	Accept the default value.
Minimum contention winners	0
Minimum contention losers	0
Auto activate limit	0
Upper bound for adaptive receive pacing window	16
Receive pacing window	7
Maximum RU size	Accept the default value.
Minimum RU size	Accept the default value.
Class of Service (COS) name	#CONNECT

2. Press Enter to save changes.
3. Return to the LU6.2 menu.

Configuration Tasks for APPC Communication

Define Local Transaction Program Names

Add the following two profiles:

- NVDMSND** Defines the Send TP for TME 10 Software Distribution
NVDMRCV Defines the Receive TP for TME 10 Software Distribution

To add these profiles:

1. From the LU6.2 menu, select:
 - ➔ LU6.2 Transaction Program Name (TPN)
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	NVDMSND, for Send TPN NVDMRCV, for Receive TPN
Transaction program name	21F0F0F7, for Send TPN 21F0F0F8, for Receive TPN
Transaction program name is in hexadecimal?	yes
PIP data?	no
If yes, Subfields	Leave blank
Conversation type	basic
Sync level	none
Resource security level	none
If access, Resource Security Access List Prof.	Leave blank
Full path to TPN executable	Send: /usr/lpp/netviewdm/bin/fndts Receive: /usr/lpp/netviewdm/bin/fndtr
Multiple instances supported?	yes
User ID	0
Server synonym name	Leave blank
Restart action	once
Communication type	signals
If IPC, Communication IPC queued key	0
Standard input file device	/dev/null
Standard output file device	/dev/console
Standard error file device	/dev/console

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the LU 6.2 Partner LU Profile

To define a partner LU profile:

1. From the LU6.2 menu, select:

- ➔ LU 6.2 Partner LU
- ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	SERVER02
Fully qualified partner LU name	ITIBM0PC.LUSVR02
Partner LU alias	LUSVR02
Parallel sessions supported?	Yes
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the Partner LU Location Profile

To define a partner LU location profile:

1. From the LU6.2 menu, select:

- ➔ Partner LU 6.2 Location
- ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	SERVER02
Fully qualified partner LU name	ITIBM0PC.LUSVR02
Fully qualified owning control point name	ITIBM0PC.CPSVR02
All other fields	Accept the default values

2. Press Enter to save changes.
3. Return to the LU 6.2 menu.

Define the LU 6.2 Side Information Profiles

The remote transaction programs for communication are defined to SNA Server/6000 Version 2.1 in their own profiles.

Add the following two profiles:

- NVDMIDS** Defines the Send TP at the remote node. Use this value in the SEND TP SYMBOLIC DESTINATION field in the SNA/DS connection configuration file.

Configuration Tasks for APPC Communication

NVDMSIDR Defines the Receive TP at the remote node. Use this value in the RECEIVE TP SYMBOLIC DESTINATION field in the SNA/DS connection configuration file.

To add these profiles:

- 1. From the LU6.2 menu, select:
 - ➔ LU 6.2 Side Information
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	NVDMSIDS, for Send TPN NVDMSIDR, for Receive TPN
Local LU or Control Point Alias	LUSVR01
Partner LU alias	Leave blank
Fully qualified partner LU name	ITIBM0PC.LUSVR02
Remote transaction program name	21F0F0F7, for Send TPN 21F0F0F8, for Receive TPN
RTPN in hexadecimal?	yes

- 2. Press Enter to save changes.
- 3. Return to the Advanced SNA Configuration menu.

Verify the SNA Server/6000 Version 2.1 Configuration

In SNA Server/6000 Version 2.1, the profiles do not become effective until they have been successfully verified. Perform the following steps:

- 1. Go to the Advanced SNA Configuration menu in SMIT.
- 2. Select the **Verify Configuration Profiles** option.
- 3. Select dynamic_update in the "Update action of verification successful" field. (You can select normal_update if SNA Server/6000 Version 2.1 is not active.)
- 4. Press Enter to make the changes effective.
- 5. Press F3 to return to the input screen.
- 6. Exit from SMIT.

Configure APPC Using Communications Server, Version 5 on AIX Version 4.3.3

This section only refers to configuring APPC on a computer running AIX Version 4.3.3 with Communications Server, Version 5 installed; the APPC configuration for computers running versions of AIX prior to Version 4.3.3 with SNA Server/6000 Version 2.1 installed are described in "Configure APPC Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3" on page 45.

This section shows the communications profiles that you must create to configure APPC at SERVER01 so that it can communicate with remote node SERVER02 using

an Ethernet adapter. The profiles are created using the configuration panels of Communications Server, Version 5; the field names in the profiles can easily be matched with the parameters on the panels. The profiles are samples which need to be customized for your specific circumstances.

Where TME 10 Software Distribution, Version 3.1.5 for AIX requires a specific value in a parameter, a note following the profile explains the required value. Otherwise, you can accept the default values if you wish, or modify them to suit your requirements. A single example of each profile is provided, except in the case of the transaction programs, where both send and receive program definitions are given.

The profiles are contained in three files, as follows:

Node configurations in `sna_node_cfg`

- Configuration file information (details not shown here)
- Node definitions
- Ethernet data link control definitions
- Ethernet port definitions
- Ethernet link station definitions
- Partner logical unit definitions
- Local logical unit definitions
- Mode definitions
- Transaction program definitions (send and receive)
- Link station routing definitions

Transaction program location definitions in `sna_tps`

- Transaction program location definitions

Domain configurations in `sna_dmn_cfg`

- Configuration file information (details not shown here)
- Set global log type (details not shown here)
- CPIC side information definitions

The panels defining these profiles can be accessed as follows:

From the System Management menu, select:

- ➔ Communications applications and services
- ➔ Communications Server for AIX
- ➔ Configure SNA resources

Note: Unlike SNA Server/6000 Version 2.1, you do not need to actively verify the profiles created, as Communications Server, Version 5 does it automatically for you.

Define Node

```
[define_node]
cp_alias = PPE0161
description = ""
fqcp_name = ITIBM0PC.PPE0161
node_type = END_NODE
mode_to_cos_map_supp = NO
mds_supported = YES
node_id = <05d00161>
max_locates = 1500
dir_cache_size = 255
max_dir_entries = 0

locate_timeout = 0
reg_with_nn = YES
reg_with_cds = YES
mds_send_alert_q_size = 100
cos_cache_size = 24
tree_cache_size = 40
tree_cache_use_limit = 40
max_tdm_nodes = 0
max_tdm_tgs = 0
max_isr_sessions = 1000

isr_sessions_upper_threshold = 900
isr_sessions_lower_threshold = 800
isr_max_ru_size = 16384
isr_rcv_pac_window = 8
store_endpt_rscvs = NO
store_isr_rscvs = NO
store_dlur_rscvs = NO

dlur_support = YES
pu_conc_support = YES
nn_rar = 128
max_ls_exception_events = 0
ms_support = NORMAL
queue_nmvt = NO
send_term_self = NO
ptf_flags = NONE
```

Define Ethernet Data Link Control

```
[define_ethernet_dlc]
dlc_name = ETHER0
description = ""
neg_ls_supp = YES
card_type = GDLC_ETHERNET
initially_active = NO
adapter_number = 0
max_saps = 16
ethernet_type = 802_3
```


Note: adapter_number must be set to the last digit of the adapter name (normally zero, if there is only one adapter).

Define Ethernet Port

```
[define_ethernet_port]
port_name = ETSAP0
description = ""
dlc_name = ETHER0
port_type = PORT_SATF
port_number = 0
lsap_address = 0x04
initially_active = YES
implicit_hpr_support = YES
implicit_link_lvl_error = NO

max_rcv_btu_size = 1492
tot_link_act_lim = 255
inb_link_act_lim = 0
out_link_act_lim = 0
ls_role = LS_NEG
implicit_dspu_services = NONE
implicit_dspu_template = ""
implicit_ls_limit = 0
act_xid_exchange_limit = 9
nonact_xid_exchange_limit = 5

ls_xmit_rcv_cap = LS_TWS
max_ifrm_rcvd = 7
target_pacing_count = 7
max_send_btu_size = 1492
mac_address = <0004ac975928>
implicit_cp_cp_sess_support = YES
implicit_limited_resource = NO
implicit_deact_timer = 30
effect_cap = 3993600
connect_cost = 0
byte_cost = 0

security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128
local_name = ""
xid_timeout = 8
xid_retry_limit = 2
t1_timeout = 50
t1_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120
```

Define Ethernet Link Station

```
[define_ethernet_ls]
ls_name = ETHL0
description = ""
port_name = ETSAP0
adj_cp_name = ITIBM0PC.MVSESA31
adj_cp_type = NETWORK_NODE
dspu_services = NONE
dspu_name = <0000000000000000>
dlus_name = <00000000000000000000000000000000>
bkup_dlus_name = <00000000000000000000000000000000>
local_node_id = <00000000>
adj_node_id = <00000000>
mac_address = <0200694edd02>

lsap_address = 0x04
max_send_btu_size = 1492
ls_attributes = SNA
cp_cp_sess_support = YES
hpr_supported = YES
hpr_link_lvl_error = YES
auto_act_supp = NO
tg_number = 0
limited_resource = NO
solicit_sscp_sessions = NO
pu_name = <0000000000000000>

disable_remote_act = NO
default_nn_server = YES
link_deact_timer = 30
use_default_tg_chars = YES
effect_cap = 3993600
connect_cost = 0
byte_cost = 0
security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128

target_pacing_count = 7
ls_role = LS_NEG
max_ifrm_rcvd = 0
dlus_retry_timeout = 0
dlus_retry_limit = 0
need_vrfy_fixup = NO
initially_active = NO
restart_on_normal_deact = NO
react_timer = 30
react_timer_retry = 65535
```

```
xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 8
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120
```

Define Partner Logical Unit

There should be a Partner LU for every connection with another server using SNA.

```
[define_partner_lu]
plu_alias = LT0182A0
description = ""
fqplu_name = ITIBM0PC.LT0182A0
plu_un_name = LT0182A0
parallel_sess_supp = YES
appcip_routing_preference = NATIVE
max_mc_ll_send_size = 0
conv_security_ver = NO
```

Define Local Logical Unit

```
[define_local_lu]
lu_alias = LT0161A0
list_name = ""
description = ""
lu_name = LT0161A0
lu_session_limit = 0
pu_name = <0000000000000000>
nau_address = 0
default_pool = NO
syncpt_support = NO

lu_attributes = NONE
sscp_id = 0
disable = NO
sys_name = ""
timeout = 60
back_level = NO
```

Define Mode

```
[define_mode]
mode_name = LU62
description = ""
max_neg_sess_lim = 32767
plu_mode_session_limit = 2
min_conwin_src = 1
min_conloser_src = 0
```

Configuration Tasks for APPC Communication

```
auto_act = 0
receive_pacing_win = 4
max_receive_pacing_win = 0
default_ru_size = YES
max_ru_size_upp = 1024
max_ru_size_low = 0
cos_name = #CONNECT
```

Define Transaction Program

Two transaction programs must be defined: one for the SEND transactions and one for the RECEIVE transactions.

```
[define_tp]
tp_name = <21f0f0f7>
description = ""
list_name = ""
conv_type = BASIC
security_rqd = NO
sync_level = NONE
enabled = YES
pip_allowed = NO
tp_instance_limit = 0
incoming_alloc_timeout = 60
secondary_key = NVDMSND
```

```
[define_tp]
tp_name = <21f0f0f8>
description = ""
list_name = ""
conv_type = BASIC
security_rqd = NO
sync_level = NONE
enabled = YES
pip_allowed = NO
tp_instance_limit = 0
incoming_alloc_timeout = 60
secondary_key = NVDMRCV
```

Define Link Station Routing

```
[define_ls_routing]
lu_name = LT0161A0
fq_partner_lu = ITIBM0PC.PPE0014
wildcard_fqplu = NO
description = ""
ls_name = ETHLO
```

```
[define_ls_routing]
lu_name = LT0161A0
fq_partner_lu = ITIBM0PC.ND24TCPB
wildcard_fqplu = NO
description = ""
ls_name = ETHL0
```

Define Transaction Program Location

A transaction program location should be defined for each of the two transaction programs.

```
[<21f0f0f7>]
LUALIAS = ""
DESCRIPTION = ""
USERID = root
GROUP = ""
TIMEOUT = -1
TYPE = NON-QUEUED
STYLE = COMPATIBLE
PATH = /usr/lpp/netviewdm/bin/fndts
STDIN = /dev/console
STDOUT = /dev/console
STDERR = /dev/console
```

```
[<21f0f0f8>]
LUALIAS = ""
DESCRIPTION = ""
USERID = root
GROUP = ""
TIMEOUT = -1
TYPE = NON-QUEUED
STYLE = COMPATIBLE
PATH = /usr/lpp/netviewdm/bin/fndtr
STDIN = /dev/console
STDOUT = /dev/console
STDERR = /dev/console
```

Configuration Tasks for APPC Communication

Define CPIC Side Information

You need to define CPIC side information for the SEND and RECEIVE transaction programs for each server with which you want to communicate using a SNA/DS connection.

For the first or only server you would normally use the default symbolic destination names of NVDMSDS (send) and NVDMSIDR (receive), that are entered in the TME 10 Software Distribution for AIX configuration of the SNA/DS connection. For any other servers you should create your own unique symbolic destination names.

```
[define_cpic_side_info]
sym_dest_name = NVDMSIDR
description = ""
lu_alias = LT0161A0
partner_lu_name = ITIBM0PC.LT0182A0
mode_name = LU62
tp_name_type = SNA_SERVICE_TP
tp_name = 21F0F0F8
conversation_security_type = NONE
security_user_id = ""
security_password = ""
```

```
[define_cpic_side_info]
sym_dest_name = NVDMSIDS
description = ""
lu_alias = LT0161A0
partner_lu_name = ITIBM0PC.LT0182A0
mode_name = LU62
tp_name_type = SNA_SERVICE_TP
tp_name = 21F0F0F7
conversation_security_type = NONE
security_user_id = ""
security_password = ""
```

Edit SNA/DS Connection Configuration Files for SNA Links

At SERVER01, edit /usr/lpp/netviewdm/db/snadscon/**connsna01** as shown below:

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION connsna01
#
# This connection is used to handle transmissions between SERVER01
# and SERVER02 in a network of interconnected domains.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/connsna01

TYPE:                                SNA
PROTOCOL:                           APPC
SEND TP SYMBOLIC DESTINATION:        NVDMSEDS
RECEIVE TP SYMBOLIC DESTINATION:      NVDMSEDR
NEXT DSU:                           SRV02.SRV02
TRANSMISSION TIME-OUT:               60
RETRY LIMIT:                         3
SEND MU_ID TIME-OUT:                 60
RECEIVE MU_ID TIME-OUT:              120
```

Figure 11. SNA/DS Connection Configuration file for SNA link at SERVER01

At SERVER02, edit /usr/lpp/netviewdm/db/snadscon/**connsna02** as shown below:

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION connsna02
#
# This connection is used to handle transmissions between SERVER02
# and SERVER01 in a network of interconnected domains.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/connsna01

TYPE:                                SNA
PROTOCOL:                           APPC
SEND TP SYMBOLIC DESTINATION:        NVDMSEDS
RECEIVE TP SYMBOLIC DESTINATION:      NVDMSEDR
NEXT DSU:                           SRV01.SRV01
TRANSMISSION TIME-OUT:               60
RETRY LIMIT:                         3
SEND MU_ID TIME-OUT:                 60
RECEIVE MU_ID TIME-OUT:              120
```

Figure 12. SNA/DS Connection Configuration file for SNA link at SERVER02

Edit Routing Table for SNA/DS Links

Edit the routing table stored at SERVER01 as shown below:

```

# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the SNA link between SERVER01 and SERVER02.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  APPC

#
# SNA/DS                Connection
# Network ID and        Configuration
# Short Name            File Name
#

SRV02.*                connnsna01

```

Figure 13. SNA/DS Routing Table for SERVER01

Edit the routing table stored at SERVER02 as shown below:

```

# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the SNA link between SERVER01 and SERVER02.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  APPC

#
# SNA/DS                Connection
# Network ID and        Configuration
# Short Name            File Name
#

SRV01.*                connnsna01

```

Figure 14. SNA/DS Routing Table for SERVER02

Chapter 3. Configuring Centrally Managed Multidomain Networks

This chapter describes how to configure networks that include numerous domains with more than one manager target and a focal point target. In these configurations, in which the Remote Administrator option is installed on servers, change control operations across the domains in a network. In addition, the *focal point* target can receive and store change control reports for all targets defined below it hierarchically in the network.

A single administrator can manage change control and distribution operations across the entire network from the focal point site, thereby eliminating the need for more than one administrator in a network.

A TME 10 Software Distribution target with the Remote Administrator option installed can also initiate change control and distribution operations over an SNA/DS link to an TME 10 Software Distribution, Version 3.1.5 server that has a domain of OS/2, DOS, or Windows clients with the TME 10 Software Distribution, Version 3.1.5 Client software installed, or to an TME 10 Software Distribution for Netware server managing Netware workstations. In the scenario shown in Figure 15 we will take as an example a multidomain network with manager targets and a focal point.

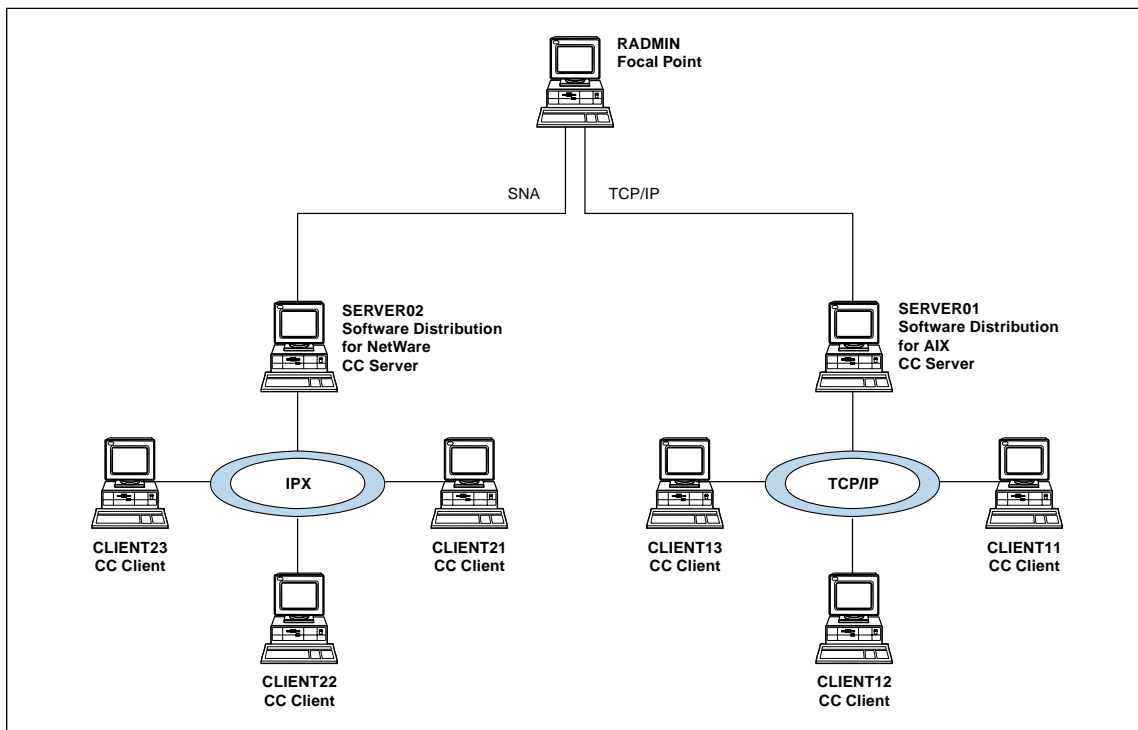


Figure 15. Centrally managed multidomain network

Product Options

Install the following product options at the focal point and manager targets:

Required:

- Base
- Server
- Communication
- Remote administrator

Optional:

- Plan
- Graphical interface
- NLS package
- Tool

See the *Quick Beginnings* manual for a description of how to install TME 10 Software Distribution options.

You must also install corresponding TME 10 Software Distribution Client software on the clients in the network, TME 10 Software Distribution for AIX on SERVER01, and TME 10 Software Distribution for NetWare on SERVER02.

Configuration Tasks at FOCAL

Perform the following configuration operations to set up communication between interconnected domains with a focal point and manager targets:

- Define the targets with which the focal point communicates.
- Define focal point target users.
- Configure communication links and SNA/DS to other servers in the network.
 - SNA/DS connection configuration files
 - The routing table

Define Targets at FOCAL

You must define the targets in its network at FOCAL. You can do so using the graphical interface or the command line interface.

Using the graphical interface:

1. From an AIXTERM window enter the following command to start the graphical interface:

```
nvdmg i
```
2. From the Catalog window select:
 - ▶ Windows
 - ▶ Targets

- ▶ Target
- ▶ New Target

3. At FOCAL, fill in the fields on the New Target window as follows:

Name	SERVER01	CLIENT11	SERVER02	CLIENT21
Change Management	Manager	Push	Push	Push
Target address	SVR01	CLT11	SRV02	CLT21
Target type	Server	Client	Server	Client
Target OS	AIX	AIX	NETWARE	NETWARE
Server name		SERVER01		SERVER02
Domain address	SRV01	SRV01	SRV02	SRV02

4. For target SERVER02 only, Select the **Protocol type** push button.
5. In the Protocol Type window, select APPC and specify a **Profile name**. The name corresponds to the LU6.2 Side Information Profile you define under SNA Server (see “Define the LU 6.2 Side Information Profiles” on page 13).
6. Select **OK** twice to define the target.

Using the command line interface

Enter the following command at an AIXTERM window prompt:

```
nvdm updtg FOCAL -b focal -x PASSWDRA -s FCL01 -n FCL01
nvdm addtg SERVER01 -b server -s SRV01
nvdm addtg CLIENT11 -b client -j SERVER01 -s CLT11
nvdm addtg SERVER02 -b server -s SRV02
nvdm addtg CLIENT21 -b client -j SERVER02 -s CLT21
```

Refer to the description of the **addtg** command in the *TME 10 Software Distribution Reference* for information about other parameters that can be included in the command.

Define Focal Point Target Users

Define a user at the focal point target. You can do so using either the graphical interface or the command line interface.

Using the graphical interface

1. From the Catalog window select:
 - ▶ System
 - ▶ User
2. In the User Management window, enter a User ID and select **New**.
3. Fill in the fields on the New User window as follows:

Configuration Tasks at FOCAL

User ID	FOCAL01
Password	PSWD01
Verify password	PSWD01
Authorization profile	FNDADMN
Description	This is the focal point for the network.
Login Targets	FOCAL

Refer to the *TME 10 Software Distribution Quick Beginnings* for more information.

Using the command line interface: Enter the following command at a FOCAL AIXTERM window prompt:

```
nvdm addusr FOCAL01 FNDADMN -a -d 'This is the remote ►  
administrator of the network.' -i PSWD01
```

Refer to the description of the **addusr** command in the *TME 10 Software Distribution Reference* for information about the parameters included in the command.

Edit SNA/DS Connection Configuration Files

At FOCAL, edit SNA/DS connection configuration files as described below.

Connection between FOCAL and SERVER01

Edit `/usr/lpp/netviewdm/db/snadscon/conntcp01` as shown in Figure 16.

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION conntcp01  
#  
# This connection is used to handle transmissions between FOCAL  
# and SERVER01 in a network with a remote administration site.  
#  
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/conntcp01  
  
PROTOCOL:                TCP/IP  
TYPE:                    SNA  
REMOTE SERVER NAME:      SERVER01  
TCP/IP TIME-OUT:         300  
NEXT DSU:                SRV01.SRV01  
TRANSMISSION TIME-OUT:   60  
RETRY LIMIT:             3  
SEND MU_ID TIME-OUT:     60  
RECEIVE MU_ID TIME-OUT:  120
```

Figure 16. SNA/DS Connection Configuration file for link between FOCAL and SERVER01

Connection between FOCAL and SERVER02

Edit `/usr/lpp/netviewdm/db/snadscon/connsna02` as shown in Figure 17 on page 67.

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION connsna02
#
# This connection is used to handle transmissions between FOCAL
# and SERVER02 in a network with a remote administration site.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/conntcp01

TYPE:                                SNA
PROTOCOL:                            APPC
SEND TP SYMBOLIC DESTINATION:        NVDMIDS
RECEIVE TP SYMBOLIC DESTINATION:      NVDMIDIR
NEXT DSU:                            SRV02.SRV02
TRANSMISSION TIME-OUT:                60
RETRY LIMIT:                          3
SEND MU_ID TIME-OUT:                  60
RECEIVE MU_ID TIME-OUT:                120
```

Figure 17. SNA/DS Connection Configuration file for link between FOCAL and SERVER02

Edit the Routing Table

Edit the routing table stored in /usr/lpp/netviewdm/db/routetab at FOCAL as shown in Figure 18.

```
# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the TCP/IP link between FOCAL and SERVER01, SERVER02.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  BOTH

#
# Domain address      Connection
# and target          Configuration
# address             File Name
#

SRV01.*              conntcp01
SRV02.*              connsna02
```

Figure 18. TCP/IP Routing Table for FOCAL

Configure TCP/IP

You must configure TCP/IP at FOCAL to communicate with SERVER01. You need root privileges to use SMIT to do so. Perform the following steps:

- 1. To load smit, on the AIX command line type
smit
The System Management menu is displayed. Select:

Configuration Tasks at FOCAL

- ➔ Communications Applications and Services
 - ➔ TCP/IP
 - ➔ Minimum Configuration & Startup
2. You are prompted to select the network interface on which you want TCP/IP to run (for example, token-ring network interface).

The Minimum Configuration & Startup screen for the network interface that you have chosen is displayed. There are many fields that you can set; however, most of them have defaults. Set only the following fields:

Field	Value
HOSTNAME	FOCAL
INTERNET Address	9.87.231.174 The network administrator assigns this value.
Network MASK	255.255.254.0 The network administrator assigns this value.
Ring Speed	16 The network administrator assigns this value.

3. Press Enter to complete the configuration procedure.

Configure APPC

You must configure APPC at the focal point target (FOCAL) to communicate with the TME 10 Software Distribution for NetWare server (SERVER02). APPC configuration steps using SMIT are described in “Configuration Tasks for APPC Communication” on page 42.

Remember when configuring SNA Server/6000 Version 2.1 Communications Server, Version 5, the profile names for LU6.2 CPI Communication Side Information must correspond to the values in the SEND TP SYMBOLIC DESTINATION and the RECEIVE TP SYMBOLIC DESTINATION fields in the SNA/DS connection configuration file. The values commonly used are:

NVDMSIDR Receive TP
NVDMSIDS Send TP

See “Define the LU 6.2 Side Information Profiles” on page 51 for a description of the fields.

The information in this manual concerning SNA Server/6000 Version 2.1 and Communications Server, Version 5 does not attempt to be complete; it is merely a summary of basic tasks. Please refer to the *AIX SNA Server/6000 Version 2 Release 1 Configuration Reference* or *Communications Server Configuration Reference* to complete your understanding of SNA configuration. For previous releases of TME 10 Software Distribution for AIX, SNA can also be configured using SNA Services/6000 Version 1.2.

Configuration Tasks at SERVER01

You must perform the following configuration tasks at SERVER01:

- Define the targets the server communicates with
- Configure APPC links to the focal point target by editing:
 - The routing table
 - The SNA/DS connection configuration file
- Configure TCP/IP communication

Define Targets at SERVER01

Define targets with the following values at SERVER01. You can use either the graphical interface or the command line interface to do so. Use the following values to define targets:

Name	FOCAL	CLIENT11...
Change Management	Focal	Push
Target address	FCL01	CLT11...
Target type	Server	Client
Target OS	AIX	AIX
Server name	FOCAL	SERVER01
Domain address	FCL01	SRV01

Edit the SNA/DS Connection Configuration File

At SERVER01, edit the SNA/DS connection configuration file described below.

Connection between SERVER01 and FOCAL

Edit `/usr/lpp/netviewdm/db/snadscon/conntcp03` as shown in Figure 19.

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION conntcp03
#
# This connection is used to handle transmissions between SERVER01
# and FOCAL in a centrally managed multidomain network
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/conntcp03

PROTOCOL:                TCP/IP
TYPE:                    SNA
REMOTE SERVER NAME:      FOCAL
TCP/IP TIME-OUT:         300
NEXT DSU:                FCL01.FCL01
TRANSMISSION TIME-OUT:   60
RETRY LIMIT:             3
SEND MU_ID TIME-OUT:     60
RECEIVE MU_ID TIME-OUT:  120
```

Figure 19. SNA/DS Connection Configuration file for link between SERVER01 and FOCAL

Configure the Server Name at AIX Clients

Edit the Routing Table

Edit the routing table stored in /usr/lpp/netviewdm/db/routetab at SERVER01 as shown in Figure 20.

```
# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the TCP/IP link between SERVER01 and FOCAL.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  TCP/IP

#
# Domain address      Connection
# and target          Configuration
# address             File Name
#

FCL01.*              conntcp03
```

Figure 20. TCP/IP Routing Table for SERVER01

Configure the Server Name at AIX Clients

At each client, configure the name of the server to which it is locally linked. To do so edit the base configuration file, nvdm.cfg, which is stored in the /usr/lpp/netviewdm/db/ directory.

At each of the clients linked locally to SERVER01, edit the SERVER keyword as shown in the following example:

```
# BASE CONFIGURATION FILE
#
# This file should be stored as /usr/lpp/netviewdm/db/nvdm.cfg

WORKSTATION NAME:      CLIENT11
MESSAGE LOG LEVEL:     N
LAN AUTHORIZATION:     1
CONFIGURATION:         CLIENT
MACHINE TYPE:          AIX
LOG FILE SIZE:         50000
TRACE FILE SIZE:       100000
MAX CONNECTIONS:       30
API TRACE FILE SIZE:   100000
TCP/IP PORT:           729
SERVER:              SERVER01
REPOSITORY:            /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:           /usr/lpp/netviewdm/backup
```

Figure 21. Base Configuration file at a client linked to SERVER01

Configuration Tasks at SERVER02

You must perform the following configuration tasks at SERVER02:

- Define the targets in DOMAIN03.
- Define the focal point target.
- Configure SNA/DS links to the focal point target by editing:
 - The routing table
 - The SNA/DS connection file
 - The SNA/DS connection configuration file
- Configure SNA communication

Refer to the *TME 10 Software Distribution for NetWare Quick Beginnings* for information about how to do so.

Chapter 4. Configuring Server-to-Server Links

This chapter describes how to configure server-to-server links between TME 10 Software Distribution nodes. This type of communication allows TME 10 Software Distribution servers to be connected across TCP/IP or APPC using RB-API communications, an internal TME 10 Software Distribution component referred to as server-to-server (STS). Clients can send and retrieve files to and from remote clients and servers. Change control operations can be performed remotely if they pass through a manager or focal point target. A network with server-to-server communication is shown in Figure 22.

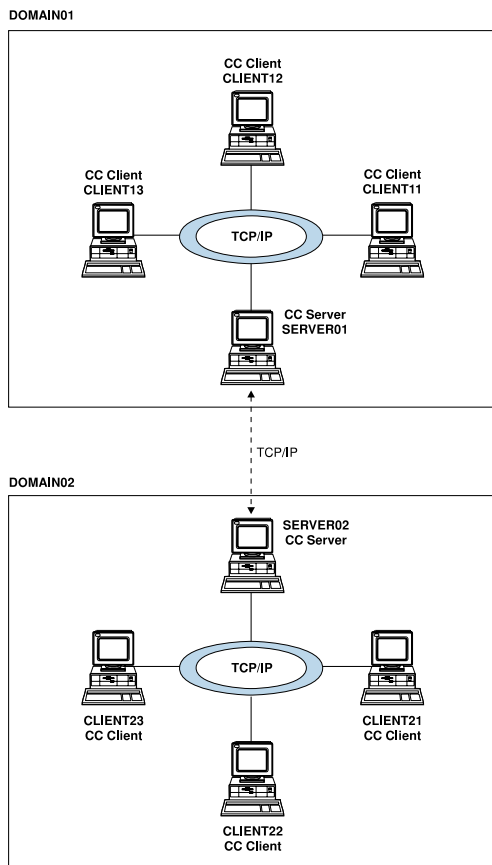


Figure 22. Server-to-server links

Configuration Tasks for TCP/IP Communication

Product Options

Install the following product options at servers to obtain server-to-server links:

Required:

- Base
- Server
- Communication
- Remote administrator (required for remote change control operations)

Optional:

- Graphical interface
- NLS package
- Plan
- Tool

See the *Quick Beginnings* manual for a description of how to install TME 10 Software Distribution options.

Configuration Tasks for TCP/IP Communication

This section describes the configuration operations that you must perform to have a working single TME 10 Software Distribution node. They are:

- At servers, define the targets in both domains.
- Define users at the server and at the clients.
- At clients, configure the server name.
- Configure TCP/IP links at each server by editing:
 - STS connection configuration files
 - The routing table
- At each server, configure TME 10 Software Distribution for TCP/IP communication.

Define Targets

At each server, define:

- The servers as targets
- All clients in DOMAIN01 and DOMAIN02 as targets

You can do so using either the graphical interface or the command line interface.

Using the graphical interface

1. From an AIXTERM window enter the following command to start the graphical interface:

```
nvdmg i
```

2. From the Catalog window select:

- ▶ Windows
- ▶ Targets
- ▶ Target

► New Target

- At both SERVER01 and SERVER02, fill in the fields on the New Target window as follows (you do not have to define SERVER01 or SERVER02 to itself):

Name	SERVER01	CLIENT11...	SERVER02	CLIENT21...
Change Management	Manager	Push	Manager	Push
Target address	SRV01	CLT11	SRV02	CLT21
Target type	Server	Client	Server	Client
Target OS	AIX	AIX	AIX	AIX
Server name		SERVER01		SERVER02
Domain address	SRV01	SRV01	SRV02	SRV02

Using the command line interface

Enter the following commands at an AIXTERM window prompt on both servers:

```
nvdms updtg SERVER01 -b server -s SRV01 -n SRV01
nvdms addtg CLIENT11 -b client -j SERVER01 -s CLT11
nvdms addtg SERVER02 -b server -s SRV02 -n SRV01
nvdms addtg CLIENT21 -b client -j SERVER02 -s CLT21
```

Refer to the description of the **addtg** command in the *TME 10 Software Distribution Reference* for information about other parameters that can be included in the command.

Define Users at the Server

At the server, you must define the users of the targets in your domain to TME 10 Software Distribution, Version 3.1.5 for AIX. You can do so using either the graphical interface or the command line interface.

Using the graphical interface

To define users of DOMAIN01 at SERVER01, perform the following steps.

- From the Catalog window select:
 - System
 - User
- In the User Management window, enter a User ID and select **New**.
- Fill in the fields on the New User window as follows:

Configuration Tasks for TCP/IP Communication

Field	Value
User ID	USER11
Password	PSWD11
Verify password	PSWD11
Authorization profile	FNDUSER
Description	This is a user at CLIENT11, CLIENT12, and CLIENT13.
Login Targets	CLIENT11 CLIENT12 CLIENT13

4. Perform the same steps at SERVER02 to define the users of the targets in DOMAIN02.

Refer to the *qbeg*. for more information.

Using the command line interface

To define a user in DOMAIN01, enter the following command at a SERVER01 AIXTERM window prompt:

```
nvdm addusr USER11 FNDUSER -d 'This is a user at CLIENT11' -i PSWD11 -t CLIENT11 -t CLIENT12 -t CLIENT13
```

To define a user in DOMAIN02 using the command line interface, enter the following command at a SERVER02 AIXTERM window prompt:

```
nvdm addusr USER21 FNDUSER -d 'This is a user at CLIENT21' -i PSWD21 -t CLIENTN21 -t CLIENT22 -t CLIENT23
```

Refer to the description of the **addusr** command in the *TME 10 Software Distribution Reference* for information about the parameters included in the command.

Configure the Server Name at Clients

At each client, you must configure the name of the server to which it is locally linked. To do so edit the base configuration file, `nvdm.cfg`, which is stored in the `/usr/lpp/netviewdm/db` directory.

At each of the clients in DOMAIN01, edit the **SERVER** keyword as shown in the following example:

```
# BASE CONFIGURATION FILE
#
# This file should be stored as /usr/lpp/netviewdm/db/nvdm.cfg

WORKSTATION NAME:      CLIENT11
MESSAGE LOG LEVEL:     N
LAN AUTHORIZATION:     1
CONFIGURATION:         CLIENT
MACHINE TYPE:         AIX
LOG FILE SIZE:         50000
TRACE FILE SIZE:       100000
MAX CONNECTIONS:       30
API TRACE FILE SIZE:   100000
TCP/IP PORT:           729
SERVER:              SERVER01
REPOSITORY:            /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:           /usr/lpp/netviewdm/backup
WORK AREA:             /usr/lpp/netviewdm/work
```

Figure 23. Base Configuration file at a client in DOMAIN01

At each of the clients in DOMAIN02, edit the SERVER keyword to read SERVER02.

Configure TCP/IP

You must configure TCP/IP at both SERVER01 and SERVER02 using SMIT. You need root privileges to do so. Perform the following steps:

1. To load smit, on the AIX command line type

```
smit
```

The System Management menu is displayed. Select:

- ➔ Communications Applications and Services
- ➔ TCP/IP
- ➔ Minimum Configuration & Startup

2. Select the network interface on which you want TCP/IP to run over (for example, token-ring network interface).

The Minimum Configuration & Startup screen for the network interface that you have chosen is displayed. There are many fields that you can set; however, most of them have defaults. Set only the following fields:

Configuration Tasks for TCP/IP Communication

Field	Value
HOSTNAME	SERVER01 at SERVER01 SERVER02 at SERVER02
INTERNET Address	9.87.231.174 at SERVER01 9.87.231.175 at SERVER02 The network administrator assigns this value.
Network MASK	255.255.254.0 The network administrator assigns this value.
Ring Speed	16 The network administrator assigns this value.

3. Press Enter to complete the configuration procedure.

Edit STS Connection Configuration Files

At SERVER01, edit `/usr/lpp/netviewdm/db/snadscon/connststcp01` as shown in Figure 24. Note that for server-to-server communication, the `TYPE` parameter must be set to STS.

```
# STS CONNECTION CONFIGURATION FILE FOR CONNECTION connststcp01
#
# This connection is used to handle server-to-server transmissions between SERVER01
# and SERVER02 in a network of interconnected domains.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/connststcp01

PROTOCOL:                TCP/IP
TYPE:                   STS
REMOTE SERVER NAME:    SERVER02
```

Figure 24. STS Connection Configuration file for TCP/IP link at SERVER01

At SERVER02, edit `/usr/lpp/netviewdm/db/snadscon/connststcp02` as shown in Figure 25.

```
# STS CONNECTION CONFIGURATION FILE FOR CONNECTION connststcp02
#
# This connection is used to handle server-to-server transmissions between SERVER02
# and SERVER01 in a network of interconnected domains.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/connststcp01

PROTOCOL:                TCP/IP
TYPE:                   STS
REMOTE SERVER NAME:    SERVER01
```

Figure 25. STS Connection Configuration file for TCP/IP link at SERVER02

Edit the Routing Table

At SERVER01, edit the routing table /usr/lpp/netviewdm/db/routetab as shown in Figure 26.

```
# STS ROUTING TABLE
# This table provides SNA/DS routing information for
# the TCP/IP link between SERVER01 and SERVER02.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  TCP/IP

#
# Domain address      Connection
# and target address  configuration file
#

SRV02.*              connststcp01
```

Figure 26. STS Routing Table for SERVER01 TCP/IP routes

At SERVER02, edit the routing table /usr/lpp/netviewdm/db/routetab as shown in Figure 27.

```
# STS ROUTING TABLE
# This table provides STS routing information for
# the TCP/IP link between SERVER01 and SERVER02.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  TCP/IP

#
# Domain address      Connection
# and target address  configuration file
#

SRV01.*              connststcp02
```

Figure 27. STS Routing Table for SERVER02 TCP/IP routes

Configuration Tasks for APPC Communication

Perform the following operations to configure APPC communication between servers:

- At each server, define the other server target it is linked to across APPC
- At each server, define the clients it is linked to as described in “Define Targets” on page 74.
- Configure APPC at each server

Configuration Tasks for APPC Communication

Figure 28 on page 80 shows the configuration, and includes the values used for SVR01 and SVR02 when configuring SNA Server/6000 Version 2.1 or Communications Server, Version 5.

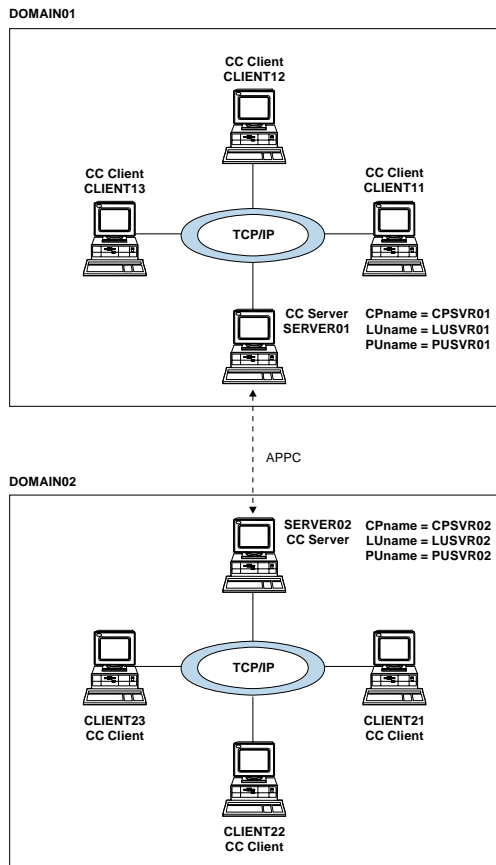


Figure 28. An STS connection across APPC

Define Server Targets

At server SVR01, define SVR02 as a target linked across APPC. You can do so using the graphical interface or the command line interface.

Using the graphical interface

1. From an AIXTERM window enter the following command to start the graphical interface:
`nvdmg i`
2. From the Catalog window select:
 - Windows

- ▶ Targets
- ▶ Target
- ▶ New Target

3. At both SERVER01 and SERVER02, fill in the fields on the New Target window as follows (you do not have to define SERVER01 or SERVER02 to itself):

Name	SERVER01	SERVER02
Change Management	Manager	Manager
Target address	SRV01	SRV02
Target type	Server	Server
Target OS	AIX	AIX
Server name	SERVER01	SERVER02
Domain address	SRV01	SRV02

4. In the New Target window, select the **Protocol type** push button.
5. In the Protocol Type window, select APPC and specify a **Profile name**. The name must correspond to the LU6.2 Side Information Profile you define under SNA Server (see “Define the LU 6.2 Side Information Profiles” on page 87). In this scenario, the profile names are SERVER01 and SERVER02.
6. Select **OK** twice to define the target.

Using the command line interface: Enter the following commands at an AIXTERM window prompt on both servers:

```
nvdms updtg SERVER01 -b server -s SRV01 -n SRV01 -tp appc:SERVER01
nvdms updtg SERVER02 -b server -s SRV02 -n SRV02 -tp appc:SERVER02
```

Refer to the description of the **updtg** command in the *TME 10 Software Distribution Reference* for information about other parameters that can be included in the command.

However, in the SNA environment in addition you must also perform the following steps:

Configure APPC at the Server Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3

This section only refers to configuring APPC on a computer running versions of AIX prior to version 4.3.3 with SNA Server/6000 Version 2.1; the APPC configuration for computers running AIX Version 4.3.3 with Communications Server, Version 5 installed is described in “Configure APPC at the Server Using Communications Server, Version 5 on AIX Version 4.3.3” on page 88.

This section describes the steps you must perform to configure APPC at SERVER01 so that it can communicate with SERVER02 using a token-ring adapter. The same operations must be performed at SERVER02 to enable it to communicate with SERVER01.

Configuration Tasks for APPC Communication

The configuration procedure defines a series of profiles, many of which reference other profiles. The profiles are:

- SNA control point
- Data link control
- Link station
- Local logical unit
- LU conversation mode
- LU transaction
- Partner LU
- Partner LU location
- Side information

To define these profiles, perform the following preliminary steps:

1. From the System Management menu, select:
 - ➔ Communications Applications and Services
 - ➔ SNA Server/6000
 - ➔ Configure SNA Profiles
 - ➔ Advanced SNA Configuration

Define an SNA Control Point

1. From the Advanced SNA Configuration menu, select:
 - ➔ Control Point
 - ➔ Change/Show a Profile

Enter the following information:

PROFILE name	node_cp
XID node ID	071xxxxx
Network name	ITIBM0PC
Control Point (CP) name	CPSVR01
Control Point alias	CPSVR01
Control Point type	appn_end_node
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define a Token Ring Data Link Control Profile

Perform the following steps to define a physical unit:

1. From the Advanced SNA Configuration menu, select:
 - ➔ Links
 - ➔ Token Ring
 - ➔ Token Ring SNA DLC

➔ Change/Show a Profile

2. Enter the following information on the Change/Show a Token Ring SNA DLC Profile screen:

PROFILE name	tok0
Data link device name	tok0
All other fields	Accept the default values

3. Press Enter and return to the Advanced SNA Configuration Menu

Define a Token Ring Link Station Profile

Perform the following steps to define a token ring data link station profile:

1. From the Advanced SNA Configuration menu select:

- ➔ Links
- ➔ Token Ring
- ➔ Token Ring Link Station
- ➔ Change/Change a Profile

A data entry panel is displayed. Enter:

PROFILE name	SVR02
Use APPN Control Point's XID node ID?	yes
SNA DLC Profile name	tok0
Stop link station on inactivity?	no
LU address registration?	no
Trace link?	no
Access routing	link_address
Remote link name	leave blank
Remote link address	Enter the adapter card address
Remote SAP address	04
Verify adjacent node?	no
Network ID of adjacent node	ITIBM0PC
CP name of adjacent node	CPSVR02
XID node ID of adjacent node	*
Node type of adjacent node	learn
Solicit SSCP sessions?	yes

Configuration Tasks for APPC Communication

Initiate call when link station is activated?	yes Note that when you configure this profile for SERVER02, this field should be set to no, because one end of communication must call while the other listens.
Activate link station at SNA start up?	yes
Activate on demand?	no
CP-CP sessions supported?	yes
If yes, adjacent network node preferred server?	no
Partner required to support CP-CP sessions?	no
Initial TG number	1
Restart on activation?	no
Restart on normal deactivation?	yes
Restart on abnormal deactivation?	no
Effective capacity	4300800
Cost per connect time	0
Cost per byte	0
Security	nonsecure
Propagation delay	lan
User-defined 1	128
User-defined 2	128
User-defined 3	128

2. Press Enter to save this information.
3. Return to the Advanced SNA Configuration menu.

Define the Local Logical Unit Profile

Perform the following steps to define a logical unit:

1. From the Advanced SNA Configuration menu select:
 - ➔ Sessions
 - ➔ LU 6.2
 - ➔ LU 6.2 Local LU
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	NVDMLLU
Local LU name	LUSVR01
Local LU alias	LUSVR01
Local LU is dependent?	no
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the Advanced SNA Configuration menu.

Define the Conversation Mode

The characteristics of a conversation on a connection are defined by a conversation mode profile. A simple installation has just one mode defined. For this example, define a default conversation mode profile called LU62 as follows.

1. From the Advanced SNA Configuration menu select:

- ➔ Sessions
- ➔ LU6.2
- ➔ LU6.2 Mode
- ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	LU62
Mode name (AIX Version 4.1 only)	LU62
Maximum number of sessions	Accept the default value.
Minimum contention winners	0
Minimum contention losers	0
Auto activate limit	0
Upper bound for adaptive receive pacing window	16
Receive pacing window	7
Maximum RU size	Accept the default value.
Minimum RU size	Accept the default value.
Class of Service (COS) name	#connect

2. Press Enter to save changes.
3. Return to the LU6.2 menu.

Configuration Tasks for APPC Communication

Define Local Transaction Program Names

To add this profile:

1. From the LU6.2 menu, select:
 - ➔ LU6.2 Transaction Program Name (TPN)
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Profile name	fndrbas
Transaction program name	NVDM
Transaction program name is in hexadecimal?	no
PIP data?	no
Conversation type	mapped
Sync level	none
Resource security level	none
Full path to TPN executable	/lpp/netviewdm/bin/fndrbas
Multiple instances supported?	yes
User ID	0
Server synonym name	leave blank
Restart action	once
Communication type	signals
Standard input file device	/dev/console
Standard output file device	/dev/console
Standard error file device	/dev/console

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the LU 6.2 Partner LU Profile

To define a partner LU profile:

1. From the LU6.2 menu, select:
 - ➔ LU 6.2 Partner LU
 - ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	SVR02
Fully qualified partner LU name	ITIBM0PC.LUSVR02
Partner LU alias	LUSVR02
Parallel sessions supported?	yes
Session security supported?	no
Conversation security level	none
All other fields	Accept the default values

2. Press Enter to save the information.
3. Return to the LU6.2 menu.

Define the Partner LU Location Profile

To define a partner LU location profile:

1. From the LU6.2 menu, select:
 - ➔ Partner LU 6.2 Location
 - ➔ Add a profile

A data entry panel is displayed. Enter:

Profile name	SVR02
Fully qualified partner LU name	ITIBM0PC.LUSVR02
Fully qualified owning control point name	ITIBM0PC.CPSVR02
Local node	no
All other fields	Accept the default values

2. Press Enter to save changes.
3. Return to the LU 6.2 menu.

Define the LU 6.2 Side Information Profiles

The name you supply for the Side Information Profile is used when you define the target to the TME 10 Software Distribution system (in this scenario SERVER01 is used). To add the profile:

1. From the LU6.2 menu, select:
 - ➔ LU 6.2 Side Information
 - ➔ Add a Profile

A data entry panel is displayed. Enter:

Configuration Tasks for APPC Communication

Profile name	SERVER01
Local LU or Control Point Alias	LUSVR01
Partner LU alias	LUSVR01
Fully qualified partner LU name	ITIBM0PC.LUSVR02
Mode name	LU62
Remote transaction program name	NVDM
RTPN in hexadecimal?	no

2. Press Enter to save changes.
3. Return to the Advanced SNA Configuration menu.

Verify the SNA Server/6000 Version 2.1 Configuration

In SNA Server/6000 Version 2.1, the profiles do not become effective until they have been successfully verified. Perform the following steps:

1. Go to the Advanced SNA Configuration menu in SMIT.
2. Select the **Verify Configuration Profiles** option.
3. Select `dynamic_update` in the “Update action of verification successful” field. (You can select `normal_update` if SNA Server/6000 Version 2.1 is not active.)
4. Press Enter to make the changes effective.
5. Press F3 to return to the input screen.
6. Exit from SMIT.

Configure APPC at the Server Using Communications Server, Version 5 on AIX Version 4.3.3

This section only refers to configuring APPC on a computer running AIX Version 4.3.3 with Communications Server, Version 5 installed; the APPC configuration for computers running versions of AIX prior to Version 4.3.3 with SNA Server/6000 Version 2.1 installed is described in “Configure APPC at the Server Using SNA Server/6000 Version 2.1 on Versions of AIX Prior to Version 4.3.3” on page 81.

This section shows the communications profiles that you must create to configure APPC at SERVER01 so that it can communicate with SERVER02 using an Ethernet adapter. The same operations must be performed at SERVER02 to enable it to communicate with SERVER01.

The profiles are created using the configuration panels of Communications Server, Version 5; the field names in the profiles can easily be matched with the parameters on the panels.

The profiles given here are samples which need to be customized for your specific circumstances. Where TME 10 Software Distribution, Version 3.1.5 for AIX requires a

specific value in a parameter, a note following the profile explains the required value. Otherwise, you can accept the default values, or modify them to suit your requirements.

The profiles are contained in three files, as follows:

Node configurations in `sna_node_cfg`

- Configuration file information (details not shown here)
- Node definitions
- Ethernet data link control definitions
- Ethernet port definitions
- Ethernet link station definitions
- Partner logical unit definitions
- Local logical unit definitions
- Mode definitions
- Directory entries
- Transaction program definitions (send and receive)

Transaction program location definitions in `sna_tps`

- Transaction program location definitions

Domain configurations in `sna_dmn_cfg`

- Configuration file information (details not shown here)
- CPIC side information definitions

The panels defining these profiles can be accessed as follows:

From the System Management menu, select:

- ➔ Communications applications and services
- ➔ Communications Server for AIX
- ➔ Configure SNA resources

Note: Unlike SNA Server/6000 Version 2.1, you do not need to actively verify the profiles created, as Communications Server, Version 5 does it automatically for you.

Define Node

```
[define_node]
cp_alias = PPE0014
description = ""
fqcp_name = ITIBM0PC.PPE0014
node_type = END_NODE
mode_to_cos_map_supp = NO
mds_supported = YES
node_id = <05d00014>
max_locates = 1500
dir_cache_size = 255
max_dir_entries = 0
```

Configuration Tasks for APPC Communication

```
locate_timeout = 0
reg_with_nn = YES
reg_with_cds = YES
mds_send_alert_q_size = 100
cos_cache_size = 24
tree_cache_size = 40
tree_cache_use_limit = 40
max_tdm_nodes = 0
max_tdm_tgs = 0
max_isr_sessions = 1000

isr_sessions_upper_threshold = 900
isr_sessions_lower_threshold = 800
isr_max_ru_size = 16384
isr_rcv_pac_window = 8
store_endpt_rscvs = NO
store_isr_rscvs = NO
store_dlur_rscvs = NO

dlur_support = YES
pu_conc_support = YES
nn_rar = 128
max_ls_exception_events = 0
ms_support = NORMAL
queue_nmvt = NO
ptf_flags = NONE
```

Define Ethernet Data Link Control

```
[define_ethernet_dlc]
dlc_name = ETHER0
description = ""
neg_ls_supp = YES
card_type = GDLC_ETHERNET
initially_active = YES
adapter_number = 0
max_saps = 16
ethernet_type = 802_3
```

Note: adapter_number must be set to the last digit of the adapter name (normally zero, if there is only one adapter).

Define Ethernet Port

```
[define_ethernet_port]
port_name = ETSAP0
description = ""
dlc_name = ETHER0
port_type = PORT_SATF
port_number = 1
lsap_address = 0x04
initially_active = YES
implicit_hpr_support = NO
implicit_link_lvl_error = NO
```

```

max_rcv_btu_size = 1492
tot_link_act_lim = 255
inb_link_act_lim = 0
out_link_act_lim = 0
ls_role = LS_NEG
implicit_dspu_services = NONE
implicit_dspu_template = ""
implicit_ls_limit = 0
act_xid_exchange_limit = 9
nonact_xid_exchange_limit = 5

ls_xmit_rcv_cap = LS_TWS
max_ifrm_rcvd = 7
target_pacing_count = 7
max_send_btu_size = 1492
mac_address = <000000000000>
implicit_cp_cp_sess_support = YES
implicit_limited_resource = NO
implicit_deact_timer = 30
effect_cap = 3993600
connect_cost = 0
byte_cost = 0

security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128
local_name = <000000000000>
xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 8
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120

```

Define Ethernet Link Station

```

[define_ethernet_ls]
ls_name = ETHL0STS
description = ""
port_name = ETSAP0
adj_cp_name = <00000000000000000000000000000000>
adj_cp_type = LEARN_NODE
dspu_services = NONE
dspu_name = <0000000000000000>
dlus_name = <00000000000000000000000000000000>
bkup_dlus_name = <00000000000000000000000000000000>
local_node_id = <00000000>
adj_node_id = <05D00161>
mac_address = <0004AC975928>

```

Configuration Tasks for APPC Communication

```
lsap_address = 0x04
max_send_btu_size = 1492
ls_attributes = SNA
cp_cp_sess_support = YES
hpr_supported = NO
hpr_link_lvl_error = NO
auto_act_supp = NO
tg_number = 0
limited_resource = NO
solicit_sscp_sessions = NO
pu_name = <0000000000000000>

disable_remote_act = NO
default_nn_server = NO
link_deact_timer = 30
use_default_tg_chars = YES
effect_cap = 3993600
connect_cost = 0
byte_cost = 0
security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128

target_pacing_count = 7
ls_role = LS_NEG
max_ifrm_rcvd = 0
dlus_retry_timeout = 0
dlus_retry_limit = 0
need_vrfy_fixup = NO
initially_active = NO
react_timer = 30
react_timer_retry = 0

xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 8
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120
```

Define Partner Logical Unit

There should be a Partner LU for every connection with another server using SNA.

```
[define_partner_lu]
plu_alias = LT0161A0
description = ""
fqplu_name = ITIBM0PC.LT0161A0
plu_un_name = LT0161A0
parallel_sess_supp = YES
appcip_routing_preference = NATIVE
max_mc_ll_send_size = 0
conv_security_ver = NO
```

Define Local Logical Unit

```
[define_local_lu]
lu_alias = LT0014A0
list_name = ""
description = ""
lu_name = LT0014A0
lu_session_limit = 0
pu_name = <0000000000000000>
nau_address = 0
default_pool = NO
syncpt_support = NO

lu_attributes = NONE
sscp_id = 0
disable = NO
sys_name = ""
timeout = 60
back_level = NO
```

Define Mode

```
[define_mode]
mode_name = LU62
description = ""
max_neg_sess_lim = 1
plu_mode_session_limit = 1
min_conwin_src = 0
min_conloser_src = 0

auto_act = 0
receive_pacing_win = 7
max_receive_pacing_win = 7
default_ru_size = YES
max_ru_size_upp = 256
max_ru_size_low = 256
cos_name = #CONNECT
```

Define Directory Entries

```
[define_directory_entry]
resource_name = ITIBM0PC.PPE0161
resourcetype = ENCP_RESOURCE
description = (Auto defined – remote node)
parent_name = <00000000000000000000000000000000>
parent_type = ENCP_RESOURCE
```

```
[define_directory_entry]
resource_name = ITIBM0PC.PPE0161
resourcetype = LU_RESOURCE
description = (Auto defined – default LU)
parent_name = ITIBM0PC.PPE0161
parent_type = ENCP_RESOURCE
```

```
[define_directory_entry]
resource_name = ITIBM0PC.LT0161A0
resourcetype = LU_RESOURCE
description = ""
parent_name = ITIBM0PC.PPE0161
parent_type = ENCP_RESOURCE
```

Define Transaction Program

Two transaction programs must be defined: one for the SEND transactions and one for the RECEIVE transactions.

```
[define_tp]
tp_name = NVDM
description = ""
list_name = ""
conv_type = MAPPED
security_rqd = NO
sync_level = NONE
enabled = YES
pip_allowed = NO
tp_instance_limit = 0
incoming_alloc_timeout = 0
secondary_key = fndrbas
```

Define Transaction Program Location

A transaction program location should be defined for the transaction program.


```

[NVDM]
LUALIAS = ""
DESCRIPTION = ""
USERID = root
GROUP = ""
TIMEOUT = 0
TYPE = NON-QUEUED
STYLE = COMPATIBLE
PATH = /usr/lpp/netviewdm/bin/fndrbas
STDIN = /dev/console
STDOUT = /dev/console
STDERR = /dev/console

```

Define CPIC Side Information

You need to define CPIC side information for the transaction program for each server with which you want to communicate using a SNA/STS connection.

```

[define_cpic_side_info]
sym_dest_name = lab81047
description = ""
lu_alias = LT0014A0
partner_lu_name = ITIBM0PC.LT0161A0
mode_name = LU62
tp_name_type = APPLICATION_TP
tp_name = NVDM
conversation_security_type = NONE
security_user_id = ""
security_password = ""

```


Chapter 5. Configuring Networks with NetView DM for MVS

This chapter describes how to configure TME 10 Software Distribution nodes linked to NetView DM for MVS across an SNA connection. Two configurations are described:

- A single TME 10 Software Distribution server linked to NetView DM for MVS
- A TME 10 Software Distribution single node linked to NetView DM for MVS

TME 10 Software Distribution, Version 3.1.5 for AIX Server Linked to NetView DM for MVS

This system consists of a TME 10 Software Distribution server managing a domain composed of TME 10 Software Distribution Client workstations connected in a TCP/IP network, with a remote link to a NetView DM for MVS system.

This configuration allows files to be moved freely among clients, the server, and the remote node. Software packages on the clients and the server can be managed from the clients, from the server, and from the remote NetView DM for MVS node.

Figure 29 shows a server with a local TCP/IP domain connected remotely over an SNA SDLC link to a NetView DM for MVS node.

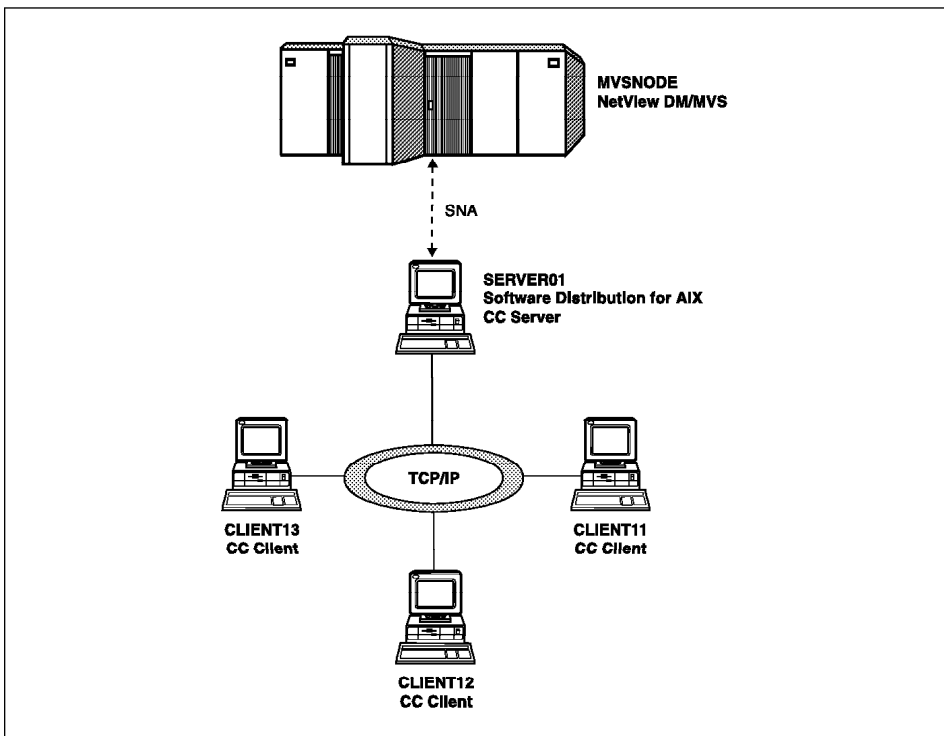


Figure 29. Single-server system with remote MVS communication

Product Options

Install the following product options in a single-server network with remote communication:

Required:

- Base
- Server
- Communication
- Client

Optional:

- Plan
- Tool
- Graphical interface
- NLS package

See the *Quick Beginnings* manual for a description of how to install TME 10 Software Distribution options.

You must also install corresponding agent products on the clients in the network.

Configuration Tasks

Perform the following configuration operations to have a working single-server system with remote communication:

- Configure the targets with which the server communicates.
- Define server and client users
- Configure TCP/IP and SNA at the server
- Configure TCP/IP at the clients
- At the clients, configure the server name

Define Targets

At the server, you must define the targets with which it communicates. You can do so using the graphical interface or the command line interface.

Using the graphical interface

1. From an AIXTERM window enter the following command to start the graphical interface:

```
nvdmg i
```

2. From the Catalog window select:

- ▶ Windows
- ▶ Targets
- ▶ Target
- ▶ New Target

3. Fill in the fields on the New Target window as follows:

Configuring Networks with NetView DM for MVS - Product Options

Name	MVSNODE	CLIENT11	CLIENT12	CLIENT13
Change Management	Manager	Push	Push	Push
Target address	MVS01	CLT11	CLT12	CLT13
Target type	Single	Client	Client	Client
Target OS	Leave blank	AIX	AIX	AIX
Server name	MVSNODE	SERVER01	SERVER01	SERVER01

4. For target MVSNODE only, Select the **Protocol type** push button.
5. In the Protocol Type window, select APPC and specify a **Profile name**. The name corresponds to the LU6.2 Side Information Profile you define under SNA Server (see “Define the LU 6.2 Side Information Profiles” on page 13).
6. Select **OK** twice to define the target.

Using the command line interface: To define local target NVDMSSRV001 using the command line interface, enter the following command at an AIXTERM window prompt:

```
nvdms updtg MVSNODE -b single -s MVS01
nvdms addtg CLIENT11 -b client -j SERVER01 -s CLT11
nvdms addtg CLIENT12 -b client -j SERVER01 -s CLT12
nvdms addtg CLIENT13 -b client -j SERVER01 -s CLT13
```

Define Users

To define users at the server, follow the operations described in “Define Users” on page 4.

Edit the SNA/DS Connection Configuration File

At SERVER01, edit SNA/DS connection configuration files as described below.

Link between SERVER01 and MVSNODE

Edit /usr/lpp/netviewdm/db/snadscon/**connsna01** as shown in Figure 30.

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION connsna01
#
# This connection is used to handle transmissions between MVSNODE
# and SERVER01 in a single-server network with remote
# communication.
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/connsna01

PROTOCOL:                                APPC
TYPE:                                    SNA
SEND TP SYMBOLIC DESTINATION:            NVDMSSIDS
RECEIVE TP SYMBOLIC DESTINATION:          NVDMSSIDR
NEXT DSU:                                <NetID>.<LName>
TRANSMISSION TIME-OUT:                    60
RETRY LIMIT:                              3
SEND MU_ID TIME-OUT:                      60
RECEIVE MU_ID TIME-OUT:                    120
```

Figure 30. SNA/DS Connection Configuration file for link between SERVER01 and MVSNODE

Edit the Routing Table for SNA/DS Links

Edit the routing table stored at SERVER01 as shown in Figure 31.

```
# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the SNA link between SERVER01 and MVSNODE.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  APPC

#
# SNA/DS                      Connection
# Network ID and              Configuration
# LU Name                     File Name
#
MVS01.*                   connsna01
```

Figure 31. Routing Table for SERVER01

Configure TCP/IP

You must configure TCP/IP at SERVER01 to communicate locally with clients. You need SMIT root privileges to do so. Perform the steps described in “Configure TCP/IP at SERVER01” on page 2.

Configure SNA

You must configure SNA at SERVER01 to communicate with the NetView DM for MVS node, MVSNODE.

Remember when configuring SNA Server/6000 Version 2.1 or Communications Server, Version 5, the profile names for LU6.2 CPI Communication Side Information must correspond to the values in the SEND TP SYMBOLIC DESTINATION and the RECEIVE TP SYMBOLIC DESTINATION fields in the SNA/DS connection configuration file. The values commonly used are:

NVDMSIDR Receive TP

NVDMSIDS Send TP

See “Define the LU 6.2 Side Information Profiles” on page 51.

The information in this manual concerning SNA Server/6000 Version 2.1 and Communications Server, Version 5 does not attempt to be complete; it is merely a summary of basic tasks. Please refer to the *AIX SNA Server/6000 Version 2 Release 1 Configuration Reference* or *Communications Server Configuration Reference* to complete your understanding of SNA configuration. For previous releases of TME 10 Software Distribution for AIX, SNA/DS can also be configured using SNA Services/6000 Version 1.2.

SNA Configuration Profile Using Communications Server, Version 5 on AIX Version 4.3.3

This section only refers to configuring SNA on a computer running AIX Version 4.3.3 with Communications Server, Version 5 installed; the SNA configuration for computers running versions of AIX prior to Version 4.3.3 with SNA Server/6000 Version 2.1 installed are described in “Configure SNA” on page 100.

This section shows the communications profiles that you must create to configure APPC at SERVER01 so that it can communicate with the node MVSNODE using an Ethernet adapter. The profiles are created using the configuration panels of Communications Server, Version 5; the field names in the profiles can easily be matched with the parameters on the panels. The profiles are samples which need to be customized for your specific circumstances.

Where TME 10 Software Distribution, Version 3.1.5 for AIX requires a specific value in a parameter, a note following the profile explains the required value. Otherwise, you can accept the default values if you wish, or modify them to suit your requirements. A single example of each profile is provided, except in the case of the transaction programs, where both send and receive program definitions are given.

The profiles are contained in three files, as follows:

Node configurations in `sna_node_cfg`

- Configuration file information (details not shown here)
- Node definitions
- Ethernet data link control definitions
- Ethernet port definitions
- Ethernet link station definitions
- Partner logical unit definitions
- Local logical unit definitions
- Mode definitions
- Transaction program definitions (send and receive)
- Link station routing definitions

Transaction program location definitions in `sna_tps`

- Transaction program location definitions

Domain configurations in `sna_domn_cfg`

- Configuration file information (details not shown here)
- Set global log type (details not shown here)
- CPIC side information definitions

The panels defining these profiles can be accessed as follows:

From the System Management menu, select:

- ➔ Communications applications and services
- ➔ Communications Server for AIX
- ➔ Configure SNA resources

Note: Unlike SNA Server/6000 Version 2.1, you do not need to actively verify the profiles created, as Communications Server, Version 5 does it automatically for you.

Define Node

```
[define_node]
cp_alias = PPE0161
description = ""
fqcp_name = ITIBM0PC.PPE0161
node_type = END_NODE
mode_to_cos_map_supp = NO
mds_supported = YES
node_id = <05d00161>
max_locates = 1500
dir_cache_size = 255
max_dir_entries = 0

locate_timeout = 0
reg_with_nn = YES
reg_with_cds = YES
mds_send_alert_q_size = 100
cos_cache_size = 24
tree_cache_size = 40
tree_cache_use_limit = 40
max_tdm_nodes = 0
max_tdm_tgs = 0
max_isr_sessions = 1000

isr_sessions_upper_threshold = 900
isr_sessions_lower_threshold = 800
isr_max_ru_size = 16384
isr_rcv_pac_window = 8
store_endpt_rscvs = NO
store_isr_rscvs = NO
store_dlur_rscvs = NO

dlur_support = YES
pu_conc_support = YES
nn_rar = 128
max_ls_exception_events = 0
ms_support = NORMAL
queue_nmvt = NO
send_term_self = NO
ptf_flags = NONE
```

Define Ethernet Data Link Control


```
[define_ethernet_dlc]
dlc_name = ETHER0
description = ""
neg_ls_supp = YES
card_type = GDLC_ETHERNET
initially_active = NO
adapter_number = 0
max_saps = 16
ethernet_type = 802_3
```

Note: adapter_number must be set to the last digit of the adapter name (normally zero, if there is only one adapter).

Define Ethernet Port

```
[define_ethernet_port]
port_name = ETSAP0
description = ""
dlc_name = ETHER0
port_type = PORT_SATF
port_number = 0
lsap_address = 0x04
initially_active = YES
implicit_hpr_support = YES
implicit_link_lvl_error = NO

max_rcv_btu_size = 1492
tot_link_act_lim = 255
inb_link_act_lim = 0
out_link_act_lim = 0
ls_role = LS_NEG
implicit_dspu_services = NONE
implicit_dspu_template = ""
implicit_ls_limit = 0
act_xid_exchange_limit = 9
nonact_xid_exchange_limit = 5

ls_xmit_rcv_cap = LS_TWS
max_ifrm_rcvd = 7
target_pacing_count = 7
max_send_btu_size = 1492
mac_address = <0004ac975928>
implicit_cp_cp_sess_support = YES
implicit_limited_resource = NO
implicit_deact_timer = 30
effect_cap = 3993600
connect_cost = 0
byte_cost = 0
```

```
security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128
local_name = ""
xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 50
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120
```

Define Ethernet Link Station

```
[define_ethernet_ls]
ls_name = ETHL0
description = ""
port_name = ETSAP0
adj_cp_name = ITIBM0PC.MVSESA31
adj_cp_type = NETWORK_NODE
dspu_services = NONE
dspu_name = <0000000000000000>
dlus_name = <00000000000000000000000000000000>
bkup_dlus_name = <00000000000000000000000000000000>
local_node_id = <00000000>
adj_node_id = <00000000>
mac_address = <0200694edd02>

lsap_address = 0x04
max_send_btu_size = 1492
ls_attributes = SNA
cp_cp_sess_support = YES
hpr_supported = YES
hpr_link_lvl_error = YES
auto_act_supp = NO
tg_number = 0
limited_resource = NO
solicit_sscp_sessions = NO
pu_name = <0000000000000000>

disable_remote_act = NO
default_nn_server = YES
link_deact_timer = 30
use_default_tg_chars = YES
effect_cap = 3993600
connect_cost = 0
byte_cost = 0
security = SEC_NONSECURE
prop_delay = PROP_DELAY_LAN
user_def_parm_1 = 128
user_def_parm_2 = 128
user_def_parm_3 = 128
```

```
target_pacing_count = 7
ls_role = LS_NEG
max_ifrm_rcvd = 0
dlus_retry_timeout = 0
dlus_retry_limit = 0
need_vrfy_fixup = NO
initially_active = NO
restart_on_normal_deact = NO
react_timer = 30
react_timer_retry = 65535

xid_timeout = 8
xid_retry_limit = 2
tl_timeout = 8
tl_retry_limit = 2
ack_time = 1
inact_time = 48
force_time = 120
```

Define Partner Logical Unit: There should be a Partner LU for every connection with another server using SNA.

```
[define_partner_lu]
plu_alias = ND24TCPB
description = ""
fqplu_name = ITIBM0PC.ND24TCPB
plu_un_name = ND24TCPB
parallel_sess_supp = NO
appcip_routing_preference = USE_DEFAULT_PREFERENCE
max_mc_ll_send_size = 0
conv_security_ver = NO
```

Define Local Logical Unit

```
[define_local_lu]
lu_alias = LT0161A0
list_name = ""
description = ""
lu_name = LT0161A0
lu_session_limit = 0
pu_name = <0000000000000000>
nau_address = 0
default_pool = NO
syncpt_support = NO

lu_attributes = NONE
sscp_id = 0
disable = NO
sys_name = ""
timeout = 60
back_level = NO
```

Define Mode

```
[define_mode]
mode_name = LU62
description = ""
max_neg_sess_lim = 32767
plu_mode_session_limit = 2
min_conwin_src = 1
min_conloser_src = 0

auto_act = 0
receive_pacing_win = 4
max_receive_pacing_win = 0
default_ru_size = YES
max_ru_size_upp = 1024
max_ru_size_low = 0
cos_name = #CONNECT
```

Define Transaction Program: Two transaction programs must be defined: one for the SEND transactions and one for the RECEIVE transactions.

```
[define_tp]
tp_name = <21f0f0f7>
description = ""
list_name = ""
conv_type = BASIC
security_rqd = NO
sync_level = NONE
enabled = YES
pip_allowed = NO
tp_instance_limit = 0
incoming_alloc_timeout = 60
secondary_key = NVDMSND
```

```
[define_tp]
tp_name = <21f0f0f8>
description = ""
list_name = ""
conv_type = BASIC
security_rqd = NO
sync_level = NONE
enabled = YES
pip_allowed = NO
tp_instance_limit = 0
incoming_alloc_timeout = 60
secondary_key = NVDMRCV
```

Define Link Station Routing

```
[define_ls_routing]
lu_name = LT0161A0
fq_partner_lu = ITIBM0PC.ND24TCPB
wildcard_fqplu = NO
description = ""
ls_name = ETHL0
```

Define Transaction Program Location: A transaction program location should be defined for each of the two transaction programs.

```
[<21f0f0f7>]
LUALIAS = ""
DESCRIPTION = ""
USERID = root
GROUP = ""
TIMEOUT = -1
TYPE = NON-QUEUED
STYLE = COMPATIBLE
PATH = /usr/lpp/netviewdm/bin/fndts
STDIN = /dev/console
STDOUT = /dev/console
```

```
[<21f0f0f8>]
LUALIAS = ""
DESCRIPTION = ""
USERID = root
GROUP = ""
TIMEOUT = -1
TYPE = NON-QUEUED
STYLE = COMPATIBLE
PATH = /usr/lpp/netviewdm/bin/fndtr
STDIN = /dev/console
STDOUT = /dev/console
STDERR = /dev/console
```

Define CPIC Side Information: You need to define CPIC side information for the SEND and RECEIVE transaction programs for the host with which you want to communicate using a SNA/DS connection.

You would normally use the default symbolic destination names of NVDMSDS (send) and NVDMSIDR (receive), that are entered in the TME 10 Software Distribution for AIX configuration of the SNA/DS connection.

```
[define_cpic_side_info]
sym_dest_name = NVDMSIDR
description = ""
lu_alias = LT0161A0
partner_lu_name = ITIBM0PC.ND24TCPB
mode_name = LU62
tp_name_type = SNA_SERVICE_TP
tp_name = 21F0F0F8
conversation_security_type = NONE
security_user_id = ""
security_password = ""
```

```
[define_cpic_side_info]
sym_dest_name = NVDMSIDS
description = ""
lu_alias = LT0161A0
partner_lu_name = ITIBM0PC.ND24TCPB
mode_name = LU62
tp_name_type = SNA_SERVICE_TP
tp_name = 21F0F0F7
conversation_security_type = NONE
security_user_id = ""
security_password = ""
```

Define TME 10 Software Distribution, Version 3.1.5 for AIX Nodes to NetView DM for MVS

SERVER01 is directly connected to MVSNODE. To define this node to NetView DM for MVS, use either batch utilities or the Generalized Interactive Executive (GIX). In the descriptions that follow, only the GIX interface is shown. Follow the instructions in the *NetView DM for MVS User's Guide* to interpret the GIX details as batch utility commands. When node definitions are added or altered in NetView DM for MVS, the Transmission Control Program (TCP) must be restarted for the changes to become effective (unless the network change parameter is set to immediate).

Perform the following steps to configure SERVER01:

1. Start GIX and enter your password.
2. The NetView DM for MVS Main Menu is displayed. Select **Configure Network**.
3. The Configure Network menu is displayed. Enter the Node Type (NDM6) and select **Define Nodes**.
4. The Specify Operation on Node menu is displayed. Enter the Node name (SERVER01), select **Create**, and press Enter.
5. Specify the following node attributes on the data entry panel:

Node class	A0
Status	Leave blank
Logical unit	The logical unit is the LU name defined to VTAM for this node.
Logon mode	NVDMNORM
Linetype	Line type can be either leased or switched. NDMTPL is the default transmission profile automatically assigned when the line type specified is leased; this is NDMTPS when the line type is switched.
Rgn and Ren	SRV01.SRV01
Notes	2 (enter no notes)
Profile	2 (enter no profile)
Server	SERVER01

Configure VTAM and NetView DM for MVS

You must define TME 10 Software Distribution nodes to VTAM and NetView DM for MVS.

Configure the Server Name at Clients

At each client, you must configure the name of the server to which it is locally linked. To do so edit the base configuration file, nvdm.cfg, which is stored in the /usr/lpp/netviewdm/db directory.

At each of the clients linked to SERVER01, edit the SERVER keyword as shown in the following example:

```
# BASE CONFIGURATION FILE
#
# This file should be stored as /usr/lpp/netviewdm/db/nvdm.cfg

WORKSTATION NAME:      CLIENT11
MESSAGE LOG LEVEL:     N
LAN AUTHORIZATION:     1
CONFIGURATION:         CLIENT
MACHINE TYPE:          AIX
LOG FILE SIZE:         50000
TRACE FILE SIZE:       100000
MAX CONNECTIONS:       30
API TRACE FILE SIZE:   100000
TCP/IP PORT:           729
SERVER:              SERVER01
REPOSITORY:            /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:           /usr/lpp/netviewdm/backup
```

Figure 32. Base Configuration file at a client

TME 10 Software Distribution, Version 3.1.5 for AIX Single Node Linked to NetView DM for MVS

This section describes how to configure a single node system as shown in Figure 33. The TME 10 Software Distribution workstation can be attached to a TCP/IP network, but it does not have a domain of clients. The remote connection can be made by an SDLC link, token ring, or any other device that is supported by SNA Services/6000 Version 1.2.

Change files can be built and cataloged at the TME 10 Software Distribution workstation to be distributed and installed. Flat files can be cataloged and distributed. Files can also be distributed to the TME 10 Software Distribution single-node workstation across the remote connection.

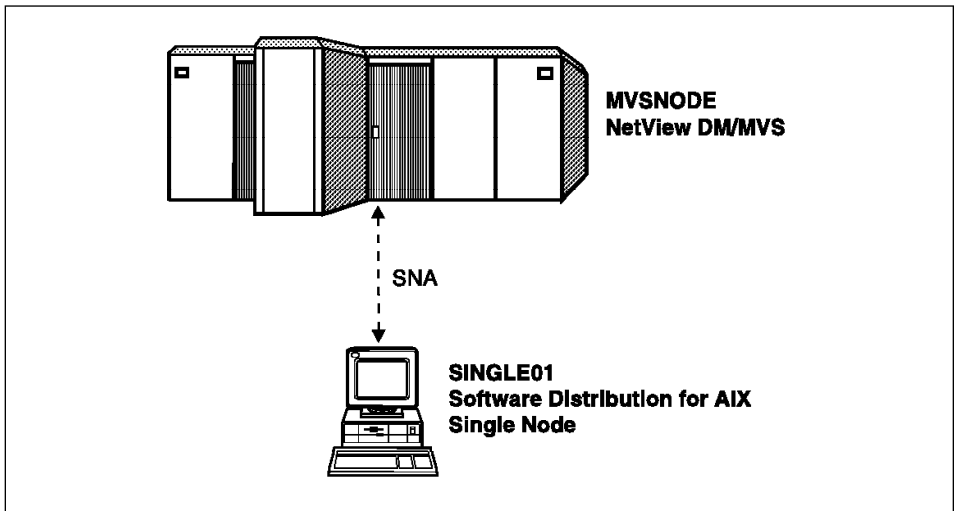


Figure 33. Single-node system

Product Options

Install the following product options in a network with a TME 10 Software Distribution single node:

Required:

- Base
- Communication

Optional:

- Plans
- Graphical interface
- Book
- InfoExplorer

Configuration Tasks

Perform the following configuration operations to have a working single TME 10 Software Distribution node:

- Define the target with which the single node communicates.
- Define the TME 10 Software Distribution workstation and users.
- Configure SNA/DS (APPC) at the TME 10 Software Distribution workstation.
- Define the TME 10 Software Distribution node and communication parameters at NetView DM for MVS.

Define Targets

You must define MVSNODE at SINGLE01.

1. From an AIXTERM window enter the following command to start the graphical interface:

```
nvdmg i
```
2. From the Catalog window select:
 - ▶ Windows
 - ▶ Targets
 - ▶ Target
 - ▶ New Target
3. Fill in the fields on the New Target window as follows:

Name	MVSNODE
Change Management	Manager
Target address	MVS01
Target type	Single
Server name	MVSNODE
Domain address	MVS01

4. Select the **Protocol type** push button.
5. In the Protocol Type window, select APPC and specify a **Profile name**. The name corresponds to the LU6.2 Side Information Profile you define under SNA Server (see “Define the LU 6.2 Side Information Profiles” on page 13).
6. Select **OK** twice to define the target.

Using the command line interface: To define MVSNODE using the command line interface, enter the following command at an AIXTERM window prompt:

```
nvdmg updtg MVSNODE -b single -kt TAK1 -s MVS01 -tp appc:mvsnode
```

Define Users

At the TME 10 Software Distribution workstation, you must define its users. You can do so using either the graphical interface or the command line interface.

Using the graphical interface: To define users of at SINGLE01, perform the following steps:

1. From the Catalog window select:
 - ▶ System
 - ▶ User
2. In the User Management window, enter a User ID and select **New**.
3. Fill in the fields on the New User window as follows:

User ID	AIXUSER01
Password	PSWD01
Verify password	PSWD01
Authorization profile	FNDBLD
Description	This is a user at SINGLE01.

Refer to the *TME 10 Software Distribution Quick Beginnings* for more information.

Using the command line interface: To define the user at SINGLE01 using the command line interface, enter the following command at the workstation AIXTERM window prompt:

```
nvdm addusr AIXUSR01 FNDBLD -a -d 'This is a user at SINGLE01' -i PSWD01
```

Refer to the description of the **addusr** command in the *TME 10 Software Distribution Reference* for information about the parameters included in the command.

Configure SNA

Follow the steps described in “Configure SNA” on page 100 to configure APPC for SNA/DS in a single node system. The SNA/DS connection configuration file and the routing table are the same as those described for the single-server with remote communication configuration described in “TME 10 Software Distribution, Version 3.1.5 for AIX Server Linked to NetView DM for MVS” on page 97.

Chapter 6. Configuring Intermediate Nodes

Intermediate nodes that provide a connection between TME 10 Software Distribution and other NetView DM for MVS nodes can be included in a network. The following types of intermediate nodes can be installed:

- TME 10 Software Distribution, Version 3.1.5 for AIX
- NetView DM/2
- NetView DM for NetWare
- MSS/400

This chapter describes how to configure TME 10 Software Distribution, Version 3.1.5 for AIX as an intermediate node, and how to configure the server connected to an intermediate node.

A system using an intermediate node is illustrated in Figure 34.

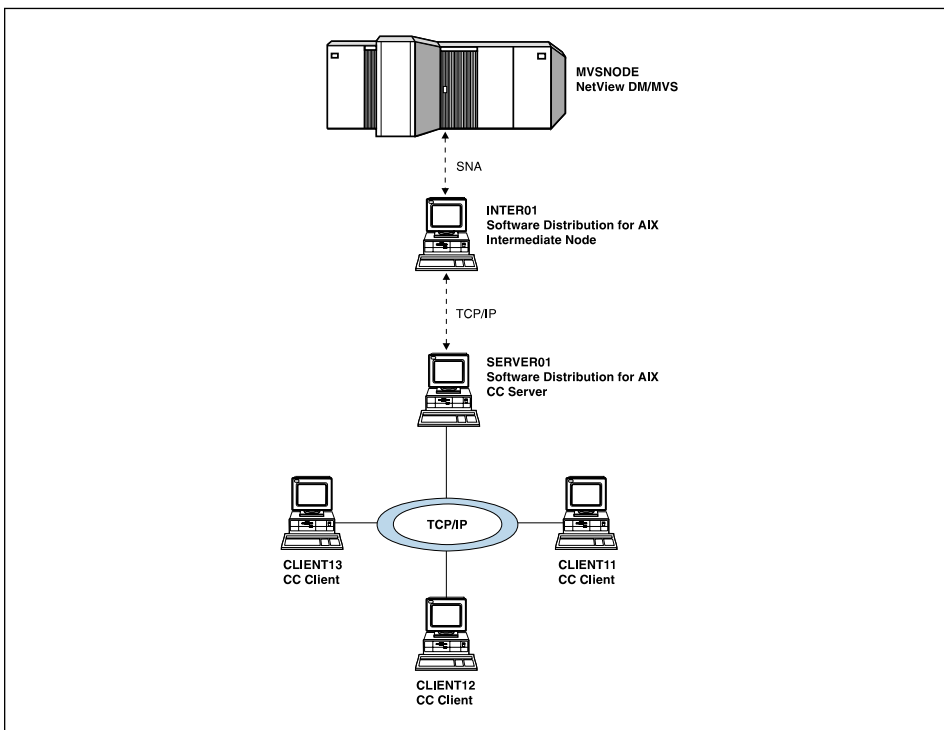


Figure 34. Using an intermediate node to reach NetView DM for MVS

The server supports clients on a TCP/IP network. The server communicates with NetView DM for MVS, but there is no direct connection. Instead, an intermediate node receives TCP/IP distributions from the server, stores them, and passes them on to NetView DM for MVS over an SNA/DS link. The figure shown is a simplified configuration. Usually, an intermediate node would be connected to more than one

Configuring Tasks at INTER01

server to which it fans out distributions. The connection between INTER01 and SERVER01 can be TCP/IP when the server is either a TME 10 Software Distribution, Version 3.1.5 for AIX or NetView DM for NetWare node. Otherwise, the link must be APPC.

Product Options

Install the following product options at the intermediate node (INTER01):

- Base
- Communication

See the *Quick Beginnings* manual for a description of how to install TME 10 Software Distribution, Version 3.1.5 for AIX options.

You must also install corresponding agent products on the clients in the network, and TME 10 Software Distribution, Version 3.1.5 for AIX on SERVER01.

Configuration Tasks at INTER01

Perform the following configuration operations to set up communication between a server and NetView DM for MVS by way of an intermediate node. Configure APPC links to NetView DM for MVS and TCP/IP links to the server by editing:

- Define the targets it communicates with
- SNA/DS connection configuration files
- The routing table

Define Targets at INTER01

Define targets with the following values at INTER01. You can use either the graphical interface or the command line interface to do so. Use the following values to define targets:

Name	MVS01	SERVER01
Change Management	Focal	Push
Target address	MVS01	SRV01
Target type	Single	Server
Target OS	Leave blank	AIX
LAN address	HOSTLAN	DOMAIN01
Server name	MVSNODE	SERVER01
Network ID	MVS01	SRV01

Edit SNA/DS Connection Configuration Files

At INTER01, edit SNA/DS connection configuration files as shown below.

Connection between INTER01 and MVSNODE

Edit /usr/lpp/netviewdm/db/snadscon/**connsna01** as shown in Figure 35.

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION connsna01
#
# This connection is used to handle transmissions between INTER01
# and MVSNODE in a network with a remote administration site.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/connsna01

PROTOCOL:                                APPC
TYPE:                                    SNA
SEND TP SYMBOLIC DESTINATION:            NVDMSIDS
RECEIVE TP SYMBOLIC DESTINATION:         NVDMSIDR
NEXT DSU:                             <NetID>.<LName>
TRANSMISSION TIME-OUT:                   60
RETRY LIMIT:                             3
SEND MU_ID TIME-OUT:                     60
RECEIVE MU_ID TIME-OUT:                   120
```

Figure 35. SNA/DS Connection Configuration file for link between MVSNODE and INTER01

Connection between INTER01 and SERVER01

Edit /usr/lpp/netviewdm/db/snadscon/**conntcp01** as shown in Figure 36.

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION conntcp01
#
# This connection is used to handle transmissions between INTER01
# and SERVER01 in a network with a remote administration site.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/conntcp01

PROTOCOL:                                APPC
TYPE:                                    SNA
REMOTE SERVER NAME:                     SERVER01
TCP/IP TIME-OUT:                          300
NEXT DSU:                             SRV01.SRV01
TRANSMISSION TIME-OUT:                     60
RETRY LIMIT:                               3
SEND MU_ID TIME-OUT:                       60
RECEIVE MU_ID TIME-OUT:                     120
```

Figure 36. SNA/DS Connection Configuration file for link between INTER01 and SERVER01

Edit the Routing Table

Edit the routing table stored in /usr/lpp/netviewdm/db/routetab at INTER01 as shown in Figure 37 on page 116.

Configuring Tasks at INTER01

```
# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the TCP/IP and SNA links between INTER01, MVSNODE
# and SERVER01.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  BOTH

#
# SNA/DS                      Connection
# Network ID and              Configuration
# Short Name                  File Name
#
#
# SRV01.*                     conntcp01
# MVS01.*                     connsna01
```

Figure 37. TCP/IP Routing Table for INTER01

Configure SNA

You must configure SNA at the intermediate node (INTER01) to communicate with NetView DM for MVS (MVS01). APPC configuration steps using SMIT are described in “Configure SNA” on page 100.

Remember when configuring SNA Server/6000 Version 2.1 or Communications Server, Version 5, the profile names for LU6.2 CPI Communication Side Information must correspond to the values in the SEND TP SYMBOLIC DESTINATION and the RECEIVE TP SYMBOLIC DESTINATION fields in the SNA/DS connection configuration file. The values commonly used are:

NVDMSIDR Receive TP
NVDMSIDS Send TP

See “Define the LU 6.2 Side Information Profiles” on page 51.

The information in this manual concerning SNA Server/6000 Version 2.1 and Communications Server, Version 5 does not attempt to be complete; it is merely a summary of basic tasks. Please refer to the *AIX SNA Server/6000 Version 2 Release 1 Configuration Reference* or *Communications Server Configuration Reference* to complete your understanding of SNA configuration. For previous releases of TME 10 Software Distribution, Version 3.1.5 for AIX, SNA/DS can also be configured using SNA Services/6000 Version 1.2.

Configure TCP/IP

You must configure TCP/IP at INTER01 to communicate with SERVER01. You need root privileges to use SMIT to do so. Perform the following steps:

1. To load smit, on the AIX command line type
smit

The System Management menu is displayed. Select:

- ➔ Communications Applications and Services
- ➔ TCP/IP
- ➔ Minimum Configuration & Startup

2. You are prompted to select the network interface on which you want TCP/IP to run over (for example, token-ring network interface).

The Minimum Configuration & Startup screen for the network interface that you have chosen is displayed. There are many fields that you can set; however, most of them have defaults. Set only the following fields:

Field	Value
HOSTNAME	INTER01
INTERNET Address	9.87.231.174 The network administrator assigns this value.
Network MASK	255.255.254.0 The network administrator assigns this value.
Ring Speed	16 The network administrator assigns this value.

3. Press Enter to complete the configuration procedure.

Configuration Tasks at SERVER01

You must perform the following configuration tasks at SERVER01:

- Define the targets with which SERVER01 communicates.
- Configure TCP/IP links to the intermediate node by editing:
 - The SNA/DS connection configuration file
 - The routing table
- Configure TCP/IP communication.

Define Targets at SERVER01

Define targets with the following values at SERVER01. You can use either the graphical interface or the command line interface to do so. Use the following values to define targets:

Configuring Tasks at SERVER01

Name	MVS01	INTER01	CLIENT11...
Change Management	Focal	Push	Push
Target address	MVS01	INT01	CLT11...
Target type	Single	Single	Client
Target OS	Leave blank	AIX	AIX
LAN address	HOSTLAN	Leave blank	DOMAIN02
Server name	MVSNODE	INTER01	SERVER01
Network ID	MVS01	Leave blank	SRV01

Edit SNA/DS Connection Configuration Files

At SERVER01, edit the SNA/DS connection configuration file described below.

Connection between SERVER01 and INTER01

Edit `/usr/lpp/netviewdm/db/snadscon/conntcp01` as shown in Figure 38.

```
# SNA/DS CONNECTION CONFIGURATION FILE FOR CONNECTION conntcp01
#
# This connection is used to handle transmissions between SERVER01
# and INTER01 in a network with an intermediate node.
#
# This file should be stored as /usr/lpp/netviewdm/db/snadscon/conntcp01

PROTOCOL:                TCP/IP
TYPE:                    SNA
REMOTE SERVER NAME:      INTER01
TCP/IP TIME-OUT:         300
NEXT DSU:                INT01.INT01
TRANSMISSION TIME-OUT:   60
RETRY LIMIT:             3
SEND MU_ID TIME-OUT:     60
RECEIVE MU_ID TIME-OUT:  120
```

Figure 38. SNA/DS Connection Configuration file for link between SERVER01 and INTER01

Edit the Routing Table

Edit the routing table stored in `/usr/lpp/netviewdm/db/routetab` at SERVER01 as shown in Figure 39 on page 119.


```

# SNA/DS ROUTING TABLE
# This table provides SNA/DS routing information for
# the TCP/IP link between SERVER01 and MVS01.
# This file should be stored as /usr/lpp/netviewdm/db/routetab

NETWORK PROTOCOL:  TCP/IP

#
# SNA/DS                Connection
# Network ID and        Configuration
# Short Name            File Name
#

MVS01.*                conntcp01

```

Figure 39. Routing Table for SERVER01

Chapter 7. AIX Installation Scenarios

This appendix contains scenarios that describe how to perform the following activities using TME 10 Software Distribution:

- Clone an AIX Version 4.x workstation using a backup image
- Migrate from AIX Version 3.2.5 to AIX Version 4.3 (also to Version 4.1)
- Clone an AIX Version 3.2.5 workstation using a backup image or using a high performance data transfer method

The scenarios in this chapter make use of profiles, scripts, and tools that are provided with the tool option (`netviewdm6000.tool.obj`).

Location of the Files Provided with the Tool Option

The files used in the AIX Version 4.x installation scenarios are located in two directories (the examples show the directories for AIX 4.3; you should substitute the appropriate values for other versions of AIX):

```
/usr/lpp/netviewdm/tool/AIX.install/4_3/scripts  
/usr/lpp/netviewdm/tool/AIX.install/4_3/profiles
```

The files used in the AIX Version 3.2.5 installation scenarios are located in two directories:

```
/usr/lpp/netviewdm/tool/AIX.install/3_2_5/scripts  
/usr/lpp/netviewdm/tool/AIX.install/3_2_5/profiles
```

The `scripts` directory contains the executable files required by the procedures described in this scenario, while the `profiles` directory contains sample change file profiles you use to build the change files required in the procedure.

Migrating from AIX Version 3.2.5 to Version 4.x and Cloning AIX Version 4.x.

The following scenario describes how to use the tool provided with TME 10 Software Distribution tool option to perform two types of installation:

- Upgrade clients from AIX Version 3.2.5 to AIX Version 4.x

Clients in a TME 10 Software Distribution domain running AIX 3.2.5 can be upgraded to AIX 4.x using a Version 4.x set of images. These images must reside on a target in the domain running AIX 4.x.

- Install an AIX Version 4.x system backup image on clients

Client workstations in a TME 10 Software Distribution domain can be cloned using backup images created with the AIX `mksysb` command. The backup images must reside on a target in the domain.

Environment

The environment used in this scenario is a stand-alone TCP/IP network composed of:

Server (RISC01)

This workstation contains the installation and configuration files needed to migrate or to install the operating system on the clients. It is a TME 10 Software Distribution server with the tool option installed.

Network Server (NS01)

This workstation is a target in the domain that is configured as the network server (that is, the system the clients will “boot” from) using the **fdnprel** script as described in this scenario. The target can be either a server (as shown in Figure 40 on page 123) or a client (as shown in Figure 41 on page 123).

If the network server is configured on a client, then the files required to configure it (**fdnprel** and related files) must be sent to the client from the server before the procedure can be run. The **fdnprel** command is then executed remotely.

If the server acts as the network server, then the **fdnprel** procedure is run locally on it.

Client (RISC02 or RISC03)

This workstation is a client. The procedure described in this scenario can be used on a client under any of the following circumstances:

- The system backup image must be reinstalled on it to recover from a previous disaster
- AIX 3.2.5 needs to be migrated to 4.x
- AIX 4.x need to be migrated to a higher 4.x level
- The client is a pristine machine

The environment shown in Figure 40 on page 123, includes a server configured as the network server.

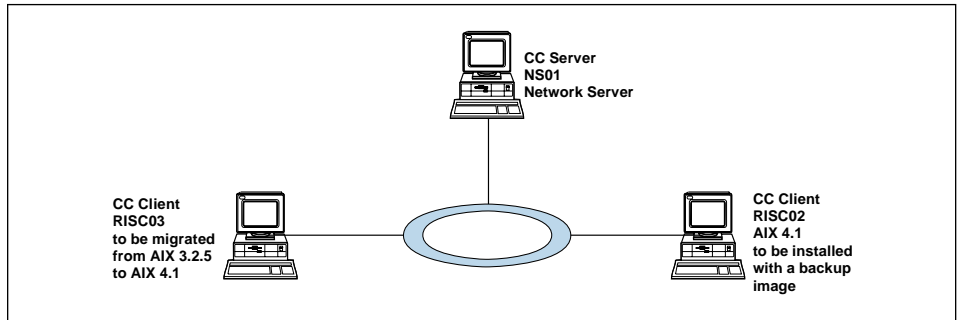


Figure 40. Installing AIX 4.x on workstations with a server configured as the network server

The environment shown in Figure 41, includes a client configured as the network server.

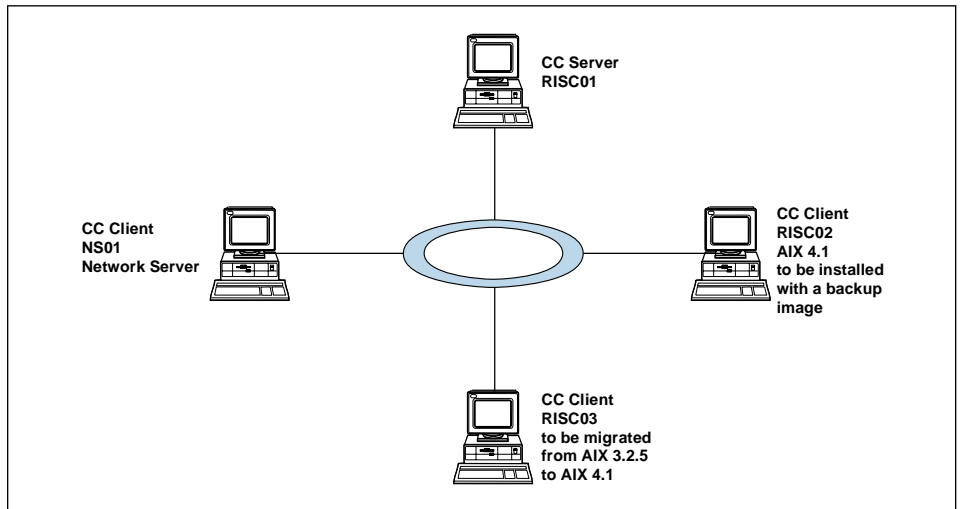


Figure 41. Installing AIX 4.x on workstations with a client configured as the network server

The steps described in the following scenario refer to the configuration shown in Figure 41. The steps to be performed for the configuration shown in Figure 40 are a subset of these same steps.

Prerequisites

Before the **fndnprel** procedure can be run on NS01, the following requirements must be met:

- It is assumed that RISC02 and RISC03 support the hardware re-start from a network device such as a token-ring or Ethernet.
- NS01, RISC02, and RISC03 must be defined as targets of the server.
- The following software must be installed on NS01:

Installing AIX Version 4.x on Workstations

- AIX 4.x
- TCP/IP Version 2.1
- Network File System (NFS)
- The `/usr/lpp/bos/inst_root` directories of the LPP options installed on this workstation must not have been removed. In other words the `/usr` file system on the network server can be configured as a `/usr SP0T`.
- Approximately 8MB of disk space must be available for each client to be installed. This space is required for the `/export/nvdma` and the `/tftpboot` file systems.
- For AIX 4.3, the `bossysmgt.mim` software must be installed (it is an installation option for AIX 4.3)
- A set of mandatory images must be available on a source device. This device can be a tape, a CD-ROM, or a remote file system that can be accessed via NFS. The images are used by the clients during migration and backup installation procedures.

At run time **fnndnprel** checks if these images are available in the directory specified in the `DEFAULT_inst_images` variable in the `fnnd_defaults` file. If the images are missing, **fnndnprel** loads them from the device specified in `DEFAULT_source`. The required images are as follows:

Table 3. Images that Must Reside on the Network Server for AIX 4.x

Installation Method	Images on Network Server
System backup image	bos bos.net bos.rte.up (bos.up in the case of AIX 4.3) bos.rte.mp (bos.mp in the case of AIX 4.3) bos.diag bos.sysmgt bos.terminfo bos.terminfo.all.data devices.base.all devices.buc.all devices.graphics.all devices.mca.all devices.scsi.all devices.sio.all devices.sys.all devices.tty.all netviewdm6000.client.3.1.5.0 This set of images occupies approximately 100MB of disk space.
Migration	bos bos.info.any bos.net bos.rte.up (bos.up in the case of AIX 4.3) bos.rte.mp (bos.mp in the case of AIX 4.3) bos.diag bos.sysmgt bos.terminfo devices.all X11.apps X11.base X11.compat X11.Dt X11.fnt X11.loc X11.motif X11.msg.all X11.vsm netviewdm.client.3.1.5.0 This set of images occupies approximately 270MB of disk space.

Overview of the fndnprel Command

This section describes in detail the **fndnprel** command, which is provided with the tool option and is used in all the scenarios in this appendix to configure the network server workstation. The **fndnprel** command performs the following operations:

1. Executes the `fnd_defaults` procedure to set environment defaults.

-d *Device*

The network boot devices. Enter any of the following values:

- tok0,1,2,3,4,5,6,7,8,9
- /dev/tok0,1,2,3,4,5,6,7,8,9
- ent0,1,2,3,4,5,6,7,8,9
- /dev/tok0,1,2,3,4,5,6,7,8,9

-w *ClientName*

The hostname of the workstation where the installation is to take place.

-A *MacAddress*

The hardware address for the network device that was specified.

-s *ServerName*

The hostname of the server of the client where the installation is to take place.

-G *GatewayIp*

The Internet address of the gateway of the client, if the network server and the client are on different subnets.

-S *SubnetMask*

The subnet mask. This parameter is optional, but it must be specified if -G is specified.

-M *InstallMethod*

Specifies the installation method for client <ClientName>. This parameter is optional. Enter one of the following values:

migrate

Migrate from AIX Version 3.2.5 to Version 4.x or from an earlier version of AIX 4.x to a later version. This is the default.

mksysb_install

Install a mksysb image using the following AIX 4.x command:

```
savevg -i -f <complete backup image name>
```

The backup image is not bootable. It includes the /image.data file created under / by the mkzsf file command.

-b */mksysb image name*

The complete path name of the file that contains the system backup image created using mksysb. This parameter is optional.

-f *pristcl.list*

The name of the ASCII file that contains a list of clients and their attributes that is accessed by the **findnprel** command. The file is described in "Pristcl.list File Format" on page 128.

-D

Specifies that the network boot image will have the kernel debugger enabled. When this parameter is specified, a TTY must be connected to serial port 1 on the client.

Overview of the fndnprel Command

Pristcl.list File Format

You can create a file containing information for all the clients to be installed. You can use it as input to the `-f` parameter of the **fndnprel** command. The file can have any name. A sample file, called `fnd.cfg.sample`, is provided with the tool option. The format of the file is shown in Figure 42, which illustrates the data for client RISC02 on which the system backup image is being installed, and client RISC03 which is being migrated. The backup image should be taken from a system that has TME 10 Software Distribution Client 3.1 installed.

```
CLIENT NAME:      RISC02
DESCRIPTION:      This is client RISC02 of server RISC01.
BOOT DEVICE:      /dev/tok1
MAC ADDRESS:      08005a812aa
SERVER:           RISC01
GATEWAY ADDRESS:  9.87.232.254
SUBNETMASK:       255.255.255.0
INSTALL METHOD:    mksysb_install
BACKUP IMAGE NAME: /bck.images/mksysb.image
DEBUG MODE:       no

CLIENT NAME:      RISC03
DESCRIPTION:      This is client RISC03 of server RISC01.
BOOT DEVICE:      /dev/tok0
MAC ADDRESS:      08005a812ef
SERVER:           RISC01
GATEWAY ADDRESS:  9.87.232.254
SUBNETMASK:       255.255.255.0
INSTALL METHOD:    migrate
DEBUG MODE:       no
```

Figure 42. Sample of a file called by the `-f` parameter in FNDNPREL

Step 1. Create the Backup Image

The system backup image to be installed on RISC02 must reside on NS01. You can either create the backup image in an NS01 directory, or load it from tape.

To create a backup of workstation RISC02 directly in `/bck.images` on NS01, perform the following steps on NS01:

1. Enter the following command to execute an NFS export of `/bck.images`:

```
mknfsexp -d /bck.images/ -t'rw' -r RISC02
```

2. On RISC02, mount `/bck.image` from NS01.

3. On RISC02 enter the command:

```
mksysb -i /bck.image/mksysb.image
```

To load the backup image from tape to `/bck.images`, perform the following steps:

1. Load the tape in the tape drive of NS01.

Note that the block size for the tape device must be set to the same value used for the creation of the tape.

2. Enter:

```
cd /bck.images
```

3. Enter:

```
dd if=/dev/rmt<x>.1 of=mksysb.image bs=62 fskip=3 conv=sync
```

Where **<x>** is the number of the tape drive.

Step 2. Customize the **fnd_defaults** and the **pristcl.list** File

The **fnd_defaults** file contains default values for the variables used by the **fndnprel** and the **fndcln** script files. It is stored in the `/usr/lpp/netviewdm/tool/AIX.install/4_x/scripts` directory. Customize the following variable:

DEFAULT_source

Specifies the source of the images required to create the repository of images. The source must be either an AIX Version 4.x installation tape, or the name of a remote file system containing the images. The images extracted by the source device are listed in Table 3 on page 125. If the **DEFAULT_inst_images** directory already contains the images, **DEFAULT_source** must be set to null.

The default for this keyword is `/dev/rmt0`.

DEFAULT_inst_images

Specifies the local directory where the images reside. The space required to store the images on the network server varies from approximately 100MB to 300MB, depending on the number of optional images to be installed.

The default for this keyword is `/inst_images`.

If the directory specified in **DEFAULT_inst_images** does not exist, **fndnprel** creates a new filesystem that is mounted on top of that directory. If the directory specified does exist, **fndnprel** does not create a new filesystem, and it enlarges the existing directory so that it is big enough to contain all the images.

DEFAULT_repository

Specifies the name of the NFS server, only if the **DEFAULT_source** is the name of an NFS directory exported from another system.

By default this keyword is not used.

DEFAULT_mksysb

Specifies the default path of the directory where the **mksysb** image is stored.

The default for this keyword is `/bck.image`. The value specified for the `-b` parameter overwrites the value specified for this keyword.

MKSYSB_IMAGE

Specifies the default name of the **mksysb** backup image.

The default for this keyword is `/system.backup`. The value specified for the `-b` parameter overwrites the value specified for this keyword.

Overview of the fndnprel Command

DEFAULT_PRIST

Specifies the location of **fndnprel**, **pristcl.list**, and all other files used in the scenario.

The default is `/usr/lpp/netviewdm/tool/AIX.install/4_x/scripts`.

DEFAULT_nvdm_image

Specifies the client option name. The default is `netviewdm6000.client.3.1.5.0`.

If you are using the **pristcl.list** file to specify data for more than one client workstation in the domain, create the file according to the description in “Pristcl.list File Format” on page 128.

Steps 3, 4, and 5 ...

do not have to be performed if the network server is the same workstation as the server (as in Figure 41 on page 123).

Step 3. Customize fndnprel.template

1. Make a copy of the template supplied with the tool option by entering the following command:

```
cp /usr/lpp/netviewdm/tool/AIX.install/4_x/scripts/fndnprel.template ▶  
   /usr/lpp/netviewdm/tool/AIX.install/4_x/scripts/Boot_Serv.cfg
```

Note: You can supply any name to the template when you copy it. You do not necessarily have to use the name given in this scenario (**Boot_Serv.cfg**).

2. Use a text editor to customize the following parameters in the template:

```
fndnprel -d <netdevice> -w <ClientName> -A <MacAddress> ▶  
         -s <ServerName> -G <gatewayIP> -S <SubnetMask> ▶  
         -M <InstallMethod> -b <backup image name>
```

See “Overview of the fndnprel Command” on page 125 for a description of the keywords.

For example, you can specify the following command:

```
/usr/lpp/netviewdm/tool/AIX.install/4_x/scripts/fndnprel -d /tok0 -w RISC02 ▶  
-A 08005A4FD558 -s RISC01 -G 129.82.23.3 -S 255.255.255.0 -M mkysyb_install ▶  
-b /bck.image/mkysyb.image
```

Step 4. Customize profile.pristool

This profile is used to build the change file that includes all the files required to configure a client as the network server.

1. Enter:

```
cd /usr/lpp/netviewdm/tool/AIX.install/4_x/profiles
```

2. Edit the **profile.pristool** file provided with the tool option and replace the name **Boot_Serv.config** with the name you gave to **fndnprel.template** in step 3.

3. If you use a target directory other than `/usr/lpp/netviewdm/tool/AIX.install/4_x/scripts` as the target directory, then specify that directory in the `DEFAULT_PRIST` variable in the `fnd_defaults` file.

Step 5. Build the Change File from profile.pristool

Enter the following commands to create the change file required to prepare the network server workstation.

```
nvdms bld profile.pristool
```

After you run this command, the following change file is entered in the catalog:

```
NDM6000.CONFIG.SERV.REF.1
```

Step 6. Catalog the bootl.proc Procedure

Catalog the procedure to change the priorities of the boot devices on RISC02 and RISC03.

1. Enter:

```
cd /usr/lpp/netviewdm/tool/AIX.install/4_x/scripts
```

2. Edit the `bootl.proc` template file and customize it according to the boot device you selected. For example, change

```
bootlist -m normal <boot device>
```

to

```
bootlist -m normal tok0
```

3. Enter the following commands to catalog the procedure:

```
nvdms cat BOOTLIST.CHANGE.PROC ►  
/usr/lpp/netviewdm/tool/AIX.install/4_x/scripts /bootl.proc -o PROC -t
```

This step is not necessary if you are cloning a pristine workstation. In this case, you need only power on the system in normal mode.

Step 7. Configure the Network Server

To configure the server as the network server, at the workstation enter the command:

```
fndnprel -f pristcl.list
```

To configure a client as the network server, enter the following command:

```
nvdms inst NDM6000.CONFIG.SERV.REF.1 -w NS01
```

Step 8. Execute the BOOTLIST Procedure on RISC02

1. To execute the procedure on the clients, enter the following command from the server:

```
nvdms exec BOOTLIST.CHANGE.PROC -w RISC02 -w RISC03
```

Overview of the fndnprel Command

2. To activate RISC02 and RISC03, enter the command:

```
nvdm act -w RISC02 -w RISC03 -f
```

This step is not necessary if you are cloning a pristine workstation. In this case, you need only power on the system in normal mode.

Step 9. Build the Change File from profile.install

At the TME 10 Software Distribution server, build the change file required for the installation. Perform the following steps:

1. Go to the directory the change file is to be stored in by entering the command:

```
cd /usr/lpp/netviewdm/tool/AIX_install/4_x/profiles
```

2. Enter the following command to create the change file required to install AIX 4.x on clients:

```
nvdm bld profile.install
```

After you run this command, the following change file is entered in the catalog:

```
NVDM.AIXINSTALL.REF.1.
```

Instead of creating this change file, you can catalog a procedure that performs the same operations in the catalog by entering the following command:

```
nvdm cat BOSINST.PROC /usr/lpp/netviewdm/AIX.install/4_x/scripts ►  
/fnd_bi_tool -o PROC -t
```

Step 10. Install Change File on Workstation to be Cloned

1. To check the status of RISC02 and RISC03, enter the command:

```
nvdm stattg RISC02
```

```
nvdm stattg RISC03
```

2. When the status of RISC02 and RISC03 is Available, install the change file by entering the following command:

```
nvdm inst NVDM.AIXINSTALL.REF.1 -n -w RISC02 -w RISC03
```

This change file triggers the installation of the images specified in profile.install on RISC02.

3. After a successful installation, the status of the change file is installed, active, not removable. The workstations restart automatically.

Step 11. Clean Up the Network Server

After a successful installation, you can free all the resources allocated on the network server. To do so, enter the command:

```
fndc1n  
►►fndc1n -w ClientName [all] ◀◀
```

where:

-w *clientname*

Is the hostname of the workstation that will be cleaned up.

all Specifies whether the directory specified in `DEFAULT_inst_images` is to be removed or not. By default this directory is not removed. If **all** is specified, the directory is removed.

To clean up NS01, which acted as the network server in this scenario, enter:

```
fndc1n -w RISC02
fndc1n -w RISC03 all
```

Using a Plan to Install AIX 4.x

If the server RISC01 has the remote administrator option and the plan option installed, you can create a transmission plan to perform the AIX 4.x installation scenario on one or more clients. The transmission plan shown in Figure 43 on page 134 performs the following operations on the targets listed in `$(TARGETLIST)`:

1. Sends the script files required to configure a network server workstation to client NS01.
2. Executes **fndnprel** on NS01.
3. When **fndnprel** is completed, executes a command to change the bootlist on the pristine clients.
4. Activates the pristine clients.
5. Schedules the `bosinst.proc` procedure on the clients to install the operating system.
6. Activates the clients.

Overview of the fndnprel Command

```
GLOBAL NAME:      pristine.install
DATA ACCESS KEY:  DAK1
DESCRIPTION:      unattended AIX 4.3.3 installation
ERROR SEVERITY:   16

entry:
  ID: func1
  FUNCTION: install ndm6000.config.serv.ref.1
  DESTINATION: NS01

entry:
  ID: func2
  FUNCTION: exec change.bootlist.proc
  DESTINATION: $(TARGETLIST)
  CONDITION: ET(func1)=NORMAL

entry:
  ID: func3
  FUNCTION: act -f
  DESTINATION: $(TARGETLIST)
  CONDITION: CT(func2)

entry:
  ID: func4
  FUNCTION: exec bosinst.proc
  DESTINATION: $(TARGETLIST)
  CONDITION: CT(func4)

entry:
  ID: func5
  FUNCTION: act -f
  DESTINATION: $(TARGETLIST)
  CONDITION: ET(func5)=NORMAL
```

Figure 43. Sample plan to install AIX 4.x on pristine workstations

Cloning an AIX Version 3.2.5 Workstation

The following scenario describes how to clone workstations with AIX 3.2.5 using one of the following methods:

- Clone workstations from a hard disk. The contents of a root volume group of any system in the domain can be copied directly to the hard disk of another workstation. The cloning process is triggered and controlled by TME 10 Software Distribution. This high performance cloning method is referred to as “direct cloning” in this scenario.
- Clone workstations in a TME 10 Software Distribution domain using a mksysb backup image. The backup image must reside on a target in the domain.

Direct Cloning

Cloning means replicating files and their structure, either partially or totally, from one model workstation to others. You can clone a workstation in one of the following ways:

- Partial cloning

You copy only a set of file systems belonging to the root volume group of the model workstation. The file systems are:

```
/
/usr
/var
/usr/lpp/netviewdm
```

After cloning, the following file systems are created on the cloned workstation:

```
/tmp
/home
```

- Complete cloning

You copy all the file systems of the volume groups of the model workstation.

The file systems can be copied to the hard disk of either a pristine or a nonpristine workstation. A *pristine workstation* is a workstation that has no software installed on it. A *nonpristine workstation* is a workstation that has software installed. With the cloning process you overlay the installed software and reinstall all the software of the model workstation.

Environment

The environment used in this scenario is a stand-alone TCP/IP network composed of:

Server (RISC01)

This workstation contains the installation and configuration files needed to prepare the network server and to install the operating system on the clients. It is a TME 10 Software Distribution server with the tool option installed.

Network Server (NS01)

This workstation the domain is configured as the network server using the **fdnprel** script as described in this scenario. The target can be either a server

Installing AIX Version 3.2.5 on Workstations

(as shown in Figure 44 on page 136) or a client (as shown in Figure 45 on page 137). If the network server is configured on a client, then the files required for the configuration process (**fndnprel** and related files), must be sent to the client before running the procedure. If the server acts as the network server, you only need to run the **fndnprel** procedure on it.

Client (RISC02 and RISC03)

These workstations are clients. RISC02 will be installed with a backup image that resides on NS01. RISC03 is a pristine client that will be directly cloned to NS01, without using a backup image. More specifically, the base file systems `/usr`, `/var`, and `/usr/lpp/netviewdm` will be copied from NS01 to RISC03, as described in “Direct Cloning” on page 135.

The procedure described in this scenario can be used on a client under any of the following circumstances:

- The system backup image must be reinstalled on it to recover from a previous failure
- All the software installed on a workstation must be copied to another workstation
- The client is a pristine machine

The environment shown in Figure 44 includes a client, NS01, configured as the network server.

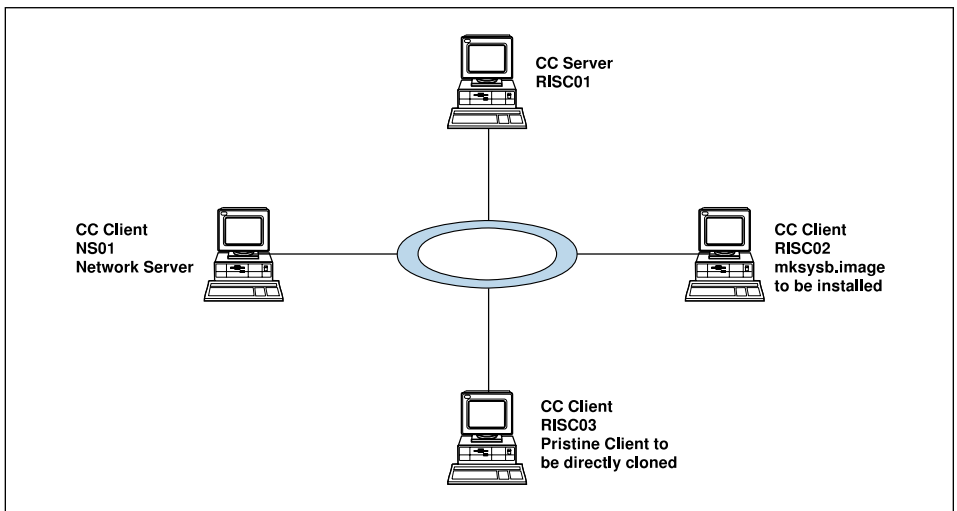


Figure 44. Cloning an AIX 3.2.5 workstation with a client configured as the network server

The environment shown in Figure 45 on page 137 includes a server configured as the network server.

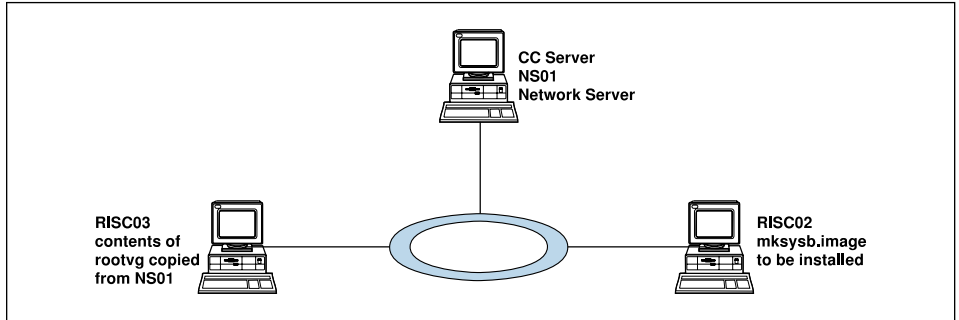


Figure 45. Cloning an AIX 3.2.5 workstation with a server configured as the network server

Objectives

The purpose of this scenario is to install a backup of RISC02 on RISC02, and to clone RISC03 to NS01. It is assumed that RISC02 and RISC03 support remote IPL (also referred to as the “network boot” process). See “Installing Workstations That Do Not Support Remote IPL” on page 143 for a description of how to start workstations that do not support the network boot process.

Prerequisites

Before you run the **fndnprel** procedure on the network server, NS01, the following requirements must be met on the workstation:

- The following software is installed:
 - AIX 3.2.5
 - TCP/IP Version 2.1
 - Network File System (NFS)
 - TME 10 Software Distribution or TME 10 Software Distribution Client
- The workstation is the repository for the backup images created using the **mksysb** command. They cannot reside in the **/usr** directory, or any of its subdirectories.

The model needs the following amount of free disk space to configure the environment for cloning:

- A minimum of 2MB for each client that does not support remote IPL.
- 15MB for the first client that supports remote IPL.
- A minimum of 6MB for each additional client that supports remote IPL.
- A minimum of 3MB for the **/tftpboot** filesystem.
- It must support AIX Diskless Workstation Management commands so that it can be configured as a boot server. The **/usr/lpp/bos/inst_root** tree of directories must not be removed.
- The TME 10 Software Distribution Client image, **netviewdm6000.client.3.1.0.0** must be available on the client workstations.

Installing AIX Version 3.2.5 on Workstations

- The following commands must have been issued at the server (RISC01) to configure the client workstations:

```
nvdm addtg RISC02 -s RISC02
nvdm addtg RISC03 -s RISC03
nvdm addtg NS01 -s NS01
```

Note that for the scenario corresponding to Figure 45 on page 137, only the first two commands have to be entered.

Step 1. Create the Backup Image

The system backup image to be installed on RISC02 must reside on NS01. The backup image can be either created directly in an NS01 directory, or loaded from tape.

To create a backup of workstation RISC02 directly in /bck.images on NS01, perform the following steps on NS01:

1. Enter the following command to execute an NFS export of /bck.images:

```
mknfsexp -d /bck.images/ -t'rw' -r RISC02
```

2. On RISC02, mount /bck.image from NS01.

3. On RISC02 enter the command:

```
mkszfile && mksysb /bck.image/mksysb.image
```

To load the backup image from tape to /bck.images, perform the following steps:

1. Load the tape in the tape drive of NS01.

Note that the block size for the tape device must be set to the same value used for the creation of the tape.

2. Enter:

```
cd /bck.images
```

3. Enter:

```
dd if=/dev/rmt<x>.1 of=mksysb.image bs=62 fskip=3 conv=sync
```

where <x> is the number of the tape drive device.

Step 2. Customize the fnd_defaults File

The fnd_defaults file contains default values for the variables used by the **fndnprel** and the **fndcln** script files. It is stored in the /usr/lpp/netviewdm/tool/AIX.install/3_2_5/scripts directory. The following variables have default values that you can modify by editing the file using any text editor:

DEFAULT_inst_images

Specifies the local directory where the netviewdm6000.client.3.1.0.0 image resides (see “Prerequisites” on page 137).

The default for this keyword is /usr/sys/inst_images/.

DEFAULT_nvdm_image

Specifies the name of the client image that resides under \$DEFAULT_inst_images.
The default is netviewdm6000.client.3.1.0.0.

Steps 3, 4, and 5 ...

Do not have to be performed if the network server is the same workstation as the server (as in Figure 41 on page 123).

Step 3. Customize fndnprel.template

1. Make a copy of the template supplied with the tool option by entering the following command:

```
cp /usr/lpp/netviewdm/tool/fndnprel.template ▶  
   /usr/lpp/netviewdm/tool/Boot_Serv.cfg
```

You can use any name for the template when you copy it. You do not necessarily have to use the name used in this scenario (Boot_Serv.cfg).

2. Use a text editor to customize the following parameters in the template:

```
fndnprel -d </dev/netdevice> -w <ClientName> -A <MacAddress> ▶  
        -s <ServerName> -G <gatewayIP> -S <SubnetMask>
```

See “Overview of the fndnprel Command” on page 125 for a description of its parameters. (Note that the -M and -D parameters are not supported for the installation of AIX 3.2.5.)

For example, you can specify the following commands:

```
/usr/lpp/netviewdm/script/fndnprel -d /dev/tok1 -w RISC02 -A 08005a812aa ▶  
-s RISC01 -G 9.87.232.254 -S 255.255.255.0 -b /bck.images/mksysb.image  
  
/usr/lpp/netviewdm/script/fndnprel -d /dev/tok0 -w RISC03 -A 08005a812ef ▶  
-s RISC01 -G 9.87.232.254 -S 255.255.255.0
```

To configure the server for clients that do not support remote IPL, see “Installing Workstations That Do Not Support Remote IPL” on page 143.

Step 4. Customize profile.pristool

1. Enter:

```
cd /usr/lpp/netviewdm/tool/AIX.install/3_2_5/profiles
```

2. Edit the profile.pristool file provided with the tool option and replace the name Boot_Serv.config with the name you gave to fndnprel.template in step 3.

Step 5. Build the Change File from profile.pristool

Enter the following commands to create the change file required to prepare the network server workstation.

```
nvdm bld profile.pristool
```

Installing AIX Version 3.2.5 on Workstations

After you run this command, the following change file is entered in the catalog:

```
NDM6000.CONFIG.SERV.REF.1
```

Step 6. Catalog the bootl.proc Procedure

Catalog the procedure to change the priorities of the boot devices on RISC02 and RISC03.

1. Enter:

```
cd /usr/lpp/netviewdm/tool/AIX.install/3_2_5/scripts
```

2. Edit the bootl.proc template file and customize it depending on the boot device you selected. For example, change:

```
bootlist -m normal <boot device>
```

to:

```
bootlist -m normal tok0
```

3. Enter the following commands to catalog the procedure:

```
nvdn cat BOOTLIST.CHANGE.PROC ►  
/usr/lpp/netviewdm/tool/AIX.install/3_2_5/scripts /bootl.proc -o PROC -t
```

This step is not necessary if you are cloning a pristine workstation. In this case, you need only power on the system in normal mode.

Step 7. Customize profile.backup

Edit the profile.backup file provided with the tools option and replace /bck.images/sysback1 with the full path and name of the backup image you created.

Step 8. Build the Change Files

At the TME 10 Software Distribution server, build the change files required for the installation. Perform the following steps:

1. Go the directory the change files are to be stored in by entering the command:

```
cd /usr/lpp/netviewdm/tool/AIX_install/3_2_5/profiles
```

2. Enter the following commands to create the change files using the profiles supplied with the tool option:

```
nvdn bld profile.pristine  
nvdn bld profile.backup  
nvdn bld profile.clone
```

These commands generate the following change files:

```
NVDM.PRISTINE.REF.1.  
NVDM.BACKUP.REF.1.  
NVDM.CLONE.REF.1.
```

This step is not necessary if you are cloning a pristine workstation. In this case, you need only power on the system in normal mode.

Step 9. Configure the Network Server

Perform either of the following steps to configure the network server (NS01):

1. *If your network server is a client and you have therefore performed steps 3, 4, and 5 above, enter the command:*

```
nvdn inst IBM.NDM6000.CONFIG.SERV.REF.1 -w NS01
```

2. *If your network server is the server and you therefore have not performed steps 3, 4, and 5 above, enter the commands:*

For example, you can specify the following commands:

```
/usr/lpp/netviewdm/script/fndnprel -d /tok1 -w RISC02 -A 08005a812aa ►  
-s RISC01 -G 9.87.232.254 -S 255.255.255.0 -b ►  
/bck.images/mksysb.image
```

```
/usr/lpp/netviewdm/script/fndnprel -d /tok0 -w RISC03 -A 08005a812ef ►  
-s RISC01 -G 9.87.232.254 -S 255.255.255.0
```

See “Overview of the fndnprel Command” on page 125 for a description of its parameters. (Note that the -M and -D parameters are not supported for the installation of AIX 3.2.5.)

On NS01 the **fndnprel** script creates the following file systems, if they do not already exist. They contain the base software to carry on the installation of AIX and TME 10 Software Distribution Client at the target workstations.

- /export/root
- /export/install
- /export/nvdma

Step 10. Run the BOOTLIST Procedure on RISC02

- If RISC02 and RISC03 are pristine workstations, simply start them in normal mode.

If RISC02 or RISC03 do not support remote IPL, see “Installing Workstations That Do Not Support Remote IPL” on page 143.

- If RISC02 and RISC03 are not pristine workstations (that is, they have already some software installed) do the following:

1. Change the highest priority boot device on of RISC02 and RISC03 by entering the following command from the server:

```
nvdn exec BOOTLIST.CHANGE.PROC -w RISC02 -w RISC03
```

2. Activate RISC02 and RISC03, by entering the command:

```
nvdn act -w RISC02 -w RISC03 -f
```

When this command is run, RISC02 and RISC03 shut down and restart using the network boot image on the network server NS01.

After about 10 minutes, the following message is displayed at RISC02 and RISC03:

Installing AIX Version 3.2.5 on Workstations

TME 10 Software Distribution Client for AIX started: waiting for CC requests...

Do not proceed with next step until this message is displayed.

Step 11. Install the Change Files on the Workstations to Be Cloned

1. To check the status of RISC02 and RISC03, enter the commands:

```
nvdm stattg RISC02
nvdm stattg RISC03
```

2. When the status of RISC02 is Available, install the change file NVDM.BACKUP.REF.1 by entering the command:

```
nvdm inst NVDM.BACKUP.REF.1 -n -w RISC02
```

This change file triggers the installation of the backup images that you specified in profile.backup on RISC02.

3. When the status of RISC03 is 'available', install the change file NVDM.PRISTINE.REF.1 by issuing the command:

```
nvdm inst NVDM.PRISTINE.REF.1 -n -w RISC03
```

This change file triggers the installation of the backup images specified in profile.pristine on RISC03.

Step 12. Submitting the Install Request for Complete Cloning on RISC03

This step is optional.

After you have installed change file NVDM.PRISTINE.REF.1 on client RISC03, you can copy other file systems from the model NS01 to RISC03 by entering the following command:

```
nvdm inst IBM.CLONE.REF.1 -w RISC03 -n
```

Step 13. Clean Up the Network Server

After a successful installation, you can free all the resources allocated on the network server. To do so, use the command:

```
fndc1n
  ► fndc1n -w ClientName -f
```

where:

-w *clientname*

Is the hostname of the workstation whose files will be deallocated.

-f Forces the cleanup process to take place even if the client is running.

To clean up NS01, which acted as the network server in this scenario, enter:

```
fndc1n -w RISC02 -f
fndc1n -w RISC03 -f
```


Installing Workstations That Do Not Support Remote IPL

If either RISC02 or RISC03 do not support remote IPL procedures, you must run **fnd7013** instead of **fndnprel** on the network server, NS01. Perform the following steps:

1. Run fnd7013 from the /usr/lpp/netviewdm/tool/AIX_install/3_2_5/script directory.

Every time you run fnd7013 you prepare the environment for cloning one workstation. To clone multiple workstations, you must run the script for each workstation to be cloned. The syntax of fnd7013 is:

```
fnd7013 -d <netdevice> -o <options> -w <clientname> -s <servername>►
      [-t netdevtype] [-G <gatewayIPAddress>] [-S <mask>]
```

where:

-d *netdevice*

Defines the name of the device the system boots from. Possible values are tok0, tok1, tok2, ent0, ent1, and ent2.

-o *options*

If the device is tok0, tok1, or tok2, you can specify either 16 or 4, depending on the ring speed. If the device is ent0, ent1, or ent2, you can specify either bnc or dix.

-w *clientname*

Defines the name of the target workstation that you want to clone and that does not support remote IPL.

-s *servername*

Defines the name of the TME 10 Software Distribution server.

-t *netdevtype*

This parameter is optional. It can be used only if the device is ethernet. For standard ethernet, enter 0. For E802, enter 1. The default is 0.

-S *mask*

This parameter is optional. It defines the network subnetmask.

-G *gatewayIPAddress*

This parameter is optional. It defines the Internet address of the gateway. When you specify the IP address you must also specify the network subnetmask.

To create the environment to clone the workstation named RISC03, enter the commands:

```
cd /usr/lpp/netviewdm/tool/AIX.install/3_2_5/scripts
```

```
fnd7013 -d tok0 -o 16 -w RISC03 -s RISC01
```

On NS01 the fnd7013 script creates a file system called /export/nvdma, if it does not already exist. It contains the base software to carry out the

installation of AIX and TME 10 Software Distribution Client at the target workstations.

2. When `fnd7013` is running, it requests that you insert a diskette in the disk drive. Depending on the diskette density, two diskettes may be required.

`fnd7013` uses this diskette to create a customized "BOS Installation and Maintenance" diskette, that can be use together with three additional diskettes (obtained using the AIX commands described in the next section) to start the pristine machine.

Starting Target Workstations That Do Not Support Remote IPL (RISC03)

Make sure that in addition to the customized Install and Maintenance diskette prepared in the previous step, you also have the following diskettes available:

- `bosboot`, created using the AIX command:
`bosboot -a -d /dev/fd0`
- `display extension`, created using the AIX command:
`mkextdskt`
- `display`, created using the AIX command:
`mkdispdskt`

1. Shut down the workstation that does not support remote IPL.
2. Insert the `bosboot` diskette in the disk drive.
3. Turn the key to Service mode.
4. Power on.
5. To complete restarting the workstation, follow the instructions displayed and insert the remaining diskettes in the disk drive, including the customized Installation and Maintenance diskette created using the `fnd7013` script.
6. Continue with Step 11 in the scenario.

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