The NetView Distribution Manager/6000 Cookbook

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Take Note!

Before using this information and the product it supports, be sure to read the general information under “Special Notices” on page xxiii.

First Edition (December 1994)

This edition applies to Release 1.2 of NetView Distribution Manager/6000, Program Number 5765-196 and Release 1.2 of NetView Distribution Management Agent/6000 for use with the AIX operating system.

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Abstract

This document describes how to customize and use the new release of NetView Distribution Manager/6000 in a host-connected as well as a stand-alone, non-host environment. It covers a range of activities, in scenario form, including how to prepare change files and how to write your own change management scripts.

The book is written mainly in ″cookbook″ style, telling you step by step *exactly* what to do. It also gives a useful overview of the main concepts and architectures involved (SNA/DS, SNA/MS and SNA/FS, for example), and detailed instructions on configuring supporting program products, such as SNA Server/6000 and SNA Services/6000.

The book is aimed at a wide, technical audience, from the AIX specialist inexperienced in NetView Distribution Management products to the change management expert encountering AIX for the first time.

To get the most out of this book, you will need a basic level of AIX user skills, such as being able to log on, invoke commands, start AIXwindows, and use an editor. A similar, basic level of TSO skill is required if you plan to use NetView DM/MVS. For some of the subject areas dealt with in the appendixes, you will also need an understanding of AIX shell script programming.

(445 pages)

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Figures

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Special Notices

This publication is intended to help customer technical personnel and IBM system engineers to install and customize the new release of NetView Distribution Manager/6000 in different environments. The information in this publication is not intended as the specification of any programming interfaces that are provided by NetView Distribution Manager/6000 Release 1.2 and other products of the NetView Distribution Manager family. See the PUBLICATIONS section of the IBM Programming Announcement for NetView Distribution Manager/6000 Release 1.2 for more information about what publications are considered to be product documentation.

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OS/2	PS/2
RACF	RISC System/6000
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Preface

This document is broadly divided into three sections, namely introduction, scenarios and appendixes.

The first chapters deal with introductory and overview topics, helping to set the scene for the rest of the book.

The heart of the book is devoted to a set of five building block scenarios that describe how to customize and use the NetView Distribution Manager/6000 product, and supporting program products, in various environments. Combinations of the environments embodied in these scenarios form the basis of most NetView DM networks involving NetView DM/6000. The scenario chapters are written in step-by-step cookbook style.

Finally, the appendixes deal with more advanced topics, such as writing change management scripts.

Note that the scenarios in this book involve only AIX clients, and do not cover any other agent. For more information about the other supported agents, installations of pristine machines and more advanced scenarios refer to *NetView Distribution Manager/6000 Release 1.2 Agents and Advanced Scenarios, GG24-4490*.

This document is written for several different groups of technical personnel and administrators:

- New users of NetView DM in general.
- Experienced users in NetView DM/2 and NetView DM/MVS who need to know how to customize and use NetView DM/6000, and who may be new to AIX.
- Experienced AIX users who are new to NetView DM, and NetView DM/MVS in particular.

How This Document is Organized

The document is organized as follows:

- Part 1, “Introduction and Overview”
  - Chapter 1, “Introduction to NetView DM/6000 and Product Overview”

    This chapter introduces the book, the NetView DM/6000 product, and concepts important to the understanding of the rest of the book.
  - Chapter 2, “Guidance on Using the Tools and Technology”

    This chapter gathers in one place the instructions on using the various tools and technologies used in the scenarios to follow (smit, GIX, and so on).
- Part 2, “Scenario I: NetView DM/MVS as the Managing System”

  This part introduces the first scenario. Scenario I illustrates how NetView DM/6000 fits into an environment where NetView DM/MVS is present and in control of change management. If you do not plan to use NetView DM/MVS in your environment, you can skip this part, and the ensuing scenario I chapters (up to and including Chapter 5, “Initiate Procedure on NetView

DM/6000 Server from NetView DM/MVS"), except possibly Chapter 6, "Install AIX LPP on NetView DM/6000 Client and Rollback (NetView DM/MVS Initiated)."

- Chapter 3, "Configuration Activities"

  This chapter provides detailed instructions on customizing and configuring all the nodes involved in the first scenario, that is the RISC System/6000s (the preparation, server and client systems) and NetView DM/MVS, the focal point. It includes instructions on configuring SNA Services/6000 and SNA Server/6000.

- Chapter 4, "Managing the Resources in Scenario I"

  This chapter provides instructions on starting, stopping and obtaining the status of the resources involved in scenario I (the SNA Services attachments, SNA Server link stations, VTAM PUs and LUs, and so on).

  Note: Although you may skip this chapter along with the other scenario I chapters, you are referred back to some of the sections in this chapter from scenario II (7.2, "Managing the Resources in Scenario II"), since the resource management instructions in scenario II are a straightforward subset of those in scenario I.

- Chapter 5, "Initiate Procedure on NetView DM/6000 Server from NetView DM/MVS"

  This chapter describes how to carry out the first of two change management activities, based on the scenario I environment. The node test procedure described in this chapter can be adapted for use in the other scenarios. Therefore you may wish to take a closer look at this chapter, even if you are skipping scenario I generally.

- Chapter 6, "Install AIX LPP on NetView DM/6000 Client and Rollback (NetView DM/MVS Initiated)"

  This chapter describes how to carry out the second of two change management activities, based on the scenario I environment, and illustrates the NetView DM/6000 change management method for AIX installp packages. We will explain the concept of the remote source change file as well as including the installp image into the change file itself.

- Part 3, "Scenario II: NetView DM/6000 as the Managing System"

  This chapter introduces the second scenario. Scenario II illustrates how NetView DM/6000 is used in a stand-alone, purely TCP/IP environment, *without* the presence of NetView DM/MVS or other controlling NetView DM products.

  - Chapter 7, "Configuration and Resource Management in Scenario II" This chapter simply refers you back to the relevant sections of Chapter 3, "Configuration Activities" and Chapter 4, "Managing the Resources in Scenario I," since the resource management instructions in scenario II are a straightforward subset of those in scenario I.

  - Chapter 8, "UNIX Generic Change File Examples"

    This chapter describes how to carry out change management in the scenario II environment. It illustrates the NetView DM/6000 change management method for UNIX-generic packages, and tells you how to create your own UNIX generic change file.

Even if this scenario does not apply to your environment, you may wish to read this chapter anyway, especially if your change management activities involve UNIX generic change files. The change file creation steps described here can be adapted easily for other environments.

- Part 4, “Scenario III: Interconnecting NetView DM/6000 Servers”

  This part introduces the third scenario. Scenario III illustrates how to connect three NetView DM/6000 servers, using LU 6.2 and TCP/IP. In this environment we will show a few file service commands that are supported between servers without the need of having the remote administrator function installed. If you do not plan to interconnect NetView DM/6000 servers in your environment, you can skip this chapter, and the ensuing scenario III chapters (up to and including Chapter 11, “Retrieving Trace File from Peer NetView DM/6000 Server”).

  We will take the configuration of the communication needed in this environment as a base for scenarios IV and V.

  - Chapter 9, “Configuration Activities”

    This chapter provides detailed instructions on customizing and configuring all the nodes involved in the third scenario, that is the RISC System/6000 servers. It includes instructions on configuring SNA Services/6000 and SNA Server/6000.

  - Chapter 10, “Managing the Resources in Scenario III”

    This chapter provides instructions on starting, stopping and obtaining the status of the resources involved in scenario III (the SNA Services attachments, SNA Server link stations, and so on).

  - Chapter 11, “Retrieving Trace File from Peer NetView DM/6000 Server”

    This chapter describes how to carry out some file service commands possible in the scenario III environment.

- Part 5, “Additional Environments”

  - Chapter 12, “Scenario IV: NetView DM/6000 Remote Administrator”

    In this chapter we introduce the remote administrator function with change management requests that we execute in the following sections including the tracking of the history.

    This chapter describes how to set up the NetView DM/6000 and NetView DM/MVS specific configuration for a software distribution environment that has multiple focal points. We will also point you to the necessary configuration of the communications part in order to make it work.

    As an example, we explain how to build a change file, distribute it from the remote administrator to a remote server and finally install it on a remote agent.

  - Chapter 13, “Scenario V: Intermediate Node”

    In this chapter we introduce the intermediate node concept briefly and show how it can be used. We will concentrate on the NetView DM/6000 and NetView DM/MVS specific configuration and explain that in detail. This scenario takes advantage of the configuration of the underlaying communication support that has already been explained in previous chapters. We will also show typical distribution examples for this environment.

- Chapter 14, “User Interface Only Targets”

  This chapter describes how to set up and use a UI only target that can be used, for example, to give administrators access from one client to multiple servers.

- Part 6, “Appendix”

  The appendixes deal with the advanced topic of creating change management scripts, and using tokens. If your change management requirements are straightforward, you won’t need to refer to the appendixes, except possibly Appendix A, “Change Management Request Processing.” The need for change management scripts and tokens is discussed in Chapter 8, “UNIX Generic Change File Examples.”

  - Appendix A, “Change Management Request Processing”

    This appendix describes, in tabular form, how each change management request is processed by NetView DM/6000.

  - Appendix B, “Change Management Scripts and Parameters”

    This appendix describes, in tabular form, the change management scripts called and parameters passed for each change management request.

    This appendix discusses the use of change management scripts and tokens to address complex change management requirements. A real AIX-generic application, and accompanying change management script, is used to illustrate the techniques discussed.

  - Appendix D, “The SNAMON Change Management Scripts”

    The listing for the change management script used as illustration in:

  - Appendix C, “Guidance on Change Management Scripts and Tokens” is listed in this appendix.

  - Appendix E, “The SNAMON Application”

    The listing for the UNIX-generic application used as illustration in:

  - Appendix C, “Guidance on Change Management Scripts and Tokens” is listed in this appendix.

  - Appendix E, “The SNAMON Application”

    In this appendix we list the SNA Server/6000 configuration profiles used in Chapter 13, “Scenario V: Intermediate Node.”

  - Appendix G, “Problem Determination”

    This appendix provides guidance on some common problems.

Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this book.

NetView Distribution Manager/6000 Release 1.2 Publications

- *NetView Distribution Management Agent/6000 Installation and Configuration Guide*, SH19-5005

The following publications will become available in January 1995:

- *NetView Distribution Manager/6000 Concepts and Overview*, GH19-5001
- *NetView Distribution Manager/6000 Installation and Customization Guide*, SH19-5002
- *NetView Distribution Manager/6000 User's Guide*, SH19-5003
- *NetView Distribution Management Agent/6000 User's Guide*, SH19-4071
- *NetView Distribution Manager/6000 Message and Error Recovery Guide*, SH19-5004

AIX Version 3 Publications

- *AIX Commands Reference Volume 1*, GC23-2376
- *AIX Commands Reference Volume 2*, GC23-2366
- *AIX Commands Reference Volume 3*, GC23-2367
- *AIX Commands Reference Volume 4*, GC23-2393
- *AIX Editing Concepts and Procedures for IBM RISC System/6000*, GC23-2212
- *AIX Communications Concepts and Procedures for IBM RISC System/6000*, GC23-2203

  This publication contains the reference information for configuring SNA Server/6000 Version 2.1.

SNA Server/6000 Version 2.1 Publications

- *AIX SNA Server/6000 V2R1 User's Guide*, SC31-7002-01
- *AIX SNA Server/6000 V2R1 Configuration Reference*, SC31-7014-01
- *AIX SNA Server/6000 V2R1 Command Reference*, SC31-7100
- *AIX SNA Server/6000 V2R1 Diagnosis Guide and Messages*, SC31-7101

SNA Services/6000 Version 1.2 Publications

- *Using AIX SNA Services/6000*, SC31-7002-00
- *AIX SNA Services/6000 Reference*, SC31-7014-00

NetView Distribution Manager/MVS Release 5 Publications

- *NetView DM R5 General Information*, GH19-6792
- *NetView DM R5 Overview and Scenarios*, SH19-6797
- *NetView DM R5 Installation and Customization*, SH19-6794
- *NetView DM R5 User's Guide*, SH19-6795

- *NetView DM R5 Messages and Codes*, SH19-6798
- *NetView DM R5 Diagnosis*, LY19-6374 (available to IBM-licensed customers only)

SNA and VTAM Publications

- *SNA Guide to Publications*, GC30-3438
- *SNA Management Services Reference*, SC30-3346
- *SNA Distribution Services Reference*, SC30-3098
- *SNA File Services Reference*, SC31-6807
- *Advanced Architectures APPC, SNADS, DIA and DCA*, GG22-9105
- *SNA Formats*, GA27-3136
- *VTAM Resource Definition Reference*, SC31-6438
- *VTAM Messages and Codes*, SC31-6433
- *VTAM Operation*, SC31-6435

Some Useful UNIX Reference Texts

- *The UNIX Programming Environment*, Brian W. Kernighan and Rob Pike, published by Prentice-Hall, ISBN: 0-13-937681-X.
- *The Kornshell: Command and Programming Language*, Morris I. Bolsky and David Korn, published by Prentice-Hall, ISBN: 0-13-516972-X.
- *Learning the vi editor*, Linda Lamb, published by O′Reilly Associates (in the Nutshell Handbook series), ISBN: 0-937175-17-X.

Other Publications

- *Systems Network Architecture: A Tutorial*, Anton Meijer, published by Pitman/Wiley, ISBN: 0-470-21015-X.

International Technical Support Organization Publications

- *A Guided Tour of SNA Server/6000 Version 2.1, GG24-4189*
- *NetView Distribution Manager/6000 Release 1.2 Agents and Advanced Scenarios, GG24-4490* (available first quarter 1995)

A complete list of International Technical Support Organization publications, with a brief description of each, may be found in:

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Part 1. Introduction and Overview

Part 1 of this book will introduce NetView DM/6000 as a product. In addition, this section will provide you with an overview of some major concepts on which the NetView DM/6000 implementation is based.

This book is *not* intended to be read from cover to cover. We suggest that you read Part 1 if you are not already familiar with change management concepts and the NetView DM product family in particular. The middle section of the book is split up into three main scenarios that cover many aspects of the most common environments and configurations where NetView DM/6000 will be used. These scenarios are fully documented starting with the configuration aspects, to the activation of the resources and ending with one or more practical examples.

In Part 5 you will find several specific configurations, such as remote administrator, that are based on previous scenarios. In these cases we will point you to the appropriate chapters for more information, for example, about the configuration of the communication products.

Chapter 1. Introduction to NetView DM/6000 and Product Overview

This book provides step-by-step guidance on the installation and configuration of NetView Distribution Manager/6000, Release 1.2, and the configuration of supporting programs (SNA Services and SNA Server). It also covers connecting NetView Distribution Manager/6000 to NetView Distribution Manager/MVS, including the configuration of nodes in NetView Distribution Manager/MVS and the related VTAM definitions.

We have chosen five representative scenarios that we believe cover the most common situations:

- NetView Distribution Manager/MVS as the managing system
- NetView Distribution Manager/6000 as the managing system
- Interconnecting NetView Distribution Manager/6000 servers
- NetView Distribution Manager/6000 Remote Administrator
- Intermediate Node Configuration

Much of the information is laid out in the form of working examples. To enable us to present precise configuration panels, we have been specific about details such as connection type (token-ring), LU names, IP names and other details that are left open in the product documentation. You may need to substitute the names and adapter details that describe your own configuration.

We are unable to explore each and every feature and option of NetView Distribution Manager/6000. We concentrate instead on helping you to get the basics working.

Although NetView Distribution Manager/6000 provides a command line and a graphical interface (GI), we concentrate mainly on the GI, because it is so easy to use.

We have attempted to make this book accessible to the System/390 NetView DM and the AIX specialist alike. To this end, we do not assume any more knowledge of AIX than is necessary to install and customize the products involved. However, a basic familiarity with AIX is unavoidable. It is impossible to give a tutorial here. If you are new to AIX, we would direct you to the many good UNIX texts that are available, some of which are listed in the bibliography.

You will also need to become familiar with an AIX editor, such as *vi*, to perform some of the customization tasks. *Learning the vi Editor* provides a good introduction.

If you plan to connect to NetView Distribution Manager/MVS, you will need to define the NetView Distribution Manager/6000 server to VTAM and the servers and agents to NetView Distribution Manager/MVS itself. If you are not familiar with these products, the editors and subsystems involved, and so on, you will need to enlist specialist help.

Detailed knowledge of SNA is important if you get involved in solving problems on connections that don′t work the first time, or you need to do some tuning, for example. Once again, it is not possible to give an adequate introduction to SNA here.

Finally, we suggest that if you are not already familiar with NetView DM principles that you read *NetView Distribution Manager/6000 Concepts and Overview* and *NetView DM R5 Overview and Scenarios*.

1.1 Product Overview

NetView Distribution Manager/6000 (NetView Distribution Manager/6000) is a fairly new addition to the IBM NetView Distribution Manager family. It is rich in function, and is able to work in concert with:

- NetView Distribution Manager/MVS
- NetView Distribution Manager/2
- NetView Distribution Manager for NetWare
- MSS/400
- Or as a completely independent distribution management system

It is presently able to manage distributions and change management for workstations running one of the following operating systems:

- AIX
- OS/2
- PC DOS or MS DOS
- MS Windows
- HP-UX
- SunOS
- Sun Solaris

1.1.1 Functional Overview

A NetView Distribution Manager/6000 node can act as a *server* or *agent* (client). A server can manage distributions to itself and to one or more agents. An agent is controlled by one, and only one, server. A server and its agents are said to share the same *change control domain*. An agent can be one of the systems listed in the previous section. The server is also known as a *change control server* (CC server) and the agent as a *change control client* (CC client).

Objects available for distribution (known as *resources*), are held in a *catalog* at the server. The server function supports a number of distinct resource types, such as flat files, dumps and traces, and software installation packages. When requested, the server will perform character conversion on the object prior to distribution (for example ASCII to EBCDIC), or even compress it for efficient transmission.

The server is capable of performing management tasks ranging from simple file distribution and retrieval, to the complete change management of software and data packages on both the server and its agents. Change management encompasses package installation, with the option of committing the package, rolling back to the previous level, or removing the package altogether. The package may comprise software, data or both, and can be:

- An AIX Licensed Program Product (LPP)
- A CID (Configuration Installation and Distribution) package for OS/2 or DOS

- A UNIX generic package for an application written in-house
- A OS/2 or DOS generic package for an application written in-house
- A Windows generic package

  It may be a new package or an update to a previously installed package.

Management tasks are directed at so-called *targets*. A target may be *local*, that is an agent managed by the server, or *remote*, which means that the target belongs to a different domain. Remote targets are generally other NetView DM servers (AIX and non-AIX) and their agents, as well as NetView Distribution Manager/MVS.

Note: The server can perform file distribution operations on non-NetView DM/6000 remote targets, and change management activities if it is a remote administrator. Exception: NetView DM/MVS cannot be the target for change management activities.

1.1.2 Connections and Protocols

Remote target systems can be connected to the server using LU 6.2. Between NetView DM/6000 servers you can also use the TCP/IP protocol. In general a remote target is some form of NetView DM server, for example another NetView Distribution Manager/6000 server, a NetView Distribution Manager/2 server or NetView Distribution Manager/MVS.

NetView Distribution Manager/6000 supports LU 6.2 over the following connection types:

- SDLC
- Token-ring
- Ethernet
- X.25

  Note: Ethernet and X.25 are not listed in the *NetView Distribution Manager/6000 Installation and Customization Guide* but they are both officially supported.

Routing of distributions between remote targets uses SNA Distribution Services (SNA/DS).

A NetView Distribution Manager/6000 agent is connected to its server by TCP/IP. NetView Distribution Manager/6000 also supports NetView Distribution Manager/6000 server-to-server connection by TCP/IP. NetView Distribution Manager/6000 supports TCP/IP over the following connection types:

- Token-ring
- Ethernet
- X.25

LU 6.2 cannot be used for communication between an agent and its server.

1.1.3 Methods of Accessing NetView Distribution Manager/6000 Function

NetView Distribution Manager/6000 provides both a graphical interface (GI) and a command line interface (CLI). The GI is based on AIXwindows/6000 (and ultimately OSF/Motif). All functions available within the GI can be accessed at the command line using the `nvdm` command set.

The command line interface facilitates a certain degree of automation, because any command that can be entered interactively can also be used in a shell script. Shell scripts can be scheduled to run automatically in the background at a predetermined interval, using the standard AIX *cron* facility, or a third-party batch scheduling program. The shell script programmer is therefore able to build some equivalent of NetView Distribution Manager/MVS transmission plans.

1.1.4 NetView Distribution Manager/6000 Users

Three types of users are defined by NetView Distribution Manager/6000:

administrator The administrator has access to all operations, including defining agents, administering users and granting access to NetView Distribution Manager/6000 resources, initiating distribution and retrieval operations, managing the installation of software packages, and administering the catalog.

Note: The *root* user is automatically granted administrator authority when NetView Distribution Manager/6000 is installed at the server.

builder Builders are able to prepare software change packages and load them into the catalog at the server. The package may be prepared at the server, at an agent or at a remote NetView Distribution Manager/6000 server. Facilities are provided to assist in the construction of change packages.

Note: Change packages are also known as *change files*.

user Users have authority to install software packages on their agent workstation, and to distribute files to other agents in the change control domain.

The wide authority granted to the administrator is fixed and cannot be altered or limited in any way. The builder and user authorities described above are those granted by default on installation, and can be changed at any time after installation by the administrator.

1.1.5 Software Installation Methods

Several methods for installing software change packages are supported:

installp This method applies only to AIX packages, and is generally used where the program to be installed is supplied in this format, for example an AIX LPP.

Note: Packages in this format cannot be removed from the system once committed. This is a restriction in the current AIX *installp* command implementation.

generic This method can be used for AIX and OS/2 packages alike. It is general purpose, and can be used, for example, for in-house applications or vendor packages that are not supplied in *installp* or *CID* format.

CID This method is specific to OS/2 and DOS packages, and is generally used where the program to be installed is supplied in this format.

Note:

The change file format for OS/2 systems used by NetView Distribution Manager/6000 is different from that built by NetView Distribution Manager/2. Consequently a change file built by NetView DMA/2 for an OS/2 client can only be installed by a NetView Distribution Manager/6000 server and only on an OS/2 client running the NetView Distribution Manager/2 software. Similarly, a change file built by NetView Distribution Manager/2 can only be installed in a domain controlled by a NetView Distribution Manager/2 server and only on an OS/2 client running the NetView Distribution Manager/2 client software. The same restrictions apply for the DOS clients of both environments.

The NetView Distribution Manager/6000 agent software for OS/2 (NetView DMA/2) and DOS (NetView DMA/DOS) and the NetView Distribution Manager/2 client software are two entirely separate products sets.

1.1.6 Push and Pull Modes

An agent may be configured to operate in one of two modes:

push Change control activities are initiated and managed by the administrator.

pull Change control activities are initiated by the end user of the target system. Only resources authorized for the target may be pulled down.

1.1.7 Scheduling, Tracking and Time-of-Day Restrictions

Changes can be scheduled to occur at a specific time, to avoid inconvenience to users who may be using the package to be replaced, or to avoid periods of peak loading on the system or network. The default is for the change to be scheduled immediately.

Further protection against changes occurring during inconvenient hours is provided by the ability to set a distribution time period, or *window*. The window can be set independently on both the sending and the receiving clients.

The server acts as an intermediary. The distribution from *sending* client to server will take place when the sending client's window is open. The distribution from the server to the *receiving* client will take place when the receiving client's window is open. It is possible, therefore, for a distribution to complete successfully even when there is no overlap between sending and receiving client windows. This is particularly useful when the systems concerned are in widely different time zones.

NetView DM/6000 tracks the status of every change file in the catalog:

- Which targets it is installed at
- When it was installed
- What its current level is
- Whether it is removable, and so on.

NetView DM/6000 will prevent you from performing any change management request on a target if the request is inconsistent with the status of the change file for the target concerned. For example, NetView DM/6000 will prevent you from installing Version 1.1 of a package, if Version 1.2 is presently installed.

You can get around severe inconsistencies by either deleting the catalog status information (the target history) and starting again, or by using the force option provided with some of the change management requests.

1.1.8 Security

Security is provided at several levels:

1. All NetView DM/6000 users must log on as AIX users.
2. Each user must be assigned to one of the predefined NetView DM/6000 groups (1.1.4, “NetView Distribution Manager/6000 Users” on page 6). The privileges accorded to the user are those configured for the group as a whole. AIX users that are *not* members of a NetView DM/6000 group are denied access to NetView DM/6000 function.
3. Each NetView DM/6000 user must be explicitly authorized by the server administrator for each target he or she is allowed to use.
4. At the network level, the server is able to store the hardware (MAC) address of the client’s network interface adapter for client verification. This method can only be used if there are no IP routers between the server and the agent.

1.1.9 User Interface Only Agents

NetView DM/6000 users are able to access their assigned level of NetView DM/6000 function from any client at which they are authorized, without explicitly logging on to the server first. As explained in 1.1.8, “Security” the authority and level of functionality granted is stored at the server.

The UI only agent feature extends this capability by enabling a NetView DM/6000 user to concurrently access NetView DM/6000 functions at *multiple* servers (where the user is authorized) from a *single* client. Only one of the servers can perform change management on the client, however, to preserve integrity.

This feature is particularly useful in a geographically disparate, centrally administered, TCP/IP network where there may be more than one server across different sites.

1.1.10 Remote Administrator

Since NetView Distribution Manager/6000 Release 1.1 we have a new feature called remote administrator. With this function it is possible to submit change management requests for targets that belong to domains other than that the remote administrator.

The remote administrator sends the request to the remote change control server that executes and tracks the request within its domain and reports the result back to the originator.

NetView DM/6000 R1.2 allows the remote administrator to coexist and cooperate with other remote administrators, especially NetView Distribution Manager/MVS.

1.1.11 Integration

In order to support the integration of NetView Distribution Manager/6000 into a software distribution and systems management environment the product provides two different means:

- Direct interfaces to certain products, like NetView/6000
- User exits where the administrator can include his own code

1.1.11.1 NetView Distribution Manager/6000 and NetView/6000

NetView Distribution Manager/6000 provides configuration scripts that allow an easy customization of the interface between NetView DM/6000 and NetView/6000. Within this configuration the user can determine which messages shall be converted to alerts and forwarded to NetView/6000. It is also supported to classify the different types of messages.

Note:

In NetView Distribution Manager/6000 R1.2 you can only customize the interface to NetView/6000 Version 2. All attempts to use NetView/6000 Version 3 were unsuccessful.

We will not cover the NetView/6000 scenario in this book. Please refer to *NetView Distribution Manager/6000 Release 1.2 Agents and Advanced Scenarios, GG24-4490* for further information.

1.1.11.2 User Exits

A number of user exits are provided that allow the programmer to provide his or her own program or shell script to:

- Generate local file names for files cataloged (NetView DM/6000 server only).
- Modify local file names.
- Indicate the submission of change control or distribution (NetView DM/6000 server only).
- Notify the receipt of the report (NetView DM/6000 server only).
- View or modify distribution and change management reports.
- View distribution and change management requests.

We will not cover the user exits in this book. Please refer to *NetView Distribution Manager/6000 Release 1.2 Agents and Advanced Scenarios, GG24-4490* for further information.

1.2 Network Topology and Protocol Considerations

The network topology options possible in this release of NetView Distribution Manager/6000 are limited chiefly by the network connections and protocols supported. These are described in 1.1.2, “Connections and Protocols” on page 5. In summary, the limitations are:

- LU 6.2 is supported only for server to focal point (NetView Distribution Manager/MVS) or server to server communications, where the other server may be another type of NetView DM system, for example NetView Distribution Manager/2.

- LU 6.2 is supported over SDLC, token-ring, Ethernet and X.25.

1.2.1 SNA Communication Products

Topology options within the SNA part of the network are also governed by the level of SNA support underpinning NetView DM/6000 on the server:

- SNA Services/6000 Version 1.2 will support a connection to just one remote PU per physical link. Thus if you wish to connect simultaneously to NetView DM/MVS and another NetView DM/6000 server, you must install a separate network adapter (or use separate ports on the same multiprotocol adapter, in the case of SDLC) for each connection. This restriction is removed in SNA Server/6000 Version 2.1, which allows connections to multiple PUs over the same adapter.
- The flexible routing provided by APPN Network Node (NN) support in SNA Server/6000 Version 2.1 offers additional possibilities for the routing of SNA traffic between servers. Essentially, it removes the need for servers to be directly connected before they can be considered as adjacent, for the purposes of SNA/DS routing. That is, two NetView DM/6000 nodes can be separated by any number of APPN network nodes, and still be seen as logically adjacent by SNA/DS.

  We will not cover APPN specific configurations in this book. For more details about SNA Server/6000 Version 2.1 configuration refer to *A Guided Tour of SNA Server/6000 Version 2.1, GG24-4189*.

1.2.2 Intermediate Node Support

Since Release 1.1 NetView Distribution Manager/6000 has implemented intermediate node support. By this we mean the ability to forward SNA/DS traffic from one adjacent node to another through an intermediary node. This is important because with support for intermediate routing of SNA/DS traffic, it is possible to *cascade* transmissions. Cascading (sometime called *fan-out*) is the onward distribution of objects received from one node (for example, the focal point) to many other downstream nodes. It is an important technique for reducing transmission costs, and distribution delays, in large networks.

Note: Both the AS/400 and PS/2, in addition to RS/6000, can act as an intermediate node on behalf of NetView DM/6000 because both SystemView Managed System Services/400 and NetView Distribution Manager/2 provide support for intermediate routing of SNA/DS traffic.

1.3 Introduction to SNA/DS, SNA/FS and SNA/MS

SNA Distribution Services (SNA/DS), SNA File Services (SNA/FS) and SNA Management Services (SNA/MS) are related architectures that grew out of the need to better manage changes in large SNA networks. All three are used by NetView Distribution Manager/6000. In this section, we give you an overview of these architectures in sufficient detail to give you a better understanding of some of the key NetView DM/6000 concepts such as the catalog, change management requests, the relationship between entry point and focal point, and so on.

A more detailed overview can be found in the *NetView Distribution Manager Overview and Scenarios*, and in the *IBM Systems Journal (Volume 28, Number 2)*.

1.5, “Configuring NetView Distribution Manager/6000 SNA/DS Support” on page 13 and 1.6, “SNA/FS Conventions for Global Names” on page 16 deal with

some of the aspects of these architectures that are specific to the NetView DM/6000 implementation.

1.3.1 SNA/DS Overview

SNA/DS provides a reliable, store and forward delivery mechanism. SNA/DS takes application-defined data (a SNA/DS *object*), encapsulates it, and transports it to one, or more, destinations over LU 6.2 and TCP/IP connections.

SNA/DS takes care of the low-level communications between nodes. It is also responsible for routing through any intermediate nodes to reach the destination.

Note: The NetView DM/6000 Release 1.1 implementation of SNA/DS already supports intermediate routing.

1.3.2 SNA/MS Overview

SNA/MS defines two types of change management node:

Entry point Receives and executes SNA/MS commands initiated by the focal point. Sends SNA/MS reports about itself and the resources it controls to the focal point.

Focal point A special node type that accepts management and control requests from the SNA/MS user (known in the architecture as the *network planner*), and issues the corresponding SNA/MS commands to entry points or other focal points.

NetView Distribution Manager/MVS is an example of a SNA/MS change management focal point (CMFP). NetView Distribution Manager/6000 is an example of a SNA/MS change management entry point (CMEP).

SNA/MS supports the following change management requests:

Retrieve Obtain SNA/FS object from catalog at focal point or another entry point for storage in the local catalog.

Send Distribute SNA/FS object from local catalog for storage in catalog at one or more focal point or other entry point. Send can be destructive, for example, it can overwrite existing object of same name in remote catalog.

Delete Delete SNA/FS object from catalog at one or more entry points.

Install Uses a change file to alter, at one or more entry points, all components necessary to effect the change. The alteration can be performed *removably*, that is in such a manner that a subsequent remove request can return the altered components to their state prior to the install request.

Uninstall Completely removes a component (for instance all levels of an application or software package) from a node, including any refreshes, updates or fixes to the component.

Note: This request is new, and presently supported *only* by NetView DM/6000.

Accept Makes an installation, that was executed removably, permanent and releases any backed up resources at one or more entry points (for example backup copies of the altered components).

Remove Deletes a version installed as removable and returns all components altered by a removable install request to their condition prior to the install request.

Activate This request brings into effect any pending change management request, and reboots the system.

Install, remove and uninstall requests can specify activation required as an option. Where this option is specified, the request is deferred, pending an activate request.

Initiate Execute a program on a node.

Whenever a focal point or remote administrator is a configured part of a change management environment, a report is sent to it giving details of the outcome of every change management request, even if the request did not originate at the focal point.

SNA/MS uses the global naming conventions for distribution objects defined in the SNA/FS architecture. SNA/MS also uses the SNA/FS catalog management function to create, read, replace and delete distribution objects, and to carry out the distribution tasks themselves. SNA/MS can perform operations only on objects in the SNA/FS catalog.

1.3.3 SNA/FS Overview

SNA/FS manages a *catalog* of distribution objects at each SNA/MS entry point and focal point level. Each object stored in the catalog is known by a unique *global name* at each node in a change management domain. The structure and composition of the global name is defined by SNA/MS. Objects in the catalog are addressed by global name. The catalog maps a global name to a local file name. In the case of NetView DM/6000, the local name would be a file name in the AIX file system.

Note: In NetView DM/MVS, the catalog is known as the distributed resource repository, or DRD for short.

SNA/FS provides the following functions:

- Resolution of global name, where a partial name has been specified (see 1.6, “SNA/FS Conventions for Global Names” on page 16).
- Transfer of objects from the catalog on one node to the catalog on one, or more, other nodes.
- Generation of reports to the originator giving information about the outcome of the transfer.

SNA/FS uses SNA/DS as a reliable, store and forward delivery mechanism for transporting objects between SNA/FS servers.

1.4 Installation of NetView DM/6000

Installation of client and server is described in detail in the *NetView DM/6000 Installation and Customization Guide*.

However, you should be aware that NetView DM/6000 creates its *own* logical volume for the `/usr/lpp/netviewdm` file system. It assigns 24MB to this logical volume on the server, and 12MB on the client.

Before you begin, you must ensure that there are enough free physical partitions according to the function you are installing; otherwise the installation attempt will fail.

1.5 Configuring NetView Distribution Manager/6000 SNA/DS Support

In this section, we describe the configuration files involved in setting up SNA/DS in NetView Distribution Manager/6000.

The SNA Distribution Services configuration is described in four files:

1. Base configuration
2. SNA/DS configuration file
3. SNA/DS connection configuration file
4. SNA/DS routing table

When NetView Distribution Manager/6000 is started, it reads the information in SNA/DS configuration files into its internal tables. If you change any of these configuration files whilst NetView Distribution Manager/6000 is running, to make the changes take effect, you must either stop NetView Distribution Manager/6000 and start it again, or reload the runtime database ″in flight″.

A more detailed description of these files can be found in the *NetView DM/6000 Installation and Customization Guide*.

1.5.1 Base Configuration

```
WORKSTATION NAME:     rs600012
MESSAGE LOG LEVEL:    N
LAN AUTHORIZATION:    0
CONFIGURATION:        REMOTE_ADMIN_SERVER
MACHINE TYPE:         AIX
LOG FILE SIZE:        500000
TRACE FILE SIZE:      1000000
API TRACE FILE SIZE:  500000
TCP/IP PORT:          729
MAX TARGETS:          600
MAX CONNECTIONS:      50
MAX USER INTERFACES:  20
SERVER:               rs600012
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 1. Typical NetView Distribution Manager/6000 Base Configuration File for a Remote Administrator

This file contains general configuration information for NetView Distribution Manager/6000. For example, it defines the name of the NetView Distribution Manager/6000 node (workstation name), the IP port used for communication between client and server, log file sizes, and so on.

In practice, the NetView Distribution Manager/6000 installation process *automatically* puts the correct values in this file for you. In particular, it sets Workstation Name to the *hostname* value (the string displayed when you enter the `hostname` command), and the TCP/IP port to 729. Therefore, there should be no need for you to make changes to this file during initial installation and configuration. We do not customize this file in our examples (except to add additional servers on a UI only client).

Check Your Server Configuration.

A TCP/IP port is reserved for use by an application by placing an entry in the file */etc/services*. The installation process updates this file automatically. If it finds this port to be unavailable (assigned to another application), it chooses the next free port, and places the new value in the base configuration file.

After you install each client, you must ensure that the client′s base configuration file has the same port value as the server.

The configuration parameter is automatically set to:

- SERVER_WITH_COMMS for a server connected to NetView DM/MVS or other NetView DM servers
- CLIENT for a client
- REMOTE_ADMIN_SERVER or REMOTE_ADMIN_BASE for a remote administration site.

The server field is set to the workstation name of the server for this system. In the case of a server, it will be the same value as for workstation name.

1.5.2 SNA/DS Configuration File

```
ORIGIN HOP COUNT:                5
MAX CRMU:                        5
TRANSMISSION HOLD TIME:          1000
ALLOCATION FAILURE RETRY TIME:   300
```

Figure 2. Typical SNA/DS Configuration File

This file allows you to customize some of the SNA Distribution Services counts and timings, for example how often NetView DM/6000 SNA/DS will retry the conversation to the focal point.

There should be no need to change the default values placed in this file by the NetView Distribution Manager/6000 installation process. We do not customize this file in our examples.

1.5.3 SNA/DS Connection Configuration File

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVDMSIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVDMSIDR
NEXT DSU:                          USIBMRA.RA39TCF1
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 3. Typical SNA/DS Connection Configuration File for SNA

```
PROTOCOL:                          TCP/IP
REMOTE SERVER NAME:                rs60004
TCP/IP TIME-OUT:                   300
NEXT DSU:                          RA60004B.RA60004B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 4. Typical SNA/DS Connection Configuration File for TCP/IP

Defines the characteristics of the SNA/DS connection to an adjacent remote node (that is an LU 6.2 or TCP/IP connection). One of these files exists per connection. It contains information such as the RGN and REN of the remote system, time-out values and limits, and the SNA Services or SNA Server side information profiles to be used on the connection.

1.5.4 SNA/DS Routing Table

```
NETWORK PROTOCOL:   BOTH
#
#   RGN.REN       Priority  Protection  Capacity  Security  Connection  Hop
#
#   SNA Connection
#
USIBMRA.RA39TCF1    ANY        ANY        ANY        ANY     RA39TCF1    5
RA60012B.*          ANY        ANY        ANY        ANY     RA60012B    5
#
#   TCP/IP Connection
#
RA60004B.*                                                  RA60004B
```

Figure 5. Customized SNA/DS Routing Table

As its name suggests, this file is a table that defines routes available to other, remotely connected systems. Based on criteria such as the RGN and REN of the remote system, and the size of the object to be distributed, this table specifies the connection profile (for SNA and/or TCP/IP) to be used for onward routing, and other control parameters, such as maximum hop count.

1.6 SNA/FS Conventions for Global Names

The global name uniquely defines a distribution object within a change management domain. It is the only name which is passed over the network when the object is transferred from one system to another. Wherever it is stored, the object can be accessed directly by its global name.

The format of the global name, and rules governing its composition, are determined by SNA File Services (SNA/FS).

In a production system, it is recommended to choose the global name carefully to avoid any future conflicts.

1.6.1 General Format

The global name is made up of *tokens*. Tokens are words up to 16 characters long and may include the dollar ($), pound (#), underscore (_) or at (@) characters. Each token is separated by a period (.). The global name must have between 2 and 11 tokens and must not total more than 64 characters in length (including separators).

Note: The meaning of the term **token** here is entirely different from the meaning of the word when used in conjunction with variables in change files (see 8.1, “Change Files Explained” on page 204).

You can parameterize the global name with any of the following:

- Date (&DATE)
- Time (&TIME)
- Network name (&NETID)
- LU name (&LUNAME)
- Target name (&TARGET)
- Server name (&SERVER)

&DATE, &TIME, etc., are sometimes referred to as *code word* tokens. Code word tokens are resolved when the object is distributed, or when a specific instance is cataloged.

SNA/FS requires that only one object of a given name can exist in a change management domain. In other words, the global name should identify the object and its contents uniquely. Two objects with the same global name should have *exactly* the same contents, byte for byte.

There are many cases, however, where two objects convey the same type of information, even though the contents are different. For example, the payroll for week 26 and week 27 are both still payroll data, even though their contents are likely to be different. Code word tokens allow objects that convey the same type of information to be cataloged under a common name on the source server.

For example, the object describing the payroll for the fictitious WIDGET corporation might be cataloged on the source server as:

```
WIDGET.PAYROLL.DATA.&DATE
```

Whenever a send request is carried out for this object, today’s date would be substituted for &DATE prior to transmission. If today was 10/07/94, the object file would be transferred as `WIDGET.PAYROLL.DATA.Y1994M10D07`. It would also be cataloged under this global name on the target server.

Indeed, SNA/FS requires that provision is made for such *partial naming*. The fixed part of the name should come first, and the variable part second (left to right).

Note: The source server is the server system for the client that holds the payroll source data. The target server is the server for the client to which the payroll data is to be sent. The source and target servers may indeed be the same RISC System/6000, in which case multiple catalog entries would exist for the payroll. One of these entries would describe the source object, with the &DATE control token unresolved. There would also be an entry for each instance of the object sent from source to the target client, with &DATE resolved to the transfer date.

All payroll entries can be retrieved from the send target in one operation by specifying a wildcard (*) in the &DATE field, thus:

```
WIDGET.PAYROLL.DATA.*
```

See the *NetView DM/6000 User's Guide* for a further explanation of code word tokens. The Architecture Overview Appendix in *NetView Distribution Manager Overview and Scenarios* provides a good introduction to SNA/FS and global naming.

1.6.2 Special Rules for Change Files

SNA/FS imposes a strict definition on the composition of a change file global name. The name is made up of three parts:

- Component name
- Change name
- Version (optional)

The **component name** can be made up of several tokens depending on the requirements you have to structure your global names. You may follow a convention in which there are two parts. The first identifies the producing enterprise (for example IBM), and the second the product (for example SNA_SERVER).

The **change name** can have one of three forms, depending on change file contents:

refresh The change file contains a completely new product version. It completely replaces any previous version, where one exists, or can be applied to a system that has no previous version installed. The change name format is **REF.level**.

update The change file contains an update to an existing product, for example a number of fixes that collectively bring the product up to a new maintenance level. An update can only be applied to a system where the product has previously been installed. The change name format is **UPD.oldlevel.newlevel**.

fix The change file contains a fix for an individual problem at a specific level of the product. The change name format is **FIX.level.probid**.

See the *NetView DM/6000 User's Guide* for a more detailed description of change name format.

Version is optional and may comprise one or more tokens. It is used to distinguish one change file from another for a given product, where both provide identical functionality but in different environments (for example DOS and OS/2).

Note: Version number in the sense of a new version of a product with enhanced functionality is conveyed in the **level** token within the **change name** part of the refresh global name (a change file containing a new version, in this sense of the word, is by definition a refresh).

In partial naming terms, *component name* constitutes the fixed part of the global name. *Change name* and *version* constitute the variable part. Change name provides for version (level) control.

Chapter 2. Guidance on Using the Tools and Technology

In the configuration activities for the various scenarios, you will use a number of different tools to get the work done. You will also work with a number of different network technologies.

We have assembled here some general hints and tips, together with an explanation of any notation we use. It is worth pausing here a moment to familiarize yourself with these before you embark on the configuration or change management activities. Here is a list of sections you should read, according to the scenario you plan to implement:

- Scenario I
  - 2.1, “Notes on Using SMIT”
  - 2.2, “Notes on Using SMIT to Configure SNA Services or SNA Server” on page 20
  - 2.3, “Planning Your TCP/IP Network” on page 20
  - 2.4, “Transmission Plan Terminology” on page 22
  - 2.5, “Using GIX to Create Transmission Plans” on page 23
- Scenario II
  - 2.1, “Notes on Using SMIT”
  - 2.3, “Planning Your TCP/IP Network” on page 20
- Scenario III
  - 2.1, “Notes on Using SMIT”
  - 2.2, “Notes on Using SMIT to Configure SNA Services or SNA Server” on page 20
- Scenario IV and V

  The configuration for these scenarios is based on previous scenarios. At the beginning of these chapters you will be pointed to the appropriate scenario(s).

2.1 Notes on Using SMIT

1. The example panels in this book show *smit* in *tty* mode (from an X-terminal). If you are using *smit* in *GI* mode the screen will be laid out a little differently in places, and the user interface will be more sophisticated (you can use a mouse, for example), but the field names and values will be identical. If you are at a graphics terminal and wish to force *smit* into *tty* mode in order to follow the examples more closely, substitute the command `smitty` whenever you are instructed to enter the command `smit`.
2. Many of the example *smit* panels in this book are Change/Show panels taken from a pre-configured, working system. If you follow the instructions, you will get Add panels instead. The differences between the corresponding Add and Change/Show panels are minor. In particular, names of fields to be filled in should be identical.
3. The smit command allows you to go quickly to a panel using *fastpath* names. Where appropriate, the menu selection instructions are annotated with the

corresponding fastpath. For example the fastpath name of the Configure SNA Profiles panel is *sna*. To get to this screen directly, you would type `smit sna` at the AIX command line.

Before You Use SMIT Fastpath Names

It is possible that one or two of the smit fastpath names may change from one release to the next. If you try one of the recommended fastpath names and get the message `There are currently no SMIT screen entries available for this FastPath`, then to find the new name, navigate through the menus until you are at the panel you desire, and press the F8 (image) key and the new fastpath name will be revealed.

4. On your display, you may not get all the lines of some of the longer panels displayed at once. Use the cursor keys or the page up and down keys to move between pages.

Hint:

On displays that don't have page up and down keys, you can use Ctrl-v for page down and Esc-v for page up.

2.2 Notes on Using SMIT to Configure SNA Services or SNA Server

1. You must be logged on as the *root* user to configure SNA Services or SNA Server profiles.
2. To help you skip over profile definition tasks (for example where suitable profiles are already defined in your system), individual profile definition tasks are annotated with the name of the main task. For example, in SNA Services/6000 Version 1.2, all profile definition tasks associated with defining an attachment profile are annotated with the word *attachment*. Therefore if you wish to use an existing attachment, skip over all profile definition tasks annotated with *attachment*.
3. For each profile definition task, the instructions given for navigating to the desired panel assume that you are at the AIX command line. However, if you follow the tasks in order of appearance, you will start each task with the panel from the previous task displayed, not the AIX command line. If this is the case for you, follow the "alternative" instructions for the task. The alternative instructions take you to the desired panel with fewer keystrokes (if you are still at the panel from the previous step).

2.3 Planning Your TCP/IP Network

The AIX smit tool makes the configuration activities involved in setting up an IP network a straightforward task, compared to other systems. The secret of establishing a successful TCP/IP network (one that won't need frequent reconfiguration) is to *plan your network carefully* before you do any cabling or configuration work.

Where a scenario involves TCP/IP, it is assumed that the following prerequisite activities have been carried out:

- Connecting the RISC System/6000 systems to the LAN (cabling, etc.)
- Choosing suitable IP names

- Choosing suitable IP addresses

Some things to consider when planning these activities:

- Will you be using existing RISC System/6000 systems, or will the NetView DM/6000 systems be brand new?
- Do you have an existing TCP/IP network, or are these the first systems in your organization to be connected using TCP/IP?
- Do you have a network administrator in your organization who is responsible for looking after the network and who needs to be involved?
- Which IP name resolution scheme is used by your organization? Is it name serving, or does each system have its own host table (/etc/hosts)?
- Do you need to use subnetting?

Some things to consider when planning the connection to the LAN:

- Are your RISC System/6000 systems already connected to the desired LAN for some other protocol or purpose (SNA communications, for example)?
- Will you be connecting the systems to an existing LAN, or will this be a brand new LAN?
- Do you have the correct adapter installed in each system for your LAN?
- Are there any bridges or routers involved in your LAN that will require configuration changes?
- Do you have all the necessary cables?
- Is there a network access point within reach of your server?
- Does your organization have a cabling strategy that you need to conform to?
- Are you both able and authorized to perform the wiring yourself, or will you need to get someone else involved?

Some things to consider when choosing an IP name for the NetView DM/6000 systems:

- Does your organization have naming conventions for IP hosts that you need to conform to?
- Does your organization use a domain naming scheme?

Some things to consider when choosing an IP address for the NetView DM/6000 systems:

- Does your organization have a strategy for allocating TCP/IP addresses that you must conform to? If not, does it need one? Consider the following:
  - Do you wish to use TCP/IP communications between your NetView DM/6000 systems and other systems in your organization for purposes other than NetView DM/6000, now or in the future? If so, the allocation of IP addresses within your organization will need to be carefully coordinated. There may already be a person or department in your organization responsible for allocating addresses that you need to apply to for your address.
  - Do you wish to use TCP/IP communications between your NetView DM/6000 systems and systems beyond your organization (the Internet, for instance), now or in the future? If so, you will need to apply to the

appropriate authority for a block of IP addresses (the NIC, in the case of the Internet). This may have been done already for your organization.

- If you are free to choose your own addresses, consider the following:
  - What class of IP network best suits your needs?
  - Do you need one IP network or multiple networks with gateways?
  - What should your network address(es) be?
  - Do you need to use subnetting?

If you would like to understand more about TCP/IP and the factors to consider when planning a TCP/IP network, we recommend that you read volume 1 of *Internetworking with TCP/IP*.

If there is no existing TCP/IP network in your organization, or you wish to set up a completely separate LAN for your NetView DM/6000 systems and are prepared to accept that you may have to re-configure in the future, then we recommend that you do the following for the present:

- Use a simple physical network, without gateways.
- Use a class B addressing scheme. For example, use 128.10 as the network address.
- Use local name resolution (/etc/hosts).
- Use a non-domain naming scheme.
- Don't use subnetting.

Note: In our scenarios we have to use an existing environment; therefore we must use a class A addressing scheme 9.24.104 and use subnetting with the subnet mask 255.255.255.0.

2.4 Transmission Plan Terminology

When working with NetView Distribution Manager/MVS, we use the *transmission plan* to define the distribution tasks to be carried out.

The plan is actually executed by the Transmission Control Program (TCP). You can control and monitor plan execution through the Interactive Operator Facility (IOF).

The transmission plan comprises three nested levels of detail:

- Plan

  All the steps necessary to carry out a logical job. For example a transmission function might retrieve data from a central system and distribute it to many NetView DM server systems. A transmission plan is the smallest unit that can be submitted for execution by the TCP.

  - Phase

    A logical grouping of transmission functions on a particular node or group of nodes. For example, a group of functions that must complete successfully before the next group of functions (phase) is allowed to start. A phase is the smallest unit of the plan over which the IOF operator has control. The operator can cancel a phase, for example, but not a transmission function.

Phases can be conditioned in order to control the flow within a plan depending on the outcome of phases. A phase is said to be *conditional* if one phase cannot start until a previous phase has completed successfully.

- Transmission function

  The change management operation to be carried out. Some examples are retrieve data, or install software.

You can control the execution of phases or transmission functions within a phase depending on the return code from the previous phases or functions. For example, if you specify a *termination value* other than zero and a function ends with a return code that is greater than or equal to the value you specify, none of the remaining functions will be executed.

2.5 Using GIX to Create Transmission Plans

Generalized Interactive Executive (GIX) is a component of NetView DM/MVS which provides the user of the host system with an interactive interface. GIX provides the function to:

- Define the network.
- Define the transmission plans.
- Submit the plans for execution by TCP.
- Track the results of the plan execution.
- Check the status of resources in the nodes.
- Load or unload resources to or from the resource repository.
- Define user authorization profile.

When using GIX to create a transmission plan, keep in mind the following:

- GIX will not let you delete the first line (the Plan Name line).
- GIX will not allow you to delete the last phase or the last transmission function. For example, if you have five phases, you can delete any four of them, but not all five.
- You cannot add a new phase directly. You must copy an existing one and tailor it to your needs.

Part 2. Scenario I: NetView DM/MVS as the Managing System

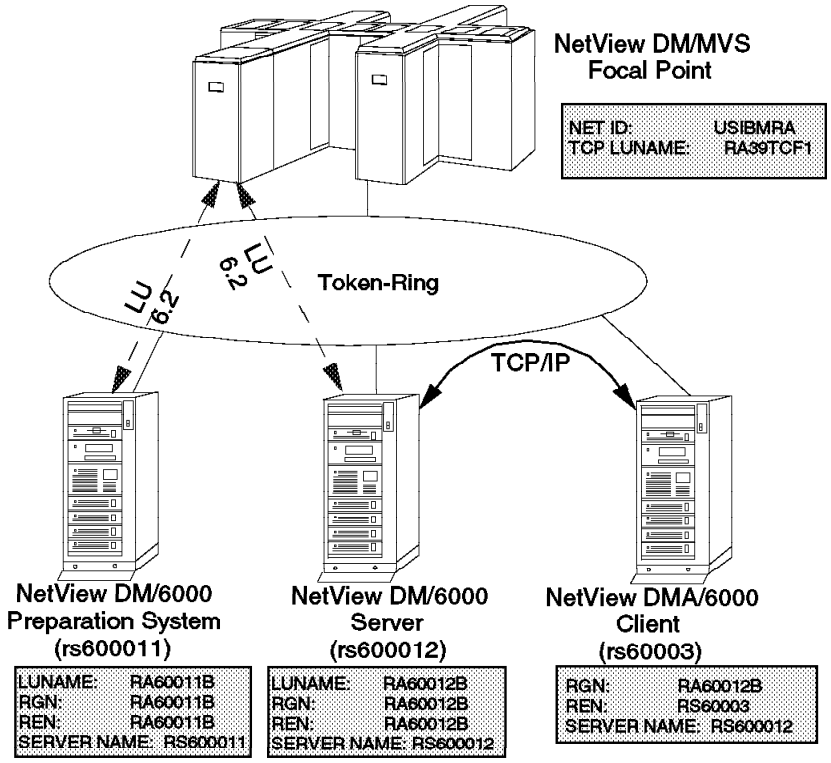

Figure 6. Scenario I Configuration

As Figure 6 shows, NetView Distribution Manager/MVS is the central change management system, and has focal point capability. The RISC System/6000 system called rs600011 is the package preparation site. rs60003 is the target for all change management activities. rs600012 is the server for rs60003.

All systems are interconnected by token-ring. Communication between the NetView DM/MVS system, rs600011 and rs600012 is LU 6.2. Communications between rs600012 and its client (rs60003) is TCP/IP. There is no direct communication between rs600011 and rs600012.

Using this scenario, we carry out two change management activities:

- Initiate a procedure on the NetView DM/6000 server (rs600012).
- Install an AIX LPP on the NetView DM/6000 client (rs60003) and roll it back.

Both, the package and procedure are created and cataloged on the preparation system (rs600011).

The configuration and change management activities for this scenario are described in the following chapters:

- Chapter 3, “Configuration Activities” on page 27 guides you through the tasks you need to carry out to configure the systems involved for this scenario.
- Chapter 4, “Managing the Resources in Scenario I” on page 111 describes how to start, stop and display the status of each of the resources involved.
- Chapter 5, “Initiate Procedure on NetView DM/6000 Server from NetView DM/MVS” on page 121 and Chapter 6, “Install AIX LPP on NetView DM/6000 Client and Rollback (NetView DM/MVS Initiated)” on page 143 take you through the steps involved in carrying out the change management activities.

  In these chapters, we create and submit the transmission plans (GIX) and then use IOF to control and monitor plan progress to completion. Your local TSO system′s administrator should be able to tell you how to gain access to GIX and IOF from your MVS system.

Chapter 3. Configuration Activities

Four types of systems and two protocols are involved here. The systems are:

- NetView Distribution Manager/MVS
- NetView Distribution Manager/6000 server
- NetView Distribution Manager/6000 agent (client)
- NetView Distribution Manager/6000 package preparation system

The protocols are LU 6.2 and TCP/IP. Therefore there are many configuration tasks to be carried out:

- At the server rs600012
  - Configuring SNA Services/6000 Version 1.2 at the server
  - Configuring TCP/IP at the server
  - Configuring SNA/DS at the server
  - Configuring NetView Distribution Manager/6000 at the server
  - Adding the NetView Distribution Manager/MVS focal point to the server
  - Adding the NetView Distribution Manager/6000 client to the server's configuration
- At the client rs60003
  - Configuring TCP/IP at the client system
  - Adding the NetView Distribution Manager/6000 server to the client's configuration
- At the server rs600011
  - Configuring SNA Server/6000 Version 2.1 at the preparation system
  - Configuring SNA/DS at the preparation system
  - Configuring NetView Distribution Manager/6000 at the preparation system
  - Adding the NetView Distribution Manager/MVS focal point to the preparation system
- At all NetView DM/6000 systems:
  - Adding users to the NetView Distribution Manager/6000 systems
- At the MVS host system:
  - Configuring VTAM for LU 6.2 communications
  - Configuring NetView Distribution Manager/MVS

Configuring LU 6.2 at the NetView Distribution Manager/6000 server and package preparation systems is achieved by configuring SNA profiles. NetView Distribution Manager/6000 supports both SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1.

Note: SNA Server/6000 Version 2.1 is actually Version 2 of SNA Services/6000. The change of name reflects the fundamental nature of the new function it provides.

There are significant differences in the way these two versions are configured. To assist those of you who plan to use SNA Server/6000 in your NetView DM

network, we have configured the preparation system (rs600011) in this scenario using SNA Server/6000 Version 2.1. The server rs600012 uses SNA Services/6000 Version 1.2.

3.1 Configuring SNA Services at Server rs600012

In this example, we will configure SNA Services in a bottom upwards fashion, starting with the SNA subsystem (the *SNA node*), then the link station and physical unit (the *attachment*), then the local LU and the session characteristics (the *connection*), and finally the CPIC side information.

As explained in 1.3, "Introduction to SNA/DS, SNA/FS and SNA/MS" on page 10, the SNA Services profiles are organized in a logical hierarchy. The attachment profile refers to:

- Control point profile
- Physical link profile
- Logical link profile

The local LU profile refers to:

- Transaction list profile (refers to one or more transaction profiles)

The connection profile refers to:

- Attachment profile
- Local LU profile
- Mode list profile (refers to one or more mode profiles)
- Remote transaction list profile (refers to one or more transaction profiles)

Note: The SNA node and the CPIC side information profiles don't reference any other profiles.

The contents of the above profiles are explained briefly in 1.3, "Introduction to SNA/DS, SNA/FS and SNA/MS" on page 10, and in detail in *AIX Communications Concepts and Procedures for RISC System/6000*.

Check for Existing SNA Profiles First!

You may find that SNA is already configured in your system, and an attachment is already defined for the MVS system containing the NetView DM/MVS focal point. For example there may be HCON display sessions defined for logging onto this MVS system. If this is the case, you *must* use the existing attachment profile because SNA Services/6000 Version 1.2 will not let you run another attachment over the same physical adapter. This removes the need for you to define a new SNA node and attachment for the NetView Distribution Manager/6000 LU 6.2 connection. If you already have a suitable attachment, skip over the SNA node and attachment definition activities, and go straight to defining the connection, remembering to use the existing attachment name in the connection profile.

It is also possible that an LU 6.2 local LU defined in your system already meets the requirements of NetView Distribution Manager/6000. If this is so, you may use this profile in the NetView Distribution Manager/6000 LU 6.2 connection, rather than defining a new local LU.

We will now walk through the *smit* panels involved in configuring SNA Services, starting with the profiles related to the SNA subsystem, then the attachment, then the connection, and finally the CPIC side information.

Before you begin the following smit configuration activities, read 2.1, “Notes on Using SMIT” on page 19 and 2.2, “Notes on Using SMIT to Configure SNA Services or SNA Server” on page 20.

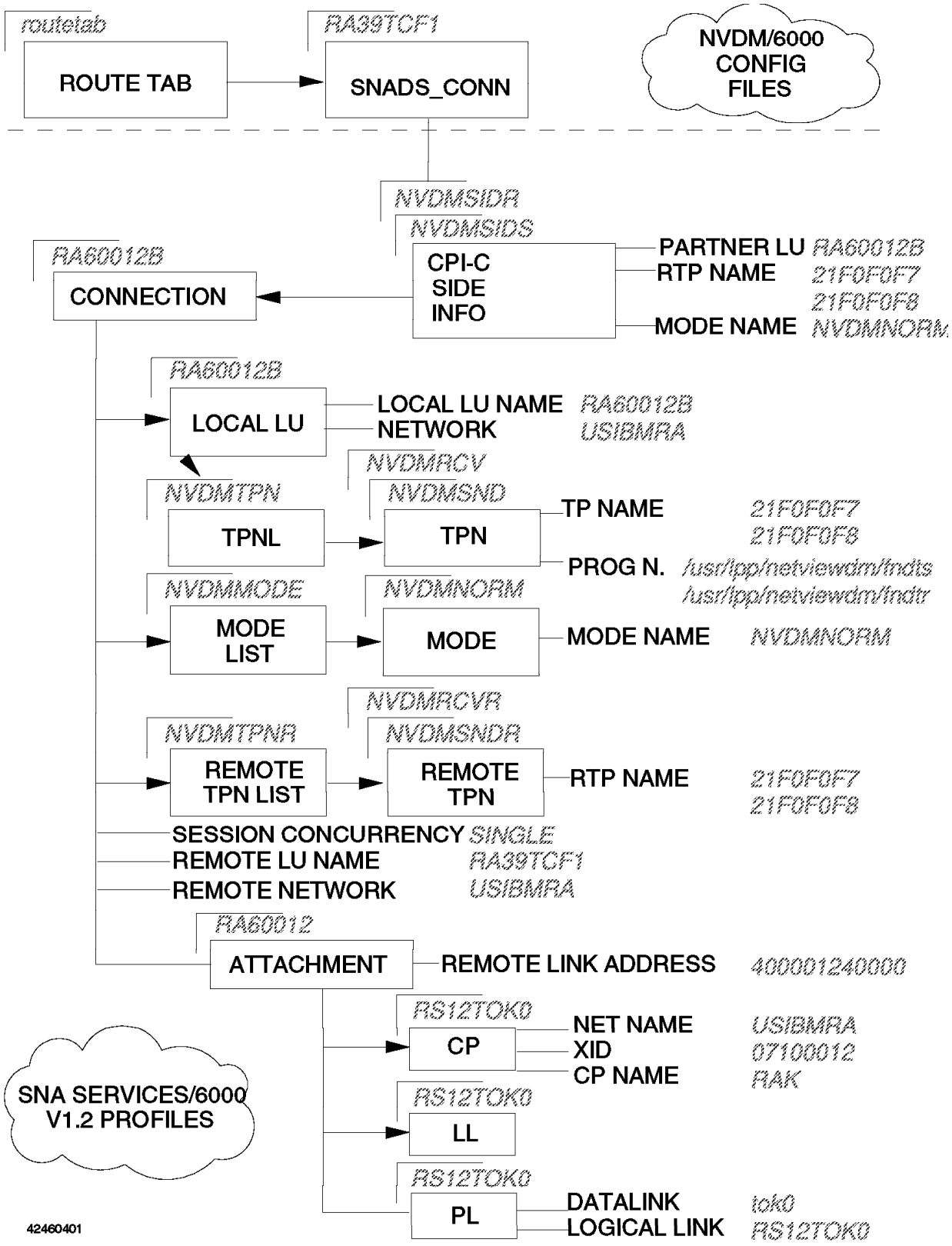

Figure 7. SNA Services/6000 and NetView Distribution Manager/6000 Configuration Overview

3.1.1 SNA Node Profile (SNA Node)

```
                        Change / Show SNA Node Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                sna
  NEW PROFILE name                                   []
  Total active open CONNECTIONS (1-5000)             [200]                    #
  Total SESSIONS (1-5000)                            [200]                    #
  Total CONVERSATIONS (1-5000)                       [200]                    #
  SERVER synonym name                                [sna]
  RESTART action                                      once                   +
  Perform ERROR LOGGING?                              yes                    +
  Standard INPUT file/device                         [/dev/console]
  Standard OUTPUT file/device                        [/dev/console]
  Standard ERROR file/device                         [/dev/console]




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 8. SNA Node Profile SMIT Panel

Do the following:

Step 1. Type `smit` on the AIX command line.

Step 2. Select **Communications Applications and Services**.

Step 3. Select **SNA Services**.

Step 4. Select **Configure SNA Profiles** *(fastpath name: sna)*.

Step 5. Select **Advanced SNA Configuration**.

Step 6. Select **Nodes**.

Step 7. Select **Systems Network Architecture**.

Step 8. Select **Add a profile** *(fastpath name: _snasnamk)*.

Step 9. Fill in the fields according to Figure 8 and press Enter to make the changes effective.

Note: We will explain steps 1 to 5 only here. If you don't have the Advanced SNA Configuration panel displayed in the following sections, then do steps 1 to 5.

3.1.1.1 Explanation

We have accepted the default of 'sna' for the profile name.

We have also accepted the defaults for all other attributes.

```
                    Change / Show SNA Control Point Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                        [Entry Fields]
  CURRENT profile name                                  RS12TOK0
  NEW PROFILE name                                     []
  XID node ID                                          [07100012]                X
  NETWORK name                                         [USIBMRA]
  CONTROL POINT name                                   [RAK]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 9. Control Point SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Nodes**.

Step 2. Select **Control Point**.

Step 3. Select **Add a profile** *(fastpath name: _snacpmk)*.

Alternative:

If you still have the Add SNA Node Profile panel displayed from the previous task, press F3 until you are returned to the Nodes panel, and follow the instructions from Step 2.

Note: We will only explain the alternative here. If you still see the panel from the previous task in the following sections, press F3 until you are returned to the desired panel.

Step 4. Fill in the fields according to Figure 9.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

3.1.1.2 Explanation

We have chosen RS12TOK0 as the profile name.

The XID Node ID (07100012) must match the IDBLK (071) and IDNUM (00012) for the server PU (RA60012) in VTAM (Figure 65 on page 99).

The Network Name (USIBMRA) must match the VTAM network name.

The Control Point Name (RAK) must much the SSCP name in the VTAM start statement (ATCSTRxx).

3.1.2 Physical Link Profile (Attachment)

```
                Change / Show SNA Token Ring Physical Link Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                               RS12TOK0
  NEW PROFILE name                                   []
  DATALINK device name                               [tok0]                  +
  LOCAL LINK name                                    [RS12TOK0]
  Maximum number of LOGICAL LINKS (1-255)            [32]                     #
  Local SAP address (hex 04-ec)                      [04]                     X

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 10. Physical Link Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Physical Units**.

Step 2. Select **Token Ring**.

Step 3. Select **Token Ring Data Link Control**.

Step 4. Select **Token Ring Physical Link**.

Step 5. Select **Add a profile** *(fastpath name: _snatokphymk)*.

Step 6. Fill in the fields according to Figure 10.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

3.1.2.1 Explanation

We have chosen RS12TOK0 as the profile name.

Datalink device name (tok0) is the name of the AIX device driver for the communications adapter we are using (we have chosen the first token-ring adapter, tr0).

Local Link Name (RS12TOK0) is the name by which the link is known to other SNA attachments in the network for access routing (see 3.1.4, “Attachment Profile (Attachment)” on page 35).

We have accepted the default (32) for the Maximum Number of Logical Links.

We have accepted the default (04) for the Local SAP address.

3.1.3 Logical Link Profile (Attachment)

```
               Change / Show SNA Token Ring Logical Link Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                RS12TOK0
  NEW PROFILE name                                   []
  TRANSMIT window count (1-127)                      [10]                      #
  DYNAMIC window increment (1-127)                   [1]                       #
  RETRANSMIT count (1-30)                            [8]                       #
  RECEIVE window count (1-127)                       [127]                     #
  RING ACCESS priority                                0                       +
  RETRY limit                                        [20]                      #
  DROP LINK on inactivity?                            yes
  INACTIVITY timeout (1-120 seconds)                 [120]                     #
  RESPONSE timeout (1-40, 500 msec intervals)        [2]                       #
  ACKNOWLEDGE timeout (1-40, 500 msec intervals)     [1]                       #
  FORCE DISCONNECT timeout (1-600 seconds)           [120]                     #
  DEFINITION of maximum I-FIELD size                  system_defined          +
     If user-defined, max. I-FIELD SIZE (265-30729)  [30729]                   #
  TRACE link?                                         no                      +
     If yes, TRACE SIZE                               long                    +



F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 11. Logical Link Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Physical Units**.

Step 2. Select **Token Ring**.

Step 3. Select **Token Ring Data Link Control**.

Step 4. Select **Token Ring Logical Link**.

Step 5. Select **Add a profile** *(fastpath name: _snatoklogmk)*.

Step 6. Fill in the fields according to Figure 11.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

3.1.3.1 Explanation

We have chosen RS12TOK0 as the profile name.

We have accepted the defaults for all attributes.

3.1.4 Attachment Profile (Attachment)

```
                Change / Show SNA Token Ring Attachment Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                RA60012
  NEW PROFILE name                                   []
  CONTROL POINT profile name                         [RS12TOK0]              +
  LOGICAL LINK profile name                          [RS12TOK0]              +
  PHYSICAL LINK profile name                         [RS12TOK0]              +
  STOP ATTACHMENT on inactivity?                      no                     +
     If yes, inactivity TIMEOUT (0-10 minutes)       [0]                      #
  RESTART on deactivation?                            no                     +
  LU address REGISTRATION?                            no                     +
     If yes, LU address REGISTRATION PROFILE name    []                      +
  CALL type                                           call                   +
     If listen,
        AUTO-LISTEN?                                  no                     +
        MINIMUM SAP address (hex 04-ec)              [04]                     X
        MAXIMUM SAP address (hex 04-ec)              [EC]                     X
     If call, ACCESS ROUTING                          link_address           +
        If link-name, REMOTE LINK name               []
        If link-address,
           Remote LINK address                       [400001240000]           X
           Remote SAP address (hex 04-ec)            [04]                     X


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 12. Attachment Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Physical Units**.

Step 2. Select **Token Ring**.

Step 3. Select **Token Ring Attachment**.

Step 4. Select **Add a profile** *(fastpath name: _snatokattcmk)*.

Step 5. Fill in the fields according to Figure 12.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.4.1 Explanation

We have chosen a profile name of RA60012 to be the same as the PU name in VTAM. Although it is not mandatory to do this, it is in line with the natural relationship between attachment and PU. This is the name that the attachment shows up as in the `lssrc` output. You may prefer to give it a different name, for example the name of the remote PU.

This attachment profile references control point profile RS12TOK0, logical link profile RS12TOK0 and physical link profile RS12TOK0, which we have defined above.

We have set Stop Attachment on Inactivity to NO because we want the attachment to remain active, even when there are no sessions in progress. You may wish to set this attribute to YES to conserve system resources.

We have set Restart on Deactivation to NO because we don't mind manually starting the attachment each time it becomes inactive. You may wish to set this attribute to YES so that the attachment restarts automatically.

We have set Call Type to "call" because we want the RISC System/6000 to bring up the link as soon as the attachment is started. If you prefer your link to be activated by VTAM, set this attribute to "listen".

We have chosen to route the link activation request on link address rather than name, and have therefore set the Access Routing attribute to "link_address".

Remote Link Address (400001240000) must match the TIC value in the NCP. (It is the MAC or hardware address of the token-ring adapter in the communications controller.)

We do not wish to use this attachment for LU 0 services; therefore we have set the LU Address Registration attribute to NO.

We have accepted the defaults for all other attributes.

3.1.5 Local LU Profile (Connection)

```
                    Change / Show SNA LU6.2 Local LU Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                RA60012B
  NEW PROFILE name                                   []
  TPN LIST profile name                              [NVDMTPN]                +
  NETWORK name                                       [USIBMRA]
  Local LU NAME                                      [RA60012B]
  INDEPENDENT LU?                                     yes                     +
     If no,
        Local LU ADDRESS (1-255)                     [1]                      #
        SSCP ID                                      []


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 13. Local LU Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 Local Logical Unit**.

Step 4. Select **Add a profile** *(fastpath name: _snalocalu6mk)*.

Step 5. Fill in the fields according to Figure 13.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.5.1 Explanation

We have chosen a profile name of RA60012B to be the same as the Local LU name in the profile. It is not mandatory to do this, but doing so makes the profile easier to identify.

The local LU profile references TPN List profile NVDMTPN which we define below.

Network Name (USIBMRA) must match the network name in VTAM.

Local LU Name (RA60012B) must match the server's LU name in the VTAM listing (Figure 65 on page 99).

The LU 6.2 used by NetView Distribution Manager/6000 is independent (for example, capable of initiating a BIND); therefore we have set the Independent LU attribute to YES.

We have accepted the defaults for all other attributes.

3.1.6 Mode Profile (Connection)

```
                    Change / Show SNA LU6.2 Mode Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMNORM
  NEW PROFILE name                                   []
  MODE name                                          [NVDMNORM]
  Maximum number of SESSIONS (1-999)                 [1]                    #
  Minimum contention WINNERS (0-499)                 [0]                    #
  Minimum contention LOSERS (0-500)                  [0]                    #
  Auto ACTIVATIONS limit (0-500)                     [0]                    #
  RECEIVE pacing (0-63)                              [7]                    #
  SEND pacing (0-63)                                 [7]                    #
  Maximum RU SIZE (256,288,...,3840)                 [3840]                 #
  RECOVERY level                                      no_reconnect          +




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 14. Mode Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **Mode**.

Step 4. Select **Add a profile** *(fastpath name: _snamodemk)*.

Step 5. Fill in the fields according to Figure 14.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.6.1 Explanation

We have chosen a profile name of NVDMNORM to be the same as the Mode Name in the profile. It is not mandatory to do this, but doing so makes the profile easier to identify.

Mode Name (NVDMNORM) entry must be in the mode table (MODETAB) for the server LU (RA60012B) in VTAM (Figure 65 on page 99 and Figure 68 on

page 100). We have chosen NVDMNORM as the mode name to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

We have set Maximum RU SIZE to the highest value allowed (3840) by SNA Services/6000, because we are using a LAN capable of sustaining a high throughput.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide*.

Note: It is particularly important that you set Maximum number of SESSIONS to 1. If you set it to 2, or more, SNA Services will try to establish a service session (with a mode of SNASVCMG), on outgoing distribution requests. The session establishment request (BIND) will be rejected by NetView Distribution Manager/MVS, as it doesn't support parallel sessions. Consequently, the distribution will fail.

3.1.7 Mode List Profile (Connection)

```
                        Change SNA LU6.2 Mode List Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                    [Entry Fields]
  CURRENT profile name                                  NVDMMODE
  NEW PROFILE name                                      []
  DELETE profile names from list (F4 to list)                              +
  Add profile names to list:
     Name  1                                            [NVDMNORM]         +
     Name  2                                            []                 +
     Name  3                                            []                 +
     Name  4                                            []                 +
     Name  5                                            []                 +
     Name  6                                            []                 +
     Name  7                                            []                 +
     Name  8                                            []                 +
     Name  9                                            []                 +
     Name 10                                            []                 +
[MORE...53]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 15. Mode List Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **Mode List**.

Step 4. Select **Add a profile** *(fastpath name: _snamodelmk)*.

Step 5. Fill in the fields according to Figure 15.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.7.1 Explanation

We have chosen a profile name of NVDMODE to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

We have created only one mode profile (NVDMNORM) that needs including in the list.

3.1.8 Transaction Profiles (Connection)

```
                    Change / Show SNA LU6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMSND
  NEW PROFILE name                                   []
  Transaction program name is in HEXADECIMAL?         yes                          +
  TRANSACTION program name                           [21F0F0F7]
  PIP data?                                           no                           +
     If yes, SUBFIELDS (0-99)                        [0]                           #
  CONVERSATION type                                   basic                        +
  RECOVERY level                                      no_reconnect                 +
  SYNC level                                          none                         +
  Full PATH to TPN executable                        [/usr/lpp/netviewdm/bin/fndts]
  MULTIPLE INSTANCES supported?                       yes                          +
  User ID                                            [0]                           #
  SERVER synonym name                                []
  RESTART action                                      once                         +
  COMMUNICATION type                                  signals                      +
     If IPC, communication IPC queue key             [0]                           #
  Standard INPUT file/device                         [/dev/null]
  Standard OUTPUT file/device                        [/dev/console]
  Standard ERROR file/device                         [/dev/console]
  SECURITY Required                                   none                         +
     If access,
        RESOURCE SECURITY ACCESS LIST profile        [RSRCDEFAULT]
        (If no name entered, /etc/passwd used)


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 16. Transaction Profile SMIT Panel (Send)

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 Transaction Program Name (TPN)**.

Step 4. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 5. Fill in the fields according to Figure 16.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.8.1 Explanation

We have chosen a profile name of NVDMSND to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide*.

```
                    Change / Show SNA LU6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMRCV
  NEW PROFILE name                                   []
  Transaction program name is in HEXADECIMAL?         yes                          +
  TRANSACTION program name                           [21F0F0F8]
  PIP data?                                           no                           +
     If yes, SUBFIELDS (0-99)                        [0]                           #
  CONVERSATION type                                   basic                        +
  RECOVERY level                                      no_reconnect                 +
  SYNC level                                          none                         +
  Full PATH to TPN executable                        [/usr/lpp/netviewdm/bin/fndtr]
  MULTIPLE INSTANCES supported?                       yes                          +
  User ID                                            [0]                           #
  SERVER synonym name                                []
  RESTART action                                      once                         +
  COMMUNICATION type                                  signals                      +
     If IPC, communication IPC queue key             [0]                           #
  Standard INPUT file/device                         [/dev/null]
  Standard OUTPUT file/device                        [/dev/console]
  Standard ERROR file/device                         [/dev/console]
  SECURITY Required                                   none                         +
     If access,
        RESOURCE SECURITY ACCESS LIST profile        [RSRCDEFAULT]
        (If no name entered, /etc/passwd used)


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 17. Transaction Profile SMIT Panel (Receive)

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 Transaction Program Name (TPN)**.

Step 4. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 5. Fill in the fields according to Figure 17.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

Fill in the fields according to Figure 17 and press Enter to make the changes effective.

3.1.8.2 Explanation

We have chosen a profile name of NVDMRCV to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended.

3.1.9 Transaction List Profile (Connection)

```
                          Add SNA LU6.2 TPN List Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                    [Entry Fields]
* PROFILE name                                         [NVDMTPN]
  Add profile names to list:
     Name  1                                           [NVDMSND]              +
     Name  2                                           [NVDMRCV]              +
     Name  3                                           []                     +
     Name  4                                           []                     +
     Name  5                                           []                     +
     Name  6                                           []                     +
     Name  7                                           []                     +
     Name  8                                           []                     +
     Name  9                                           []                     +
     Name 10                                           []                     +
     Name 11                                           []                     +
     Name 12                                           []                     +
[MORE...52]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 18. Transaction List Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 Transaction Program Name List**.

Step 4. Select **Add a profile** *(fastpath name: _snatpnlmk)*.

Step 5. Fill in the fields according to Figure 18.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.9.1 Explanation

We have chosen a profile name of NVDMTPN to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

We have created two mode profiles (NVDMSND and NVDMRCV) that need including in the list.

3.1.10 Remote Transaction Profiles (Connection)

```
                    Change / Show SNA LU6.2 RTPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                               NVDMSNDR
  NEW PROFILE name                                   []
  RTPN name is in HEXADECIMAL?                        yes                    +
  RTPN name                                          [21F0F0F7]
  PIP data?                                           no                     +
  CONVERSATION type                                   basic                  +
  RECOVERY level                                      no_reconnect           +
  SYNC level                                          none                   +

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 19. Remote Transaction Profile SMIT Panel (Send)

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **Remote Transaction Program Name (RTPN)**.

Step 4. Select **Add a profile** *(fastpath name: _snartpnmk)*.

Step 5. Fill in the fields according to Figure 19.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.10.1 Explanation

We have chosen a profile name of NVDMSNDR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Remote Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended.

```
                    Change / Show SNA LU6.2 RTPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMRCVR
  NEW PROFILE name                                   []
  RTPN name is in HEXADECIMAL?                        yes                    +
  RTPN name                                          [21F0F0F8]
  PIP data?                                           no                     +
  CONVERSATION type                                   basic                  +
  RECOVERY level                                      no_reconnect           +
  SYNC level                                          none                   +

F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 20. Remote Transaction Profile SMIT Panel (Receive)

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **Remote Transaction Program Name (RTPN)**.

Step 4. Select **Add a profile** *(fastpath name: _snartpnmk)*.

Step 5. Fill in the fields according to Figure 20.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.10.2 Explanation

We have chosen a profile name of NVDMRCVR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Remote Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended.

3.1.11 Remote Transaction List Profile (Connection)

```
                        Add SNA LU6.2 RTPN List Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                    [Entry Fields]
* PROFILE name                                          [NVDMTPNR]
  Add profile names to list:
     Name  1                                           [NVDMSNDR]              +
     Name  2                                           [NVDMRCVR]              +
     Name  3                                           []                      +
     Name  4                                           []                      +
     Name  5                                           []                      +
     Name  6                                           []                      +
     Name  7                                           []                      +
     Name  8                                           []                      +
     Name  9                                           []                      +
     Name 10                                           []                      +
     Name 11                                           []                      +
     Name 12                                           []                      +
[MORE...52]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 21. Remote Transaction List Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 Remote Transaction Program List**.

Step 4. Select **Add a profile** *(fastpath name: _snartpnlmk)*.

Step 5. Fill in the fields according to Figure 21.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.11.1 Explanation

We have chosen a profile name of NVDMTPNR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

We have created two mode profiles (NVDMSNDR and NVDMRCVR) that need including in the list.

3.1.12 Connection Profile (Connection)

```
                Change / Show SNA LU6.2 Logical Connection Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                RA60012B
  NEW PROFILE name                                   []
  ATTACHMENT profile name                            [RA60012]                +
  LOCAL LU profile name                              [RA60012B]               +
  NETWORK name                                       [USIBMRA]
  STOP CONNECTION on inactivity?                      no                      +
     If yes, TIMEOUT (0-10 minutes)                  [0]                      #
  REMOTE LU name                                     [RA39TCF1]
  SECURITY Accepted                                   none                    +
     If conversation or already_verified,
     CONVERSATION SECURITY ACCESS LIST profile        [CONVDEFAULT]
        (If no name entered, /etc/passwd used)
  REMOTE TPN LIST profile name                       [NVDMTPNR]               +
  MODE LIST profile name                             [NVDMMODE]               +
  INTERFACE type                                      extended                +
     If extended, SESSION CONCURRENCY                 single                  +
  Node VERIFICATION?                                  no                      +

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 22. Connection Profile SMIT Panel

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 Logical Connection**.

Step 4. Select **Add a profile** *(fastpath name: _snaconnlu6ch)*.

Step 5. Fill in the fields according to Figure 22.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.12.1 Explanation

We have chosen a profile name of RA60012B to be the same as the LU name in VTAM. It is not mandatory to do this, but it is in line with the natural relationship between connection profile and session. This is the name that the connection shows up as in the lssrc output. You may prefer to give it the name of the remote LU.

The connection profile references Attachment profile RA60012, Local LU profile RA60012B, Remote TPN List profile NVDMTPNR and Mode List profile NVDMMODE which we have defined above.

Network Name (USIBMRA) must match the network name in VTAM (3.13, “Configuring VTAM for LU 6.2 Communications” on page 99).

Remote LU Name (RA39TCF1) corresponds to the LU name of the TCP in VTAM (3.13, “Configuring VTAM for LU 6.2 Communications” on page 99).

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide*.

Note: It is particularly important that you set Session Concurrency to ″single″. If you don′t, SNA Services will try to establish a service session (with a mode of SNASVCMG), on outgoing distribution requests. The session establishment request (BIND) will be rejected by NetView Distribution Manager/MVS, as it doesn′t support parallel sessions. Consequently, the distribution will fail.

3.1.13 CPIC Side Information Profiles (CPIC Side Information)

```
        Change / Show LU6.2 CPI Communications Side Information Profile


Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMSIDS
  NEW PROFILE name                                   []

  PARTNER LU name                                    [RA60012B]              +
     Enter the name of the LU6.2 Connection
     profile which contains the destination
     remote LU name

  REMOTE TRANSACTION PROGRAM name (RTPN)             [21F0F0F7]
     SERVICE transaction program?                     yes                    +

  MODE name                                          [NVDMNORM]



F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 23. CPIC Side Information Profile SMIT Panel (Send)

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 CPI Communications Side Information**.

Step 4. Select **Add a profile** *(fastpath name: _snacpicmk)*.

Step 5. Fill in the fields according to Figure 23.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.13.1 Explanation

We have chosen a profile name of NVDMSIDS to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Partner LU Name (RA60012B) must match the name of the connection profile (defined above).

Remote Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

Mode Name (NVDMNORM) must match the attribute of the same name in the mode profile (defined above).

```
        Change / Show LU6.2 CPI Communications Side Information Profile


Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                 NVDMSIDR
  NEW PROFILE name                                    []

  PARTNER LU name                                     [RA60012B]              +
     Enter the name of the LU6.2 Connection
     profile which contains the destination
     remote LU name

  REMOTE TRANSACTION PROGRAM name (RTPN)              [21F0F0F8]
     SERVICE transaction program?                      yes                    +

  MODE name                                           [NVDMNORM]



F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 24. CPIC Side Information Profile SMIT Panel (Receive)

On the Advanced SNA Configuration panel, do the following:

Step 1. Select **Logical Units**.

Step 2. Select **LU6.2**.

Step 3. Select **LU6.2 CPI Communications Side Information**.

Step 4. Select **Add a profile** *(fastpath name: _snacpicmk)*.

Step 5. Fill in the fields according to Figure 24.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.1.13.2 Explanation

We have chosen a profile name of NVDMSIDR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Partner LU Name (RA60012B) must match the name of the connection profile (defined above).

Remote Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

Mode Name (NVDMNORM) must match the attribute of the same name in the mode profile (defined above).

3.2 Configuring TCP/IP at the Server

If you plan to use existing RISC System/6000 systems as your NetView Distribution Manager/6000 server and client(s), and these systems already have working TCP/IP connections between them, then skip over this section.

Before you begin, read 2.3, “Planning Your TCP/IP Network” on page 20.

In our example, we have kept the network as simple as possible by choosing to use:

- Local name resolution (/etc/hosts)
- Non-domain naming scheme
- Class A addressing scheme with subnetting
- A single network, without gateways
- An existing token-ring connection (4 Mb/s)

If Your IP Network Is More Complex

If you plan to use nameserving, or a domain naming scheme, or subnetting, or any other feature of TCP/IP not mentioned here, you should refer to the *AIX Communications Concepts and Procedures* for the additional configuration tasks that you may need to carry out at the server. You should also have a good understanding of TCP/IP principles, or enlist specialist help.

Assuming that you have carried out the prerequisite activities (2.3, “Planning Your TCP/IP Network” on page 20), we are now ready to configure TCP/IP at the server.

```
                        Minimum Configuration & Startup

 To Delete existing configuration data, please use Further Configuration menus


Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
* HOSTNAME                                           [rs600012]
* Internet ADDRESS (dotted decimal)                  [9.24.104.124]
  Network MASK (dotted decimal)                      [255.255.255.0]
* Network INTERFACE                                   tr0
  NAMESERVER
           Internet ADDRESS (dotted decimal)         []
           DOMAIN Name                               []
  Default GATEWAY Address                            []
  (dotted decimal or symbolic name)
  RING Speed                                         4                       +
  START Now                                          yes                     +


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 25. TCP/IP Minimum Configuration & Startup SMIT Panel (Server)

Do the following:

Step 1. Type `smit` on the AIX command line at the server.

Step 2. Select **Communications Applications and Services**.

Step 3. Select **TCP/IP**.

Step 4. Select **Minimum Configuration & Startup** *(fastpath name: mktcpip)*. Available Network Interfaces pop-up window will appear. Select tr0 and press Enter.

Step 5. Fill in the fields according to Figure 25 and press Enter to make the changes effective.

3.2.1.1 Explanation

We have chosen rs600012 as the IP name, 9.24.104.124 as the IP address, and the first token-ring adapter, tr0. (This adapter is also used for SNA communications to the focal point.)

The network is class A (the high-order bit of the high-order byte is 0). Therefore the network address is the high-order one byte, 9, and the host address the low-order two bytes, 24.104.124.

A subnet mask of 255.255.255.0 in a class A network means that the subnet is made up only of the network address, and involves no part of the host address. In other words there is effectively no subnetting.

We have requested that TCP/IP is started immediately, rather than waiting for the next system reboot.

3.3 Configuring SNA/DS at the Server

Before you begin, read 1.5, “Configuring NetView Distribution Manager/6000 SNA/DS Support” on page 13.

There are two configuration activities that you must carry out:

- Customize the SNA/DS connection configuration file.
- Customize the SNA/DS routing table.

You may also need to refresh the tables in the runtime system.

3.3.1 Customizing the SNA/DS Connection Configuration File

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVDMSIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVDMSIDR
NEXT DSU:                          USIBMRA.RA39TCF1
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 26. SNA/DS Connection Configuration File (Server)

Do the following:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 SNA/DS connection database directory:

```
cd /usr/lpp/netviewdm/db/snads_conn
```

Step 3. Rename the file CONNSNA to RA39TCF1.

Note: If you leave the CONNSNA file in this directory, it will show up in the Queues window, and in some of the messages in the log, possibly leading to confusion. It is best, therefore, to remove it. In this example, we use it as a model for our own configuration file.

Step 4. Using your preferred AIX editor (for instance *vi*) change the contents to that shown in Figure 26

3.3.1.1 Explanation

As explained in 1.5.2, “SNA/DS Configuration File” on page 14, one of these files is needed for each connection, which in this case is an LU 6.2 connection. The name of the file must be the same as the one listed as the connection in the route table (routetab); see Figure 27 on page 52.

Each file you create in this directory shows up as a queue in the GI Queues window.

The NetView Distribution Manager/6000 installation process creates a default SNA/DS connection configuration file called CONNSNA. For this scenario, you need to create a configuration file for the connection to the NetView Distribution Manager/MVS system.

Send TP Symbolic Destination (NVDMSIDS) must match the side information profile name for the send transaction program (see 3.1.13, “CPIC Side Information Profiles (CPIC Side Information)” on page 47).

Receive TP Symbolic Destination (NVDMSIDR) must match the side information profile name for the receive transaction program (see 3.1.13, “CPIC Side Information Profiles (CPIC Side Information)” on page 47).

Next DSU (USIBMRA.RA39TCF1) must match the RGN (USIBMRA) and REN (RA39TCF1) of the Transmission Control Program (TCP) at the focal point, the destination for traffic routed over this SNA/DS connection.

The RGN and the REN are SNA/DS terms which are used to address the node. The RGN is typically the network ID, and the REN is typically the LU name. The TCP uses the RGN and REN in this manner.

We have left all other attributes at their default values.

3.3.2 Customizing the SNA/DS Routing Table

```
NETWORK PROTOCOL:    APPC
USIBMRA.RA39TCF1  ANY  ANY  ANY  ANY  RA39TCF1  5
```

Figure 27. SNA/DS Routing Table (Server)

Do the following:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 database directory:

```
cd /usr/lpp/netviewdm/db
```

Step 3. Using your preferred AIX editor (for instance *vi*) change the contents of the routing table (`routetab`) to that shown in Figure 27.

3.3.2.1 Explanation

The only route we need for this scenario is to the focal point (NetView Distribution Manager/MVS).

As our network is a simple one, we have followed the recommendation in the *NetView DM/6000 Installation and Customization Guide* and made the RGN the same as the network name (USIBMRA) and the REN the same as the LUNAME (RA39TCF1, in our example). We have therefore set the SNA/DS Node Address to USIBMRA.RA39TCF1.

Note: We could have defaulted the SNA/DS Node Address using wildcards (*.*). However, if an attempt is made by SNA/DS at the server to route non-focal point traffic, we would prefer that a routing error is reported locally at the server, rather than have the request routed to the focal point, only to be rejected there.

We have no special requirements governing distribution protection, maximum distribution size, or distribution security. We indicate this by placing the keyword ANY in these fields.

The SNA/DS Connection name to the focal point is RA39TCF1 in our configuration. Thus we have set the Connection field to RA39TCF1. This name relates to the SNA/DS connection configuration file which we defined above. We have chosen this name to be the same as LUNAME (RA39TCF1, in our example).

We have chosen 5 for the hop count.

Note: We probably could have legitimately set the hop count to 1 in this scenario, as the focal point is actually 1 hop away, in SNA/DS terms. However, we were uncertain of our network topology initially, and therefore followed the corresponding recommendation in the *NetView DM/6000 Installation and Customization Guide*.

3.3.3 Refreshing the Runtime System

If NetView Distribution Manager/6000 is running when you make changes to the SNA/DS configuration, you must either stop and restart NetView DM/6000, or refresh the runtime system ″in flight″ with the new values. It can take NetView DM/6000 several minutes to complete its stop processing; therefore in most cases you will find it more convenient to refresh in flight (this generally takes just a few seconds to complete).

To check whether NetView DM/6000 is running, see 4.2.1, “Getting the Status of NetView Distribution Manager/6000” on page 112 for instructions on checking the status of NetView DM/6000 and 4.2.4, “Refreshing NetView Distribution Manager/6000 In Flight” on page 113 for instructions on refreshing it.

3.4 Configuring NetView Distribution Manager/6000 at the Server

Configuring NetView Distribution Manager/6000 at the server involves the following tasks:

- Setting the server short name
- Configuring NetView DM/MVS as a remote target

In this example, we use the NetView Distribution Manager/6000 graphical interface (GI). If you are working at a graphics terminal and wish to use the GI, you must first start the GI by entering the following command:

```
nvdmgi&
```

Note: You must be at a graphics terminal to do this.

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** button or wait a few moments. The copyright window will close and be replaced by the Catalog window (Figure 28 on page 54).

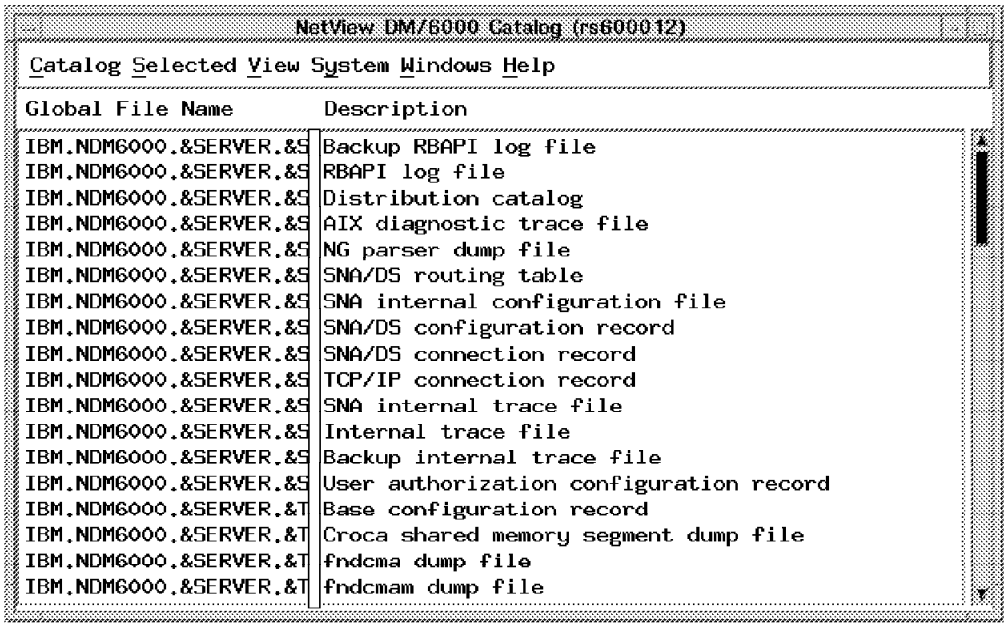

Figure 28. NetView DM/6000 GI Startup Window (Server)

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

If you are not at a graphics terminal, or simply prefer to use the command line interface, follow the command line alternative instructions for each task.

3.4.1 Setting the Server Short Name

The installation process automatically creates a local target entry in the NetView Distribution Manager/6000 database for the server system, that is the RISC System/6000 on which you have just installed NetView DM/6000. The name of the target automatically defaults to the RISC System/6000's *hostname*.

There are a number of additional local target attributes that you may customize, such as periods of activity, the level of logging and so on. For the purposes of this example, we will take the defaults on all attributes except those that we have to change to get this scenario to work, namely the server short name.

Note: The installation process chooses reasonable defaults for the other attributes. We recommend that you accept these for the present, and concentrate on getting the basic communications between server and focal point and server and agent(s) working first. You can adjust most of the defaults later, if necessary.

To set the short name, do the following:

Step 1. In the Catalog window (Figure 28), select **Windows** from the menu bar.

Step 2. Select **Targets** from the pull-down menu. After a short delay, the Targets window will open (Figure 29 on page 55).

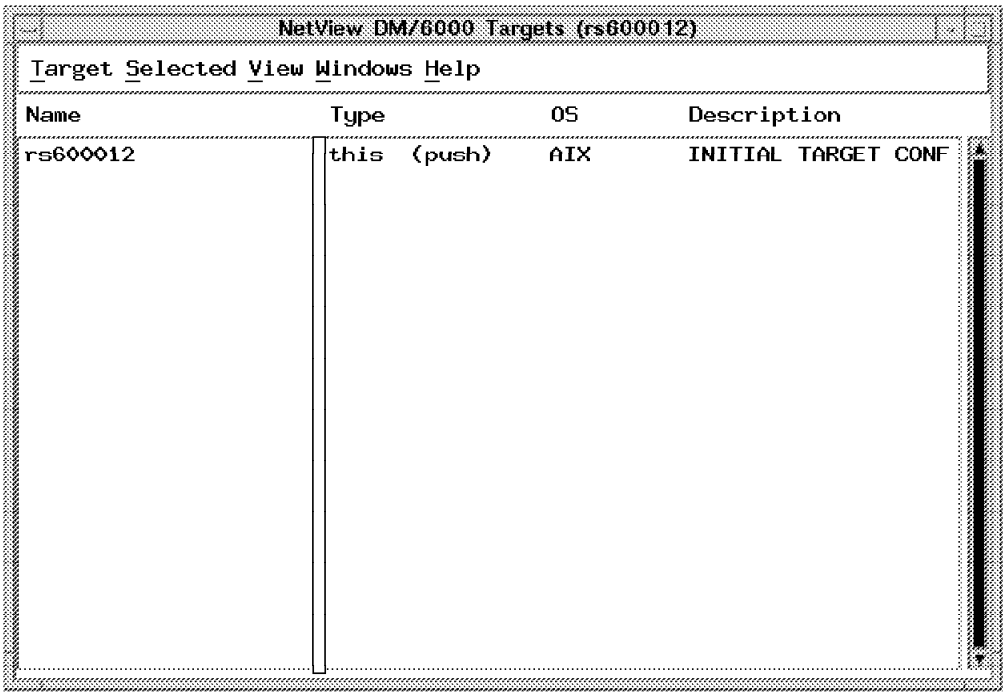

Figure 29. Targets Window (Server)

Step 3. From the Targets window, select the only target of type ″this″ in the list of targets. If you are following these instructions faithfully, it will be the only target in the list. The ″this″ target should now be highlighted (Figure 30).

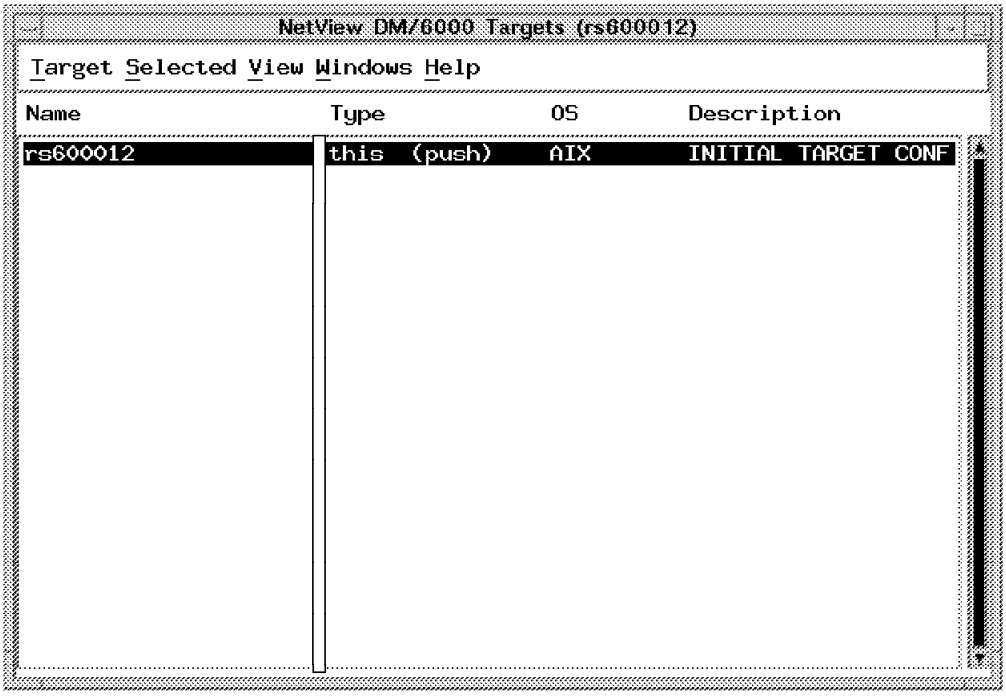

Figure 30. Targets Window with ″This″ Target Highlighted (Server)

Step 4. Select **Selected** from the Targets window menu bar.

Step 5. Select **Open** from the pull-down menu.

Step 6. Select **Details** from the cascaded menu. After a short delay, a Local Target Details window will open.

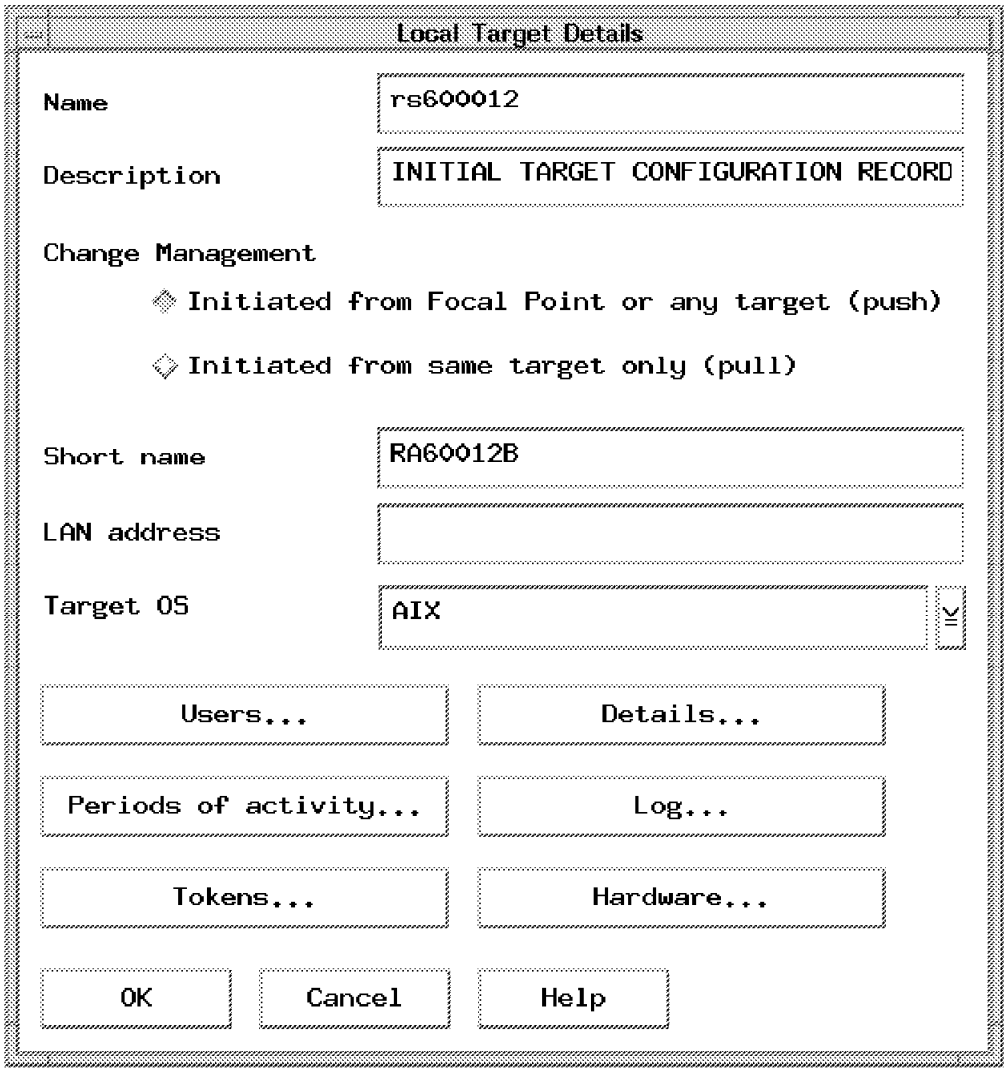

Figure 31. Local Target Details Window (Server)

Step 7. Fill in the **Short name** field according to Figure 31.

Step 8. Select the **OK** push button to make the changes effective.

Command Line Alternative:

```
nvdm updtg rs600012 -s RA60012B
```

3.4.1.1 Explanation

Short name must match the RGN and REN that you enter in the GIX Node Attributes panel for the server (see Figure 75 on page 106).

Note:

The short name of the server is also used to determine the RGN for the server and for all local clients of this server. With every change of the server's short name you also have to change the RGN for this domain where it occurs:

- NetView DM/MVS definitions for server and client(s)
- Other remote target definitions on, for example, NetView DM/6000 or NetView DM/2 servers
- Route table entries on other NetView DM/6000 and NetView DM for NetWare servers

Short name is up to eight characters long and must be unique across the network. The only valid characters are uppercase alphabetics and numerics.

3.5 Adding the NetView Distribution Manager/MVS Focal Point to the Server

To add the NetView Distribution Manager/MVS system as a target on the NetView Distribution Manager/6000 server, do the following:

Step 1. Go to the Targets window (Figure 29 on page 55). If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting **Targets** from the pull-down menu.

Step 2. Select **Target** from the Targets window menu bar.

Step 3. Select **New remote target** from the pull-down menu and the New Remote Target window will open:

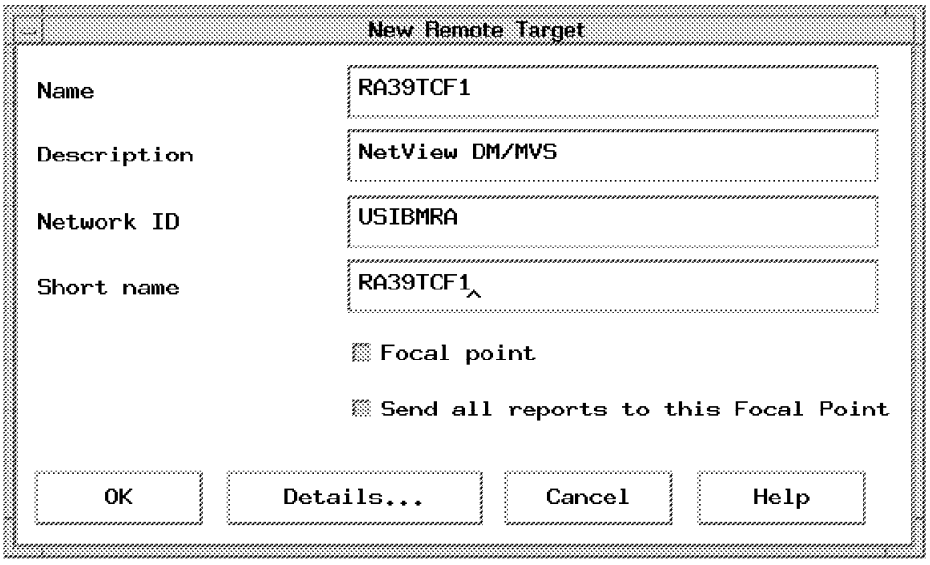

Figure 32. New Remote Target Window (Server)

Step 4. Fill in all fields according to Figure 32.

Step 5. Select the **Focal Point** button (make sure the button is in the "in" position to signify that you want this target to be the focal point).

Step 6. Select the **Send all Reports to this Focal Point** button; make sure the button is in the ″in″ position to signify that you want this target to receive all change management reports of this domain.

Step 7. Push the **OK** button to make the changes effective. You will be returned to the Targets window with NetView Distribution Manager/MVS added to the list of targets.

Command Line Alternative:

```
nvdm addtg RA39TCF1 -n USIBMRA -s RA39TCF1 -m report_to
          -d 'NetView DM/MVS (focal point)'
```

3.5.1.1 Explanation

We have set the Name to RA39TCF1 to be the same as the LU Name, for ease of reference. You may wish to choose something more meaningful to you.

Network ID (USIBMRA) must match the RGN of the TCP at the focal point.

Short name (RA39TCF1) must match the REN of the TCP at the focal point.

We select this remote target to be our focal point which means that the push mode targets will accept change management requests from this node. We also indicate that we want to send all reports, generated by the change management requests, back to this focal point in order to update its database.

3.6 Adding the NetView Distribution Manager/6000 Client to the Server′s Configuration

Adding the NetView Distribution Manager/6000 client to the server configuration involves two activities:

- Adding the client as a target on the server
- Adding the client to the server′s TCP/IP configuration

3.6.1 Adding the Client as a Target on the Server

To add the NetView Distribution Manager/6000 client as a target on the NetView Distribution Manager/6000 server, do the following:

Step 1. Go to the Targets window (Figure 29 on page 55). If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting **Targets** from the pull-down menu.

Step 2. Select **Target** from the Targets window menu bar.

Step 3. Select **New local target** from the pull-down menu and the New Local Target window will open:

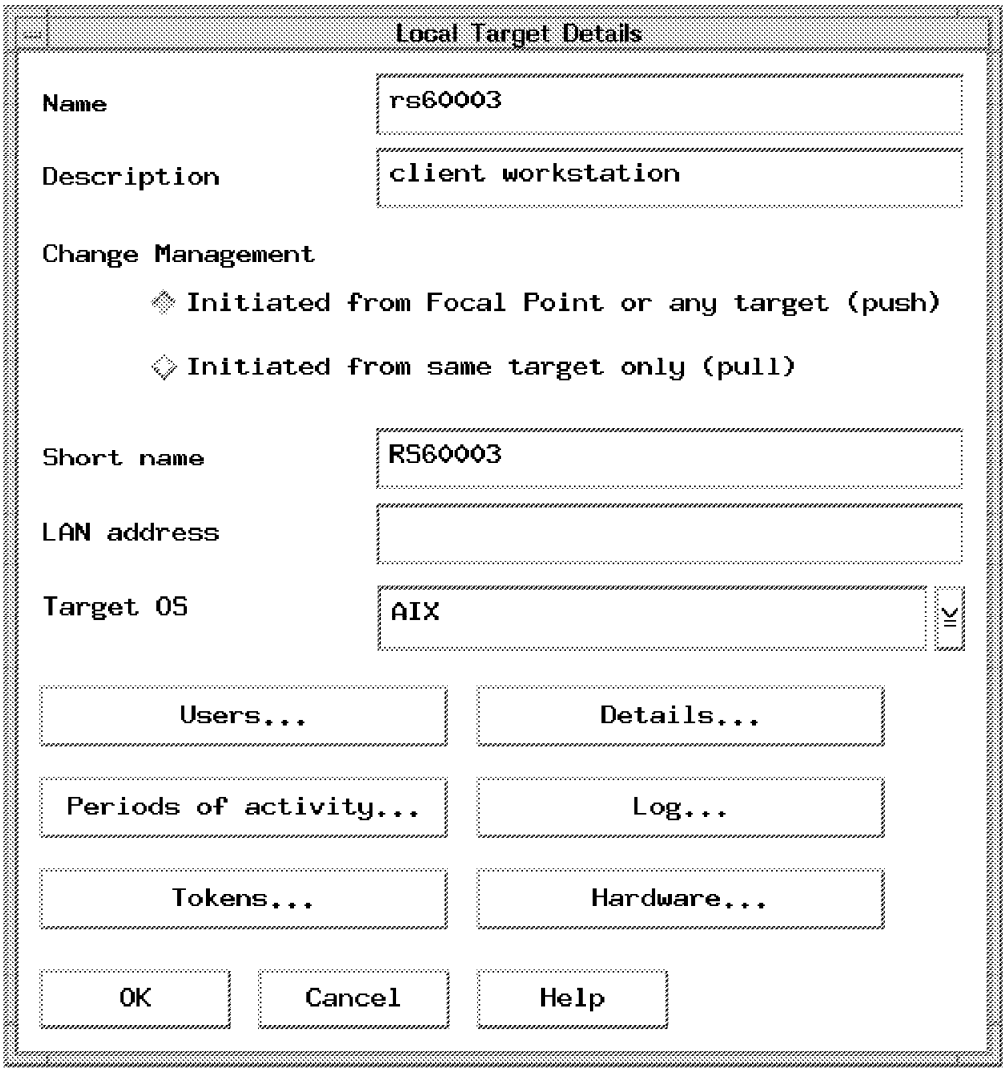

Figure 33. New Local Target Window (Server)

Step 4. Fill in all fields according to Figure 33.

Step 5. Select the **Users** button to open the Target Users window.

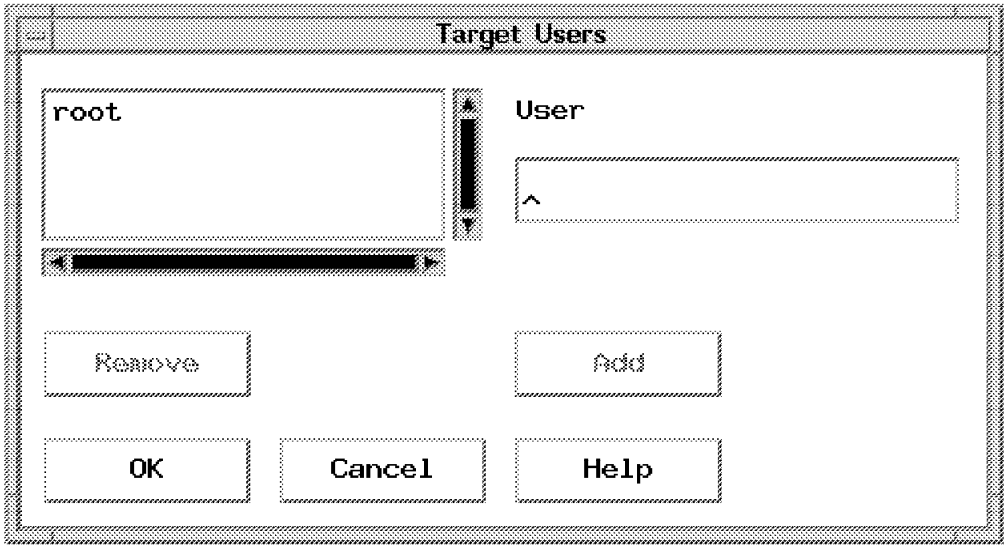

Figure 34. Target Users Window

Step 6. Fill in the User field with a user ID that is defined to AIX (for example root) and select the **Add** button (see Figure 34).

For the customization of the authorization levels for this user ID and the assignment of a user ID to a NetView DM/6000 user group, refer to 3.11.1, “Setting the Authorization Levels for Builders and Users” on page 91 and 3.11.3, “ Adding Builder(s) to AIX Group FNDBLD” on page 96.

Step 7. Select the **OK** button. You will be returned to the New Local Target window. Make sure that the ″Initiated from focal point or any target (push)″ radio button is selected (this is the default).

Step 8. Select the **OK** button to make the changes effective. You will be returned to the Targets window with the NetView Distribution Manager/6000 client added to the list of targets.

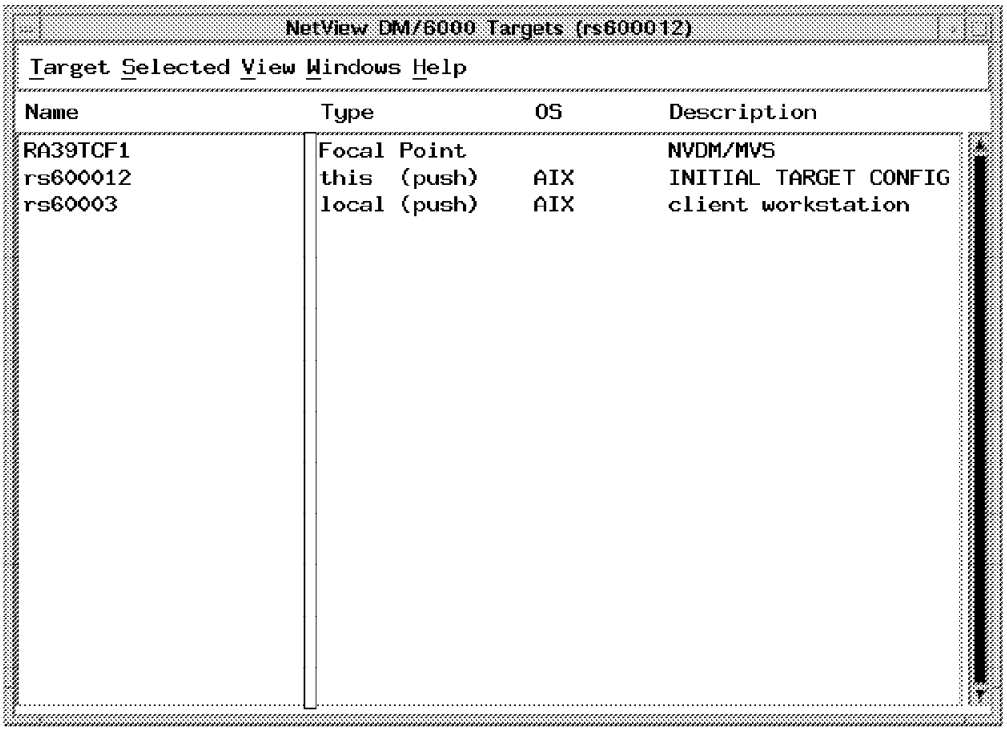

Figure 35. Updated Targets Window (Server)

The Targets window should now have the server, focal point and client systems in the targets list (see Figure 35).

Command Line Alternative:

```
nvdm addtg rs60003 -s RS60003 -u root -d "Mike's development system"
```

3.6.1.1 Explanation

We have chosen rs60003 as Name to be the same as IP host name of the client, for ease of reference.

Short name must match the REN that you enter in the GIX Node Attributes panel for the client (see Figure 77 on page 108).

We have accepted the defaults for all other attributes.

Note: If you subsequently add further users to a target, you *must* select the **Add**. push button in the Target Users panel, and then the **OK** push button in both the Target Users *and* the Local Target Details panels. If you select the **Cancel** button from either of these two panels, the add operation will be cancelled.

3.6.2 Adding the Client to the Server's TCP/IP Configuration

If you plan to use existing RISC System/6000 systems as your NetView Distribution Manager/6000 server and client(s), and these systems already have working TCP/IP connections between them, then skip over this section.

Before you begin, read 2.3, "Planning Your TCP/IP Network" on page 20.

In our example, we have kept the network as simple as possible by choosing to use:

- Local name resolution (/etc/hosts)
- Non-domain naming scheme
- Class A addressing scheme with subnetting
- A single network, without gateways
- An existing token-ring connection (4 Mb/s)

If you plan to use nameserving, or a domain naming scheme, or any other feature of TCP/IP not mentioned here, you should refer to the *AIX Communications Concepts and Procedures* for the additional configuration tasks that you need to carry out at the server. You should also have a good understanding of TCP/IP principles, or enlist specialist help.

Assuming that you have carried out the prerequisite activities (2.3, “Planning Your TCP/IP Network” on page 20), we are now ready add the client to the server’s TCP/IP configuration.

```
                                Add a Host Name

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                        [Entry Fields]
* INTERNET ADDRESS (dotted decimal)                    [9.24.104.23]
* HOST NAME                                            [rs60003.]
  ALIAS(ES) (if any - separated by blank space)        []
  COMMENT (if any - for the host entry)                []

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 36. TCP/IP Add a Host Name SMIT Panel (Server)

Do the following:

Step 1. Type `smit` on the AIX command line at the server.

Step 2. Select **Communications Applications and Services**.

Step 3. Select **TCP/IP**.

Step 4. Select **Further Configuration**.

Step 5. Select **Name Resolution**.

Step 6. Select **Host Table** *(fastpath name: mkhostent)*.

Step 7. Select **Add a Host**.

Step 8. Fill in the fields according to Figure 36 and press Enter to make the changes effective.

3.6.2.1 Explanation

We have chosen rs60003 as the host name of the client and 9.24.104.23 as the IP address.

Since the server and client are both in the same IP network, they share the same network address, 9.24.104, but have different host addresses (see 3.2, “Configuring TCP/IP at the Server” on page 49).

This completes the configuration tasks for the NetView Distribution Manager/6000 server.

3.7 Configuring TCP/IP at the Client System

If you plan to use existing RISC System/6000 systems as your NetView Distribution Manager/6000 server and client(s), and these systems already have working TCP/IP connections between them, then skip over this section.

Before you begin, read 2.3, “Planning Your TCP/IP Network” on page 20.

In our example, we have kept the network as simple as possible by choosing to use:

- Local name resolution (/etc/hosts)
- Non-domain naming scheme
- Class A addressing scheme with subnetting
- A single network, without gateways
- An existing token-ring connection (4 Mb/s)

If you plan to use nameserving, or a domain naming scheme, or any other feature of TCP/IP not mentioned here, you should refer to the *AIX Communications Concepts and Procedures* for the additional configuration tasks that you need to carry out at the client. You should also have a good understanding of TCP/IP principles, or enlist specialist help.

Assuming that you have carried out the prerequisite activities (2.3, “Planning Your TCP/IP Network” on page 20), we are now ready to configure TCP/IP at the client.

```
                        Minimum Configuration & Startup

 To Delete existing configuration data, please use Further Configuration menus


Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
* HOSTNAME                                           [rs60003]
* Internet ADDRESS (dotted decimal)                  [9.24.104.23]
  Network MASK (dotted decimal)                      [255.255.255.0]
* Network INTERFACE                                   tr0
  NAMESERVER
           Internet ADDRESS (dotted decimal)         []
           DOMAIN Name                               []
  Default GATEWAY Address                            []
  (dotted decimal or symbolic name)
  RING Speed                                         4                       +
  START Now                                          yes                     +


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 37. TCP/IP Minimum Configuration & Startup SMIT Panel (Client)

Do the following:

Step 1. Type `smit` on the AIX command line at the client

Step 2. Select **Communications Applications and Services**.

Step 3. Select **TCP/IP**.

Step 4. Select **Minimum Configuration & Startup** *(fastpath name: mktcpip)*. Available Network Interfaces pop-up window will appear. Select tr0 and press Enter.

Step 5. Fill in the fields according to Figure 37 and press Enter to make the changes effective.

3.7.1.1 Explanation

We have chosen rs60003 as the IP name, 9.24.104.23 as the IP address, and the first token-ring adapter, tr0.

The network is class A (the high-order bit of the high-order byte is 0). Therefore the network address is the high-order byte, 9, and the host address the low-order three bytes, 24.104.23.

A subnet mask of 255.255.255.0 in a class A network means that the subnet is made up only of the network address, and involves no part of the host address. In other words there is no subnetting.

We have requested that TCP/IP is started immediately, rather than waiting for the next system reboot.

3.8 Adding the NetView DM/6000 Server to the Client′s Configuration

Adding the NetView Distribution Manager/6000 server to the client′s configuration involves two activities:

- Adding the server to the client′s TCP/IP configuration
- Adding the server to the client′s NetView Distribution Manager/6000 base configuration file

3.8.1 Adding the Server to the Client′s TCP/IP Configuration

If you plan to use existing RISC System/6000 systems as your NetView Distribution Manager/6000 server and client(s), and these systems already have working TCP/IP connections between them, then skip over this section.

Before you begin, read 2.3, “Planning Your TCP/IP Network” on page 20.

In our example, we have kept the network as simple as possible by choosing to use:

- Local name resolution (/etc/hosts)
- Non-domain naming scheme
- Class A addressing scheme with subnetting
- A single network, without gateways
- An existing token-ring connection (4 Mb/s)

If you plan to use nameserving, or a domain naming scheme, or any other feature of TCP/IP not mentioned here, you should refer to the *AIX Communications Concepts and Procedures* for the additional configuration tasks that you need to carry out at the client. You should also have a good understanding of TCP/IP principles, or enlist specialist help.

Assuming that you have carried out the prerequisite activities (2.3, “Planning Your TCP/IP Network” on page 20), we are now ready add the server to the client′s TCP/IP configuration.

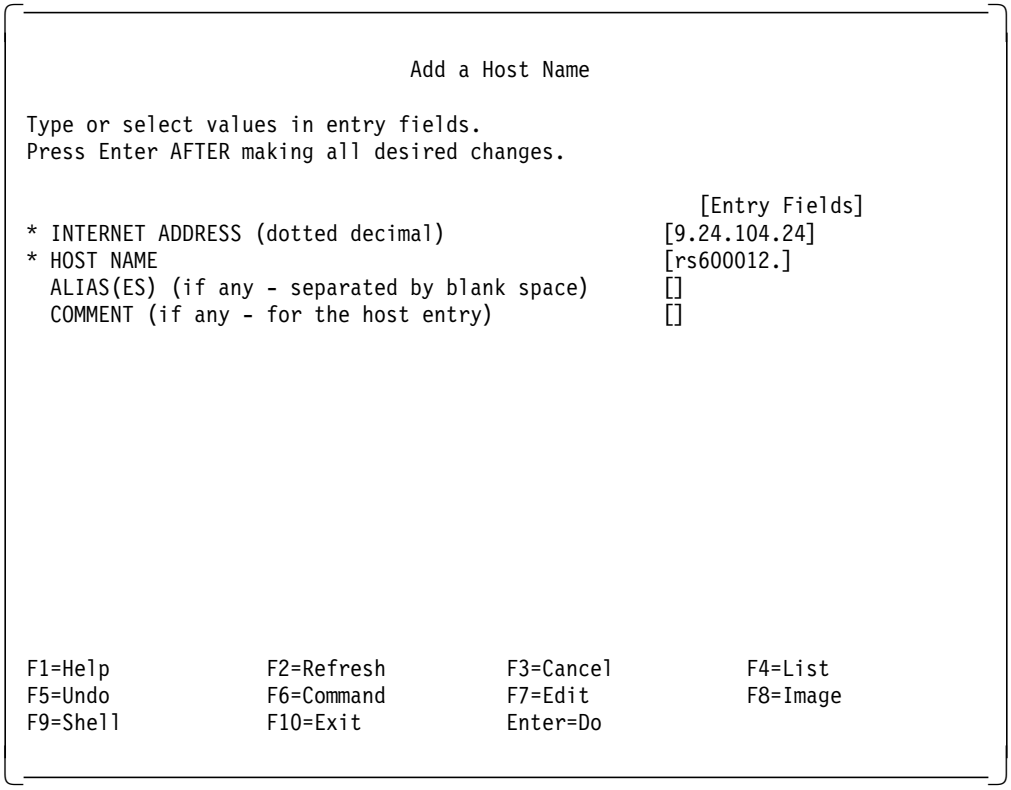

Figure 38. TCP/IP Add a Host Name SMIT Panel (Client)

Do the following:

Step 1. Type `smit` on the AIX command line at the client

Step 2. Select **Communications Applications and Services**.

Step 3. Select **TCP/IP**.

Step 4. Select **Further Configuration**.

Step 5. Select **Name Resolution**.

Step 6. Select **Host Table** *(fastpath name: mkhostent)*.

Step 7. Select **Add a Host**.

Step 8. Fill in the fields according to Figure 38 and press Enter to make the changes effective.

3.8.1.1 Explanation

The name of the server is rs600012 and 9.24.104.24 is its IP address.

Since the server and client are both in the same IP network, they share the same network address, 9, but have different host addresses (see 3.7, “Configuring TCP/IP at the Client System” on page 63).

3.8.2 Adding AIX User IDs

At this point we need to define the AIX user IDs and assign them to the appropriate NetView DM/6000 user group. This process is described in detail in 3.11.3, " Adding Builder(s) to AIX Group FNDBLD" on page 96. The customization of the authorization level of each group is explained in 3.11.1, "Setting the Authorization Levels for Builders and Users" on page 91.

3.8.3 Adding the Server to the Client′s NetView Distribution Manager/6000 Base Configuration

```
WORKSTATION NAME:     rs60003
MESSAGE LOG LEVEL:    N
LAN AUTHORIZATION:    0
CONFIGURATION:        CLIENT
MACHINE TYPE:         AIX
LOG FILE SIZE:        50000
TRACE FILE SIZE:      1000000
API TRACE FILE SIZE:  100
TCP/IP PORT:          729
SERVER:               rs600012
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 39. NetView Distribution Manager/6000 Base Configuration File (Client)

Do the following:

Step 1. Log on to the client as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 database directory:

```
cd /usr/lpp/netviewdm/db
```

Step 3. Using your preferred AIX editor (for instance *vi*) change the contents of the base configuration (nvdm.cfg) to that shown in Figure 39.

3.8.3.1 Explanation

Server (rs600012) must match the IP host name of the server.

We have left all other attributes at their default values (or the values automatically inserted by the installation process).

This completes the configuration tasks for the NetView Distribution Manager/6000 client.

3.9 Configuring SNA Server at the Preparation System rs600011

In the same way that we configured SNA Services/6000 Version 1.2 on the server, we will configure SNA Server/6000 Version 2.1 on the preparation system in a bottom upwards fashion.

SNA Server/6000 Version 2.1 has fewer profiles than SNA Services/6000 Version 1.2. It also separates the link station from the physical unit (or control point, as it is better known in peer-to-peer LU 6.2 nodes).

In this example, we will start with the SNA subsystem (the *SNA node*), then the control point, then the link station, then the LU 6.2 session, and finally the CPIC side information.

As explained in 1.3, “Introduction to SNA/DS, SNA/FS and SNA/MS” on page 10, the SNA Server profiles are organized in a logical hierarchy. The link station profile refers to the DLC profile. Other profile relationships are largely dynamic and resolved at session establishment time.

One important difference between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1 is the move away from *connection* to *session*.

The SNA Services connection profile defines both the local LU and the remote partner LU for the session. The connection profile specified when starting a connection provides all the information needed to establish the session.

The SNA Server partner LU profile (the nearest equivalent of the SNA Services connection profile) does not specify the local LU. Instead of starting a connection, you start a session. You must supply both the local LU profile *and* partner LU profile in the session start request. This approach is logically appealing because an LU type 6.2 can be in session simultaneously with multiple remote LU 6.2s.

SNA Server/6000 Version 2.1 provides finer control over the SNA resources, and greatly improved status information (see the `sna -display` command in the *AIX SNA Server/6000 User's Guide*).

Another important difference between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1 is that SNA Server forces you to verify the profiles. SNA Server keeps two profile sets, the verified set and the unverified set. The runtime system uses only the verified set. You can only work with the unverified set. The verify command copies profiles from unverified to verified.

The contents of the above profiles are explained briefly in 1.3, “Introduction to SNA/DS, SNA/FS and SNA/MS” on page 10, and in detail in *AIX SNA Server/6000 User's Guide Version 2 Release 1*. Further guidance can also be found in *A Guided Tour of SNA Server Version 2.1*.

Check for Existing SNA Profiles First!

You may find that SNA is already configured in your system, and a link station and control point are already defined for the MVS system containing the NetView DM/MVS focal point. For example there may be HCON display sessions defined for logging onto this MVS system. If this is the case, you should use the existing link station profile (there is little to be gained by having two link stations for the same destination). This removes the need for you to define a new SNA node, control point and link station for the NetView Distribution Manager/6000 LU 6.2 session. If you already have a suitable link station, skip over the SNA node, control point and link station definition activities, and go straight to defining the session.

It is also possible that an LU 6.2 local LU defined in your system already meets the requirements of NetView Distribution Manager/6000. If this is so, you may use this profile for the NetView Distribution Manager/6000 LU 6.2 session, rather than defining a new local LU.

We will now walk through the *smit* panels involved in configuring SNA Server/6000, starting with the profiles related to the SNA subsystem, then the control point, then the link station, then the connection, and finally the CPIC side information.

Before you begin the following smit configuration activities, read 2.1, “Notes on Using SMIT” on page 19 and 2.2, “Notes on Using SMIT to Configure SNA Services or SNA Server” on page 20.

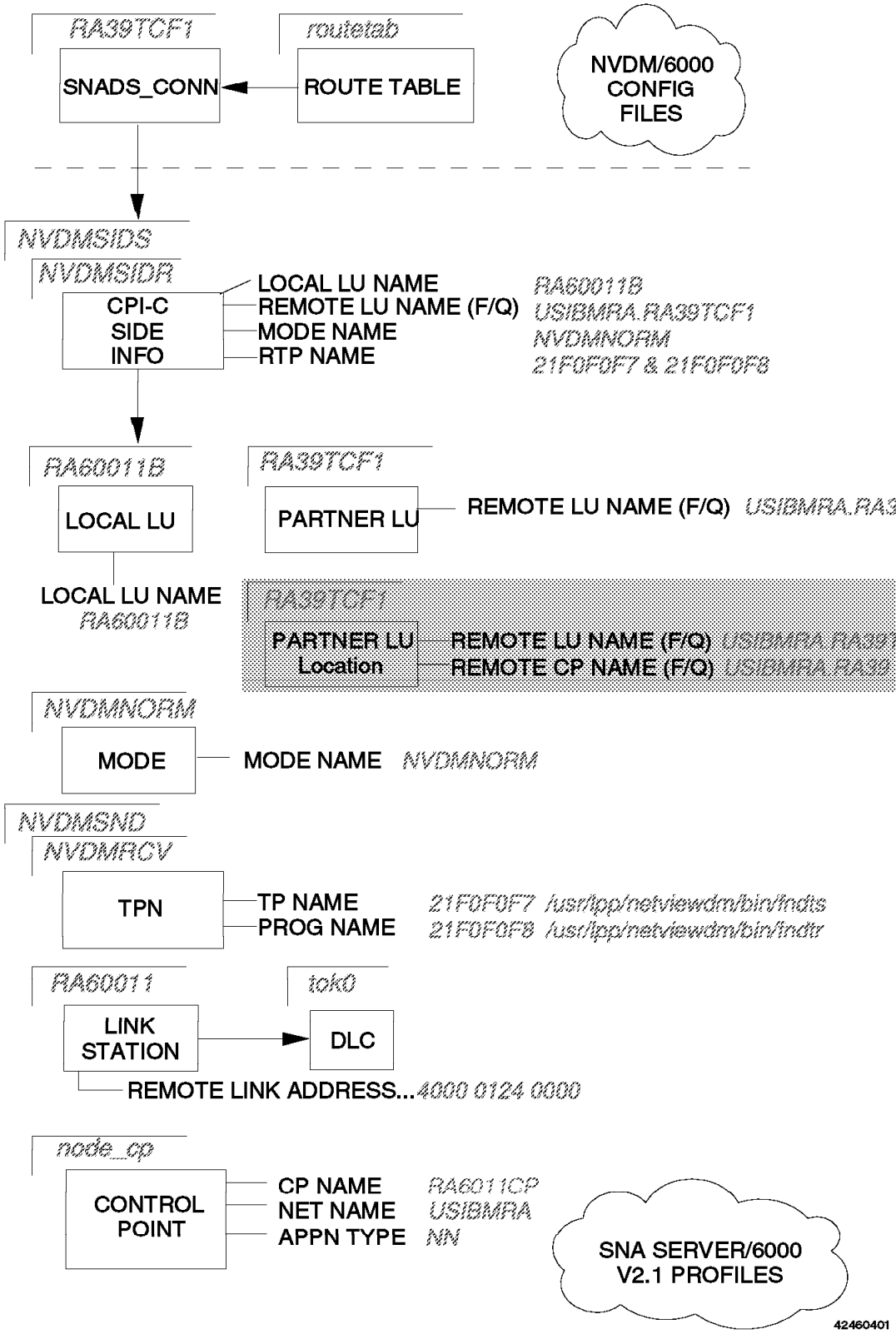

Figure 40. SNA Server/6000 and NetView Distribution Manager/6000 Configuration Overview

3.9.1 SNA Node Profile (SNA Node)

```
                        Change/Show SNA Node Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                    [Entry Fields]
  Profile name                                      sna
  Maximum number of sessions (1-5000)               [200]                    #
  Maximum number of conversations (1-5000)          [200]                    #
  Restart action                                     once                    +
  Recovery resource manager (RRM) enabled?           no                      +
  Dynamic inbound partner LU definitions allowed?    yes                     +
  NMVT action when no NMVT process                   reject                  +
  Standard output file/device                       [/dev/console]
  Standard error file/device                        [/var/sna/sna.stderr]

  Comments                                          []




F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 41. SNA Node Profile SMIT Panel

On the AIX command line, do the following:

Step 1. Type `smit` on the AIX command line.

Step 2. Select **Communications Applications and Services**.

Step 3. Select **SNA Server/6000**.

Step 4. Select **Configure SNA Profiles** *(fastpath name: sna)*.

Step 5. Select **Advanced Configuration**.

Step 6. Select **SNA System Defaults**.

Step 7. Select **Change/Show a profile** *(fastpath name: _snasnach)*.

Step 8. Fill in the fields according to Figure 41.

Step 9. Press Enter to make the changes effective.

Step 10. Press F3 (Cancel) to return to the input panel.

Note: We will explain steps 1 to 5 only here. If you don't have the Advanced SNA Configuration panel displayed in the following sections, then do steps 1 to 5.

3.9.1.1 Explanation

SNA Server will only let you define one SNA Node profile. It creates one called "sna" when it is installed. You cannot delete this profile or change its name.

We have accepted the defaults for all other attributes.

3.9.2 Control Point Profile (Control Point)

```
                        Change/Show Control Point Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
* Profile name                                       node_cp
  XID node ID                                       [*]
  Network name                                      [USIBMRA]
  Control Point (CP) name                           [RA6011CP]
  Control Point alias                               [RA6011CP]
  Control Point type                                 appn_network_node       +
  Maximum number of cached routing trees            [500]                    #
  Maximum number of nodes in the TRS database       [500]                    #
  Route addition resistance                         [128]                    #

  Comments                                          []




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 42. Control Point Profile SMIT Panel

On the Advanced Configuration panel, do the following:

Step 1. Select **Control Point**.

Step 2. Select **Change/Show a profile** *(fastpath name: _snacpmch)*.

Alternative:

If you still have the Change/Show SNA Node Profile panel displayed from the previous task, press F3 until you are returned to the Advanced Configuration panel, and follow the instructions from step 1.

Note: We will only explain the alternative here. If you still see the panel from the previous task in the following sections, press F3 until you are returned to the desired panel.

Step 3. Fill in the fields according to Figure 42.

Step 4. Press Enter to make the changes effective.

Step 5. Press F3 (Cancel) to return to the input panel.

3.9.2.1 Explanation

SNA Server will only let you define one Control Point profile. It creates one called ″node_cp″ when it is installed. You cannot delete this profile or change its name.

We have elected to set the XID value on a link station by link station basis; therefore we have left the XID at its default value of ′*′.

Network Name (USIBMRA) must match the network name in VTAM.

We have chosen RA6011CP as the Control Point Name. This name must match the CPNAME parameter in the VTAM PU statement (Figure 65 on page 99).

We have set the Control Point Alias to RA6011CP, the same as the control point name.

We have set the Control Point Type to appn_network_node. This allows us to use rs600011 in scenario III without changing this profile.

We have accepted the defaults for all other attributes.

3.9.3 Data Link Control Profile (Link Station)

```
                    Change/Show Token Ring SNA DLC Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                 [Entry Fields]
  Current profile name                               tok0
  New profile name                                   []
  Data link device name                              [tok0]                  +
  Force disconnect time-out (1-600 seconds)          [120]                    #
  User-defined maximum I-Field size?                  no                     +
     If yes, Max. I-Field size (265-30729)           [30729]                  #
  Max. num of active link stations (1-255)           [100]                    #
     Number reserved for inbound activation          [0]                      #
     Number reserved for outbound activation         [0]                      #
  Transmit window count (1-127)                      [16]                     #
  Dynamic window increment (1-127)                   [1]                      #
  Retransmit count (1-30)                            [8]                      #
  Receive window count (1-127)                       [8]                      #
  Ring access priority                               0                      +
  Inactivity time-out (1-120 seconds)                [48]                     #
  Response time-out (1-40, 500 msec intervals)       [4]                      #
  Acknowledge time-out (1-40, 500 msec intervals)    [1]                      #
  Local link name                                    []
  Local SAP address (04-ec)                          [04]                     X
  Trace base listening link station?                  no                     +
     If yes, Trace format                             long                   +
  Dynamic link stations supported?                    no                     +

  Link Recovery Parameters
     Retry interval (1-10000 seconds)                [60]                     #
[MORE...18]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 43. SNA DLC Profile SMIT Panel (Part 1 of 2)

```
                    Change/Show Token Ring SNA DLC Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[MORE...18]                                          [Entry Fields]
  Local SAP address (04-ec)                         [04]                    X
  Trace base listening link station?                 no                     +
     If yes, Trace format                            long                   +
  Dynamic link stations supported?                   no                     +

  Link Recovery Parameters
     Retry interval (1-10000 seconds)               [60]                    #
     Retry limit (0-500 attempts)                   [20]                    #

  Dynamic Link Activation Parameters
     Solicit SSCP sessions?                          yes                    +
     CP-CP sessions supported?                       yes                    +
     Partner required to support CP-CP sessions?     no                     +

  Dynamic Link TG COS Characteristics
     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]                   #

  Comments                                          []
[BOTTOM]

F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 44. SNA DLC Profile SMIT Panel (Part 2 of 2)

On the Advanced Configuration panel, do the following:

Step 1. Select **Advanced Configuration**.

Step 2. Select **Links**.

Step 3. Select **Token Ring**.

Step 4. Select **Token Ring SNA DLC**.

Step 5. Select **Add a profile** *(fastpath name: _snatoklinkmk)*.

Step 6. Fill in the fields according to Figure 43 on page 73 and Figure 44.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

3.9.3.1 Explanation

We have chosen ″tok0″ as the name of the profile.

Data Link Device Name (tok0) is the name of the AIX device driver for the communication adapter we are using (we have chosen the first token-ring adapter, tr0).

We have accepted the defaults for all other attributes.

3.9.4 Link Station Profile (Link Station)

```
                  Change/Show Token Ring Link Station Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                 [Entry Fields]
  Current profile name                               RA60011
  New profile name                                  []
  Use APPN Control Point's XID node ID?              yes                    +
     If no, XID node ID                             [*]
* SNA DLC Profile name                              [tok0]                 +
  Stop link station on inactivity?                   no                     +
     If yes, Inactivity time-out (0-10 minutes)     [0]                     #
  LU address registration?                           no                     +
     If yes, LU Address Registration Profile name   []                     +
  Trace link?                                        no                     +
     If yes, Trace size                              long                   +

  Adjacent Node Address Parameters
     Access routing                                  link_address           +
     If link_name, Remote link name                 []
     If link_address,
        Remote link address                         [400001240000]          X
        Remote SAP address (04-ec)                  [04]                    X

  Adjacent Node Identification Parameters
     Verify adjacent node?                           no                     +
     Network ID of adjacent node                    []
     CP name of adjacent node                       []
     XID node ID of adjacent node (LEN node only)   [*]
     Node type of adjacent node                      learn                  +

  Link Activation Parameters
     Solicit SSCP sessions?                          yes                    +
     Initiate call when link station is activated?   yes                    +
[MORE...24]

F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 45. Link Station Profile SMIT Panel (Part 1 of 2)

```
                  Change/Show Token Ring Link Station Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[MORE...24]                                            [Entry Fields]
     Node type of adjacent node                       learn                  +

  Link Activation Parameters
     Solicit SSCP sessions?                           yes                    +
     Initiate call when link station is activated?    yes                    +
     Activate link station at SNA start up?           no                     +
     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 (0-20)                        [0]                      #

  Restart Parameters
     Restart on normal deactivation?                  no                     +
     Restart on abnormal deactivation?                no                     +
     Restart on activation?                           no                     +

  Transmission Group COS Characteristics
     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]                    #

  Comments                                           []
[BOTTOM]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 46. Link Station Profile SMIT Panel (Part 2 of 2)

On the Advanced Configuration panel, do the following:

Step 1. Select **Links**.

Step 2. Select **Token Ring**.

Step 3. Select **Token Ring Link Station**.

Step 4. Select **Add a profile** *(fastpath name: _snatokattcmk)*.

Step 5. Fill in the fields according to Figure 45 on page 75 and Figure 46.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.9.4.1 Explanation

We have chosen a profile name of RA60011 to be the same as the PU name in VTAM. Although it is not mandatory to do this, it is in line with the natural relationship between link station and PU on a mainframe link. This is the name that the link station shows up as in the lssrc output. You may prefer to give it the name of the remote PU.

We have selected this link station to be controlled by the node's APPN control point (CP). Therefore we have set the Use APPN Control Point's XID Node ID to YES.

We have chosen to route the link activation request on link address rather than name, and have therefore accepted the Access Routing attribute default value of "link_address".

Remote Link Address (400001240000) must match the TIC value in the NCP. (It is the MAC or hardware address of the token-ring adapter in the communications controller.)

We have set Initiate Call When Link Station is Activated to YES because we want the RISC System/6000 to bring up the link as soon as the link station is started. If you prefer your link to be activated by VTAM, set this attribute to NO.

We have set CP-CP session support to YES because our VTAM (Version 4.1) is configured as a Network Node (NN).

We have accepted the defaults for all other attributes.

3.9.5 Local LU Profile (Session)

```
                    Change/Show LU 6.2 Local LU Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                               RA60011B
  New profile name                                   []
  Local LU name                                      [RA60011B]
  Local LU alias                                     [RA60011B]
  Local LU is dependent?                              no                      +
     If yes,
        Local LU address (1-255)                     []                       #
        System services control point
           (SSCP) ID (*, 0-65535)                    [*]
        Link Station Profile name                    []                      +
  Conversation Security Access List Profile name     []

  Comments                                           []



F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 47. Local LU Profile SMIT Panel

On the Advanced Configuration panel, do the following:

Step 1. Select **Sessions**.

Step 2. Select **LU 6.2**.

Step 3. Select **LU 6.2 Local LU**.

Step 4. Select **Add a profile** *(fastpath name: _snalocalu6mk)*.

Step 5. Fill in the fields according to Figure 47.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.9.5.1 Explanation

We have chosen a profile name of RA60011B to be the same as the Local LU name in the profile. It is not mandatory to do this, but doing so makes the profile easier to identify.

Local LU Name (RA60011B) must match the preparation system LU name in the VTAM listing (Figure 66 on page 100).

We have set the Local LU Alias to RA60011B, the same as the Local LU name.

We have left Local LU is dependent as NO because this is an independent LU (for example it is capable of initiating a BIND).

We have accepted the defaults for all other attributes.

3.9.6 Mode Profile (Session)

```
                        Change/Show LU 6.2 Mode Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                NVDMNORM
  New profile name                                   []
  Mode name                                          [NVDMNORM]
  Maximum number of sessions (1-5000)                [1]                          #
  Minimum contention winners (0-5000)                [0]                          #
  Minimum contention losers (0-5000)                 [0]                          #
  Auto activate limit (0-500)                        [0]                          #
  Upper bound for adaptive receive pacing window     [16]                         #
  Receive pacing window (0-63)                       [7]                          #
  Maximum RU size (128,...,32768: multiples of 32)   [3840]                       #
  Minimum RU size (128,...,32768: multiples of 32)   [256]                        #
  Class of Service (COS) name                        [#CONNECT]

  Comments                                           []


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 48. Mode Profile SMIT Panel

On the Advanced Configuration panel, do the following:

Step 1. Select **Sessions**.

Step 2. Select **LU 6.2**.

Step 3. Select **LU 6.2 Mode**.

Step 4. Select **Add a profile** *(fastpath name: _snamodemk)*.

Step 5. Fill in the fields according to Figure 48.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.9.6.1 Explanation

We have based this profile on the mode profile for the server (see 3.1.6, “Mode Profile (Connection)” on page 38), and taken the default values for the SNA Server/6000 Version 2.1 attributes that have no equivalent in the SNA Services/6000 Version 1.2 mode profile. The RU size of 3840 is a limitation of SNA Services/6000.

3.9.7 Transaction Profiles (Session)

```
                        Change/Show LU 6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                NVDMSND
  New profile name                                   []
  Transaction program name (TPN)                     [21F0F0F7]
  Transaction program name (TPN) is in hexadecimal?   yes                          +
  PIP data?                                           no                           +
     If yes, Subfields (0-99)                        [0]                            #
  Conversation type                                   basic                        +
  Sync level                                          none                         +
  Resource security level                             none                         +
     If access, Resource Security Access List Prof.  []
  Full path to TP executable                         [/usr/lpp/netviewdm/bin/fndts]
  Multiple instances supported?                       yes                          +
  User ID                                            [0]                            #
  Server synonym name                                []
  Restart action                                      once                         +
  Communication type                                  signals                      +
     If IPC, Communication IPC queue key             [0]                            #
  Standard input file/device                         [/dev/console]
  Standard output file/device                        [/dev/console]
  Standard error file/device                         [/dev/console]

  Comments                                           []


F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 49. Transaction Profile SMIT Panel (Send)

On the Advanced Configuration panel, do the following:

Step 1. Select **Advanced Configuration**.

Step 2. Select **Sessions**.

Step 3. Select **LU 6.2**.

Step 4. Select **LU 6.2 Transaction Program Name (TPN)**.

Step 5. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 6. Fill in the fields according to Figure 49.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

3.9.7.1 Explanation

We have chosen a profile name of NVDMSND to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide* (the TPN profile has not changed

significantly between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1).

```
                        Change/Show LU 6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                NVDMRCV
  New profile name                                   []
  Transaction program name (TPN)                     [21F0F0F8]
  Transaction program name (TPN) is in hexadecimal?   yes                          +
  PIP data?                                           no                           +
     If yes, Subfields (0-99)                        [0]                            #
  Conversation type                                   basic                        +
  Sync level                                          none                         +
  Resource security level                             none                         +
     If access, Resource Security Access List Prof.  []
  Full path to TP executable                         [/usr/lpp/netviewdm/bin/fndtr]
  Multiple instances supported?                       yes                          +
  User ID                                            [0]                            #
  Server synonym name                                []
  Restart action                                      once                         +
  Communication type                                  signals                      +
     If IPC, Communication IPC queue key             [0]                            #
  Standard input file/device                         [/dev/console]
  Standard output file/device                        [/dev/console]
  Standard error file/device                         [/dev/console]

  Comments                                           []


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 50. Transaction Profile SMIT Panel (Receive)

On the Advanced Configuration panel, do the following:

Step 1. Select **Sessions**.

Step 2. Select **LU 6.2**.

Step 3. Select **LU 6.2 Transaction Program Name (TPN)**.

Step 4. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 5. Fill in the fields according to Figure 50.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.9.7.2 Explanation

We have chosen a profile name of NVDMRCV to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Remote Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide* (the TPN profile has not changed

significantly between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1).

3.9.8 Partner LU Profile (Session)

```
                    Change/Show LU 6.2 Partner LU Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                               RA39TCF1
  New profile name                                   []
  Fully qualified partner LU name                    [USIBMRA.RA39TCF1]
  Partner LU alias                                   []
  Parallel sessions supported?                        no                    +
  Session security supported?                         no                    +
  Conversation security level                         none                  +

  Comments                                           []









F1=Help           F2=Refresh        F3=Cancel         F4=List
F5=Undo           F6=Command        F7=Edit           F8=Image
F9=Shell          F10=Exit          Enter=Do
```

Figure 51. Partner LU Profile SMIT Panel

On the Advanced Configuration panel, do the following:

Step 1. Type `smit` on the AIX command line

Step 2. Select **Sessions**.

Step 3. Select **LU 6.2**.

Step 4. Select **LU 6.2 Partner LU**.

Step 5. Select **Add a profile** *(fastpath name: _snapartmk).*

Step 6. Fill in the fields according to Figure 51.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

3.9.8.1 Explanation

We have chosen a profile name of RA39TCF1 to be the same as the partner LU. It is not mandatory to do this, but doing so makes it easier to identify.

Note: In SNA Server/6000, it is the names of the LUs concerned and *not* the profiles that appear in the output from status commands. Therefore choice of profile name is less important than the connection profile in SNA Services/6000.

Fully Qualified Partner LU Name (USIBMRA.RA39TCF1) must match the network name (USIBMRA) and LU name (RA39TCF1) of the TCP in VTAM (see Figure 67 on page 100).

We have accepted the defaults for all other attributes.

Note: It is particularly important that you set Parallel Sessions Supported to NO. If you set it to YES, SNA Services will try to establish a service session (with a mode of SNASVCMG), on outgoing distribution requests. The session establishment request (BIND) will be rejected by NetView Distribution Manager/MVS, as it doesn't support parallel sessions. Consequently, the distribution will fail.

3.9.9 Partner LU Location Profile (Session)

You May Not Need This Profile

This profile is only required if the remote control point is an APPN Low Entry Node (LEN). The remote node in this case is VTAM. VTAM did not support End Nodes (EN) or Network Nodes (NN) until Version 4.1.

One way to find out what type of node your VTAM thinks it is is to start the link station (you only need to configure the sna, control point, data link control and link station profiles to do this). See 4.4, "SNA Server Link Station on the Preparation System rs600011" on page 115 for instructions. Once the link station is active, then enter the command:

```
lssrc -l -s sna
```

If the Node Type field in the command output is LEN, you need this profile. If it is EN or NN, you don't.

We really don't need this profile in our configuration, because our VTAM has network node capability. We have defined this profile for your reference.

```
                Change/Show Partner LU 6.2 Location Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                RA39TCF1
  New profile name                                   []
  Fully qualified partner LU name                    [USIBMRA.RA39TCF1]
  Fully qualified owning Control Point (CP) name     [USIBMRA.RA39]
  Local node is network server for LEN node?          no                      +
  Fully qualified network node server name           []

  Comments                                           []









F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 52. Partner LU Location Profile SMIT Panel

On the Advanced Configuration panel, do the following:

Step 1. Select **Sessions**.

Step 2. Select **LU 6.2**.

Step 3. Select **Partner LU 6.2 Location**.

Step 4. Select **Add a profile** *(fastpath name: _snalocatmk)*.

Step 5. Fill in the fields according to Figure 52.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.9.9.1 Explanation

We have chosen a profile name of RA39TCF1 to be the same as the partner LU profile name in VTAM. It is not mandatory to do this, but doing so makes it easier to identify.

Note: In SNA Server/6000, it is the names of the LUs concerned and *not* the profiles that appear in the output from status commands. Therefore choice of profile name is less important than the connection profile in SNA Services/6000.

Fully Qualified Partner LU Name (USIBMRA.RA39TCF1) must match the network name (USIBMRA) and LU name (RA39TCF1) of the TCP in VTAM (see Figure 67 on page 100).

Fully Qualified Owning Control Point Name (USIBMRA.RA39) must match the network name (USIBMRA) and CP name (RA39) of VTAM where the TCP is running. In our configuration, the TCP is running somewhere in the APPN

network, which is not directly connected to this RS/6000. So RA39 is not our adjacent CP name as you see in 4.4.2, “Starting the Link Station” on page 116.

If your TCP is running on the VTAM which your node is directly connected to and you are not sure what the VTAM control point name is, you can find out by starting the link station (you only need to configure the sna, control point, data link control and link station profiles to do this). See 4.4, “SNA Server Link Station on the Preparation System rs600011” on page 115 for instructions. Once the link station is active, then enter the command:

```
lssrc -l -s sna
```

The fully qualified name will be given in the Adjacent CP Name field of the command output.

We have accepted the defaults for all other attributes.

3.9.10 CPIC Side Information Profiles (Side Information)

```
                Change/Show LU 6.2 Side Information Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                NVDMSIDS
  New profile name                                   []
  Local LU or Control Point alias                    [RA39TCF1]              +
  Provide only one of the following:
     Partner LU alias                                []                      +
     Fully qualified partner LU name                 [USIBMRA.RA39TCF1]
  Mode name                                          [NVDMNORM]              +
  Remote transaction program name (RTPN)             [21F0F0F7]
  RTPN in hexadecimal?                                yes                    +

  Comments                                           []




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 53. CPIC Side Information Profile SMIT Panel (Send)

On the Advanced Configuration panel, do the following:

Step 1. Select **Sessions**.

Step 2. Select **LU 6.2**.

Step 3. Select **LU 6.2 Side Information**.

Step 4. Select **Add a profile** *(fastpath name: _snasidemk)*.

Step 5. Fill in the fields according to Figure 53.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.9.10.1 Explanation

We have chosen a profile name of NVDMSIDS to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Local LU Name (RA6011B) must match the attribute of the same name in the Local LU profile (defined above).

Fully Qualified Partner LU Name (USIBMRA.RA39TCF1) must match the network name (USIBMRA) and LU name (RA39TCF1) of the TCP in VTAM (see Figure 67 on page 100).

Mode Name (NVDMNORM) must match the attribute of the same name in the mode profile (defined above).

Remote Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

```
                Change/Show LU 6.2 Side Information Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                NVDMSIDR
  New profile name                                   []
  Local LU or Control Point alias                    [RA6OO11B]              +
  Provide only one of the following:
     Partner LU alias                                []                      +
     Fully qualified partner LU name                 [USIBMRA.RA39TCF1]
  Mode name                                          [NVDMNORM]              +
  Remote transaction program name (RTPN)             [21FOFOF8]
  RTPN in hexadecimal?                                yes                    +

  Comments                                           []




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F1O=Exit            Enter=Do
```

Figure 54. CPIC Side Information Profile SMIT Panel (Receive)

On the Advanced Configuration panel, do the following:

Step 1. Select **Sessions**.

Step 2. Select **LU 6.2**.

Step 3. Select **LU 6.2 Side Information**.

Step 4. Select **Add a profile** *(fastpath name: _snasidemk)*.

Step 5. Fill in the fields according to Figure 54.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the input panel.

3.9.10.2 Explanation

We have chosen a profile name of NVDMSIDR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Local LU Name (RA60011B) must match the attribute of the same name in the Local LU profile (defined above).

Fully Qualified Partner LU Name (USIBMRA.RA39TCF1) must match the network name (USIBMRA) and LU name (RA39TCF1) of the TCP in VTAM (see Figure 67 on page 100).

Remote Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

Mode Name (NVDMNORM) must match the attribute of the same name in the mode profile (defined above).

3.9.11 Verifying the SNA Server Profiles

In SNA Server/6000, the profiles do not become effective until they have been successfully verified. On the Advanced Configuration panel, do this as follows:

Step 1. Select **Verify Configuration Profiles**.

Step 2. Select **normal_update** in the Update action if verification successful field.

Step 3. Press Enter to make the changes effective.

Step 4. Press F3 (Cancel) to return to the input panel.

3.9.11.1 Explanation

You must select either **normal_update** or **dynamic_update** here to ensure that the working profiles get updated with the changes you have made. You would only select **dynamic_update** if SNA Server was actually running at the time the changes were made, and you wanted them to take effect immediately.

3.10 Configuring SNA/DS at the Preparation System

Before you begin, read 1.5, “Configuring NetView Distribution Manager/6000 SNA/DS Support” on page 13.

There are two configuration activities that you must carry out:

- Customize the SNA/DS connection configuration file.
- Customize the SNA/DS routing table.

You may also need to refresh the tables in the runtime system.

3.10.1 Customizing the SNA/DS Connection Configuration File

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVDMSIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVDMSIDR
NEXT DSU:                          USIBMRA.RA39TCF1
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 55. SNA/DS Connection Configuration File (Server)

Do the following:

Step 1. Log on to the preparation system as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 SNA/DS connection database directory:

```
cd /usr/lpp/netviewdm/db/snads_conn
```

Step 3. Rename the file CONNSNA to RA39TCF1

Note: If you leave the CONNSNA file in this directory, it will show up in the Queues window, and in some of the messages in the log, possibly leading to confusion. It is best, therefore, to remove it. In this example, we use it as a model for our own configuration file.

Step 4. Using your preferred AIX editor (for instance *vi*) change the contents to that shown in Figure 55.

3.10.1.1 Explanation

As explained in 1.5.2, “SNA/DS Configuration File” on page 14, one of these files is needed for each connection, in this case an LU 6.2 connection.

Each file you create in this directory shows up as a queue in the GI Queues window.

The NetView Distribution Manager/6000 installation process creates default SNA/DS connection configuration files called CONNSNA and CONNTCP. For this scenario, you need to create a configuration file for the LU 6.2 connection to the NetView Distribution Manager/MVS system.

Send TP Symbolic Destination (NVDMSIDS) must match the side information profile name for the send transaction program (see 3.9.10, “CPIC Side Information Profiles (Side Information)” on page 85).

Receive TP Symbolic Destination (NVDMSIDR) must match the side information profile name for the receive transaction program (see 3.9.10, “CPIC Side Information Profiles (Side Information)” on page 85).

Next DSU (USIBMRA.RA39TCF1) must match the RGN (USIBMRA) and REN (RA39TCF1) of the TCP at the focal point, the destination for traffic routed over this SNA/DS connection.

The RGN and the REN are SNA/DS terms which are used to address the node. The RGN is typically the network ID, and the REN is typically the LU name. The TCP uses the RGN and REN in this manner.

We have left all other attributes at their default values.

3.10.2 Customizing the SNA/DS Routing Table

```
NETWORK PROTOCOL:    APPC
USIBMRA.RA39TCF1  ANY  ANY  ANY  ANY  RA39TCF1  5
```

Figure 56. SNA/DS Routing Table (Server)

Do the following:

Step 1. Log on to the preparation system as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 database directory:

```
cd /usr/lpp/netviewdm/db
```

Step 3. Using your preferred AIX editor (for instance *vi*) change the contents of the routing table (`routetab.cfg`) to that shown in Figure 56.

3.10.2.1 Explanation

See Figure 5 on page 15 for the field names.

The only route we need for this scenario is to the focal point (NetView Distribution Manager/MVS).

As our network is a simple one, we have followed the recommendation in the *NetView DM/6000 Installation and Customization Guide* and made the RGN the same as the network name (USIBMRA) and the REN the same as the LUNAME (RA39TCF1, in our example). We have therefore set the SNA/DS Node Address to USIBMRA.RA39TCF1.

Note: We could have defaulted the SNA/DS Node Address using wildcards (*.*). However, if an attempt is made by SNA/DS at the server to route non-focal point traffic, we would prefer that a routing error is reported locally at the preparation system, rather than have the request routed to the focal point, only to be rejected there.

We have no special requirements governing distribution protection, maximum distribution size, or distribution security. We indicate this by placing the keyword ANY in these fields.

The SNA/DS Connection name to the focal point is RA39TCF1 in our configuration. Thus we have set the Connection field to RA39TCF1. This name relates to the SNA/DS connection configuration file which we defined above.

We have chosen 5 for the hop count.

Note: We probably could have legitimately set the hop count to 1 in this scenario, as the focal point is actually 1 hop away, in SNA/DS terms. However, we were uncertain of our network topology initially, and therefore followed the corresponding recommendation in the *NetView DM/6000 Installation and Customization Guide*.

3.10.3 Refreshing the Runtime System

If NetView Distribution Manager/6000 is running when you make changes to the SNA/DS configuration, you must either stop and start NetView DM/6000 again, or refresh the runtime system ″in flight″ with the new values. It can take NetView DM/6000 several minutes to complete its stop processing; therefore in most cases you will find it more convenient to refresh in flight (this generally takes just a few seconds to complete).

To check whether NetView DM/6000 is running, see 4.2.1, “Getting the Status of NetView Distribution Manager/6000” on page 112 for instructions on checking the status of NetView DM/6000 and 4.2.4, “Refreshing NetView Distribution Manager/6000 In Flight” on page 113 for instructions on refreshing it.

3.11 Configuring NetView Distribution Manager/6000 at the Preparation System

We assume for this scenario that the packages are only built at the preparation site. After they have been tested they are sent to the focal point. From there the packages are distributed and installed on the target machines.

Therefore the configuration tasks at the preparation system are the same as those for the change management server system (rs600012 in our example), with the additional task of defining the package builder(s):

- Setting the server short name
- Setting the authorization levels for groups (builders and users)
- Adding builder(s) as user(s) of the server
- Adding builder(s) to AIX group for NetView DM/6000 builders

In this example, we use the NetView Distribution Manager/6000 graphical interface (GI). If you are working at a graphics terminal and wish to use the GI, you must first start the GI by entering the following command:

```
nvdmgi&
```

Note: You must be at a graphics terminal to do this.

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** button or wait a few moments. The copyright window will close and be replaced by the Catalog window (Figure 57 on page 91).

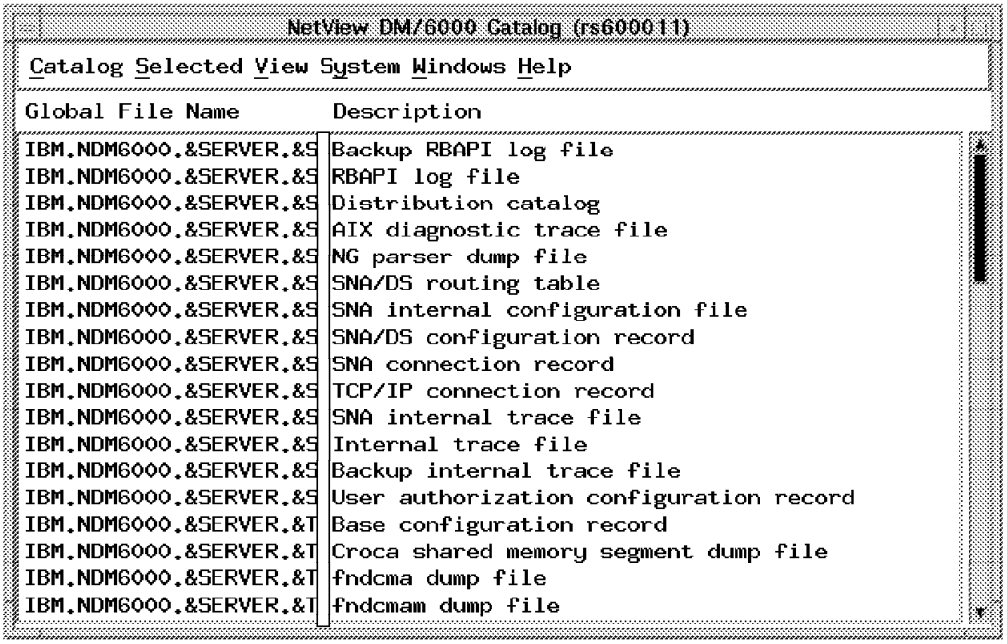

Figure 57. NetView DM/6000 GI Startup Window (Preparation System)

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

If you are not at a graphics terminal, or simply prefer to use the command line interface, follow the command line alternative instructions for each task.

Setting the server short name and adding the builders as target users are carried out from the same panel (Local Target Details). These tasks are therefore combined for efficiency.

3.11.1 Setting the Authorization Levels for Builders and Users

During the installation process, NetView Distribution Manager/6000 automatically creates an AIX group for each type of NetView DM/6000 user. They are:

- Administrators (FNDADMN)
- Builder (FNDBLD)
- User (FNDUSER)

NetView Distribution Manager/6000 grants each type of user default access permissions to the various NetView DM/6000 functions. You can customize the access permissions for builders and users if you wish.

Note:

You cannot customize the access permissions for administrators. Administrators have access to *all* operations.

To change the authorization levels for builders, do the following:

Step 1. In the Catalog window (Figure 57), select **System** from the menu bar.

Step 2. Select **Authorization** from the pull-down menu.

Step 3. Select **Builders** from the cascaded menu and the Authorize Builders window will open (Figure 58 on page 92).

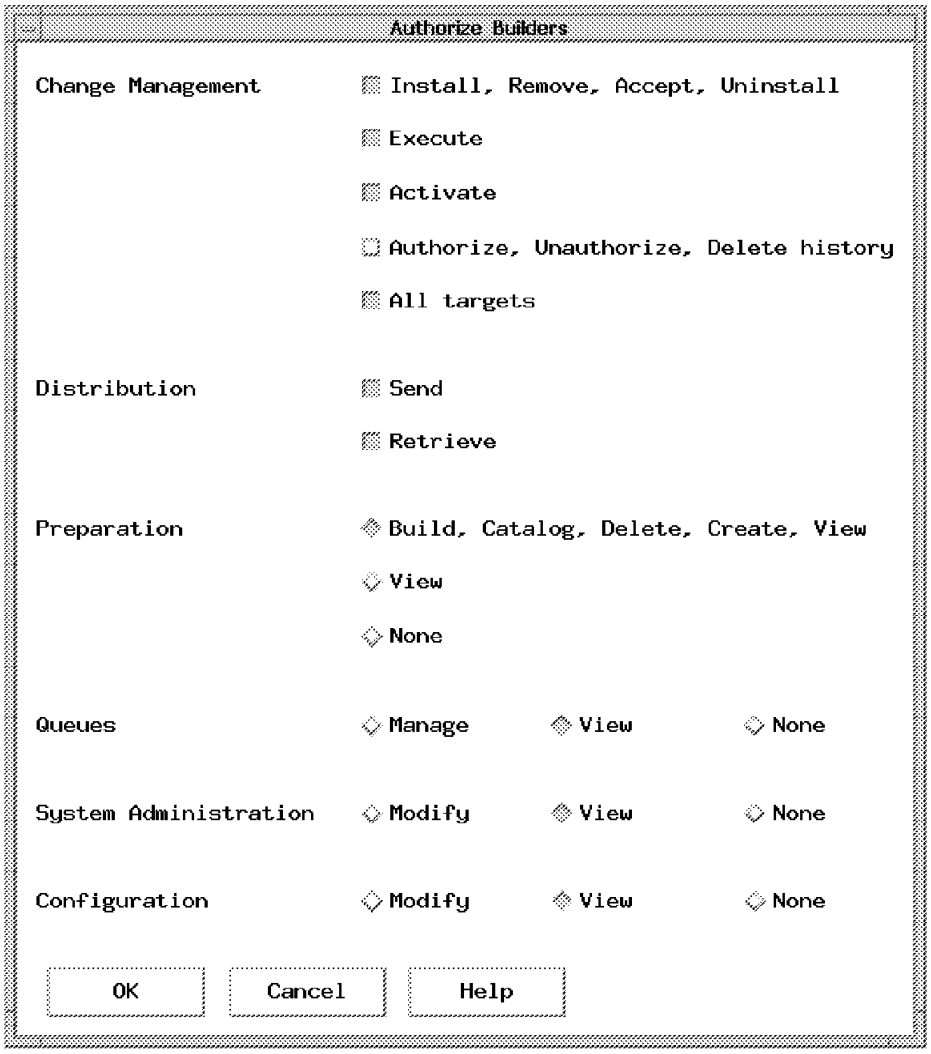

Figure 58. Authorize Builders Window

Step 4. Select the radio buttons for the authorizations you want to give to the builders.

Step 5. Select **OK** to make the change effective.

Note: If you want to change the authorization levels for users, select **Users** at step 3.

3.11.1.1 Explanation

At least, you must have the Build, Catalog, Delete, Create, View and Send authorization levels to create a change file and send it to the host. All other authorization levels are optional in this scenario.

We keep to the defaults in this example, as they are what you would choose in most cases anyway. For information about the user verification see 3.11.5, “User Authorization Procedure” on page 98.

3.11.1.2 Customize the Authorization for Users

Repeat the previous procedure for users and assign the appropriate authorizations to this group.

3.11.2 Setting the Server Short Name and Adding Builders as Users

The installation process automatically creates a local target entry in the NetView Distribution Manager/6000 database for the server, that is the RISC System/6000 on which you have just installed NetView DM/6000. The name of the target automatically defaults to the RISC System/6000's *hostname*.

There are a number of additional local target attributes that you may customize, such as periods of activity, the level of logging and so on. For the purposes of this example, we will take the defaults on all attributes except those that we have to change to get this scenario to work, namely the server short name and target users.

Note: The installation process chooses reasonable defaults for the other attributes. We recommend that you accept these for the present, and concentrate on getting the basic communications between the preparation system and the focal point working first. You can adjust some of the defaults later, if necessary.

To set the short name, do the following:

Step 1. In the Catalog window (Figure 57 on page 91), select **Windows** from the menu bar.

Step 2. Select **Targets** from the pull-down menu and the Targets window will open (Figure 59).

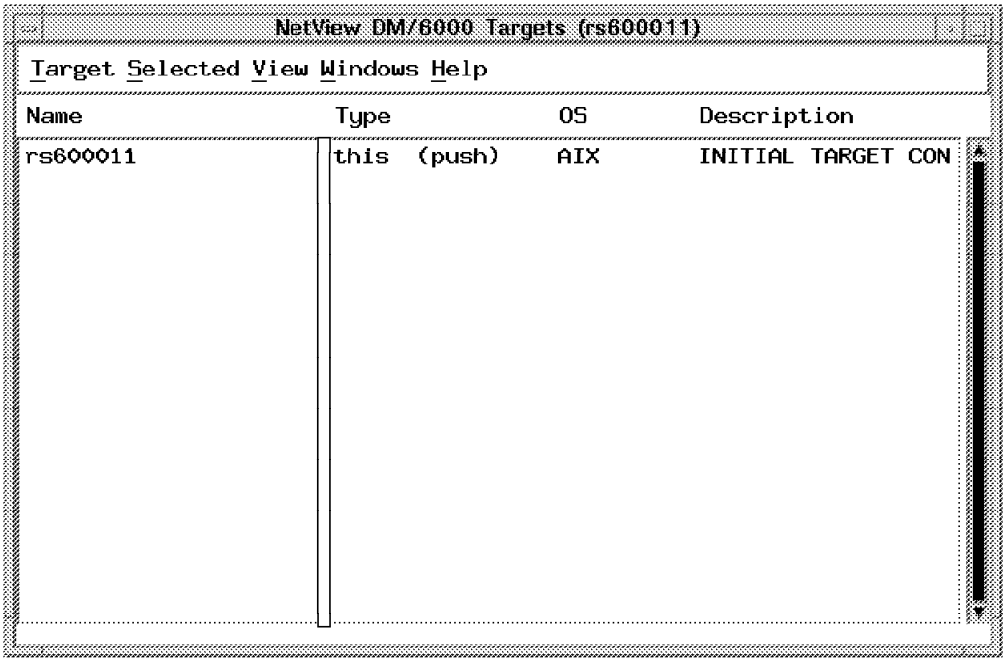

Figure 59. Targets Window (Preparation System)

Step 3. From the Targets window, select the only target of type "this" in the list of targets.

Step 4. Select **Selected** from the Targets window menu bar.

Step 5. Select **Open** from the pull-down menu.

Step 6. Select **Details** from the cascaded menu and the Local Target Details window will open.

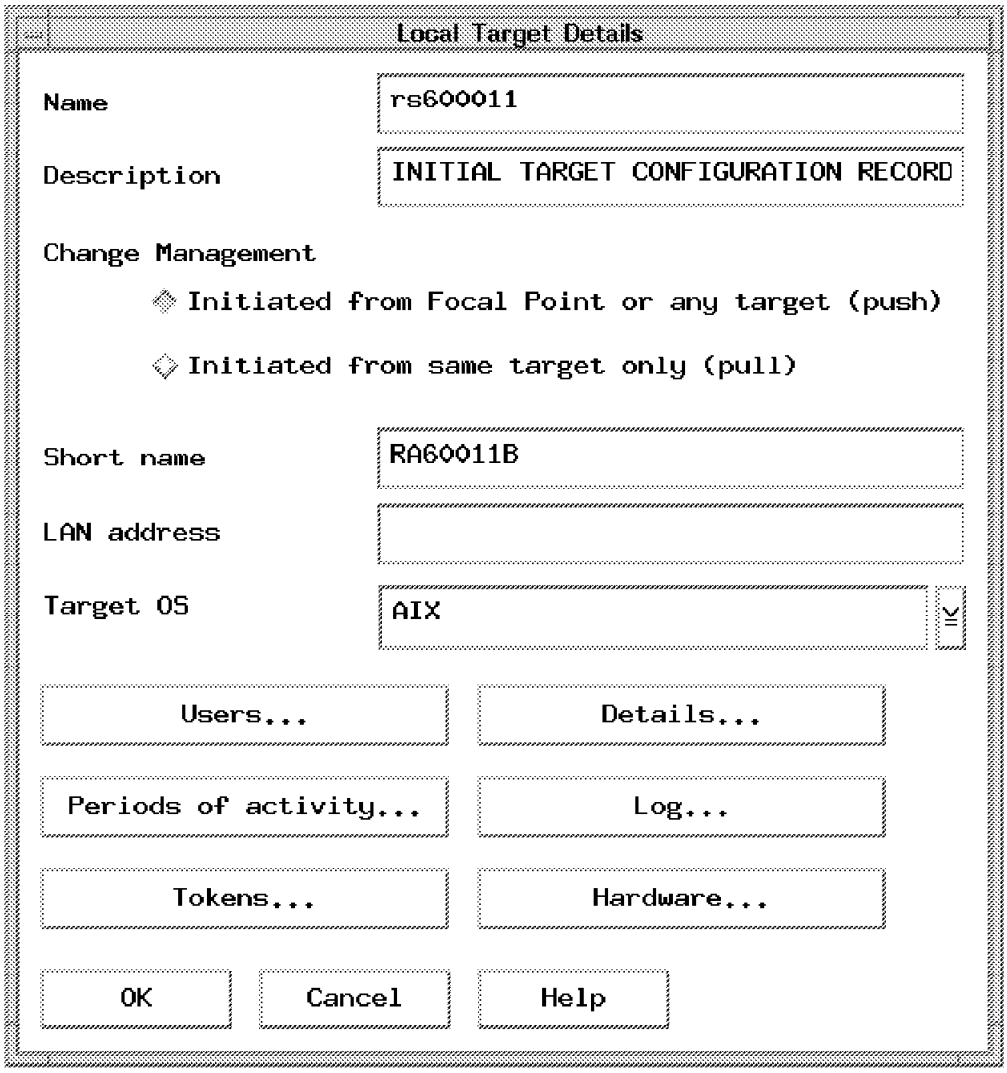

Figure 60. Local Target Details Window (Preparation System)

Step 7. Fill in the **Short name** field according to Figure 60.

Note:

The short name of the server is also used to determine the RGN for the server and for all local clients of this server. With every change of the server's short name you also have to change the RGN for this domain where it occurs:

- NetView DM/MVS definitions for server and client(s)
- Other remote target definitions on for example NetView DM/6000 or NetView DM/2 servers
- Route table entries on other NetView DM/6000 and NetView DM for NetWare servers

In the following two steps, we add the builder(s).

Step 8. Select the **Users** button. After a short delay, the Target Users window will open.

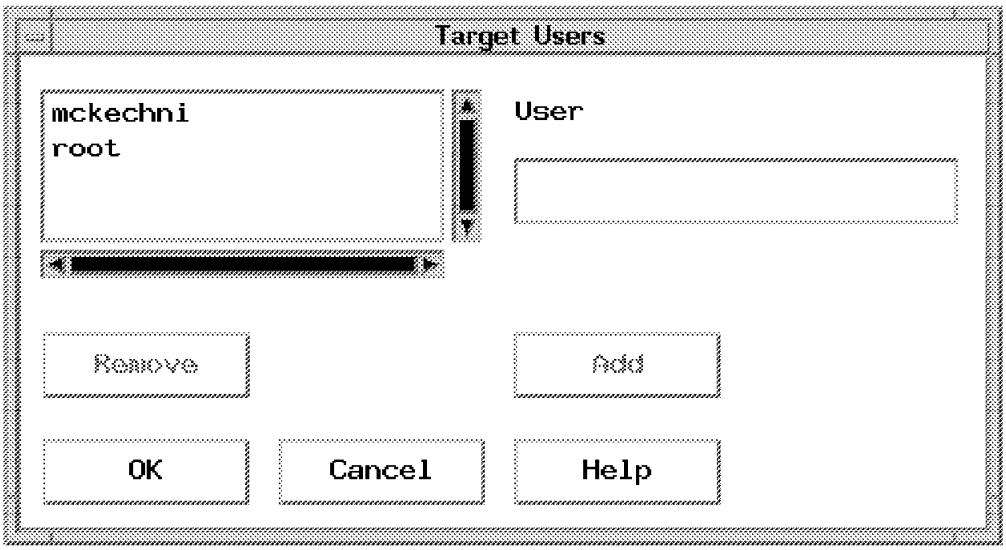

Figure 61. Target Users Window (Preparation System)

Step 9. Fill in the User field with the name of the builder (mckechni in this example) and select the **Add** button (see Figure 61). The name that you supply here is the AIX user ID, which is the name that the user logs on as. Repeat this step for each builder.

Note: The *root* user is already present in the list of users of this target. *root* is automatically added as a user of the server by the NetView Distribution Manager/6000 installation process.

Step 10. Select the **OK** button. You will be returned to the New Local Target window. Make sure that the ″Initiated from focal point or any target (push)″ radio button is selected (this is the default).

Step 11. Select the **OK** push button to make the changes effective.

Command Line Alternative:

```
nvdm updtg rs600011 -s RA60011B -u mckechni
```

3.11.2.1 Explanation

Short name must match the RGN and the REN that you enter in the GIX Node Attributes panel for the server (see Figure 73 on page 104).

We have accepted the defaults for all other attributes in the Target Users panel.

Note: If you subsequently add more users to a target, you *must* select the **Add**. push button in the Target Users panel, and then the **OK** push button in both the Target Users *and* the Local Target Details panels. If you select the **Cancel** button from either of these two panels, the add operation will be cancelled.

3.11.3 Adding Builder(s) to AIX Group FNDBLD

The AIX user group created for package builders is called FNDBLD. All that remains for you to do is to make the builders members of this group. This is achieved in practice by associating the group with the user ID for each builder.

You can do this either through smit, or by using the chuser command.

If you wish to use smit to perform this task, do the following:

Step 1. Type `smit` on the AIX command line.

Step 2. Select **Security and Users**.

Step 3. Select **Change / Show Characteristics of a User** *(fastpath name: chuser)*. You will be presented with the Change User Attributes selector panel (Figure 62).

```
                              Change User Attributes

Type or select a value for the entry field.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
* User NAME                                          [mckechni]              +

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 62. Change User Attributes SMIT Selector Panel

Step 4. Fill in the User NAME field with the name of the builder (`mckechni` in our example) and press Enter. You will be presented with the Change User Attributes dialog panel (Figure 63 on page 97).

```
                              Change User Attributes

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                  [Entry Fields]
* User NAME                                           mckechni
  User ID                                            [208]                    #
  ADMINISTRATIVE User?                                false                   +
  LOGIN User?                                         true                    +
  PRIMARY Group                                      [staff]                  +
  Group set                                          [staff,FNDBLD]           +
  ADMINISTRATIVE Groups                              []                       +
  SU Groups                                          [ALL]                    +
  HOME Directory                                     [/u/mckechni]
  Initial PROGRAM                                    [/bin/ksh]
  User information                                   []
  Another user CAN SU to user?                        true                    +
  User CAN RLOGIN?                                    true                    +
[MORE...13]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 63. Change User Attributes SMIT Dialog Panel

Step 5. Add the group FNDBLD to the list of groups in the Group set field.

Hint:

The easiest way to do this is to get the cursor on the Group set field and press F4 (List) to bring up a list of available groups, then with the cursor positioned alongside FNDBLD, press F7 (Select) to select this group and Enter to add it to the list in the dialog panel.

Step 6. Press Enter to make the changes effective.

Step 7. Press F3 (Cancel) to return to the selector panel, if you wish to add more builders, or F10 (Exit) to leave smit altogether.

Command Line Alternative:

```
chuser groups='staff,FNDBLD' mckechni
```

Repeat steps 4 to 7 (or chuser command) for each builder.

3.11.4 Adding User(s) to AIX Group FNDUSER

The AIX user group created for "normal" users is called FNDUSER. You can assign all users to this group that do not need any additional access rights.

The process of defining these users is the same as that described in 3.11.3, "Adding Builder(s) to AIX Group FNDBLD" on page 96.

3.11.5 User Authorization Procedure

As you could see in the previous sections a user ID for an end user on an agent has to be defined in five places in order for the user to be able to log on:

1. As an AIX user on the agent
2. It has to be assigned to the FNDADM user group on the agent
3. As an AIX user on the NetView DM/6000 server
4. It has to be assigned to one of the user groups (FNDADM, FNDBLD FNDUSER) on the server
5. The user IDs have to be assigned to the target.

The following picture shows the authorization process for a user:

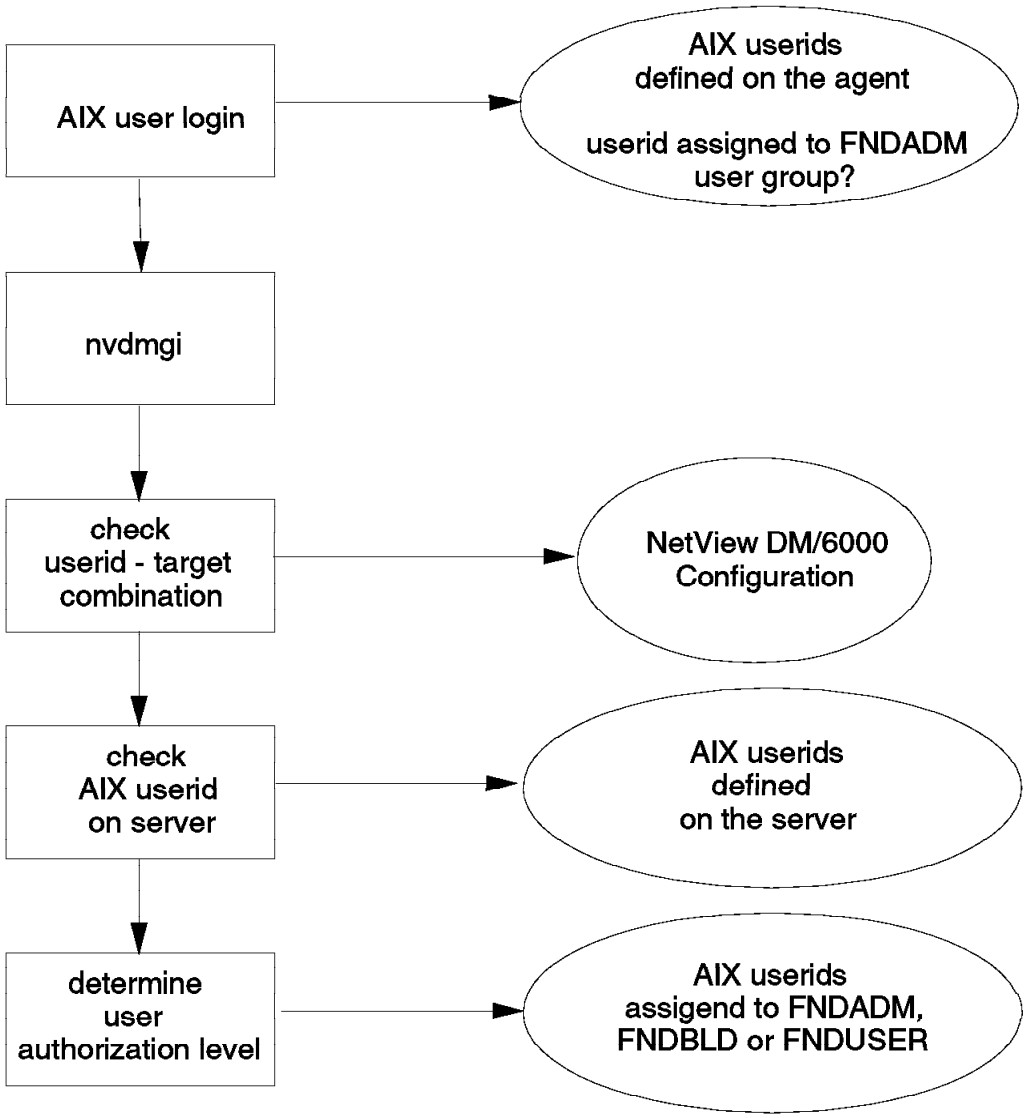

Figure 64. User Authorization Check

1. The user logs on as a normal AIX user.

2. The user submits a request for NetView DM/6000 or starts the GI.
3. NetView DM/6000 checks whether this user is defined to the FNDADM group at the agent.

> **Note:**
>
> On the agents there is only one NetView DM/6000 user group to which all users have to be defined regardless of their authorization level.
>
> The authorization level of a NetView DM/6000 user is *only* determined at the server.

4. NetView DM/6000 checks whether this user is assigned to the target where the request originates.
5. The user is checked if it is a valid AIX user ID on the server.
6. The authorization level of the user ID is determined by the assignment to the appropriate FND user group.

3.12 Adding the NetView DM/MVS Focal Point to the Preparation System

For this scenario, you need to add the NetView Distribution Manager/MVS focal point to the preparation system configuration. The steps you must take to do this are identical to adding NetView Distribution Manager/MVS as a target on the server system (rs600012). Follow the instructions given in 3.5, “Adding the NetView Distribution Manager/MVS Focal Point to the Server” on page 57 (at the preparation system this time), and return here when you have completed them.

This completes the configuration tasks for the NetView Distribution Manager/6000 preparation system.

3.13 Configuring VTAM for LU 6.2 Communications

```
RA60012  PU    ADDR=13,                COULD BE ANYTHING (NOT USED)    X
               IDBLK=071,                                              X
               IDNUM=00012,                                            X
               CPNAME=RA6012CP,                                        X
               MODETAB=AMODETAB,                                       X
               MAXPATH=2,                                              X
               MAXDATA=265,                                            X
               MAXOUT=7,                                               X
               PACING=7,                                               X
               ANS=CONTINUE,                                           X
               PASSLIM=7,                                              X
               PUTYPE=2,                                               X
               DISCNT=(NO),                                            X
               ISTATUS=ACTIVE,                                         X
               VPACING=8
RA60012B LU    LOCADDR=0,MODETAB=NDMLU62Q,DLOGMOD=NVDMNORM
```

Figure 65. VTAM Listing Excerpt for Server Node rs600012

```
RA60011  PU    ADDR=13,                COULD BE ANYTHING (NOT USED)    X
               CPNAME=RA6011CP,                                        X
               MODETAB=AMODETAB,                                       X
               MAXPATH=2,                                              X
               MAXDATA=265,                                            X
               MAXOUT=7,                                               X
               PACING=7,                                               X
               ANS=CONTINUE,                                           X
               PASSLIM=7,                                              X
               PUTYPE=2,                                               X
               DISCNT=(NO),                                            X
               ISTATUS=ACTIVE,                                         X
               VPACING=8
RA60011B LU    LOCADDR=0,MODETAB=NDMLU62Q,DLOGMOD=NVDMNORM
```

Figure 66. VTAM Listing Excerpt for Preparation System Node rs600011

```
NDMSA39  VBUILD TYPE=APPL
*
RA39TCF1 APPL  AUTH=ACQ,ACBNAME=RA39TCF1,EAS=1,APPC=YES,               X
               AUTOSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES,    X
               MODETAB=NDMLU62Q,DLOGMOD=NVDMNORM
*
RA39IOF1 APPL  AUTH=ACQ,ACBNAME=RA39IOF1,EAS=1
```

Figure 67. VTAM Listing Excerpt for TCP and IOF Applications

```
NDMLU62P MODEENT LOGMODE=NVDMNORM,                                     X
               TYPE=0,                                                 X
               FMPROF=X'13',             BYTE 02                       X
               TSPROF=X'07',             BYTE 03                       X
               PRIPROT=X'B0',            BYTE 04                       X
               SECPROT=X'B0',            BYTE 05                       X
               COMPROT=X'50A1',          BYTE 06 - 07                  X
               SSNDPAC=X'00',            BYTE 08                       X
               SRCVPAC=X'03',            BYTE 09                       X
               RUSIZES=X'F8F8',                                        X
               PSNDPAC=X'03',            BYTE 11                       X
               PSERVIC=X'060200000000000000002400'
```

Figure 68. VTAM Listing Excerpt for NVDMNORM Logmode Definition

3.14 Defining the NetView DM/6000 Node Type to NetView DM/MVS

If you already have defined a NetView Distribution Manager/6000 node type to NetView Distribution Manager/MVS, then skip over the section.

Before you add a NetView DM/6000 node to your network, you have to define the node type to NetView DM/MVS. You define the types of node which are present in your network during the NetView DM/MVS installation process. If you don't have the correct node type defined already, then you have to code the customization macros and run the job to add a new node type to your profile.

You can use the GENTYPE option PROFILE to change the existing profile. See *NetView DM R5 Installation and Customization* for information about how to do this task.

Figure 69 shows a sample definition for the NetView DM/6000 node type:

```
NDMNODE TYPE=NDM6,                                              X
        LOGM=NVDMNORM,FUNC=CMEP,                                X
        RESTYPE=(0060,0070,0080,0100,0120,                      X
        0220,0230,0240,0250),                                   X
        SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,INIT,ACTI,UNIN),   X
        XMFUNC=(DELE,SEND,RETR),                                X
        UNINRES=(0060,0070,0100,0120)
```

Figure 69. NetView DM Stage 1 JCL Excerpt for NetView DM/6000 Node Type Definition

Explanation:

1. TYPE defines the name of the node type. You can specify a name of up to four alphanumeric characters for your NetView DM/6000 node. We have chosen a node type name of NDM6.

   Note:

   We use the same node type definition for servers and agents because all functions are supported by both node types.

   For practical use it might be more appropriate to create different node types for servers and agents.

2. LOGM defines the default logon mode for this node type.
3. FUNC specifies the functional capabilities of this node type. You have to specify CMEP for NetView DM/6000 nodes.
4. RESTYPE defines the list of resources that this node type is authorized to use with *node solicited requests*. The node solicited requests are the requests which are originated by the node (NetView DM/6000), not by NetView DM/MVS. Each four-digit number represents a resource type, such as Software or Procedure. See *NetView DM R5 Installation and Customization* for the complete list of resource type codes. We have specified all resource type codes which are supported by NetView DM/6000.
5. SFUNC specifies the functions that this node type supports when it receives a request from a focal point. We have defined all functions which are supported by NetView DM/6000.
6. XMFUNC defines the list of functions that this node type is authorized to perform at NetView DM/MVS. NetView DM/6000 can send resources to NetView DM/MVS or retrieve resources from NetView DM/MVS without the need for a NetView DM/MVS request. You can also delete resources at remote destinations. We have allowed all supported functions for this node type.
7. UNINRES specifies the resource types that can be uninstalled from the node. MICROCODE (0060), SOFTWARE (0070), FLAT DATA (0100), and RELATIONAL DATA (0120) can be uninstalled from the node. We have specified the full set of allowed resources.

3.15 Configuring NetView Distribution Manager/MVS

Configuring NetView Distribution Manager/MVS involves the following tasks:

- Defining the NetView Distribution Manager/6000 preparation system to NetView DM/MVS
- Defining the NetView Distribution Manager/6000 server system to NetView DM/MVS
- Defining the NetView Distribution Manager/6000 client system to NetView DM/MVS

NetView Distribution Manager/MVS has both a batch and an interactive interface. In this chapter, we concentrate exclusively on the interactive interface (GIX). Our aim is to enable the user who is not an MVS batch programming expert to quickly create ad-hoc plans in order to verify that the configuration of the RISC System/6000 systems has been carried out correctly.

Your local TSO system's administrator should be able to tell you how to gain access to GIX from your MVS system.

3.15.1 Defining NetView DM/6000 Servers to NetView DM/MVS

When you first bring up GIX, you will be presented with the Main Menu panel (Figure 70).

```
                    NETVIEW DISTRIBUTION MANAGER - MAIN MENU
                                                                      16:05
 1 CONFIGURE NETWORK              Define nodes and resources, assign resources

 2 BROWSE NETWORK                 View list of nodes and related resources

 3 MANAGE RESOURCES               Work on resources in the repository

 4 PREPARE PLANS                  Define and submit transmission plans

 5 MANAGE SUBMITTED PLANS         Work on plans and track their status

 6 HANDLE MESSAGES                View and prepare messages

 7 MANAGE GROUPS                  Work on groups of nodes and resources

 8 SET PROFILES                   Define authorizations and defaults

 F GO TO ISPF                     Access ISPF without ending GIX session

 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                 12=CURSOR
```

Figure 70. GIX Main Menu

To define the preparation system (rs600011), server (rs600012) and client (rs60003), do the following:

Step 1. From the Main Menu panel (Figure 70), enter 1 (Configure Network) in the Selection field and press Enter. This will bring up the Configure Network panel (Figure 71 on page 103).

```
                        CONFIGURE NETWORK
SELECTION ==>
                                                                        18:03
Enter allowed value or accept the one shown:

NODE TYPE NDM6      (Ignored when selection is 5 OR 6)
                    ALLOWED ENTRIES:  CMEP  NDM6  DM2   DM2P  RS62
                          AS62  CMFP  CLNT



Select one of the following:

1 DEFINE RESOURCES
2 ASSIGN RESOURCES TO NODES
3 MAINTAIN RESOURCE HISTORY AT THE NODES
4 DEFINE NODES
5 MAINTAIN LU/TP ASSIGNMENTS
6 MAINTAIN LU/CP ASSIGNMENTS



PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 71. Configure Network GIX Panel

Step 2. From the Configure Network panel, enter 4 (Define Nodes) in the Selection field and press Enter. This will bring up the Specify Operation on Node panel.

```
              SPECIFY OPERATION ON NODE  NDM6
Selection ==> 1
                                                                        18:04

Enter desired values or accept the ones shown:

Node name  rs600011   Blank or partial name followed by * for full-list
Node model ________   Allowed for the CREATE option only

Select one of the following:

1 CREATE      Create a new node definition
2 CHANGE      Change a node definition
3 DELETE      Delete a node definition
4 BROWSE      Browse a node definition
5 PRINT       Print a node definition
6 BROWSE-ALL  Browse all node definitions
7 PRINT-ALL   Print all node definitions



PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 72. Specify Operation On Node GIX Panel for NetView Distribution Manager/6000 Prep. System

Step 3. On the Specify Operation on Node panel, enter 1 (Create) in the Selection field, and rs600011 in the Node Name field (see Figure 72).

Explanation:

We have chosen RS600011 as the NetView DM/MVS Node Name to be the same as the NetView Distribution Manager/6000 Workstation Name, for ease of reference (see 1.5.1, “Base Configuration” on page 13). GIX forces this field to uppercase.

Step 4. Press Enter. This will bring up the Specify Node Attributes panel.

```
                    SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                      18:10

Enter desired values or accept the ones shown:

 1 Node class . AO          Required
 2 Status . . . 2           1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60011B    Required (Logical unit name)
 4 Logon mode . NVDMNORM    Logon mode name
 5 Linetype . . 1           1 = Leased    2 = Switched
 6 Rgn. . . . . RA60011B    Network identification
 7 Ren. . . . . RA60011B    CP Logical unit name
 8 Notes  . . . 2           Enter 1 if you want additional node information
 9 Profile. . . 2           Enter 1 if you want to change node profile
10 Server name. RS600011    Server name
11 Timzoffs . . +00         Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS600011

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 73. Specify Node Attributes GIX Panel for NetView Distribution Manager/6000 Prep. System

Step 5. Fill in the fields of the Specify Node Attributes panel according to Figure 73.

Explanation:

a. Logical Unit (RA600011B) must match the preparation system LU name in VTAM (Figure 66 on page 100).
b. Logon Mode (NVDMNORM) here you can overwrite the DLOGMOD value for the preparation system LU (RA60011B) in VTAM (Figure 66 on page 100). However, we have set the same value for ease of reference.
c. RGN and REN have to match the NetView DM/6000 short name of the preparation system (see Figure 61 on page 95) when you define the node which is directly connected to NetView DM/MVS.

   If you are familiar with the NetView DM/2 node definition, be careful with RGN and REN. These terms are used differently in NetView DM/6000.

   When you define the NetView DM/2 server, RGN has to much the network ID and REN has to match the LU name of the server.

   When you define the NetView DM/6000 server, both RGN and REN have to match the Short Name for the server. They can be different from the LU name.

d. Server Name (RS600011) must match the NetView DM/MVS node name of the server for this node. Since this node is its own server, this field is set to its own node name which you entered at the Specify Operation on Node panel (Figure 72 on page 103).
e. We have accepted the default values for all other attributes.

Step 6. Press Enter. If you have entered the details correctly, and there are no other errors (for example RS600011 exists already), RS600011 will be added to the NetView DM/MVS database and you will be taken back to the Specify Operation on Node panel with the following message:

```
OPERATION COMPLETED. ENTER A NEW REQUEST.
```

The preparation system is now defined to NetView DM/MVS. You are returned to the right panel for defining the server node.

```
              SPECIFY OPERATION ON NODE  NDM6
Selection ==> 1
                                                                        18:21

Enter desired values or accept the ones shown:

Node name  rs600012   Blank or partial name followed by * for full-list
Node model ________   Allowed for the CREATE option only

Select one of the following:

1 CREATE      Create a new node definition
2 CHANGE      Change a node definition
3 DELETE      Delete a node definition
4 BROWSE      Browse a node definition
5 PRINT       Print a node definition
6 BROWSE-ALL  Browse all node definitions
7 PRINT-ALL   Print all node definitions



PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 74. Specify Operation On Node GIX Panel for NetView Distribution Manager/6000 Server

Step 7. Overwrite the Node Name field with rs600012 (Figure 74) and press Enter. This will bring up the Specify Node Attributes panel again.

Explanation:

We have chosen RS600012 as the Node Name to be the same as the NetView Distribution Manager/6000 Workstation Name, for ease of reference (see 1.5.1, “Base Configuration” on page 13). GIX forces this field to uppercase.

```
                    SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                        18:23

Enter desired values or accept the ones shown:

 1 Node class . AO         Required
 2 Status . . . 2          1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60012B   Required (Logical unit name)
 4 Logon mode . NVDMNORM   Logon mode name
 5 Linetype . . 1          1 = Leased    2 = Switched
 6 Rgn. . . . . RA60012B   Network identification
 7 Ren. . . . . RA60012B   CP Logical unit name
 8 Notes  . . . 2          Enter 1 if you want additional node information
 9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. RS600012   Server name
11 Timzoffs . . +00        Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS600012

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 75. Specify Node Attributes GIX Panel for NetView Distribution Manager/6000 Server

Step 8. Fill in the fields of the Specify Node Attributes panel according to Figure 75.

Explanation:

a. Logical Unit (RA60012B) must match the server LU name in VTAM (Figure 66 on page 100).
b. Logon Mode (NVDMNORM) here you can overwrite the DLOGMOD value for the preparation system LU (RA60012B) in VTAM (Figure 66 on page 100). However, we have set the same value for ease of reference.
c. RGN and REN have to match the NetView DM/6000 short name for the server system (see Figure 31 on page 56) when you define the node which is directly connected to the NetView DM/MVS.

   If you are familiar with the NetView DM/2 node definition, be careful with RGN and REN. These terms are used differently in NetView DM/6000.

   When you define the NetView DM/2 server, RGN has to match the network ID and REN has to match the LU name for the server.

   When you define the NetView DM/6000 server, both RGN and REN have to much the short name of the server. They can be different from the LU name.
d. Server Name (RS600012) must match the NetView DM/MVS node name for the server for this node. Since this node is its own server, this field is set to the node name which you entered at Specify Operation on Node panel (Figure 74 on page 105).
e. We have accepted the default values for all other attributes.

Step 9. Press Enter. If you have entered the details correctly, and there are no other errors (for example RS600012 exists already), RS600012 will be

added to the NetView DM/MVS database and you will be taken back to the Specify Operation on Node panel with the following message:

```
OPERATION COMPLETED. ENTER A NEW REQUEST.
```

The server is now defined to NetView DM/MVS. You are returned to the right panel for defining the client node.

3.15.2 Defining NetView DM/6000 Clients to NetView DM/MVS

```
             SPECIFY OPERATION ON NODE  NDM6
Selection ==> 1
                                                                        18:26

Enter desired values or accept the ones shown:

Node name  rs60003_   Blank or partial name followed by * for full-list
Node model ________   Allowed for the CREATE option only

Select one of the following:

1 CREATE      Create a new node definition
2 CHANGE      Change a node definition
3 DELETE      Delete a node definition
4 BROWSE      Browse a node definition
5 PRINT       Print a node definition
6 BROWSE-ALL  Browse all node definitions
7 PRINT-ALL   Print all node definitions



PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 76. Specify Operation On Node GIX Panel for NetView Distribution Manager/6000 Client System

1. Overwrite the Node Name field with rs60003 (Figure 76) and press Enter. This will bring up the Specify Node Attributes panel once again.

   Explanation:

   We have chosen rs60003 as the Node Name to be the same as the NetView Distribution Manager/6000 Workstation Name, for ease of reference (see 1.5.1, “Base Configuration” on page 13). GIX forces this field to uppercase.

   Note:

   We use the same node type definition for servers and agents because all functions are supported by both node types.

   For practical use it might be more appropriate to create different node types for servers and agents.

```
                    SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                        18:27

Enter desired values or accept the ones shown:

 1 Node class . AO          Required
 2 Status . . . 2           1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60012B    Required (Logical unit name)
 4 Logon mode . NVDMNORM    Logon mode name
 5 Linetype . . 1           1 = Leased    2 = Switched
 6 Rgn. . . . . RA60012B    Network identification
 7 Ren. . . . . RS60003_    CP Logical unit name
 8 Notes  . . . 2           Enter 1 if you want additional node information
 9 Profile. . . 2           Enter 1 if you want to change node profile
10 Server name. RS600012    Server name
11 Timzoffs . . +00         Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS60003

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 77. Specify Node Attributes GIX Panel for NetView Distribution Manager/6000 Client System

2. Fill in the fields of the Specify Node Attributes panel according to Figure 77.

   Explanation:

   a. Logical Unit (RA60012B) must match the *server* LU name in VTAM (Figure 66 on page 100). The server for this client is, of course, RS600012.
   b. Logon Mode (NVDMNORM) here you can overwrite the DLOGMOD value for the *server* LU (RA60012B) in VTAM (Figure 66 on page 100). However, we have set the same value for ease of reference. You have to define the same value for the server (RS600012) and the client (RS60003).
   c. RGN has to match the NetView DM/6000 short name for the server to which this client is connected (see Figure 29 on page 55). REN has to match the NetView Distribution Manager/6000 short name of the client (see Figure 33 on page 59).

      If you are familiar with the NetView DM/2 node definition, be careful with RGN and REN. These terms are used differently in NetView DM/6000.

      When you define the NetView DM/2 client, RGN has to match the network ID for the server and REN has to match the name for the client.

      When you define the NetView DM/6000 client, RGN has to match the short name of the server and REN have to match the short name of the client.
   d. Server Name (RS600012) must match the NetView DM/MVS node name of the server for this node.
   e. We have accepted the default values for all other attributes.

3. Press Enter. If you have entered the details correctly, and there are no other errors (for example RS60003 exists already), RS60003 will be added to the

NetView DM/MVS database and you will be taken back to the Specify Operation panel with the following message:

```
OPERATION COMPLETED. ENTER A NEW REQUEST.
```

4. Press PF3 (End) until you are returned to the Main Menu panel.

The client is now defined to NetView DM/MVS.

Note:

If your TCP is running when you add or change nodes in GIX, you may have to stop the TCP and start it again. Check the following TCP messages in IOF:

```
NDM0895I THE FUNCTION CHANGE NODE FOR THE NODE RS600011 HAS BEEN R
         EQUESTED.
NDM0897S THE CHANGE NETWORK REQUEST FOR NODE RS600011 IS ACCEPTED.
         THE NETWORK IS UPDATED.
```

If you don't see these TCP messages, then you must stop the TCP and start it again with START=COLD option to make the changes effective.

Whether changes to the network configuration requested by GIX have an immediate effect or not is determined during the NetView DM/MVS installation process. The NETCHNG value in the NDMTCP macro determines whether changes to the network configuration requested by GIX have an immediate effect or not. See *NetView DM R5 Installation and Customization* for more information.

This completes the configuration for the NetView Distribution Manager/MVS focal point.

3.16 Starting the Resources

Now that you have completed the configuration activities, you must start all the network resources. You should also check that they are still active before each distribution.

On the target server and preparation system, you must ensure that:

- The attachment (or link station, in the case of SNA/Server V2.1) is active.
- NetView Distribution Manager/6000 is running.

On the target server, you must also ensure that:

- TCP/IP is running.
- There is a path to the client.

On the client, you must ensure that:

- TCP/IP is running and there is a path to the server.
- NetView Distribution Manager/6000 is running.

In NetView, you must ensure that the following SNA resources are active:

- The TCP (NetView DM/MVS Transmission Control Program)
- The server PU
- The preparation system PU

Note: You cannot log on to IOF (Interactive Operator Facility) unless the TCP is active.

Instructions on starting these resources (and keeping them running) can be found in Chapter 4, “Managing the Resources in Scenario I” on page 111.

There are a number of other SNA network resources that must also be active before you can perform distribution activities, such as the application and the switched major nodes for NetView DM/MVS and the NetView DM/6000 systems and the NCPs. These resources should be activated automatically. If you have activated the SNA resources mentioned above, together with the NetView DM/6000 attachments and link stations, and NetView DM/MVS is still unable to establish a session with any of the NetView DM/6000 systems, report the problem to your local SNA network administrator.

Chapter 4. Managing the Resources in Scenario I

In this chapter, we show you how to start, stop, and get the status of the network resources that you have configured for scenario I.

4.1 SNA Services Attachment on the Server rs600012

Before you enter any of these commands, you must log on to the server as root.

If you need more information about using these commands, look at the *AIX Command Reference*.

4.1.1 Getting the Attachment Status

You can check the status of the server attachment with the command:

```
lssrc -l -s sna
```

4.1.2 Starting the Attachment

You start the server attachment with the command:

```
startsrc -t attachment -o RA60012
```

Notes on Starting an Attachment:

1. The attachment will remain in the starting status until the PU is activated in NetView. The status command output (4.1.1, “Getting the Attachment Status”) will present the attachment status in the form:

   ```
    "sna" Program, Process ID 42049  active
   RA60012              Attachment    - starting
   ```

   Once the PU has been activated, the attachment status should change to active:

   ```
    "sna" Program, Process ID 42049  active
   RA60012              Attachment    - active
   ```

2. If there is a significant interval between the attachment being started and the PU being activated (more than a few minutes), you will get a startsrc timeout message from the source master.

   This is normal. The attachment will still be in the starting state, and will remain so until you stop it, or the PU is activated.

3. Starting the attachment will automatically start SNA services itself (this shows up as sna in the status output).

4. The connection (session) between the NetView DM/6000 LU (represented by the connection profile RA60012B in our example) and the focal point (RA39TCF1 in our example) will start automatically as each phase of the plan is released. The status command output will change to:

   ```
    "sna" Program, Process ID 42049  active
   RA60012              Attachment    - active
   RA60012B             Connection    - active
   ```

5. The connection (session) will fail if the attachment is not active when the request (BIND) arrives from NetView DM/MVS.

4.1.3 Stopping the Attachment

You can stop the attachment with the command:

```
stopsrc -t attachment -s RA60012
```

If this doesn't stop the attachment, you can force it to stop with the command:

```
stopsrc -t attachment -s RA60012 -f
```

or, as a last resort stop SNA Services altogether:

```
stopsrc -s sna -f
```

Notes on Stopping an Attachment:

If you try to stop an attachment in the starting state, you will get a message to the effect that the subsystem is currently under command processing. This is a case where you will probably need to force SNA Services to stop in order to stop the attachment.

4.2 NetView DM/6000 at the Server, Client or Preparation System

Before you enter any of these commands, you must log on to the system concerned as a NetView DM/6000 administrator (root, in our examples).

If you need more information about using the `nvdm` subcommands, look in the *NetView DM/6000 User's Guide*. For more information on the `startsrc` command, look in the *AIX Commands Reference*.

4.2.1 Getting the Status of NetView Distribution Manager/6000

To get the status of NetView DM/6000, enter the command:

```
nvdm stat
```

4.2.2 Starting NetView Distribution Manager/6000

To start NetView DM/6000, enter the command:

```
nvdm start
```

You can also start NetView DM/6000 using the source master:

```
startsrc -s NetViewDM/6000
```

However, source master support is not fully implemented in this release of NetView Distribution Manager/6000 (Version 1.2). For example, the status shows up as `inoperative` in the output from the `lssrc` command. Also, `stopsrc` fails because the source master believes that NetView DM/6000 is already inoperative.

We recommend that you steer clear of the source master commands, and use the `nvdm` command set instead.

Note: The NetView Distribution Manager/6000 installation process places an entry in /etc/inittab that automatically starts NetView DM/6000 on system reboot. This entry uses the `startsrc` command. Using the source master to *start* NetView DM/6000 seems to work okay. So long as you want NetView DM/6000 to be started automatically on reboot, we suggest that you leave this entry alone.

4.2.3 Stopping NetView Distribution Manager/6000

To gracefully terminate NetView DM/6000 at the *server* or *preparation system*, enter the command:

```
nvdm stop -x
```

If you cannot terminate NetView DM/6000 at the *server* using the previous command, enter the command:

```
nvdm stop -x -K
```

where ″-K″ stands for kill which works immediately.

To gracefully terminate NetView DM/6000 at the *client*, enter the command:

```
nvdm stop
```

In either case, NetView DM/6000 has not completely stopped (and therefore cannot be started again) until the following message is written to the log (/usr/lpp/netviewdm/fndlog):

```
FNDC0149I: The last NetViewDM/6000 task is exiting.
```

If you use nvdm stat to get the status of NetView DM/6000 after it has stopped, you will get the error:

```
FNDCL127E  ″Cannot process the request. The transmission controller is not running″
```

As an alternative, you can check if NetView DM/6000 has stopped completely by examining the process table for NetView DM/6000 processes, all of which have names beginning with ″fnd″. We used the following pipe to do this:

```
ps -ef | grep fnd
```

When NetView DM/6000 is stopped, this command sequence will produce no output, so long as there are no processes in your system that have the string ″fnd″ in their name.

The ps and grep commands are described in the *AIX Command Reference*.

4.2.4 Refreshing NetView Distribution Manager/6000 In Flight

If NetView Distribution Manager/6000 is running when you make changes to the SNA/DS configuration, you must either stop and restart NetView DM/6000, or refresh the runtime system ″in flight″ with the new values. It can take NetView DM/6000 several minutes to complete its stop processing; therefore in most cases you will find it more convenient to refresh in flight (this generally takes just a few seconds to complete).

To refresh the NetView DM/6000 runtime tables in flight, do the following:

```
nvdm rld
```

4.3 TCP/IP at the Server or Client

Before you enter any of these commands, you must log on to the system concerned as root.

If you need more information about using these commands, look at the *AIX Command Reference*.

4.3.1 Getting the Status of TCP/IP

In order for TCP/IP to function correctly:

- The TCP/IP server (inetd) needs to be active.
- The NetView DM/6000 subsystem needs to be active.
- The TCP/IP device driver for the LAN adapter needs to be active.
- A TCP/IP path must exist between server and client.

If you find a problem in any of these areas, you may need expert help, for example from your local network administrator. Diagnosing problems in the TCP/IP network is beyond the scope of this book. Refer to *AIX Communications Concepts and Procedures* for guidance.

4.3.1.1 Status of TCP/IP Server (at Server or Client)

To check the status of the TCP/IP server, enter the command:

```
lssrc -l -s inetd
```

Check that `tcpip` shows up as active in the output:

```
Subsystem         Group            PID     Status
 inetd            tcpip            6257    active
```

4.3.1.2 Status of TCP/IP Device Driver (at Server or Client)

To check the TCP/IP device driver status for the LAN adapter enter the command:

```
ifconfig tr0
```

Check that the device driver shows up as `RUNNING` in the output:

```
tr0: flags=8063<UP,BROADCAST,NOTRAILERS,RUNNING,ALLCAST>
;inet 9.24.104.124 netmask 0xff000000 broadcast 9.255.255.255
```

4.3.1.3 Path between Server and Client at Server

Check the path from the server to the client with the command:

```
ping rs60003 3 56
```

The `ping` command will send 3 packets which include a 56-byte data portion. Check that you get the message `64 bytes received from rs60003`. If the path is reliable, you will get this message 3 times:

```
PING rs60003.itso.ral.ibm.com (9.24.104.23): 56 data bytes
64 bytes from 9.24.104.23: icmp_seq=0 ttl=255 time=19 ms
64 bytes from 9.24.104.23: icmp_seq=1 ttl=255 time=28 ms
64 bytes from 9.24.104.23: icmp_seq=2 ttl=255 time=23 ms

--- rs60003.itso.ral.ibm.com ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss
round-trip min/avg/max = 19/23/28 ms
```

Note: This command will fail if TCP/IP has not yet been configured at the client (specifically, if the TCP/IP device driver for the LAN adapter on the client is not started).

4.3.1.4 Path between Server and Client at Client

Check the path from the client to the server with the command:

```
ping rs600012 3 56
```

The ping command will send 3 packets which include a 56-byte data portion. Check that you get the message 64 bytes received from rs600012. If the path is reliable, you will get this message 3 times.

Note: This command will fail if TCP/IP has not yet been configured at the server (specifically, if the TCP/IP device driver for the LAN adapter on the server is not started).

4.3.2 Starting TCP/IP

TCP/IP should have been started automatically because you put YES in the Start Now field when you configured it (Figure 25 on page 50 and Figure 37 on page 64).

TCP/IP is also started automatically on system reboot.

4.3.3 Stopping TCP/IP

There should be no reason, during normal use of NetView Distribution Manager/6000, for you to stop TCP/IP at the server or client.

4.4 SNA Server Link Station on the Preparation System rs600011

Before you enter any of these commands, you must log on to the server as root.

If you need more information about using these commands, look at the *AIX SNA Server/6000 User's Guide*.

4.4.1 Getting the Link Station Status

You can check the status of the preparation system link station with the command:

```
lssrc -l -s sna
```

The status command output will present the link station status in this form:

```
     Link          Adjacent      Node    Device             Number of
    station        CP name       type     name      State    sessions
-------------- ---------------- ----- --------- ---------- ----------
@tok0                                  tok0      Starting           0
```

4.4.2 Starting the Link Station

You start the preparation system link station with the command:

```
startsrc -t link_station -o RA60011
```

Notes on Starting a Link Station:

1. The link station will remain in the starting status until the PU is activated in NetView. The status command output (4.4.1, “Getting the Link Station Status” on page 115) will present the link station status in the form:

```
     Link           Adjacent      Node    Device             Number of
    station         CP name       type     name      State    sessions
-------------- ----------------- ----- --------- ---------- ----------
@tok0                                   tok0      Starting           0
RA60011                                 tok0      Starting           0
```

   Once the PU has been activated, the link station status should change to active:

```
     Link           Adjacent      Node    Device             Number of
    station         CP name       type     name      State    sessions
-------------- ----------------- ----- --------- ---------- ----------
@tok0                                   tok0      Starting           0
RA60011        USIBMRA.RAK       NN    tok0      Active             2
```

   In our configuration, VTAM is acting as a Network Node (NN). Number of sessions equals 2 means CP-CP sessions are established automatically.

   You can get more detail about the session by entering the SNA Server/6000 command:

```
sna -display session
```

   You will see the session status in the form:

```
               Local            Partner        Mode      Link
 CGID        LU name           LU name         name     station     State
------ ----------------- ----------------- -------- ----------- ----------
7       USIBMRA.RA6011CP  USIBMRA.RAK       CPSVCMG  RA60011     Available
8       USIBMRA.RA6011CP  USIBMRA.RAK       CPSVCMG  RA60011     Available
```

   If your VTAM is not an APPN node, you will see the link station status in the form:

```
 Link              Adjacent      Node    Device             Number of
station            CP name       type     name      State    sessions
-------------- ----------------- ----- --------- ---------- ----------
RA60011        USIBMRA.RAK       LEN   tok0      Active             0
```

2. If there is a significant interval between the link station being started and the PU being activated (more than a few minutes), you will get a startsrc timeout message from the source master.

   This is normal. The link station will still be in the starting state, and will remain so until you stop it, or the PU is activated.

3. Starting the link station will automatically start SNA services itself.

4. The session between the NetView DM/6000 LU (represented by the connection profile RA60011B in our example) and the focal point (RA39TCF1 in our example) will start automatically as each phase of the plan is released. The status command output will change to:

```
   Link          Adjacent      Node   Device            Number of
  station        CP name       type    name     State    sessions
------------- ---------------- ----- --------- ---------- ----------
@tok0                                tok0      Starting          0
RA60011       USIBMRA.RAK      NN    tok0      Active            3
```

Notice that the number of sessions is now 3. You can get details about the session of a specific local LU by entering the SNA Server/6000 command:

```
sna -display session -ln RA60011B -o short
```

The command output shows the status:

```
             Local            Partner        Mode      Link
 CGID       LU name          LU name        name     station     State
------ ---------------- ---------------- -------- ----------- ----------
10     USIBMRA.RA60011B  USIBMRA.RA39TCF1  NVDMNORM RA60011     Available
```

Still more detail is given if you use the long option:

```
sna -display session -ln RA60011B -o long
```

Then the command output shows the status as the following:

```
************************************
 LU 6.2 Session Information
************************************
Number of sessions                    1

1>Session ID                          X'E0D3948349C2FE15'
  Conversation group ID               10
  Session status                      Available
  Link station profile name           RA60011
  LU type                             6.2
  Session type                        Independent LU-LU session
  LU alias                            RA60011B
  LU name                             USIBMRA.RA60011B
  Partner LU alias
  Partner LU name                     USIBMRA.RA39TCF1
  Mode name                           NVDMNORM
  Symbolic destination name           NVDMSIDR
  Send maximum RU size                3840
  Receive maximum RU size             3840
  Pacing type                         Adaptive
  Send pacing window                  1
  Receive pacing window               1
  Local Form Session ID (LFSID)       X'10201'
  Outbound destination address (DAF)  X'01'
  Outbound origin address (OAF)       X'02'
  OAF-DAF assignor indicator (ODAI)   B'1'
  Procedure correlator ID (PCID)      X'E0D3948349C2FE15'
  PCID generator CP name              USIBMRA.RA6011CP
  Host SSCP ID                        (not applicable)
  Primary LU                          Local LU
  Contention winner?                  Yes
  Session security supported?         No
```

5. The session will fail if the link station is not active when the request (bind) arrives from NetView DM/MVS.

4.4.3 Stopping the Link Station

You can stop the preparation system link station with the command:

```
stopsrc -t link_station -s RA60011
```

If this doesn't stop the link station, you can force it to stop with the command:

```
stopsrc -t link_station -s RA60011 -f
```

Or, as a last resort stop SNA Server altogether:

```
stopsrc -s sna -f
```

Notes on Stopping a Link Station:

If you try to stop a link station in the starting state, you will get a message to the effect that the subsystem is currently under command processing. This is a case where you will probably need to force SNA Services to stop in order to stop the link station.

4.5 Managing the TCP (Transmission Control Program)

The TCP is an MVS job, and therefore must be started from MVS. The TCP manages the SNA sessions for the focal point, and thus has the LU name of the focal point (RA39TCF1 in our example). Thus, you can look at the status in NetView.

You must obtain the MVS job name for your TCP from your MVS system administrator. We used the name *NDMTCP39*.

Before entering any of these commands, you must log on to NetView.

Note: You will not be able to log on to your IOF (Interactive Operator Facility) session until your TCP is active.

4.5.1 Getting the Status of the TCP

You can view the status your TCP from NetView with the command:

```
D NET,ID=RA39TCF1
```

4.5.2 Starting the TCP

You can start your TCP from NetView with the command:

```
MVS S NDMTCP39
```

Remember to substitute the job name of your own TCP for NDMTCP39.

4.5.3 Stopping the TCP

You can stop your TCP from NetView with the command:

```
MVS F NDMTCP39,I
```

Remember to substitute the job name of your own TCP for NDMTCP39.

Alternative: You can select option 7 or 8 from the IOF main menu to stop the TCP.

4.6 Target Server PU

Before entering any of these commands, you must log on to NetView.

4.6.1 Getting the Server PU Status from NetView

You can view the status of the server PU from NetView with the command:

```
D NET,ID=RA60012
```

Once the PU has been successfully activated, the status will show up as ACTIVE in the output.

4.6.2 Starting the Server PU from NetView

You can activate the server PU from NetView with the command:

```
V NET,ACT,ID=RA60012
```

4.6.3 Stopping the Server PU from NetView

You can deactivate the server PU from NetView with the command:

```
V NET,INACT,ID=RA60012
```

4.7 Preparation System PU

The preparation system PU name is RA600011. See 4.6, “Target Server PU” for information about how to get the status, start, and stop the PU.

Chapter 5. Initiate Procedure on NetView DM/6000 Server from NetView DM/MVS

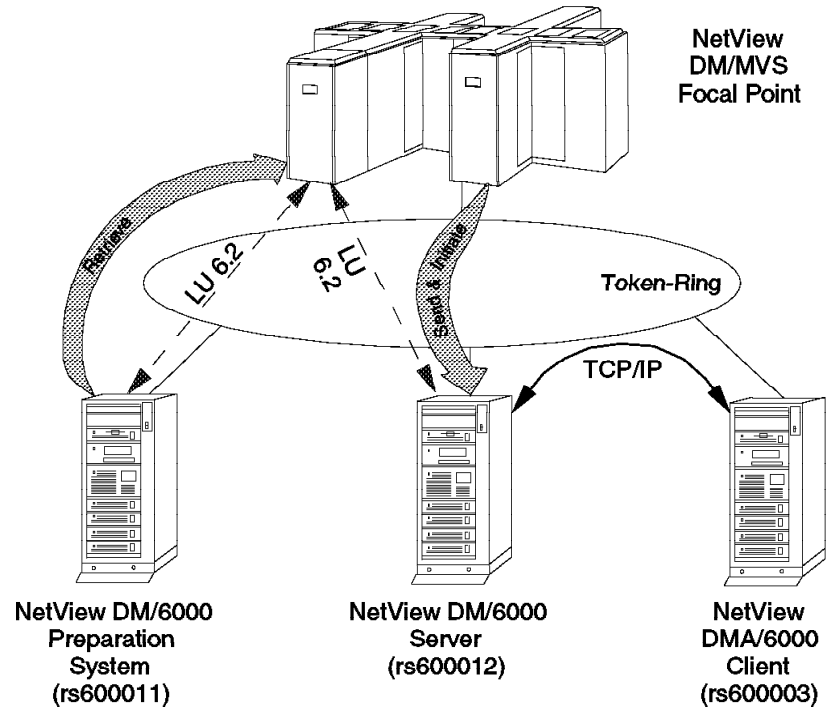

Figure 78. Scenario I CM Activity - Initiate Procedure on NetView DM/6000 Server

In this example we perform the following change management activities on a procedure:

- Send the file from the preparation system (rs600011) to the focal point (NetView Distribution Manager/MVS).
- Initiate the procedure on the server (rs600012) from the focal point, with the send file option selected. (This option causes the procedure to be sent automatically from the focal point to the server each time before it is executed).

The procedure is a Korn shell script that writes a mail to the specified RISC System/6000 user.

The work is divided into five main tasks:

- Creating the procedure on the preparation system (rs600011)
- Cataloging the procedure on the preparation system (rs600011)
- Creating the transmission plan on the NetView Distribution Manager/MVS system
- Getting the procedure into the resource repository on the NetView Distribution Manager/MVS system

- Executing the transmission plan on the NetView Distribution Manager/MVS system

5.1 Creating the Procedure

This procedure is a Korn shell script called *sendmsg*.

To create this script on your preparation system, do the following:

Step 1. Log on to the preparation system as the builder (mckechni in our example).

```
#!/bin/ksh
ProgName=${0##*/}
print "$ProgName called with $# parameters: $*"

if [[ $# < 2 ]]
then
   print "Usage: $ProgName from_host user [message text]" 1>&2
   exit 1
fi
host="$1"
user="$2"
shift 2

/usr/bin/mail -s "NetView DM Message from $host" $user << !EOT
$.*
!EOT
```

Figure 79. Shell Script Listing for sendmsg Program

Step 2. Invoke your preferred editor, and type in the shell script program in Figure 79.

Step 3. Save the file. In our example, we have called it:

```
/u/mckechni/nvdm6000/bin/sendmsg
```

Step 4. Give the saved file execute permission. In our example, we did this with the following command:

```
chmod +x /u/mckechni/nvdm6000/bin/sendmsg
```

Note: Actually, you don't need to give the file execute permission to execute it at the target. You may have to give the file execute permission to test it at the preparation site before you send it to the target. NetView DM/6000 does not keep the permission of the original file when the file is transmitted over the network. NetView DM/6000 sets the permission, owner, and group information of the received file as follows regardless of the original file information:

```
-rwxrwxr-x   1 root     FNDADMN    275 Oct 11 07:37 SEND.MESSAGE
```

You may have to change this information after you receive the file at the target system if you need to process it with your own program.

The third line of the program (a print statement) writes the name of the program, followed by the number of parameters it was called with and their values, to standard output. NetView Distribution Manager/6000 automatically redirects this output to /usr/lpp/netviewdm/work/request.out. This file is the first

place to look if NetView DM/6000 has problems satisfying the initiate request. Most problems are likely to stem from the formulation of the sendmsg parameters in the NetView DM/MVS plan (see Procedure Data field in Figure 88 on page 131).

The sendmsg script treats the first parameter as the name of the system initiating the request, and the second parameter as the logon name of the user to whom the request is directed. The third and subsequent parameters are treated as the message text to be sent to the user as a mail.

5.2 Cataloging the Procedure

Before cataloging the procedure, you must first choose the *global name* that you are going to give it. There are rules governing the format and composition of this name. These are described in 1.6, “SNA/FS Conventions for Global Names” on page 16.

Cataloging the procedure associates the global name with the name of the shell script in the AIX file system.

In this example, we have chosen the simple global name:

```
SEND.MESSAGE
```

To catalog the procedure, do the following:

Step 1. Log on to the preparation system at a graphics terminal as the builder (mckechni in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window (Figure 80 on page 124).

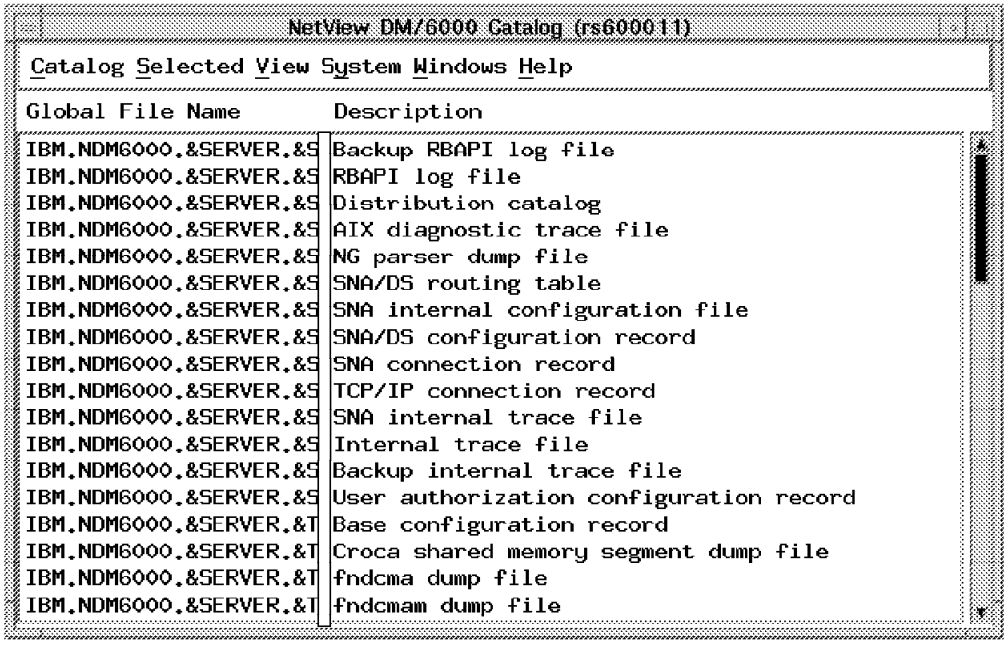

Figure 80. NetView DM/6000 Catalog Window (Preparation System)

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

Step 3. In the Catalog window (Figure 80) select **Catalog** from the menu bar.

Step 4. Select **New** from the pull-down menu.

Step 5. Select **Data file** from the cascaded menu and the Catalog Data File window will open.

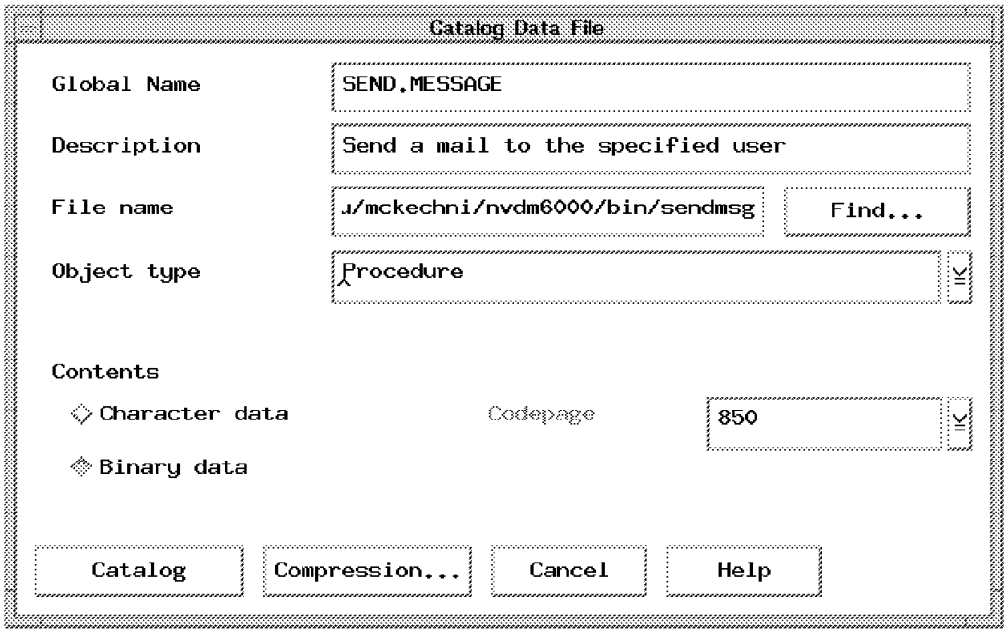

Figure 81. NetView DM/6000 Catalog Data File (Preparation System)

Step 6. Fill in the Global Name, Description and File Name fields according to Figure 81.

Explanation:

a. Global Name must match the Resource Name in the Procedure Qualifiers panel in the transmission plan (see Figure 87 on page 130).
b. File Name must be the fully qualified path name of the executable program that implements the procedure (/u/mckechni/nvdm6000/bin/sendmsg in our example).

Step 7. Open the Object Type menu by selecting the button to the right of the Object Type field (∨).

Step 8. Select Procedure from the Object Type menu.

Step 9. Ensure that the **Binary Data** radio button is selected (that is, in the ″in″ position) to signify that the file does not need to undergo character translation before being transmitted over the network.

Explanation:

You should only select **Character Data** if the data is ASCII text that needs to be viewed on an EBCDIC system some time during or after the distribution process. In our case, the shell script is ASCII text. The MVS host acts as a staging post enroute to another ASCII system (the server RISC System/6000). Therefore no translation is required.

Step 10. Select the **Catalog** push button to make the changes effective. You will be returned to the Catalog window (Figure 80 on page 124). The Catalog panel will be refreshed automatically and the newly cataloged procedure will appear in the list of cataloged objects.

5.3 Creating the Transmission Plan

When you first bring up GIX, you will be presented with the Main Menu panel (Figure 82).

```
                    NETVIEW DISTRIBUTION MANAGER - MAIN MENU
Selection  ===>
                                                                        11:38
1 CONFIGURE NETWORK             Define nodes and resources, assign resources

2 BROWSE NETWORK                View list of nodes and related resources

3 MANAGE RESOURCES              Work on resources in the repository

4 PREPARE PLANS                 Define and submit transmission plans

5 MANAGE SUBMITTED PLANS        Work on plans and track their status

6 HANDLE MESSAGES               View and prepare messages

7 MANAGE GROUPS                 Work on groups of nodes and resources

8 SET PROFILES                  Define authorizations and defaults

F GO TO ISPF                    Access ISPF without ending GIX session

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 82. GIX Main Menu

To create the transmission plan, do the following:

Step 1. From the Main Menu panel (Figure 82) enter 4 (Prepare Plans) in the Selection field and press Enter. This will bring up the Prepare Plans panel.

```
                          PREPARE PLANS
Selection ===>
                                                                      11:56
Enter:
Plan name  sndmsg12    Blank or partial name followed by * for full-list
Plan model PLMODEL_    Required for the CREATE option only

Select one of the following:

1 CREATE               Make a new plan
2 CHANGE               Change one of your plans
3 DELETE               Delete one of your plans from the plan library
4 VALIDATE             Check plan consistency, authorizations, and item
                         availability
5 SUBMIT               Send a plan to the TCF for transmission
6 RENAME               Change the name of one of your plans
7 PRINT/BROWSE         Obtain a printout of or browse a plan




PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 83. Prepare Plans GIX Panel

Step 2. In the Prepare Plans panel, enter 1 (Create) in the Selection field, and sndmsg12 in the Plan name field (see Figure 83).

Step 3. Press Enter. This will bring up the Create or Change a Plan panel.

GIX presents a sample plan for you to customize. We do not need any of the phases and functions already present in this sample plan, but we cannot delete them until we have created at least one phase and function of our own. The next thing we wish to do is to add a new initiate phase. As mentioned above, to create a new phase we must copy and tailor an existing phase.

Step 4. Choose any phase in the sample plan and place C in the CMD field.

Step 5. Put A in the CMD field of the Plan name line (the first line).

Step 6. Press Enter. A new Phase line is inserted after the Plan name line.

Step 7. Select the new Phase line by putting S in the CMD field and pressing Enter. This will bring up the Specify Phase Attributes of the Plan panel.

```
                SPECIFY PHASE ATTRIBUTES OF PLAN: SNDMSG12
Command ==>

Enter desired values or accept the ones shown:

 1 Phase name  . . . . . PHASE1__  Required (must be unique in the plan)
 2 Node name . . . . . . RS600012  Required if field 3 is not specified
 3 Group of nodes  . . . ________  Required if field 2 is not specified
 4 Scheduling  . . . . . ________ _____  Date and time (YY/MM/DD HH:MM)
 5 Cut off . . . . . . . _____   _____  Time or interval (HH:MM)
 6 Hold option . . . . . 2        1 = Yes   2 = No
 7 Conditioning phase. . ________  Fields 7, 8 and 9 are a logical entity
 8 Conditioning criteria _        1 = Greater or equal to value in field 9
                                  2 = Less or equal to value in field  9
 9 Conditioning value  . __       Any integer from 1 to 99
10 Conditioning mode . . _        1 = All   2 = Single
11 Termination value . . 00       Any integer from 0 to 99
12 Batch job name. . . . ________  Fields 11 and 12 are a logical entity
13 Batch job submission
   conditioning value. . __       Any integer from 0 to 99
14 PHASE NOTES . . ==>

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 84. GIX Specify Phase Attributes of Plan (SNDMSG12)

Step 8. Fill in the fields of the Specify Phase Attributes of Plan panel according to Figure 84.

Explanation:

a. We have chosen to call this, the only phase, PHASE1.
b. Node name (RS600012) is the name given to the server node when it was created (see Figure 74 on page 105).
c. We have elected not to have the plan held when it is submitted. Rather, it is started immediately, so long as the TCP is active (see 5.5, “Executing the Transmission Plan” on page 137).
d. We have accepted the default values for all other attributes.

Step 9. Press Enter. This will bring up the Phase Parameters panel (Figure 85 on page 129).

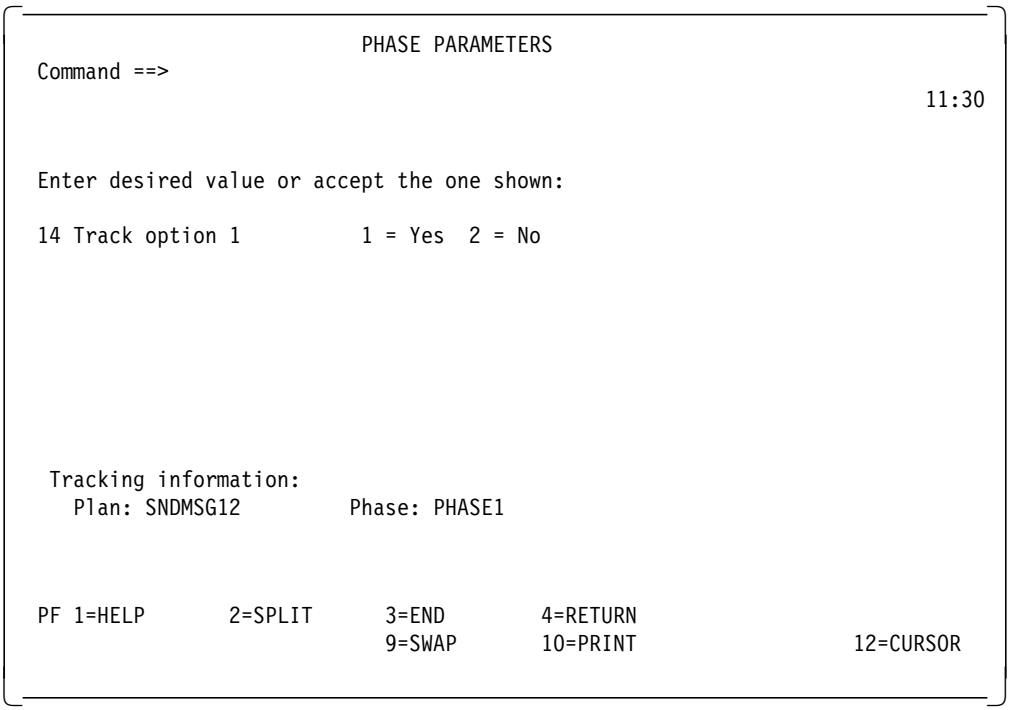

Figure 85. GIX Phase Parameters Panel (SNDMSG12)

Step 10. Press Enter to accept the default tracking information. This will add the phase to the plan and take you back to the Create or Change a Plan panel, where you will see your new phase directly after the Plan name line.

Now that we have created the phase, we can add the transmission functions to it.

Step 11. Put I in the CMD field of the PHASE1 line to add a transmission function to the plan.

Step 12. Press Enter. This will bring up the Function Resource Selection panel (Figure 86 on page 130).

```
          FUNCTION RESOURCE SELECTION (NODE:CMEP,PLAN:HCF)   ROW 1 TO 11 OF 11
Selected function ==> 4

Selected resource ==> 3                                          SCROLL==> PAGE

Select the following:

Functions Types            Resources Types
1   SEND                   1   MICROCODE
2   RETRIEVE               2   SOFTWARE
3   DELETE                 3   PROCEDURE
4   INITIATE               4   FLAT DATA
5   INSTALL                5   RELATIONAL DATA
6   REMOVE                 6   AS/400 OBJECT
7   UNINSTALL              7   AS/400 CTN
8   ACCEPT                 8   CONFIGURATION FILE
9   ACTIVATE NODE          9   MSDUMP
                           10  TRACE INFO
                           11  MSERRLOG
****************************** BOTTOM OF DATA ********************************
```

Figure 86. Function Resource Selection GIX Panel

Step 13. Put 4 (Initiate) in the Selected Function field and 3 (Procedure) in the Selected Resource field.

Step 14. Press Enter. This will bring up the Procedure Qualifiers panel.

```
                  PROCEDURE QUALIFIERS (PLAN: SNDMSG12)
Command ==>
                                                                        11:30
Enter desired values or accept the ones shown:

1 Resource name
==> SEND.MESSAGE                                                    <==

2 Matching indicators ==>
                                    L = Low   H = High  I = Ignore
3 Send option. . . . . . . 1        1 = Yes   2 = No
4 Track option . . . . . . 1        1 = Yes   2 = No
5 Netid. . . . . . . . . . __       Any integer from 2 to 10
6 Netlu. . . . . . . . . . __       Any integer from 2 to 10
7 Bydestid . . . . . . . . 2        1 = Yes   2 = No

 Tracking information:
   Activity: CHANGE
   Phase . : PHASE1          Node: RS60003

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                12=CURSOR
```

Figure 87. GIX Procedure Qualifiers Panel (SENDMSG)

Step 15. Fill in the fields of the Procedure Qualifiers panel according to Figure 87.

Explanation:

a. Resource Name must match Global Name in the Catalog Data panel (see Figure 81 on page 124).
b. We have set Send Option to 1 (yes) because we would like the procedure to be copied to the server before it is executed. This ensures that the procedure is present when the execute (initiate) request arrives, and that it is the latest version.
c. We have accepted the default values for all other attributes.

Step 16. Press Enter. This will bring up the Initiate Parameters panel:

```
                    INITIATE PARAMETERS (PLAN: SNDMSG12)
Command ==>
                                                                        11:31

Enter desired values or accept the ones shown:



1  Execution date . . . ________ (MM/DD/YY)

2  Execution time . . . _____    (HH:MM)

3  Timeind. . . . . . . _        1 = Local   2 = GMT

4  Procedure Data
   ==> RA39TCF1 mckechni "Testing link to rs600012"_________________



PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 88. GIX Initiate Parameters Panel (SENDMSG)

Step 17. Fill in the fields of the Initiate Parameters panel according to Figure 88.

Explanation:

a. The following applies to the Procedure Data field:
   - This field holds the parameters to the procedure (ultimately to the *sendmsg* shell script).
   - What you enter in this field is exactly what will be sent with the initiate request. In particular, GIX will *not* change lowercase text to uppercase.
   - Don't enclose the field in quotes, unless you want the whole field to be passed as a single parameter. In our example, we pass three parameters: originating host name (RA39TCF1), target user ID (mckechni) and message text (`Testing link to rs600012`). The quotes around the message make it appear as one parameter to sendmsg. You can use any user ID you wish here, so long as the user has a logon ID on the server.
b. We have accepted the default values for all other attributes.

Step 18. Press Enter. This will add the function to the plan and take you back to the Create or Change a Plan panel, where you will see the new initiate software function directly after PHASE1 line.

We are now able to delete the extraneous phases and transmission functions that belong to the sample plan.

Step 19. Delete all phases and all functions that belong to the sample plan. You can delete a line by putting d in the CMD field of the line concerned, and pressing Enter.

Hint:

You can delete a contiguous group of lines by putting dd in the CMD field of the first and last line to be deleted, and pressing Enter. Therefore, the quickest way to achieve this task is to put dd in the CMD field of the first and last unwanted lines from the sample plan and press Enter.

Step 20. If you have been following these instructions faithfully, your plan should look like the one shown in Figure 89:

```
                          CREATE OR CHANGE A PLAN             ROW 1 TO 3 OF 3
Command ==>                                                        Scroll PAGE
                                                                         11:31
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD   ACTIVITY (CHANGE)

___ .PLAN(SNDMSG12) DEF(MCKECHN  94/10/15) LAST MOD(94/10/16 10:42)
___ . PHASE(PHASE1  ) NODE(RS600012-CMEP) SCHED(              )
___ .   INITIATE PROCEDURE        SEND.MESSAGE
****************************** BOTTOM OF DATA ********************************
```

Figure 89. GIX Change or Create a Plan Panel

Finally, we need to save the new plan, and validate it.

Step 21. Put save in the Command field and press Enter. Provided that there are no system problems (for example, lack of storage), the plan will be added to the NetView DM/MVS database and you will get the message:

```
PLAN HAS BEEN SAVED.
```

Step 22. Press PF3 to return to the Prepare Plans panel shown in Figure 82 on page 126.

Step 23. Put 4 (Validate) in the Selection field and press Enter to validate the plan. If you have entered the details correctly, you will get the message:

```
PLAN IS VALIDATED.
```

Step 24. Press PF3 (End) until you are returned to the Main Menu panel.

The plan is now ready for execution.

Note: We strongly recommend that you create a similar transmission plan for the preparation system and the client (rs600011 and rs60003 in our example). Initiating this procedure provides a quick way to verify that there is an end-to-end path from the focal point to a given NetView Distribution Manager/6000 system.

5.4 Getting the Procedure into the Resource Repository

The simplest way to get the procedure from the preparation site to the resource repository of NetView DM/MVS is to send it from the Catalog window of the NetView Distribution Manager/6000.

If you would like to follow what is happening in NetView Distribution Manager/6000 whilst the send request is being processed, enter the following command at the preparation system (rs600011 in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your preparation system terminal.

To send the procedure to the NetView DM/MVS resource repository, do the following:

Step 1. Log on to the preparation system as the NetView DM/6000 administrator (root, in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

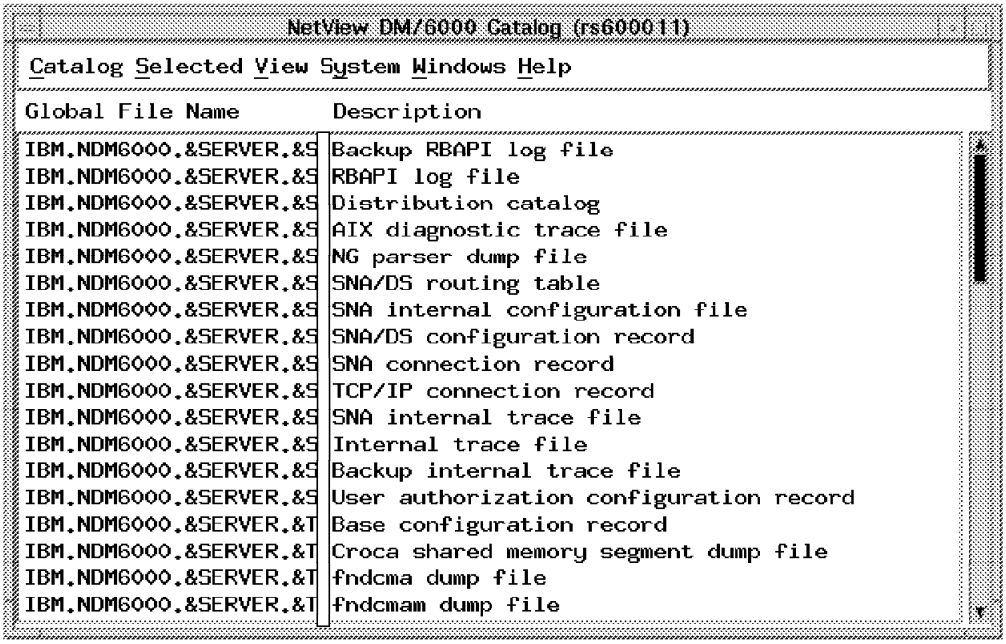

Figure 90. NetView DM/6000 Catalog Window (Preparation System)

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

Step 3. In the Catalog window (Figure 90 on page 133) select the SEND.MESSAGE object from the list of cataloged items.

Note: The catalog items are in dictionary order. Move the scroll bar down until the desired item appears.

Step 4. In the Catalog window select **Selected** from the menu bar.

Step 5. Select **Send File** from the pull-down menu. This will bring up the Send File window.

Step 6. In the Send File window, select the focal point (RA39TCF1).

Step 7. Select the **Send** push button. This will bring up the Correlators window.

Step 8. In the Correlators window, select the **OK** push button. This will return you to the Send Files window.

Step 9. In the Send Files window, select the **Close** push button. This will return you to the Catalog window.

In order to verify that the procedure transferred to NetView DM/MVS without error, you should at least check the messages from the TCP, using IOF. (The NetView DM/6000 log will also contain details of progress. See instructions above on ″tailing″ this file to your terminal while the send request is in progress.)

When you first bring up IOF, you will be presented with the Transmission Control Master Menu panel (Figure 91).

```
NDMOC010              TRANSMISSION CONTROL MASTER MENU         PAGE   1 OF   1

Select one of the following:

 1     START TRANSMISSION
 2     SCHEDULE DISPLAY AND CONTROL
 3     HOLD TRANSMISSION FOR A NODE/GROUP
 4     RELEASE TRANSMISSION FOR A NODE/GROUP
 5     QUIESCE TRANSMISSION
 6     IMMEDIATE QUIESCE TRANSMISSION
 7     END TRANSMISSION
 8     IMMEDIATE END TRANSMISSION
 9     DISCONNECT IOF
10     LOG OFF FROM IOF
11     DISPLAY/CHANGE CURTASK OR TRANSMISSION PROFILES


For selections 3, 4, 11 enter the required parameters (see Help)


Selection ===> _
PF= __  1/13=HELP                                    5/17=MSG-UNS
                                    9/21=PRINT
M=   2            STATUS=QUIESCED     TRANSM=   0  PRINTER=UNAVAIL
```

Figure 91. IOF Transmission Control Master Menu Panel

To have control over the TCP, we started it in quiesced mode. See the status field on the bottom line of Figure 129 on page 169. If this is the case, you must start the transmission. To do this, enter 1 (Start Transmission) in the Selection

field and press Enter. You will get the message REQUEST START ACCEPTED. The status should change to ″waiting″, indicating that the TCP is ready for work.

Note: The send request will not be processed whilst the TCP is quiesced. NetView Distribution Manager/6000 will retry the send request periodically.

To view the messages from the TCP, do the following:

Step 1. Press PF5 (Unseen Messages). This will bring up the Handle Unsolicited Messages panel. The contents of this panel should be similar to Figure 92, once the send request has completed successfully.

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
.
.
.
0004 12:31   NDM0834I THE NSR FROM NODE RS600011, SEQUENCE 1, ORIGIN DATE/TIME
                      941007163029, STARTED.
0005 12:31   NDM0124I FUNCTION RET PROC ENDED FOR LOGICAL UNIT RA60011B. NSR FR
                      OM NODE RS600011, SEQUENCE 1, ORIGIN DATE/TIME 9410071630
                      29, RETURN CODE N/A, TRANSMISSION BYTES 275, FUNCTION STA
                      TUS RESTARTABLE.
0006 12:31   NDM0834I THE NSR FROM NODE RS600011, SEQUENCE 1, ORIGIN DATE/TIME
                      941007163029, STARTED.
0007 12:31   NDM0124I FUNCTION RET PROC ENDED FOR LOGICAL UNIT RA60011B. NSR FR
                      OM NODE RS600011, SEQUENCE 1, ORIGIN DATE/TIME 9410071630
                      29, RETURN CODE 0, TRANSMISSION BYTES 275, FUNCTION STATU
                      S COMPLETED.
0008 12:31   NDM0835I NSR FROM NODE RS600011, SEQUENCE 1, ORIGIN DATE/TIME 9410
                      07163029, HAS ENDED.




Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 92. IOF Handle Unsolicited Message Panel (SENDMSG, Send)

If this is the first transmission between the preparation system and the focal point since the NetView DM/6000 SNA/DS connection was created, you may get an error as NetView DM/6000 initializes the counters, etc., for the connection. This will show up as sense code 085D:0005 in the IOF messages, and FNDTC089E in the NetView DM/6000 log at the preparation system. You can ignore this error.

Step 2. Message 007 shows that the procedure has been retrieved even if the object was sent from the NetView DM/6000 server. RETURN CODE 0 and FUNCTION STATUS Completed indicate that the transmission was successful.

Step 3. Press PF3 (End) to return to the Transmission Control Master Menu panel (Figure 91 on page 134).

Step 4. Putting 9 (Disconnect IOF) in the Selection field and pressing Enter will take you out of IOF without affecting the status of the TCP.

To verify that the procedure is in the NetView Distribution Manager/MVS resource repository do the following in GIX:

```
                    NETVIEW DISTRIBUTION MANAGER - MAIN MENU
Selection  ===>
                                                                        11:38
1 CONFIGURE NETWORK             Define nodes and resources, assign resources

2 BROWSE NETWORK                View list of nodes and related resources

3 MANAGE RESOURCES              Work on resources in the repository

4 PREPARE PLANS                 Define and submit transmission plans

5 MANAGE SUBMITTED PLANS        Work on plans and track their status

6 HANDLE MESSAGES               View and prepare messages

7 MANAGE GROUPS                 Work on groups of nodes and resources

8 SET PROFILES                  Define authorizations and defaults

F GO TO ISPF                    Access ISPF without ending GIX session

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 93. GIX Main Menu

Step 1. From the Main Menu panel (Figure 93), put 3 (Manage Resources) in the Selection field and press Enter. This will bring up the Manage Resources panel.

```
                          MANAGE RESOURCES                    ROW 18 TO 31 OF 31
Selection ==>                                                          Scroll PAGE
                                                                             11:54
Do you want specific resources of the type selected?  2    1 = Yes   2 = No
 (Yes = Additional selection criteria will be displayed
  No = All resources for the selected type will be displayed)
Select one of the following resource types:
        18    CATE
        19    CATU
        20    TRANSACTION
        24    MICROCODE
        26    SOFTWARE
        28    PROCEDURE
        29    FLAT DATA
        30    RELATIONAL DATA
        31    AS/400 OBJECT
        32    AS/400 CTN
        33    CONFIGURATION FILE
        34    MSDUMP
        35    TRACE INFO
        36    MSERRLOG
****************************** BOTTOM OF DATA ********************************
```

Figure 94. GIX Manage Resources Panel

Step 2. Put 28 (Procedure) in the Selection field and press Enter. This will bring up the List of Selected Resources panel. The procedure, under its global name SEND.MESSAGE, should be included in the list.

Step 3. Press PF3 (End) until you are returned to the Main Menu.

5.5 Executing the Transmission Plan

Once the procedure is in the resource repository at NetView Distribution Manager/MVS, all that remains is to submit the plan, and monitor its progress. The plan is submitted from GIX. Progress is monitored from IOF.

If you would like to follow what is happening in NetView Distribution Manager/6000 during the initiate request, enter the following command at the server (rs600012 in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your server terminal.

You must also log on at the server under the target user ID that you entered in the GIX Initiate Parameters panel (see Figure 88 on page 131). We used mckechni in our example.

When you first bring up GIX, you will be presented with the Main Menu panel (Figure 95 on page 138).

```
                    NETVIEW DISTRIBUTION MANAGER - MAIN MENU
Selection  ===>
                                                                        10:19
1 CONFIGURE NETWORK              Define nodes and resources, assign resources

2 BROWSE NETWORK                 View list of nodes and related resources

3 MANAGE RESOURCES               Work on resources in the repository

4 PREPARE PLANS                  Define and submit transmission plans

5 MANAGE SUBMITTED PLANS         Work on plans and track their status

6 HANDLE MESSAGES                View and prepare messages

7 MANAGE GROUPS                  Work on groups of nodes and resources

8 SET PROFILES                   Define authorizations and defaults

F GO TO ISPF                     Access ISPF without ending GIX session

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 95. GIX Main Menu

To submit the transmission plan, do the following:

Step 1. From the Main Menu panel (Figure 95) enter 4 (Prepare Plans) in the Selection field and press Enter. This will bring up the Prepare Plans panel.

```
                          PREPARE PLANS
Selection ===>

Enter:
Plan name  sndmsg12    Blank or partial name followed by * for full-list
Plan model PLMODEL_    Required for the CREATE option only

Select one of the following:

1 CREATE               Make a new plan
2 CHANGE               Change one of your plans
3 DELETE               Delete one of your plans from the plan library
4 VALIDATE             Check plan consistency, authorizations, and item
                         availability
5 SUBMIT               Send a plan to the TCF for transmission
6 RENAME               Change the name of one of your plans
7 PRINT/BROWSE         Obtain a printout of or browse a plan




PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 96. GIX Prepare Plans Panel

Step 2. In the Prepare Plans panel, enter 5 (Submit) in the Selection field, and sndmsg12 in the plan name field (see Figure 96).

Step 3. Press Enter. This will bring up the Submit Plan panel.

```
                        SUBMIT PLAN: SNDMSG12
 Command ==>
                                                                        10:20

 Enter:

 New name of plan ________   New plan name on TCF
                               (Leave blank to keep the same name)




 Tracking information:

 Number of phases  . .: 1               Recursive plan . . .
: No
 Start time delay  . .:                 Planner ID . . . . .
: MCKECHN
 Submitter name  . . .: MCKECHN
 Plan notes           :

 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                  12=CURSOR
```

Figure 97. GIX Submit Plan Panel (SNDMSG12)

Step 4. In the Submit Plan panel, overwrite the Name of new plan field with the new name or leave it blank to keep the same name (see Figure 97).

Explanation:

The name you put in this field is the name that the plan is submitted under, and the name that will appear in the TCP messages in IOF. You can submit the same plan many times, so long as you submit it under a different name each time. You can also purge old submitted plans in GIX.

Step 5. Press Enter to submit the plan. If you have entered a valid plan name, for example, a plan of the same name has not been submitted already, you will be returned to the Prepare Plans panel with the message:

```
PLAN SUBMITTED.
```

Step 6. Press PF3 (End) until you are returned to the Main Menu panel.

The plan is now submitted to the Transmission Control Program (TCP).

Next you must interact with the TCP using the Interactive Operator Facility (IOF) in order to release the phases and view the progress messages.

When you first bring up IOF, you will be presented with the Transmission Control Master Menu panel (Figure 98 on page 140).

```
NDMOC010              TRANSMISSION CONTROL MASTER MENU         PAGE   1 OF   1

Select one of the following:

 1     START TRANSMISSION
 2     SCHEDULE DISPLAY AND CONTROL
 3     HOLD TRANSMISSION FOR A NODE/GROUP
 4     RELEASE TRANSMISSION FOR A NODE/GROUP
 5     QUIESCE TRANSMISSION
 6     IMMEDIATE QUIESCE TRANSMISSION
 7     END TRANSMISSION
 8     IMMEDIATE END TRANSMISSION
 9     DISCONNECT IOF
10     LOG OFF FROM IOF
11     DISPLAY/CHANGE CURTASK OR TRANSMISSION PROFILES


For selections 3, 4, 11 enter the required parameters (see Help)


Selection ===> _
PF= __  1/13=HELP                                  5/17=MSG-UNS
                                    9/21=PRINT
M=   2            STATUS=QUIESCED     TRANSM=   0  PRINTER=UNAVAIL
```

Figure 98. IOF Transmission Control Master Menu Panel

When IOF is brought up for the first time after the TCP has been started, the status will be ″quiesced″ (see Status field on bottom line of Figure 98). If this is the case, you must start transmission. To do this, enter 1 (Start Transmission) in the Selection field and press Enter. You will get the message REQUEST START ACCEPTED. The status should change to ″running″, indicating that the TCP is running your plan.

To monitor plan progress, do the following:

Step 1. From the Transmission Control Master Menu panel (Figure 98), press PF5 (Unseen Messages). This will bring up the Handle Unsolicited Messages panel. The contents of this panel should be similar to Figure 99 on page 141, once the phase has completed successfully.

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
.
.
.
0002 10:20   NDM0402S PLAN SNDMSG12 HAS BEEN SUBMITTED.
0003 10:20   NDM0853I THE SNA SESSION IS ACTIVATED FOR LOGICAL UNIT RA60012B AN
                      D LOGMODE NVDMNORM.
0004 10:20   NDM0034I PHASE SNDMSG12 PHASE1 STARTED FOR NODE RS600012.
0005 10:20   NDM0106I FUNCTION INI PROC ENDED FOR LOGICAL UNIT RA60012B. PHASE
                      SNDMSG12 PHASE1, NODE RS600012, RETURN CODE 0, TRANSMISSI
                      ON BYTES 275, FUNCTION STATUS PENDING.
0006 10:20   NDM0836I THE SNA SESSION IS DEACTIVATED FOR LOGICAL UNIT RA60012B
                      AND LOGMODE NVDMNORM.
0007 10:21   NDM0034I PHASE SNDMSG12 PHASE1 STARTED FOR NODE RS600012.
0008 10:21   NDM0106I FUNCTION INI PROC ENDED FOR LOGICAL UNIT RA60012B. PHASE
                      SNDMSG12 PHASE1, NODE RS600012, RETURN CODE 0, TRANSMISSI
                      ON BYTES 275, FUNCTION STATUS COMPLETED.
0009 10:21   NDM0035I PHASE SNDMSG12 PHASE1 ENDED FOR NODE RS600012.


Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   2            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 99. TCP Handle Unsolicited Messages Panel (SENDMSG Initiate)

As the TCP message 008 indicates, Phase 1 has completed successfully.

If this is the first transmission between the server and the focal point since the NetView DM/6000 SNA/DS connection was created, you may get an error as NetView DM/6000 initializes the counters, etc., for the connection. This will show up as sense code 085D:0005 in the IOF messages, and FNDTC089E in the NetView DM/6000 log at the server. You can ignore this error.

Step 2. Press PF3 (End) to return to the Transmission Control Master Menu panel (Figure 98 on page 140).

Step 3. Putting 9 (Disconnect IOF) in the Selection field and pressing Enter will take you out of IOF without affecting the status of the TCP.

Step 4. At the server terminal where you logged on as the target user (mckechni, in our example), type `mail` on the AIX command line. You should receive a message similar to:

```
Mail [5.2 UCB] [AIX 3.2]  Type ? for help.
"/usr/spool/mail/mckechni": 1 message 1 new
>N  1 root     Mon Oct 10 10:19  11/342 "NetView DM Message from RA39T"
&
```

Select the mail number you want to see ("1" in this example):

```
& 1
Message  1:
From root Mon Oct 10 10:19:57 1994
Date: Mon, 10 Oct 1994 10:19:55 -0400
From: root
To: mckechni
Subject: NetView DM Message from RA39TCF1

Testing link to rs600012
```

Chapter 6. Install AIX LPP on NetView DM/6000 Client and Rollback (NetView DM/MVS Initiated)

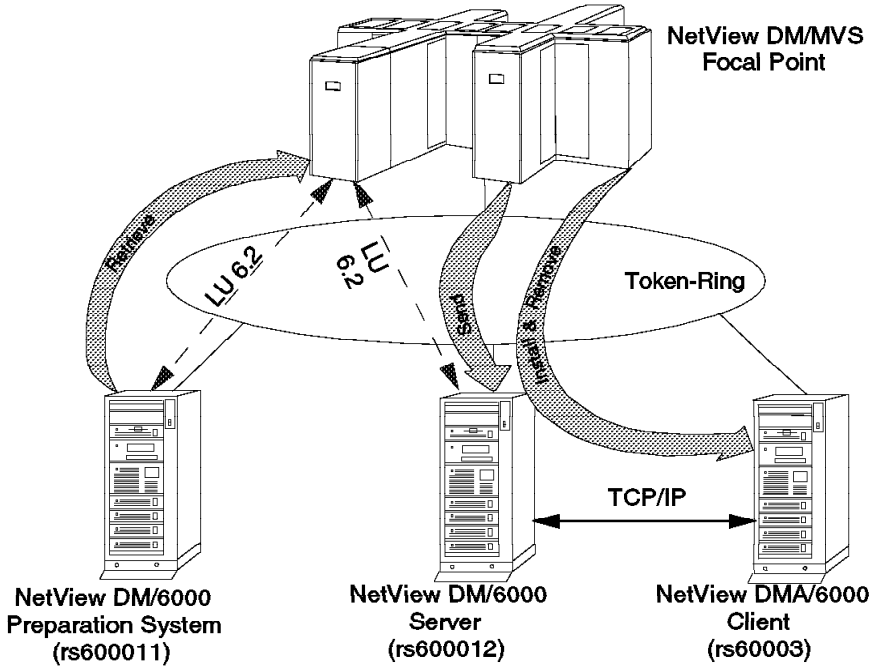

Figure 100. Scenario I CM Activity - Install AIX LPP on NetView DM/6000 Client and Rollback

In this example we perform the following change management activities on an AIX LPP (installp) package:

- Retrieve the file from the preparation system to the focal point (NetView Distribution Manager/MVS).
- Send the file from the focal point to the server (rs600012).
- Install the file (removably) on the client system (rs60003).
- Remove the file from the client system.

All change management activities are initiated from the focal point. Change management requests destined for the client (rs60003) are distributed through the server (rs600012).

We have chosen to use HCF (Host Command Facility) as the LPP to install, for no special reason other than it is in installp format but at the same time small enough (about a megabyte) to transmit over a LAN in under a minute.

The work is divided into three main tasks:

- Building a change file on the preparation system (rs600011)
- Creating the transmission plan on the NetView Distribution Manager/MVS system

- Executing the transmission plan on the NetView Distribution Manager/MVS system

6.1 Building the Change File

Before building the change file, you must first choose the *global name* that you are going to give it. There are strict rules governing the format and composition of this name. These are described in 1.6, “SNA/FS Conventions for Global Names” on page 16.

In this example, we have chosen the global name:

```
IBM.HCF.USR.REF.0.1.2.0.0
```

You will recall from 1.6.2, “Special Rules for Change Files” on page 17 that a change name is made up of three parts, *component name*, *change name* and *version*.

The component name is IBM.HCF.USR. IBM is the producing enterprise. HCF.USR is the product (the LPP contains the user part of HCF).

The change name is REF.0. It is a completely new version of the product (not an update or fix), and therefore a refresh, represented by REF in the change name. The installp image for HCF that we were working with had no maintenance level; therefore we set level to 0 in the change name.

We have used the version field to denote the installp level of the product (1.2.0.0).

Note: Strictly speaking, the version field should be set to the specific environment that this product is intended for, if the product is available for more than one environment, or left blank (see 1.6.2, “Special Rules for Change Files” on page 17). It would have been more correct if we had set the level in the change name to 1.2.0.0 and left the version blank. In this case, the global name would have become `IBM.HCF.USR.REF.1.2.0.0`.

Finding the Maintenance Level of AIX installp Files

On AIX V 3.2.3 (and greater), you can get the maintenance of an installp image with the **-m** option of the `lslpp` command. For instance, if the image is sna.sna.obj, and is stored on disk in the directory /usr/sys/inst.images, you can get the maintenance level by entering the following command:

```
lslpp -m /usr/sys/inst.images/sna.sna.obj
```

To build the change file, do the following:

Step 1. Log on to the preparation system at a graphics terminal as the builder (mckechni in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window (Figure 101 on page 145).

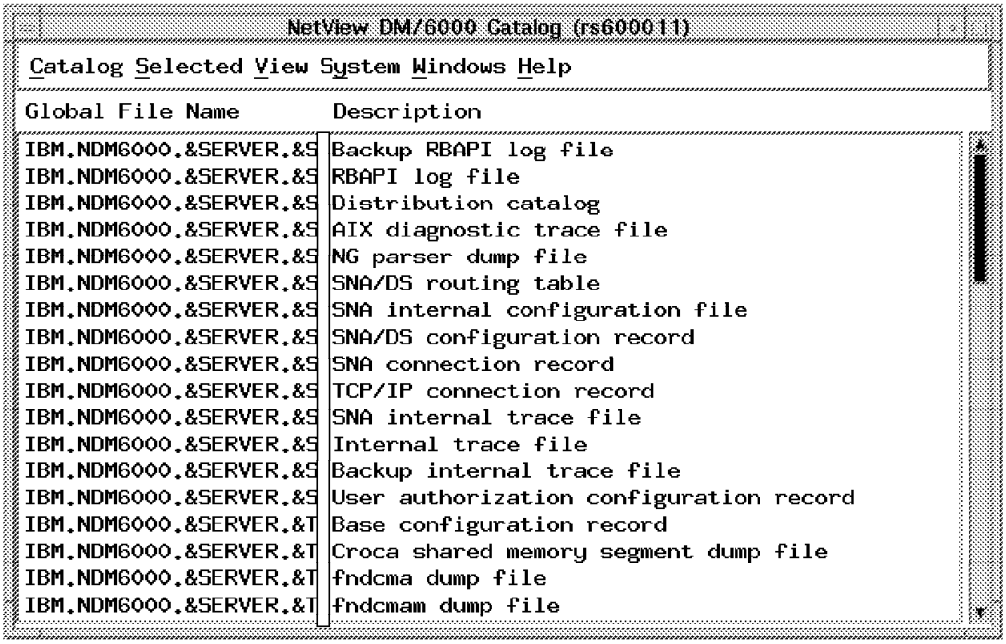

Figure 101. NetView DM/6000 Catalog Window (Preparation System)

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

Step 3. In the Catalog window (Figure 101) select **Catalog** from the menu bar.

Step 4. Select **New** from the pull-down menu.

Step 5. Select **Change file** from the cascaded menu.

Step 6. Select **Refresh** from the cascaded menu and the Change File Type window will open (Figure 102).

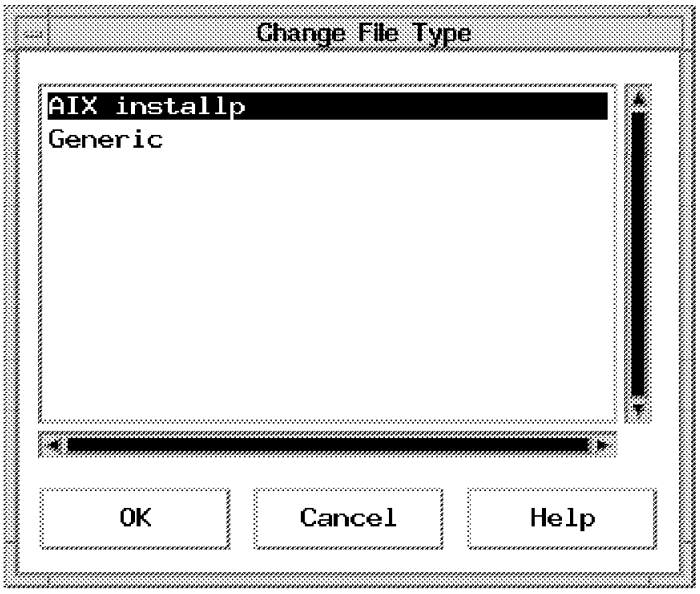

Figure 102. NetView DM/6000 Change File Type Window (Preparation System)

Step 7. Select **AIX installp**.

Step 8. Select the **OK** push button. After a short delay, a Change File window will open.

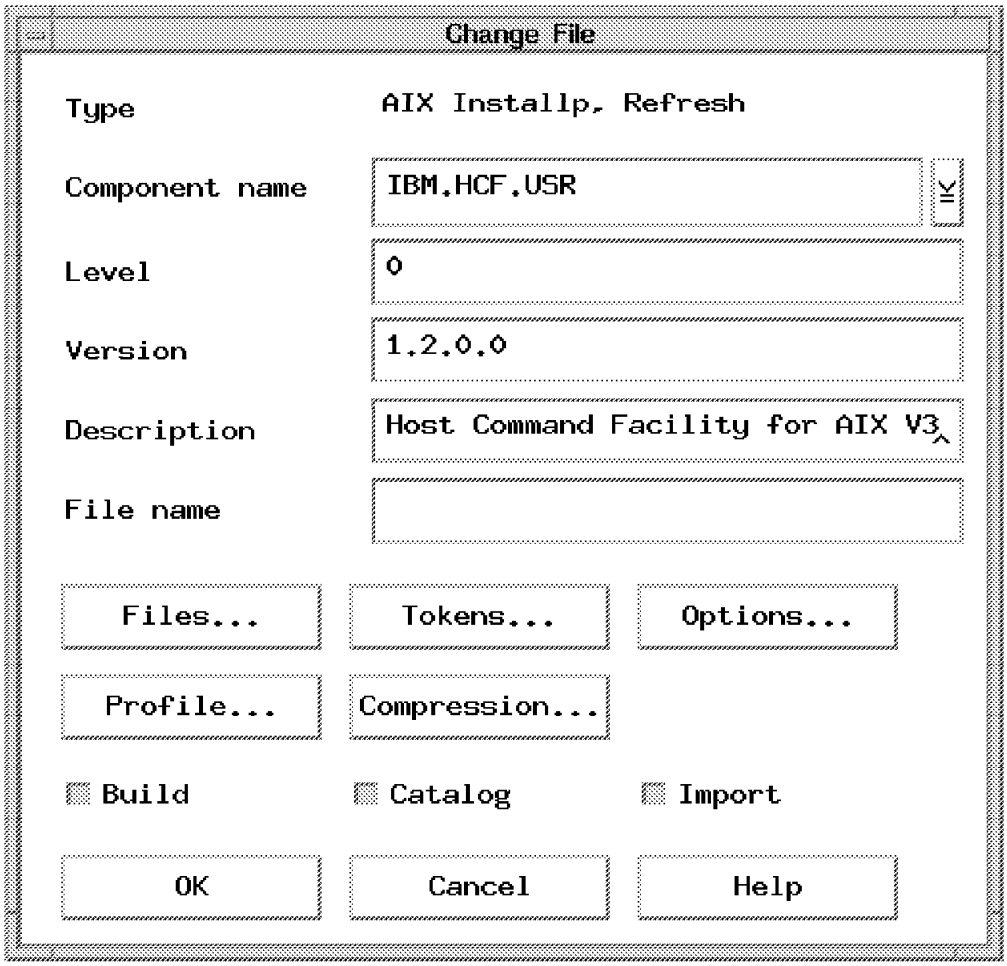

Figure 103. NetView DM/6000 Change File (AIX Installp, Refresh) Window (Preparation System)

Step 9. Fill in the fields according to Figure 103.

Explanation:

a. You will recall from 1.6.2, “Special Rules for Change Files” on page 17 that the global filename is made up of three parts: component name, change name and version. The Component Name field in this panel represents the component name part. The Level field represents the level within the change name part (REF is implied because we chose **refresh** in step 6 on page 145). The Version field represents the version part.

b. The derived global filename (IBM.HCF.USR.REF.0.1.2.0.0) must match the Resource Name in each of the Software Qualifiers panels when creating the transmission plan (see Figure 116 on page 157, Figure 117 on page 158, Figure 119 on page 160 and Figure 123 on page 164).

Next, we must specify the list of installp images that comprise the package.

Step 10. Select the **Files** push button and the Files in Installp Change File window will open (Figure 104 on page 147).

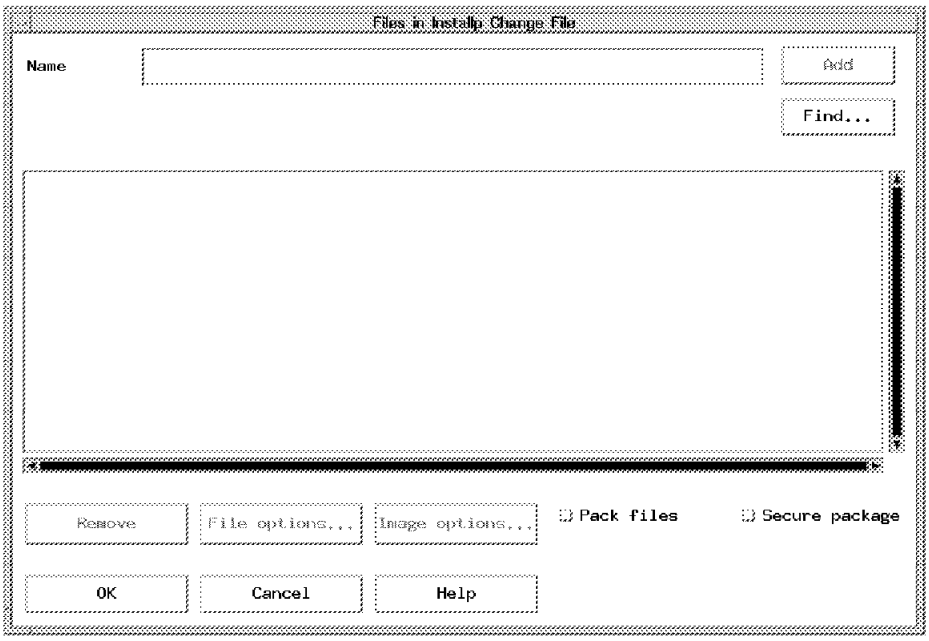

Figure 104. NetView DM/6000 Files in Installp Change File Window (Preparation System)

Rather than typing the filename(s) in explicitly, and possibly getting them wrong, we suggest that you use the find facility.

Step 11. Select the **Find** push button and the Find Files to Add to Change File window will open (Figure 105 on page 148).

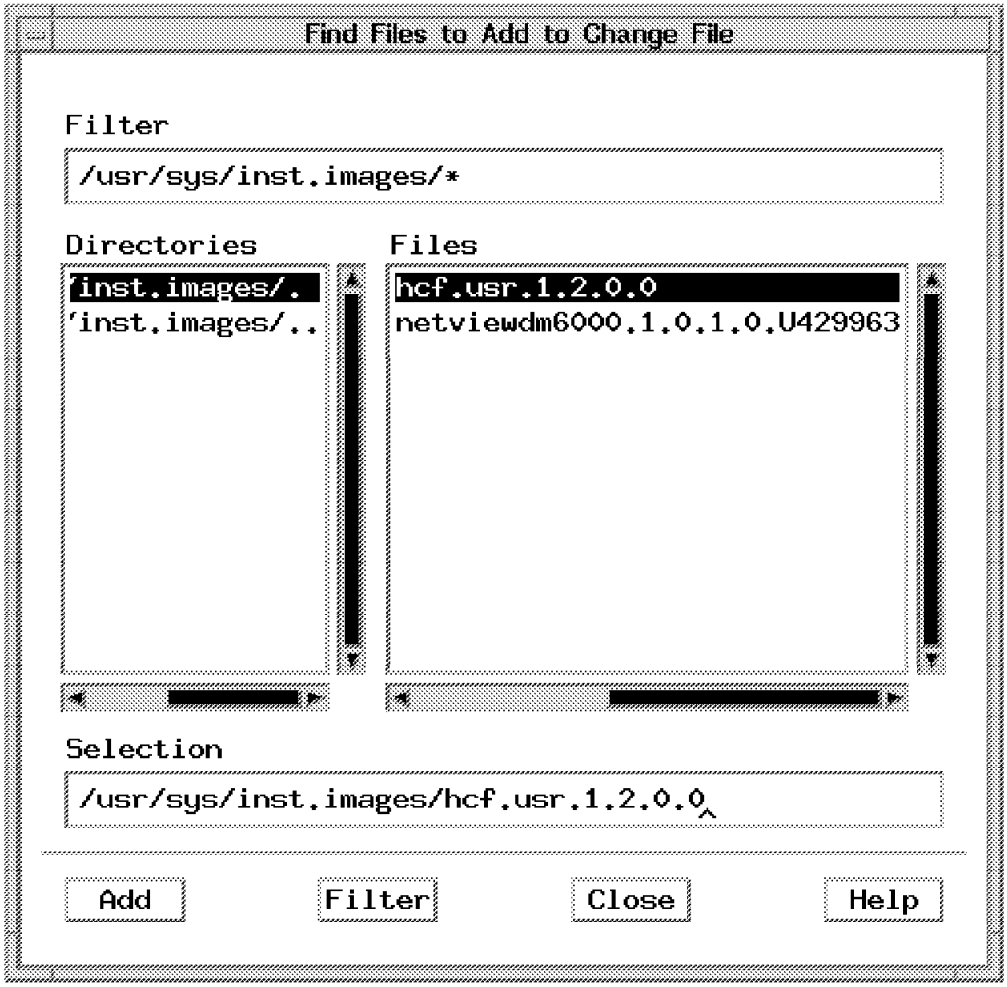

Figure 105. NetView DM/6000 Find Files to Add to Change File Window (Preparation System)

Step 12. Select the Filter field and overwrite the contents with /usr/sys/inst.images/*.

Explanation:

We have stored the installp image in /usr/sys/inst.images. You may prefer to store it elsewhere. Substitute the name of your own directory.

Step 13. Select the **Filter** push button. The Find Files to Add to Change File window will be updated to reflect the contents of the /usr/sys/inst.images/* directory (Figure 105).

Step 14. Select the first desired file (hcf.usr.1.2.0.0 in our example). The selection field will be updated with the full path of the selected file (Figure 105).

Step 15. Select the **Add** push button to add the file to the Name field in the Files in Installp Change File window.

Step 16. Repeat steps 14 to 15 for any additional installp images you wish to include in the change file.

Step 17. Select the **Close** push button to return to the Files in Installp Change File window, updated with the selected file (Figure 106 on page 149).

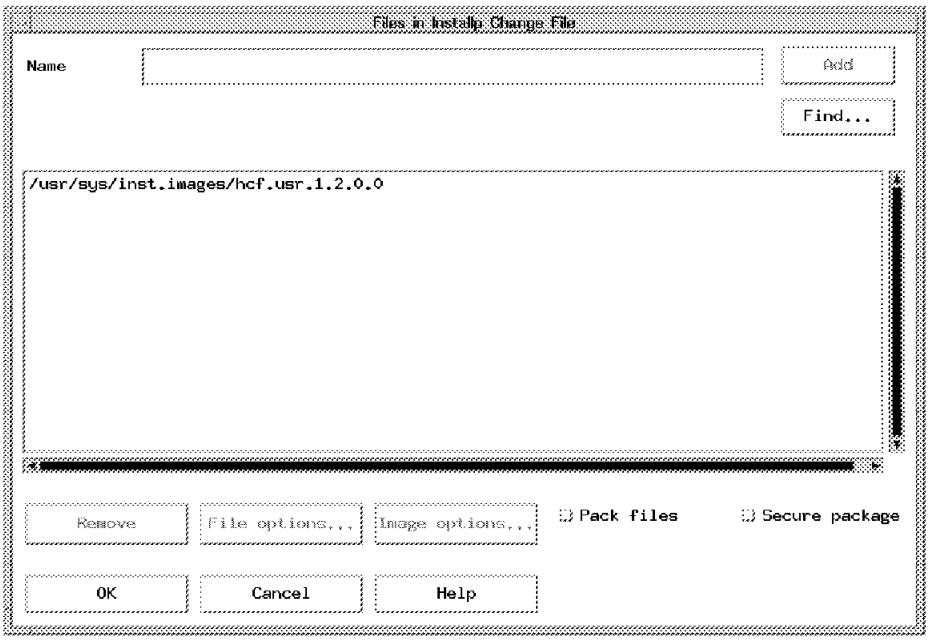

Figure 106. NetView DM/6000 Updated Files in Installp Change File Window (Preparation System)

Step 18. For installp images that have several options to install, you can mark the file entry and press the **Image Options...** button.

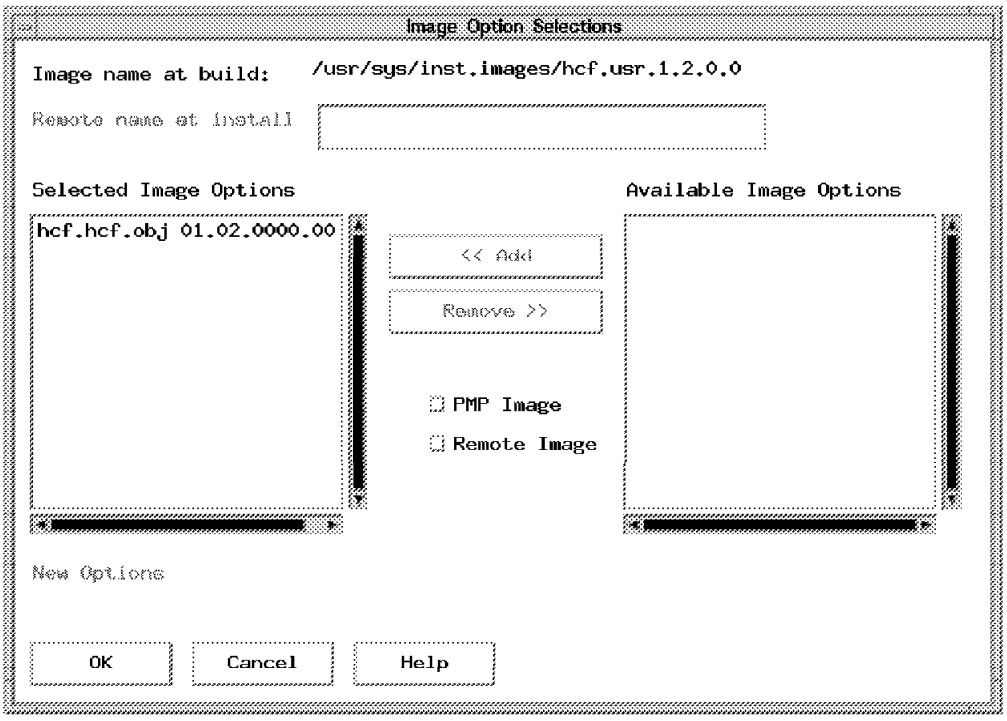

Figure 107. Image Option Selection

Step 19. This installp image has only one option that has to be selected. We press **OK** to get back to the panel shown in Figure 106.

Note: You will find an example of a Remote Image in 6.4, “Installing the Change File from a Remote Directory” on page 182.

Step 20. Select the **OK** push button to return to the Change File window (Figure 103 on page 146).

We are now ready to build and catalog the change file.

Step 21. Ensure that the **Build**, **Catalog** and **Import** buttons are all selected (that is, in the ″in″ position) to signify that you wish to build and catalog the change file, importing the installp image(s) selected previously.

Step 22. Select the **OK** push button to make the changes effective. You will be returned to the Catalog window with the change file added to the list of cataloged objects (Figure 108).

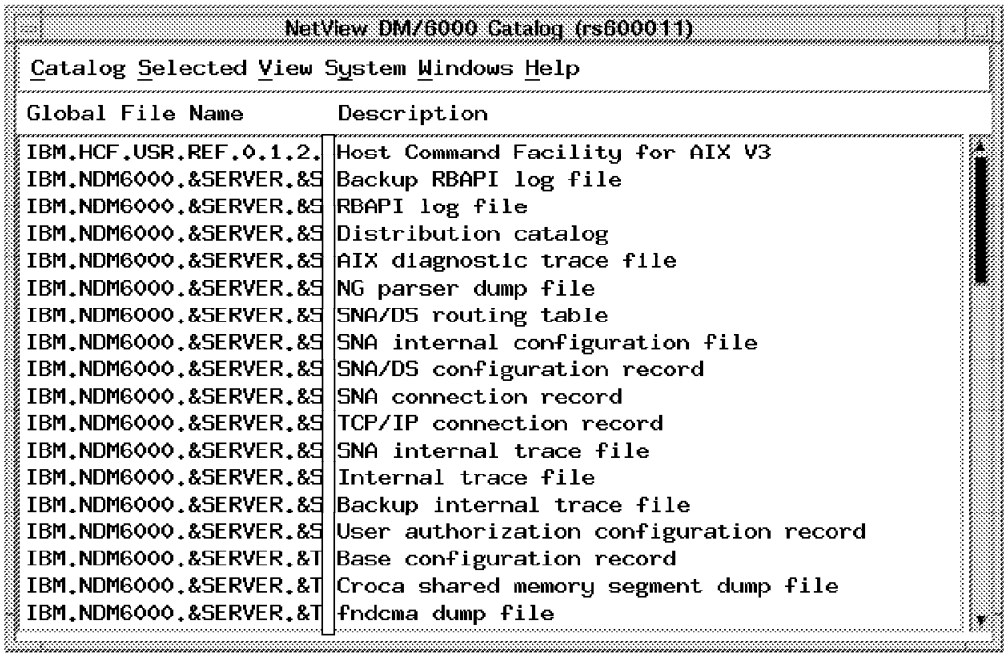

Figure 108. NetView DM/6000 Catalog Window with Change File Added (Preparation System)

6.2 Creating the Transmission Plan

We will prepare for two transmission plans. The first plan called HCFINST will:

- Retrieve the file from the preparation system (rs600011) to the focal point.
- Send the file from the focal point to the server (rs600012).
- Install the file (removably) on the client system (rs60003).

The second plan called HCFREMV will:

- Remove the file from the client system.

When you first bring up GIX, you will be presented with the Main Menu panel (Figure 109 on page 151).

```
                    NETVIEW DISTRIBUTION MANAGER - MAIN MENU
Selection  ===>
                                                                        17:36
1 CONFIGURE NETWORK              Define nodes and resources, assign resources

2 BROWSE NETWORK                 View list of nodes and related resources

3 MANAGE RESOURCES               Work on resources in the repository

4 PREPARE PLANS                  Define and submit transmission plans

5 MANAGE SUBMITTED PLANS         Work on plans and track their status

6 HANDLE MESSAGES                View and prepare messages

7 MANAGE GROUPS                  Work on groups of nodes and resources

8 SET PROFILES                   Define authorizations and defaults

F GO TO ISPF                     Access ISPF without ending GIX session

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 109. GIX Main Menu

To create the transmission plan, do the following:

Step 1. From the Main Menu panel (Figure 109) enter 4 (Prepare Plans) in the Selection field and press Enter. This will bring up the Prepare Plans panel.

```
                         PREPARE PLANS
Selection ===> 1
                                                                        17:36
Enter:
Plan name  hcfinst_    Blank or partial name followed by * for full-list
Plan model PLMODEL_    Required for the CREATE option only

Select one of the following:

1 CREATE               Make a new plan
2 CHANGE               Change one of your plans
3 DELETE               Delete one of your plans from the plan library
4 VALIDATE             Check plan consistency, authorizations, and item
                         availability
5 SUBMIT               Send a plan to the TCF for transmission
6 RENAME               Change the name of one of your plans
7 PRINT/BROWSE         Obtain a printout of or browse a plan




PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 110. Prepare Plans GIX Panel

Step 2. In the Prepare Plans panel, enter 1 (Create) in the Selection field, and hcfinst in the Plan name field (see Figure 110).

Step 3. Press Enter. This will bring up the Create or Change a Plan panel.

GIX presents you with a sample plan for you to customize. We do not need any of the phases and functions already present in this sample plan, but we cannot delete them until we have created at least one phase and function of our own. The next thing we wish to do is to add a new retrieve phase. As explained in 2.5, "Using GIX to Create Transmission Plans" on page 23, to create a new phase we must copy and tailor an existing phase.

Step 4. Choose any phase in the sample plan and place C (Copy) in the CMD field.

Step 5. Put A (After) in the CMD field of the Plan name line (the first line).

Step 6. Press Enter. A new Phase line is inserted after the Plan name line.

Step 7. Select the new Phase line by putting S (Select) in the CMD field and pressing Enter. This will bring up the Specify Phase Attributes of Plan panel.

```
                  SPECIFY PHASE ATTRIBUTES OF PLAN: HCFINST
Command ==>

Enter desired values or accept the ones shown:

 1 Phase name  . . . . . PHASE1__  Required (must be unique in the plan)
 2 Node name . . . . . . RS600011  Required if field 3 is not specified
 3 Group of nodes  . . . ________  Required if field 2 is not specified
 4 Scheduling  . . . . . ________ _____  Date and time (YY/MM/DD HH:MM)
 5 Cut off . . . . . . . _____    _____  Time or interval (HH:MM)
 6 Hold option . . . . . 1         1 = Yes   2 = No
 7 Conditioning phase. . ________  Fields 7, 8 and 9 are a logical entity
 8 Conditioning criteria _         1 = Greater or equal to value in field 9
                                   2 = Less or equal to value in field  9
 9 Conditioning value  . __        Any integer from 1 to 99
10 Conditioning mode . . _         1 = All   2 = Single
11 Termination value . . 00        Any integer from 0 to 99
12 Batch job name. . . . ________  Fields 11 and 12 are a logical entity
13 Batch job submission
   conditioning value. . __        Any integer from 0 to 99
14 PHASE NOTES . . ==>

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 111. Specify Phase Attributes of Plan GIX Panel for Phase 1

Step 8. Fill in the fields of the Specify Phase Attributes of Plan panel according to Figure 111.

Explanation:

a. We have chosen to call this, the first phase, PHASE1 for ease of reference. This is the name that the phase will appear as in the TCP messages in IOF.
b. Node name (RS600011) is the name given to the preparation system node when it was created (see Figure 72 on page 103).
c. We have elected to have the plan held when it is submitted by setting Hold option to 1 (yes). Holding the phase gives you more control over plan execution, and is especially useful where the plan is ad-hoc, multi-phasic or you are not a NetView DM/MVS expert.

d. We have accepted the default values for all other attributes.

Step 9. Press Enter. This will bring up the Phase Parameters panel (Figure 112).

```
                              PHASE PARAMETERS
Command ==>
                                                                        17:31


Enter desired value or accept the one shown:

14 Track option 1          1 = Yes  2 = No









 Tracking information:
   Plan: HCFINST          Phase: PHASE1


PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 112. Phase Parameters GIX Panel

Step 10. Press Enter to accept the default tracking information. This will add the phase to the plan and take you back to the Create or Change a Plan panel, where you will see your new phase directly after the Plan name line.

We will now create the phases for the send, install and remove change management activities.

Step 11. Put C (Copy) in the CMD field of the PHASE1 line.

Step 12. Put B (Before) in the CMD field of the line immediately following the PHASE1 line.

Step 13. Press Enter. A new Phase line is inserted after the PHASE1 line.

Step 14. Select the new Phase line by putting S (Select) in the CMD field and pressing Enter. This will bring up the Specify Phase Attributes of Plan panel.

```
                SPECIFY PHASE ATTRIBUTES OF PLAN: HCFINST
Command ==>

Enter desired values or accept the ones shown:

 1 Phase name  . . . . . PHASE2__  Required (must be unique in the plan)
 2 Node name . . . . . . RS600012  Required if field 3 is not specified
 3 Group of nodes  . . . ________  Required if field 2 is not specified
 4 Scheduling  . . . . . ________ _____  Date and time (YY/MM/DD HH:MM)
 5 Cut off . . . . . . . _____   _____  Time or interval (HH:MM)
 6 Hold option . . . . . 1         1 = Yes   2 = No
 7 Conditioning phase. . PHASE1__  Fields 7, 8 and 9 are a logical entity
 8 Conditioning criteria 2         1 = Greater or equal to value in field 9
                                   2 = Less or equal to value in field  9
 9 Conditioning value  . 04        Any integer from 1 to 99
10 Conditioning mode . . _         1 = All   2 = Single
11 Termination value . . 00        Any integer from 0 to 99
12 Batch job name. . . . ________  Fields 11 and 12 are a logical entity
13 Batch job submission
   conditioning value. . __        Any integer from 0 to 99
14 PHASE NOTES . . ==>

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 113. Specify Phase Attributes of Plan GIX Panel for Phase 2

Step 15. Fill in the fields of the Specify Phase Attributes of Plan panel according to Figure 113.

Explanation:

a. We have chosen to call this, the second phase, PHASE2 for ease of reference. This is the name that the phase will appear as in the TCP messages in IOF.
b. Node name (RS600012) is the name given to the server node when it was created (see Figure 74 on page 105).
c. We have elected to have the plan held when it is submitted by setting Hold option to 1 (yes). Holding the phase gives you more control over plan execution, and is especially useful where the plan is ad-hoc, multi-phasic or you are not a NetView DM/MVS expert.
d. Conditioning phase (PHASE1) is the name given to phase 1 when it was created (see Figure 111 on page 152).
e. By setting Conditioning phase to PHASE1, Conditioning criteria to 2 (less than or equal to) and Conditioning value to 4, phase 2 will not start unless the return code from phase 1 is less than or equal to 4.
f. We have accepted the default values for all other attributes.

Step 16. Press Enter. This will bring up the Phase Parameters panel.

Step 17. Press Enter to accept the default tracking information. This will add the phase to the plan and take you back to the Create or Change a Plan panel.

Step 18. Put C (Copy) in the CMD field of the PHASE2 line.

Step 19. Put B (Before) in the CMD field of the line immediately following the PHASE2 line.

Step 20. Press Enter. A new Phase line is inserted after the PHASE2 line.

Step 21. Select the new Phase line by putting S (Select) in the CMD field and pressing Enter. This will bring up the Specify Phase Attributes of Plan panel.

```
                SPECIFY PHASE ATTRIBUTES OF PLAN: HCFINST
Command ==>

Enter desired values or accept the ones shown:

 1 Phase name  . . . . . PHASE3__  Required (must be unique in the plan)
 2 Node name . . . . . . RS60003_  Required if field 3 is not specified
 3 Group of nodes  . . . ________  Required if field 2 is not specified
 4 Scheduling  . . . . . ________ _____  Date and time (YY/MM/DD HH:MM)
 5 Cut off . . . . . . . _____    _____  Time or interval (HH:MM)
 6 Hold option . . . . . 1         1 = Yes   2 = No
 7 Conditioning phase. . PHASE2__  Fields 7, 8 and 9 are a logical entity
 8 Conditioning criteria 2         1 = Greater or equal to value in field 9
                                   2 = Less or equal to value in field  9
 9 Conditioning value  . 04        Any integer from 1 to 99
10 Conditioning mode . . _         1 = All   2 = Single
11 Termination value . . 00        Any integer from 0 to 99
12 Batch job name. . . . ________  Fields 11 and 12 are a logical entity
13 Batch job submission
   conditioning value. . __        Any integer from 0 to 99
14 PHASE NOTES . . ==>

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 114. Specify Phase Attributes of Plan GIX Panel for Phase 3

Step 22. Fill in the fields of the Specify Phase Attributes of Plan panel according to Figure 114.

Explanation:

a. We have chosen to call this, the third phase, PHASE3 for ease of reference. This is the name that the phase will appear as in the TCP messages in IOF.
b. Node name (RS60003) is the name given to the client node when it was created (see Figure 76 on page 107).
c. We have elected to have the plan held when it is submitted by setting Hold option to 1 (yes). Holding the phase gives you more control over plan execution, and is especially useful where the plan is ad-hoc, multi-phasic or you are not a NetView DM/MVS expert.
d. Conditioning phase (PHASE2) is the name given to phase 2 when it was created (see Figure 113 on page 154).
e. By setting Conditioning phase to PHASE2, Conditioning criteria to 2 (less than or equal to) and Conditioning value to 4, phase 3 will not start unless the return code from phase 2 is less than or equal to 4.
f. We have accepted the default values for all other attributes.

Step 23. Press Enter. This will bring up the Phase Parameters panel

Step 24. Press Enter to accept the default tracking information. This will add the phase to the plan and take you back to the Create or Change a Plan panel.

Now that we have created the phases, we can add the transmission functions to each phase.

Step 25. Put I in the CMD field of the PHASE1 line to add a transmission function to the plan.

Step 26. Press Enter. This will bring up the Function Resource Selection panel (Figure 115).

```
          FUNCTION RESOURCE SELECTION (NODE:NDM6,PLAN:HCFINST) Row 1 to 9 of 9
Selected function ==>

Selected resource ==>                                          SCROLL==> PAGE
                                                                       17:41
Select the following:

Functions Types            Resources Types
1   SEND                   1   MICROCODE
2   RETRIEVE               2   SOFTWARE
3   DELETE                 3   PROCEDURE
4   INITIATE               4   FLAT DATA
5   INSTALL                5   RELATIONAL DATA
6   REMOVE                 6   CONFIGURATION FILE
7   UNINSTALL              7   MSDUMP
8   ACCEPT                 8   TRACE INFO
9   ACTIVATE NODE          9   MSERRLOG
****************************** Bottom of data ********************************
```

Figure 115. Function Resource Selection GIX Panel

Step 27. Put 2 (Retrieve) in the Selected function field and 2 (Software) in the Selected resource field.

Step 28. Press Enter. This will bring up the Software Qualifiers panel.

```
                  SOFTWARE QUALIFIERS (PLAN: HCFINST)
 Command ==>
                                                                        17:43
 Enter desired values or accept the ones shown:

 1 Resource name
 ==> IBM.HCF.USR.REF.0.1.2.0.0                                        <==
 2 Group name . . . . . . . ________  Required if field 1 not specified

 3 Matching indicators ==>
                                     L = Low   H = High  I = Ignore
 4 Netid. . . . . . . . . . __       Any integer from 2 to 10
 5 Netlu. . . . . . . . . . __       Any integer from 2 to 10
 6 Bydestid . . . . . . . . 2        1 = Yes   2 = No

 7 Resource status. . . . . 0        0 = As is, 1 = compressed
                                          2 = not compressed
  Tracking information:
    Activity: CHANGE        Phase .
: PHASE1        Node: RS600011

 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                  12=CURSOR
```

Figure 116. Software Qualifiers GIX Panel for Retrieve from rs600011

Step 29. Fill in the fields of the Software Qualifiers panel according to Figure 116.

Explanation:

Resource name is set to the global name chosen in 6.1, “Building the Change File” on page 144, and entered in the Catalog Data panel (see Figure 103 on page 146).

We have accepted the default values for all other attributes.

Step 30. Press Enter. This will add the transmission function to the plan and take you back to the Create or Change a Plan panel, where you will see the new retrieve software function directly after the PHASE1 line.

Step 31. Put I in the CMD field of the PHASE2 line to add a transmission function to the plan.

Step 32. Press Enter. This will bring up the Function Resource Selection panel (Figure 115 on page 156).

Step 33. Put 1 (Send) in the Selected function field and 2 (Software) in the Selected resource field.

Step 34. Press Enter. This will bring up the Software Qualifiers panel.

```
                    SOFTWARE QUALIFIERS (PLAN: HCFINST)
Command ==>
                                                                        17:44
Enter desired values or accept the ones shown:

1 Resource name
==> IBM.HCF.USR.REF.0.1.2.0.0                                          <==
2 Group name . . . . . . . _________  Required if field 1 not specified

3 Matching indicators ==>
                                      L = Low   H = High  I = Ignore
4 Track option . . . . . . 2          1 = Yes   2 = No
5 Netid. . . . . . . . . . __         Any integer from 2 to 10
6 Netlu. . . . . . . . . . __         Any integer from 2 to 10
7 Bydestid . . . . . . . . 2          1 = Yes   2 = No

 Tracking information:
   Activity: CHANGE
   Phase . : PHASE2          Node: RS600012

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 117. Software Qualifiers GIX Panel for Send to rs600012

Step 35. Fill in the fields of the Software Qualifiers panel according to Figure 117.

Explanation:

a. Resource name is set to the global name chosen in 6.1, “Building the Change File” on page 144, and entered in the Catalog Data panel (see Figure 103 on page 146).
b. We have accepted the default values for all other attributes.

Step 36. Press Enter. This will bring up the Send Parameters panel.

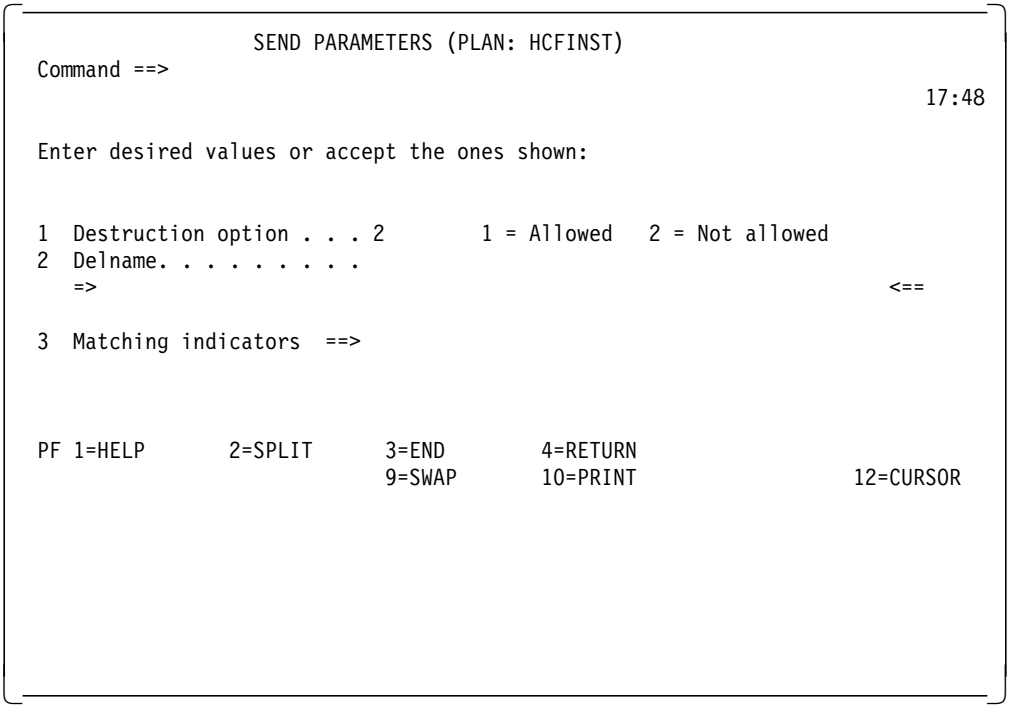

Figure 118. Send Parameters GIX Panel

Step 37. Fill in the fields of the Send Parameters panel according to Figure 118.

Explanation:

a. We have accepted the default values for all attributes in this panel.
b. By leaving Destruction option at 2 (destruction not allowed), we have elected not to overwrite the change file at the server if it already exists.

Step 38. Press Enter. This will add the transmission function to the plan and take you back to the Create or Change a Plan panel, where you will see the new send software function directly after the PHASE2 line.

Step 39. Put I in the CMD field of the PHASE3 line to add a transmission function to the plan.

Step 40. Press Enter. This will bring up the Function Resource Selection panel (Figure 115 on page 156).

Step 41. Put 5 (Install) in the Selected function field and 2 (Software) in the Selected resource field.

Step 42. Press Enter. This will bring up the Software Qualifiers panel.

```
                    SOFTWARE QUALIFIERS (PLAN: HCFINST)
Command ==>

Enter desired values or accept the ones shown:
1 Resource name
==> IBM.HCF.USR.REF.0.1.2.0.0                                        <==
2 Group name . . . . . . . _________  Required if field 1 not specified

3 Matching indicators ==>
                                     L = Low   H = High  I = Ignore
4 Send option. . . . . . . . 2         1 = Yes   2 = No
5 Track option . . . . . . . 1         1 = Yes   2 = No
6 Netid. . . . . . . . . . . __        Any integer from 2 to 10
7 Netlu. . . . . . . . . . . __        Any integer from 2 to 10
8 Bydestid . . . . . . . . . 2         1 = Yes   2 = No
                                                                    17:50
 Tracking information:
   Activity: CHANGE
   Phase . : PHASE3          Node: RS60003

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 119. Software Qualifiers GIX Panel for Install on rs60003

Step 43. Fill in the fields of the Software Qualifiers panel according to Figure 119.

Explanation:

a. Resource name is set to the global name chosen in 6.1, “Building the Change File” on page 144, and entered in the Catalog Data panel (see Figure 103 on page 146).
b. We have left Send option as 2 (no) because we have elected to send the file explicitly in a separate phase of the plan (phase 2).
c. We have accepted the default values for all other attributes.

Step 44. Press Enter. This will bring up the Install Parameters panel.

```
                    INSTALL PARAMETERS (PLAN: HCFINST)
Command ==>
                                                                        17:51
Enter desired values or accept the ones shown:
1  Removability. . . . . 1        1 = Yes    2 = No    3 = Desired
2  Pretest . . . . . . . 2        1 = Yes    2 = No    3 = Desired
3  Posttest. . . . . . . 2        1 = Yes    2 = No    3 = Desired
4  Autoremoval . . . . . 2        1 = Yes    2 = No    3 = Desired
5  Autoaccept. . . . . . 2        1 = Yes    2 = No    3 = Desired
6  Corequisite . . . . . ________ Group of resources to be checked
7  Destruction option. . 2        1 = Allowed    2 = Not allowed
8  Actuse. . . . . . . . 2        1 = Trial      2 = Production
9  Delname . . . . . .
   =>                                                            <==
10 Matching indicators ==>
                                  H = High   L = Low  I = Ignore
11 Installation date . . ________ (mm/dd/yy)
12 Installation time . . _____    (hh:mm)
13 Timeind . . . . . . . _        1 = Local      2 = GMT
14 Alteractive . . . . . 1        1 = Allowed    2 = Not allowed
15 Disposition . . . . . _        1 = Keep       2 = Delete

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 120. Install Parameters GIX Panel

Step 45. Fill in the fields of the Install Parameters panel according to Figure 120.

Explanation:

a. We have elected to install removably, and therefore have set Removability to 1 (yes).

b. You *must* set Alteractive to 1 (allowed). If you don't, the install will fail and you will get error message FNDCM300E (Service area not supported) in the log (/usr/lpp/netviewdm/fndlog) at the server. The default, if this field is left blank, is 2 (not allowed), which means install in the service area.

   Installing in the service area is currently not supported for installp packages.

c. We have accepted the default values for all other attributes.

Step 46. Press Enter. This will add the transmission function to the plan and take you back to the Create or Change a Plan panel, where you will see the new install software function directly after the PHASE3 line.

We are now able to delete the extraneous phases and transmission functions that belong to the sample plan.

Step 47. Delete all phases and all functions that belong to the sample plan. You can delete a line by putting d in the CMD field of the line concerned, and pressing Enter.

Hint:

You can delete a contiguous group of lines by putting dd in the CMD field of the first and last line to be deleted, and pressing Enter. Therefore, the quickest way to achieve this task is to put dd in the CMD field of the first and last unwanted lines from the sample plan and press Enter.

Step 48. If you have been following these instructions faithfully, your plan should look like the one shown in Figure 121 on page 162.

```
                          CREATE OR CHANGE A PLAN             Row 1 to 7 of 7
Command ==>                                                        Scroll PAGE
                                                                         17:58
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD   ACTIVITY (CHANGE)

___ .PLAN(HCFINST ) DEF(NAKAJIM  94/10/10) LAST MOD(94/10/10 12:01)
___ . PHASE(PHASE1  ) NODE(RS600011-NDM6) SCHED(              )
___ .   RETRIEVE SOFTWARE         IBM.HCF.USR.REF.0.1.2.0.0
___ . PHASE(PHASE2  ) NODE(RS600012-NDM6) SCHED(              ) COND
___ .   SEND     SOFTWARE         IBM.HCF.USR.REF.0.1.2.0.0
___ . PHASE(PHASE3  ) NODE(RS60003 -NDM6) SCHED(              ) COND
___ .   INSTALL  SOFTWARE         IBM.HCF.USR.REF.0.1.2.0.0
****************************** Bottom of data ********************************
```

Figure 121. Create or Change Plan GIX Panel Showing Complete Plan

Finally, we need to save the new plan, and validate it.

Step 49. Put save in the Command field and press Enter. Provided that there are no system problems (for example, lack of storage), the plan will be added to the NetView DM/MVS database and you will get the message:

```
PLAN HAS BEEN SAVED.
```

Step 50. Press PF3 to return to the Prepare Plans panel shown in Figure 109 on page 151.

Step 51. Put 4 (Validate) in the Selection field and press Enter to validate the plan. If you have entered the details correctly, you will get the message:

```
PLAN IS VALIDATED.
```

The plan HCFINST is now ready for execution.

Using the same procedure we have described above, create a second plan (HCFREMV).

Step 1. In the Prepare Plans panel (Figure 110 on page 151), enter 1 (Create) in the Selection field, hcfremv in the plan name field, and hcfinst in the plan model field. You can use hcfinst as a plan model this time.

Step 2. Press Enter. This will bring up the Create or Change a Plan panel.

Step 3. Put S (Select) in the CMD field of the PHASE1 line and press Enter. This will bring up the Specify Phase Attributes of Plan panel.

```
                SPECIFY PHASE ATTRIBUTES OF PLAN: HCFREMV
Command ==>

Enter desired values or accept the ones shown:

 1 Phase name  . . . . . PHASE1__  Required (must be unique in the plan)
 2 Node name . . . . . . RS60003_  Required if field 3 is not specified
 3 Group of nodes  . . . ________  Required if field 2 is not specified
 4 Scheduling  . . . . . ________ _____  Date and time (YY/MM/DD HH:MM)
 5 Cut off . . . . . . . _____   _____  Time or interval (HH:MM)
 6 Hold option . . . . . 1        1 = Yes   2 = No
 7 Conditioning phase. . ________  Fields 7, 8 and 9 are a logical entity
 8 Conditioning criteria _        1 = Greater or equal to value in field 9
                                  2 = Less or equal to value in field  9
 9 Conditioning value  . __       Any integer from 1 to 99
10 Conditioning mode . . _        1 = All   2 = Single
11 Termination value . . 00       Any integer from 0 to 99
12 Batch job name. . . . ________  Fields 11 and 12 are a logical entity
13 Batch job submission
   conditioning value. . __       Any integer from 0 to 99
14 PHASE NOTES . . ==>

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 122. Specify Phase Attributes of Plan GIX Panel for Phase 4

Step 4. Fill in the fields of the Specify Phase Attributes of Plan panel according to Figure 122.

Explanation:

a. We have chosen to call this PHASE1 for ease of reference. This is the name that the phase will appear as in the TCP messages in IOF.
b. Node name (RS60003) is the name given to the client node when it was created (see Figure 76 on page 107).
c. We have elected to have the plan held when it is submitted by setting Hold option to 1 (yes). Holding the phase gives you more control over plan execution, and is especially useful where the plan is ad-hoc, multi-phasic or you are not an NetView DM/MVS expert.
d. We have accepted the default values for all other attributes.

Step 5. Press Enter. This will bring up the Phase Parameters panel.

Step 6. Press Enter to accept the default tracking information. This will add the phase to the plan and take you back to the Create or Change a Plan panel.

Now that we have created the phases, we can add the transmission functions to the phase.

Step 7. Put I in the CMD field of the PHASE1 line to add a transmission function to the plan.

Step 8. Press Enter. This will bring up the Function Resource Selection panel (Figure 115 on page 156).

Step 9. Put 6 (Remove) in the Selected function field and 2 (Software) in the Selected resource field.

Step 10. Press Enter. This will bring up the Software Qualifiers panel.

```
                    SOFTWARE QUALIFIERS (PLAN: HCFREMV)
Command ==>
                                                                        18:42

Enter desired values:

1 Resource name
==> IBM.HCF.USR.REF.0.1.2.0.0                                          <==
2 Group name . . . ________  Required if field 1 not specified

3 Track option . . 1         1 = Yes    2 = No
4 Netid. . . . . . __        Any integer from 2 to 10
5 Netlu. . . . . . __        Any integer from 2 to 10
6 Bydestid . . . . 2         1 = Yes    2 = No

 Tracking information:
   Activity: CHANGE
   Phase . : PHASE1          Node: RS60003


PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 123. Software Qualifiers GIX Panel for Remove from rs60003

Step 11. Fill in the fields of the Software Qualifiers panel according to Figure 123.

Explanation:

a. Resource name is set to the global name chosen in 6.1, “Building the Change File” on page 144, and entered in the Catalog Data panel (see Figure 103 on page 146).
b. We have accepted the default values for all other attributes.

Step 12. Press Enter. This will bring up the Remove Parameters panel.

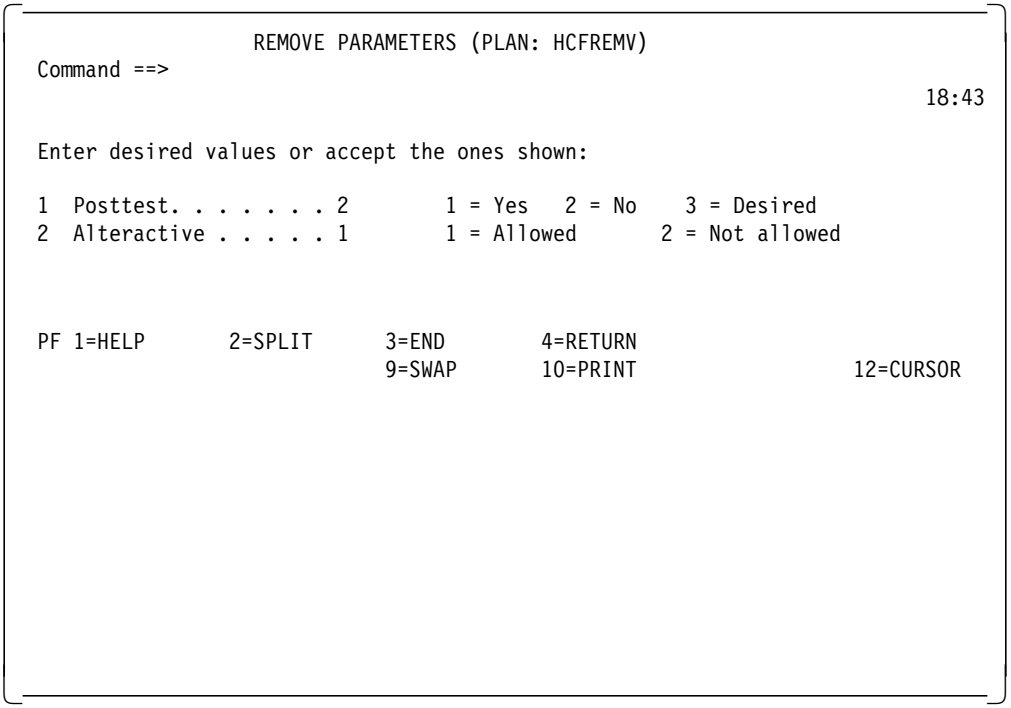

Figure 124. Remove Parameters GIX Panel

Step 13. Fill in the fields of the Remove Parameters panel according to Figure 124.

Explanation:

a. You *must* set Alteractive to 1 (allowed). If you don't, the remove will fail and you will get error message FNDCM300E (Service area not supported) in the log (/usr/lpp/netviewdm/fndlog) at the server.
b. We have accepted the default values for all other attributes.

Step 14. Press Enter. This will add the transmission function to the plan and take you back to the Create or Change a Plan panel, where you will see the new remove software function directly after the PHASE1 line.

We are now able to delete the extraneous phases and transmission functions that belong to the sample plan.

Step 15. Delete all phases and all functions that belong to the sample plan. You can delete a line by putting d in the CMD field of the line concerned, and pressing Enter.

Step 16. If you have been following these instructions faithfully, your plan should look like the one shown in Figure 125 on page 166.

```
                          CREATE OR CHANGE A PLAN             Row 1 to 3 of 3
Command ==>                                                        Scroll PAGE
                                                                        18:49
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD   ACTIVITY (CHANGE)

___ .PLAN(HCFREMV ) DEF(NAKAJIM  94/10/10) LAST MOD(94/10/10 18:49)
___ . PHASE(PHASE1  ) NODE(RS60003 -NDM6) SCHED(              )
___ .   REMOVE   SOFTWARE         IBM.HCF.USR.REF.0.1.2.0.0
****************************** Bottom of data ********************************
```

Figure 125. Create or Change Plan GIX Panel Showing Complete Plan

Finally, we need to save the new plan, and validate it.

Step 17. Put save in the Command field and press Enter. Provided that there are no system problems (for example, lack of storage), the plan will be added to the NetView DM/MVS database and you will get the message:

```
PLAN HAS BEEN SAVED.
```

Step 18. Press PF3 to return to the Prepare Plans panel (Figure 109 on page 151).

Step 19. Put 4 (Validate) in the Selection field and press Enter to validate the plan. If you have entered the details correctly, you will get the message:

```
PLAN IS VALIDATED.
```

Step 20. Press PF3 (End) until you are returned to the Main Menu panel.

The plan HCFREMV is now ready for execution.

6.3 Executing the Transmission Plan

In this example, all change management activities are initiated from NetView Distribution Manager/MVS by means of the transmission plan created in 6.2, “Creating the Transmission Plan” on page 150. All that remains to be done is to submit the plan, and release each phase. The plan is submitted from GIX. The phases are released from IOF.

Note: It is necessary to release the phases explicitly because the Hold option in the Specify Phase Attributes panel was set to YES for each phase when the plan was created (see Figure 111 on page 152, Figure 113 on page 154, Figure 114 on page 155 and Figure 122 on page 163).

6.3.1 Executing the Install Plan

When you first bring up GIX, you will be presented with the Main Menu panel (Figure 126).

```
                    NETVIEW DISTRIBUTION MANAGER - MAIN MENU
                                                                        07:39
 1 CONFIGURE NETWORK              Define nodes and resources, assign resources

 2 BROWSE NETWORK                 View list of nodes and related resources

 3 MANAGE RESOURCES               Work on resources in the repository

 4 PREPARE PLANS                  Define and submit transmission plans

 5 MANAGE SUBMITTED PLANS         Work on plans and track their status

 6 HANDLE MESSAGES                View and prepare messages

 7 MANAGE GROUPS                  Work on groups of nodes and resources

 8 SET PROFILES                   Define authorizations and defaults

 F GO TO ISPF                     Access ISPF without ending GIX session

 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                 12=CURSOR
```

Figure 126. GIX Main Menu

To submit the transmission plan, do the following:

Step 1. From the Main Menu panel (Figure 126) enter 4 (Prepare Plans) in the Selection field and press Enter. This will bring up the Prepare Plans panel.

```
                          PREPARE PLANS
 Selection ===> 5
                                                                        07:40
 Enter:
 Plan name  hcfinst_    Blank or partial name followed by * for full-list
 Plan model PLMODEL_    Required for the CREATE option only

 Select one of the following:

 1 CREATE               Make a new plan
 2 CHANGE               Change one of your plans
 3 DELETE               Delete one of your plans from the plan library
 4 VALIDATE             Check plan consistency, authorizations, and item
                          availability
 5 SUBMIT               Send a plan to the TCF for transmission
 6 RENAME               Change the name of one of your plans
 7 PRINT/BROWSE         Obtain a printout of or browse a plan



 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                 12=CURSOR
```

Figure 127. GIX Prepare Plans Panel

Step 2. In the Prepare Plans panel, enter 5 (Submit) in the Selection field, and hcfinst in the Plan name field (see Figure 127).

Step 3. Press Enter. This will bring up the Submit Plan panel.

```
                        SUBMIT PLAN: HCFINST
 Command ==>
                                                                        07:42

 Enter:

 New name of plan ________   New plan name on TCF
                               (Leave blank to keep the same name)







 Tracking information:

 Number of phases  . .: 3              Recursive plan . . .
: No
 Start time delay  . .:                Planner ID . . . . .
: NAKAJIM
 Submitter name  . . .: NAKAJIM
 Plan notes           :

 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                 12=CURSOR
```

Figure 128. GIX Submit Plan Panel (HCFINST)

Step 4. In the Submit Plan panel, overwrite the Name of new plan field or leave it blank to keep the same name (see Figure 128).

Explanation:

The name you put in this field is the name that the plan is submitted under, and the name that will appear in the TCP messages in IOF. You can submit the same plan many times, so long as you submit it under a different name each time. (You can purge old submitted plans in GIX.)

Step 5. Press Enter to submit the plan. If you have entered a valid plan name (for example a plan of the same name has not been submitted already), you will be returned to the Prepare Plans panel with the message:

```
PLAN SUBMITTED.
```

Step 6. Press PF3 (End) until you are returned to the Main Menu panel.

The plan is now submitted to the Transmission Control Program (TCP).

Next you must interact with the TCP using the Interactive Operator Facility (IOF) in order to release the phases and view the progress messages.

When you first bring up IOF, you will be presented with the Transmission Control Master Menu panel (Figure 129).

```
NDMOC010              TRANSMISSION CONTROL MASTER MENU         PAGE   1 OF   1

Select one of the following:

 1     START TRANSMISSION
 2     SCHEDULE DISPLAY AND CONTROL
 3     HOLD TRANSMISSION FOR A NODE/GROUP
 4     RELEASE TRANSMISSION FOR A NODE/GROUP
 5     QUIESCE TRANSMISSION
 6     IMMEDIATE QUIESCE TRANSMISSION
 7     END TRANSMISSION
 8     IMMEDIATE END TRANSMISSION
 9     DISCONNECT IOF
10     LOG OFF FROM IOF
11     DISPLAY/CHANGE CURTASK OR TRANSMISSION PROFILES


For selections 3, 4, 11 enter the required parameters (see Help)


Selection ===> _
PF= __  1/13=HELP                                  5/17=MSG-UNS
                                  9/21=PRINT
M=   2            STATUS=QUIESCED     TRANSM=   0  PRINTER=UNAVAIL
```

Figure 129. IOF Transmission Control Master Menu

To have control over the TCP, we started it in quiesced mode. See the Status field on bottom line of Figure 129. If this is the case, you must start the transmission. To do this, enter 1 (Start Transmission) in the Selection field and press Enter. You will get the message REQUEST START ACCEPTED. The status should change to ″waiting″, indicating that the TCP is ready for work.

Note: Although your plan has been submitted, and is theoretically ready to run, the status is ″waiting″ because all phases are held. The status will change to ″running″ when you release the first phase.

To release the plan phases, do the following:

Step 1. From the Transmission Control Master Menu panel (Figure 129 on page 169) enter 2 (Schedule Display and Control) in the Selection field and press Enter. This will bring up the Transmission Selection Criteria Entry panel.

```
NDMOCO2O          TRANSMISSION SELECTION CRITERIA ENTRY          PAGE 1 OF  1

Enter selection criteria:
 1 Phases . . . . . _                 N to suppress phases display
 2 NSRs . . . . . _                   N to suppress NSRs display
 3 API Requests . . . . . _           N to suppress API requests display
 4 Plan and phase names . ________ ________  Specify both names or none
 5 Node/NSR Origin name . ________    Not together with field 6 or 8
 6 Group name . . . . . ________      Not together with field 5 or 8
 7 API user program name. ________
 8 Transm. Profile Name . ________    Not together with field 5 or 6
 9 Scheduled date from. . ______      Date format is:  YYMMDD
10 Scheduled time from. . ____        Time format is:  HHMM  or  NOW
11 Scheduled date to. . . ______      Date format is:  YYMMDD
12 Scheduled time to. . . ____        Time format is:  HHMM  or  NOW

13 Executing status . . . _           14 Held status. . . . . _
15 Ready status . . . . . _           16 Restartable status . . _
17 Waiting status . . . . _           18 Pending status . . . . _

PF= __  1/13=HELP    3/15=END     4/16=RETURN    5/17=MSG-UNS
                                  9/21=PRINT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 130. IOF Transmission Selection Criteria Entry Panel

In this example, we have submitted a single plan with a small number of phases, and therefore don't need to be selective about what to display.

Step 2. Press Enter. This will bring up the Transmission Display and Control panel, with a line for each phase of the plan.

```
NDMOC030          TRANSMISSION DISPLAY AND CONTROL            PAGE   1 OF   1

Line commands:  C(Change)  D(Delete)  H(Hold)  R(Release)  S(reStart)
                L(List)  I(conditionIng)  E(conditionEd)
Enter command (CMD) for phases NSRs or API requests selected:
             NSR ORIGIN-SEQUENCE or      API USER  SCHED/ARRIVAL       START
CMD   STATUS NODE      PLAN     PHASE    PROGRAM   DATE     TIME   DATE    TIME
_     HELD   RS600011  HCFINST  PHASE1   ******** 94 10 11 07 42
_     HELD   RS600012  HCFINST  PHASE2   ******** 94 10 11 07 42
_     HELD   RS60003   HCFINST  PHASE3   ******** 94 10 11 07 42









Press ENTER to highlight the first line with a command.
Press ENTER again to process highlighted command and highlight next command.
PF= __  1/13=HELP    3/15=END     4/16=RETURN    5/17=MSG-UNS    6/18=REFRESH
        7/19=BACK    8/20=FORW    9/21=PRINT    10/22=LEFT      11/23=RIGHT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 131. IOF Transmission Display and Control Panel (HCFINST Phase 1)

Notice that the status of each phase of the plan is ″held″. The TCP status is still ″waiting″.

If you would like to follow what is happening in NetView Distribution Manager/6000 during phase 1, enter the following command at the preparation system (rs600011 in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your preparation system terminal.

Step 3. Put R (Release) in the CMD field of the PHASE1 line and press Enter. This line should now be highlighted.

Step 4. Press Enter again. The status of phase 1 should change to ″Ready″ (Figure 132 on page 172).

```
NDMOC030           TRANSMISSION DISPLAY AND CONTROL            PAGE   1 OF   1
NDM0743I ALL COMMANDS PROCESSED.
Line commands:  C(Change)  D(Delete)  H(Hold)  R(Release)  S(reStart)
                L(List)  I(conditionIng)  E(conditionEd)
Enter command (CMD) for phases NSRs or API requests selected:
             NSR ORIGIN-SEQUENCE or      API USER  SCHED/ARRIVAL       START
CMD   STATUS NODE      PLAN     PHASE    PROGRAM   DATE     TIME   DATE    TIME
_ ACC READY  RS600011  HCFINST  PHASE1   ******** 94 10 11 07 42
_     HELD   RS600012  HCFINST  PHASE2   ******** 94 10 11 07 42
_     HELD   RS60003   HCFINST  PHASE3   ******** 94 10 11 07 42









Press ENTER to highlight the first line with a command.
Press ENTER again to process highlighted command and highlight next command.
PF= __  1/13=HELP    3/15=END     4/16=RETURN    5/17=MSG-UNS    6/18=REFRESH
        7/19=BACK    8/20=FORW    9/21=PRINT    10/22=LEFT      11/23=RIGHT

M=   6            STATUS=RUNNING      TRANSM=   1  PRINTER=UNAVAIL
```

Figure 132. IOF Transmission Display and Control Panel (HCFINST Phase 1, Released)

Notice that the message count (M field on the bottom line of the IOF panel) has changed to indicate that their are a number of new messages from the TCP (6 in this example). Notice also that the TCP status has changed to ″running″ and the number of transmissions (TRANS) to ″1″.

Step 5. Press PF5. This will bring up the Handle Unsolicited Messages panel. The contents of this panel should be similar to Figure 133 on page 173, once the phase has completed successfully.

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
0001 07:40   NDM0019I THE TCP HAS BEEN INITIALIZED.
0002 07:40   NDM0522S USER MCKECHN LOGGED ON TO THE INTERACTIVE OPERATOR FACILI
                     TY.
0003 07:40   NDM0745S TRANSMISSION START REQUESTED BY THE IOF OPERATOR.
0004 07:42   NDM0402S PLAN HCFINST HAS BEEN SUBMITTED.
.
.
.
0019 07:45   NDM0748S PHASE HCFINST PHASE1, FOR NODE RS600011, RELEASED BY THE
                     IOF OPERATOR.
0020 07:45   NDM0853I THE SNA SESSION IS ACTIVATED FOR LOGICAL UNIT RA60011B AN
                     D LOGMODE NVDMNORM.
0021 07:45   NDM0034I PHASE HCFINST PHASE1 STARTED FOR NODE RS600011.
0022 07:45   NDM0106I FUNCTION RET SYSW ENDED FOR LOGICAL UNIT RA60011B. PHASE
                     HCFINST PHASE1, NODE RS600011, RETURN CODE 0, TRANSMISSIO
                     N BYTES 0, FUNCTION STATUS PENDING.
0023 07:45   NDM0830I THE TIME SCHEDULED FOR THE LOGICAL UNIT RA60011B, LOGMODE
                      NVDMNORM TO SEND DATA TO NETVIEW DM HAS EXPIRED.
0024 07:45   NDM0836I THE SNA SESSION IS DEACTIVATED FOR LOGICAL UNIT RA60011B
                     AND LOGMODE NVDMNORM.
0025 07:45   NDM0034I PHASE HCFINST PHASE1 STARTED FOR NODE RS600011.
0026 07:47   NDM0106I FUNCTION RET SYSW ENDED FOR LOGICAL UNIT RA60011B. PHASE
                     HCFINST PHASE1, NODE RS600011, RETURN CODE 0, TRANSMISSIO
                     N BYTES 1133180, FUNCTION STATUS COMPLETED.
0027 07:47   NDM0035I PHASE HCFINST PHASE1 ENDED FOR NODE RS600011.


Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 133. IOF Handle Unsolicited Messages Panel (HCFINST, Phase 1)

You may notice that there is a gap in the message sequence numbers. This is because in practice, we performed other non-relevant activities between submitting the plan and releasing the first phase. For clarity, we have omitted messages relating to other activities.

As the TCP messages indicate, Phase 1 has completed successfully.

If this is the first transmission between the preparation system and the focal point since the NetView DM/6000 SNA/DS connection was created, you may get an error as NetView DM/6000 initializes the counters, etc., for the connection. This will show up as sense code 085D:0005 in the IOF messages, and FNDTC089E in the NetView DM/6000 log at the preparation system. You can ignore this error.

You may find it interesting to examine the NetView Distribution Manager/MVS resource repository at this point to see that the HCF package is indeed stored there now. If you wish to do so, follow the instructions in 6.3.2, “Examining the NetView DM/MVS Resource Repository” on page 177 and return here when you have finished.

If you would like to follow what is happening in NetView Distribution Manager/6000 during phase 2, enter the following command at the server (rs600012 in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your server terminal.

We are now ready to release Phase 2.

Step 6. Press PF3 (End) to return to the Transmission Display and Control panel.

The contents of this panel will not have changed since step 4 on page 171. The panel must be refreshed before the latest status is displayed.

Step 7. Press PF6 (Refresh). The Transmission Display and Control panel will be refreshed with the latest status (Figure 134).

```
NDMOC030           TRANSMISSION DISPLAY AND CONTROL            PAGE   1 OF   1

Line commands:  C(Change)  D(Delete)  H(Hold)  R(Release)  S(reStart)
                L(List)  I(conditionIng)  E(conditionEd)
Enter command (CMD) for phases NSRs or API requests selected:
             NSR ORIGIN-SEQUENCE or      API USER  SCHED/ARRIVAL       START
CMD   STATUS NODE      PLAN     PHASE    PROGRAM   DATE     TIME   DATE    TIME
_     HELD   RS600012  HCFINST  PHASE2   ******** 94 10 11 07 42
_     HELD   RS60003   HCFINST  PHASE3   ******** 94 10 11 07 42









Press ENTER to highlight the first line with a command.
Press ENTER again to process highlighted command and highlight next command.
PF= __  1/13=HELP    3/15=END     4/16=RETURN    5/17=MSG-UNS    6/18=REFRESH
        7/19=BACK    8/20=FORW    9/21=PRINT    10/22=LEFT      11/23=RIGHT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 134. IOF Transmission Display and Control Panel (HCFINST Phase 2)

Notice that phase 1 is no longer displayed because it has completed.

Step 8. Put R (Release) in the CMD field of the PHASE2 line and press Enter. This line should now be highlighted.

Step 9. Press Enter again. The status of phase 2 should change to ″Ready″.

Step 10. Press PF5. This will bring up the Handle Unsolicited Messages panel. The contents of this panel should be similar to Figure 135 on page 175, once the phase has completed successfully.

```
NDMOC05O              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
0028 07:49   NDM0748S PHASE HCFINST PHASE2, FOR NODE RS600012, RELEASED BY THE
                      IOF OPERATOR.
0029 07:49   NDM0034I PHASE HCFINST PHASE2 STARTED FOR NODE RS600012.
0030 07:51   NDM0106I FUNCTION SEN SYSW ENDED FOR LOGICAL UNIT RA60012B. PHASE
                      HCFINST PHASE2, NODE RS600012, RETURN CODE 0, TRANSMISSIO
                      N BYTES 1133180, FUNCTION STATUS PENDING.
0031 07:51   NDM0830I THE TIME SCHEDULED FOR THE LOGICAL UNIT RA60012B, LOGMODE
                       NVDMNORM TO SEND DATA TO NETVIEW DM HAS EXPIRED.
0032 07:51   NDM0034I PHASE HCFINST PHASE2 STARTED FOR NODE RS600012.
0033 07:51   NDM0106I FUNCTION SEN SYSW ENDED FOR LOGICAL UNIT RA60012B. PHASE
                      HCFINST PHASE2, NODE RS600012, RETURN CODE 0, TRANSMISSIO
                      N BYTES 1133180, FUNCTION STATUS COMPLETED.
0034 07:51   NDM0035I PHASE HCFINST PHASE2 ENDED FOR NODE RS600012.


Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 135. IOF Handle Unsolicited Messages Panel (HCFINST Phase 2)

As the TCP messages indicate, Phase 2 has completed successfully.

You may find it interesting to examine the server catalog at this point to see that the HCF package is indeed stored there now. If you wish to do so, follow the instructions in 6.3.3, “Examining the Server Catalog” on page 178 and return here when you have finished.

Step 11. Press PF3 (End) to return to the Transmission Display and Control panel.

Step 12. Press PF6 (Refresh). The Transmission Display and Control panel will be refreshed with the latest status (phase 2 will no longer be displayed).

If you would like to follow what is happening in NetView Distribution Manager/6000 during phase 3, enter the following command at both the server and client (rs600012 and rs60003, respectively, in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your server and client terminals.

We are now ready to release Phase 3.

Step 13. Put R (Release) in the CMD field of the PHASE3 line and press Enter. This line should now be highlighted.

Step 14. Press Enter again. The status of phase 3 should change to ″Ready″.

Step 15. Press PF5. This will bring up the Handle Unsolicited Messages panel. The contents of this panel should be similar to Figure 136 on page 176, once the phase has completed successfully.

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
0035 07:52   NDM0748S PHASE HCFINST PHASE3, FOR NODE RS60003, RELEASED BY THE I
                      OF OPERATOR.
0036 07:52   NDM0034I PHASE HCFINST PHASE3 STARTED FOR NODE RS60003.
0037 07:52   NDM0106I FUNCTION INS SYSW ENDED FOR LOGICAL UNIT RA60012B. PHASE
                      HCFINST PHASE3, NODE RS60003, RETURN CODE 0, TRANSMISSION
                       BYTES 0, FUNCTION STATUS PENDING.
0038 07:52   NDM0830I THE TIME SCHEDULED FOR THE LOGICAL UNIT RA60012B, LOGMODE
                       NVDMNORM TO SEND DATA TO NETVIEW DM HAS EXPIRED.
0039 07:55   NDM0034I PHASE HCFINST PHASE3 STARTED FOR NODE RS60003.
0040 07:55   NDM0071I INCONSISTENCY BETWEEN CURRENT STATUS NOT PRESENT AND FUNC
                      TION INSTALL PRODUCTION REMOVABLY PERFORMED FOR RESOURCE
                      IBM.HCF.USR.REF.0.1.2.0.0, NODE RS60003.
0041 07:55   NDM0106I FUNCTION INS SYSW ENDED FOR LOGICAL UNIT RA60012B. PHASE
                      HCFINST PHASE3, NODE RS60003, RETURN CODE 0, TRANSMISSION
                       BYTES 0, FUNCTION STATUS COMPLETED.


Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 136. IOF Handle Unsolicited Messages Panel (HCFINST Phase 3)

As the TCP messages indicate, Phase 3 has completed successfully.

Step 16. Press PF3 (End) to return to the Transmission Display and Control panel.

Step 17. Press PF6 (Refresh). Since there are no more phases to execute, this will return you to the Transmission Selection Criteria Entry panel (Figure 129 on page 169).

Step 18. Press PF3 (End) to return to the Transmission Control Master Menu panel (Figure 130 on page 170).

If you would like to follow what is happening in NetView Distribution Manager/6000 during phase 3, enter the following command at both the server and client (rs600012 and rs60003, respectively, in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your server and client terminals.

If you would like to follow what the `installp` actually did, examine the following file on the target system:

```
/usr/lpp/netviewdm/extlog1
```

You will see the installp output there.

6.3.2 Examining the NetView DM/MVS Resource Repository

To verify that the HCF package is in the NetView Distribution Manager/MVS resource repository do the following in GIX:

```
                    NETVIEW DISTRIBUTION MANAGER - MAIN MENU
Selection  ===>
                                                                        07:39
1 CONFIGURE NETWORK             Define nodes and resources, assign resources

2 BROWSE NETWORK                View list of nodes and related resources

3 MANAGE RESOURCES              Work on resources in the repository

4 PREPARE PLANS                 Define and submit transmission plans

5 MANAGE SUBMITTED PLANS        Work on plans and track their status

6 HANDLE MESSAGES               View and prepare messages

7 MANAGE GROUPS                 Work on groups of nodes and resources

8 SET PROFILES                  Define authorizations and defaults

F GO TO ISPF                    Access ISPF without ending GIX session

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 137. GIX Main Menu

Step 1. From the Main Menu panel (Figure 137), put 3 (Manage Resources) in the Selection field and press Enter. This will bring up the Manage Resources panel.

```
                        MANAGE RESOURCES                      Row 1 to 9 of
Selection ==>                                                      Scroll PAGE
                                                                        08:21
Do you want specific resources of the type selected?  2    1 = Yes   2 = No
 (Yes = Additional selection criteria will be displayed
  No = All resources for the selected type will be displayed)
Select one of the following resource types:
        24    MICROCODE
        26    SOFTWARE
        28    PROCEDURE
        29    FLAT DATA
        30    RELATIONAL DATA
        33    CONFIGURATION FILE
        34    MSDUMP
        35    TRACE INFO
        36    MSERRLOG
****************************** Bottom of data ********************************
```

Figure 138. GIX Manage Resources Panel

Step 2. Put 26 (Software) in the Selection field and press Enter. This will bring up the List of Selected Resources panel. The HCF package should be included in the list (see Figure 139 on page 178).

```
             LIST OF SELECTED RESOURCES  (SOFTWARE)            ROW 1 TO 1 OF 1
Command ==>                                                    Scroll ==> PAGE
                                                                        08:22
Primary commands: D(Delete)            P(Print directory)
                  B(Browse directory)  DAL(Delete all)
                  I(Insert)            CNV(Convert)


Line commands: D(Delete)  B(Browse directory)  CNV(Convert)

CMD RESOURCE NAME                                          LOCK COMPLETENESS

___ IBM.HCF.USR.REF.0.1.2.0.0                               N         Y

****************************** BOTTOM OF DATA *********************************
```

Figure 139. GIX List of Selected Resources Panel

Step 3. Press PF3 (End) until you are returned to the Main Menu.

6.3.3 Examining the Server Catalog

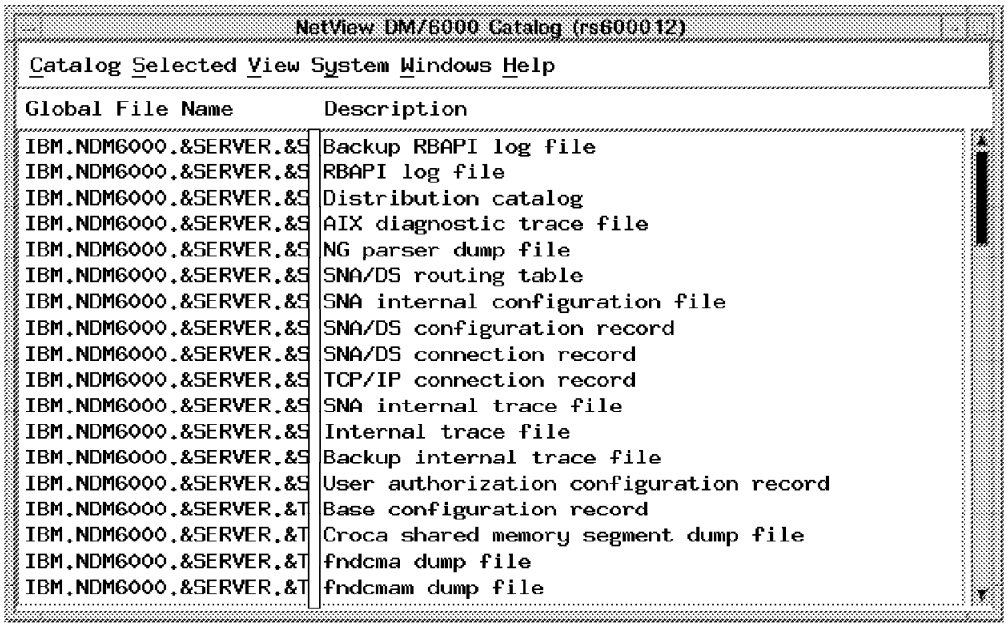

Figure 140. NetView DM/6000 Catalog Window (Server System)

If you already have the Catalog window displayed at the server, all you need to do is to refresh the contents for the HCF package to appear:

Step 1. Select **View** from the Catalog window menu bar.

Step 2. Select **Refresh now** from the pull-down menu.

Step 3. The catalog items are in dictionary order. If necessary, move the scroll bar down until the desired item appears (HCF.USR.REF.0.1.2.0.0).

If you haven't started the GI already, do the following:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window (Figure 140 on page 178).

If you have problems starting the GI, see G.1, "Starting the Graphical Interface (GI)" on page 437 for possible causes.

Step 3. The catalog items are in dictionary order. If necessary, move the scroll bar down until the desired item appears (HCF.USR.REF.0.1.2.0.0).

6.3.4 Examining the Client History

To examine the client history at the server, do the following:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

If you have problems starting the GI, see G.1, "Starting the Graphical Interface (GI)" on page 437 for possible causes.

Step 3. In the Catalog window, select **Windows** from the menu bar.

Step 4. Select **Targets** from the pull-down menu. After a short delay, the Targets window will open (Figure 141 on page 180).

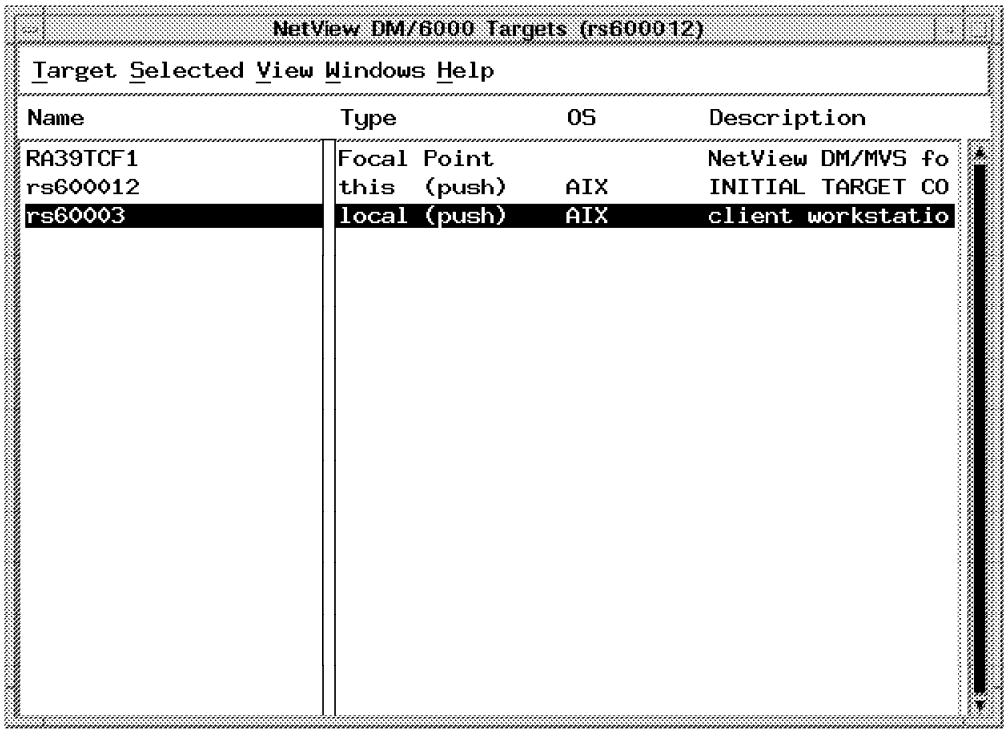

Figure 141. Targets Window (Server)

Step 5. From the Targets window, select the client (rs60003). The client target should now be highlighted.

Step 6. Select **Selected** from the Targets window menu bar.

Step 7. Select **Open** from the pull-down menu.

Step 8. Select **History** from the cascaded menu. After a short delay, a Target History window will open.

The file IBM.HCF.USR.0.1.2.0.0 should appear in the list with a Status of OK, installed removably and active (Figure 142).

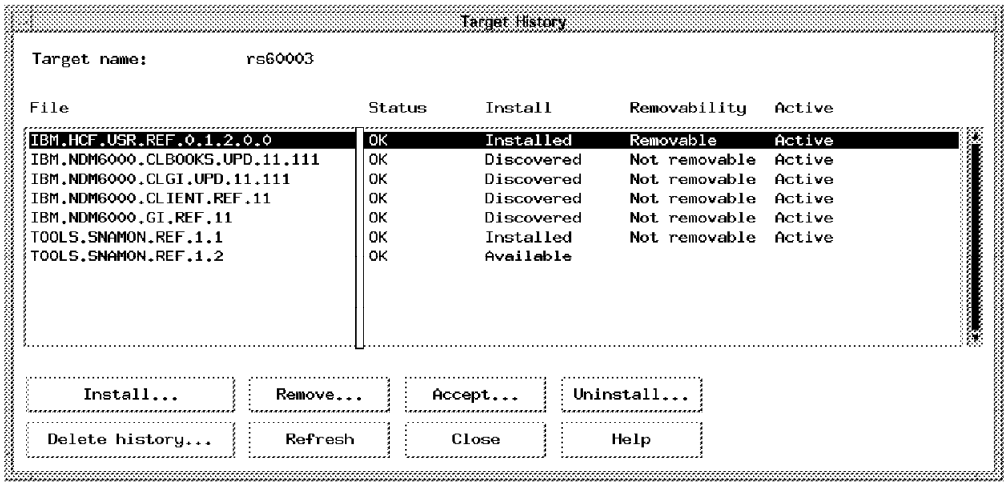

Figure 142. Target History Window

6.3.5 Executing the Remove Plan

To remove the HCF package from the client, submit the HCFREMV plan from the Prepare Plans panel (see Figure 127 on page 168), and come back to the IOF. We are now ready to release phase 1 of the HCFREMV plan.

Step 1. From the Transmission Control Master Menu panel (Figure 129 on page 169) enter 2 (Schedule Display and Control) in the Selection field and press Enter. This will bring up the Transmission Selection Criteria Entry panel.

Step 2. Press Enter. This will bring up the Transmission Display and Control panel.

Step 3. Put R (Release) in the CMD field of the PHASE1 line and press Enter. This line should now be highlighted.

Step 4. Press Enter again. The status of phase 1 should change to ″Ready″.

Step 5. Press PF5. This will bring up the Handle Unsolicited Messages panel. The contents of this panel should be similar to Figure 143, once the phase has completed successfully.

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
0051 07:58   NDM0402S PLAN HCFREMV HAS BEEN SUBMITTED.
0052 08:13   NDM0402S PLAN HCFREMV HAS BEEN SUBMITTED.
0053 08:13   NDM0748S PHASE HCFREMV PHASE1, FOR NODE RS60003, RELEASED BY THE I
                     OF OPERATOR.
0054 08:13   NDM0034I PHASE HCFREMV PHASE1 STARTED FOR NODE RS60003.
0055 08:13   NDM0106I FUNCTION REM SYSW ENDED FOR LOGICAL UNIT RA60012B. PHASE
                     HCFREMV PHASE1, NODE RS60003, RETURN CODE 0, TRANSMISSION
                      BYTES 0, FUNCTION STATUS PENDING.
0056 08:13   NDM0830I THE TIME SCHEDULED FOR THE LOGICAL UNIT RA60012B, LOGMODE
                      NVDMNORM TO SEND DATA TO NETVIEW DM HAS EXPIRED.
0057 08:19   NDM0034I PHASE HCFREMV PHASE1 STARTED FOR NODE RS60003.
0058 08:19   NDM0106I FUNCTION REM SYSW ENDED FOR LOGICAL UNIT RA60012B. PHASE
                     HCFREMV PHASE1, NODE RS60003, RETURN CODE 0, TRANSMISSION
                      BYTES 0, FUNCTION STATUS COMPLETED.
0059 08:19   NDM0035I PHASE HCFREMV PHASE1 ENDED FOR NODE RS60003.


Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=  0             STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 143. IOF Handle Unsolicited Messages Panel (HCFREMV Phase 1)

Step 6. Press PF3 (End) to return to the Transmission Display and Control panel.

Step 7. Press PF6 (Refresh). Since there are no more phases to execute, this will return you to the Transmission Selection Criteria Entry panel (Figure 129 on page 169).

Step 8. Press PF3 (End) to return to the Transmission Control Master Menu panel (Figure 130 on page 170).

Step 9. Putting 9 (Disconnect IOF) in the Selection field and pressing Enter will take you out of IOF without affecting the status of the TCP.

If you would like to follow what the installp actually did, examine the following file:

```
/usr/lpp/netviewdm/extlog1
```

You will see the installp output there.

6.4 Installing the Change File from a Remote Directory

We have explained how to build a change file, retrieve it from the preparation site, send it to the server, and install it at the client. We have built a change file which contains the installp image in it. But you may have a file server already at the remote site which stores installp images. Instead of including the installp image itself in the change file, you can have the change file contents on the server which can be accessed using Network File System (NFS) from the client. The change file, which has the reference to the remote directory, is called *remote source change file*.

In this section, we will explain how to install a remote source change file. We will use HCF again to explain how to do this task. The only difference from the previous scenario in this chapter is whether the image is contained in the change file or stored on the NFS server.

In this example, we perform the following change management activities:

- Retrieve the installp image from the preparation system (rs600011) to the focal point.
- Send and install the installp image on the server (rs600012) at the target site.
- Retrieve the remote source change file from the preparation system.
- Install the remote source change file on the target (rs60003).

See Figure 100 on page 143 about our network configuration.

6.4.1 Remote Source Change File

When using the remote source change file, the change file contents must be stored at a workstation that can be accessed using NFS. We use rs600012 as an NFS server as well as NetView DM/6000 server, but it is not necessary to use the same workstation.

At the target site, the client (rs60003) accesses the files on the NFS server (rs600012) to install the change file. You need to issue the mount command to access the files on the server from the client. Though the remote file system could be mounted before the change management task starts, we will show how to issue the mount command as a part of the change management task.

In this example, files are stored in the /usr/sys/inst.images directory on the server. The client mounts that directory as its /target/images directory. This is shown in Figure 144 on page 183.

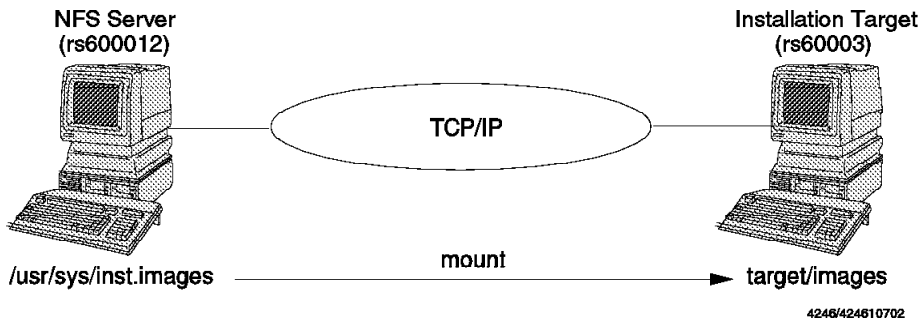

Figure 144. Remote Source Change File

6.4.2 Accessing the Remote Directory

We assume that you have already configured and started NFS on the server and client. See *AIX Communications Concepts and Procedures for IBM RISC System/6000* for more information about NFS.

To allow the client to access to the remote directory on the server, you have to add the directory to the Export List. Log on as `root` and do the following:

Step 1. Type `smit` on the AIX command line.

Step 2. Select **Communications Applications and Services**.

Step 3. Select **NFS**.

Step 4. Select **Network File System (NFS)**.

Step 5. Select **Add a Directory to Exports List**.

```
                        Add a Directory to Exports List

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
* PATHNAME of directory to export                    [/usr/sys/inst.images]
* MODE to export directory                            read-write             +
  HOSTNAME list. If exported read-mostly              []
  Anonymous UID                                       [-2]
  HOSTS allowed root access                           [rs60003]
  HOSTS & NETGROUPS allowed client access             []
  Use SECURE option?                                   no                    +
* EXPORT directory now, system restart or both         both                  +
  PATHNAME of Exports file if using HA-NFS            []

F1=Help             F2=Refresh          F3=Cancel           F4=List
Esc+5=Reset         F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 145. Directory to Exports List SMIT Panel

Step 6. Fill in the fields according to Figure 145.

Step 7. Press Enter to make the change effective.

On the client system, you have to create the directory which the file system will be mounted on. Issue the following commands on the client:

```
mkdir /target
mkdir /target/images
```

6.4.3 Building the Change File

We will make two change files here. They are the change files to:

- Install the installp image on the NFS server at the target site. This change file includes the actual installp image.
- Install HCF on the target from the remote directory. This change file has an external reference to the file system on the NFS server where the installp image is stored.

If you already have the installp images on your NFS server, or you will install from other media (tape, for example) then you only need the second change file.

6.4.3.1 Building a Remote Source Change File for an installp Image

If you already have the installp image on your NFS server at the target site, then skip over this section.

To build the change file for the HCF installp images, do the following:

Step 1. In the Catalog window (Figure 101 on page 145) select **Catalog** from the menu bar.

Step 2. Select **New** from the pull-down menu.

Step 3. Select **Change file** from the cascaded menu.

Step 4. Select **Refresh** from the cascaded menu and the Change File Type window will open (Figure 146).

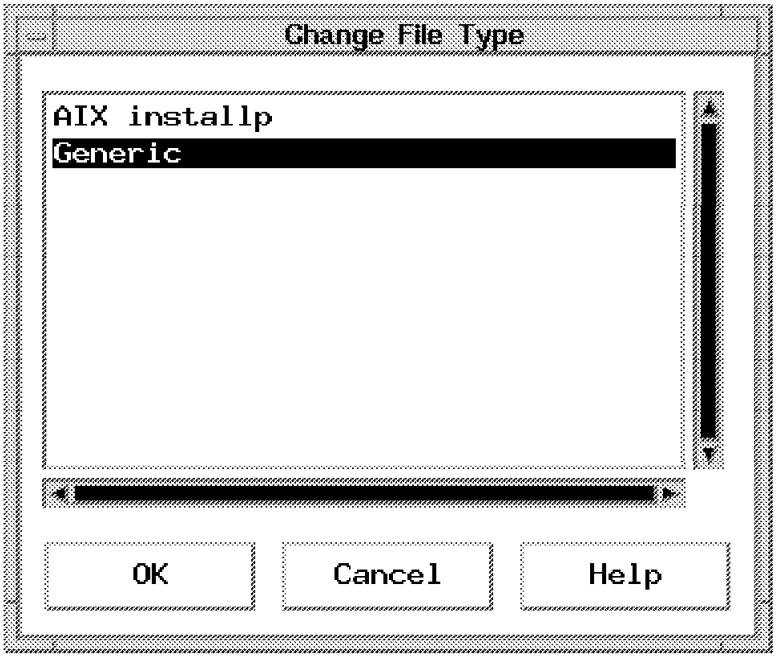

Figure 146. Change File Type Window

Step 5. Select **Generic**.

Step 6. Select the **OK** push button and the Change File window will open.

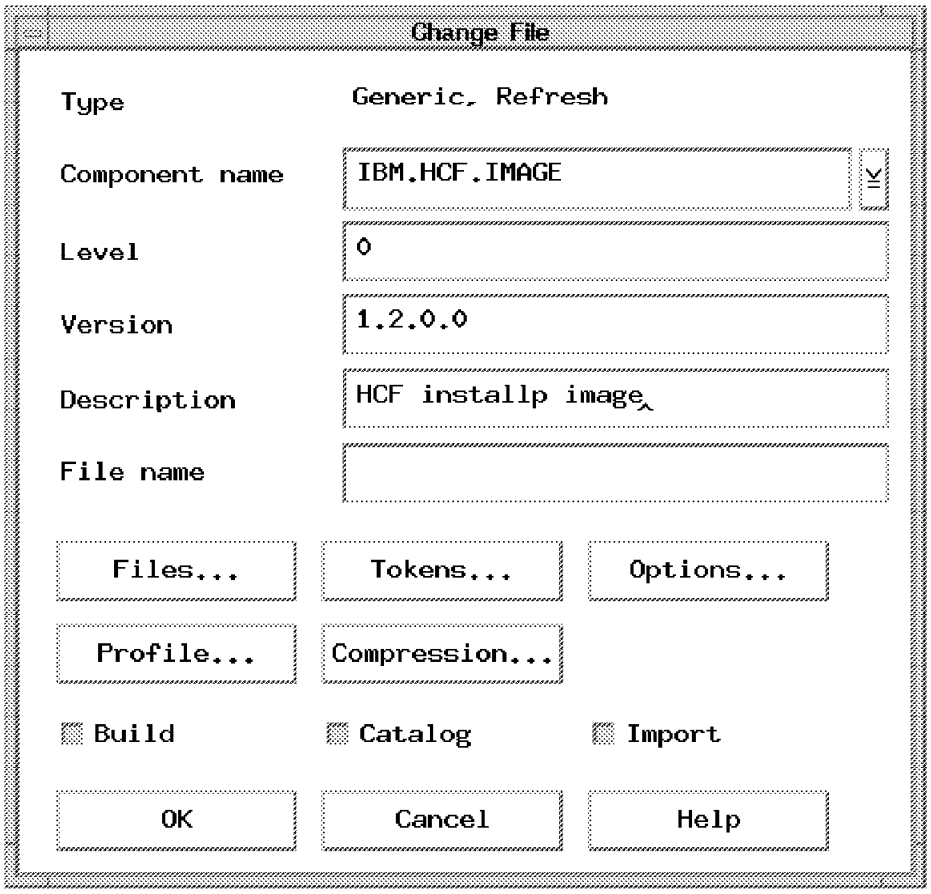

Figure 147. Change File Window

Step 7. Fill in the fields according to Figure 147.

Step 8. Select the **Files** push button and the Files and Directories in Change File window will open.

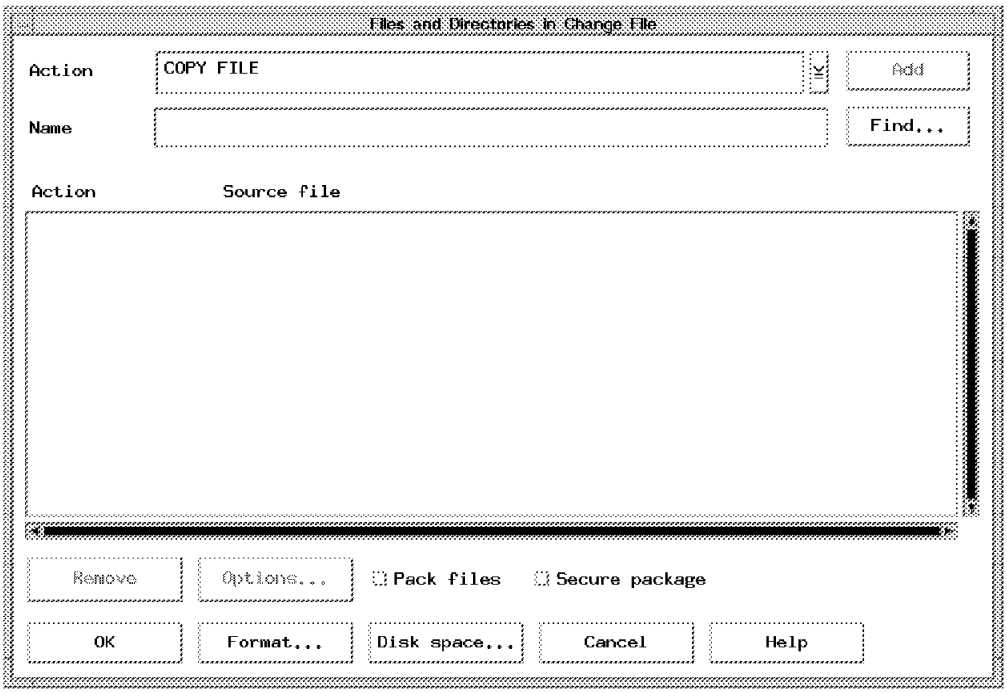

Figure 148. Files in Change File Window

Step 9. Select the **Find** push button and the Find Files to Add to Change File window will open.

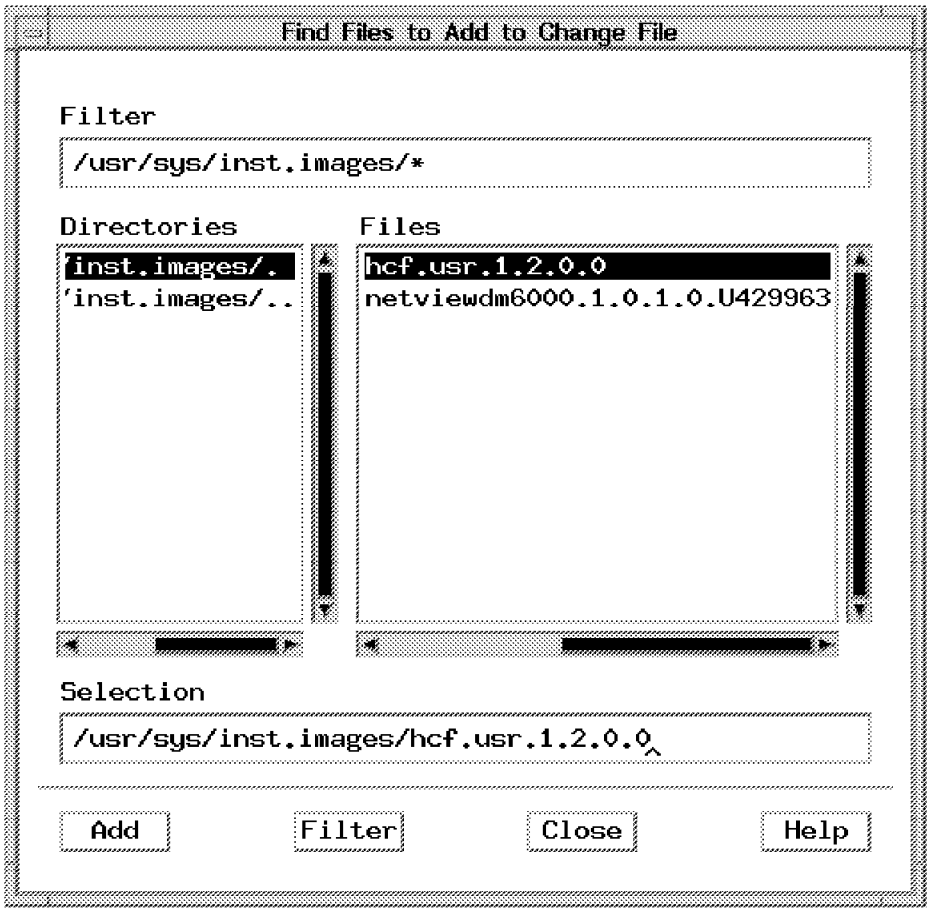

Figure 149. Find Files to Add to Change File Window

Step 10. Select the Filter field and overwrite the contents with /usr/sys/inst.images/*.

Explanation:

We have stored the installp image in /usr/sys/inst.images. You may prefer to store it elsewhere. Substitute the name of your own directory.

Step 11. Select the **Filter** push button. The Find Files to Add to Change File window will be updated to reflect the contents of the /usr/sys/inst.images/* directory (Figure 149).

Step 12. Select the desired file (hcf.usr.1.2.0.0 in our example). The selection field will be updated with the full path of the selected file (Figure 149).

Step 13. Select the **Add** push button to add the file to the Name field in the Files in Change File window.

Step 14. Select the **Close** push button to return to the Files in Change File window, updated with the selected file.

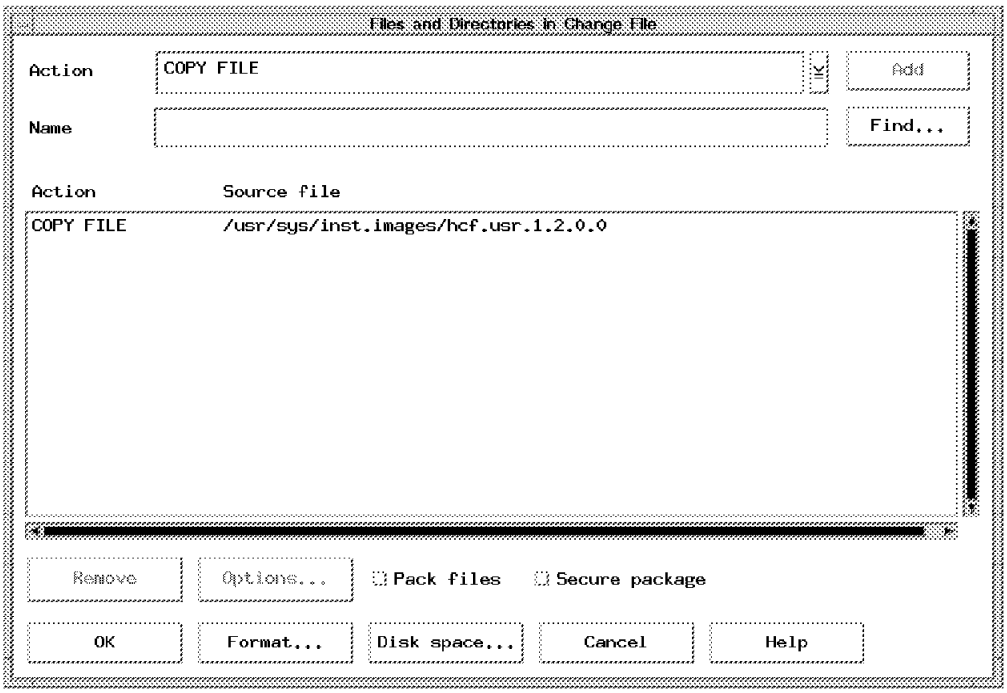

Figure 150. Updated Files in Change File Window

Step 15. Select the **OK** push button to return to the Change File window (Figure 147 on page 186).

Step 16. Ensure that the **Build**, **Catalog** and **Import** buttons are all selected (that is, in the ″in″ position) to signify that you wish to build and catalog the change file, importing the installp image(s) selected previously.

Step 17. Select the **OK** push button to make the changes effective. You will be returned to the Catalog window with the change file added to the list of cataloged objects.

Now, we will build the second change file for the installp installation where the image is on a redirected drive.

6.4.3.2 Building the Change File for installp Installation

To build the change file for the HCF installation from the remote directory, do the following:

Step 1. In the Change File Type window (see Figure 146 on page 185), select **AIX installp**.

Step 2. Select the **OK** push button and the Change File window will open.

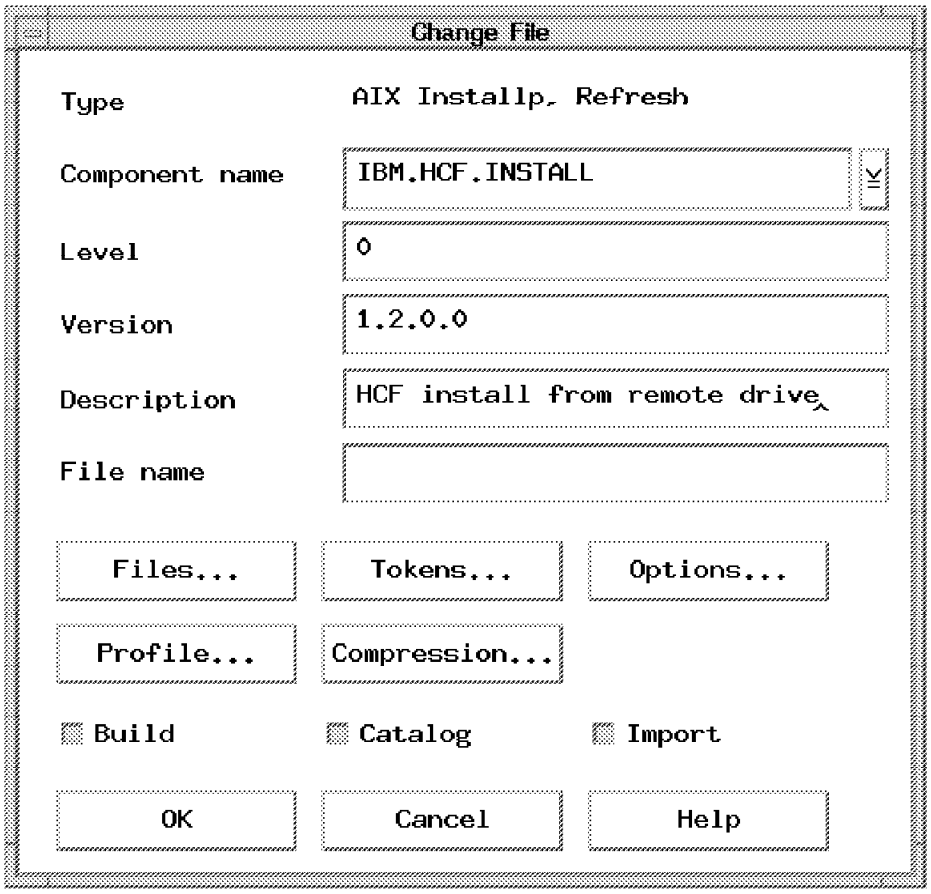

Figure 151. Change File Window

Step 3. Fill in the fields according to Figure 151.

Step 4. Follow step 9 on page 187 to the step 14 on page 188 and return to the Files in Installp Change File window, updated with the selected file.

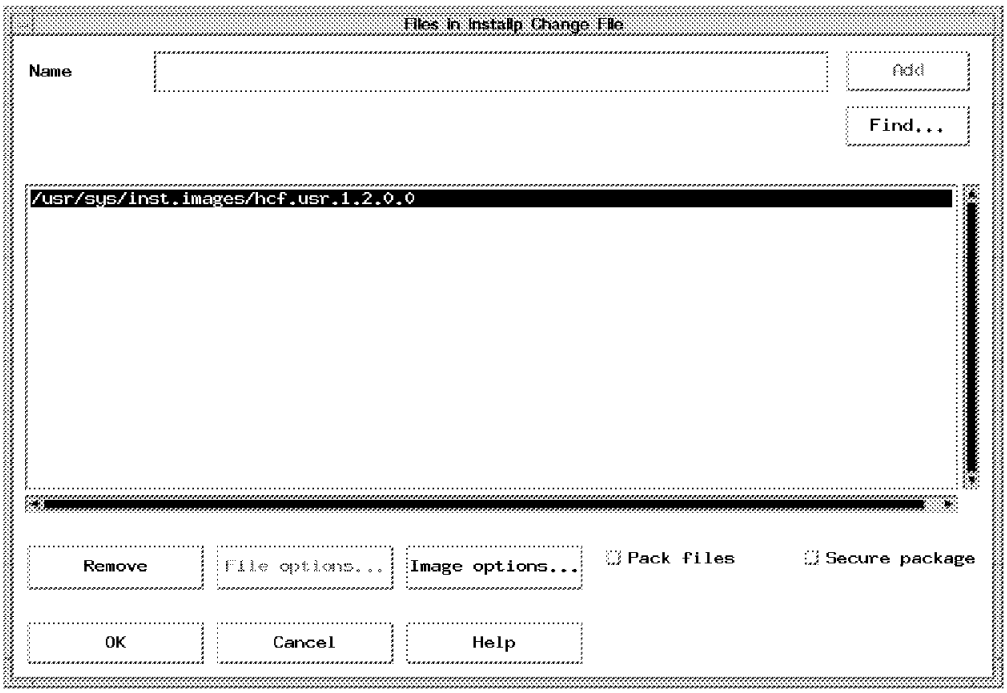

Figure 152. Updated Files in Change Installp File Window

Step 5. Select the file you want to install (/usr/sys/inst.images/hcf.usr.1.2.0.0 in this example) and select **Image options**. The Image Option Selections window will open.

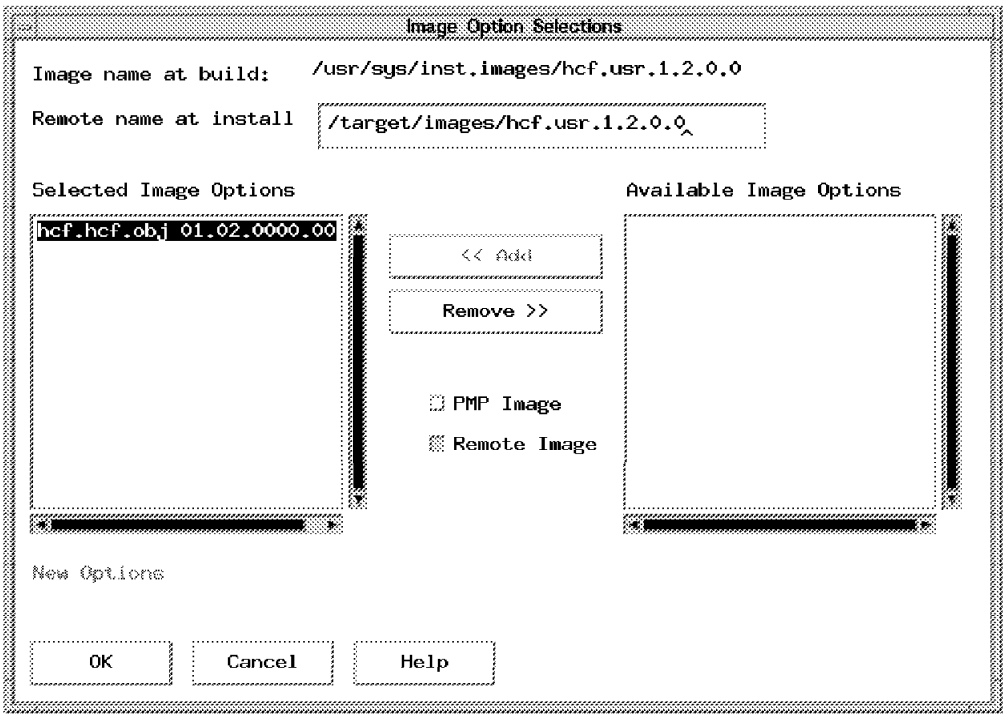

Figure 153. Image Option Selections Window

Step 6. Select the file from Selected Image Options and select the Remote Image check box, and fill in the Remote name at install field according to Figure 153.

Explanation

Specify the directory and file name in the Remote name at install field. The target (client) system installs the files from this directory. We will mount the remote file system as /target/images at the target system. This will be explained later.

Step 7. Select the **OK** push button to return to the Files in Installp Change File window (Figure 152 on page 191).

Step 8. Select the **OK** push button to return to the Change File window (Figure 151 on page 190).

Step 9. Select the **Options** push button. The Change Management Options window will open.

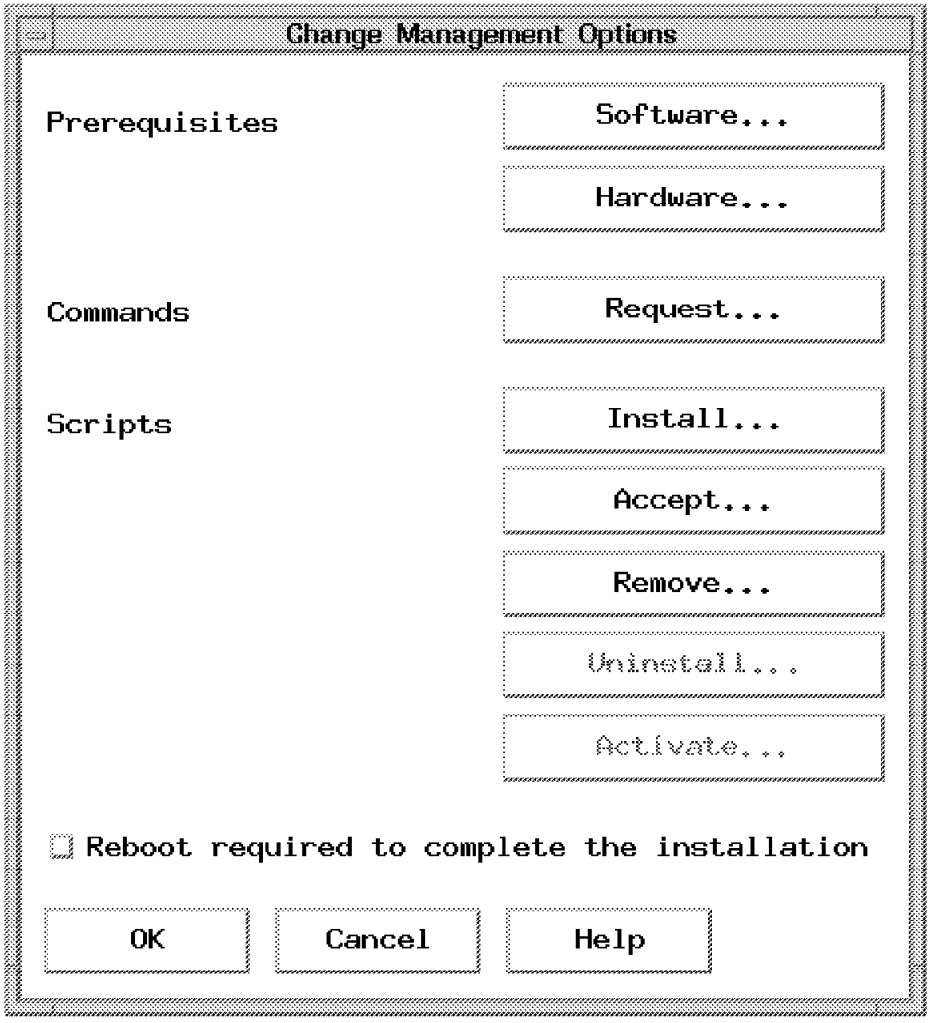

Figure 154. Change Management Options Window

Step 10. Select the **Requests** push button. The Request Commands window will open.

Explanation:

In the change file, you can specify the names of scripts or commands to be executed before and after the change management operation. For example when you are installing the change files, you can specify:

Pre-Request command
Post-Request command
Pre-Install script
Post-Install script

We will use the Pre-Request and Post-Request command for this example but you could so use Pre-Install and Post-Install.

The difference between the Pre- and Post-Request and the other Pre- and Post-Commands is, that the first type is executed with every change management request whereas the second is only executed with this specific request where it is assigned to.

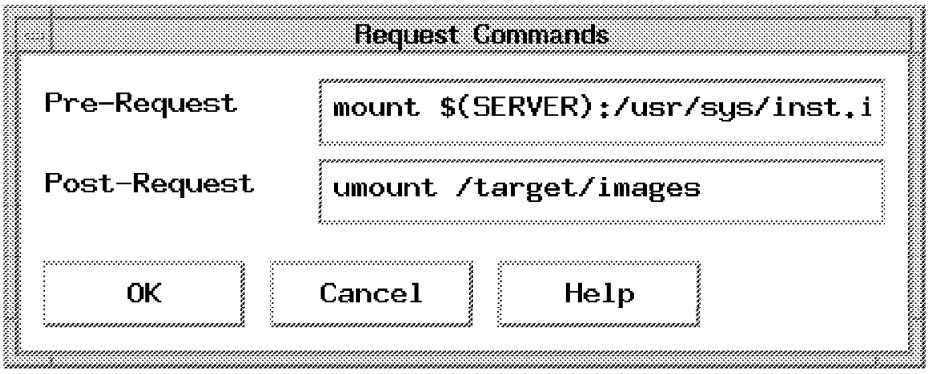

Figure 155. Request Commands Window

Step 11. Fill in the Pre-Request field with the command:

```
mount $(SERVER):/usr/sys/inst.images /target/images
```

Fill in the Post-Request field with the command:

```
umount /target/images
```

Explanation:

a. We use the Pre-Request command to mount the remote file system. The `mount` command is issued before the change management request is executed. The remote file system `/usr/sys/inst.images` on the server (rs600012) is mounted over the `/target/images` directory on the client (rs60003) so that files can be installed from that directory. $(SERVER) token is substituted by the server name (rs600012 in our example). If the NetView DM/6000 server and the NFS server are different, you have to specify the NFS server name here.

b. We use the Post-Request command to unmount the file system. After the change management request is finished with or without success, the file system is unmounted.

c. If you have problems executing those commands, see `/usr/lpp/netviewdm/work/request.out` file. NetView DM/6000 automatically redirects standard output and standard error output to this file.

Step 12. Select the **OK** push button to return to the Change Management Options window.

Step 13. Select the **OK** push button to return to the Change File window.

Step 14. Select the **OK** push button to make the changes effective. You will be returned to the Catalog window with the change file added to the list of cataloged objects.

6.4.4 Creating the Transmission Plan

There is nothing new in the transmission plan for the remote source change file. We have created two plans. The first plan (HCFIMG) retrieves the installp images from the preparation system to the focal point, sends and installs it on the server at the target site. The second plan (HCFINST2) retrieves the remote source change file from the preparation system, sends it to the server and installs it on the client.

We will briefly show what the plan looks like here. See 6.2, “Creating the Transmission Plan” on page 150 to see how to create and submit a plan.

Figure 156 shows the complete plan for HCFIMG.

```
                          CREATE OR CHANGE A PLAN             Row 1 to 5 of 5
Command ==>                                                        Scroll PAGE
                                                                         17:16
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD   ACTIVITY (CHANGE)

___ .PLAN(HCFIMG  ) DEF(NAKAJIM  94/10/14) LAST MOD(94/10/14 11:14)
___ . PHASE(PHASE1  ) NODE(RS600011-NDM6) SCHED(              )
___ .   RETRIEVE SOFTWARE         IBM.HCF.IMAGE.REF.0.1.2.0.0
___ . PHASE(PHASE2  ) NODE(RS600012-NDM6) SCHED(              ) COND
___ .   INSTALL  SOFTWARE         IBM.HCF.IMAGE.REF.0.1.2.0.0
****************************** Bottom of data ********************************









 F1=HELP     F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
 F7=UP       F8=DOWN     F9=SWAP     F10=PRINT   F11=PF11/23 F12=CURSOR
```

Figure 156. Create or Change Plan GIX Panel Showing Complete Plan (HCFIMG)

Figure 157 on page 195 shows software qualifiers for RETRIEVE in PHASE1.

```
                  SOFTWARE QUALIFIERS (PLAN: HCFIMG)
 Command ==>
                                                                        17:18
 Enter desired values or accept the ones shown:

 1 Resource name
 ==> IBM.HCF.IMAGE.REF.0.1.2.0.0                                    <==
 2 Group name . . . . . . . _________  Required if field 1 not specified

 3 Matching indicators ==>
                                       L = Low   H = High  I = Ignore
 4 Netid. . . . . . . . . . __         Any integer from 2 to 10
 5 Netlu. . . . . . . . . . __         Any integer from 2 to 10
 6 Bydestid . . . . . . . . 2          1 = Yes   2 = No

 7 Resource status. . . . . 0          0 = As is, 1 = compressed
                                           2 = not compressed
  Tracking information:
    Activity: CHANGE        Phase .
: PHASE1        Node: RS600011

 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                  12=CURSOR
```

Figure 157. Software Qualifiers GIX Panel for Retrieve from rs600011

Figure 158 and Figure 159 on page 196 show software qualifiers and install parameters for INSTALL in PHASE2. Note that Send option is set to 1. You can send and then install software with one INSTALL function by using this option.

```
                  SOFTWARE QUALIFIERS (PLAN: HCFIMG)
 Command ==>

 Enter desired values or accept the ones shown:
 1 Resource name
 ==> IBM.HCF.IMAGE.REF.0.1.2.0.0                                    <==
 2 Group name . . . . . . . _________  Required if field 1 not specified

 3 Matching indicators ==>
                                       L = Low   H = High  I = Ignore
 4 Send option. . . . . . . . 1          1 = Yes   2 = No
 5 Track option . . . . . . . 2          1 = Yes   2 = No
 6 Netid. . . . . . . . . . __           Any integer from 2 to 10
 7 Netlu. . . . . . . . . . __           Any integer from 2 to 10
 8 Bydestid . . . . . . . . 2            1 = Yes   2 = No
                                                                        17:20
  Tracking information:
    Activity: CHANGE
    Phase . : PHASE2          Node: RS600012

 PF 1=HELP       2=SPLIT      3=END        4=RETURN
                              9=SWAP       10=PRINT                  12=CURSOR
```

Figure 158. Software Qualifiers GIX Panel for Install on rs600012

```
                    INSTALL PARAMETERS (PLAN: HCFIMG)
Command ==>
                                                                        17:24
Enter desired values or accept the ones shown:
1  Removability. . . . . 1        1 = Yes    2 = No    3 = Desired
2  Pretest . . . . . . . 2        1 = Yes    2 = No    3 = Desired
3  Posttest. . . . . . . 2        1 = Yes    2 = No    3 = Desired
4  Autoremoval . . . . . 2        1 = Yes    2 = No    3 = Desired
5  Autoaccept. . . . . . 2        1 = Yes    2 = No    3 = Desired
6  Corequisite . . . . . ________ Group of resources to be checked
7  Destruction option. . 2        1 = Allowed    2 = Not allowed
8  Actuse. . . . . . . . 2        1 = Trial      2 = Production
9  Delname . . . . . .
   =>                                                              <==
10 Matching indicators ==>
                                  H = High   L = Low  I = Ignore
11 Installation date . . ________ (mm/dd/yy)
12 Installation time . . _____    (hh:mm)
13 Timeind . . . . . . . _        1 = Local      2 = GMT
14 Alteractive . . . . . 1        1 = Allowed    2 = Not allowed
15 Disposition . . . . . _        1 = Keep       2 = Delete

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                12=CURSOR
```

Figure 159. Install Parameters GIX Panel for Install on rs600011

Figure 160 shows the complete plan for HCFINST2.

```
                          CREATE OR CHANGE A PLAN             Row 1 to 7 of 7
Command ==>                                                        Scroll PAGE
                                                                         18:18
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD   ACTIVITY (CHANGE)

___ .PLAN(HCFINST2) DEF(NAKAJIM  94/10/14) LAST MOD(94/10/14 11:35)
___ . PHASE(PHASE1  ) NODE(RS600011-NDM6) SCHED(              )
___ .   RETRIEVE SOFTWARE         IBM.HCF.INSTALL.REF.0.1.2.0.0
___ . PHASE(PHASE2  ) NODE(RS600012-NDM6) SCHED(              ) COND
___ .   SEND     SOFTWARE         IBM.HCF.INSTALL.REF.0.1.2.0.0
___ . PHASE(PHASE3  ) NODE(RS60003 -NDM6) SCHED(              ) COND
___ .   INSTALL  SOFTWARE         IBM.HCF.INSTALL.REF.0.1.2.0.0
****************************** Bottom of data ********************************




 F1=HELP     F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
 F7=UP       F8=DOWN     F9=SWAP    F10=PRINT   F11=PF11/23 F12=CURSOR
```

Figure 160. Create or Change Plan GIX Panel Showing Complete Plan (HCFINST2)

All parameters except the resource name in this plan are the same as the plan HCFINST (see 6.2, “Creating the Transmission Plan” on page 150).

6.4.5 Executing the Transmission Plan

You will find the information for executing the transmission plan and examining the history in 6.3, “Executing the Transmission Plan” on page 166.

Part 3. Scenario II: NetView DM/6000 as the Managing System

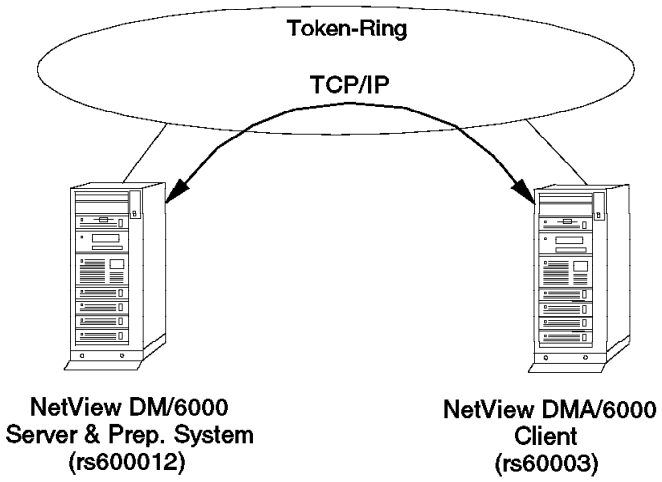

Figure 161. Scenario II Configuration

As Figure 161 shows, NetView Distribution Manager/6000 is the central change management system, in a TCP/IP connected simple LAN environment. rs600012 is the package preparation site. rs60003 is the target for all change management activities. rs600012 is also the server for rs60003.

All systems are interconnected by token-ring.

In this scenario, our aim is to help you understand how to construct a UNIX generic change file, and how it is processed by the client for each type of change management request. We carry out a number of change management requests on two versions of the application:

- Install removably
- Accept
- Uninstall
- Install removably, and automatically accept
- Install new version (removably) over older version
- Remove

We do not consider any other change management activity in this scenario..

However, we would suggest that you create and catalog the SEND.MESSAGE procedure at the server, as in scenario I (5.1, “Creating the Procedure” on page 122 and 5.2, “Cataloging the Procedure” on page 123), if you haven’t done so already. You can then use the NetView DM/6000 GI to have this procedure executed at the client as a test of the configuration work that you have carried out.

The configuration and change management activities for this scenario are described in the following chapters:

- 7.1, “Configuration Activities” on page 201 guides you through the tasks you need to carry out to configure the systems involved for this scenario.
- 7.2, “Managing the Resources in Scenario II” on page 201 describes how to start, stop and display the status of each of the resources involved.
- Chapter 8, “UNIX Generic Change File Examples” on page 203 takes you through the steps involved in carrying out the change management requests.

Chapter 7. Configuration and Resource Management in Scenario II

7.1 Configuration Activities

The configuration activities for scenario II are a subset of scenario I:

- Configuring TCP/IP at the server
- Adding the NetView Distribution Manager/6000 client to the server's configuration
- Configuring TCP/IP at the client system
- Adding the NetView Distribution Manager/6000 server to the client's configuration
- Adding users to the NetView Distribution Manager/6000 systems

Rather than repeat the steps involved here, we refer you instead to the relevant sections of Chapter 3, "Configuration Activities" on page 27:

- 3.2, "Configuring TCP/IP at the Server" on page 49
- 3.6, "Adding the NetView Distribution Manager/6000 Client to the Server's Configuration" on page 58
- 3.7, "Configuring TCP/IP at the Client System" on page 63
- 3.8, "Adding the NetView DM/6000 Server to the Client's Configuration" on page 65

Return here when you have completed the configuration activities in these sections.

7.2 Managing the Resources in Scenario II

The scenario II resources are a subset of scenario I. Rather than repeat the resource management instructions here, we refer you instead to the relevant sections of Chapter 4, "Managing the Resources in Scenario I" on page 111:

- 4.2, "NetView DM/6000 at the Server, Client or Preparation System" on page 112
- 4.3, "TCP/IP at the Server or Client" on page 114

Chapter 8. UNIX Generic Change File Examples

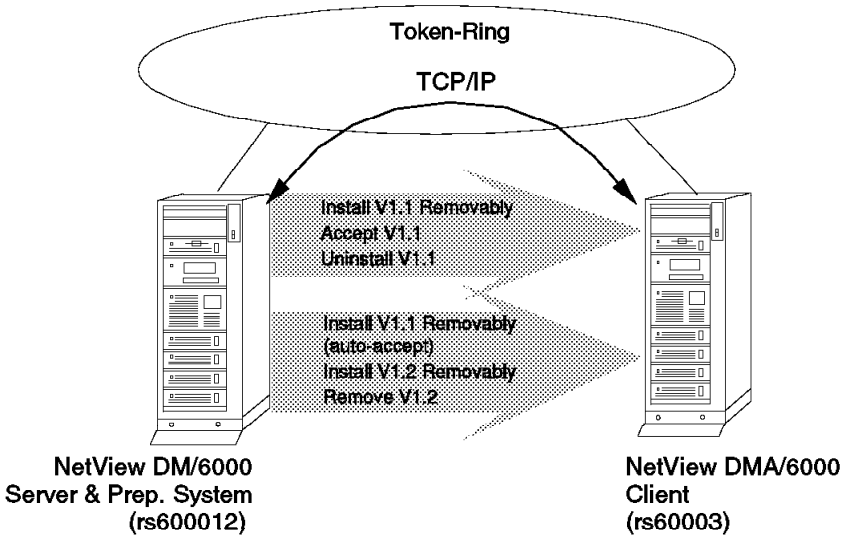

Figure 162. Scenario II CM Activity - UNIX Generic Change File Examples

In this scenario, we provide step-by-step guidance on cataloging a UNIX generic change file, and carrying out the various change management activities.

The change management activities we carry out are:

- Install Version 1.1 removably.
- Accept Version 1.1.
- Uninstall Version 1.1.
- Install Version 1.1 removably, and automatically accept.
- Install Version 1.2 removably over Version 1.1.
- Remove Version 1.2.

The work is divided into three main tasks:

- Building and cataloging the change file on the preparation system (rs600012)
- Installing, accepting and uninstalling Version 1.1 of the change file on the client (rs60003)
- Installing Version 1.2 over Version 1.1 and rolling back to Version 1.1, all on the client (rs60003).

We use a dummy application in this scenario that mimics a typical straightforward application, but that doesn't need any change management scripts written for it, or tokens. To help you with applications that have more complicated change control requirements, we work through a real application in Appendix C, "Guidance on Change Management Scripts and Tokens" on page 381, involving change management scripts and tokens.

Before embarking on the tasks, let us first explain what a change file is, and how it relates to:

- The change file profile
- Change management requests
- Change management scripts

8.1 Change Files Explained

When the change management package or *change file* is created, you specify how the package is to be built in a change file *profile* or the GI. The structure and contents of the UNIX generic change file profile are described in detail in Appendix B of the *NetView DM/6000 User's Guide*. Here is the one we use for SNAMON Version 1.1:

```
GLOBAL NAME:            TOOLS.SNAMON.REF.1.1
DESCRIPTION:            SNA Monitor for SNA/Services 1.2
CHANGE FILE TYPE:       UNIXGEN
PACK FILES:             NO

# SNAMON files
OBJECT:
        SOURCE NAME:    /u/mckechni/snamon/V1.1/bin/*
        TARGET NAME:    /usr/lpp/snamon/bin/*
        TYPE:           FILE
        ACTION:         COPY
```

Figure 163. Change File Profile for SNAMON Version 1.1

As you can see from Figure 163, the change file profile specifies such things as:

- The global name of the change file
- Package description
- Change file type
- The name of each application file (executable, data, and so on), where each file resides on the preparation system, and where it is to be placed in the client directory structure.

You can use the wildcard symbol (*) to select multiple files in a single statement.

You can also specify:

- The names of each change management script, and where it is to be found on the preparation system.
- Default values for tokens embedded in the application files (if any). See the *NetView DM/6000 User's Guide* for more information on tokens
- Other parameters such as compression, hardware and software prerequisites, and so on. See the *NetView DM/6000 User's Guide* for more information about these.

You can create the change file profile, and build and catalog the change file itself, in a single operation using the graphical interface (GI), or you can create the profile using a text editor, and build and catalog the change file using the `nvdm bld` command.

When it is built, the change file is a package (single file) containing:

- The global name of the change file, and textual description
- The contents of the files that make up the application (executable, data, and so on), compressed, if required
- Instructions on where to place each of the application files in the client system directory structure
- Change management scripts
- Default token values
- Any additional information specified in other optional parameters in the change file profile

Note: We use the term ″application″ here, but there is no reason why the package could not be comprised of pure data, for example reference tables.

The change file contains all the information and data needed by NetView DM/6000 to service most *change management requests*. In NetView DM/6000, a change management request may be any one of the following:

- Send
- Retrieve
- Delete
- Install
- Uninstall
- Accept
- Remove
- Initiate

Change management requests are specified in the SNA Management Services (SNA/MS) architecture (see 1.3.2, “SNA/MS Overview” on page 11). The Send and Retrieve requests involve simple file, or change management object transfer between two or more change destinations with very little change management functionality being used. We consider them no further in this scenario.

8.1.1 Processing a Change Management Request

A change management request is *always* processed in relation to a specific change file, and a specific agent. The global name of the change file is generally a parameter of the request, along with the name of the agent.

The processing involved in handling a change management request is complex. There are many variables involved, for example:

- The type of change file can be categorized by the following change names (refresh, update or fix).
- The present status of the change file on the agent. Some possible states are:
  - Not installed (no level of the application is installed in the client)
  - Installed, non-removable, active
  - Installed, removable, active
  - Installed, removable, inactive
- Type of request (install, accept, remove, etc.).

- Scheduling parameters present in the request. For example, the request may specify immediate processing, or may specify that processing is to be delayed.

NetView DM/6000 has four areas that it uses when processing change management requests:

Active The directories where the application files are stored in normal use.

Backup An area owned by NetView DM/6000 where backups of previous levels of applications are kept, for applications installed removably.

Service An intermediate storage area owned by NetView DM/6000 where change files are stored pending an activate request, which would move the change files from the service to the active area.

Work An area used by NetView DM/6000 as temporary work space during resolution of change management requests.

In summary, change management requests are processed as follows:

Install The application files in a change file are copied into the active or service area on the client. If the ″removable″ option is specified, a backup copy of the files comprising the present level of the application are taken first, and placed in the backup area. If the ″activation required″ option is specified, the change file is installed in the service area, where it waits until an activate request is issued.

The level of application currently installed must not be the same as, or greater than, the change file to be installed. Also, the application must not be currently installed removable.

Note: You can override the current status with the force option.

Accept The backup copy of the previous level is deleted from the backup area. This releases disk space, but the application can no longer be regressed back to its previous level (removed).

The change file must be ″installed removable active″ or ″installed removable inactive″.

Remove All files comprising the new level of the component are deleted from the active area, and the previous level restored from the backup copy.

If the ″activation required″ option is specified, the request is held until an activate request is issued.

The change file must be ″installed removable active″ or ″installed removable inactive″.

Uninstall All levels of the application are purged from the system, including any levels, meaning the component name, that may be waiting for an activate request.

If the ″activation required″ option is specified, the request is held until an activate request is issued.

Activate This function restarts the target system, during which time any pending requests (inactive) are moved from the service area to the active area in the same way that it would have been processed if ″activation required″ had not been requested during the installation request.

Tables summarizing precisely how NetView DM/6000 processes each type of change management request are given in Appendix A, “Change Management Request Processing” on page 367.

8.1.2 Change Management Scripts

If installing your application is straightforward, you don’t need to worry about change management scripts, or any other advanced feature of NetView DM/6000.

By straightforward, we mean that the installation process:

- Copies a collection of files to predetermined directories on the client.
- Does not modify any file that doesn’t belong exclusively to it.
- Does not require any directories to be created (other than the ones to hold the application files in item).

Modifying files, rather than simply replacing them, is necessary in cases where:

- The file has a wider scope than the application.
- The file may be customized at any time by others.

For example, the application may need to add some application specific environment variables to /etc/environment. Other applications may wish to do the same. Such files cannot simply be overwritten, or any customizing by others will be lost.

This applies to installing change files, as well as removing and uninstalling them, because the file concerned may have been customized between the installation request and the remove or uninstall request. The old file must not be restored over the present one, or once again any changes will be lost.

To cater for more difficult change management requirements, NetView DM/6000 provides some advanced facilities:

- *Change management scripts*: Allow you to do your own processing before and after each change management request. They give you a free hand to do anything that is within the power of UNIX shell script programming languages.
- *Tokens*: Take the form of variable substitution and allow you to specify symbolic values for directory names, etc, in your application and change management scripts. The symbols get replaced with target specific, or change file specific values when the scripts are installed.

That is all we intend to say about these facilities here.

If you think that you need to use these facilities in your change file, read Appendix C, “Guidance on Change Management Scripts and Tokens” on page 381.

8.2 Cataloging the Change File

Before building the change file, you must first choose the *global name* that you are going to give it. There are strict rules governing the format and composition of this name. These are described in 1.6, “SNA/FS Conventions for Global Names” on page 16.

In this example, we have chosen the global name:

```
TOOLS.SNAMON.REF.v.r
```

You will recall from 1.6.2, “Special Rules for Change Files” on page 17 that a change file global name is made up of three parts, *component name*, *change name* and *version*.

The component name in this example is TOOLS.SNAMON. There is no producing enterprise, as such, since this is an internal package or ″tool″. SNAMON is the product. It is an application we have created specially for this scenario.

The change name is REF.*v.r*. It is a completely new version of the product (not an update or fix), and therefore a refresh, represented by REF in the change name. The level is *v.r*, where *v.* represents the application′s version number and *r* the release. We work with two levels of the product in this example, 1.1 and 1.2. There is only one version of the application, so we have left the version blank.

Note: The real SNAMON keeps SNA Services attachments active. Hypothetically, we could have created another version of the tool that keeps SNA Server link stations active. Thus we would have two versions of the product, one for SNA Services and the other for SNA Server This would be a good use of the version field. We could set it to SNA_SERVICES for the SNA Services version, and SNA_SERVER for the SNA Server version, for example.

Before cataloging the change file, we need to create the application, and the change file profile for it.

As we mentioned earlier, you can build the change file profile, and build and catalog the change file itself in a single operation using the graphical interface (GI), as we did in scenario I (6.1, “Building the Change File” on page 144). In this scenario we create the profile using a text editor, and build and catalog the change file using the `nvdm bld` command, in order to illustrate this alternative method. If you prefer to use the GI, refer to 6.1, “Building the Change File” on page 144.

8.2.1 Creating the Application Files

The real SNAMON application is a Korn shell script. A full listing is given in Appendix E. The listing is provided to help you with change management scripts, but for this exercise you do not need to look at it.

Instead, we suggest that you create some dummy files in a subdirectory in the builder′s home directory (/u/mckechni/snamon, in our example). We need to create two levels, Version 1.1 and Version 1.2. Do this as follows:

Step 1. Log on to the preparation system at a graphics terminal as the builder (mckechni in our example).

Step 2. Change present working directory to the SNAMON Version 1.1 subdirectory:

```
cd /u/mckechni/snamon/V1.1
```

Step 3. Invoke your preferred editor, and type in the following:

```
SNA Monitor Version 1.1
```

Step 4. Save the file as README.

We will use this file to confirm which version is installed on the client. We need a few more files. Content is not important, so we will copy README; however if you are interested in the ″real″ SNAMON application, a full listing is provided in Appendix E.

Step 5. Create three more files with the following commands:

```
cp README file1
cp README file2
cp README file3
```

We will make Version 1.2 a straight copy of Version 1.1.

Step 6. Make a copy of Version 1.1 to create Version 1.2 with the following command:

```
cp -r /u/mckechni/snamon/V1.1 /u/mckechni/snamon/V1.2
```

Step 7. Change present working directory to the SNAMON Version 1.2 subdirectory:

```
cd /u/mckechni/snamon/V1.2
```

Step 8. With your preferred editor, change the contents of the README file to the following:

```
SNA Monitor Version 1.2
```

8.2.2 Creating the Change File Profile

Creating UNIX generic change file profiles is described in detail in Appendix B of the *NetView DM/6000 User's Guide*.

You need a separate profile for each of the two SNAMON levels, Version 1.1 and Version 1.2. Create these profiles as follows:

Step 1. Log on to the preparation system at a graphics terminal as the builder (mckechni in our example).

Step 2. Change present working directory to the SNAMON Version 1.1 subdirectory:

```
cd /u/mckechni/snamon/V1.1
```

Step 3. Invoke your preferred editor, and type in the following change file profile:

```
GLOBAL NAME:            TOOLS.SNAMON.REF.1.1
DESCRIPTION:            SNA Monitor for SNA/Services 1.2
CHANGE FILE TYPE:       UNIXGEN
PACK FILES:             NO

# SNAMON files
OBJECT:
        SOURCE NAME:    /u/mckechni/snamon/V1.1/bin/*
        TARGET NAME:    /usr/lpp/snamon/bin/*
```

```
TYPE:          FILE
ACTION:        COPY
```

Step 4. Save the file as `snamon.profile`.

Explanation:

a. Global name is as discussed earlier.
b. Change File Type is set to UNIXGEN to indicate that this is a UNIX generic change file. See Appendix B of the *NetView DM/6000 User's Guide* for a list of file types.
c. We have elected not to have the files compressed by entering NO in the Pack Files field.
d. The Source Name field specifies the application files to include in the change file. Our dummy application comprises README, file1, file2 and file3 all in a subdirectory in the builder's home directory (/u/mckechni/snamon/V1.1 in our example). We indicate that we want all the files in this directory included, by putting the wildcard symbol (*) as the filename.
e. The Target Name field indicates where the application files are to be stored on the agent (the active area). We have elected to store them in /usr/lpp/snamon/bin. The wildcard symbol as filename indicates that we want all files in the source list placed there.
f. Type is set to FILE to indicate that this is a plain file (no embedded tokens, for example). See Appendix B of the *NetView DM/6000 User's Guide* for a full list of types.
g. Action is set to COPY, as this field must be present. Other allowed values for the Action field are: COPY REMOTE FILE, CREATE DIRECTORY, DELETE DIRECTORY and DELETE FILE.
h. Note that if several directories on the preparation system or client are involved, you can repeat the Object clause as often as you need, once for each file if you like.

The Version 1.2 change file profile the is same as Version 1.1, except for the release number.

Step 5. Make a copy of the Version 1.1 change file profile to create the Version 1.2 profile with the following command:

```
cp /u/mckechni/snamon/V1.1/snamon.profile /u/mckechni/snamon/V1.2
```

Step 6. Change present working directory to the SNAMON Version 1.2 subdirectory:

```
cd /u/mckechni/snamon/V1.2
```

Step 7. With your preferred editor, change the Global Name field of snamon.profile to:

```
GLOBAL NAME:          TOOLS.SNAMON.REF.1.2
```

Leave all other fields unchanged.

8.2.3 Building and Cataloging the Change File Using the Command Line Interface

To build and catalog the SNAMON Version 1.1 and Version 1.2 change files using the command line interface, do the following:

Step 1. Log on to the preparation system at a graphics terminal as the builder (mckechni in our example).

First we build the Version 1.1 profile.

Step 2. Enter the command:

```
nvdm bld /u/mckechni/snamon/V1.1/snamon.profile -f
```

Note: The -f option forces NetView DM/6000 to overwrite any change file of the same name that may exist because of a previous invocation of this command, for example.

Now we build the Version 1.2 profile.

```
nvdm bld /u/mckechni/snamon/V1.2/snamon.profile -f
```

The change files should now be built and cataloged. You can check this from the Catalog window on the preparation system. If you already have the Catalog window displayed, you must refresh it as follows for the change file to appear:

Step 1. Select **View** from the catalog window menu bar.

Step 2. Select **Refresh Now** from the pull-down menu. The Catalog panel will be refreshed.

Note: If the Global name still does not appear as an entry in the catalog, select **Include** from the **View** pull-down menu. From the Catalog Include window, select the **All Files** push button. The Global Name should now appear as an entry in the Catalog window.

Step 3. The catalog items are in dictionary order. If necessary, move the scroll bar down until the desired items appear (TOOLS.SNAMON.REF.1.1, etc.).

If you haven't started the GI on the preparation system, do the following:

Step 1. Log on to the preparation system at a graphics terminal as the builder (mckechni in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

If you have problems starting the GI, see G.1, "Starting the Graphical Interface (GI)" on page 437 for possible causes.

Step 3. The catalog items are in dictionary order. If necessary, move the scroll bar down until the desired items appear (TOOLS.SNAMON.REF.1.1, etc.).

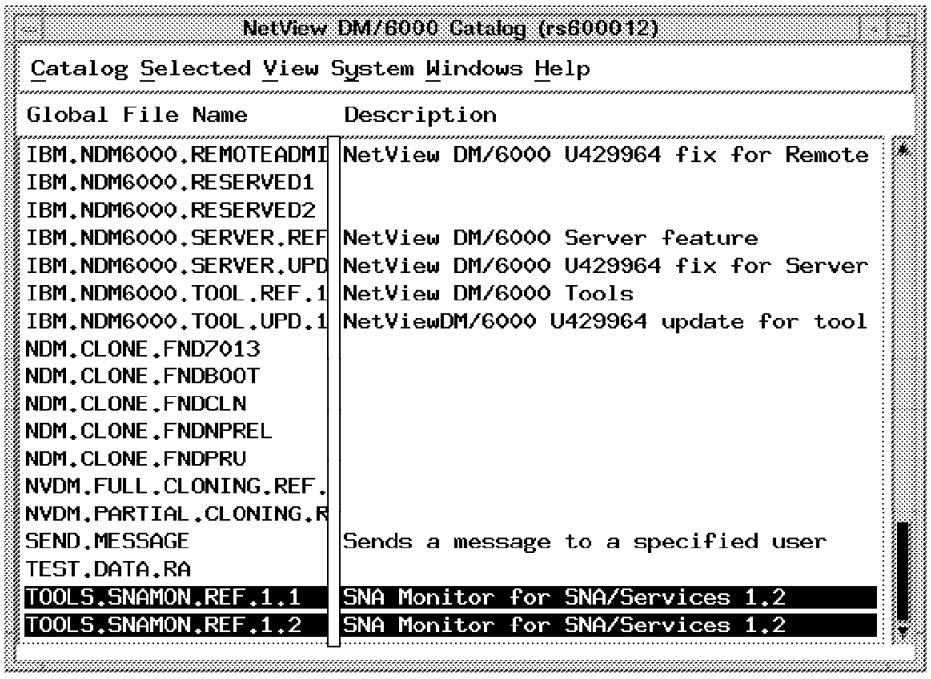

Figure 164. NetView DM/6000 Catalog Window (Preparation System)

To build and catalog the SNAMON Version 1.1 and Version 1.2 change files using the NetView DM/6000 GI, do the following:

Step 1. Log on to the preparation system at a graphics terminal as the builder (mckechni in our example).

Start the GI as described above, and from the Catalog window do the following:

Step 2. Select **Catalog** from the Catalog window menu bar.

Step 3. Select **New** from the pull-down menu.

Step 4. Select **From File** from the pull-down menu.

Step 5. Select **Profile**, and then **As Is** from the pull-down menu.

The default Select Profile window is now displayed.

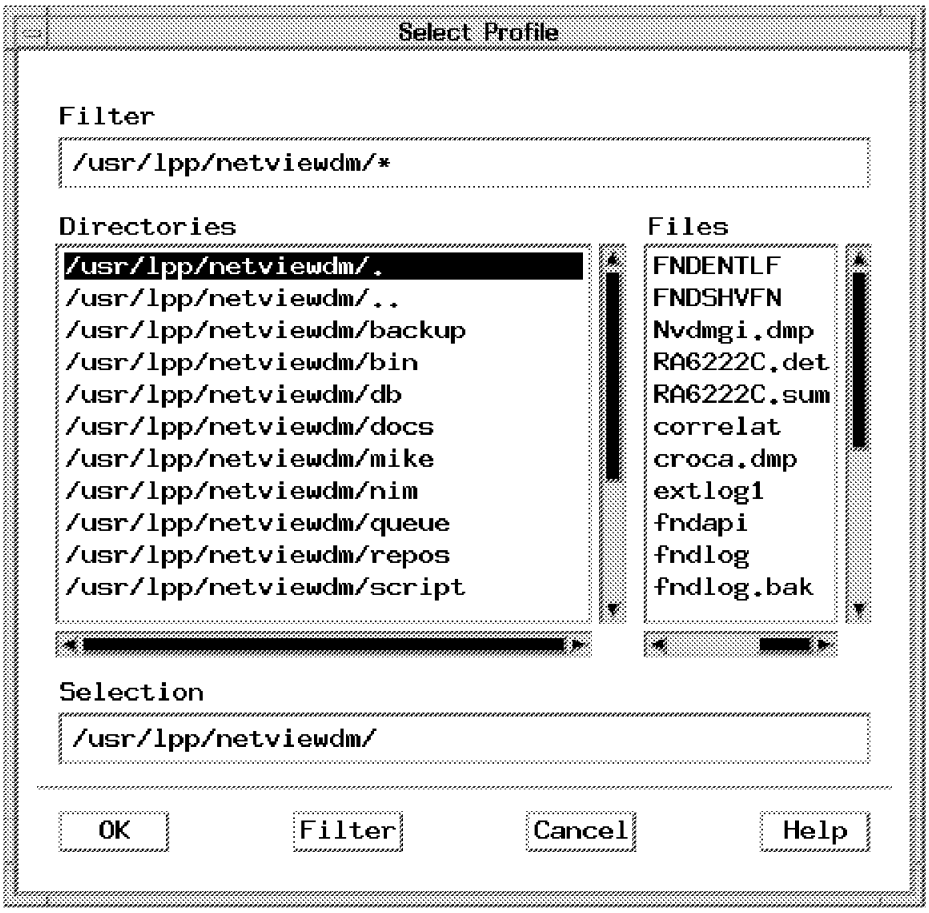

Figure 165. NetView DM/6000 Select Profile Window (Preparation System)

The correct directory path for the file containing the profile must be entered into the **Filter** input field at the top of the window. In this example the Version 1.1 profile is in the following directory `/u/mckechni/snamon/V1.1/*`, or `/u/mckechni/snamon/V1.2/*` for the Version 1.2 profile. Select the **Filter** push button at the bottom of the window to locate files within the above directory, and select the profile to be used to build and catalog a change file, which in this example is `snamon.profile`.

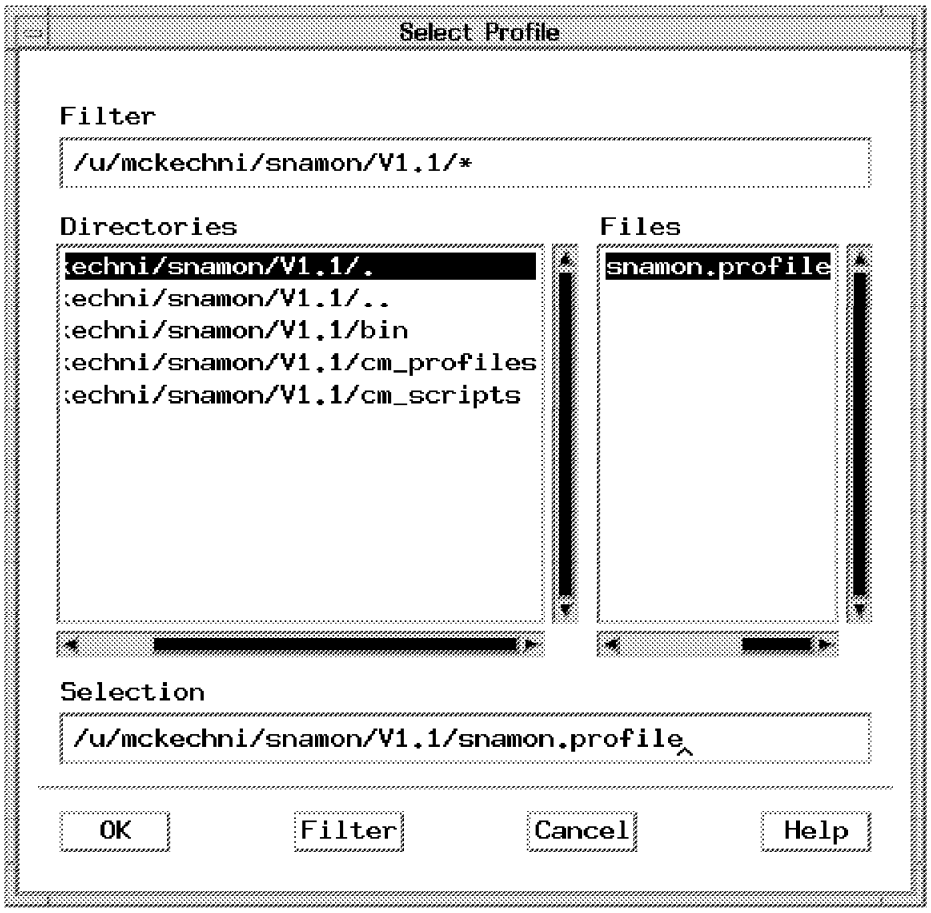

Figure 166. NetView DM/6000 Select Profile Window (Preparation System)

Step 6. Select the **OK** push button. This will bring up the Change File window.

Step 7. Select the **OK** push button to build and catalog the change file.

Note: The **Build** and **Catalog** buttons must be selected (in the ″in″ position).

Perform this process again to build and catalog the change file from the Version 1. 2 change file profile. View the contents of the catalog and if necessary, move the scroll bar down until the desired items appear (TOOLS.SNAMON.REF.1.1, etc.).

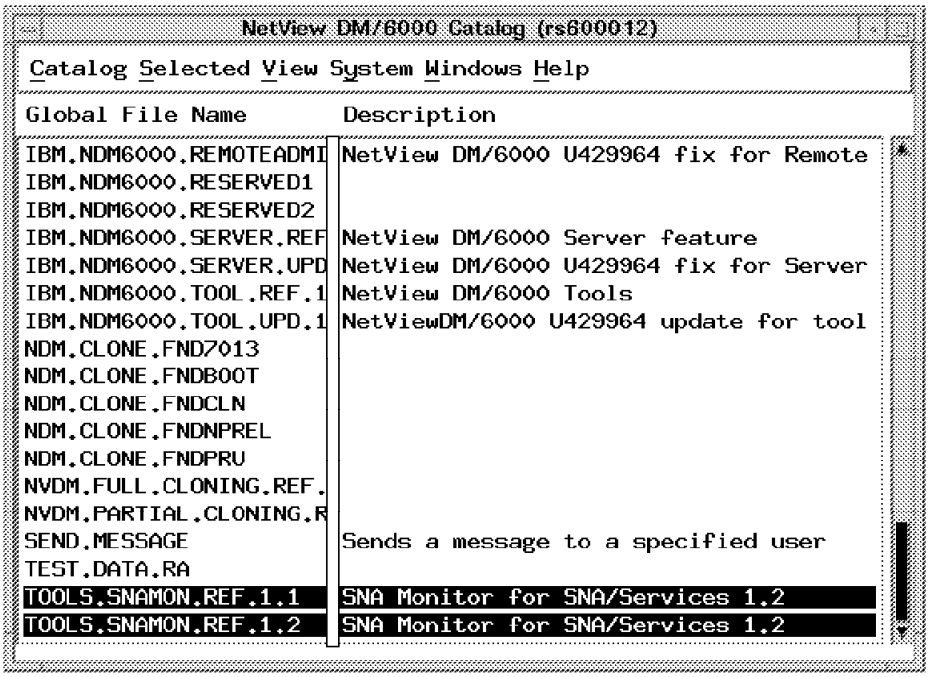

Figure 167. NetView DM/6000 Catalog Window (Preparation System)

8.3 Installing, Accepting and Uninstalling Version 1.1

In this change management activity, we use the NetView Distribution Manager/6000 GI to:

- Install Version 1.1 removably
- Accept Version 1.1
- Uninstall Version 1.1

Before you begin, you must start the GI as follows:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example) at a graphics terminal.

Note: You will recall that in this scenario, the preparation system and server are the same RISC System/6000 (rs600012).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

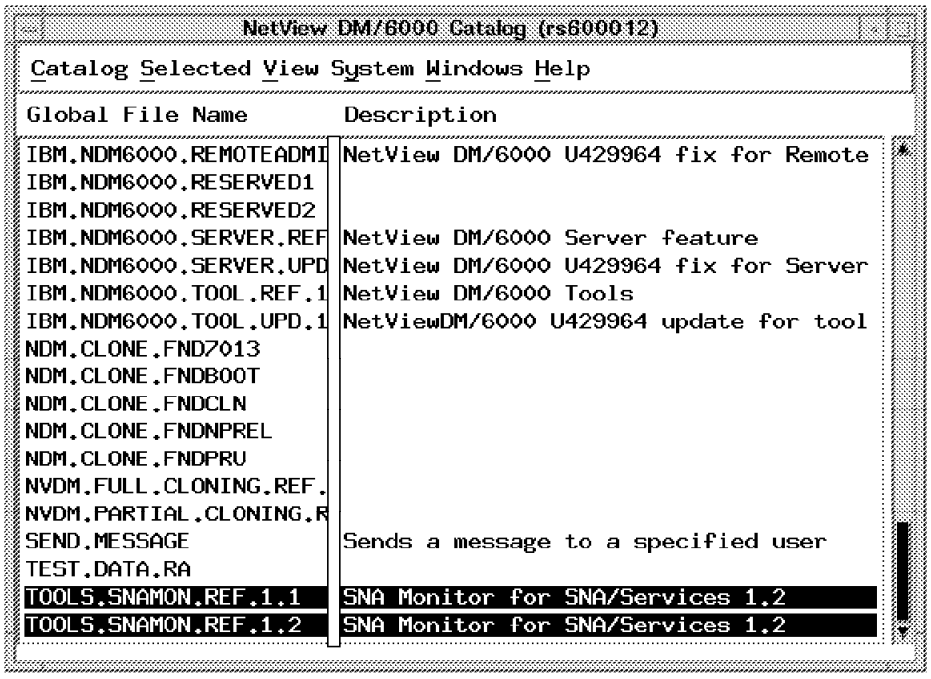

Figure 168. NetView DM/6000 Catalog Window (Preparation System)

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

If you would like to follow what is happening in NetView Distribution Manager/6000 whilst the request is being processed, enter the following command at the client system (rs60003 in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your client system terminal.

8.3.1 Installing Version 1.1 Removable

To install the Version 1.1 change file, removably, do the following:

Step 1. In the Catalog window (Figure 168) select the TOOLS.SNAMON.REF.1.1 object from the list of cataloged items.

Step 2. In the Catalog window select **Selected** from the menu bar.

Step 3. Select **Install** from the pull-down menu. This will bring up the Install Change Files window.

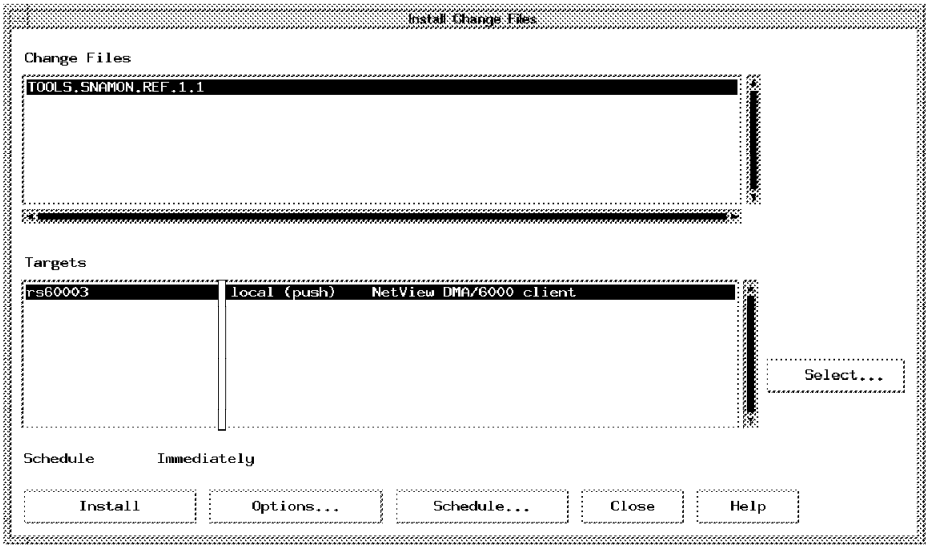

Figure 169. NetView DM/6000 Install Change Files Window

Step 4. Select the client (rs60003) from the list of targets.

We take the default options here (install as removable, without requiring activation, and without automatically accepting install). We are not interested in scheduling the change to happen at a later time. We want the request to be scheduled immediately. This is the default.

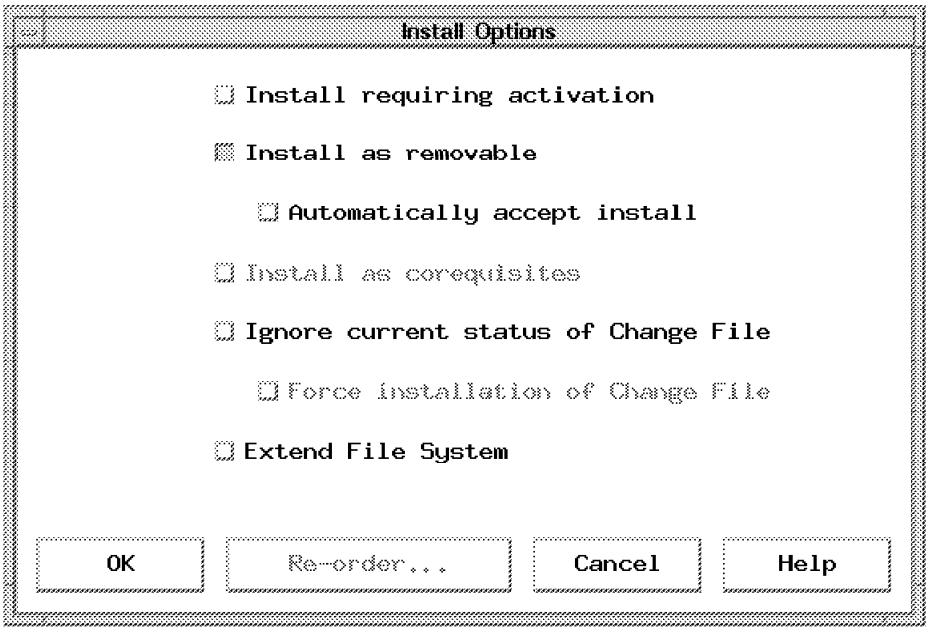

Figure 170. NetView DM/6000 Install Options Window - Defaults

Step 5. Select the **Install** push button. This will bring up the Correlator window.

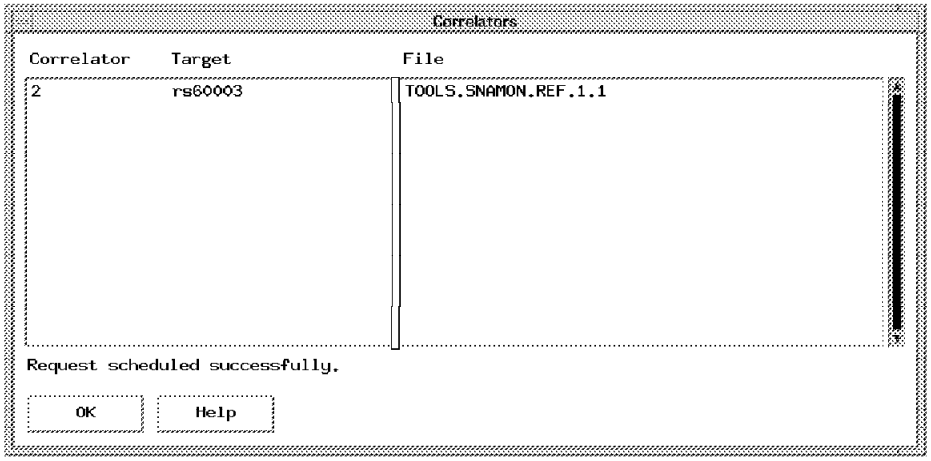

Figure 171. NetView DM/6000 Correlator Window

Step 6. Select the **OK** push button. This will return you to the Install Change Files window.

Step 7. Select the **Close** push button. This will return you to the Catalog window.

You may find it interesting to examine the client history at this point. If you do, follow the instructions in 8.4.4, “Examining the Client History” on page 228. The status of TOOLS.SNAMON.REF.1.1 should be the same as that shown in Figure 172.

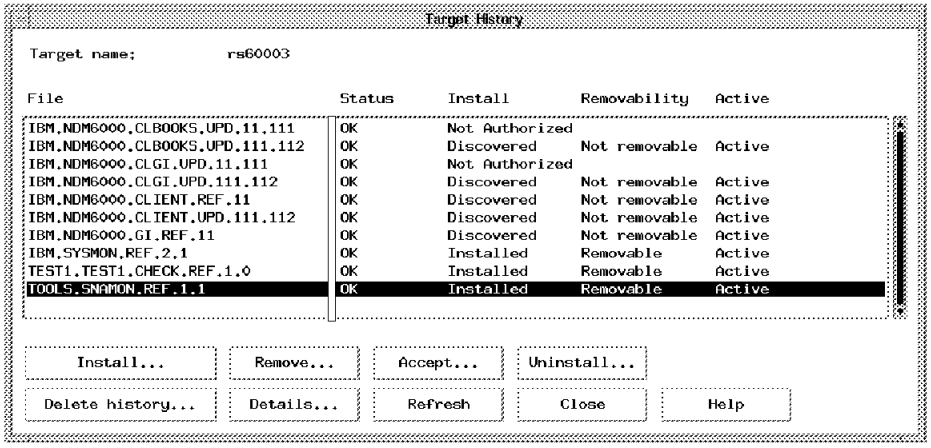

Figure 172. NetView DM/6000 Target History Window (rs60003)

Explanation:

1. Status ″OK″ means that the installation proceeded without error.
2. ″Installed″ in the Install field means that the change file was installed under change management control, rather than discovered.
3. The change file is ″removable″, because this is the default, and we accepted it (step 5 on page 217).
4. The change is already ″Active″ because activation not required is the default, and we accepted it (step 5 on page 217). Had we brought up the Install Options panel and selected ″Install Requiring Activation″, the Active field

would show ″Inactive″ until the target had performed an activate (reboot) and the change file had been moved from the Service Area to the Active Area.

8.3.2 Accepting Version 1.1

In order to install a new level of change file, the installation of the existing level must be made permanent; therefore, we have to accept the Version 1.1 change file. The removability of the change file must change from ″Removable″ to ″Not Removable″. There is no longer a backup copy of the change file. To accept the Version 1.1 change file do the following:

Step 1. In the Catalog window (Figure 168 on page 216) select the TOOLS.SNAMON.REF.1.1 object from the list of cataloged items.

Note: The catalog items are in dictionary order. Move the scroll bar down until the desired item appears.

Step 2. In the Catalog window select **Selected** from the menu bar.

Step 3. Select **Accept** from the pull-down menu. This will bring up the Accept Change Files window.

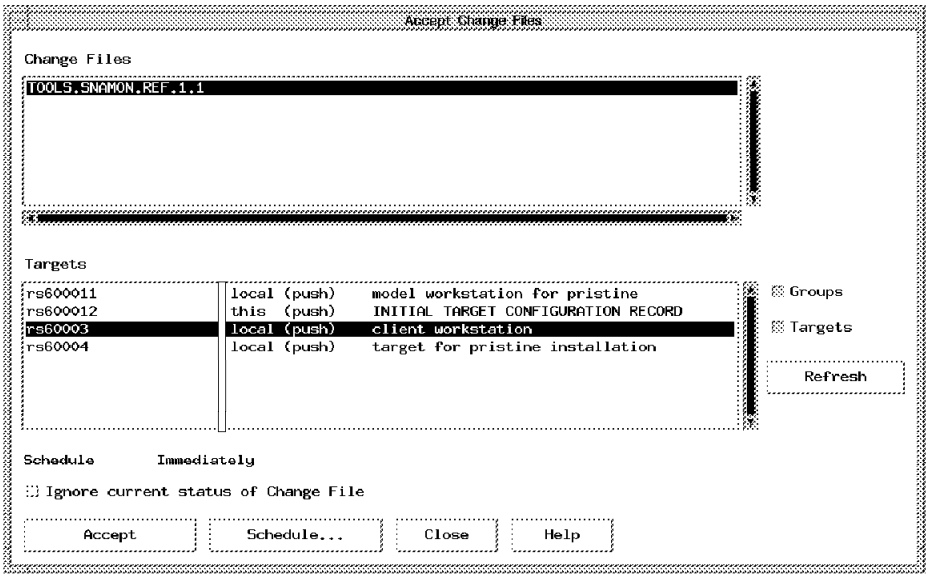

Figure 173. NetView DM/6000 Accept Change Files Window

Step 4. Select the client (rs60003) from the list of targets.

Leave the **Ignore Current Status of Change File** button in the unselected (out) position. The current change file status should allow an accept request.

We are not interested in scheduling the change to happen at a later time. We want the request to be scheduled immediately. This is the default.

Step 5. Select the **Accept** push button. This will bring up the Correlator window.

Step 6. Select the **OK** push button. This will return you to the Accept Change Files window.

Step 7. Select the **Close** push button. This will return you to the Catalog window.

You may find it interesting to examine the client history at this point. If you do, follow the instructions in 8.4.4, “Examining the Client History” on page 228. The status of TOOLS.SNAMON.REF.1.1 should be the same as that shown in Figure 174 on page 220.

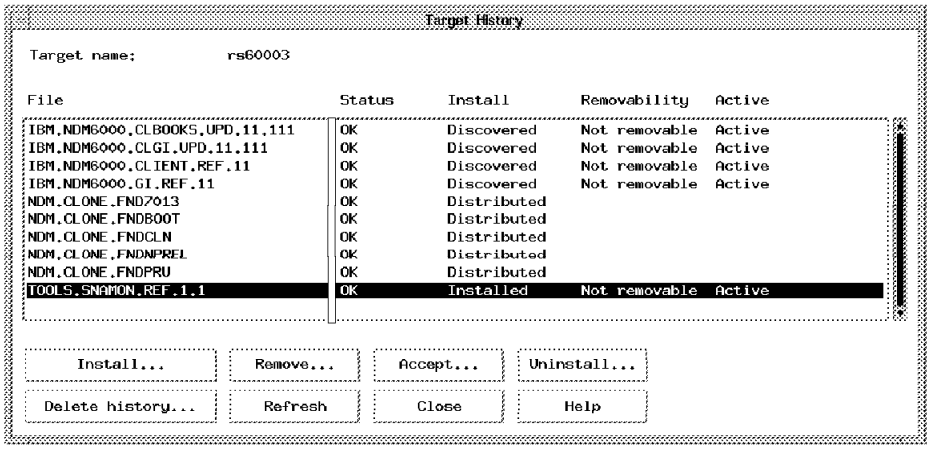

Figure 174. NetView DM/6000 Target History Window

Explanation:

1. Notice that the Removability field has changed to ″Not Removable″. This is what we would expect after a successful accept request.
2. All other fields remain unchanged.

8.3.3 Uninstalling SNAMON

You use Uninstall to delete a *component with all associated levels.* This request would be used for example, if a product became obsolete.

Step 1. In the Catalog window (Figure 168 on page 216) select the TOOLS.SNAMON.REF.1.1 object from the list of cataloged items.

Step 2. In the Catalog window select **Selected** from the menu bar.

Step 3. Select **Uninstall** from the pull-down menu. This will bring up the Uninstall Change Files window:

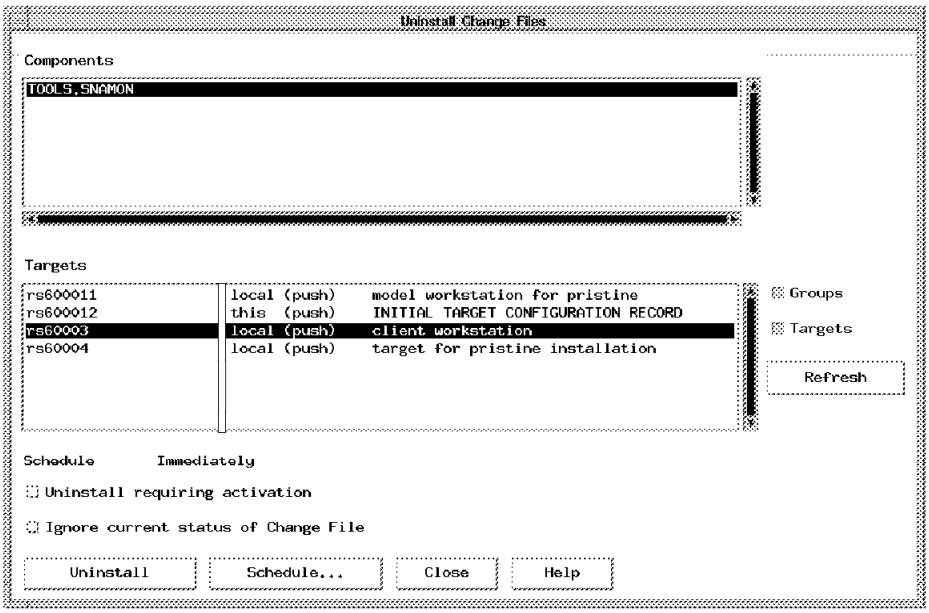

Figure 175. NetView DM/6000 Uninstall Change Files Window

Step 4. Select the client (rs60003) from the list of targets.

Leave the **Uninstall requiring activation** button in the unselected (out) position, so as to uninstall *without* requiring activation.

Leave the **Ignore Current Status of Change File** button in the unselected (out) position. The current change file status should allow an uninstall request.

Note: The Components field shows TOOLS.SNAMON without any level, as an Uninstall request removes the component and all associated levels. See also the remove command in the following section.

We are not interested in scheduling the change to happen at a later time. We want the request to be scheduled immediately. This is the default.

Step 5. Select the **Uninstall** push button. This will bring up the Correlator window.

Step 6. Select the **OK** push button. This will return you to the Uninstall Change Files window.

Step 7. Select the **Close** push button. This will return you to the Catalog window.

You may find it interesting to examine the client history at this point. If you do, follow the instructions in 8.4.4, “Examining the Client History” on page 228. The status of TOOLS.SNAMON.REF.1.1 should be the same as that shown in Figure 176 on page 222.

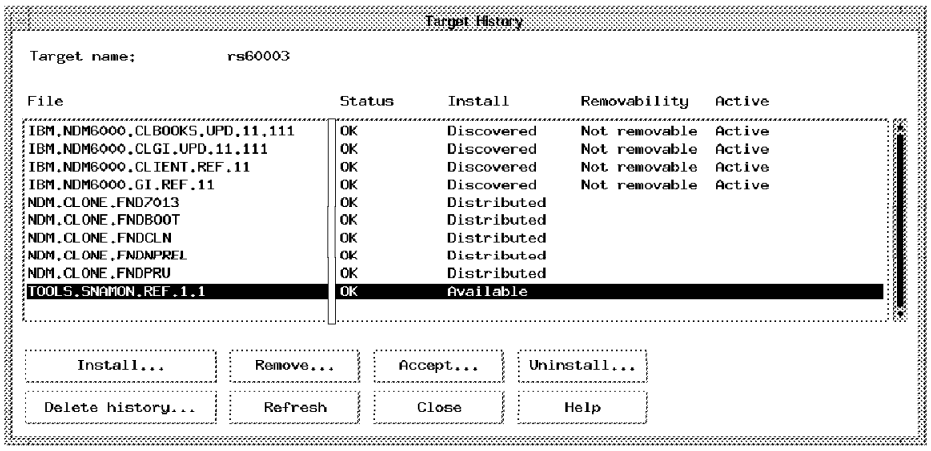

Figure 176. NetView DM/6000 Target History Window

Explanation:

Notice that the Install field has changed to ″Available″ and the other two fields have been blanked out. This simply means that the uninstall succeeded; therefore, the change file is available to be installed on the client again, if desired.

8.4 Installing V1.2 over V1.1 and Rolling Back to V1.1

In this change management activity, we use the NetView Distribution Manager/6000 GI to:

1. Install Version 1.1 removably, and automatically accept it.
2. Install Version 1.2 removably over Version 1.1.
3. Remove Version 1.2.

Before you begin, you must start the GI as follows:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example) at a graphics terminal.

Note: You will recall that in this scenario, the preparation system and server are the same RISC System/6000 (rs600012).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

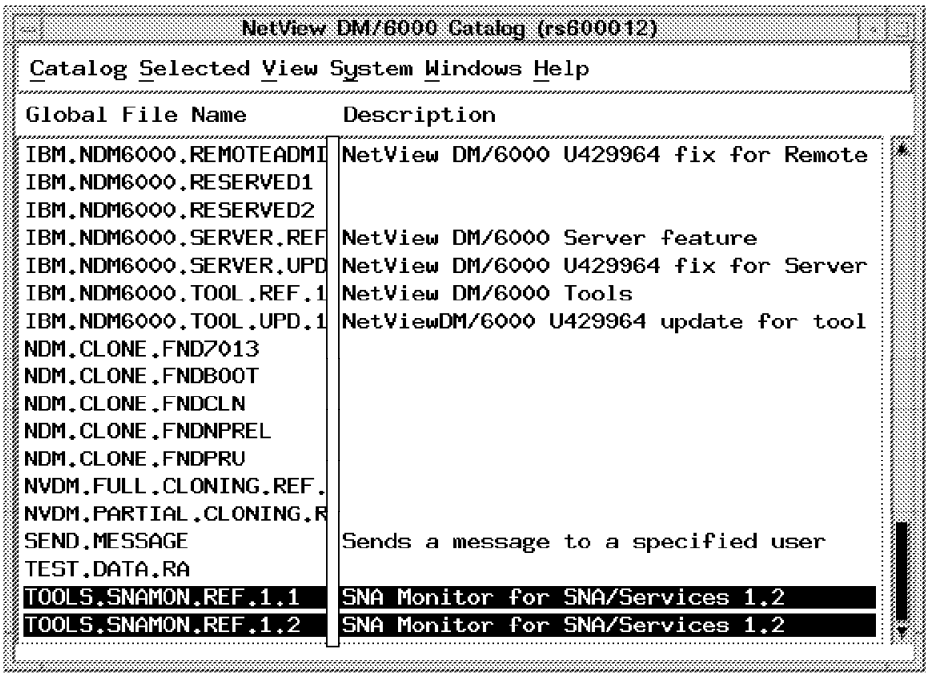

Figure 177. NetView DM/6000 Catalog Window

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

If you would like to follow what is happening in NetView Distribution Manager/6000 whilst the request is being processed, enter the following command at the client system (rs60003 in our example):

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to your client system terminal.

8.4.1 Installing SNAMON V1.1 with Auto-Accept

Install and automatically accept the Version 1.1 change file. If the change file is installed and not automatically accepted, an accept request would have to be scheduled and submitted for the change file prior to an installation of a newer version of that change file. To install the Version 1.1 change file, and automatically accept it, do the following:

Step 1. In the Catalog window (Figure 177) select the TOOLS.SNAMON.REF.1.1 object from the list of cataloged items.

Note: The catalog items are in dictionary order. Move the scroll bar down until the desired item appears.

Step 2. In the Catalog window select **Selected** from the menu bar.

Step 3. Select **Install** from the pull-down menu. This will bring up the Install Change Files window:

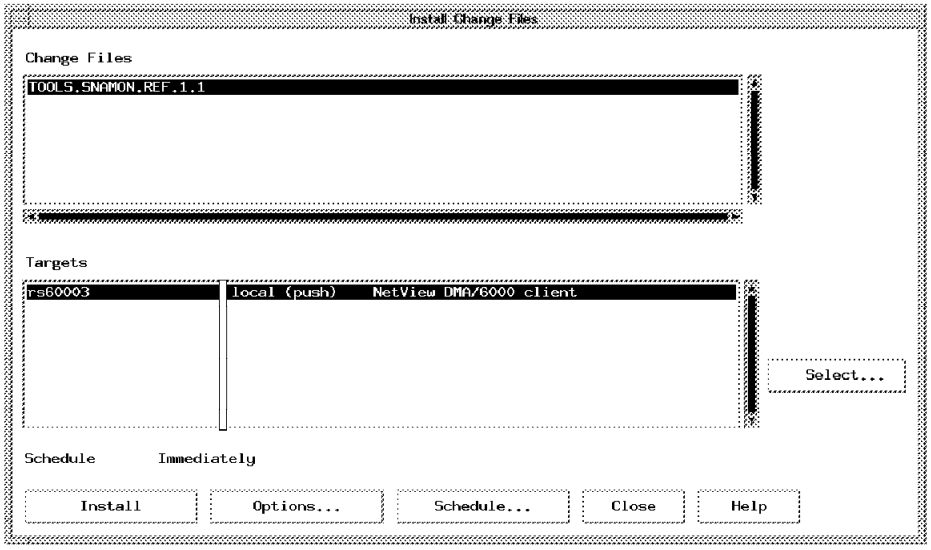

Figure 178. NetView DM/6000 Install Change Files Window

Step 4. Select the client (rs60003) from the list of targets.

Step 5. Select the **Options** push button. This will bring up the Install Options window.

Step 6. Select the **Automatically Accept Install** button.

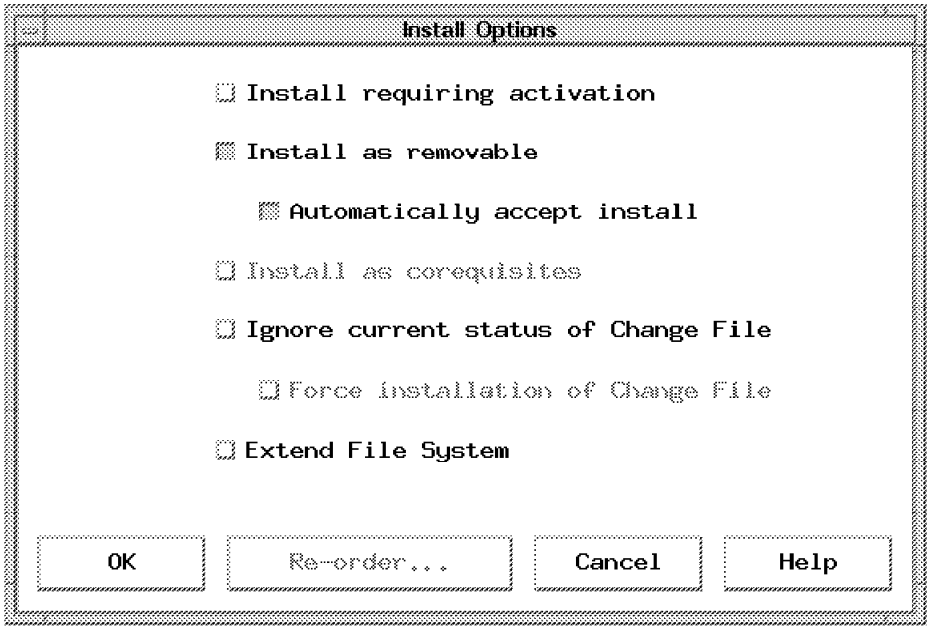

Figure 179. NetView DM/6000 Install Options Window

Your Install Options panel should now look like Figure 179, with only the **Install as Removable** and **Automatically Accept Install** buttons selected (in the ″in″ position). The status of the change file after successful installation should be Installed, Not Removable and Active, enabling you to immediately submit an Install request for a new level of change file.

If the **Automatically Accept Install** button is not selected, the status of the change file would be Installed, Removable and Active. This means that you would have

to schedule an Accept request for the change file, and make the change permanent before submitting an Install request for a new level of change file.

Step 7. Select the **OK** push button. This will return you to the Install Change Files window.

We are not interested in scheduling the change to happen at a later time. We want the request to be scheduled immediately, this is the default.

Step 8. Select the **Install** push button, this will bring up the Correlator window.

Step 9. Select the **OK** push button, this will return you to the Install Change Files window.

Step 10. Select the **Close** push button, this will return you to the Catalog window.

You may find it interesting to examine the client history at this point. If you do, follow the instructions in 8.4.4, “Examining the Client History” on page 228. The status of TOOLS.SNAMON.REF.1.1 should be the same as that shown in Figure 180.

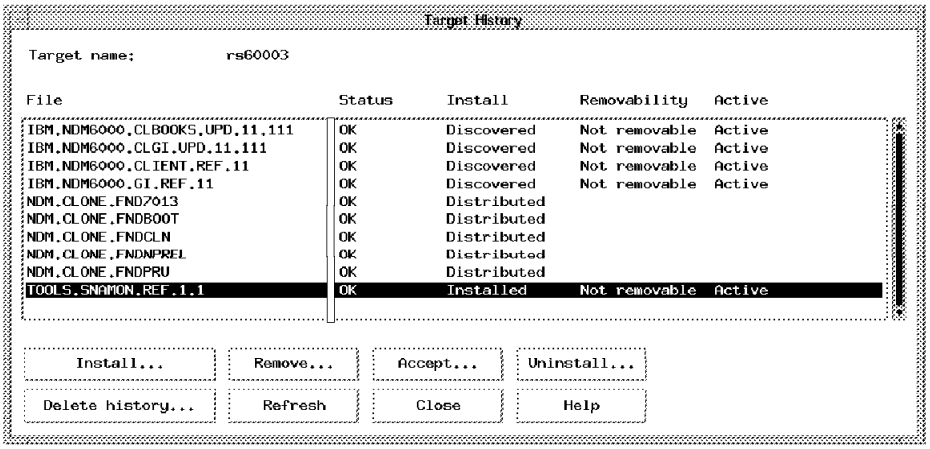

Figure 180. NetView DM/6000 Target History Window

Explanation:

1. Status ″OK″ means that the installation proceeded without error.
2. ″Installed″ in the Install field means that the change file was installed under change management control, rather than discovered after change management came into effect.
3. The change file is ″not removable″, because we selected ″Automatically Accept Install″ in the Install Options panel in step 6 on page 224.
4. The change is already ″Active″ because activation not required is the default.

8.4.2 Installing Version 1.2 Removable over Version 1.1

To install the Version 1.2 change file, removably, do the following:

Step 1. In the Catalog window (Figure 177 on page 223) select the TOOLS.SNAMON.REF.1.2 object from the list of cataloged items.

Step 2. In the Catalog window select **Selected** from the menu bar.

Step 3. Select **Install** from the pull-down menu. This will bring up the Install Change Files window.

Step 4. Select the client (rs60003) from the list of targets.

We take the default options here (Install as removable, without Install requiring activation, and without Automatically accepting install). We are not interested in scheduling the change to happen at a later time. We want the request to be scheduled immediately, this is the default.

Step 5. Select the **Install** push button, this will bring up the Correlator window.

Step 6. Select the **OK** push button, this will return you to the Install Change Files window.

Step 7. Select the **Close** push button, this will return you to the Catalog window.

You may find it interesting to examine the client history at this point. If you do, follow the instructions in 8.4.4, “Examining the Client History” on page 228. The status of TOOLS.SNAMON.REF.1.1 and TOOLS.SNAMON.REF.1.2 should be the same as that shown in Figure 181.

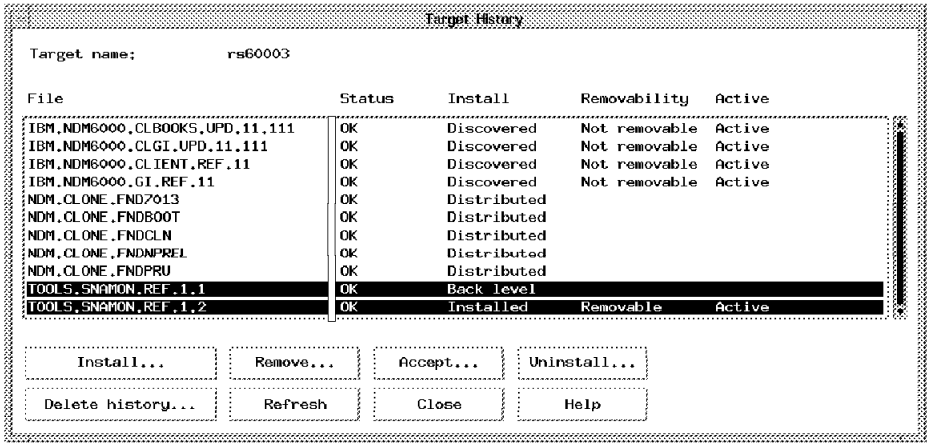

Figure 181. NetView DM/6000 Target History Window

Explanation:

1. TOOLS.SNAMON.REF.1.1:
   - Notice that the Install field has changed to ″Back Level″, and the other two fields are blanked out. This means that a backup copy of this change file is available, should you wish to regress back to it (remove TOOLS.SNAMON.REF.1.2).
2. TOOLS.SNAMON.REF.1.2:
   - Status ″OK″ means that the installation proceeded without error.
   - ″Installed″ in the Install field means that the change file was installed under change management control, rather than discovered.
   - The change file is ″removable″, because this is the default, and we accepted it.
   - The change is already ″Active″ because activation was not required for this change.

Notice that because we are installing Removable over a previous level this time, that there are files to be backed up. NetView DM/6000 automatically compresses these files, to save disk space, and stores them in the Backup area.

8.4.3 Remove Version 1.2 and Restore Version 1.1

Remove the Version 1.2 change file. This request would be performed in the event of errors, or of some form of failure with Version 1.2 of the change file. The result would be a rollback to the Version 1.1 change file. To remove the Version 1.2 change file do the following:

Step 1. In the Catalog window (Figure 177 on page 223) select the TOOLS.SNAMON.REF.1.2 object from the list of cataloged items.

Step 2. In the Catalog window select **Selected** from the menu bar.

Step 3. Select **Remove** from the pull-down menu. This will bring up the Remove Change Files window.

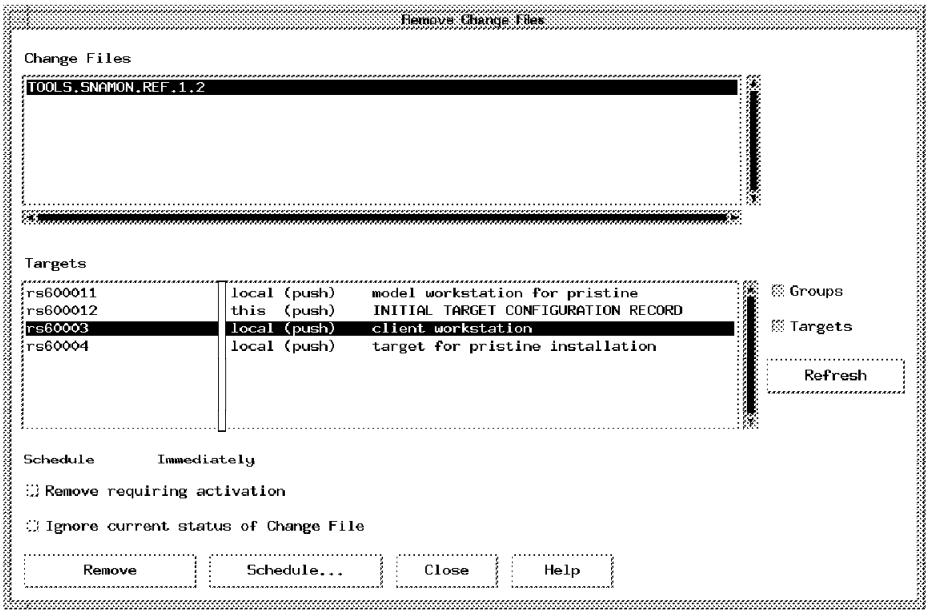

Figure 182. NetView DM/6000 Remove Change Files Window

Step 4. Select the client (rs60003) from the list of targets.

Leave the **Remove requiring activation** button in the unselected (out) position, so as to remove *without* requiring activation.

Leave the **Ignore Current Status of Change File** button in the unselected (out) position. The current Change File status should allow a remove request.

We are not interested in scheduling the change to happen at a later time. We want the request to be scheduled immediately. This is the default.

Step 5. Select the **Remove** push button. This will bring up the Correlator window.

Step 6. Select the **OK** push button, this will return you to the Remove Change Files window.

Step 7. Select the **Close** push button, this will return you to the Catalog window.

You may find it interesting to examine the client history at this point. If you do, follow the instructions in 8.4.4, “Examining the Client History” on page 228. The

status of TOOLS.SNAMON.REF.1.1 and TOOLS.SNAMON.REF.1.2 should be the same as that shown in Figure 183 on page 228.

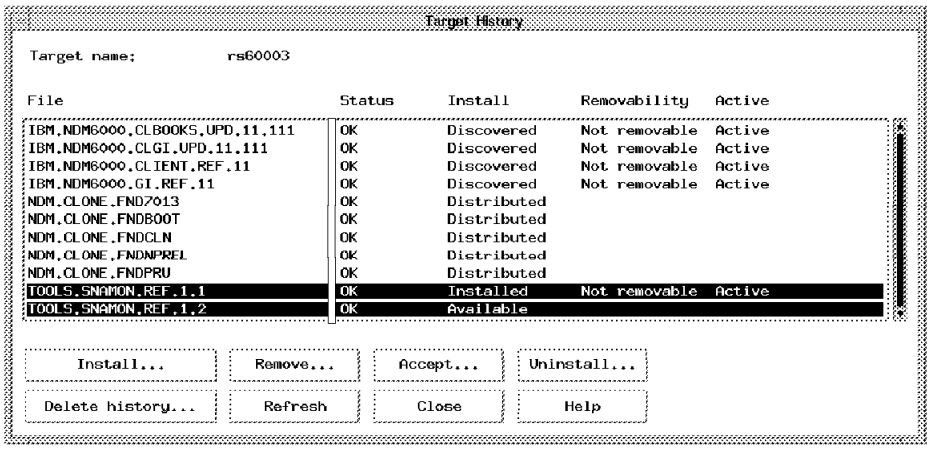

Figure 183. NetView DM/6000 Target History Window

Explanation:

1. TOOLS.SNAMON.REF.1.1:
   - Notice that all the fields have changed back to the values they had prior to TOOLS.SNAMON.REF.1.2 being installed (see Figure 180 on page 225), as expected after a successful remove operation.
2. TOOLS.SNAMON.REF.1.2:
   - Notice that the Install field has changed to ″Available″ and the other two fields have been blanked out. This simply means that the remove succeeded; therefore the change file is available to be installed on the client again, if desired.

8.4.4 Examining the Client History

We assume that you have started the GI already, and have a Catalog window displayed.

To examine the client history at the server, do the following:

Step 1. In the Catalog window, select **Windows** from the menu bar.

Step 2. Select **Targets** from the pull-down menu, and the Targets window will open (Figure 184 on page 229).

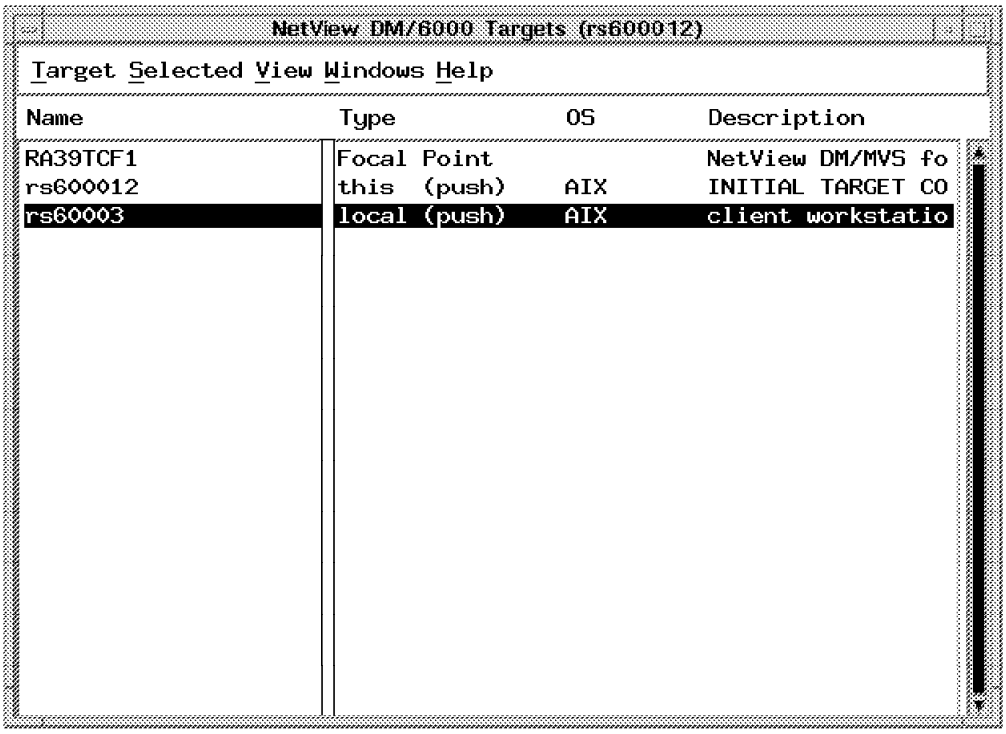

Figure 184. Targets Window (Server)

Step 3. From the Targets window, select the client (rs60003). The client target should now be highlighted.

Step 4. Select **Selected** from the Targets window menu bar.

Step 5. Select **Open** from the pull-down menu.

Step 6. Select **History** from the cascaded menu, and the Target History window will open.

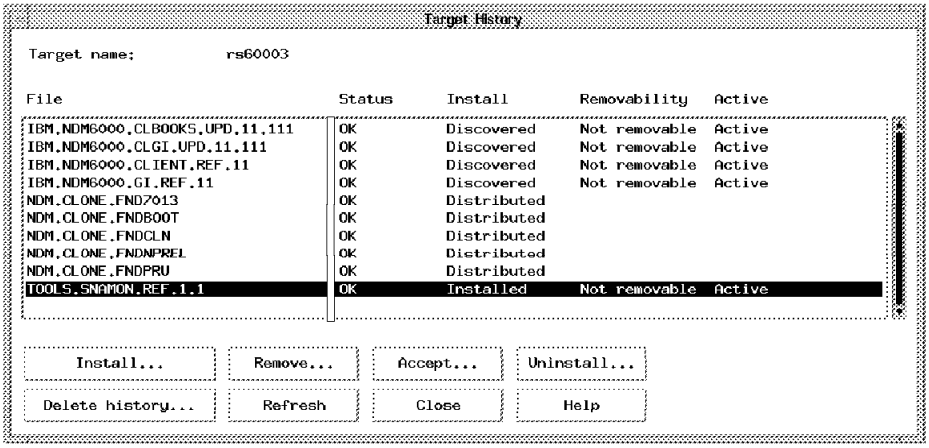

Figure 185. NetView DM/6000 Target History Window

Part 4. Scenario III: Interconnecting NetView DM/6000 Servers

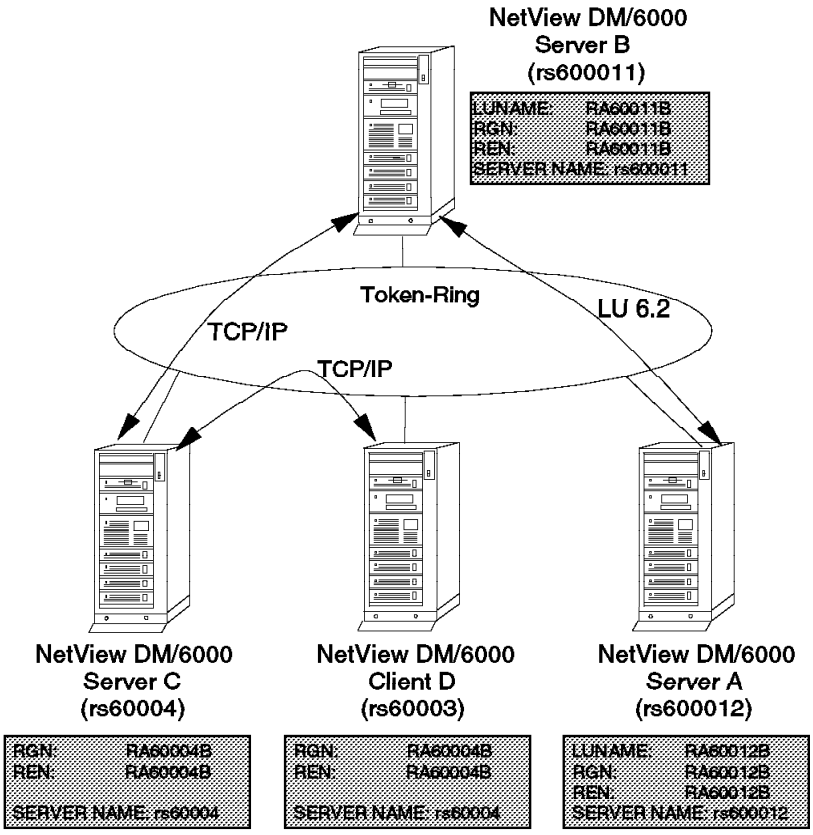

Figure 186. Scenario III Configuration

As Figure 186 shows, NetView Distribution Manager/6000 is the central change management system in three separate change management domains.

A NetView Distribution Manager/6000 server in one change control domain cannot manage servers and clients in another server's domain. However, the remote administrator function enables a NetView Distribution Manager/6000 workstation installed as a remote administration site to perform change management and control requests to all servers and clients attached to it. In this scenario we do not explore the remote administrator function (see Chapter 12, "Scenario IV: NetView DM/6000 Remote Administrator" on page 301), but only the inter-domain connected server environment, with servers connected using both the LU 6.2, and TCP/IP protocols.

In a more realistic network, each server would probably manage a number of clients, however in this scenario we use only one. The multiple server systems consist of, server A (rs600012), server B (rs600011) and server C (rs60004) as well as the single client system, client D (rs60003). All are physically connected by token-ring.

In this scenario, we aim to show you how to set up SNA on server A and server B for a "peer-to-peer" LU 6.2 connection, as well as the NetView DM/6000 configuration between TCP/IP-attached server B and server C. We also show

you an example of file distribution in this environment by retrieving a trace file from server A to server B. No other change management function is supported between servers without having the remote administrator feature installed on a server.

The configuration and distribution activities for this scenario are described in the following chapters:

- Chapter 9, “Configuration Activities” on page 233 guides you through the tasks you need to carry out to configure the servers.
- Chapter 10, “Managing the Resources in Scenario III” on page 289 describes how to start, stop and display the status of each of the resources involved.
- Chapter 11, “Retrieving Trace File from Peer NetView DM/6000 Server” on page 295 takes you through the steps involved in carrying out the distribution activity.

As a point of interest, you may recall that we used rs600011 as the preparation system in scenario I, where it had an LU 6.2 connection to the MVS host. You may also recall that SNA support on rs600011 is provided by SNA Server/6000 Version 2.1, instead of SNA Services/6000 Version 1.2. One of the SNA Server enhancements is the ability to have an SNA connection to multiple systems over the *same* adapter. In practice, we were able to leave the MVS connection in place, and create a new LU 6.2 connection to rs600012. We were also able to carry out change management and distribution activities to both systems (MVS and rs600012) simultaneously.

Chapter 9. Configuration Activities

The configuration activities for scenario III are:

Server A (rs600012)

- Configuring LU 6.2 at server A (rs600012) using SNA Services/6000 Version 1.2
- Configuring SNA/DS at server A (rs600012)
- Configuring NetView Distribution Manager/6000 at server A (rs600012)
- Adding server B to server A′s configuration

Server B (rs600011)

- Configuring LU 6.2 at server B (rs600011) using SNA Server/6000 Version 2.1
- Configuring SNA/DS at server B (rs600011)
- Configuring NetView Distribution Manager/6000 at server B (rs600011)
- Adding server A to server B′s configuration

Servers B and C (rs60004)

- Adding TCP/IP-attached server B to server C′s configuration (rs60004)
- Adding TCP/IP-attached server C to server B′s configuration (rs600011)

Configuring LU 6.2 at the servers is achieved by configuring SNA profiles. NetView Distribution Manager/6000 supports both SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1.

Note: SNA Server/6000 Version 2.1 is actually Version 2 of SNA Services/6000. The change of name reflects the fundamental nature of the new function it provides.

There are significant differences in the way these two versions are configured. In case you plan to use SNA Server/6000 in your NetView DM network, we have configured server B in this scenario using SNA Server/6000 Version 2.1. Server A uses SNA Services/6000 Version 1.2.

9.1 Configuring LU 6.2 at Server A (rs600012) Using SNA Services

In this example, we will configure SNA Services in a bottom upwards fashion, starting with the SNA subsystem (the *SNA node*), then the link station and physical unit (the *attachment*), then the local LU and the session characteristics (the *connection*), and finally the CPIC side information.

As explained in 1.3, “Introduction to SNA/DS, SNA/FS and SNA/MS” on page 10, the SNA Services profiles are organized in a logical hierarchy. The attachment profile refers to:

- Control point profile
- Physical link profile
- Logical link profile

The local LU profile refers to:

- Transaction list profile (refers to one or more transaction profiles)

The connection profile refers to:

- Attachment profile
- Local LU profile
- Mode list profile (refers to one or more mode profiles)
- Remote transaction list profile (refers to one or more transaction profiles)

Note: The SNA node and the CPIC side information profile don't reference any other profiles.

The contents of the above profiles are explained briefly in 1.3, "Introduction to SNA/DS, SNA/FS and SNA/MS" on page 10, and in detail in *AIX Communications Concepts and Procedures for RISC System/6000*.

Check for Existing SNA Profiles First!

You may find that SNA is already configured on server A, and an attachment is already defined for server B. If this is the case, you *must* use the existing attachment profile because SNA Services/6000 Version 1.2 will not let you run another attachment over the same physical adapter. This removes the need for you to define a new SNA node and attachment for the NetView Distribution Manager/6000 LU 6.2 connection. If you already have a suitable attachment, skip over the SNA node and attachment definition activities, and go straight to defining the connection, remembering to use the existing attachment name in the connection profile.

It is also possible that LU 6.2 defined in your system already meets the requirements of NetView Distribution Manager/6000. If this is so, you may use this profile in the NetView Distribution Manager/6000 LU 6.2 connection, rather than defining a new local LU.

We will now walk through the *smit* panels involved in configuring SNA Services, starting with the profiles related to the SNA subsystem, then the attachment, then the connection, and finally the CPIC side information.

Before you begin the following smit configuration activities, read 2.1, "Notes on Using SMIT" on page 19 and 2.2, "Notes on Using SMIT to Configure SNA Services or SNA Server" on page 20.

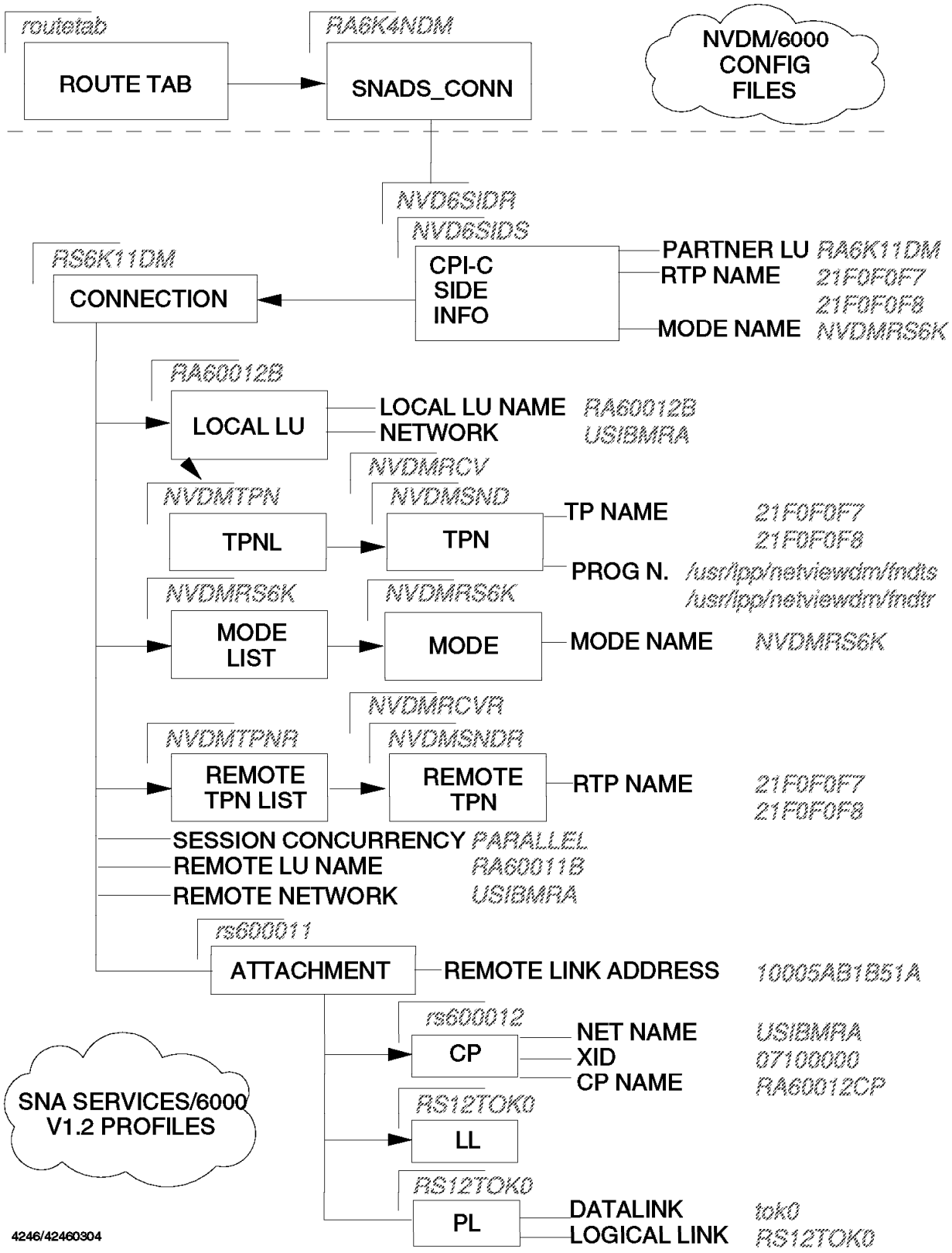

Figure 187. SNA Services/6000 and NetView Distribution Manager/6000 Configuration Overview

9.1.1 SNA Node Profile (SNA Node)

```
                        Change / Show SNA Node Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                sna
  NEW PROFILE name                                   []
  Total active open CONNECTIONS (1-5000)             [200]                    #
  Total SESSIONS (1-5000)                            [200]                    #
  Total CONVERSATIONS (1-5000)                       [200]                    #
  SERVER synonym name                                [sna]
  RESTART action                                      once                   +
  Perform ERROR LOGGING?                              yes                    +
  Standard INPUT file/device                         [/dev/console]
  Standard OUTPUT file/device                        [/dev/console]
  Standard ERROR file/device                         [/dev/console]




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 188. SNA Node Profile SMIT Panel

Do the following:

Step 1. Type `smit` on the AIX command line.

Step 2. Select **Communications Applications and Services**.

Step 3. Select **SNA Services**.

Step 4. Select **Configure SNA Profiles** *(fastpath name: sna)*.

Step 5. Select **Advanced SNA Configuration**.

Step 6. Select **Nodes**.

Step 7. Select **Systems Network Architecture**.

Step 8. Select **Add a profile** *(fastpath name: _snasnamk)*.

Step 9. Fill in the fields according to Figure 188 and press Enter to make the changes effective.

9.1.1.1 Explanation

We have accepted the default of ″sna″ for the profile name.

We have accepted the defaults for all other attributes.

9.1.2 Control Point Profile (Attachment)

```
                    Change / Show SNA Control Point Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                               rs600012
  NEW PROFILE name                                   []
  XID node ID                                        [07100000]                X
  NETWORK name                                       [USIBMRA]
  CONTROL POINT name                                 [RA6012CP]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 189. Control Point SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the Nodes panel.

Step 2. Select **Control Point**.

Step 3. Select **Add a profile** *(fastpath name: _snacpmk)*.

Step 4. Fill in the fields according to Figure 189.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.2.1 Explanation

We have chosen rs600012 as the profile name, to match the control point name for ease of reference. You can choose any name you like here.

The XID Node ID (07100000) is irrelevant because we have elected not to implement XID on this attachment.

We have chosen (USIBMRA) as the Network Name. It must match the network name in server B′s control point profile (9.5.2, “Control Point Profile (Control Point)” on page 265).

We have chosen RA6012CP as the Control Point Name. You can choose any name you like here.

9.1.3 Physical Link Profile (Attachment)

```
                Change / Show SNA Token Ring Physical Link Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                               RS12TOK0
  NEW PROFILE name                                   []
  DATALINK device name                               [tok1]                  +
  LOCAL LINK name                                    [RS12TOK0]
  Maximum number of LOGICAL LINKS (1-255)            [32]                     #
  Local SAP address (hex 04-ec)                      [04]                     X

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 190. Physical Link Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **Advanced SNA Configuration** panel.

Step 2. Select **Physical Units**.

Step 3. Select **Token Ring**.

Step 4. Select **Token Ring Data Link Control**.

Step 5. Select **Token Ring Physical Link**.

Step 6. Select **Add a profile** *(fastpath name: _snatokphymk)*.

Step 7. Fill in the fields according to Figure 190.

Step 8. Press Enter to make the changes effective.

Step 9. Press F3 (Cancel) to return to the input panel.

9.1.3.1 Explanation

We have chosen RS12TOK0 as the profile name, to be the same as the local link name for ease of reference.

Datalink device name (tok1) is the name of the AIX device driver for the communications adapter we are using (we have chosen the second token-ring adapter, tr1).

Local Link Name (RS12TOK0) is the name by which the link is known to other SNA attachments in the network for access routing (see 9.1.5, “Attachment Profile (Attachment)” on page 240).

We have accepted the default (32) for the maximum number of logical links.

We have accepted the default (04) for the local SNA SAP address.

9.1.4 Logical Link Profile (Attachment)

```
                Change / Show SNA Token Ring Logical Link Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                  [Entry Fields]
  CURRENT profile name                                 RS12TOK0
  NEW PROFILE name                                    []
  TRANSMIT window count (1-127)                       [10]                      #
  DYNAMIC window increment (1-127)                    [1]                       #
  RETRANSMIT count (1-30)                             [8]                       #
  RECEIVE window count (1-127)                        [127]                     #
  RING ACCESS priority                                 0                       +
  RETRY limit                                         [20]                      #
  DROP LINK on inactivity?                             yes
  INACTIVITY timeout (1-120 seconds)                  [120]                     #
  RESPONSE timeout (1-40, 500 msec intervals)         [2]                       #
  ACKNOWLEDGE timeout (1-40, 500 msec intervals)      [1]                       #
  FORCE DISCONNECT timeout (1-600 seconds)            [600]                     #
  DEFINITION of maximum I-FIELD size                   system_defined          +
[MORE...3]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 191. Logical Link Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **Token Ring Data Link Control** panel.

Step 2. Select **Token Ring Logical Link**.

Step 3. Select **Add a profile** *(fastpath name: _snatoklogmk)*.

Step 4. Fill in the fields according to Figure 191.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.4.1 Explanation

We have chosen RS12TOK0 as the profile name.

We have accepted the defaults for all attributes.

9.1.5 Attachment Profile (Attachment)

```
                Change / Show SNA Token Ring Attachment Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                               rs600011
  NEW PROFILE name                                   []
  CONTROL POINT profile name                         [rs600012]              +
  LOGICAL LINK profile name                          [RS12TOK0]              +
  PHYSICAL LINK profile name                         [RS12TOK0]              +
  STOP ATTACHMENT on inactivity?                      no                     +
     If yes, inactivity TIMEOUT (0-10 minutes)       [0]                      #
  RESTART on deactivation?                            no                     +
  LU address REGISTRATION?                            no                     +
     If yes, LU address REGISTRATION PROFILE name    [LDEFAULT]              +
  CALL type                                           listen                 +
     If listen,
        AUTO-LISTEN?                                  no                     +
        MINIMUM SAP address (hex 04-ec)              [04]                     X
        MAXIMUM SAP address (hex 04-ec)              [EC]                     X
     If call, ACCESS ROUTING                          link_address           +
        If link-name, REMOTE LINK name               []
        If link-address,
           Remote LINK address                       [10005AB1B51A]           X
           Remote SAP address (hex 04-ec)            [04]                     X

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 192. Attachment Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **Token Ring** panel.

Step 2. Select **Token Ring Attachment**.

Step 3. Select **Add a profile** *(fastpath name: _snatokattcmk)*.

Alternative:

If you still have the Add SNA Token Ring Physical Link Profile panel displayed from the previous task, press F3 until you are returned to the Token Ring panel, and follow the instructions from step 2.

Step 4. Fill in the fields according to Figure 192

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.5.1 Explanation

We have chosen a profile name of rs600011 to be the same IP hostname of server B. Although it is not mandatory to do this, it is in line with the natural relationship between the attachment and its partner node. This is the name that the attachment shows up as in the `lssrc` output.

This attachment profile references control point profile rs600012, logical link profile RS12TOK0 and physical link profile RS12TOK0, which we have defined above.

We have set Stop Attachment on Inactivity to NO because we want the attachment to remain active, even when there are no sessions in progress. You may wish to set this attribute to YES to conserve system resources.

We have set Restart on Deactivation to NO because we are want to manually start the attachment each time it becomes inactive. You may wish to set this attribute to YES so that the attachment restarts automatically.

We have set Call Type to ″listen″ because we want server B to bring up the attachment. If you prefer this server (server A) to bring the link up (when the attachment is started), set this attribute to ″call″.

Warning!

If Call Type is ″listen″ here, you *must* set the ″Initiate call when link station is activated″ field to YES in system B′s link station profile (9.5.4, “Link Station Profile (Link Station)” on page 268). If you set it to NO, the attachment will never become active, because each server will wait for the other to start it.

We have chosen to route the link activation request on link address rather than name, and have therefore set the Access Routing attribute to ″link_address″.

Remote Link Address (10005AB1B51A) must match server B′s token-ring adapter address (also known as the MAC or hardware address).

Finding the Token-Ring Address

There are at least two ways to find the address of a token-ring adapter. One way is the `netstat` command, and the other the `lscfg` command. netstat is really a TCP/IP command. lscfg is more general purpose.

By the `netstat` method, enter the following command at **server B**:

```
netstat -v | pg
```

Page through the output until the details for the desired token-ring adapter appear. The address will be six pairs of hexadecimal digits, separated by the colon (:) character. Omit the colons when entering the address in the Attachment Profile panel.

By the `lscfg` method, enter the following command at **server B**:

```
lscfg -vl tok0
```

This should display about 10 or 15 lines of information about the adapter, including the network address.

We do not wish to use this attachment for LU 0 services; therefore, we have set the LU Address Registration attribute to NO.

We have accepted the defaults for all other attributes.

9.1.6 Local LU Profile (Connection)

```
                    Change / Show SNA LU6.2 Local LU Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                RA60012B
  NEW PROFILE name                                   []
  TPN LIST profile name                              [NVDMTPN]                +
  NETWORK name                                       [USIBMRA]
  Local LU NAME                                      [RA60012B]
  INDEPENDENT LU?                                     yes                     +
     If no,
        Local LU ADDRESS (1-255)                     [1]                      #
        SSCP ID                                      []

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 193. Local LU Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **SNA Services** panel.

Step 2. Select **Logical Units**.

Step 3. Select **LU6.2**.

Step 4. Select **LU6.2 Local Logical Unit**.

Step 5. Select **Add a profile** *(fastpath name: _snalocalu6mk)*.

Step 6. Fill in the fields according to Figure 193.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

9.1.6.1 Explanation

We have chosen a profile name of RA60012B to be the same as the Local LU name in the profile. It is not mandatory to do this, but doing so makes the profile easier to identify.

The local LU profile references the TPN List profile NVDMTPN which we define below.

Network name (USIBMRA) must match the network name in the control point profile (9.1.2, “Control Point Profile (Attachment)” on page 237).

We have chosen RA60012B as the Local LU Name.

The LU 6.2 used by NetView Distribution Manager/6000 is independent (for example, is capable of initiating a BIND); therefore, we have set the Independent LU attribute to YES.

We have accepted the defaults for all other attributes.

9.1.7 Mode Profile (Connection)

```
                    Change / Show SNA LU6.2 Mode Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMRS6K
  NEW PROFILE name                                   []
  MODE name                                          [NVDMRS6K]
  Maximum number of SESSIONS (1-999)                 [7]                    #
  Minimum contention WINNERS (0-499)                 [0]                    #
  Minimum contention LOSERS (0-500)                  [0]                    #
  Auto ACTIVATIONS limit (0-500)                     [0]                    #
  RECEIVE pacing (0-63)                              [7]                    #
  SEND pacing (0-63)                                 [7]                    #
  Maximum RU SIZE (256,288,...,3840)                 [3840]                 #
  RECOVERY level                                      no_reconnect          +




F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 194. Mode Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **Mode**.

Step 3. Select **Add a profile** *(fastpath name: _snamodemk)*.

Step 4. Fill in the fields according to Figure 194.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.7.1 Explanation

We have chosen a profile name of NVDMRS6K to be the same as the mode name in the profile. It is not mandatory to do this, but doing so makes the profile easier to identify.

Mode name (NVDMRS6K) must match mode name in server B′s mode profile (9.5.6, “Mode Profile (Session)” on page 272).

We have set Maximum RU SIZE to the highest value allowed (3840) for SNA Services/6000, because we are using a LAN capable of sustaining a high throughput.

We have left the maximum number of sessions at 7 because the application (NetView DM/6000) at both sides (servers A and B) is capable of supporting parallel sessions.

Note: Server B is configured as an APPN network node, and will therefore establish a service session with server A. You must set this field to at least 2, to make provision for the service session and the NetView DM/6000 session.

We have accepted the defaults for all other attributes.

9.1.8 Mode List Profile (Connection)

```
                        Add SNA LU6.2 Mode List Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                   [Entry Fields]
* PROFILE name                                        [NVDMMODE]
  Add profile names to list:
     Name  1                                          [NVDMRS6K]              +
     Name  2                                          []                      +
     Name  3                                          []                      +
     Name  4                                          []                      +
     Name  5                                          []                      +
     Name  6                                          []                      +
     Name  7                                          []                      +
     Name  8                                          []                      +
     Name  9                                          []                      +
     Name 10                                          []                      +
     Name 11                                          []                      +
     Name 12                                          []                      +
[MORE...52]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 195. Mode List Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **Mode List**.

Step 3. Select **Add a profile** *(fastpath name: _snamodelmk)*.

Step 4. Fill in the fields according to Figure 195 on page 244.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.8.1 Explanation

We have chosen a profile name of NVDMODE to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

We have created only one mode profile (NVDMRS6K) that needs including in the list.

9.1.9 Transaction Profiles (Connection)

```
                    Change / Show SNA LU6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMSND
  NEW PROFILE name                                   []
  Transaction program name is in HEXADECIMAL?         yes                    +
  TRANSACTION program name                           [21F0F0F7]
  PIP data?                                           no                     +
     If yes, SUBFIELDS (0-99)                        [0]                     #
  CONVERSATION type                                   basic                  +
  RECOVERY level                                      no_reconnect           +
  SYNC level                                          none                   +
  Full PATH to TPN executable                        [/usr/lpp/netviewdm/bin/fndts]
  MULTIPLE INSTANCES supported?                       yes                    +
  User ID                                            [0]                     #
  SERVER synonym name                                []
  RESTART action                                      once                   +
  COMMUNICATION type                                  signals                +
     If IPC, communication IPC queue key             [0]                     #
  Standard INPUT file/device                         [/dev/null]
  Standard OUTPUT file/device                        [/dev/console]
  Standard ERROR file/device                         [/dev/console]
  SECURITY Required                                   none                   +
     If access,
        RESOURCE SECURITY ACCESS LIST profile        [RSRCDEFAULT]
        (If no name entered, /etc/passwd used)


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 196. Transaction Profile SMIT Panel (Send)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU6.2 Transaction Program Name (TPN)**.

Step 3. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 4. Fill in the fields according to Figure 196.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.9.1 Explanation

We have chosen a profile name of NVDMSND to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended.

```
                    Change / Show SNA LU6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMRCV
  NEW PROFILE name                                   []
  Transaction program name is in HEXADECIMAL?         yes                    +
  TRANSACTION program name                           [21F0F0F8]
  PIP data?                                           no                     +
     If yes, SUBFIELDS (0-99)                        [0]                     #
  CONVERSATION type                                   basic                  +
  RECOVERY level                                      no_reconnect           +
  SYNC level                                          none                   +
  Full PATH to TPN executable                        [/usr/lpp/netviewdm/bin/fndtr]
  MULTIPLE INSTANCES supported?                       yes                    +
  User ID                                            [0]                     #
  SERVER synonym name                                []
  RESTART action                                      once                   +
  COMMUNICATION type                                  signals                +
     If IPC, communication IPC queue key             [0]                     #
  Standard INPUT file/device                         [/dev/null]
  Standard OUTPUT file/device                        [/dev/console]
  Standard ERROR file/device                         [/dev/console]
  SECURITY Required                                   none                   +
     If access,
        RESOURCE SECURITY ACCESS LIST profile        [RSRCDEFAULT]
        (If no name entered, /etc/passwd used)


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 197. Transaction Profile SMIT Panel (Receive)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU6.2 Transaction Program Name (TPN)**.

Step 3. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 4. Fill in the fields according to Figure 197.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

Fill in the fields according to Figure 197 and press Enter to make the changes effective.

9.1.9.2 Explanation

We have chosen a profile name of NVDMRCV to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended.

9.1.10 Transaction List Profile (Connection)

```
                          Add SNA LU6.2 TPN List Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                    [Entry Fields]
* PROFILE name                                         [NVDMTPN]
  Add profile names to list:
     Name  1                                           [NVDMSND]              +
     Name  2                                           [NVDMRCV]              +
     Name  3                                           []                     +
     Name  4                                           []                     +
     Name  5                                           []                     +
     Name  6                                           []                     +
     Name  7                                           []                     +
     Name  8                                           []                     +
     Name  9                                           []                     +
     Name 10                                           []                     +
     Name 11                                           []                     +
     Name 12                                           []                     +
[MORE...52]

F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 198. Transaction List Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU6.2 Transaction Program Name List**.

Step 3. Select **Add a profile** *(fastpath name: _snatpnlmk)*.

Step 4. Fill in the fields according to Figure 198.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.10.1 Explanation

We have chosen a profile name of NVDMTPN to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

We have created two mode profiles (NVDMSND and NVDMRCV) that need including in the list.

9.1.11 Remote Transaction Profiles (Connection)

```
                    Change / Show SNA LU6.2 RTPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMSNDR
  NEW PROFILE name                                   []
  RTPN name is in HEXADECIMAL?                        yes                    +
  RTPN name                                          [21F0F0F7]
  PIP data?                                           no                     +
  CONVERSATION type                                   basic                  +
  RECOVERY level                                      no_reconnect           +
  SYNC level                                          none                   +

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 199. Remote Transaction Profile SMIT Panel (Send)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **Remote Transaction Program Name (RTPN)**.

Step 3. Select **Add a profile** *(fastpath name: _snartpnmk)*.

Step 4. Fill in the fields according to Figure 199.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.11.1 Explanation

We have chosen a profile name of NVDMSNDR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Remote Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended.

```
                    Change / Show SNA LU6.2 RTPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVDMRCVR
  NEW PROFILE name                                   []
  RTPN name is in HEXADECIMAL?                        yes                +
  RTPN name                                          [21F0F0F8]
  PIP data?                                           no                 +
  CONVERSATION type                                   basic              +
  RECOVERY level                                      no_reconnect       +
  SYNC level                                          none               +

F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 200. Remote Transaction Profile SMIT Panel (Receive)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **Remote Transaction Program Name (RTPN)**.

Step 3. Select **Add a profile** *(fastpath name: _snartpnmk)*.

Step 4. Fill in the fields according to Figure 200.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.11.2 Explanation

We have chosen a profile name of NVDMRCVR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Remote Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide*.

9.1.12 Remote Transaction List Profile (Connection)

```
                        Add SNA LU6.2 RTPN List Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                    [Entry Fields]
* PROFILE name                                         [NVDMTPNR]
  Add profile names to list:
     Name  1                                           [NVDMSNDR]              +
     Name  2                                           [NVDMRCVR]              +
     Name  3                                           []                      +
     Name  4                                           []                      +
     Name  5                                           []                      +
     Name  6                                           []                      +
     Name  7                                           []                      +
     Name  8                                           []                      +
     Name  9                                           []                      +
     Name 10                                           []                      +
     Name 11                                           []                      +
     Name 12                                           []                      +
[MORE...52]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 201. Remote Transaction List Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU6.2 Remote Transaction Program List**.

Step 3. Select **Add a profile** *(fastpath name: _snartpnlmk)*.

Step 4. Fill in the fields according to Figure 201.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.12.1 Explanation

We have chosen a profile name of NVDMTPNR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

We have created two mode profiles (NVDMSNDR and NVDMRCVR) that need including in the list.

9.1.13 Connection Profile (Connection)

```
                Change / Show SNA LU6.2 Logical Connection Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                RA60011B
  NEW PROFILE name                                   []
  ATTACHMENT profile name                            [rs600011]                +
  LOCAL LU profile name                              [RA60012B]               +
  NETWORK name                                       [USIBMRA]
  STOP CONNECTION on inactivity?                      no                       +
     If yes, TIMEOUT (0-10 minutes)                  [0]                       #
  REMOTE LU name                                     [RA60011B]
  SECURITY Accepted                                   none                     +
     If conversation or already_verified,
     CONVERSATION SECURITY ACCESS LIST profile        [CONVDEFAULT]
        (If no name entered, /etc/passwd used)
  REMOTE TPN LIST profile name                       [NVDMTPNR]               +
  MODE LIST profile name                             [NVDMMODE]               +
  INTERFACE type                                      extended                +
     If extended, SESSION CONCURRENCY                 parallel                +
  Node VERIFICATION?                                  no                       +

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 202. Connection Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU6.2 Logical Connection**.

Step 3. Select **Add a profile** *(fastpath name: _snaconnlu6ch)*.

Step 4. Fill in the fields according to Figure 202.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.13.1 Explanation

We have chosen a profile name of RA60011B to signify that this profile describes a connection between the the local LU (RA60012B) and NetView DM/6000 at server B (rs600011). This is the name that the connection shows up as in the `lssrc` output.

The connection profile references Attachment profile rs600011, Local LU profile RA60012B, Remote TPN List profile NVDMTPNR and Mode List profile NVDMMODE which we have defined above.

Network Name (USIBMRA) must match the network name in the control point profile (9.1.2, “Control Point Profile (Attachment)” on page 237).

Remote LU Name (RA60011B) corresponds to the LU name of the NetView DM/6000 LU at server B, that is the Local LU Name in the Local LU Profile (9.5.5, “Local LU Profile (Session)” on page 271).

We have set Session Concurrency to ″parallel″ to permit parallel sessions between servers A and B.

Note: Server B is configured as an APPN network node, and will therefore establish a service session with server A. You must set this field to ″parallel″ to permit the parallel service and the NetView DM/6000 sessions.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide*.

9.1.14 CPIC Side Information Profiles (CPIC Side Information)

```
        Change / Show LU6.2 CPI Communications Side Information Profile


Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                 NVD6SIDS
  NEW PROFILE name                                    []

  PARTNER LU name                                     [RA60011B]              +
     Enter the name of the LU6.2 Connection
     profile which contains the destination
     remote LU name

  REMOTE TRANSACTION PROGRAM name (RTPN)              [21F0F0F7]
     SERVICE transaction program?                      yes                    +

  MODE name                                           [NVDMRS6K]



F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 203. CPIC Side Information Profile SMIT Panel (Send)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU6.2 CPI Communications Side Information**.

Step 3. Select **Add a profile** *(fastpath name: _snacpicmk)*.

Step 4. Fill in the fields according to Figure 203.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.1.14.1 Explanation

We have chosen a profile name of NVD6SIDS to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Partner LU Name (RA60011B) must match the name of the connection profile (defined above).

Remote Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

Mode Name (NVDMRS6K) must match the attribute of the same name in the mode profile (defined above).

```
        Change / Show LU6.2 CPI Communications Side Information Profile


Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  CURRENT profile name                                NVD6SIDR
  NEW PROFILE name                                   []

  PARTNER LU name                                    [RA60011B]              +
     Enter the name of the LU6.2 Connection
     profile which contains the destination
     remote LU name

  REMOTE TRANSACTION PROGRAM name (RTPN)             [21F0F0F8]
     SERVICE transaction program?                     yes                    +

  MODE name                                          [NVDMRS6K]



F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 204. CPIC Side Information Profile SMIT Panel (Receive)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU6.2 CPI Communications Side Information**.

Step 3. Select **Add a profile** *(fastpath name: _snacpicmk)*.

Step 4. Fill in the fields according to Figure 204.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

We have chosen a profile name of NVD6SIDR to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Partner LU Name (RA60011B) must match the name of the connection profile (defined above).

Remote Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

Mode Name (NVDMRS6K) must match the attribute of the same name in the mode profile (defined above).

9.2 Configuring SNA/DS at Server A (rs600012)

Before you begin, read 1.5, "Configuring NetView Distribution Manager/6000 SNA/DS Support" on page 13.

There are two configuration activities that you must carry out:

- Customize the SNA/DS connection configuration file.
- Customize the SNA/DS routing table.

You may also need to refresh the tables in the runtime system.

9.2.1 Customizing the SNA/DS Connection Configuration File

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVD6SIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVD6SIDR
NEXT DSU:                          RA60011B.RA60011B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 205. SNA/DS Connection Configuration File (Server)

Do the following:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 SNA/DS connection database directory:

```
cd /usr/lpp/netviewdm/db/snads_conn
```

Step 3. Rename the file CONNSNA to RA60011B.

Note: If you leave the CONNSNA file in this directory, it will show up in the Queues window, and in some of the messages in the log, possibly leading to confusion. It is best, therefore, to remove it. In this example, we use it as a model for our own configuration file.

Step 4. Using your preferred AIX editor (for instance *vi*) change the contents to that shown in Figure 205.

9.2.1.1 Explanation

As explained in 1.5.2, "SNA/DS Configuration File" on page 14, one of these files is needed for each LU 6.2 connection.

Each file you create in this directory shows up as a queue in the GI Queues window.

The NetView Distribution Manager/6000 installation process creates a default SNA/DS connection configuration file for APPC type connections called CONNSNA, and for TCP/IP type connections called CONNTCP. For this scenario, you need to create a configuration file for the connection to the NetView DM/6000 system, server B. This connection is defined in the SNA Services connection profile RA60011B. Thus you need to create a SNA/DS connection configuration file named RA60011B and place in it the details corresponding to the NetView DM/6000 LU 6.2 connection.

Send TP Symbolic Destination (NVD6SIDS) must match the side information profile name for the send transaction program (see 9.1.14, “CPIC Side Information Profiles (CPIC Side Information)” on page 252).

Receive TP Symbolic Destination (NVD6SIDR) must match the side information profile name for the receive transaction program (see 9.1.14, “CPIC Side Information Profiles (CPIC Side Information)” on page 252).

Next DSU (RA60011B.RA60011B) must match the RGN (RA60011B) and REN (RA60011B) NetView DM/6000 at server B, the destination for traffic routed over this SNA/DS connection.

We have left all other attributes at their default values.

9.2.2 Customizing the SNA/DS Routing Table

```
NETWORK PROTOCOL:              APPC
#
#RGN.REN           Priority  Protection  Capacity  Security  Connection  Hop
#
RA60011B.RA60011B   ANY       ANY         ANY       ANY       RA60011B   5
```

Figure 206. SNA/DS Routing Table (rs600012)

Do the following:

Step 1. Log on to the server as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 database directory:

```
cd /usr/lpp/netviewdm/db
```

Step 3. Using your preferred AIX editor (for instance *vi*) change the contents of the routing table (`routetab.cfg`) to that shown in Figure 206.

9.2.2.1 Explanation

See Figure 5 on page 15 for the field names.

The only route we need for this scenario is to server B.

We have set the RGN and REN for server B to server B′s short name RA60011B. We have therefore set the SNA/DS node address to RA60011B.RA60011B.

Note: We could have defaulted the SNA/DS node address using wildcards (*.*). However, if an attempt is made by SNA/DS at the server to route non-server B

traffic, we would prefer that a routing error is reported locally at server A, rather than have the request routed to server B, only to be rejected there.

We have no special requirements governing distribution protection, maximum distribution size, or distribution security. We indicate this by placing the keyword ANY in these fields.

The connection configuration file for the LU 6.2 session to server B is called RA60011B in our configuration. Thus we have set the Connection field to RA60011B.

We have chosen 5 for the hop count.

Note: We probably could have legitimately set the hop count to 1 in this scenario, as server B is actually 1 hop away, in SNA/DS terms. However, we were uncertain of our network topology initially, and therefore followed the corresponding recommendation in the *NetView DM/6000 Installation and Customization Guide*.

9.2.3 Refreshing the Runtime System

If NetView Distribution Manager/6000 is running when you make changes to the SNA/DS configuration, you must either stop and restart NetView DM/6000, or refresh the runtime system ″in flight″ with the new values. It can take NetView DM/6000 several minutes to complete its stop processing; therefore in most cases you will find it more convenient to refresh in flight (this generally takes just a few seconds to complete).

To check whether NetView DM/6000 is running, see 10.2.1, “Getting the Status of NetView Distribution Manager/6000” on page 290 for instructions on checking the status of NetView DM/6000 and 10.2.4, “Refreshing NetView Distribution Manager/6000 In Flight” on page 291 for instructions on refreshing it.

9.3 Configuring NetView Distribution Manager/6000 at Server A (rs600012)

Configuring NetView Distribution Manager/6000 at server A involves the following task:

- Setting the server short name

In this example, we use the NetView Distribution Manager/6000 graphical interface (GI). If you are working at a graphics terminal and wish to use the GI, you must first start the GI by entering the following command:

```
nvdmgi&
```

Note: You must be at a graphics terminal to do this.

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

If you are not at a graphics terminal, or simply prefer to use the command line interface, follow the command line alternative instructions for each task.

9.3.1 Setting the Server Short Name

The installation process automatically creates a local target entry in the NetView Distribution Manager/6000 database for the server system, that is the RISC System/6000 on which you have just installed NetView DM/6000. The name of the target automatically defaults to the RISC System/6000′s *hostname*.

There are a number of additional local target attributes that you may customize, such as periods of activity, the level of logging and so on. For the purposes of this example, we will take the defaults on all attributes except those that we have to change to get this scenario to work, namely the server short name.

Note: The installation process chooses reasonable defaults for the other attributes. We recommend that you accept these for the present, and concentrate on getting the basic communications between the servers working first. You can adjust some of the defaults later, if necessary.

To set the short name, do the following:

Step 1. In the Catalog window, select **Windows** from the menu bar.

Step 2. Select **Targets** from the pull-down menu, and the Targets window will open.

Step 3. From the Targets window, select the only target of type ″this″ in the list of targets. If you are following these instructions faithfully, it will be the only target in the list. The ″this″ target should now be highlighted.

Step 4. Select **Selected** from the Targets window menu bar.

Step 5. Select **Open** from the pull-down menu.

Step 6. Select **Details** from the cascaded menu, and the Local Target Details window will open.

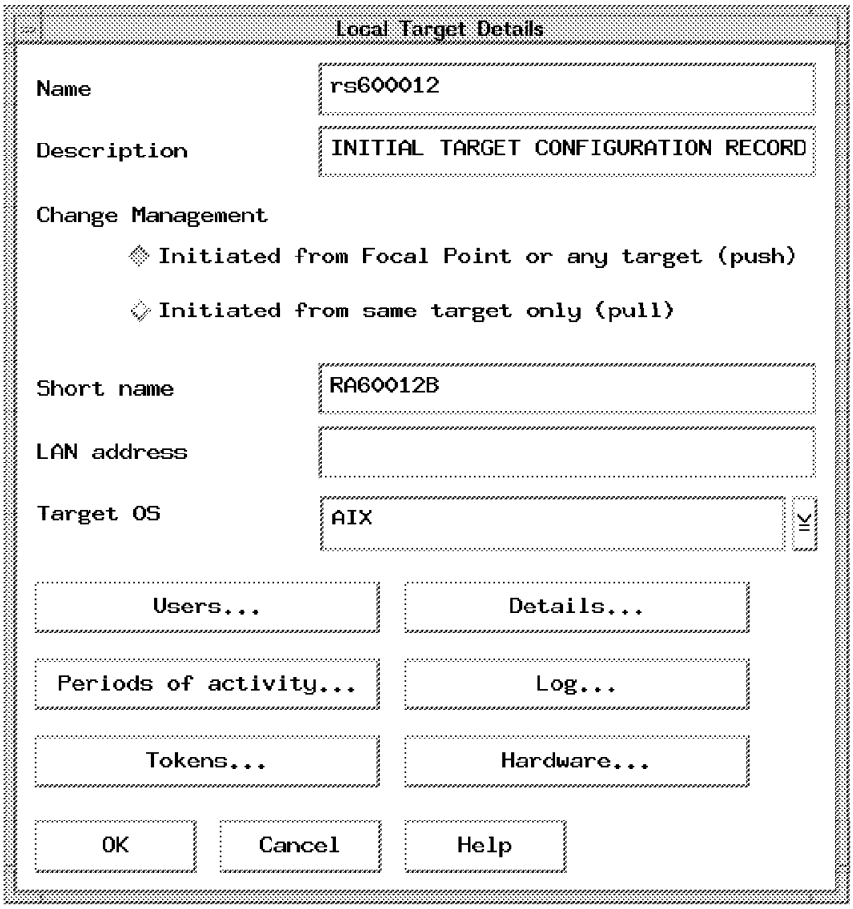

Figure 207. Local Target Details Window (rs600012)

Step 7. Enter **RA60012B**in the **Short name** field.

Step 8. Select the **OK** push button to make the changes effective.

Command Line Alternative:

```
nvdm updtg rs600012 -s RA60012B
```

9.3.1.1 Explanation

Short name is the REN of this node, and RGN for all nodes that belong to this change control domain. We have chosen to make the REN the same as the LU name of this server.

Note:

The short name of the server is also used to determine the RGN for the server and for all local clients of this server. With every change of the server′s short name you also have to change the RGN for this domain where it occurs:

- NetView DM/MVS definitions for server and client(s)
- Other remote target definitions on, for example, NetView DM/6000 or NetView DM/2 servers
- Route table entries on other NetView DM/6000 and NetView DM for NetWare servers

We have accepted the defaults for all other attributes in the target.

For information about the definition and authorization of users refer to 3.11.1, “Setting the Authorization Levels for Builders and Users” on page 91 through 3.11.5, “User Authorization Procedure” on page 98.

9.4 Adding Server B to Server A′s Configuration

In this scenario we are only interested in the file distribution functions, and for these we do not need a focal point. For information about the focal point configuration refer to 12.2, “Remote Administrator Initiated Change Control” on page 315.

To add server B to server A′s configuration, do the following:

Step 1. Go to the Targets window on server A. If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting **Targets** from the pull-down menu.

Step 2. Select **Target** from the Targets window menu bar.

Step 3. Select **New remote target** from the pull-down menu, and the New Remote Target window will open.

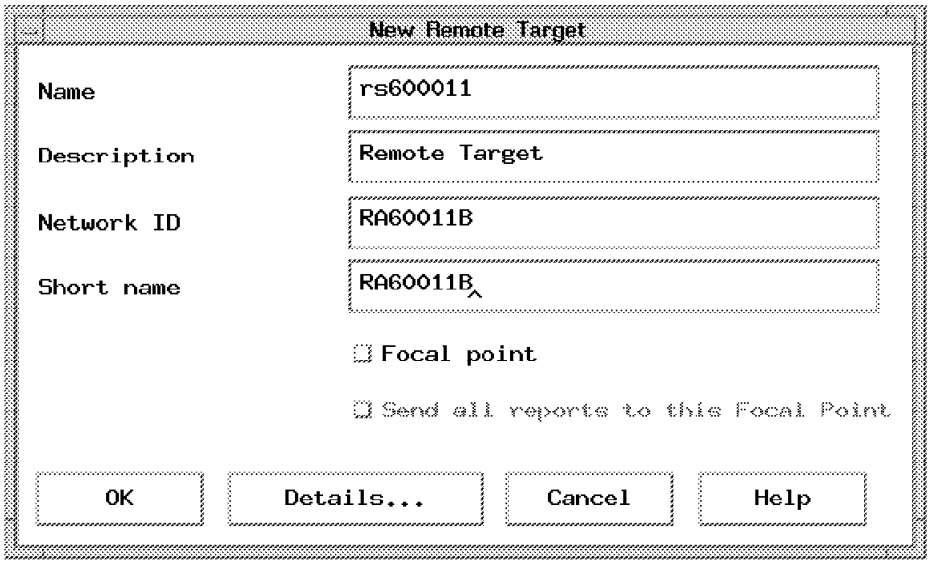

Figure 208. New Remote Target Window (rs600012)

Step 4. Fill in all fields according to Figure 208.

Step 5. Leave the **Focal Point** button, and the **Send all reports to this Focal Point** button in the unselected (″out″) position.

Step 6. Select the **OK** push button to make the changes effective. You will be returned to the Targets window with the remote server rs600011 added to the list of targets.

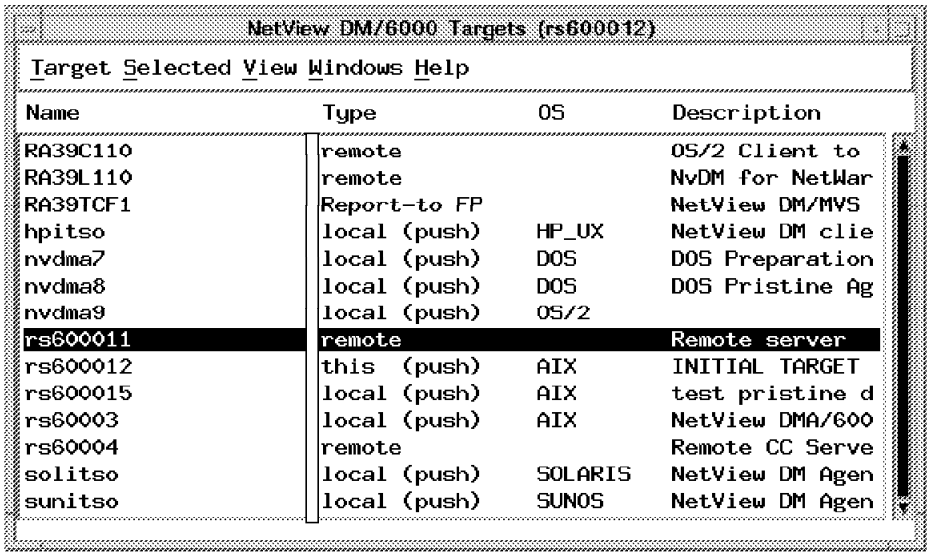

Figure 209. NetView DM/6000Targets Window (rs600012)

Command Line Alternative:

```
nvdm addtg rs600011 -n RA60011B -s RA60011B -m remote -d 'remote server'
```

9.4.1.1 Explanation

We have set the name to rs600011 to be the same as the hostname, for ease of reference. You may wish to choose something more meaningful to you.

Network ID (USIBMRA) must match the RGN and short name of server rs600011.

Short name (RA60011B) must match the REN and short name of server rs600011.

9.5 Configuring LU 6.2 at Server B (rs600011) Using SNA Server

In the same way that we configured SNA Services/6000 Version 1.2 on the server, we will configure SNA Server/6000 Version 2.1 on the preparation system in a bottom upwards fashion.

SNA Server/6000 Version 2.1 has fewer profiles than SNA Services/6000 Version 1.2. It also separates the link station from the physical unit (or control point, as it is better known in peer-to-peer LU 6.2 nodes).

In this example, we will start with the SNA subsystem (the *SNA node*), then the control point, then the link station, then the LU 6.2 session, and finally the CPIC side information.

As explained in 1.3, “Introduction to SNA/DS, SNA/FS and SNA/MS” on page 10, the SNA Server profiles are organized in a logical hierarchy. The link station profile refers to the DLC profile. Other profile relationships are largely dynamic and resolved at session establishment time.

One important difference between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1 is the move away from *connection* to *session*.

The SNA Services connection profile defines both the local LU and the remote partner LU for the session. The connection profile specified when starting a connection provides all the information needed to establish the session.

The SNA Server partner LU profile (the nearest equivalent of the SNA Services connection profile) does not specify the local LU. Instead of starting a connection, you start a session. You must supply both the local LU profile *and* partner LU profile in the session start request. This approach is logically appealing because an LU type 6.2 can be in session simultaneously with multiple remote LU 6.2s.

SNA Server/6000 Version 2.1 provides finer control over the SNA resources, and greatly improved status information (see the `sna -display` command in the *AIX SNA Server/6000 User's Guide*).

Another important difference between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1 is that SNA Server forces you to verify the profiles. SNA Server keeps two profile sets, the verified set and the unverified set. The runtime system uses only the verified set. You can only work with the unverified set. The verify command copies from unverified to verified.

The contents of the above profiles are explained briefly in 1.3, “Introduction to SNA/DS, SNA/FS and SNA/MS” on page 10, and in detail in *AIX SNA Server/6000 User's Guide Version 2 Release 1*. Further guidance can also be found in *A Guided Tour of SNA Server Version 2.1*.

Check for Existing SNA Profiles First!

You may find that SNA is already configured in your system, and a link station and control point are already defined on server B for server A. If this is the case, you should use the existing link station profile (there is little to be gained by having two link stations for the same destination). This removes the need for you to define a new SNA node, control point and link station for the NetView Distribution Manager/6000 LU 6.2 session. If you already have a suitable link station, skip over the SNA node, control point and link station definition activities, and go straight to defining the session.

It is also possible that the LU 6.2 defined in your system already meets the requirements of NetView Distribution Manager/6000. If this is so, you may use this profile for the NetView Distribution Manager/6000 LU 6.2 session, rather than defining a new local LU.

We will now walk through the *smit* panels involved in configuring SNA Server, starting with the profiles related to the SNA subsystem, then the control point, then the link station, then the connection, and finally the CPIC side information.

Before you begin the following smit configuration activities, read 2.1, “Notes on Using SMIT” on page 19 and 2.2, “Notes on Using SMIT to Configure SNA Services or SNA Server” on page 20.

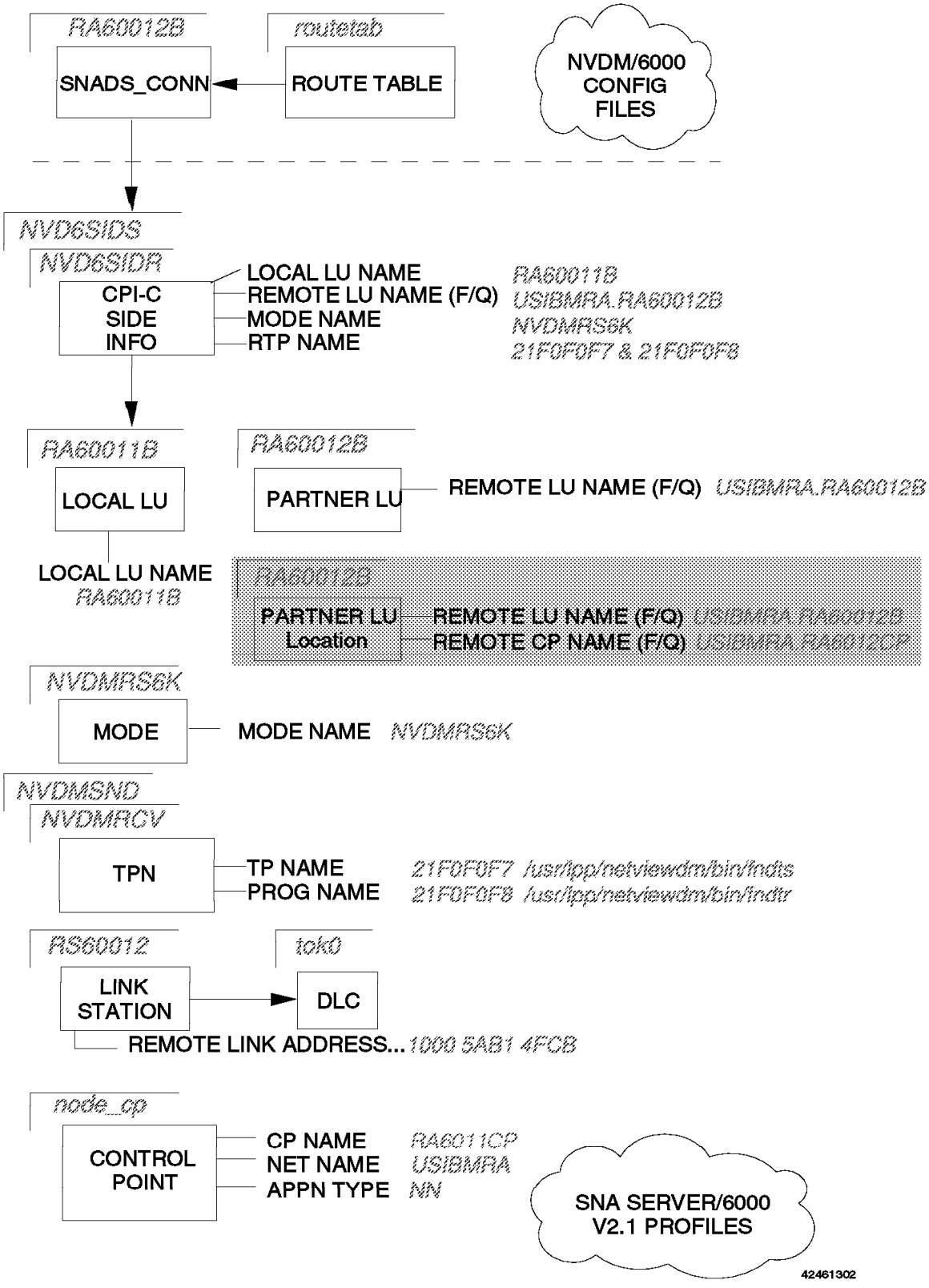

Figure 210. SNA Server/6000 and NetView Distribution Manager/6000 Configuration Overview

9.5.1 SNA Node Profile (SNA Node)

```
                          Change/Show SNA Node Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Profile name                                        sna
  Maximum number of sessions (1-5000)                 [200]                      #
  Maximum number of conversations (1-5000)            [200]                      #
  Restart action                                      once                      +
  Recovery resource manager (RRM) enabled?            no                        +
  Dynamic inbound partner LU definitions allowed?     yes                       +
  NMVT action when no NMVT process                    reject                    +
  Standard output file/device                         [/dev/console]
  Standard error file/device                          [/var/sna/sna.stderr]

  Comments                                            []




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 211. SNA Node Profile SMIT Panel

On the AIX command line, do the following:

Step 1. Type `smit` on the AIX command line.

Step 2. Select **Communications Applications and Services**.

Step 3. Select **SNA Server/6000**.

Step 4. Select **Configure SNA Profiles** *(fastpath name: sna)*.

Step 5. Select **Advanced Configuration**.

Step 6. Select **SNA System Defaults**.

Step 7. Select **Change/Show a profile** *(fastpath name: _snasnach)*.

Step 8. Fill in the fields according to Figure 211.

Step 9. Press Enter to make the changes effective.

Step 10. Press F3 (Cancel) to return to the input panel.

9.5.1.1 Explanation

SNA Server will only let you define one SNA node profile. It creates one called ″sna″ when it is installed. You cannot delete this profile or change its name.

We have accepted the defaults for all other attributes.

9.5.2 Control Point Profile (Control Point)

```
                        Change/Show Control Point Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
* Profile name                                       node_cp
  XID node ID                                       [*]
  Network name                                      [USIBMRA]
  Control Point (CP) name                           [RA6011CP]
  Control Point alias                               [RA6011CP]
  Control Point type                                 appn_network_node       +
  Maximum number of cached routing trees            [500]                    #
  Maximum number of nodes in the TRS database       [500]                    #
  Route addition resistance                         [128]                    #

  Comments                                          []




F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 212. Control Point Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **Advanced Configuration** panel.

Step 2. Select **Control Point**.

Step 3. Select **Change/Show a profile** *(fastpath name: _snacpmch)*.

Step 4. Fill in the fields according to Figure 212.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.2.1 Explanation

SNA Server will only let you define one Control Point profile. It creates one called ″node_cp″ when it is installed. You cannot delete this profile or change its name.

We have elected to set the XID value on a link station by link station basis (on links where we wish XID to be enabled). Therefore we have left the XID at its default value of ″*″.

We have chosen (USIBMRA) as the Network name. It must match the network name in server B′s control point profile (9.1.2, “Control Point Profile (Attachment)” on page 237).

We have chosen RA6011CP as the control point name.

We have set the control point alias to RA6011CP, the same as the control point name.

We have set the control point type to appn_network_node.

We have accepted the defaults for all other attributes.

9.5.3 Data Link Control Profile (Link Station)

```
                    Change/Show Token Ring SNA DLC Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                  [Entry Fields]
  Current profile name                                 tok0
  New profile name                                    []
  Data link device name                               [tok0]                  +
  Force disconnect time-out (1-600 seconds)           [120]                    #
  User-defined maximum I-Field size?                   no                     +
     If yes, Max. I-Field size (265-30729)            [30729]                  #
  Max. num of active link stations (1-255)            [100]                    #
     Number reserved for inbound activation           [0]                      #
     Number reserved for outbound activation          [0]                      #
  Transmit window count (1-127)                       [16]                     #
  Dynamic window increment (1-127)                    [1]                      #
  Retransmit count (1-30)                             [8]                      #
  Receive window count (1-127)                        [8]                      #
  Ring access priority                                 0                      +
  Inactivity time-out (1-120 seconds)                 [48]                     #
  Response time-out (1-40, 500 msec intervals)        [4]                      #
  Acknowledge time-out (1-40, 500 msec intervals)     [1]                      #
  Local link name                                     []
  Local SAP address (04-ec)                           [04]                     X
  Trace base listening link station?                   no                     +
     If yes, Trace format                              long                   +
  Dynamic link stations supported?                     no                     +

  Link Recovery Parameters
     Retry interval (1-10000 seconds)                 [60]                     #
[MORE...18]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 213. SNA DLC Profile SMIT Panel (Part 1 of 2)

```
                    Change/Show Token Ring SNA DLC Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[MORE...18]                                          [Entry Fields]
  Local SAP address (04-ec)                         [04]                    X
  Trace base listening link station?                 no                     +
     If yes, Trace format                            long                   +
  Dynamic link stations supported?                   no                     +

  Link Recovery Parameters
     Retry interval (1-10000 seconds)                [60]                    #
     Retry limit (0-500 attempts)                    [20]                    #

  Dynamic Link Activation Parameters
     Solicit SSCP sessions?                          yes                    +
     CP-CP sessions supported?                       yes                    +
     Partner required to support CP-CP sessions?     no                     +

  Dynamic Link TG COS Characteristics
     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]                   #

  Comments                                           []
[BOTTOM]

F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 214. SNA DLC Profile SMIT Panel (Part 2 of 2)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **Advanced Configuration** panel.

Step 2. Select **Links**.

Step 3. Select **Token Ring**.

Step 4. Select **Token Ring SNA DLC**.

Step 5. Select **Add a profile** *(fastpath name: _snatoklinkmk)*.

Step 6. Fill in the fields according to Figure 213 on page 266 and Figure 214.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

9.5.3.1 Explanation

We have chosen 'tok0' as the name of the profile.

Data Link Device Name (tok0) must match the name of the Data Link Control profile (defined above).

We have accepted the defaults for all other attributes.

9.5.4 Link Station Profile (Link Station)

```
                  Change/Show Token Ring Link Station Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[TOP]                                                [Entry Fields]
  Current profile name                              RS60012
  New profile name                                  []
  Use APPN Control Point's XID node ID?              yes                    +
     If no, XID node ID                             [*]
* SNA DLC Profile name                              [tok0]                 +
  Stop link station on inactivity?                   no                     +
     If yes, Inactivity time-out (0-10 minutes)     [0]                     #
  LU address registration?                           no                     +
     If yes, LU Address Registration Profile name   []                     +
  Trace link?                                        no                     +
     If yes, Trace size                              long                   +

  Adjacent Node Address Parameters
     Access routing                                  link_address           +
     If link_name, Remote link name                 []
     If link_address,
        Remote link address                         [10005AB14FCB]          X
        Remote SAP address (04-ec)                  [04]                    X

  Adjacent Node Identification Parameters
     Verify adjacent node?                           no                     +
     Network ID of adjacent node                    []
     CP name of adjacent node                       []
     XID node ID of adjacent node (LEN node only)   [*]
     Node type of adjacent node                      learn                    +

  Link Activation Parameters
     Solicit SSCP sessions?                          no                     +
     Initiate call when link station is activated?   yes                    +
     Activate link station at SNA start up?          no                     +
[MORE...23]

F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 215. Link Station Profile SMIT Panel (Part 1 of 2)

```
                Change/Show Token Ring Link Station Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[MORE...23]                                          [Entry Fields]
     XID node ID of adjacent node (LEN node only)    [*]
     Node type of adjacent node                       learn                    +

  Link Activation Parameters
     Initiate call when link station is activated?    yes                      +
     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?      no                       +
     Initial TG number (0-20)                        [0]                       #

  Restart Parameters
     Restart on normal deactivation?                  no                       +
     Restart on abnormal deactivation?                no                       +
     Restart on activation?                           no                       +

  Transmission Group COS Characteristics
     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]                     #

  Comments                                           []
[BOTTOM]

F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 216. Link Station Profile SMIT Panel (Part 2 of 2)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **Advanced Configuration** panel.

Step 2. Select **Links**.

Step 3. Select **Token Ring**.

Step 4. Select **Token Ring Link Station**.

Step 5. Select **Add a profile** *(fastpath name: _snatokattcmk)*.

Step 6. Fill in the fields according to Figure 215 on page 268 and Figure 216.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

9.5.4.1 Explanation

We have chosen a profile name of RA60012. This is the name that the link station shows up as in the `lssrc` output.

We have elected not to implement XID (exchange of IDs) on this link. Therefore, we have set Verify Adjacent Node to NO. The setting *Use APPN Control Point's XID node ID* is thus inconsequential.

We have chosen to route the link activation request on link address rather than name, and have therefore accepted the Access Routing attribute default value of ″link_address″.

Remote Link Address (10005AB14FCB) must match server A′s token-ring adapter address (also known as the MAC or hardware address).

Finding the Token-Ring Address

There are at least two ways to find the address of a token-ring adapter. One way is the `netstat` command, and the other the `lscfg` command. `netstat` is really a TCP/IP command. `lscfg` is a more general purpose command.

By the `netstat` method, enter the following command at **server A**:

```
netstat -v | pg
```

Page through the output until the details for the desired token-ring adapter appear. The address will be six pairs of hexadecimal digits, separated by the colon (:) character. Omit the colons when entering the address in the Attachment Profile panel.

By the `lscfg` method, enter the following command at **server A**:

```
lscfg -vl tok0
```

This should display about 10 or 15 lines of information about the adapter, including the network address.

We have set Initiate Call When Link Station is Activated to YES because we want server B to bring up the link as soon as the link station is started. If you prefer your link to be activated by server A, set this attribute to NO.

We have set Solicit SSCP sessions to NO because there is no SSCP (VTAM) involved.

We have left CP-CP Sessions Supported as NO because the partner link station (server A) is not an APPN network node (it is a LEN node), and therefore is incapable of supporting CP-CP sessions.

We have accepted the defaults for all other attributes.

9.5.5 Local LU Profile (Session)

```
                    Change/Show LU 6.2 Local LU Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                               RA60011B
  New profile name                                   []
  Local LU name                                      [RA60011B]
  Local LU alias                                     [RA60011B]
  Local LU is dependent?                              no                      +
     If yes,
        Local LU address (1-255)                     []                       #
        System services control point
           (SSCP) ID (*, 0-65535)                    [*]
        Link Station Profile name                    []                       +
  Conversation Security Access List Profile name     []

  Comments                                           []



F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 217. Local LU Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **Advanced Configuration** panel.

Step 2. Select **Sessions**.

Step 3. Select **LU 6.2**.

Step 4. Select **LU 6.2 Local LU**.

Step 5. Select **Add a profile** *(fastpath name: _snalocalu6mk)*.

Step 6. Fill in the fields according to Figure 217.

Step 7. Press Enter to make the changes effective.

Step 8. Press F3 (Cancel) to return to the input panel.

9.5.5.1 Explanation

We have chosen a profile name of RA60011B to be the same as the Local LU name in the profile. It is not mandatory to do this, but doing so makes the profile easier to identify.

We have chosen RA60011B as the Local LU Name.

We have set the Local LU Alias to RA60011B, the same as the Local LU name.

We have left Local LU is dependent as NO because this is an independent LU (for example it is capable of initiating a BIND).

We have accepted the defaults for all other attributes.

9.5.6 Mode Profile (Session)

```
                        Change/Show LU 6.2 Mode Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                NVDMRS6K
  New profile name                                   []
  Mode name                                          [NVDMRS6K]
  Maximum number of sessions (1-5000)                [8]                    #
  Minimum contention winners (0-5000)                [4]                    #
  Minimum contention losers (0-5000)                 [0]                    #
  Auto activate limit (0-500)                        [0]                    #
  Upper bound for adaptive receive pacing window     [16]                   #
  Receive pacing window (0-63)                       [7]                    #
  Maximum RU size (128,...,32768: multiples of 32)   [3840]                 #
  Minimum RU size (128,...,32768: multiples of 32)   [256]                  #
  Class of Service (COS) name                        [#INTER]

  Comments                                           []


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 218. Mode Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU 6.2 Mode**.

Step 3. Select **Add a profile** *(fastpath name: _snamodemk)*.

Step 4. Fill in the fields according to Figure 218.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.6.1 Explanation

We have chosen a profile name of NVDMRS6K to be the same as the Mode Name in the profile. It is not mandatory to do this, but doing so makes the profile easier to identify.

Mode Name (NVDMRS6K) must match the Mode Name in server A's mode profile (9.1.7, "Mode Profile (Connection)" on page 243).

We have set Maximum RU size to the highest value allowed (3840) for SNA Services/6000 which is our communication partner. We can specify a high value because we are using a LAN capable of sustaining a high throughput.

We have left the Maximum Number of Sessions at 8 because the LUs and applications at both sides (servers A and B) are capable of supporting parallel sessions.

Note: Server B is configured as an APPN network node, and will therefore establish a service session with server A. You must set this field to at least 2, to make provision for the service session and the NetView DM/6000 session.

We have accepted the defaults for all other attributes.

9.5.7 Transaction Profiles (Session)

```
                        Change/Show LU 6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                NVDMSND
  New profile name                                   []
  Transaction program name (TPN)                     [21F0F0F7]
  Transaction program name (TPN) is in hexadecimal?   yes                    +
  PIP data?                                           no                     +
     If yes, Subfields (0-99)                        [0]                      #
  Conversation type                                   basic                  +
  Sync level                                          none                   +
  Resource security level                             none                   +
     If access, Resource Security Access List Prof.  []
  Full path to TP executable                         [/usr/lpp/netviewdm/bin/fndts]
  Multiple instances supported?                       yes                    +
  User ID                                            [0]                      #
  Server synonym name                                []
  Restart action                                      once                   +
  Communication type                                  signals                +
     If IPC, Communication IPC queue key             [0]                      #
  Standard input file/device                         [/dev/console]
  Standard output file/device                        [/dev/console]
  Standard error file/device                         [/dev/console]

  Comments                                           []


F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 219. Transaction Profile SMIT Panel (Send)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU 6.2 Transaction Program Name (TPN)**.

Step 3. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 4. Fill in the fields according to Figure 219.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.7.1 Explanation

We have chosen a profile name of NVDMSND to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide* (the TPN profile has not changed significantly between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1).

```
                        Change/Show LU 6.2 TPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                 NVDMRCV
  New profile name                                    []
  Transaction program name (TPN)                      [21F0F0F8]
  Transaction program name (TPN) is in hexadecimal?    yes                    +
  PIP data?                                            no                     +
     If yes, Subfields (0-99)                         [0]                     #
  Conversation type                                    basic                  +
  Sync level                                           none                   +
  Resource security level                              none                   +
     If access, Resource Security Access List Prof.   []
  Full path to TP executable                          [/usr/lpp/netviewdm/bin/fndtr]
  Multiple instances supported?                        yes                    +
  User ID                                             [0]                     #
  Server synonym name                                 []
  Restart action                                       once                   +
  Communication type                                   signals                +
     If IPC, Communication IPC queue key              [0]                     #
  Standard input file/device                          [/dev/console]
  Standard output file/device                         [/dev/console]
  Standard error file/device                          [/dev/console]

  Comments                                            []


F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 220. Transaction Profile SMIT Panel (Receive)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU 6.2 Transaction Program Name (TPN)**.

Step 3. Select **Add a profile** *(fastpath name: _snatpnmk)*.

Step 4. Fill in the fields according to Figure 220.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.7.2 Explanation

We have chosen a profile name of NVDMRCV to maintain compatibility with the *NetView DM/6000 Installation and Customization Guide*.

Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

We have set all other attributes to the values recommended in the *NetView DM/6000 Installation and Customization Guide* (the TPN profile has not changed significantly between SNA Services/6000 Version 1.2 and SNA Server/6000 Version 2.1).

9.5.8 Partner LU Profile (Session)

```
                    Change/Show LU 6.2 Partner LU Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                               RA60012B
  New profile name                                   []
  Fully qualified partner LU name                    [USIBMRA.RA60012B]
  Partner LU alias                                   []
  Parallel sessions supported?                        yes                    +
  Session security supported?                         no                     +
  Conversation security level                         none                   +

  Comments                                           []









F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 221. Partner LU Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU 6.2 Partner LU**.

Step 3. Select **Add a profile** *(fastpath name: _snapartmk)*.

Step 4. Fill in the fields according to Figure 221.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.8.1 Explanation

We have chosen a profile name of RA60012B to be the same as the LU name of the partner (NetView DM/6000 at server A, that is rs600012). It is not mandatory to do this, but doing so makes it easier to identify.

Note: In SNA Server/6000, it is the names of the LUs concerned and *not* the profiles that appear in the output from status commands. Therefore choice of profile name is less important than the connection profile in SNA Services/6000.

Fully qualified partner LU name (USIBMRA.RA60012B) must match the network name (USIBMRA) and the LU name (RA60012B) in server A′s local LU profile (9.1.6, “Local LU Profile (Connection)” on page 242).

We have set Parallel Sessions Supported to YES to permit parallel sessions between servers A and B.

Note: Server B is configured as an APPN network node, and will therefore establish a service session with server A. You must set this field to YES to permit the parallel service and the NetView DM/6000 sessions.

We have accepted the defaults for all other attributes.

9.5.9 Partner LU Location Profile (Session)

```
                  Change/Show Partner LU 6.2 Location Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                RA60012B
  New profile name                                   []
  Fully qualified partner LU name                    [USIBMRA.RA60012B]
  Fully qualified owning Control Point (CP) name     [USIBMRA.RA6012CP]
  Local node is network server for LEN node?          no                      +
  Fully qualified network node server name           []

  Comments                                           []









F1=Help             F2=Refresh          F3=Cancel           F4=List
F5=Undo             F6=Command          F7=Edit             F8=Image
F9=Shell            F10=Exit            Enter=Do
```

Figure 222. Partner LU Location Profile SMIT Panel

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **Partner LU 6.2 Location**.

Step 3. Select **Add a profile** *(fastpath name: _snalocatmk)*.

Step 4. Fill in the fields according to Figure 222.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.9.1 Explanation

We have chosen a profile name of RA60012B to be the same as the LU name of the partner (NetView DM/6000 at server A, that is rs600012). It is not mandatory to do this, but doing so makes it easier to identify.

Note: In SNA Server/6000, it is the names of the LUs concerned and *not* the profiles that appear in the output from status commands. Therefore choice of profile name is less important than the connection profile in SNA Services/6000.

Fully Qualified Partner LU Name (USIBMRA.RA60012B) must match the network name (USIBMRA) and the LU name (RA60012B) in server A's local LU profile (9.1.6, "Local LU Profile (Connection)" on page 242).

Fully Qualified Owning Control Point Name (USIBMRA.RA6012CP) must match the network name (USIBMRA) and CONTROL POINT name (RA6012CP) of server A (see 9.1.2, "Control Point Profile (Attachment)" on page 237).

We have left Local node is network server for LEN node as NO because this is a simple point-to-point connection, with no real APPN networking involved.

We have accepted the defaults for all other attributes.

9.5.10 CPIC Side Information Profiles (Side Information)

```
                  Change/Show LU 6.2 Side Information Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                                 NVD6SIDS
  New profile name                                    []
  Local LU or Control Point alias                     [RA60011B]              +
  Provide only one of the following:
     Partner LU alias                                 []                      +
     Fully qualified partner LU name                  [USIBMRA.RA60012B]
  Mode name                                           [NVDMRS6K]              +
  Remote transaction program name (RTPN)              [21F0F0F7]
  RTPN in hexadecimal?                                 yes                    +

  Comments                                            []




F1=Help            F2=Refresh         F3=Cancel          F4=List
F5=Undo            F6=Command         F7=Edit            F8=Image
F9=Shell           F10=Exit           Enter=Do
```

Figure 223. CPIC Side Information Profile SMIT Panel (Send)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU 6.2 Side Information**.

Step 3. Select **Add a profile** *(fastpath name: _snasidemk)*.

Step 4. Fill in the fields according to Figure 224.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.10.1 Explanation

We have chosen a profile name of NVD6SIDS.

Local LU Name (RA60011B) must match the attribute of the same name in the Local LU profile (defined above).

Fully Qualified Partner LU Name (USIBMRA.RA60012B) must match the network name (USIBMRA) and the LU name (RA60012B) in server A's local LU profile (9.1.6, "Local LU Profile (Connection)" on page 242).

Mode Name (NVDMRS6K) must match the attribute of the same name in the mode profile (9.5.6, "Mode Profile (Session)" on page 272).

Remote Transaction Program Name (21F0F0F7) is the name (in hexadecimal) reserved for the NetView DM send service TP in the SNA/DS architecture.

```
                Change/Show LU 6.2 Side Information Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Current profile name                               NVD6SIDR
  New profile name                                   []
  Local LU or Control Point alias                    [RA60011B]              +
  Provide only one of the following:
     Partner LU alias                                []                      +
     Fully qualified partner LU name                 [USIBMRA.RA60012B]
  Mode name                                          [NVDMRS6K]              +
  Remote transaction program name (RTPN)             [21F0F0F8]
  RTPN in hexadecimal?                               yes                     +

  Comments                                           []




F1=Help           F2=Refresh        F3=Cancel         F4=List
F5=Undo           F6=Command        F7=Edit           F8=Image
F9=Shell          F10=Exit          Enter=Do
```

Figure 224. CPIC Side Information Profile SMIT Panel (Receive)

From the previous panel, do the following:

Step 1. Press the **F3** key until you return to the **LU6.2** panel.

Step 2. Select **LU 6.2 Side Information**.

Step 3. Select **Add a profile** *(fastpath name: _snasidemk)*.

Step 4. Fill in the fields according to Figure 223 on page 277.

Step 5. Press Enter to make the changes effective.

Step 6. Press F3 (Cancel) to return to the input panel.

9.5.10.2 Explanation

We have chosen a profile name of NVD6SIDR.

Local LU Name (RA60011B) must match the attribute of the same name in the Local LU profile (defined above).

Fully Qualified Partner LU Name (USIBMRA.RA60012B) must match the network name (USIBMRA) and the LU name (RA60012B) in server A's local LU profile (9.1.6, "Local LU Profile (Connection)" on page 242).

Mode Name (NVDMRS6K) must match the attribute of the same name in the mode profile (9.5.6, "Mode Profile (Session)" on page 272).

Remote Transaction Program Name (21F0F0F8) is the name (in hexadecimal) reserved for the NetView DM receive service TP in the SNA/DS architecture.

9.5.11 Verifying the SNA Server Profiles

In SNA Server/6000, the profiles do not become effective until they have been successfully verified. From the previous panel, do this as follows:

Step 1. Press the **F3** key until you return to the **Advanced Configuration** panel.

Step 2. Select **Verify Configuration Profiles**.

Step 3. Select **normal_update** in the Update action if verification successful field.

Step 4. Press Enter to make the changes effective.

Step 5. Press F3 (Cancel) to return to the input panel.

9.5.11.1 Explanation

You must select either **normal_update** or **dynamic_update** here to ensure that the working profiles get updated with the changes you have made. You would only select **dynamic_update** if SNA Server was actually running at the time the changes were made, and you wanted them to take effect immediately.

9.6 Configuring SNA/DS Server B (rs600011)

Before you begin, read 1.5, "Configuring NetView Distribution Manager/6000 SNA/DS Support" on page 13.

There are two configuration activities that you must carry out:

- Customize the SNA/DS connection configuration file.
- Customize the SNA/DS routing table.

You may also need to refresh the tables in the runtime system.

9.6.1 Customizing the SNA/DS Connection Configuration Files

- Using an APPC connection to server A (rs600012)

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVD6SIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVD6SIDR
NEXT DSU:                          RA60012B.RA60012B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 225. SNA/DS Connection Configuration File (Server)

Do the following:

Step 1. Log on to the preparation system as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 SNA/DS connection database directory:

```
cd /usr/lpp/netviewdm/db/snads_conn
```

Step 3. Rename the file CONNSNA to RA60012B

Note: If you leave the CONNSNA file in this directory, it will show up in the Queues window, and in some of the messages in the log, possibly leading to confusion. It is best, therefore, to remove it. In this example, we use it as a model for our own configuration file.

Step 4. Using your preferred AIX editor (for instance *vi*) change the contents to that shown in Figure 225.

- Using a TCP/IP connection to server C (rs60004)

```
PROTOCOL:                          TCP/IP
REMOTE SERVER NAME:                rs60004
TCP/IP TIME-OUT:                   300
NEXT DSU:                          RA60004B.RA60004B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 226. SNA/DS Connection Configuration File for Server C (RA60004B)

Do the following:

Step 1. Rename the file CONNTCP to RA60004B.

Step 2. Change the contents to that shown in the figure above.

9.6.1.1 Explanation

As explained in 1.5.2, “SNA/DS Configuration File” on page 14, one of these files is needed for each connection. Each file you create in this directory shows up as a queue in the GI Queues window.

The NetView Distribution Manager/6000 installation process creates a default SNA/DS connection configuration file for SNA called CONNSNA, and for TCP/IP

connections called CONNTCP. For this scenario, you need to create configuration files for the connections to the two NetView DM/6000 systems.

- The LU 6.2 connections are defined in the SNA Server Side Information profiles.
- You need to create a SNA/DS connection configuration file named RA60012B and place in it the details corresponding to the NetView DM/6000 LU 6.2 connection.
- Send TP Symbolic Destination (NVD6SIDS) must match the side information profile name for the send transaction program (see 9.5.10, “CPIC Side Information Profiles (Side Information)” on page 277).
- Receive TP Symbolic Destination (NVD6SIDR) must match the side information profile name for the receive transaction program (see 9.5.10, “CPIC Side Information Profiles (Side Information)” on page 277).
- Next DSU (RA60012B.RA60012B) must match the RGN (RA60012B) and REN (RA60012B) of server A, the destination for traffic routed over this SNA/DS connection.
- We have left all other attributes at their default values.

TCP/IP connections:

- The TCP/IP connections are only referenced in the connection configuration files (assuming that the basic TCP/IP communication is already configured).
- On the first line, the protocol for the connection is defined. It is APPC or TCP/IP.
- NEXT DSU is the node name at the other end of the connection in the form of RGN.REN. RGN and REN of NetView DM/6000 server must both match the short name of the server.
- REMOTE SERVER NAME is the TCP/IP host name of the remote server. It is valid only if the PROTOCOL is TCP/IP.

9.6.2 Customizing the SNA/DS Routing Table

```
NETWORK PROTOCOL:             BOTH
#
#RGN.REN          Priority  Protection  Capacity  Security  Connection  Hop
#
RA60012B.RA60012B   ANY       ANY         ANY       ANY       RA60012B   5
#
#  TCP/IP
#
RA60004B.*                                                    RA60004B
```

Figure 227. SNA/DS Routing Table (Server)

Do the following:

Step 1. Log on to the preparation system as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 database directory:

```
cd /usr/lpp/netviewdm/db
```

Step 3. Using your preferred AIX editor (for instance *vi*) change the contents of the routing table (routetab) to that shown in Figure 227 on page 281.

9.6.2.1 Explanation

See Figure 5 on page 15 for the field names.

The routes we need for this scenario are to servers A and C.

We have set the RGN and the REN to the same as server B′s short name (RA60012B). We have therefore set the SNA/DS Node Address to RA60012B.RA60012B. We have defined the route to server C with short name RA60004B accordingly. The wildcard for REN indicates that we use this connection for all nodes that belong to the domain of RA60004B.

We have no special requirements governing distribution protection, maximum distribution size, or distribution security. We indicate this by placing the keyword ANY in these fields.

In the previous section we defined the connection configuration files RA60012B and RA60004B. Thus we have set the Connection fields to RA60012B and RA60004B respectively.

We have chosen 5 for the hop count.

Note: We probably could have legitimately set the hop count to 1 in this scenario, as server A is actually 1 hop away, in SNA/DS terms. However, we were uncertain of our network topology initially, and therefore followed the corresponding recommendation in the *NetView DM/6000 Installation and Customization Guide*.

9.6.3 Refreshing the Runtime System

If NetView Distribution Manager/6000 is running when you make changes to the SNA/DS configuration, you must either stop and restart NetView DM/6000, or refresh the runtime system ″in flight″ with the new values. It can take NetView DM/6000 several minutes to complete its stop processing; therefore, in most cases you will find it more convenient to refresh in flight (this generally takes just a few seconds to complete).

To check whether NetView DM/6000 is running, see 10.2.1, “Getting the Status of NetView Distribution Manager/6000” on page 290 for instructions on checking the status of NetView DM/6000 and 10.2.4, “Refreshing NetView Distribution Manager/6000 In Flight” on page 291 for instructions on refreshing it.

9.7 Configuring NetView Distribution Manager/6000 at Server B (rs600011)

Configuring NetView Distribution Manager/6000 at server B involves the following task:

- Setting the server short name

In this example, we use the NetView Distribution Manager/6000 graphical interface (GI). If you are working at a graphics terminal and wish to use the GI, you must first start the GI by entering the following command:

```
nvdmgi&
```

Note: You must be at a graphics terminal to do this.

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** button or wait a few moments. The copyright window will close and be replaced by the Catalog window (Figure 228).

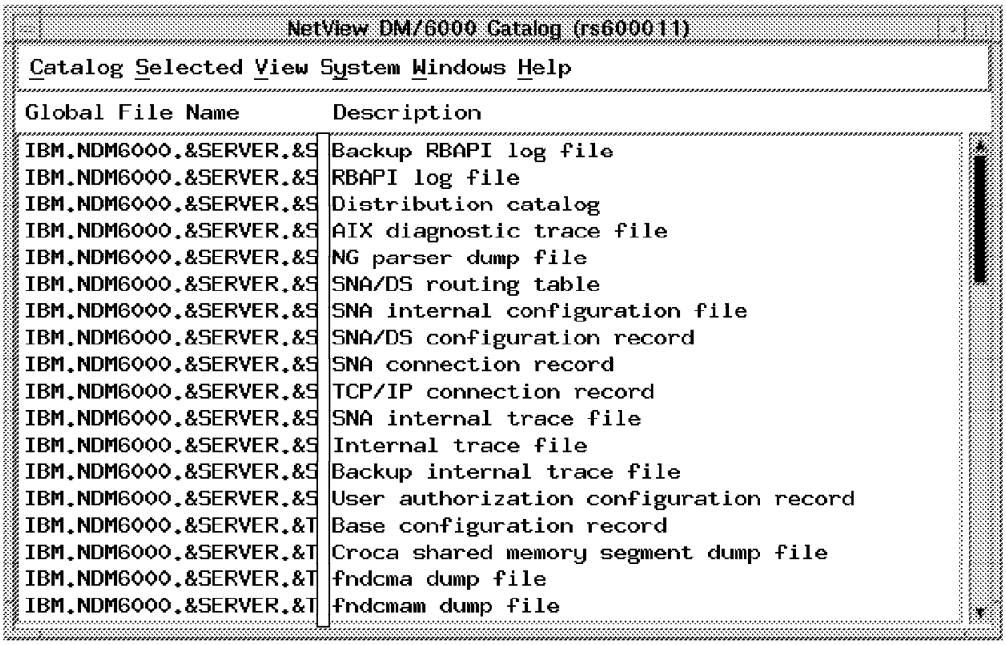

Figure 228. NetView DM/6000 GI Catalog Window (Server)

If you have problems starting the GI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

If you are not at a graphics terminal, or simply prefer to use the command line interface, follow the command line alternative instructions for each task.

9.7.1 Setting the Server Short Name

The installation process automatically creates a local target entry in the NetView Distribution Manager/6000 database for the server system, that is the RISC System/6000 on which you have just installed NetView DM/6000. The name of the target automatically defaults to the RISC System/6000's *hostname*.

There are a number of additional local target attributes that you may customize, such as periods of activity, the level of logging and so on. For the purposes of this example, we will take the defaults on all attributes except those that we have to change to get this scenario to work, namely the server short name.

Note: The installation process chooses reasonable defaults for the other attributes. We recommend that you accept these for the present, and concentrate on getting the basic communications between server and server, and server and agent(s) working first. You can adjust some of the defaults later, if necessary.

To set the short name, do the following:

Step 1. In the Catalog window (Figure 228), select **Windows** from the menu bar.

Step 2. Select **Targets** from the pull-down menu, and the Targets window will open.

Step 3. From the Targets window, select the only target of type ″this″ in the list of targets. If you are following these instructions faithfully, it will be the only target in the list. The ″this″ target should now be highlighted.

Step 4. Select **Selected** from the Targets window menu bar.

Step 5. Select **Open** from the pull-down menu.

Step 6. Select **Details** from the cascaded menu, and a Local Target Details window will open.

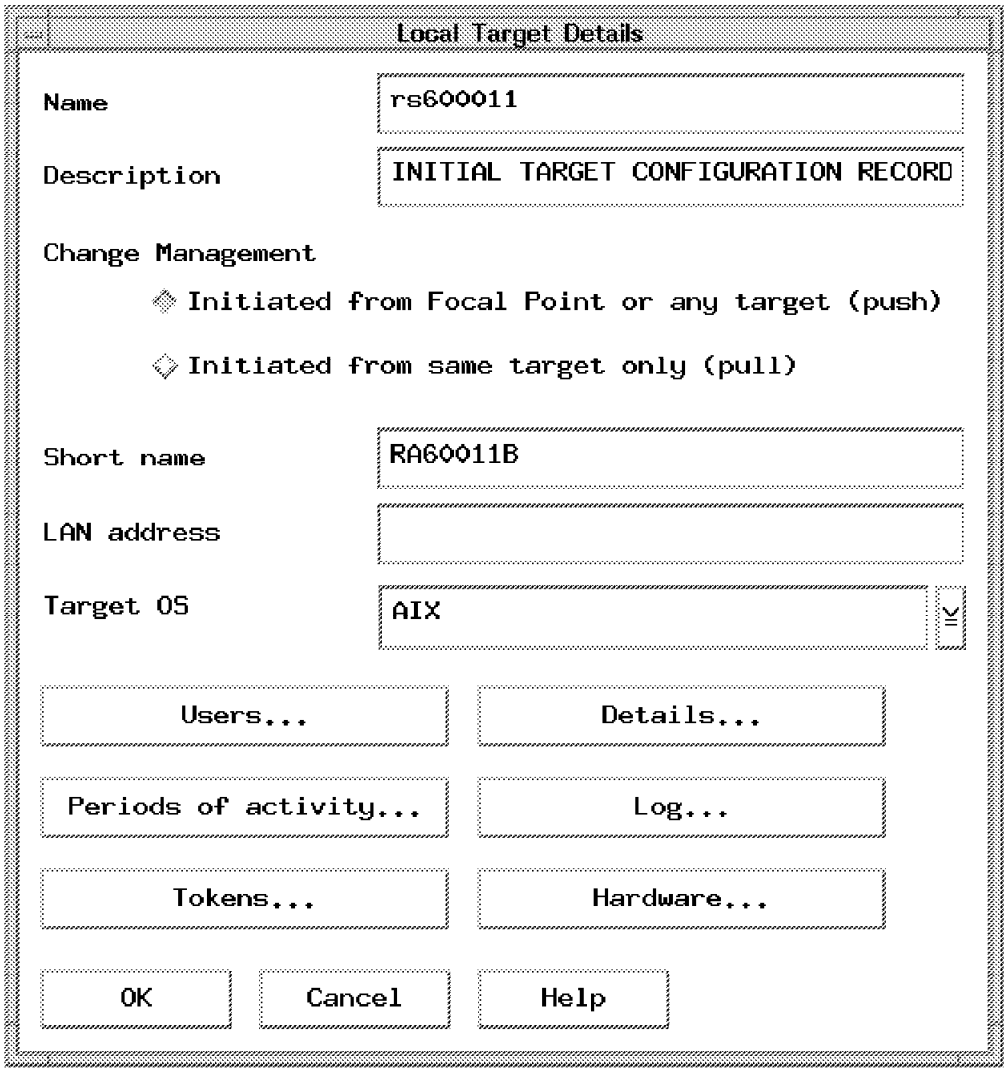

Figure 229. Local Target Details Window (Server B)

Step 7. Fill in the **Short name** field according to Figure 229.

Step 8. Select the **OK** push button to make the changes effective.

Command Line Alternative:

```
nvdm updtg rs600012 -s RA60011B
```

9.7.1.1 Explanation

Short name is the REN of this node and the RGN for this change control domain.

9.8 Adding Server A to Server B′s Configuration

To add server A to server B′s configuration, do the following:

Step 1. Go to the Targets window on server B. If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting **Targets** from the pull-down menu.

Step 2. Select **Target** from the Targets window menu bar.

Step 3. Select **New remote target** from the pull-down menu and the New Remote Target window will open.

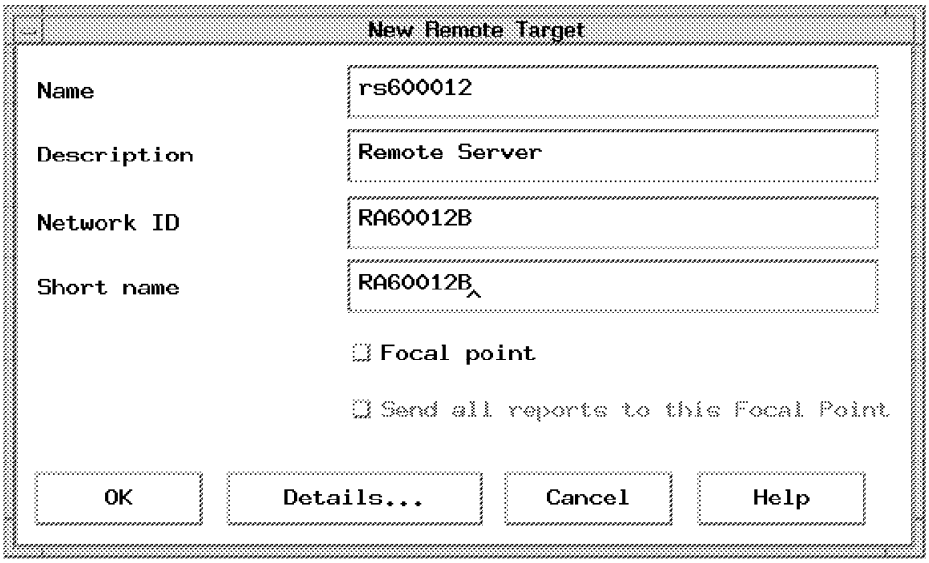

Figure 230. New Remote Target Window (Server)

Step 4. Fill in all fields according to Figure 230.

Step 5. Leave the **Focal Point** button in the unselected (″out″) position.

Step 6. Select the **OK** push button to make the changes effective. You will be returned to the Targets window with NetView DM/6000 server added to the list of targets.

Command Line Alternative:

```
nvdm addtg rs600012 -n RA60012B -s RA60012B -m remote -d 'remote server'
```

9.8.1.1 Explanation

We have set the name to rs600012 to be the same as the hostname, for ease of reference. You may wish to choose something more meaningful to you.

Network ID (RA60012B) must match the RGN and short name of the remote server A.

Short name (RA60012B) must match the short name and REN of the remote server A.

9.9 Adding Server C (rs60004) to Server B′s Configuration (rs600011)

In this example, it is assumed that the necessary TCP/IP configuration tasks have been completed on server C (rs60004). Although physically connected to server B on the same token-ring network, server B will be added to server C′s configuration as a new remote target.

To add server C to server B′s configuration, do the following:

Step 1. Go to the Targets window on server B. If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting **Targets** from the pull-down menu.

Step 2. Select **Target** from the Targets window menu bar.

Step 3. Select **New remote target** from the pull-down menu and the New Remote Target window will open:

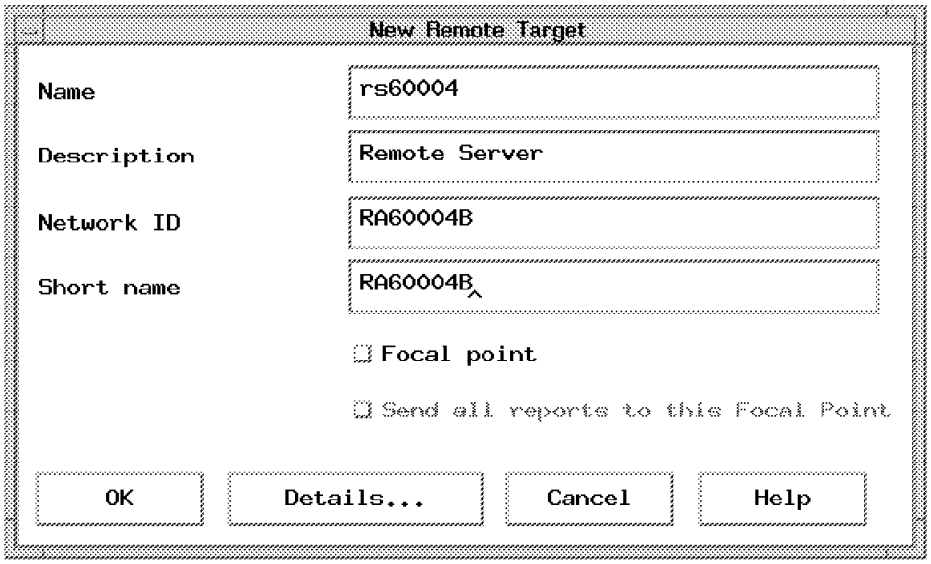

Figure 231. New Remote Target Window (Server)

Step 4. Fill in all fields according to Figure 231.

Step 5. Leave the **Focal Point** button in the unselected (″out″) position.

Step 6. Select the **OK** push button to make the changes effective. You will be returned to the Targets window with server B (rs600011) added to the list of targets.

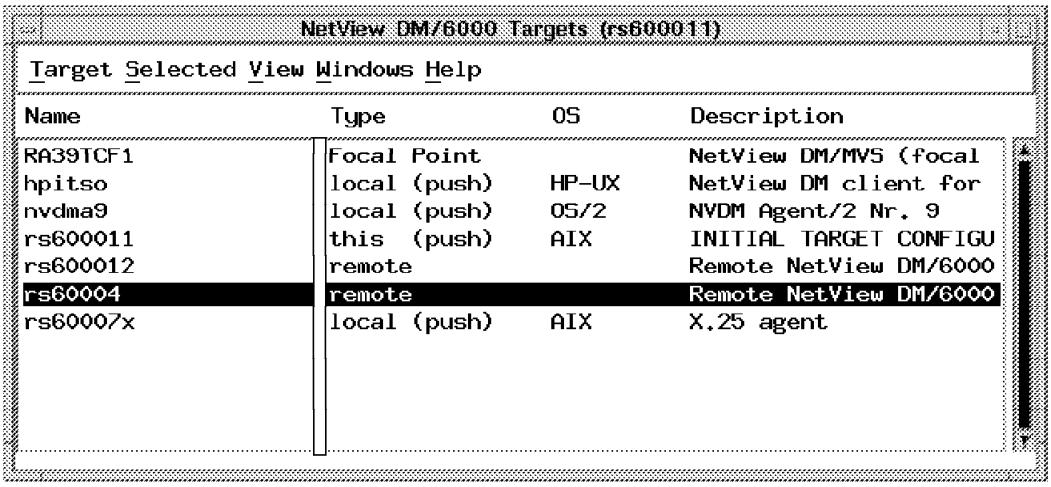

Figure 232. NetView DM/6000 Targets Window (Server)

Command Line Alternative:

```
nvdm addtg rs60004 -n RA6004B -s RA6004B -m remote -d 'remote server'
```

9.9.1.1 Explanation

We have set the name to rs60004 to be the same as the hostname, for ease of reference. You may wish to choose something more meaningful to you.

Network ID (RA60004B) must match the RGN and short name of the remote server A.

Short name (RA60004B) must match the short name and REN of the remote server A.

9.10 Adding Server B (rs600011) to Server C's Configuration (rs60004)

In this example, it is assumed that the necessary TCP/IP configuration tasks have been completed on server C (rs60004). Although physically connected to server B on the same token-ring network, server B will be added to server C's configuration as a new remote target.

To add server B to server C's configuration, do the following:

Step 1. Go to the Targets window on server C. If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting **Targets** from the pull-down menu.

Step 2. Select **Target** from the Targets window menu bar.

Step 3. Select **New remote target** from the pull-down menu After a short delay, the New Remote Target window will open.

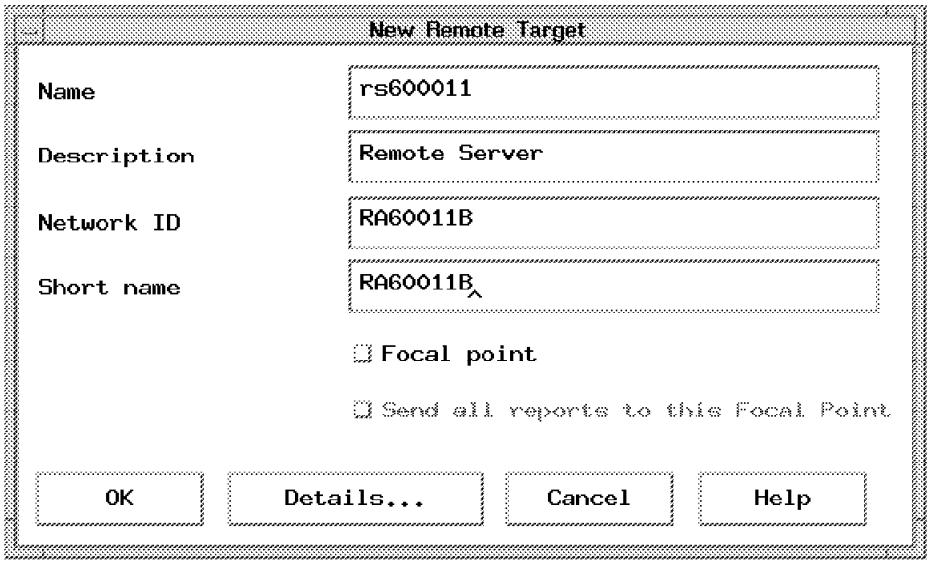

Figure 233. New Remote Target Window (rs60004)

Step 4. Fill in all fields according to Figure 233.

Step 5. Leave the **Focal Point** button in the unselected ("out") position.

Step 6. Select the **OK** push button to make the changes effective. You will be returned to the Targets window with server B (rs600012) added to the list of targets.

Command Line Alternative:

```
nvdm addtg rs600011 -n RA60011B -s RA60011B -m remote -d 'remote server'
```

9.10.1.1 Explanation

We have set the Name to rs600011 to be the same as the hostname, for ease of reference. You may wish to choose something more meaningful to you.

Network ID (RA60011B) must match the RGN and short name of the remote server A.

Short name (RA60011B) must match the short name and REN of the remote server A.

9.11 Starting the Resources

Now that you have completed the configuration activities, you must start all the network resources. You should also check that they are still active before each distribution activity.

On each server, you must ensure that:

- The attachment (or link station, in the case of SNA/Server V2.1) is active.
- NetView Distribution Manager/6000 is running.

Instructions on starting these resources (and keeping them running) can be found in Chapter 10, "Managing the Resources in Scenario III" on page 289.

Chapter 10. Managing the Resources in Scenario III

In this chapter, we show you how to start, stop, and get the status of the network resources that you have configured for this scenario.

10.1 SNA Services Attachment on Server A

Before you enter any of these commands, you must log on to the server as root.

If you need more information about using these commands, look at the *AIX Command Reference*.

10.1.1 Getting the Attachment Status

You can check the status of the server A attachment with the command:

```
lssrc -l -s sna
```

10.1.2 Starting the Attachment

You start the server A attachment with the command:

```
startsrc -t attachment -o rs600011
```

Notes on Starting an Attachment:

1. The attachment will remain in the ′starting′ status until the link is activated by server B. The status command output (10.1.1, “Getting the Attachment Status”) will present the attachment status in the form:

   ```
   ″sna″ Program, Process ID 42049  active
   rs600011              Attachment    - starting
   ```

   Once the link been activated, the attachment status should change to active:

   ```
   ″sna″ Program, Process ID 42049  active
   rs600011              Attachment    - active
   ```

2. If there is a significant interval between the attachment being started and the PU being activated (more than a few minutes), you will get a startsrc timeout message from the source master.

   This is normal. The attachment will still be in the starting state, and will remain so until you stop it, or the link is activated.

3. It is important, since server A′s attachment is the listener and server B′s link station the caller, that server A′s attachment is started *before* server B′s link station.

4. Starting the attachment will automatically start SNA services itself (this shows up as `sna` in the status output).

5. The connection (session) between the server A NetView DM/6000 LU (represented by the connection profile RS6K11DM in our example) and the server B NetView DM/6000 LU (RA60011B in our example) will start automatically at the commencement of each distribution activity. The status command output will change to:

   ```
   ″sna″ Program, Process ID 42049  active
   rs600011               Attachment   - active
   RS6K11DM               Connection   - active
   ```

6. The connection (session) will fail if the attachment is not active when the request (BIND) arrives from server B.

10.1.3 Stopping the Attachment

You can stop the attachment with the command:

```
stopsrc -t attachment -s rs600011
```

If this doesn't stop the attachment, you can force it to stop with the command:

```
stopsrc -t attachment -s rs600011 -f
```

or, as a last resort stop SNA Services altogether:

```
stopsrc -s sna -f
```

Notes on Stopping an Attachment:

If you try to stop an attachment in the starting state, you will get a message to the effect that the subsystem is currently under command processing. This is a case where you will probably need to force SNA Services to stop in order to stop the attachment.

10.2 NetView Distribution Manager/6000 at the Servers

Before you enter any of these commands, you must log on to the system concerned as the NetView DM/6000 administrator (root, in our examples).

If you need more information about using the `nvdm` subcommands, look at the *NetView DM/6000 User's Guide*. For more information on the `startsrc` command, look in the *AIX Commands Reference*.

10.2.1 Getting the Status of NetView Distribution Manager/6000

To get the status of NetView DM/6000, enter the command:

```
nvdm stat
```

You can also use the `ps -ef | grep fnd` to check if NetView DM/6000 is active. For more information about the necessary processes refer to chapter 8 of the *NetView Distribution Manager/6000 Message and Error Recovery Guide*.

10.2.2 Starting NetView Distribution Manager/6000

To start NetView DM/6000, enter the command:

```
nvdm start
```

You can also start NetView DM/6000 using the source master:

```
startsrc -s NetViewDM/6000
```

However, source master support is not fully implemented in this release of NetView Distribution Manager/6000. For example, the status shows up as `inoperative` in the output from the `lssrc` command. Also, `stopsrc` fails because the source master believes that NetView DM/6000 is already inoperative.

We recommend that you steer clear of the source master commands, and use the `nvdm` command set instead.

Note: The NetView Distribution Manager/6000 installation process places an entry in /etc/inittab that automatically starts NetView DM/6000 on system reboot. This entry uses the `startsrc` command. Using the source master to *start* NetView DM/6000 seems to work okay. So long as you want NetView DM/6000 to be started automatically on reboot, we suggest that you leave this entry alone.

10.2.3 Stopping NetView Distribution Manager/6000

To gracefully terminate NetView DM/6000 at the *server* or *preparation system*, enter the command:

```
nvdm stop -x
```

If you cannot terminate NetView DM/6000 at the *server* using the previous command, enter the command:

```
nvdm stop -x -K
```

where ″-K″ stands for kill which works immediately.

To gracefully terminate NetView DM/6000 at the *client*, enter the command:

```
nvdm stop
```

In either case, NetView DM/6000 has not completely stopped (and therefore cannot be started again) until the following message is written to the log (/usr/lpp/netviewdm/fndlog):

```
FNDCO149I: The last NetViewDM/6000 task is exiting.
```

If you use `nvdm stat` to get the status of NetView DM/6000 after it has stopped, you will get the error:

```
FNDCL127E  ″Cannot process the request. The transmission controller is not running″
```

As an alternative, you can check if NetView DM/6000 has stopped completely by examining the process table for NetView DM/6000 processes, all of which have names beginning with ″fnd″. We used the following pipe to do this:

```
ps -ef | grep fnd
```

When NetView DM/6000 is stopped, this command sequence will produce no output, so long as there are no processes in your system that have the string ′fnd′ in their name. If there are, you may wish to use a more selective `grep` pattern.

The `ps` and `grep` commands are described in the *AIX Commands Reference*.

10.2.4 Refreshing NetView Distribution Manager/6000 In Flight

If NetView Distribution Manager/6000 is running when you make changes to the SNA/DS configuration, you must either stop and restart NetView DM/6000, or refresh the runtime system ″in flight″ with the new values. It can take NetView DM/6000 several minutes to complete its stop processing; therefore, in most cases you will find it more convenient to refresh in flight (this generally takes just a few seconds to complete).

To refresh the NetView DM/6000 runtime tables in flight, do the following:

```
nvdm rld
```

10.3 SNA Server Link Station on Server B

Before you enter any of these commands, you must log on to the server as root.

If you need more information about using these commands, look at the *AIX SNA Server/6000 User's Guide*.

10.3.1 Getting the Link Station Status

You can check the status of the server B link station with the command:

```
lssrc -l -s sna
```

10.3.2 Starting the Link Station

You start the server B link station with the command:

```
startsrc -t link_station -o RA6012CP
```

Notes on Starting a Link Station:

1. The link station will initially be in the ″starting″ state, and the status command output (10.3.1, "Getting the Link Station Status") will present the link station status in the form:

```
 Link              Adjacent      Node    Device             Number of
station            CP name       type     name      State    sessions
-------------- ----------------- ----- --------- ---------- ----------
RA6012CP       USIBMRA.RA6012CP  NN    tok0      Starting            0
```

2. As explained above (10.1.1, "Getting the Attachment Status" on page 289), it is important, since server A's attachment is the listener and server B's link station the caller, that server A's attachment is started *before* server B's link station. Thus shortly after server B's link station is started, the link station status should change to active:

```
 Link              Adjacent      Node    Device             Number of
station            CP name       type     name      State    sessions
-------------- ----------------- ----- --------- ---------- ----------
RA6012CP       USIBMRA.RA6012CP  NN    tok0      Active              1
```

   Notice that there is one session active already. This is the service session (CNOS) between the two control points.

3. If there is a significant interval between the link station being started and the link becoming active (more than a few minutes), you will get a startsrc timeout message from the source master.

   Check that the attachment on server A has been started.

4. Starting the link station will automatically start SNA services itself.

5. The session between the server A and the server B NetView DM/6000 LUs (represented by the partner LU and partner LU location profiles RA60012B in our example) will start automatically at the commencement of each distribution activity. The status command output will change to:

```
 Link              Adjacent      Node    Device             Number of
station            CP name       type     name      State    sessions
-------------- ----------------- ----- --------- ---------- ----------
RA6012CP       USIBMRA.RA6012CP  LEN   tok0      Active              2
```

Notice that the number of sessions value is now 2. As well as the service session, there is also a session to carry the distribution traffic. You can get more details about the session by entering the SNA Server/6000 command:

```
sna -display session -ln RA6OO11B -o short
```

More detail still is given if you use the `long` option:

```
sna -display session -ln RA6OO11B -o long
```

10.3.3 Stopping the Link Station

You can stop the server B link station with the command:

```
stopsrc -t link_station -s RA6O11CP
```

If this doesn't stop the link station, you can force it to stop with the command:

```
stopsrc -t link_station -s RA6O11CP -f
```

or, as a last resort stop SNA Server/6OOO altogether:

```
stopsrc -s sna -f
```

Notes on Stopping a Link Station:

If you try to stop an link station in the starting state, you will get a message to the effect that the subsystem is currently under command processing. This is a case where you will probably need to force SNA Services to stop in order to stop the link station.

Chapter 11. Retrieving Trace File from Peer NetView DM/6000 Server

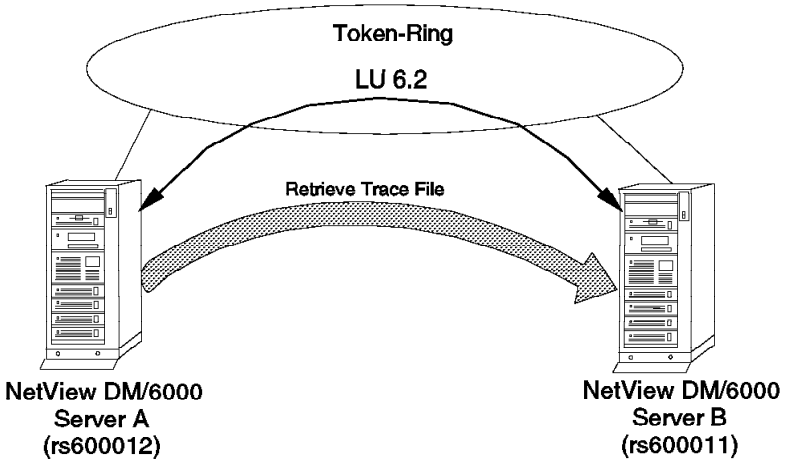

Figure 234. Scenario III CM Activity - Retrieve File

In this example we perform the following change management activity:

- Retrieve a trace file from server A (rs600012) to server B (rs600011).

The trace file is an SNA attachment trace. We retrieve it to rs600011 where we can analyze it using the SNA Server/6000 *snaformat* utility (SNA Services/6000 has no such analysis tools).

The work is divided into two main tasks:

- Cataloging the trace file on server A (rs600012)
- Retrieving the trace file from server A to server B

11.1 Cataloging the Trace File

Before cataloging the trace file, you must first choose the *global name* that you are going to give it. There are rules governing the format and composition of this name. These are described in 1.6, “SNA/FS Conventions for Global Names” on page 16.

Cataloging the trace file associates the global name with the name of the trace file in the AIX file system.

In this example, we have chosen the global name:

```
SNASERV6000.TRACE.HOST.&TARGET.&DATE.&TIME
```

The code word tokens &DATE and &TIME get replaced with the date and time of retrieval. &TARGET gets replaced with the short name of the target where the source file resides. Qualifying the retrieved object with date and time ensures that the trace file is given a unique, and readily identifiable name, in the server

B catalog on each occasion that it is retrieved. Qualifying the name with the target acts as a reminder of the system from which the trace was obtained.

To catalog the trace file, do the following:

Step 1. Log on to server A at a graphics terminal as the administrator (root in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

If you have problems starting the GUI, see G.1, “Starting the Graphical Interface (GI)” on page 437 for possible causes.

Step 3. In the Catalog window select **Catalog** from the menu bar.

Step 4. Select **New** from the pull-down menu.

Step 5. Select **Data file** from the cascaded menu and a Catalog Data File window will open.

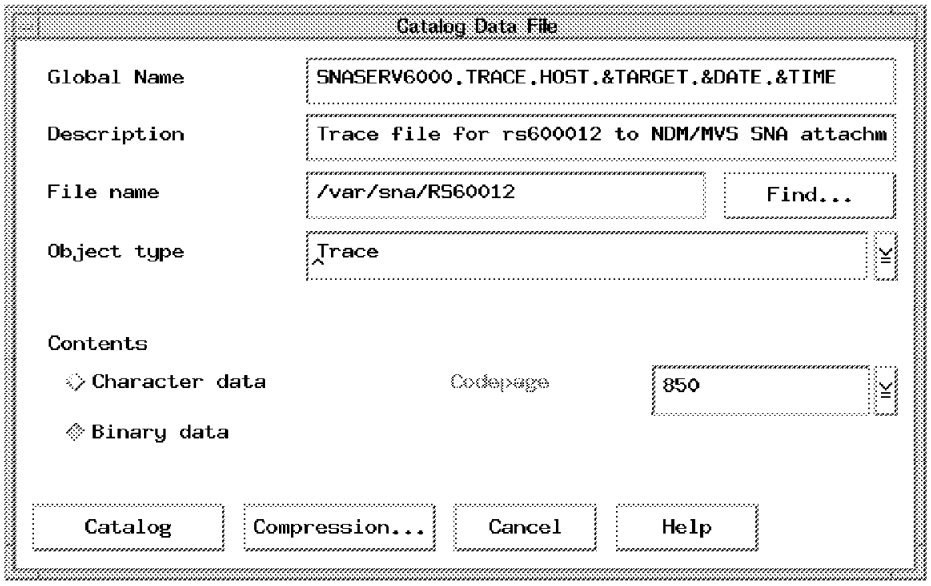

Figure 235. NetView DM/6000 Catalog Data File Window (Server A)

Step 6. Fill in the Global Name, Description and File name fields according to Figure 235.

Step 7. Open the Object type menu by selecting the button at the right of the Object type entry field (∨).

Step 8. Select Trace from the File Type menu.

Step 9. Ensure that the **Binary data** radio button is selected (that is, in the ″in″ position) to signify that the file does not need to undergo character translation before being transmitted over the network.

Explanation:

You should only select **Character data** if the data is ASCII text that needs to be viewed on an EBCDIC system some time during or after the distribution process. In our case, the trace file is binary data.

Step 10. Select the **Catalog** push button to make the changes effective. You will be returned to the Catalog window. The Catalog panel will be refreshed automatically and the newly cataloged trace file will appear in the list of cataloged objects.

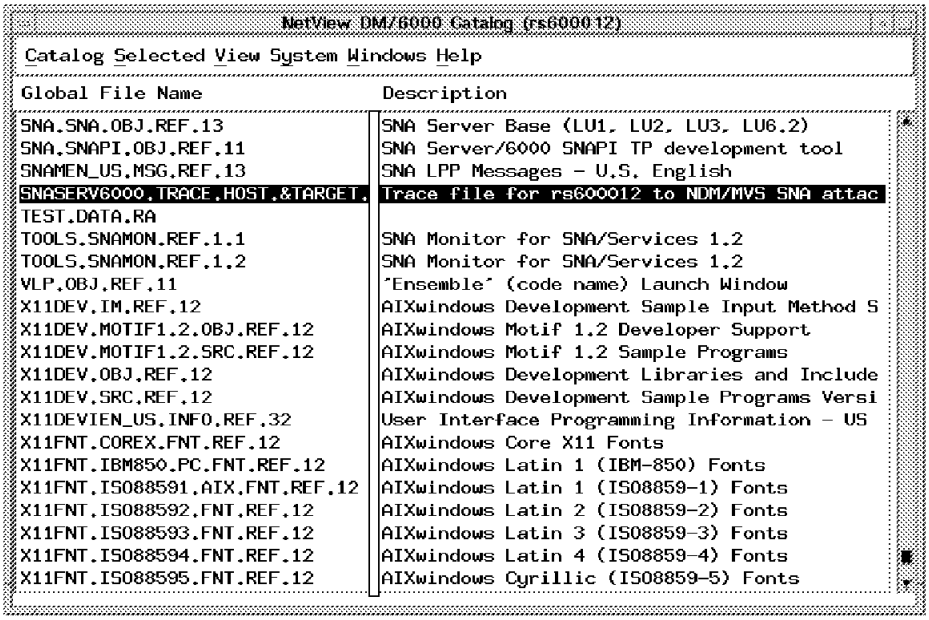

Figure 236. NetView DM/6000 Updated Catalog Window (Server A)

11.2 Retrieving the Trace File

In this example, we use the command line interface to retrieve the trace file.

If you would like to follow what is happening in NetView Distribution Manager/6000 whilst the retrieve request is being processed, enter the following command both at servers:

```
tail -f /usr/lpp/netviewdm/fndlog
```

This will cause all messages written to the NetView DM/6000 log (fndlog) to be copied to the server terminals.

To retrieve the trace file, do the following:

Step 1. Log on to server B as the NetView DM/6000 administrator (root, in our example).

Step 2. Enter the command

```
nvdm rtrv SNASERV6000.TRACE.HOST.*.*.* rs600012
```

Explanation:

a. rtrv is the nvdm ″retrieve″ subcommand.

b. The ″wildcard″ character (*) must be used in place of the &date, &time and &target control word tokens. These tokens are resolved on the target system (server A) as explained above.

Below are the entries made by NetView DM/6000 in server logs (/usr/lpp/netviewdm/fndlog) during the retrieve operation.

```
1994/10/15 22:55:08 rs600012          24734 FNDCL785I: NetView DM/6000
                    started successfully.
1994/10/15 22:56:55 rs600012          35498 FNDFS054I: Fetch request Global
                    File Name SNASERV6000.TRACE.HOST.*.*.*.*.*.*.* resolved
                    to SNASERV6000.TRACE.HOST.&TARGET.&DATE.&TIME in the
                    Catalog.
1994/10/15 22:56:56 rs600012          27555 FNDSH046I: @rs600011
                    1994/10/15 24 rs60004 : Fetch succeeded for file
                    SNASERV6000.TRACE.HOST.&TARGET.&DATE.&TIME from
                    rs600012.
1994/10/15 22:57:05 rs600012          34496 FNDTC201I: @rs600011 1994/10/15
                    24 rs60004 : Sent to remote target.
```

Figure 237. Server A Log for Retrieve of Trace File

```
1994/10/15 22:49:25 rs600011          22620 FNDCL785I: NetView DM/6000
                    started successfully.
1994/10/15 22:51:32 rs600011          27233 FNDSH074I: @rs600011 1994/10/15
                    24 rs60004 : Fetch request passed to the Network Gateway
                    for remote routing.
1994/10/15 22:51:51 rs600011          21373 FNDTC201I: @rs600011 1994/10/15
                    24 rs60004 : Sent to remote target.
1994/10/15 22:52:03 rs600011          18280 FNDFS056I: Store request
                    received with new Global File Name
                    SNASERV6000.TRACE.HOST.RA62225B.Y1994M10D15.H12M24S09.
1994/10/15 22:52:03 rs600011          18280 FNDFS001I: Cataloged
                    SNASERV6000.TRACE.HOST.RA62225B.Y1994M10D15.H12M24S09
                    as local file $(REPOSITORY)/SNASERV6000.TRACE.
                    HOST.RA62225B.Y1994M10D15.H12M24S09.
1994/10/15 22:52:05 rs600011          27233 FNDSH049I: @rs600011 1994/10/15
                    24 rs60004 : Store request completed for file
                    SNASERV6000.TRACE.HOST.RA62225B.Y1993M12 D15.H12M24S09
                    to rs600011.
```

Figure 238. Server B Log for Retrieve of Trace File

Part 5. Additional Environments

In this part you will find an introduction to the:

- Remote administrator configuration
- Intermediate node concept

We will guide you through the NetView DM/6000 specific configuration of both environments and show some examples for each. In these chapters we will point you to the configuration of the communication parts that are covered in previous chapters.

The last chapter of this part deals with a specific configuration feature of NetView DM/6000, called ″User Interface Only Target″. This function is especially useful to support administrators′ work in TCP/IP connected networks.

Chapter 12. Scenario IV: NetView DM/6000 Remote Administrator

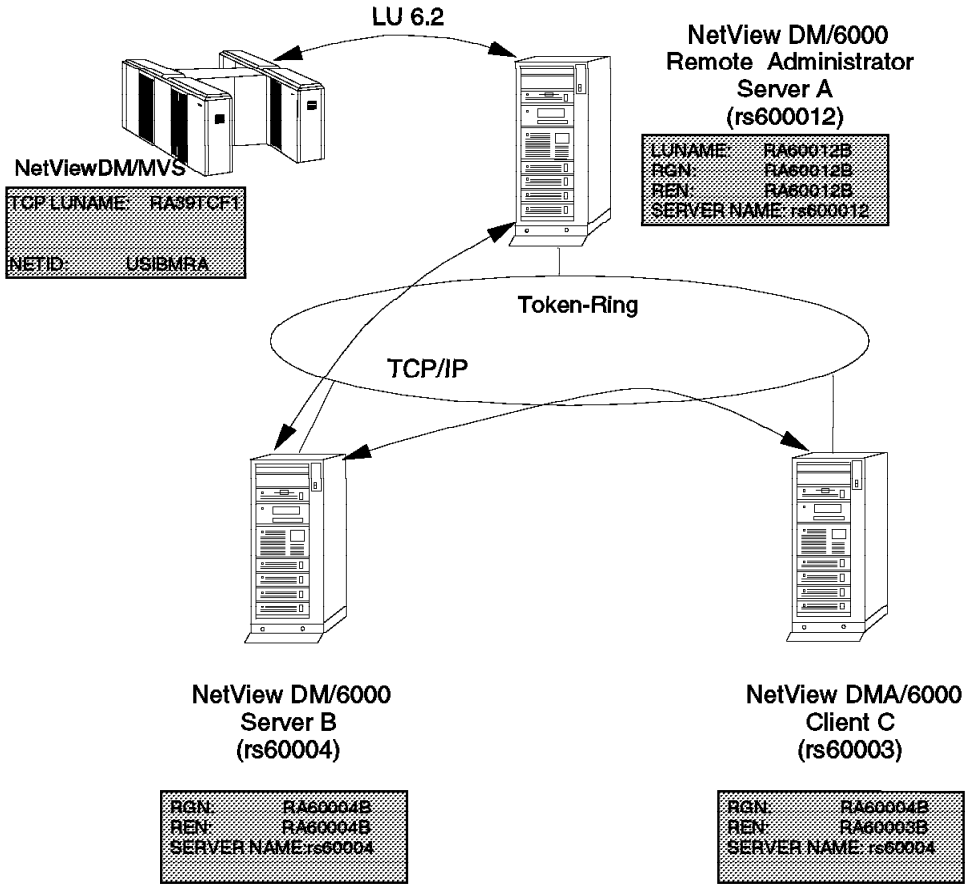

Figure 239. Scenario IV Configuration

With NetView DM/6000 Release 1.1 the remote administrator function has been introduced. This additional feature enables an administrator to manage a change control environment consisting of several domains from one site without the need of having NetView DM/MVS installed.

As Figure 239 shows, the NetView DM/6000 Remote Administrator (RA) is the central change management system that manages two separate domains. The NetView DM/6000 RA will be defined as a focal point target to all NetView DM/6000 targets in the network. All nodes that do not belong to the domain of the RA are defined as remote targets.

NetView DM/6000 allows more than one RA per network, that have to be organized in a hierarchical structure of RAs which may also include NetView DM/MVS as the highest level RA. At change control server level, you can have multiple servers under the control of an RA, which is referred to as the report-to focal point for those servers. In a large network, it is probable that there would be multiple RAs at this level, which in turn would have a central report-to focal point. This focal point could be a NetView DM/6000 or NetView DM/MVS focal point.

Reports about any change management request are sent to all levels of remote administrators regardless of where the command was submitted. Other than in NetView DM/2, this also includes reports of commands that were not successful.

In this scenario we explore the remote administrator function in a two domain environment, with a remote change control server connected to the remote administrator using the TCP/IP protocol. The same environment is supported using the LU 6.2 protocol between the RA and the remote change control server.

In a more realistic network, each server including the remote administrator would probably manage a number of clients; however in this scenario we use only one remote agent. All change control operations can be performed between the NetView DM/6000 RA, remote servers and clients directly.

The multiple server environment consists of:

- Server A (rs600012), the NetView Distribution Manager/6000 RA
- Server B (rs60004), the remote change control server
- Client C (rs60003), the remote change control agent

  All are physically connected by token-ring.

In addition we also have NetView DM/MVS as the receiver of all change management reports included in this environment.

In this scenario, we aim to show you how to configure server A as the remote administration workstation, as well as the necessary configurations to server B, and client C, as these targets must configure the NetView DM/6000 RA as a report-to focal point. On server A we will configure NetView DM/MVS as the report-to focal point in order for the remote administrator workstation to forward all necessary reports.

We show you some of the change control activities that are possible in this kind of environment:

- Send a change file from the NetView DM/6000 RA to server B (rs60004).
- Issue an install request from the RA, to install a change file from server B to client C (rs60003).
- Show the change file history at all levels.

Additional change control functions supported by the NetView DM/6000 RA on a remote target include:

- Accept an installed change file.
- Activate the remote target.
- Initiate a procedure.
- Remove a change file.
- Uninstall a component.

The configuration and distribution activities for this scenario are described in the following sections:

- 12.1, “Configuration Activities” on page 303 guides you through the tasks you need to carry out to configure the servers, and the remote client.

- 12.2, “Remote Administrator Initiated Change Control” on page 315 takes you through the steps involved in carrying out the distribution activities and change management.
- 12.3, “Target and Change File History Examples” on page 328 shows you the change file history at all levels, including NetView DM/MVS.

12.1 Configuration Activities

At this point, we assume that you already have the remote administrator option installed on server A. For more information on the installation, see *NetView DM/6000 Installation and Customization Guide*.

The configuration activities for scenario IV include:

- Configuring remote targets at server A (rs600012)
- Configuring server A as a report-to focal point at server B (rs60004)
- Defining NetView DM/MVS as a report-to focal point at server A (rs600012)

We also assume that:

- All necessary TCP/IP configuration activities have been successfully completed. For more information see 3.6.2, “Adding the Client to the Server′s TCP/IP Configuration” on page 61 through 3.8, “Adding the NetView DM/6000 Server to the Client′s Configuration” on page 65.
- The SNA communication between server A and NetView DM/MVS is configured properly. For more information see Chapter 9, “Configuration Activities” on page 233.

12.1.1 Configuring Remote Targets at Server A (rs600012)

All local and remote targets must be defined to the workstation configured as a remote administration site. The NetView DM/6000 RA function allows more than one RA per network. As this function is hierarchical, we will configure the ″highest level″ focal point as NetView DM/MVS, and server A (rs600012) as the ′intermediate level′ RA. Thus, we have NetView DM/MVS as the report-to focal point for server A, and server A as the report-to focal point RA for the change control server B (rs60004) and change control client C (rs60003).

12.1.1.1 Customize the Connections on Server A

There are two configuration files that enable NetView DM/6000 to communicate with remote targets:

- The SNA/DS connection configuration file: there will be one connection configuration file for each remote connection.
- The SNA/DS routing table: all routes will be defined in one routing table.

Create the SNA/DS Connection Configuration Files: Server A has connections to both NetView DM/MVS and to server B (rs60004), and therefore has a connection configuration file for each remote connection. There are two example connection configuration files:

- CONNSNA: An example of a LU 6.2 connection configuration file is provided in the SNA/DS connection directory and is called CONNSNA. In our example we rename this file to a new file name RA39TCF1, which then becomes

SNA/DS connection configuration file for communication with NetView DM/MVS.

- CONNTCP: An example of a TCP/IP connection configuration file is provided in the SNA/DS connection directory and is named CONNTCP. In our example we rename this file to a new file name RA60004B, which then becomes SNA/DS connection configuration file for communication with server B.

To create the configuration of the SNA/DS connection configuration files, do the following:

1. From the AIX prompt, go to the NetView DM/6000 SNA/DS connection database directory:

   ```
   cd /usr/lpp/netviewdm/db/snads_conn
   ```

2. Edit the SNA/DS connection configuration file RA60004B for server B:

```
PROTOCOL:                          TCP/IP
REMOTE SERVER NAME:                rs60004
TCP/IP TIME-OUT:                   300
NEXT DSU:                          RA60004B.RA60004B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 240. SNA/DS Connection Configuration File (RA60004B)

   Edit the file RA60004B as shown in Figure 240.

3. Once you are satisfied that the configuration is correct for the connection to server rs60004, edit the SNA/DS connection configuration file for NetView DM/MVS.

   Note: This is an SNA configuration. For further information on SNA configuration, refer to Part 4, “Scenario III: Interconnecting NetView DM/6000 Servers” on page 231, or to the *NetView DM/6000 Installation and Customization Guide*.

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVDMSIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVDMSIDR
NEXT DSU:                          USIBMRA.RA39TCF1
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 241. SNA/DS Connection Configuration File (RA39TCF1)

Customize the SNA/DS Routing Table

Now we configure the routing table and define the connection configuration file in it. The routing table in the NetView DM/6000 database directory is called routetab.

1. From the AIX prompt, go to the NetView DM/6000 database directory:

```
cd /usr/lpp/netviewdm/db
```

2. Edit the SNA/DS routing table file routetab for server A′s configured connections:

```
# SNA/DS Routing Table
#
NETWORK PROTOCOL:    BOTH
#
#   RGN.REN       Priority  Protection  Capacity  Security  Connection  Hop
#
USIBMRA.RA39TCF1    ANY        ANY        ANY        ANY     RA39TCF1    5
#
#
#        TCP/IP CONNECTION
#
RA60004B.*                                                   RA60004B
```

Figure 242. SNA/DS Routing Table (routetab)

3. Change the values in the file so they reflect the values shown in Figure 242

   Note: NetView DM/6000 permits defining APPC, TCP/IP, or BOTH as protocols in the routing table. For more information on the routing table definitions, refer to *NetView Distribution Manager/6000 Installation and Customization Guide*.

12.1.1.2 Add Remote Server B to Server A′s Configuration

In this section, we use the NetView Distribution Manager/6000 graphical interface (GI) to make all the necessary NetView DM specific definitions.

To add server B (rs60004) to server A′s configuration do the following: start the GI on server A (rs600012) by issuing the following command:

```
nvdmgi&
```

After entering the command, a transient program copyright window will be displayed. You can either click on the **OK** push button or wait a few moments. The copyright window will close and be replaced with the Catalog window.

1. From the Catalog window of server A, open the Targets window. If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting ***Targets*** from the pull-down menu.
2. Select **Target** from the Targets window menu bar.
3. Select **New remote target** from the pull-down menu and the New Remote Target window will open.

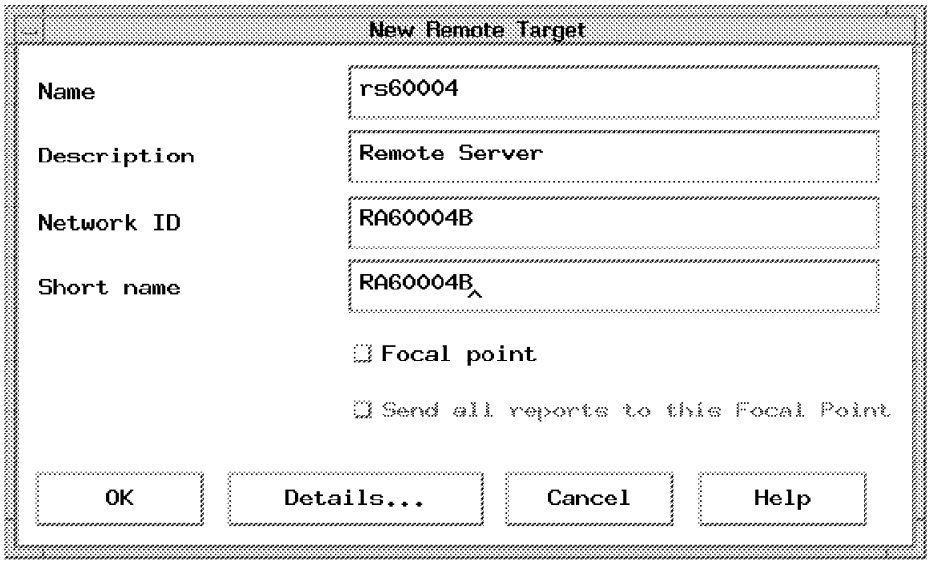

Figure 243. New Remote Target Window (Server A)

4. Fill in all fields according to Figure 243.
5. Leave the **Focal point** button in the unselected (″out″) position, as server B is not going to become a NetView DM/6000 RA.
6. Leave the **Send all reports to this Focal Point** button in the unselected (″out″) position.
7. Select the **OK** push button to make the changes effective. You will be returned to the Targets window with server B (rs60004) added to the list of targets.

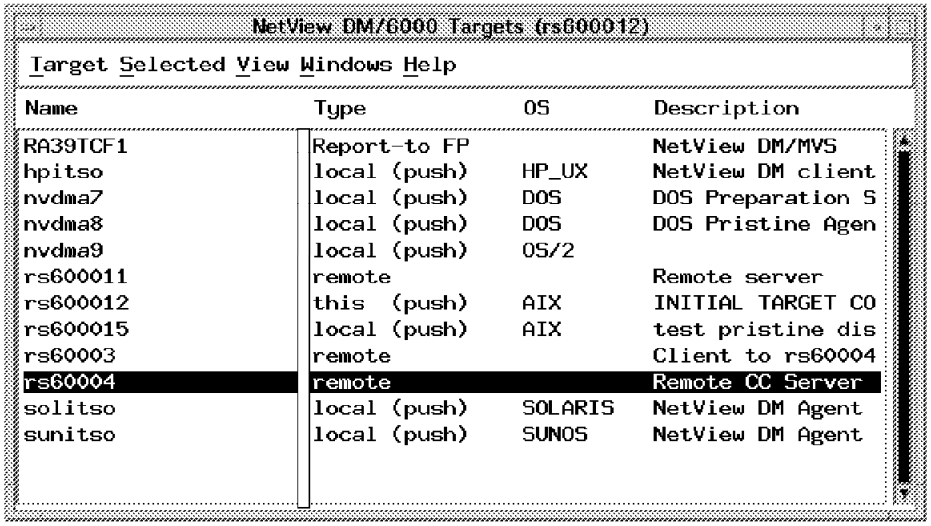

Figure 244. Updated Target Window (Server A)

Perform the above tasks for all additional remote targets to be added to the configuration of server A.

12.1.1.3 Add NetView DM/MVS as Report-to Focal Point

So far we have defined all remote NetView DM/6000 nodes to the remote administrator. As the NetView DM/6000 RA function allows more than one RA per network we will define NetView DM/MVS as the ″highest level″ or central focal point. Server A (rs600012) will have NetView DM/MVS (RA39TCF1) defined as both a focal point, and a report-to focal point which means that it accepts change management requests from there and will send all reports back.

To add NetView DM/MVS to server A′s configuration, do the following:

1. Select **New remote target** from the pull-down menu, and you will be presented with the New Remote Target window.

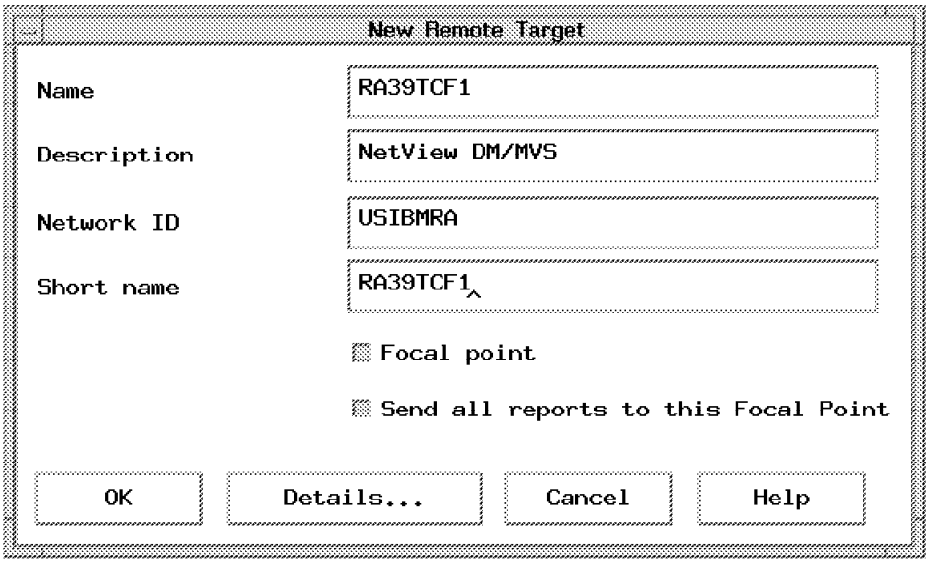

Figure 245. NetView DM/6000 Remote Target Details (Server A)

2. Enter the values according to those shown in Figure 245.
3. Select the **Focal point** push button and the **Send all reports to this Focal Point** push button; that is, force them them to the ″in″ position as shown in Figure 245. This ensures that all reporting, and history information for server A, server B and client C will automatically be forwarded to NetView DM/MVS.
4. Select the **OK** push button to make the changes effective. You will be returned to the Targets window, with the ″Type″ option for RA39TCF1 set to Report-to FP.

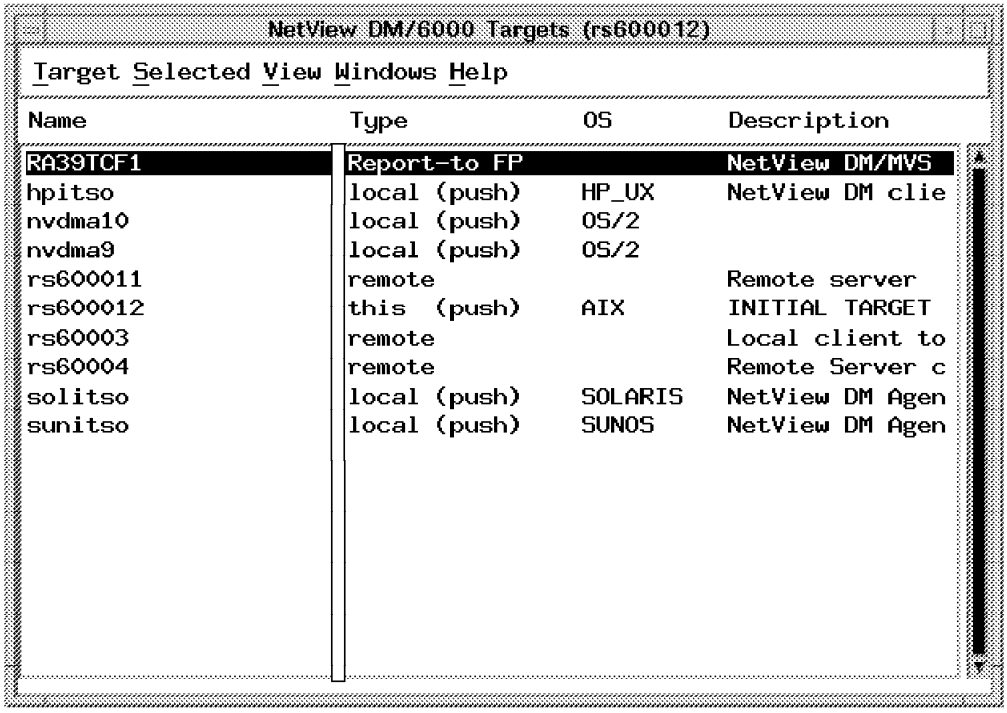

Figure 246. NetView DM/6000 Targets Window (Server A)

12.1.2 Configuring Server A as Focal Point on Server B

In the previous section we configured the remote connections to the remote servers as well as NetView DM/MVS on the remote administrator. Now we have to configure the remote administrator as a remote target on the change control server which means that we have to define it as a report-to focal point.

12.1.2.1 Customize the Connections on Server B

There are two configuration files that need to be configured on NetView DM/6000 to communicate with remote targets:

- The SNA/DS connection configuration file. There will be one connection configuration file for each remote connection.
- The SNA/DS routing table. All routes will be defined in one routing table.

Create the SNA/DS Connection Configuration File: Server B has only a connection to server A (rs600012), and therefore needs one connection configuration file.

CONNTCP: An example of a TCP/IP connection configuration file is provided in the SNA/DS connection directory and is named CONNTCP. In our example we rename this file to a new file name RA60012B, which then becomes SNA/DS connection configuration file for communication with server A.

To create the configuration of the SNA/DS connection configuration files, do the following:

1. From the AIX prompt, go to the NetView DM/6000 SNA/DS connection database directory:

   ```
   cd /usr/lpp/netviewdm/db/snads_conn
   ```

2. Edit the SNA/DS connection configuration file routetab for server A:

```
PROTOCOL:                          TCP/IP
REMOTE SERVER NAME:                rs600012
TCP/IP TIME-OUT:                   300
NEXT DSU:                          RA60012B.RA60012B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 247. SNA/DS Connection Configuration File (RA60012B)

3. Edit the options to be the same as those shown in Figure 247.

Customize the SNA/DS Routing Table

Now we configure the routing table and define the connection configuration file in it. The routing table in the NetView DM/6000 database directory is called routetab.

1. From the AIX prompt, go to the NetView DM/6000 database directory:

   ```
   cd /usr/lpp/netviewdm/db
   ```

2. Edit the SNA/DS routing table file routetab for server B's configured connection:

```
# SNA/DS Routing Table
#
#NETWORK PROTOCOL:              TCP/IP
#
#   RGN.REN       Priority  Protection  Capacity  Security  Connection  Hop
#
RA60012B.*                                                  RA60012B
```

Figure 248. SNA/DS Routing Table (routetab)

3. Edit the options to be the same as those shown in Figure 248.

12.1.2.2 Configure the Remote Administrator at Server B

To add the remote administrator to server B's configuration, do the following:

1. Select **New remote target** from the pull-down menu, and you will be presented with the New Remote Target window.

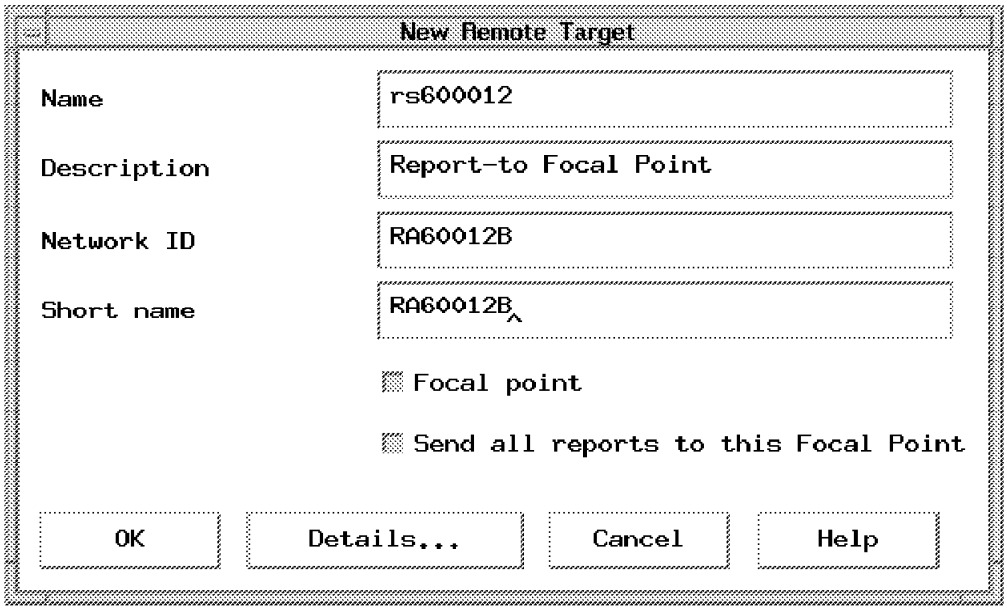

Figure 249. New Remote Target Window (Remote Administrator)

2. Fill in all fields according to Figure 249.
3. Click the **Focal point** button in the selected (″in″) position, as server A is going to become the NetView DM/6000 RA in our example.
4. Click the **Send all reports to this Focal Point** button in the selected (″in″) position as we require all reports to be routed to this focal point.

   Note: NetView DM/6000 allows multiple focal point RAs in a network; however each change control server can only have one report-to focal point. This report-to focal point in turn keeps the history of each of its change control servers and clients. It also forwards reports to the remote administrator at the next higher level if there is one defined. In our example it is NetView DM/MVS.
5. Select the **OK** push button to make the changes effective. You will be returned to the Targets window with server A (rs600012) added to the list of targets.

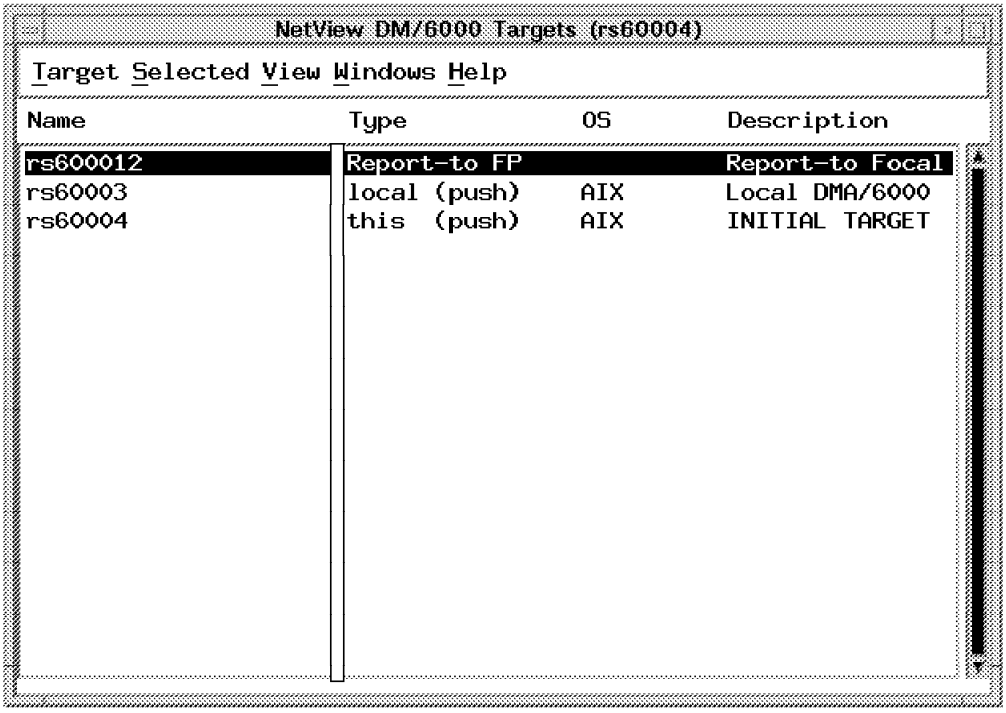

Figure 250. NetView DM/6000 Targets Window (Server B)

12.1.2.3 Configure Nodes at NetView DM/MVS

In the configuration section of the remote administrator (see 12.1.1, “Configuring Remote Targets at Server A (rs600012)” on page 303) we defined NetView DM/MVS as a report-to focal point to server A. That means the remote administrator will forward all reports of executed change management requests to NetView DM/MVS. Therefore we have to define all nodes that might send reports to NetView DM/MVS; otherwise the host would reject these reports.

We have to define the nodes to NetView DM/MVS even if we submit all change management requests from the remote administrator.

```
                  SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                    14:44

Enter desired values or accept the ones shown:

 1 Node class . AO         Required
 2 Status . . . 2          1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60012B   Required (Logical unit name)
 4 Logon mode . NVDMNORM   Logon mode name
 5 Linetype . . 1          1 = Leased    2 = Switched
 6 Rgn. . . . . RA60012B   Network identification
 7 Ren. . . . . RA60012B   CP Logical unit name
 8 Notes  . . . 2          Enter 1 if you want additional node informaton
 9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. RS600012   Server name
11 Timzoffs . . +00        Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS600012

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT             12=CURSOR
```

Figure 251. Remote Administrator Configuration at NetView DM/MVS

For the remote administrator we specify the values shown in Figure 251.

- We use the LU name that is defined in VTAM for rs600012. For more information refer to Figure 65 on page 99.
- We use the Logon mode that was defined for NetView DM/6000 servers. For more information refer to Figure 68 on page 100.
- For RGN and REN we have to use the short name of server A which is RA60012B.

```
                    SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                    14:47

Enter desired values or accept the ones shown:

 1 Node class . AO         Required
 2 Status . . . 2          1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60012B   Required (Logical unit name)
 4 Logon mode . NVDMNORM   Logon mode name
 5 Linetype . . 1          1 = Leased    2 = Switched
 6 Rgn. . . . . RA60004B   Network identification
 7 Ren. . . . . RA60004B   CP Logical unit name
 8 Notes  . . . 2          Enter 1 if you want additional node informaton
 9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. RS60004_   Server name
11 Timzoffs . . +00        Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS60004

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT             12=CURSOR
```

Figure 252. Server B Configuration at NetView DM/MVS

For the remote server B we specify the values shown in Figure 252.

- We use the LU name that is defined in VTAM for the remote administrator rs600012. In order to reach the remote server we have to go through the remote administrator. For more information on this type of configuration refer to Chapter 13, “Scenario V: Intermediate Node” on page 335.
- We use the Logon mode that was defined for NetView DM/6000 servers.
- For RGN and REN we have to use the short name of server B which is RA60004B.

```
                    SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                      14:51

Enter desired values or accept the ones shown:

 1 Node class . AO          Required
 2 Status . . . 2           1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60012B    Required (Logical unit name)
 4 Logon mode . NVDMNORM    Logon mode name
 5 Linetype . . 1           1 = Leased    2 = Switched
 6 Rgn. . . . . RA60004B    Network identification
 7 Ren. . . . . RA60003B    CP Logical unit name
 8 Notes  . . . 2           Enter 1 if you want additional node informaton
 9 Profile. . . 2           Enter 1 if you want to change node profile
10 Server name. RS60004_    Server name
11 Timzoffs . . +00         Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS60003

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT               12=CURSOR
```

Figure 253. Agent C Configuration at NetView DM/MVS

For the remote agent C we specify the values shown in Figure 253.

- We use the LU name that is defined in VTAM for the remote administrator rs600012. In order to reach the remote agent we have to go through the remote administrator and the remote server. For more information on this type of configuration refer to Chapter 13, “Scenario V: Intermediate Node” on page 335.
- We use the Logon mode that was defined for NetView DM/6000 servers.
- For the RGN we specify the short name of the server to which the agent is connected.
- The REN is set to the short name of agent C which is RA60003B.

12.2 Remote Administrator Initiated Change Control

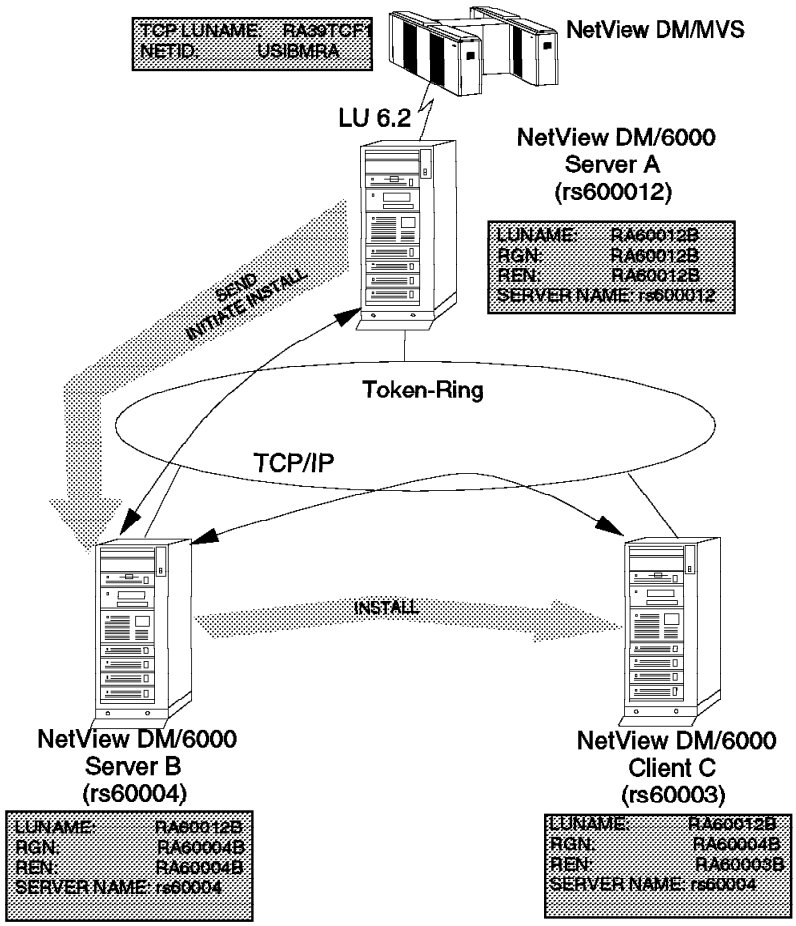

Figure 254. Scenario IV RA Controlled Distribution and Change Control

In this section, we provide step-by-step guidance on cataloging an AIX installp change file, and carrying out the various change management activities from the Remote Administrator (RA). In this example, server A (rs600012) is both, the RA and the preparation site

The change management activities we carry out are:

- Send the installp image from the remote administrator to remote server B.
- Submit an Install request from the remote administrator to install a change file from server B on client C.

The work is divided into three main tasks:

- Building and cataloging the change file on the preparation system (rs600012)
- Sending of the change file from the RA to server B
- Installing the change file from server B on client C

  Note: You have to split the send and install request into two parts because NetView DM/6000 does not support the send option for the install command, like NetView DM/MVS or NetView DM/2.

We use an application in this scenario called *Systems Monitor for AIX Version 2*. The choice of application was primarily for simplicity, as it is a reasonably straightforward application, and doesn't need any change management scripts written for it, or use tokens. To help you with applications that have more complicated change control requirements, we work through a real application in Appendix C, "Guidance on Change Management Scripts and Tokens" on page 381, involving change management scripts and tokens. Additional information on working with installp change files can be obtained in *NetView Distribution Manager/6000 User's Guide*.

12.2.1 Building and Cataloging the Change File on the Preparation System

Before building the change file, you must first choose the *global name* that you are going to give it. There are strict rules governing the format and composition of this name. These are described in 1.6, "SNA/FS Conventions for Global Names" on page 16.

In this example, we have chosen the global name:

```
IBM.SYSMON.REF.v.r
```

You will recall from 1.6.2, "Special Rules for Change Files" on page 17 that a change file global name is made up of three parts, *component name*, *change name* and *version*.

The component name in this example is IBM.SYSMON. The producing enterprise is IBM, and SYSMON is the product.

The change name is REF.*v.r*. It is a completely new version of the product (not an update or fix), and therefore a refresh, represented by REF in the change name. The level is *v.r*, where *v.* represents the application's version number and *r* the release.

We work with only one level of the product in this example, 2.1. The target systems in our environment do not have previous levels of the application installed, so the global file name will reflect a full refresh.

If you haven't started the GI on the preparation system, do the following:

Step 1. Log on to the preparation system at a graphics terminal as the builder.

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

Step 3. Select **Catalog** from the catalog window menu bar.

Step 4. Select **New** from the pull-down menu.

Step 5. Select **Change File** from the pull-down menu.

Step 6. Select **Refresh** from the pull-down menu.

The Change File Type window is now displayed.

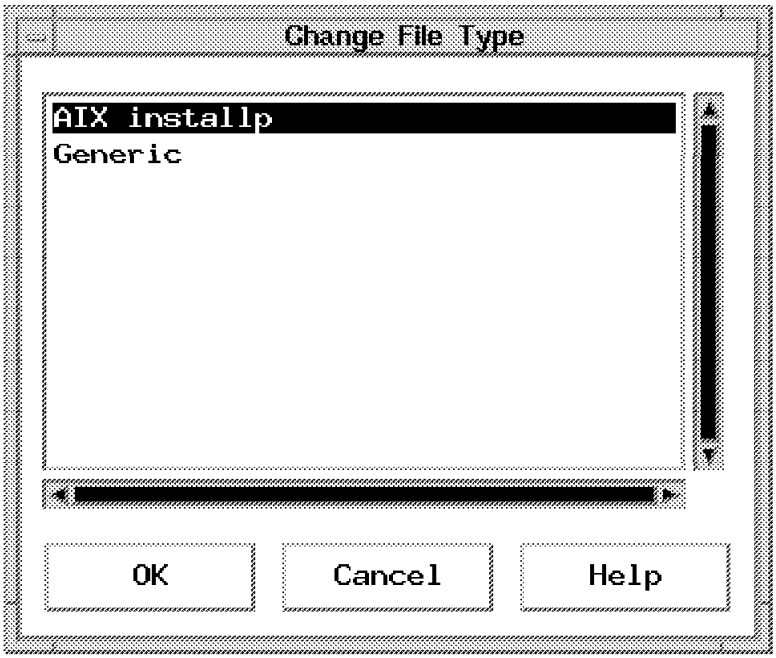

Figure 255. NetView DM/6000 Change File Type Window (Preparation System)

Step 7. Click on **AIX installp** option and then click on **OK**.

Step 8. Update the Change File window as shown in Figure 256.

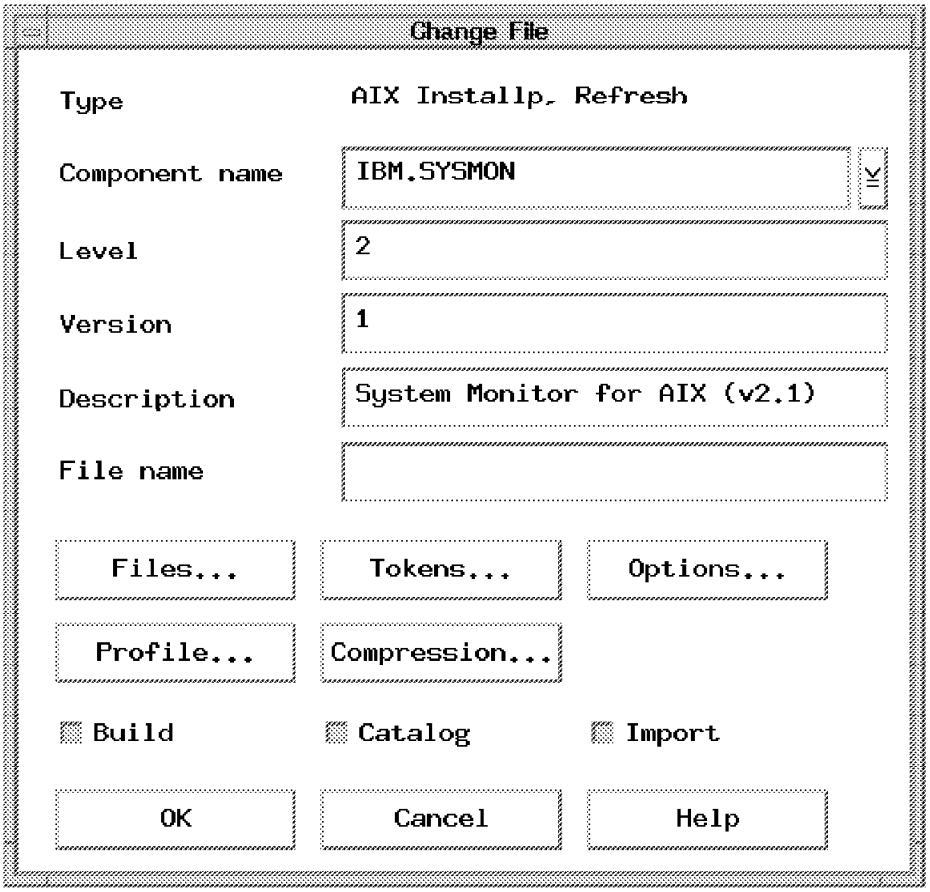

Figure 256. NetView DM/6000 Change File Window (Preparation System)

Step 9. Click on the **Files** push button, and the Files in Installp Change File window is displayed.

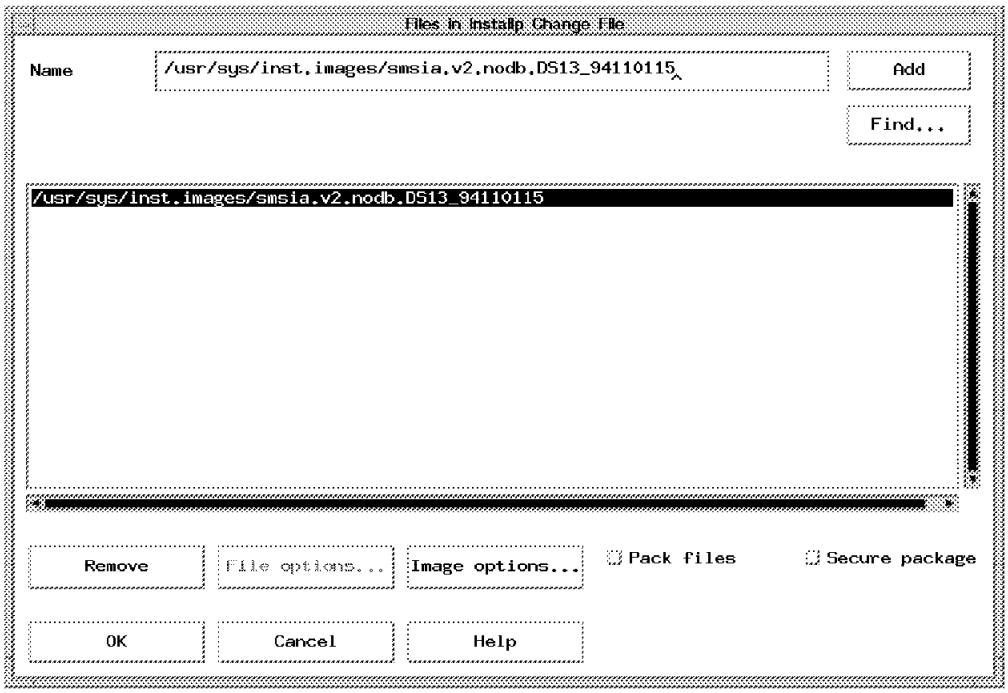

Figure 257. NetView DM/6000 Files in Installp Change File Window (Preparation System)

Step 10. Enter the fully qualified path name and file name for the directory containing the installp image in the **Name** field. In our example, /usr/sys/inst.images/smsia.v2.nodb.DS13_94110115 and click on the **Add** push button and the Files in Installp Change File Window will be updated to reflect the installp image.

Note: You can also click on the **Find** push button if you do not know the location of the installp image. This will present you with the Find Files to Add to Change File window. You then enter the beginning of the path followed by a wildcard in the **Filter** input field, for example /* and then click on the **Filter** push button. This will filter the output of the **Directories** field to reflect all subdirectories of the '/' file system. You would then scroll through the list of subdirectories displayed, and double click on the /usr subdirectory.

Step 11. Click on the **Image Options...** push button, and you will be presented with the Image Option Selection window. You will see that the installp image is shown in the Selected Image Options field. As this image is not a PMP or Remote Image, we leave the defaults for all options.

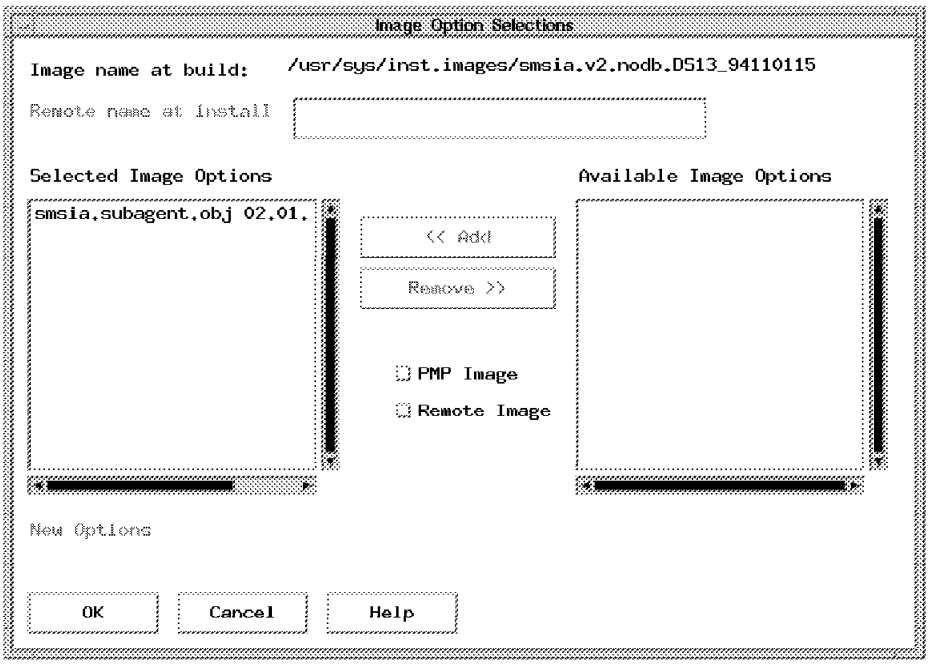

Figure 258. NetView DM/6000 Image Option Selection Window (Preparation System)

Step 12. Click on the **OK** push button and you will be returned to the Files in installp Change File window.

Step 13. Click on the **OK** push button, and a Build Progress window will display the progress of the building and cataloging of the change file.

Step 14. You will be returned to the Catalog window. Select **View** from the Catalog window menu bar, and click on **Refresh now** from the pull-down menu bar.

Step 15. Scroll through the catalog entries in the Catalog window, and you will see the global name of the installp change file displayed as an updated catalog entry.

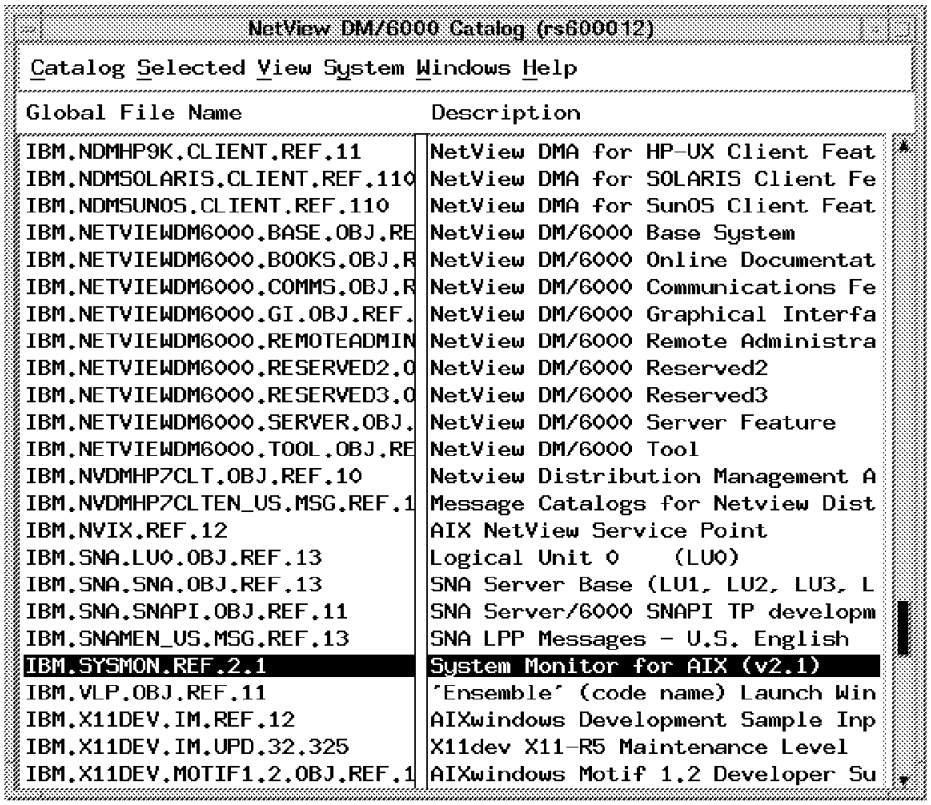

Figure 259. NetView DM/6000 Updated Catalog Window (Preparation System)

12.2.2 Send Change File from Remote Administrator to Remote Server

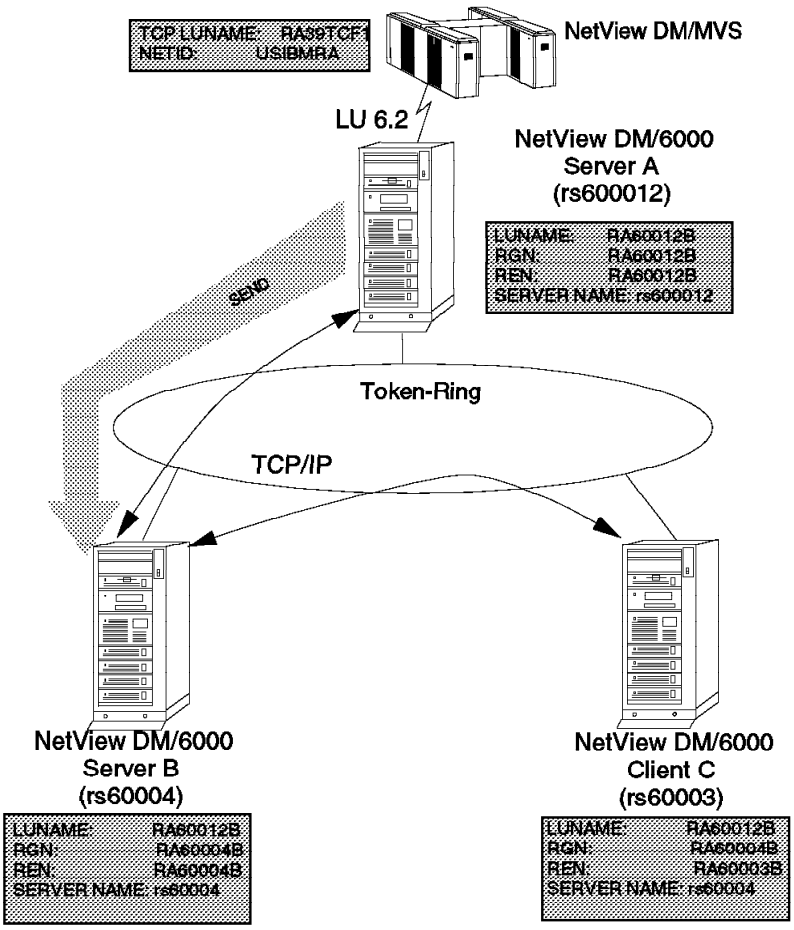

Figure 260. Scenario IV RA Controlled Distribution (Send) Example

In this example we demonstrate the distribution task. We have built and cataloged the change file that consists of an installp image of the System Monitor Version 2.1 application. We will send the change file from server A (rs600012) the RA, to change control server B (rs60004).

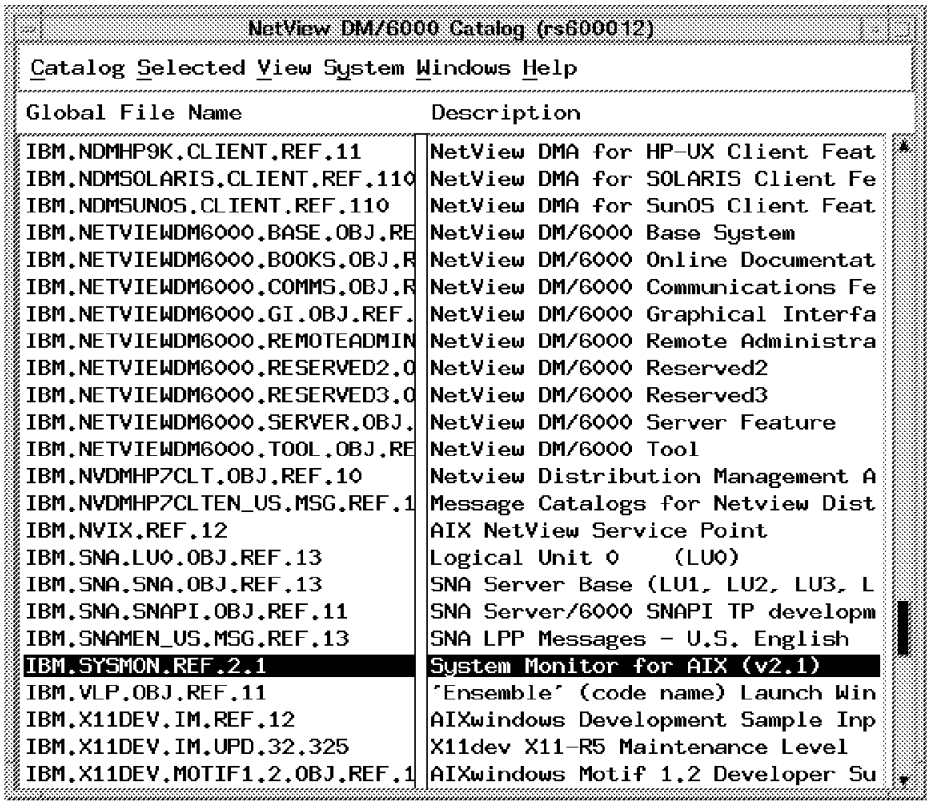

Figure 261. NetView DM/6000 Catalog Window on Remote Administrator

1. Scroll through the list of cataloged global file names in the Catalog window and click on the entry **IBM.SYSMON.REF.2.1**. It will become highlighted.
2. Select **Selected** from the Catalog window menu bar, and click on **Send** from the pull-down menu bar. The Send Files window will be displayed.

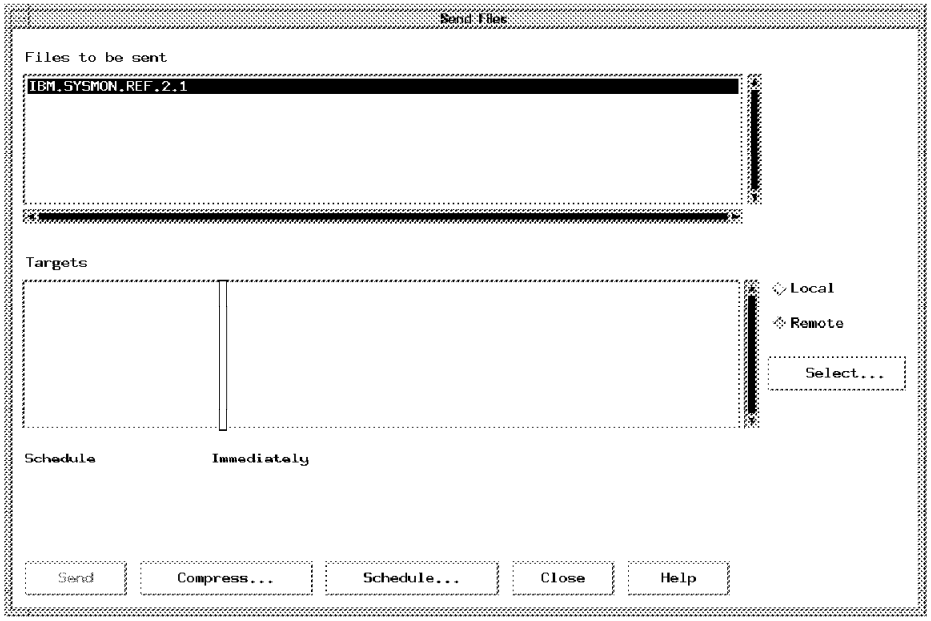

Figure 262. NetView DM/6000 Send Files Window on Remote Administrator

3. Select the **Remote** push button; that is, it must be in the ″in″ position, and click on the **Select** push button. You will be presented with the Select Targets with Filter window.

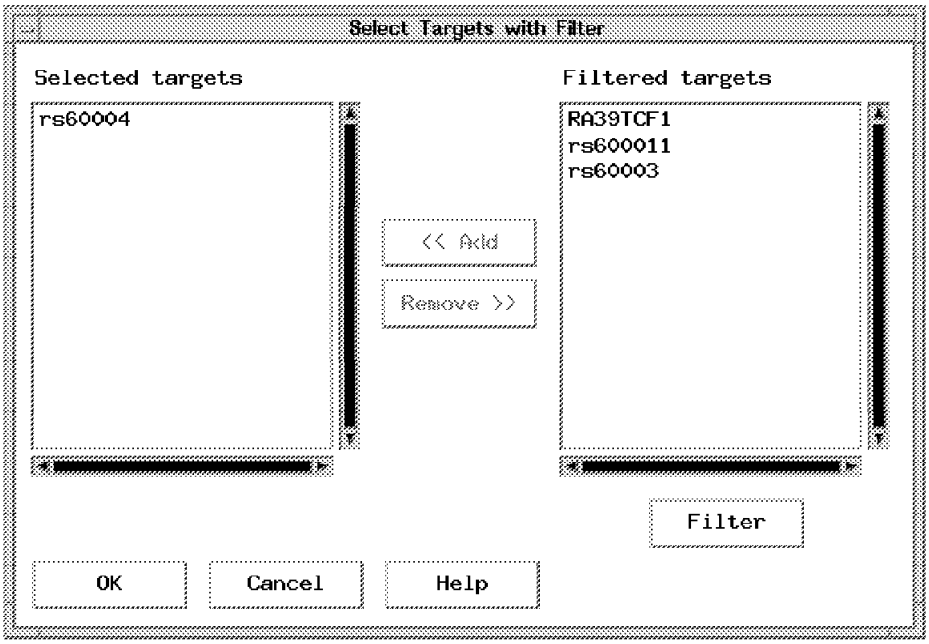

Figure 263. NetView DM/6000 Updated Select Targets with Filter Window (RA)

4. Click on the **Filter** push button, and you will be presented with the Targets Include window. In the **Target type** options, select the **Remote** push button and click on **OK**. You will be returned to the Select Targets with Filter window.
5. Click on **rs60004** in the Filtered Targets field. The **rs60004** entry will become highlighted.
6. Click on the **Add** push button, and the rs60004 entry will be added as an entry to the **Selected targets** list in the Select Targets with Filter window.
7. Click on the **OK** push button, and you will be presented with the updated Send Files window.

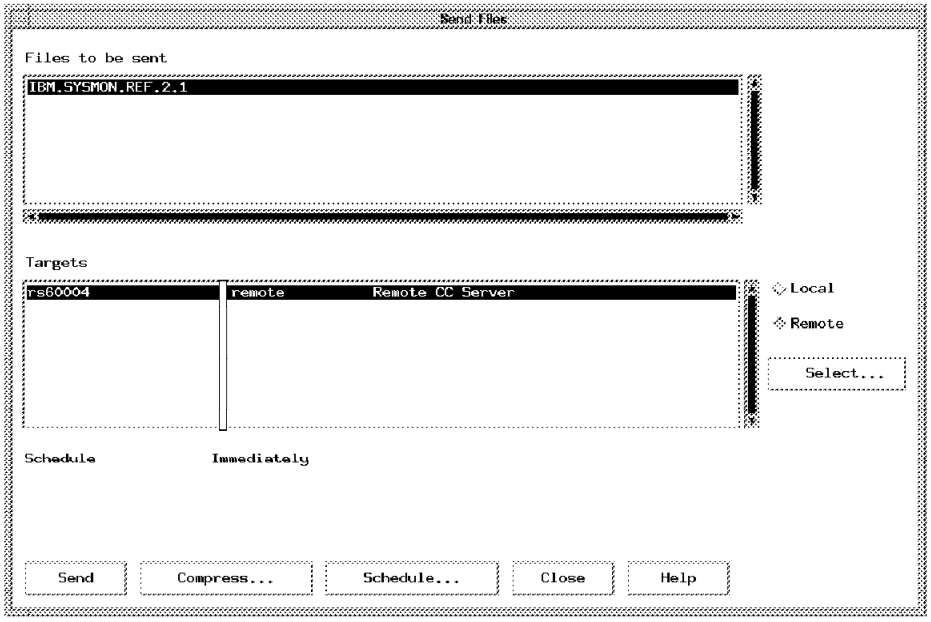

Figure 264. NetView DM/6000 Updated Send Files Window (RA)

8. Click on the **Send** push button and you will be presented with the Correlators window.

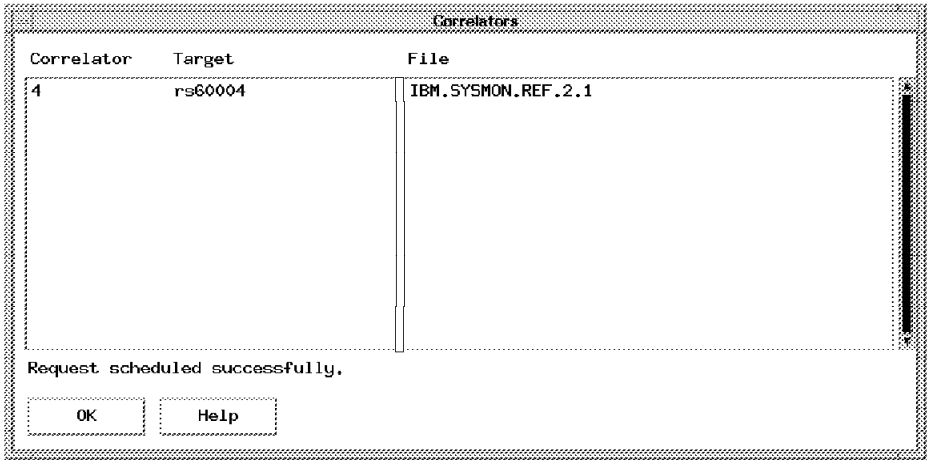

Figure 265. NetView DM/6000 Correlators Window (RA)

Note: You can follow the progress of the send request by issuing the following command from another aixterm window:

```
tail -f /usr/lpp/netviewdm/fndlog
```

Verify that the send process was successful by viewing the Catalog Entries on the remote target server B (rs60004).

12.2.3 Install from Remote Administrator on Remote Client

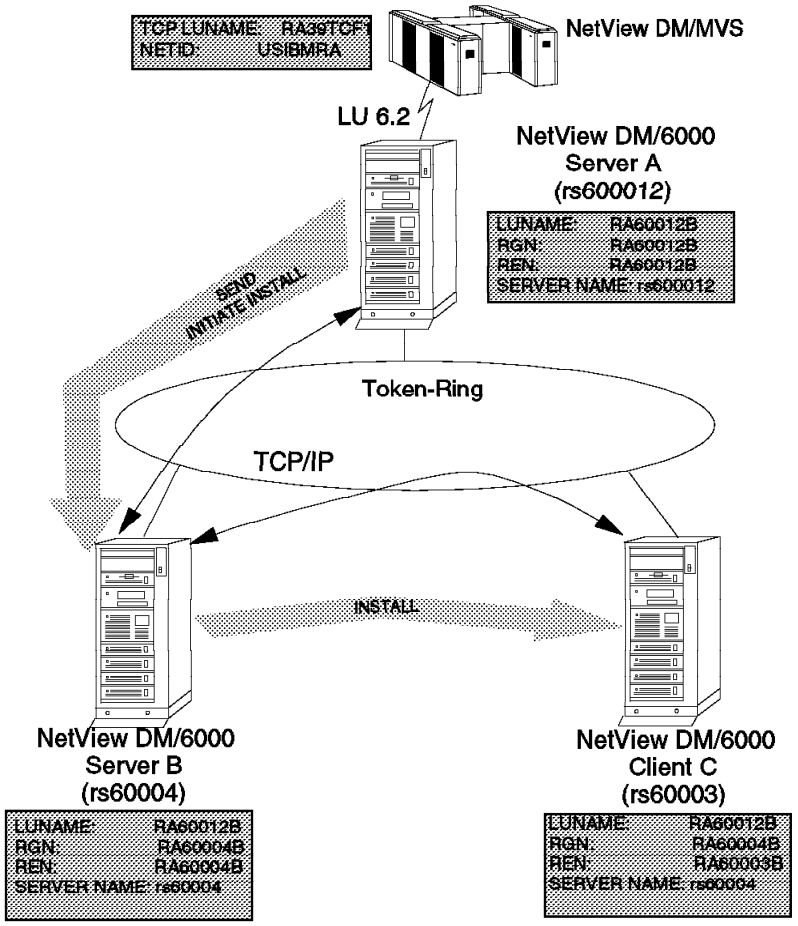

Figure 266. Remote Administrator Change Control Function Install

In this part we demonstrate an install change request initiated from the remote administrator, server A (rs600012). The remote target system in our environment is change control client C (rs60003), which is a local client to change control server B (rs60004). We will install a change file built from an installp image earlier in this scenario, and cataloged with the global file name of IBM.SYSMON.2.1, at server A.

The remote administrator does not directly perform the installation task itself, but rather manages it by routing the install request to change control server B, controlling the domain in which the remote target, change control client C, is defined. The change file must be present at server B before processing of the installation request can begin. In this example, we have already sent the change file to server B.

Step 1. In the Catalog window click on the global file name corresponding to the change file that you want to install. In our case IBM.SYSMON.2.1.

Step 2. Click on **Selected** from the Catalog window menu bar.

Step 3. Select **Install** from the pull-down menu bar.

At this point, you will be presented with the Install Change Files window. The remote target entry (rs60003) should be listed in the Targets field; see Figure 268

on page 326. If the entry for rs60003 does not appear in the list, select the **Select** push button and you will be presented with the Select Targets with Filter window.

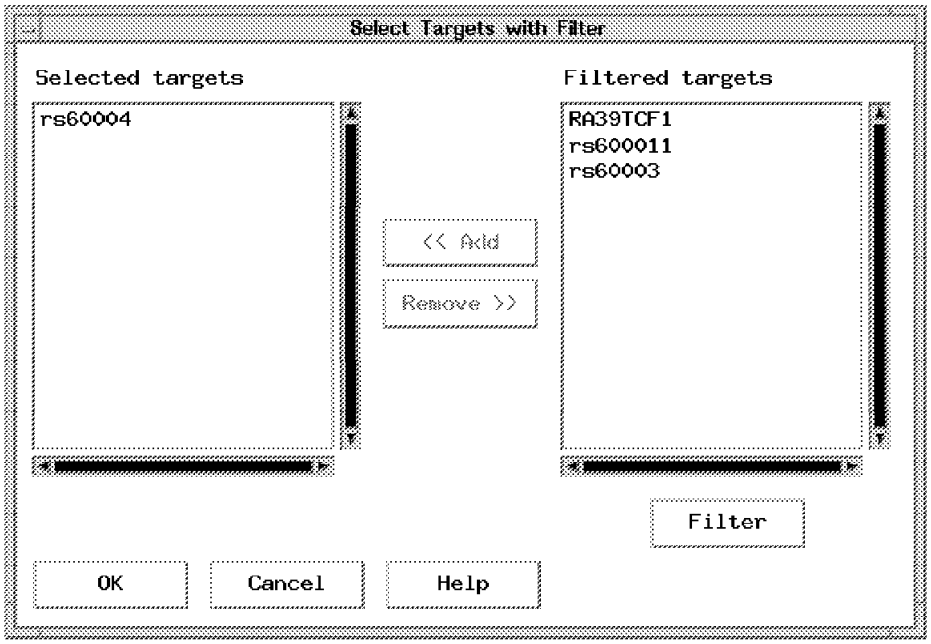

Figure 267. NetView DM/6000 Select Targets with Filter Window (RA)

Select the **Filter** push button, and you will be presented with the Targets Include window.

Enter the remote target name (rs60003) in the **Target name mask** field. Wildcards for example asterisk (*) are supported. Select the **Remote** push button from the Target type options and then click on the **OK** push button and you will be returned to the Select Targets with Filter window. You will notice that remote target rs60003 appears in both the Filtered Targets, and Selected Targets fields.

Click on **OK** and you will be returned to the updated Install Change Files window.

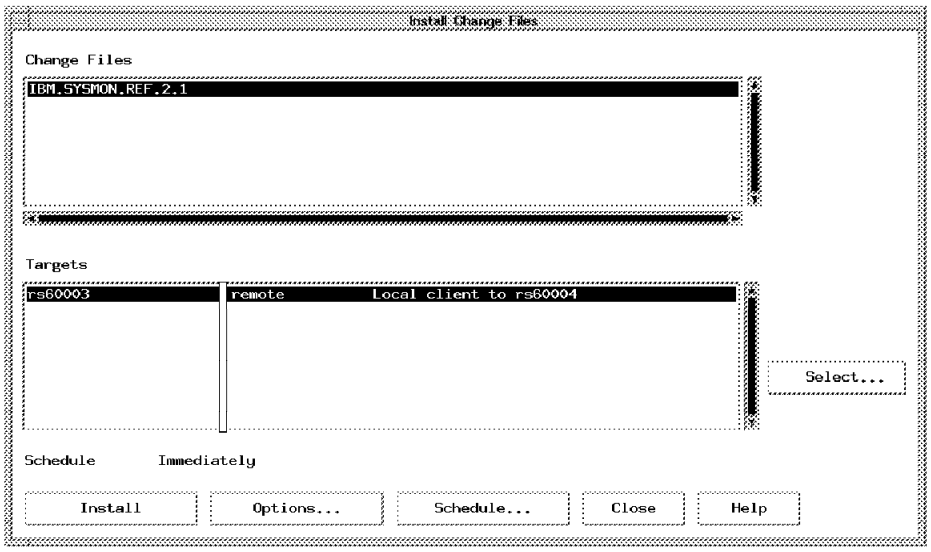

Figure 268. Remote Administrator Install Change Files Window

Step 4. Select the **Options...** push button, and you will be presented with the Install Options window.

Note: Refer to *NetView Distribution Manager/6000 User's Guide* for additional information on the install options.

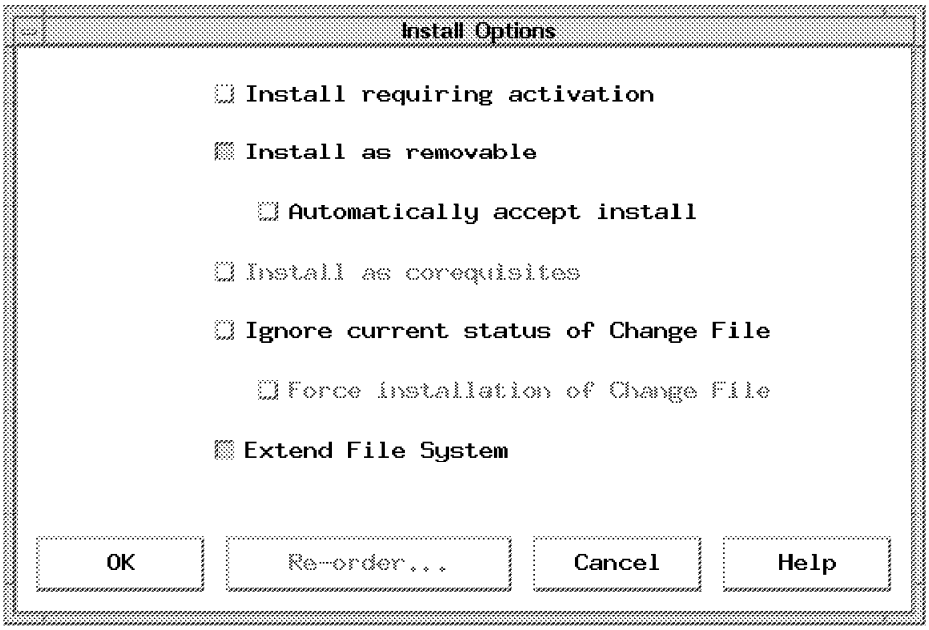

Figure 269. NetView DM/6000 Install Options Window (RA)

Step 5. Select the **Install as removable** push button; that is, it must be in the ″in″ position. We want a backup taken so that in the event of a faulty installation, we have the option available of restoring the system to its original state prior to the installation of the change file.

Step 6. Select the **Extend File System** push button; that is, it must be in the ″in″ position. We want to ensure that the installp process can dynamically increase the size of the ″/usr/lpp″ file system (which is where the change file can be installed), or its own file system, if so required during the install process.

Step 7. Select the **Schedule...** push button. You will be presented with the Schedule Time window. You can schedule the priority of the installation, or defer the installation process to a future date and time. For this example, we selected to schedule the installation immediately. Select the **Immediately** push button. That is, it must be in the ″in″ position. Click on the **OK** push button and you will be returned to the Install Change Files window.

Step 8. Click on the **Install** push button to start the installation request. You will be presented with the Correlators window.

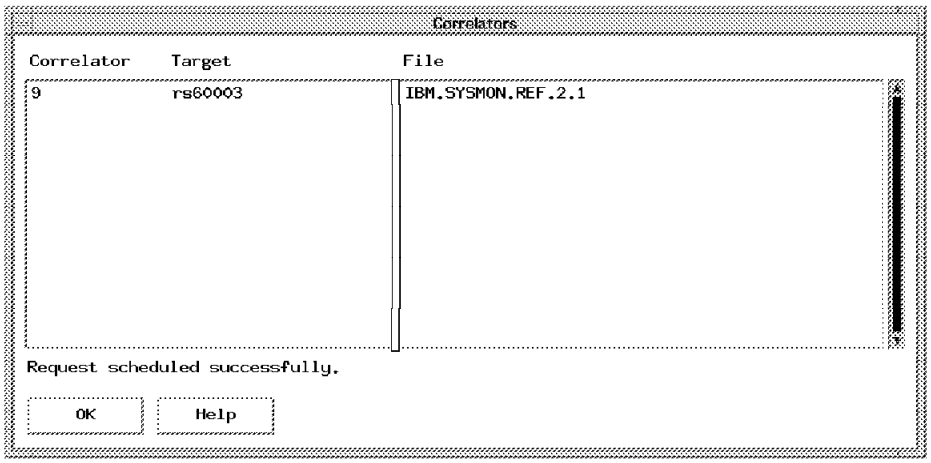

Figure 270. NetView DM/6000 Updated Correlators Window (RA)

Step 9. Click on the **OK** push button, and you will be returned to the Catalog window.

Note: You can monitor the progress of the installation by issuing the following command from another aixterm window:

```
tail -f /usr/lpp/netviewdm/fndlog
```

For a complete view of the install process and subsequent results, view the message log. We will show the message log and change file history at each level of the install process in the following chapter.

12.3 Target and Change File History Examples

In this chapter, we provide examples of:

- Change file history
- Target history

At three different levels:

- Change control server
- Remote administrator
- NetView DM/MVS focal point

of the installation of the installp change file that we performed in the previous chapter. We provide these examples in a bottom-up manner, commencing with the remote change control server B (rs60004), followed by the remote administrator and ending with the NetView DM/MVS.

12.3.1 History at the Remote Change Control Server

We will examine the target history for the remote client C at server B by starting at the Catalog window:

Step 1. Select **Windows** from the catalog window menu bar.

Step 2. Select **Targets** from the pull-down menu. You will be presented with the NetView DM/6000 Targets window.

Step 3. Click on the entry rs60003 in the **Name** field.

Step 4. Select **Selected** from the main menu bar.

Step 5. Select **Open**, and then **History** from the pull-down menu.

The Target History window is now displayed.

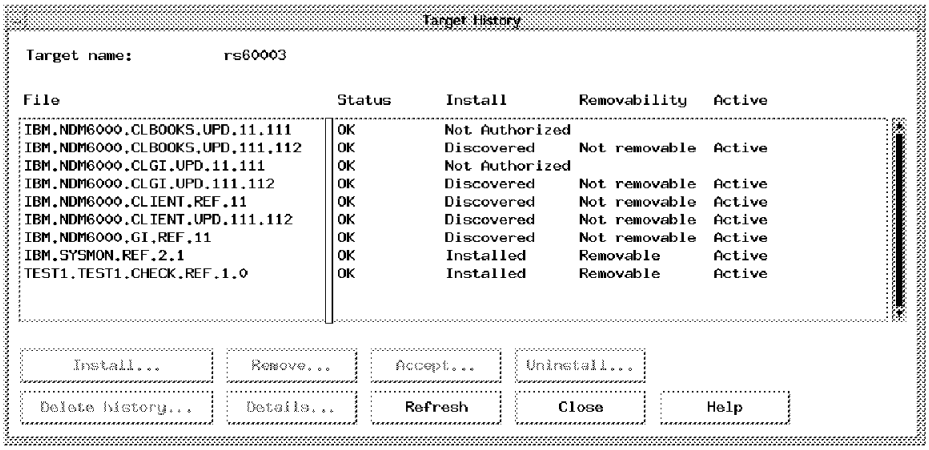

Figure 271. Target History Window for a NetView DMA/6000

The application IBM.SYSMON.REF.2.1 that has been installed shows up as ″Installed Removable Active″.

We will now look at the change file history that is stored on server B. This is just a different way to check the installation history for a change file:

1. In the Catalog window, click on the IBM.SYSMON.2.1 entry in the **Global File Name column**.
2. Select **Selected** from the main menu bar.
3. Select **Open** and then **History** from the pull-down menu.

   You will be presented with the File History window.

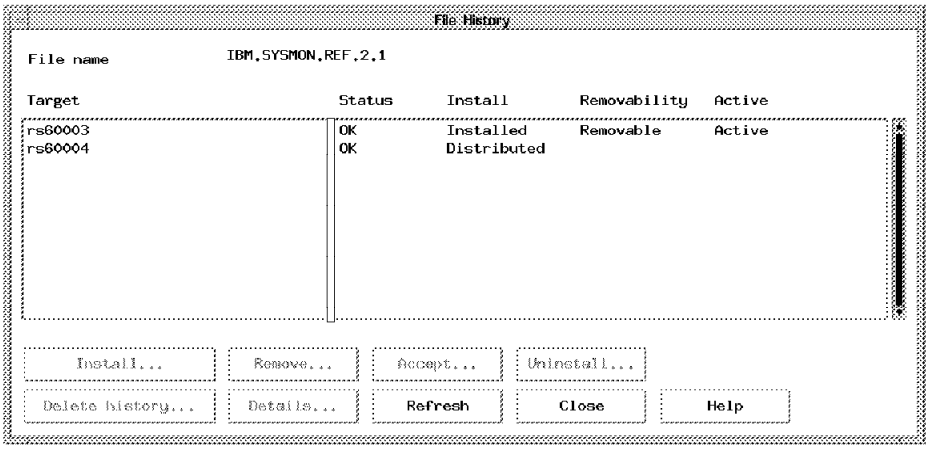

Figure 272. Change File History Window for a NetView DMA/6000

12.3.2 Target History, and Change File History at Server A (rs600012)

We will examine the installation state of the change file at the remote administrator from where the Install request was issued.

From the catalog window on the remote administrator:

Step 1. Select **Targets** from the pull-down menu. You will be presented with the NetView DM/6000 Targets window.

Step 2. Click on the entry rs60003 in the **Name** field.

Step 3. Select **Selected** from the main menu bar.

Step 4. Select **Open**, and then **History** from the pull-down menu.

The Target History window is now displayed.

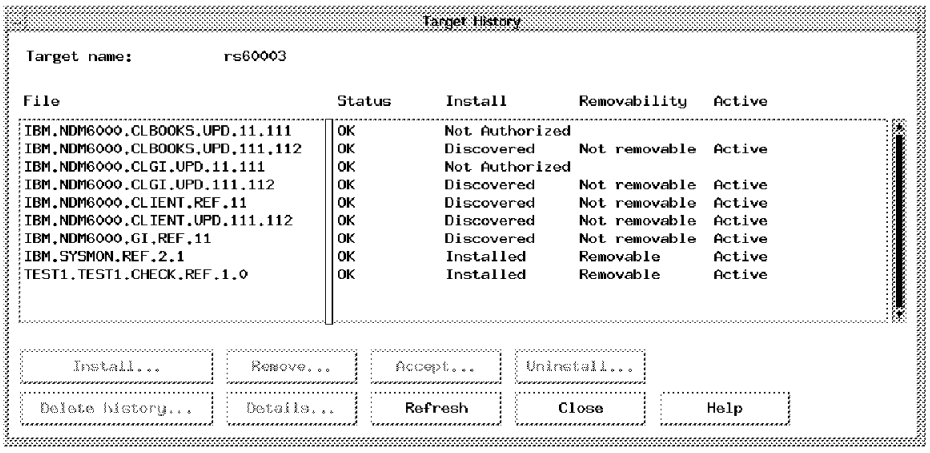

Figure 273. RA Target History Window of a Remote NetView DMA/6000

You can see exactly the same information about the installation status of the application as you get on the remote server.

12.3.3 Target History at NetView DM/MVS

We will now examine what happened at the NetView DM/MVS focal point. Therefore we look at the:

- IOF log to see the TCP messages that were caused by the reporting function on the NetView DM/6000 remote administrator
- Installation history of the NetView DMA/6000

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT

0058 14:15   NDM0834I THE NSR FROM NODE RS60003, SEQUENCE 25, ORIGIN DATE/TIME
                      941107191320, STARTED.
0059 14:15   NDM0071I INCONSISTENCY BETWEEN CURRENT STATUS NOT PRESENT AND FUNC
                      TION INSTALL PRODUCTION REMOVABLY PERFORMED FOR RESOURCE
                      IBM.SYSMON.REF.2.1, NODE RS60003.
0060 14:15   NDM0124I FUNCTION INS ENDED FOR LOGICAL UNIT RA60012B. NSR FROM NO
                      DE RS60003, SEQUENCE 25, ORIGIN DATE/TIME 941107191320, R
                      ETURN CODE 0, TRANSMISSION BYTES 0, FUNCTION STATUS COMPL
                      ETED.
0061 14:15   NDM0835I NSR FROM NODE RS60003, SEQUENCE 25, ORIGIN DATE/TIME 9411
                      07191320, HAS ENDED.




Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 274. Installation Reports for a NetView DMA/6000

These messages cover all the reporting done for the installation request on the NetView DMA/6000:

- Message 0058 indicates that the TCP is receiving a Node Solicited Request (NSR) which in this case is at the beginning of the reporting sequence.
- Message 0059 indicates an inconsistency that occurs because the resource IBM.SYSMON.REF.2.1 was not known on the host before. It will be defined on NetView DM/MVS automatically by this report.
- Message 0060 shows that the request was successful - RETURN CODE ″0″ and FUNCTION STATUS ″COMPLETED″.
- Message 0061 indicates the end of the NSR.

We will now check the installation history of the node starting at the GIX Main Menu:

Step 1. Select **2**, Browse Network and press Enter.

```
                        BROWSE NETWORK
Selection ==> 1                                                      14:36
Enter only one of the following:

Node name  . .  RS60003 To have the history of assigned resources of the
                         specified node
                          (Blank or partial name followed by * for full-list)
Group node name ________ To have the history of assigned resources to nodes
                         belonging to the specified group
Node type  . .  ____     To have the history of resources belonging to nodes
                         of specified type
                         Allowed entries:  CMEP  NDM6  DM2   DM2P  RS62
                               AS62  POSC  CMFP  NDMT  DCCS  Q3    CLNT


Select one of the following:
1 BROWSE                 Browse node with all resource history
2 PRINT                  Print node with all resource history
3 FULL-LIST OF RESOURCES  Get a list of assigned/tracked resources
4 SELECT                 Select resource type and resource name

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
 F1=HELP     F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
 F7=UP       F8=DOWN     F9=SWAP    F10=PRINT   F11=PF11/23 F12=CURSOR
```

Figure 275. GIX - Browse Network Menu

Step 2. From the Browse Network - Menu, select **1**, Browse and specify the node name of the remote agent (RS60003). Then press Enter to get the following screen:

```
                        BROWSE SELECTED INFORMATION        Row 1 to 24 of 195
 Command ==>                                                   Scroll ==> PAGE
                                                                        14:37


 ------------------------------      N O D E      ------------------------------
 Node name :  RS60003              Node class .
:  A0
 Node type :  NDM6                 Logical unit:  RA60012B
 Status .  :  PARALLEL             Logon mode .
:  NVDMNORM
 Linetype  :  LEASED               Network id .
:  RA60004B
 CP lu name:  RA60003B             Server name.
:  RS60004
 Timzoffs..:  +00


    ******        LIST OF TRACKED / ASSIGNED RESOURCES         ******

  Name  . . . :
  ==>  IBM.SYSMON.REF.2.1

  ---  Assigned ---        ---  Stored   ---        ---  Deleted  ---


  --- Installed ---        ---  Accepted ---        ---  Removed  ---
   94/11/07  14:13

  --- Backed up ---        ---Uninstalled---


  Status:  Installed production removably



  F1=HELP     F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
  F7=UP       F8=DOWN     F9=SWAP    F10=PRINT   F11=PF11/23 F12=CURSOR
```

Figure 276. Installation History for a NetView DMA/6000 on NetView DM/MVS

The previous panel shows the history - in this case only the installation - of an object on a specific NetView DM/6000 node.

Chapter 13. Scenario V: Intermediate Node

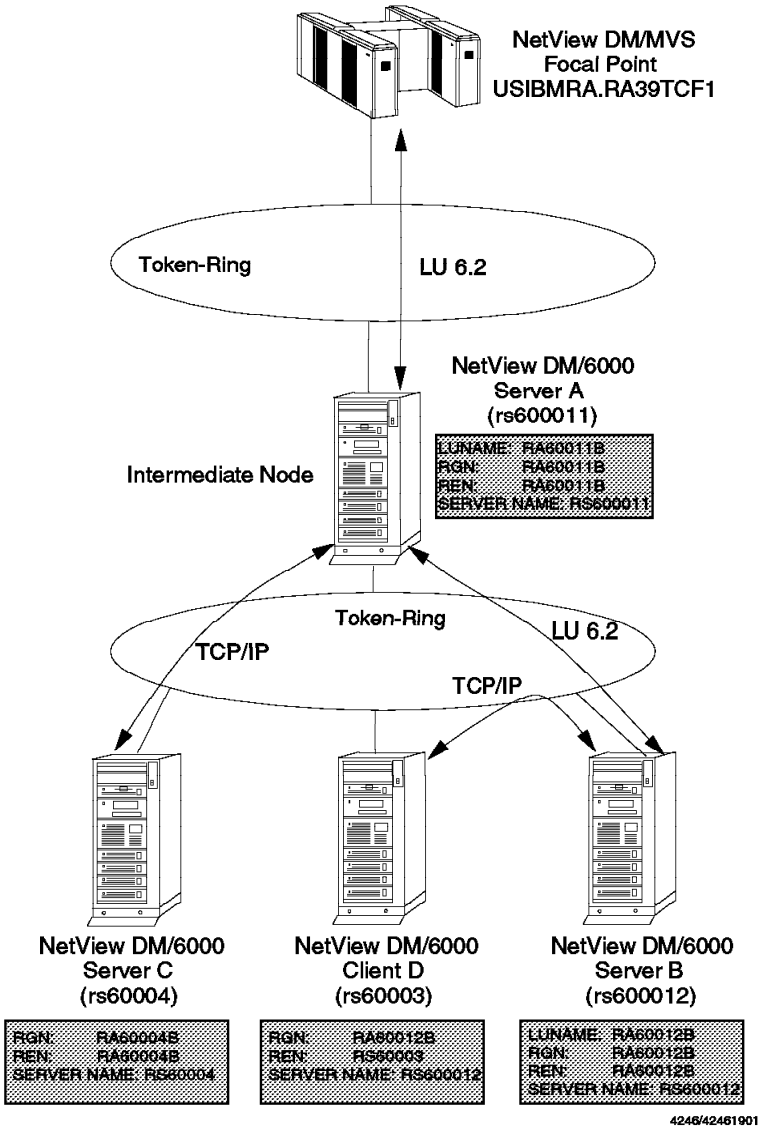

Figure 277. Scenario V: Intermediate Node Configuration

The intermediate node capability of NetView DM/6000 enables the node to route data traffic (SNA/DS and TCP/IP) from one adjacent node to another. Two nodes do not have to be connected directly but can communicate with each other through the intermediate node. As an intermediate node NetView DM/6000 can route the traffic from and to NetView DM/MVS, NetView DM/2 servers, SystemView Managed System Services/400, and other NetView DM/6000s.

When one node sends an object to multiple destinations through the intermediate node, only one copy of the object is sent to the intermediate node. The intermediate node stores the object in the temporary area and then forwards the copy to the destinations. This capability is called fan-out and reduces the network traffic significantly. If the intermediate node is also a final destination

for the distribution, it stores the object in its own catalog. Otherwise, the object is deleted from the temporary area after the adjacent node receives it.

In this scenario, we will configure NetView DM/6000 as an intermediate node and show the following activities:

- Initiate the procedure on server B (rs600012) which is connected to NetView DM/MVS through the intermediate node.
- Distribute an object to multiple destinations (rs60003, rs60004, rs600012) through the intermediate node.

As Figure 277 on page 335 shows, rs600011 is a NetView DM/6000 server acting as an intermediate node and is connected to NetView DM/MVS and the NetView DM/6000 server rs600012 by an LU 6.2 connection. The intermediate node (rs600011) is also connected to the NetView DM/6000 server (rs60004) by a TCP/IP connection. The client (rs60003) can also be managed from the NetView DM/MVS focal point through the intermediate node and the server.

Note:

In this scenario, the intermediate node is not installed as a remote administrator. That means, the node is not capable of managing change requests - like: install, initiate ... - outside of its domain.

13.1 Intermediate Node Configuration

In this chapter, we show the configuration activities, change management activity, and file distribution activity to the nodes which are connected to a NetView DM/MVS focal point through the intermediate node.

The configuration activities we perform are:

- Configuration activities at server A
- Configuration activities at server B
- Configuration activities at server C
- Configuration activities at client D
- Configuration activities at NetView DM/MVS

Both server A and server B use SNA Server/6000 Version 2.1 in this scenario.

The change management activity and file distribution activity we perform are:

- Initiate procedure from NetView DM/MVS on server B
- Distributing an object from NetView DM/MVS through the intermediate node

Note: Though we define the remote servers and client at each node, only NetView DM/MVS can issue the change management commands toward the nodes in the different domains. File service commands (SEND, RETRIEVE and DELETE) are supported between servers or between servers and clients in different domains. You have to install the remote administrator function to issue the change management commands between different domains.

13.1.1 Configuration Activities at Server A

Server A (rs600011) will be configured as an intermediate node and it will have both connection types, LU 6.2 and TCP/IP, to the remote servers. It has to be configured properly to route SNA/DS traffic. The configuration activities at server A are:

- Configuring SNA Server/6000
- Configuring TCP/IP
- Configuring NetView DM/6000

We will not explain how to configure TCP/IP here. See 3.2, “Configuring TCP/IP at the Server” on page 49 and 3.6.2, “Adding the Client to the Server′s TCP/IP Configuration” on page 61 for information how to perform this task.

13.1.1.1 Configuring SNA Server/6000 at Server A

Server A is connected to both NetView DM/MVS and server B using an LU 6.2 connection. Though Figure 277 on page 335 shows a different token-ring connection to the each node, we have configured two logical connections using one physical adapter.

The step-by-step procedure for SNA Server/6000 configuration is described in 3.9, “Configuring SNA Server at the Preparation System rs600011” on page 68. The configuration profile of SNA Server/6000 for server A is listed in Appendix F, “SNA Server/6000 Configuration for Scenario V” on page 425.

13.1.1.2 Configuring NetView DM/6000 at Server A

The configuration activities for NetView DM/6000 at server A are:

- Adding NetView DM/MVS as a remote target (focal point)
- Adding server B as a remote target
- Adding server C as a remote target
- Customizing the SNA/DS connection configuration file for SNA
- Customizing the SNA/DS connection configuration file for TCP/IP
- Customizing the SNA/DS routing table

Adding the Remote Targets: If server A only acts as an intermediate node and does not issue any distribution or change management commands, you do not have to define a remote target to NetView DM/6000 at server A.

However, it is unlikely to have such a configuration. So we have defined NetView DM/MVS, server B, and server C to NetView DM/6000 at server A. Those three nodes are considered remote targets, since they belong to different domains. You do not need to consider the difference between SNA and TCP/IP when defining the remote target. See 3.5, “Adding the NetView Distribution Manager/MVS Focal Point to the Server” on page 57 how to add the NetView DM/MVS focal point and 9.4, “Adding Server B to Server A′s Configuration” on page 259 how to add the server to NetView DM/6000.

Customizing the SNA/DS Connection Configuration File: The SNA/DS connection configuration files define the details of the SNA or TCP/IP connection to the adjacent nodes. Server A has three connections to the adjacent nodes, so we have to customize three different connection configuration files. We use the LU name or REN of the adjacent nodes for the connection configuration file

names because it is easier to identify. They are RA39TCF1 for NetView DM/MVS, RA60012B for server B, and RA60004B for server C. These files are stored in the directory:

/usr/lpp/netviewdm/db/snads_conn

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVDMSIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVDMSIDR
NEXT DSU:                          USIBMRA.RA39TCF1
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 278. SNA/DS Connection Configuration File for NetView DM/MVS (RA39TCF1)

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVD6SIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVD6SIDR
NEXT DSU:                          RA60012B.RA60012B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 279. SNA/DS Connection Configuration File for Server B (RA60012B)

```
PROTOCOL:                          TCP/IP
REMOTE SERVER NAME:                rs60004
TCP/IP TIME-OUT:                   300
NEXT DSU:                          RA60004B.RA60004B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 280. SNA/DS Connection Configuration File for Server C (RA60004B)

On the first line, the protocol for the connection is defined. It is either APPC or TCP/IP.

SEND and RECEIVE TP SYMBOLIC DESTINATION point to the side information profile names defined in the SNA Server/6000 configuration. They are valid only if the PROTOCOL is APPC.

NEXT DSU is the node name at the other end of the connection in the form of RGN.REN. RGN of the NetView DM/MVS is the network name and REN is the LU name of the TCP. RGN and REN of a NetView DM/6000 server must both match the short name of the server.

REMOTE SERVER NAME is the TCP/IP host name of the remote server. It is valid only if the PROTOCOL is TCP/IP.

Customizing the SNA/DS Routing Table: The SNA/DS routing table defines the more specific attributes of the routes to the remote targets. It defines the SNA/DS address of the targets reached and allowed on this route. We do not have any special requirements like security, capacity on the route. So we keep the routing table as simple as possible.

The routing table is the file named /usr/lpp/netviewdm/db/routetab. All routes to the remote destinations have to be defined in this file. Edit a sample file and store it with the same name.

```
# SNA/DS Routing Table

NETWORK PROTOCOL:   BOTH
#
# Destination
#   RGN.REN          Priority  Protection  Capacity  Security  Connection  Hop
#
#   SNA Connection
#
USIBMRA.RA39TCF1      ANY        ANY        ANY        ANY     RA39TCF1    5
RA60012B.*            ANY        ANY        ANY        ANY     RA60012B    5
#
#   TCP/IP Connection
#
RA60004B.RA60004B                                              RA60004B
```

Figure 281. SNA/DS Routing Table at Server A

At server A, we have both SNA and TCP/IP connections, so we have defined the value ″BOTH″ for NETWORK PROTOCOL.

Destination RGN.REN (SNA/DS node address) defines the address of the target reached by this route.

Connection field defines the SNA/DS connection configuration file:

- The traffic destined for the NetView DM/MVS (SNA/DS node address is USIBMRA.RA39TCF1) is sent through the connection RA39TCF1.
- The ″*″ in the REN part matches any address. That means any traffic whose destination RGN matches RA60012B is sent through the connection RA60012B.

  So the traffic destined for server B (RA60012B.RA60012B) is sent through the connection RA60012B.

  Also the traffic to client D (RA60012B.RS60003) uses this connection.
- The traffic destined for server C (RA60004B.RA60004B) is sent through the connection RA60004B.

13.1.2 Configuration Activities at Server B

Server B (rs600012) is the server connected to the intermediate node using an LU 6.2 connection. It also has a client connected to it using a TCP/IP connection. The configuration activities at server B are:

- Configuring SNA Server/6000

- Configuring TCP/IP
- Configuring NetView DM/6000

We will not explain how to configure TCP/IP here. See 3.2, “Configuring TCP/IP at the Server” on page 49 and 3.6.2, “Adding the Client to the Server′s TCP/IP Configuration” on page 61 for information how to perform this task.

13.1.2.1 Configuring SNA Server/6000 at Server B

Server B is connected to server A using an LU 6.2 connection.

The step-by-step procedure for SNA Server/6000 configuration is described in 3.9, “Configuring SNA Server at the Preparation System rs600011” on page 68. The configuration profile of SNA Server/6000 at server B is listed in Appendix F, “SNA Server/6000 Configuration for Scenario V” on page 425.

13.1.2.2 Configuring NetView DM/6000 at Server B

The configuration activities for NetView DM/6000 at server B are:

- Adding NetView DM/MVS as a remote target (focal point)
- Adding server A as a remote target
- Adding server C as a remote target
- Adding client D as a local target
- Customizing the SNA/DS connection configuration file for SNA
- Customizing the SNA/DS routing table

Adding the Targets: You have to define NetView DM/MVS at server B as a focal point to accept the change management commands from NetView DM/MVS. You may also want to add server A and server B so they can communicate with each other. These three nodes are considered remote targets, since they belong to different domains. You do not need to consider the difference between SNA and TCP/IP when defining remote targets. See 3.5, “Adding the NetView Distribution Manager/MVS Focal Point to the Server” on page 57 to learn how to add the NetView DM/MVS focal point and 9.4, “Adding Server B to Server A′s Configuration” on page 259 to learn how to add a server to NetView DM/6000. See 3.6, “Adding the NetView Distribution Manager/6000 Client to the Server′s Configuration” on page 58 to learn how to add the client to NetView DM/6000.

Customizing the SNA/DS Connection Configuration File: Server B has one connection to the adjacent node, which is an LU 6.2 connection to server A:

```
PROTOCOL:                          APPC
SEND TP SYMBOLIC DESTINATION:      NVD6SIDS
RECEIVE TP SYMBOLIC DESTINATION:   NVD6SIDR
NEXT DSU:                          RA60011B.RA60011B
TRANSMISSION TIME-OUT:             60
RETRY LIMIT:                       3
SEND MU_ID TIME-OUT:               60
RECEIVE MU_ID TIME-OUT:            120
```

Figure 282. SNA/DS Connection Configuration File for Server A (RA60011B)

Both, RGN and REN have to match the short name of server A, which is at the other end of this connection.

Customizing the SNA/DS Routing Table: The routing table is the file named /usr/lpp/netviewdm/db/routetab. All routes to the remote destinations have to be defined in this file. Edit a sample file and store it with the same name:

```
# SNA/DS Routing Table

NETWORK PROTOCOL:    APPC
#
# Destination
#   RGN.REN          Priority  Protection  Capacity  Security  Connection  Hop
#
USIBMRA.RA39TCF1       ANY        ANY        ANY        ANY     RA60011B    5
RA60011B.*             ANY        ANY        ANY        ANY     RA60011B    5
RA60004B.RA60004B      ANY        ANY        ANY        ANY     RA60011B    5
```

Figure 283. SNA/DS Routing Table at Server B

At server B, we have an LU 6.2 connection only, so we have defined APPC for NETWORK PROTOCOL:

- The traffic destined for NetView DM/MVS (USIBMRA.RA39TCF1) is sent through the connection RA60011B to the intermediate node and then forwarded through the other connection to NetView DM/MVS.
- The traffic destined for server A (RA60011B.RA60011B) is sent through the connection RA60011B because the *"*"* in the REN matches any address of the REN part.
- We have also added a route to server C (RA60004B.RA60004B) though it is not described in this scenario. It uses the same connection, RA60011B, to server A and then uses server A as the intermediate node that forwards the traffic to server C.
- *Alternative:* In this case, you can also define only one global RGN.REN address *"*.*"* which makes NetView DM/6000 send all traffic for all destinations through connection RA60011B:

  ```
  #   RGN.REN          Priority  Protection  Capacity  Security  Connection  Hop
  *.*                    ANY        ANY        ANY        ANY     RA60011B    5
  ```

  It is possible to combine the specific addressing scheme with the global scheme in the same routing table. If you want to do this, keep in mind that you should define the specific addresses before the global ones; otherwise, NetView DM/6000 would always use the global address and the route that is assigned to it.

13.1.3 Configuration Activities at Server C

Server C (rs60004) is the server connected to the intermediate node using a TCP/IP connection. The configuration activities at server B are:

- Configuring TCP/IP
- Configuring NetView DM/6000

We will not explain how to configure TCP/IP here. See 3.2, “Configuring TCP/IP at the Server” on page 49 and 3.6.2, “Adding the Client to the Server′s TCP/IP Configuration” on page 61 to learn how to perform this task.

13.1.3.1 Configuring NetView DM/6000 at Server C

The configuration activities for NetView DM/6000 at server C are:

- Adding NetView DM/MVS as a remote target (focal point)
- Adding server A as a remote target
- Adding server B as a remote target
- Adding client D as a remote target
- Customizing the SNA/DS connection configuration file for SNA
- Customizing the SNA/DS routing table

Adding the Targets: You have to define NetView DM/MVS at server C as a focal point to accept the change management commands from NetView DM/MVS. You may also want to add server A, server B, and client D to communicate between them. These four nodes are considered remote targets, since they belong to different domains. You do not need to consider the difference between SNA and TCP/IP when defining the remote target. See 3.5, “Adding the NetView Distribution Manager/MVS Focal Point to the Server” on page 57 to learn how to add the NetView DM/MVS focal point and 9.4, “Adding Server B to Server A′s Configuration” on page 259 to learn how to add the server to NetView DM/6000. Also follow the same procedure to add the client as a *remote target* because client D belongs to server B′s domain.

Customizing the SNA/DS Connection Configuration File: Server C has one connection to the adjacent node, which is a TCP/IP connection to server A:

```
PROTOCOL:                       TCP/IP
REMOTE SERVER NAME:             rs600011
TCP/IP TIME-OUT:                300
NEXT DSU:                       RA60011B.RA60011B
TRANSMISSION TIME-OUT:          60
RETRY LIMIT:                    3
SEND MU_ID TIME-OUT:            60
RECEIVE MU_ID TIME-OUT:         120
```

Figure 284. SNA/DS Connection Configuration File for Server A (RA60011B)

REMOTE SERVER NAME is the TCP/IP host name of the remote server.

Both, RGN and REN have to match the short name of server A, which is at the other end of this connection.

Customizing the SNA/DS Routing Table: The routing table is the file named `/usr/lpp/netviewdm/db/routetab`. All routes to the remote destinations have to be defined in this file. Edit a sample file and store it with the same name:

```
# SNA/DS Routing Table

NETWORK PROTOCOL:    TCP/IP
#
#   RGN.REN         Priority  Protection  Capacity  Security  Connection  Hop
#
USIBMRA.RA39TCF1                                                RA60011B
RA60011B.*                                                      RA60011B
RA60012B.*                                                      RA60011B
```

Figure 285. SNA/DS Routing Table at Server C

At server C we have a TCP/IP connection only, so we have defined TCP/IP for NETWORK PROTOCOL.

- All traffic destined for the remote nodes (NetView DM/MVS, server A and server B) is sent through the connection RA60011B.
- The traffic destined for NetView DM/MVS (USIBMRA.RA39TCF1) is sent to the connection RA60011B and then forwarded through the other connection at server A (intermediate node).
- The '*' in the REN part matches any address of the REN and all traffic whose destination RGN matches RA60012B is sent to this route. So the traffic to server B and client D will use connection RA60011B.
- As an alternative you can also specify only one route with the global address of '*.*'.

13.1.4 Configuration Activities at Client D

Client D (rs60003) is the client connected to server B using TCP/IP. The configuration activities at client D are:

- Configuring TCP/IP
- Configuring NetView DM/6000

We will not explain how to configure TCP/IP here. See 3.2, "Configuring TCP/IP at the Server" on page 49 and 3.6.2, "Adding the Client to the Server's TCP/IP Configuration" on page 61 to learn how to do this task.

The configuration activity for NetView DM/6000 at client D is:

- Adding server B to the base configuration file

You have to define server B to the base configuration file at the client. See 3.8.3, "Adding the Server to the Client's NetView Distribution Manager/6000 Base Configuration" on page 67 for information about how to do this task.

13.1.5 Configuration Activities at NetView DM/MVS

You have to define all nodes to NetView DM/MVS that will send or receive commands. The following panels show the node definitions for server A, server B, server C, and client D.

See 3.15, "Configuring NetView Distribution Manager/MVS" on page 102 for more information on how to define the node to NetView DM/MVS.

```
                  SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                        12:22

Enter desired values or accept the ones shown:

 1 Node class . AO         Required
 2 Status . . . 2          1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60011B   Required (Logical unit name)
 4 Logon mode . NVDMNORM   Logon mode name
 5 Linetype . . 1          1 = Leased    2 = Switched
 6 Rgn. . . . . RA60011B   Network identification
 7 Ren. . . . . RA60011B   CP Logical unit name
 8 Notes  . . . 2          Enter 1 if you want additional node information
 9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. RS600011   Server name
11 Timzoffs . . +00        Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS600011

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 286. NetView DM/MVS Node Definition for Server A

Logical unit has to match the LU name of this node (server A).

Logon mode is the logon mode entry name used between NetView DM/MVS and server A.

Rgn and Ren have to match the short name of this server (server A).

Server name has to match the node name of the server defined at NetView DM/MVS. Since this node is the server itself, enter the same name as this node name.

```
                  SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                        12:23

Enter desired values or accept the ones shown:

 1 Node class . AO         Required
 2 Status . . . 2          1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60011B   Required (Logical unit name)
 4 Logon mode . NVDMNORM   Logon mode name
 5 Linetype . . 1          1 = Leased    2 = Switched
 6 Rgn. . . . . RA60012B   Network identification
 7 Ren. . . . . RA60012B   CP Logical unit name
 8 Notes  . . . 2          Enter 1 if you want additional node information
 9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. RS600012   Server name
11 Timzoffs . . +00        Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS600012

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 287. NetView DM/MVS Node Definition for Server B

Logical unit and Logon mode refer to the LU name and logon mode entry name to reach to the intermediate node. Our intermediate node is server A, so we have specified the same names defined in Figure 286 on page 344.

Rgn and Ren have to match the short name of this server (server B).

Server name has to match the node name of the server defined at NetView DM/MVS. Since this node is the server itself, enter the same name as this node name.

```
                  SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                        12:25

Enter desired values or accept the ones shown:

 1 Node class . AO         Required
 2 Status . . . 2          1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60011B   Required (Logical unit name)
 4 Logon mode . NVDMNORM   Logon mode name
 5 Linetype . . 1          1 = Leased    2 = Switched
 6 Rgn. . . . . RA60004B   Network identification
 7 Ren. . . . . RA60004B   CP Logical unit name
 8 Notes  . . . 2          Enter 1 if you want additional node information
 9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. RS60004_   Server name
11 Timzoffs . . +00        Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS60004

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 288. NetView DM/MVS Node Definition for Server C

Logical unit and Logon mode refer to the LU name and logon mode entry name to reach the intermediate node. Our intermediate node is server A, so we have specified the same names defined in Figure 286 on page 344.

Rgn and Ren have to match the short name of this server (server C).

Server name has to match the node name of the server defined at NetView DM/MVS. Since this node is the server itself, enter the same name as this node name.

Note: This server is connected to the intermediate node through TCP/IP but in the NetView DM/MVS definitions this fact is transparent. The intermediate node handles the conversion between the different protocol types.

```
                    SPECIFY (NDM6) NODE ATTRIBUTES
Command ==>
                                                                        12:25

Enter desired values or accept the ones shown:

 1 Node class . AO         Required
 2 Status . . . 2          1 = Production   2 = Parallel   3 = Test
 3 Logical unit RA60011B   Required (Logical unit name)
 4 Logon mode . NVDMNORM   Logon mode name
 5 Linetype . . 1          1 = Leased    2 = Switched
 6 Rgn. . . . . RA60012B   Network identification
 7 Ren. . . . . RS60003_   CP Logical unit name
 8 Notes  . . . 2          Enter 1 if you want additional node information
 9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. RS600012   Server name
11 Timzoffs . . +00        Time Zone offset. Any value from -12 to  12

 Tracking information:
   Activity: CHANGE
   Node  . : RS60003

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 289. NetView DM/MVS Node Definition for Client D

Logical unit and Logon mode refer to the LU name and logon mode entry name to reach to the intermediate node. Our intermediate node is server A, so we have specified the same names defined in Figure 286 on page 344.

Rgn has to match the short name of the server (server B) to which the client is connected.

Ren has to match the short name of the client (client D).

Server name has to match the node name of the server. RS600012 is the server for this client.

13.2 Examples of Usage

We will demonstrate the advantages of an intermediate node configuration with two examples:

- Initiate a procedure from the host.
- Distribute data to a number of servers through the intermediate node.

13.2.1 Initiate a Procedure on Server B

To show the change management activity through the intermediate node, we execute the SNDMSG12 plan again which is used in Chapter 5, “Initiate Procedure on NetView DM/6000 Server from NetView DM/MVS” on page 121. If you define the node correctly, there is no difference between the change management activities on the directly connected node and those on nodes connected through an intermediate node. You can submit any change management commands, and receive the reports at the focal point.

Figure 290 on page 348 is the SNDMSG12 plan which initiates a shell script on server B (rs600012).

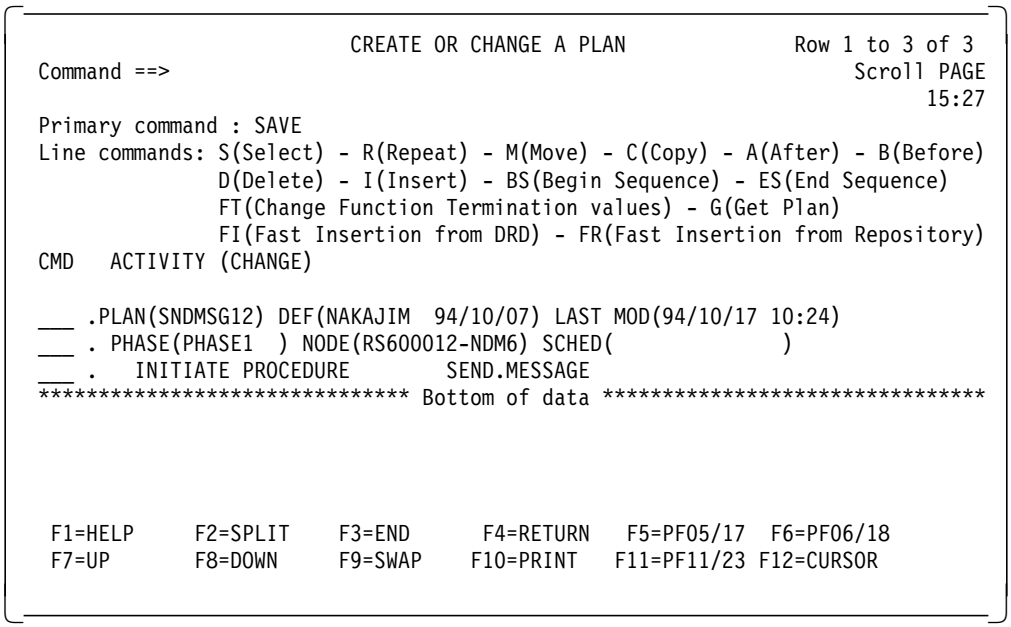

Figure 290. Create or Change Plan GIX Panel

You cannot see in the transmission plan that the node RS600012 is connected to NetView DM/MVS through the intermediate node. You have to check the node definition to see it.

Prepare and submit the plan as described in Chapter 5, “Initiate Procedure on NetView DM/6000 Server from NetView DM/MVS” on page 121 and you can expect the same result.

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
.
.
.
0052 10:22   NDM0402S PLAN SNDMSG12 HAS BEEN SUBMITTED.
0053 10:22   NDM0034I PHASE SNDMSG12 PHASE1 STARTED FOR NODE RS600012.
0054 10:22   NDM0106I FUNCTION INI PROC ENDED FOR LOGICAL UNIT RA60011B. PHASE
                     SNDMSG12 PHASE1, NODE RS600012, RETURN CODE 0, TRANSMISSI
                     ON BYTES 275, FUNCTION STATUS PENDING.
0055 10:22   NDM0836I THE SNA SESSION IS DEACTIVATED FOR LOGICAL UNIT RA60011B
                     AND LOGMODE NVDMNORM.
0056 10:23   NDM0034I PHASE SNDMSG12 PHASE1 STARTED FOR NODE RS600012.
0057 10:23   NDM0106I FUNCTION INI PROC ENDED FOR LOGICAL UNIT RA60011B. PHASE
                     SNDMSG12 PHASE1, NODE RS600012, RETURN CODE 0, TRANSMISSI
                     ON BYTES 275, FUNCTION STATUS COMPLETED.
0058 10:23   NDM0035I PHASE SNDMSG12 PHASE1 ENDED FOR NODE RS600012.


Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 291. IOF Handle Unsolicited Messages Panel (SNDMSG12)

In the IOF panel, you will notice that only the Logical Unit name is different from the one in Figure 92 on page 135. This is because rs600012 is now connected through the intermediate node and NetView DM/MVS has an LU 6.2 session with the intermediate node (rs600011). There is no direct session between the focal point and rs600012.

13.2.2 Distributing Objects through Intermediate Node

In this section, we will show the fan-out capability of the intermediate node. We send an object from NetView DM/MVS to server B, server C, and client D at the same time. Those nodes are connected through the same intermediate node (server A), which means that only one copy of the object is sent to the intermediate node and then a copy of the object is sent to the next node. Since server A is not a final destination of the distribution in our example, the object is not stored in the catalog on server A.

At NetView DM/MVS, you have to define the nodes as a group and specify the group name in the transmission plan as the destination. Otherwise, NetView DM/MVS sends the object to each of them and does not use the fan-out capability of the intermediate node.

13.2.2.1 Creating a Group of Nodes

To create a group of nodes, perform the following steps from the GIX Main Menu.

```
                  NETVIEW DISTRIBUTION MANAGER - MAIN MENU
                                                                      15:29
1 CONFIGURE NETWORK             Define nodes and resources, assign resources

2 BROWSE NETWORK                View list of nodes and related resources

3 MANAGE RESOURCES              Work on resources in the repository

4 PREPARE PLANS                 Define and submit transmission plans

5 MANAGE SUBMITTED PLANS        Work on plans and track their status

6 HANDLE MESSAGES               View and prepare messages

7 MANAGE GROUPS                 Work on groups of nodes and resources

8 SET PROFILES                  Define authorizations and defaults

F GO TO ISPF                    Access ISPF without ending GIX session

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR


Selection  ===> 7
```

Figure 292. GIX Main Menu Panel

Step 1. From the Main Menu panel, enter 7 (MANAGE GROUPS) in the selection field and press Enter. The Manage Groups panel is displayed.

```
                       MANAGE GROUPS
Selection ==> 1                                          Time ==> 15:32

Enter allowed value or accept the one shown:

NODE TYPE NDM6     ALLOWED ENTRIES:  CMEP   NDM6   DM2    DM2P   RS62
                                     AS62   CMFP   CLNT




Select one of the following:

1 DEFINE GROUPS OF NODES
2 DEFINE GROUPS OF RESOURCES



PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 293. Manage Groups GIX Panel

Step 2. Put 1 in the selection field and the name of the NODE TYPE which is NDM6 in our example, and then press Enter. The Define a Group of Nodes panel is displayed:

```
              DEFINE A GROUP OF NODES (NDM6)
Selection ==> 1                                              Time ==> 15:34

Enter:

Group name  RALRS6K_  Blank or partial name followed by * for full-list
Group model *_______  Allowed for the CREATE option only
                       (Enter * to have all defined nodes as a group model)
Group creation        1 = Inclusion  2 = Exclusion
criteria    1         Allowed only for CREATE option and when group
                      model is specified
Server Group Name        : _________  Server Group Name
Server Group Disposition : 1          1 = NEW  2 = OLD

Select one of the following:
1 CREATE              Create a group of nodes
2 CHANGE              Change one or more node group items
3 DELETE              Delete a group of nodes
4 BROWSE-ALL          Browse all node groups
5 PRINT-ALL           Print all node groups

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                  12=CURSOR
```

Figure 294. Define a Group of Nodes GIX Panel

Step 3. Put 1 in the selection field to create a group of nodes and fill in the fields according to Figure 294. We have selected a group name of RALRS6K. By putting * in the Group model field and 1 in the Group creation criteria, you can select the nodes from the list of nodes that shall be included in the group.

Step 4. Press Enter. The Create/Change Nodes Groups panel is displayed.

```
                CREATE/CHANGE NODE GROUPS  (NDM6)              Row 1 to 9 of 9
Command ==> save                                               Scroll ==> PAGE
                                                                        15:34
Primary command: SAVE

Line commands:  S(Select)


Node group name: RALRS6KS         Node group owner: NAKAJIM

CMD     ITEM

___    BRUSSELS
___    MONS____
___    RS600011
s__    RS600012
s__    RS60003_
s__    RS60004_
___    SYS3____
___    TOKRS6__
___    TOKOE3__
******************************* Bottom of data ********************************



 F1=HELP     F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
 F7=UP       F8=DOWN     F9=SWAP     F10=PRINT   F11=PF11/23 F12=CURSOR
```

Figure 295. Create/Change Node Groups GIX Panel

Step 5. All nodes of the node type NDM6 defined in your network are displayed in the Create/Change Node Groups panel (Figure 295). Select the nodes you want to include in the group by putting an s in the CMD field. We have selected RS600012 (server B), RS60003 (client D), and RS60004 (server C) to be included in the group. Put save in the command field and press Enter. The new group is defined.

13.2.2.2 Creating the Transmission Plan

We assume that the object has been cataloged at the preparation site and already sent to the NetView DM/MVS. Here is the command we used at the preparation site to catalog the file.

```
nvdm cat 'DAILY.NEWS.&DATE' filename -o FLATDATA
```

We have selected a global name of DAILY.NEWS.&DATE. The &DATE token is substituted by date of the day when it is actually sent. So the object name becomes DAILY.NEWS.Y1994M10D17 if it is sent on October 17, 1994 and stored in the resource repository of NetView DM/MVS. See 1.6.1, " General Format" on page 16 for more information about tokens.

We will not show a step-by-step procedure for the plan preparation here. See 5.3, "Creating the Transmission Plan" on page 126 for more information on how to define a transmission plan.

The following is the listing of the plan that we use in this section:

```
                          CREATE OR CHANGE A PLAN             Row 1 to 3 of 3
Command ==>                                                        Scroll PAGE
                                                                        15:38
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD   ACTIVITY (CHANGE)

___ .PLAN(SENDNEWS) DEF(NAKAJIM  94/10/17) LAST MOD(94/10/17 10:45)
___ . PHASE(PHASE1  ) NODE(RALRS6K -NDM6) SCHED(              )
___ .   SEND     FLAT DATA        DAILY.NEWS.*
****************************** Bottom of data ********************************



 F1=HELP     F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
 F7=UP       F8=DOWN     F9=SWAP     F10=PRINT   F11=PF11/23 F12=CURSOR
```

Figure 296. Create or Change a Plan GIX Panel

You can send the object with this simple plan to multiple destinations.

```
                 SPECIFY PHASE ATTRIBUTES OF PLAN: SENDNEWS
Command ==>

Enter desired values or accept the ones shown:

 1 Phase name  . . . . . PHASE1__  Required (must be unique in the plan)
 2 Node name . . . . . . ________  Required if field 3 is not specified
 3 Group of nodes  . . . RALRS6K_  Required if field 2 is not specified
 4 Scheduling  . . . . . ________ _____  Date and time (YY/MM/DD HH:MM)
 5 Cut off . . . . . . . _____    _____  Time or interval (HH:MM)
 6 Hold option . . . . . 2         1 = Yes   2 = No
 7 Conditioning phase. . ________  Fields 7, 8 and 9 are a logical entity
 8 Conditioning criteria _         1 = Greater or equal to value in field 9
                                   2 = Less or equal to value in field  9
 9 Conditioning value  . __        Any integer from 1 to 99
10 Conditioning mode . . _         1 = All   2 = Single
11 Termination value . . 00        Any integer from 0 to 99
12 Batch job name. . . . ________  Fields 11 and 12 are a logical entity
13 Batch job submission
   conditioning value. . __        Any integer from 0 to 99
14 PHASE NOTES . . ==>

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 297. Specify Phase Attributes of Plan GIX Panel

In the Group of nodes field, you have to specify the group name which you defined in Figure 294 on page 351 and keep the Node name field blank.

```
                  FLAT DATA QUALIFIERS (PLAN: SENDNEWS)
Command ==>
                                                                        15:40
Enter desired values or accept the ones shown:

1 Resource name
==> DAILY.NEWS.*                                                    <==
2 Group name . . . . . . . ________  Required if field 1 not specified

3 Matching indicators ==>  H
                                    L = Low   H = High  I = Ignore
4 Track option . . . . . . 2        1 = Yes   2 = No
5 Netid. . . . . . . . . . __       Any integer from 2 to 10
6 Netlu. . . . . . . . . . __       Any integer from 2 to 10
7 Bydestid . . . . . . . . 2        1 = Yes   2 = No

 Tracking information:
   Activity: CHANGE
   Phase . : PHASE1          Node: RALRS6K

PF 1=HELP       2=SPLIT      3=END        4=RETURN
                             9=SWAP       10=PRINT                 12=CURSOR
```

Figure 298. FLAT DATA Qualifiers GIX Panel

We put DAILY.NEWS.* in the Resource name field and H in the Matching indicators field.

The third token of the global name is set to *"*"* and the matching indicator is set to high value. NetView DM/MVS automatically finds the resource whose name begins with DAILY.NEWS and determines the highest value for the third token. If there are three objects in the resource repository:

DAILY.NEWS.Y1994M10D13
DAILY.NEWS.Y1994M10D14
DAILY.NEWS.Y1994M10D17

NetView DM/MVS sends the latest one, which is DAILY.NEWS.Y1994M10D17.

This will make the plan more generalized and you can use the same plan to send objects of the same type (for example payroll data) but with a different content for every month.

13.2.2.3 Executing the Transmission Plan

Now you can submit the plan. You will see messages like those shown in Figure 299 on page 355. The group name is expanded to the node names and you can track the result for every node individually.

```
NDMOC050              HANDLE UNSOLICITED MESSAGES

SEQN TIME    MSG NO.  MESSAGE TEXT
.
.
.
0090 11:06   NDM0402S PLAN SENDNEWS HAS BEEN SUBMITTED.
0091 11:06   NDM0034I PHASE SENDNEWS PHASE1 STARTED FOR NODE RS600012.
0092 11:06   NDM0034I PHASE SENDNEWS PHASE1 STARTED FOR NODE RS60003.
0093 11:06   NDM0034I PHASE SENDNEWS PHASE1 STARTED FOR NODE RS60004.
0094 11:06   NDM0113I FUNCTION SEN FLAT ENDED FOR NODE CONNECTED THROUGH LOGICA
                     L UNIT RA60011B. PHASE SENDNEWS PHASE1, RETURN CODE N/A,
                     FUNCTION STATUS PENDING.
0095 11:06   NDM0830I THE TIME SCHEDULED FOR THE LOGICAL UNIT RA60011B, LOGMODE
                      NVDMNORM TO SEND DATA TO NETVIEW DM HAS EXPIRED.
0096 11:08   NDM0034I PHASE SENDNEWS PHASE1 STARTED FOR NODE RS60004.
0097 11:08   NDM0106I FUNCTION SEN FLAT ENDED FOR LOGICAL UNIT RA60011B. PHASE
                     SENDNEWS PHASE1, NODE RS60004, RETURN CODE 0, TRANSMISSIO
                     N BYTES 500, FUNCTION STATUS COMPLETED.
0098 11:08   NDM0035I PHASE SENDNEWS PHASE1 ENDED FOR NODE RS60004.
0099 11:08   NDM0034I PHASE SENDNEWS PHASE1 STARTED FOR NODE RS60003.
0100 11:08   NDM0106I FUNCTION SEN FLAT ENDED FOR LOGICAL UNIT RA60011B. PHASE
                     SENDNEWS PHASE1, NODE RS60003, RETURN CODE 0, TRANSMISSIO
                     N BYTES 500, FUNCTION STATUS COMPLETED.
0101 11:08   NDM0035I PHASE SENDNEWS PHASE1 ENDED FOR NODE RS60003.
0102 11:08   NDM0034I PHASE SENDNEWS PHASE1 STARTED FOR NODE RS600012.
0103 11:08   NDM0106I FUNCTION SEN FLAT ENDED FOR LOGICAL UNIT RA60011B. PHASE
                     SENDNEWS PHASE1, NODE RS600012, RETURN CODE 0, TRANSMISSI
                     ON BYTES 500, FUNCTION STATUS COMPLETED.


Command ===> _

PF= __  1/13=HELP    3/15=END     4/16=RETURN   7/19=BACK
        8/20=FORW    9/21=PRINT  10/22=TOP      11/23=LAST_VIEWED   12/24=BOT

M=   0            STATUS=WAITING      TRANSM=   0  PRINTER=UNAVAIL
```

Figure 299. IOF Handle Unsolicited Messages Panel (SENDNEWS)

Chapter 14. User Interface Only Targets

In keeping with good change control practice, NetView Distribution Manager/6000 imposes a one-to-many relationship between server and clients. A client can be **managed** by **one** server only. The server holds the catalog with the change history for all its clients and also manages change requests for them.

When the GI is started at the client, it is the server's Catalog window that is displayed. In fact, so long as the user is authorized to use the client (defined in the server's NetView DM/6000 database), the user is unaware, when interacting with the GI (or entering *nvdm* commands), that he or she is actually logged on at the client, and not at the server.

It is desirable for administrators to have access to the catalogs of multiple servers from a single server or client, to administer the domain of these servers.

NetView DM/6000 provides this capability with the UI only feature. Refer to Chapter 12, "Scenario IV: NetView DM/6000 Remote Administrator" on page 301 to see the difference between the remote administrator function and the UI only feature.

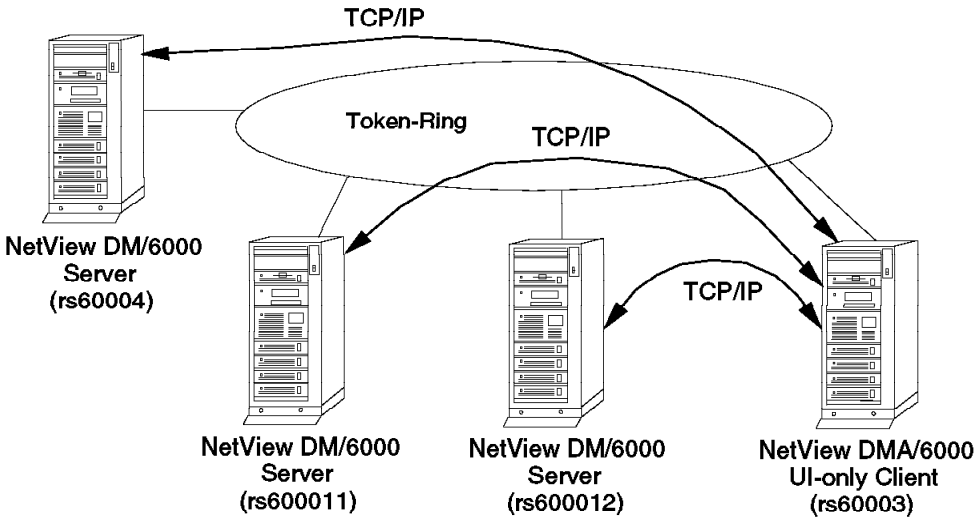

Figure 300. User Interface Only Configuration

In our example (Figure 300) the RISC System/6000 system called rs60003 is a local target of server rs600012, but is also a UI only target for rs600011 and rs60004. rs600012 is rs60003's change control server.

A server or client can be registered as a UI only target at any server connected to it by TCP/IP. When the GI is started on a UI only target, a NetView DMA/6000 Servers window is displayed instead of the local server's Catalog window. The Servers window presents the user with a choice of servers to connect to. Once a selection is made, the chosen server's Catalog window is displayed. The Servers window is displayed each time the GI is started. Thus an authorized user would start the GI once for each server he or she wishes to connect to, selecting a different server each time.

Note:

- A client can only be managed by one server which sends change control commands to this agent and keeps track of its history.
- A change control server cannot manage a defined UI only agent. From this point of view, the UI only feature is intended to administer domains other than the one to which the UI only agent belongs.

Configuring a UI only agent involves two tasks:

- Adding the server to the UI only client's NetView DM/6000 configuration
- Adding the UI only client to the server's NetView DM/6000 configuration

Note: We have assumed that NetView DM/6000 is already installed on the server and UI only client, and TCP/IP is set up between them.

14.1 Adding the Server to the UI Only Client's NetView DM/6000 Configuration

```
WORKSTATION NAME:     rs60003
MESSAGE LOG LEVEL:    N
LAN AUTHORIZATION:    0
CONFIGURATION:        CLIENT
MACHINE TYPE:         AIX
LOG FILE SIZE:        50000
TRACE FILE SIZE:      1000000
API TRACE FILE SIZE:  100
TCP/IP PORT:          729
SERVER:               rs600012
SERVER:               rs600011
SERVER:               rs60004
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 301. Base Configuration File UI Only Agent

Do the following:

Step 1. Log on to the UI only client as the NetView DM/6000 administrator (root, in our example).

Step 2. Go to the NetView DM/6000 database directory:

```
cd /usr/lpp/netviewdm/db
```

Step 3. Using your preferred AIX editor (for instance *vi*) add the server(s) to the base configuration file `nvdm.cfg`. In Figure 301 in this example, we have added rs600011 and rs60004 (rs600012 is already the change control server for this client).

Note: The change control server, from which the agent receives its change requests *must* be the first in the list of servers.

14.2 Adding a UI Only Client to the Server's NetView DM/6000 Configuration

In this example, we use the NetView Distribution Manager/6000 graphical interface (GI). If you are working at a graphics terminal and wish to use the GI, you must first start it by entering the following command:

```
nvdmgi&
```

Note: You must be at a graphics terminal to do this.

After entering this command, a transient program copyright window will be displayed. You can either click on the **OK** button or wait a few moments. The copyright window will close and be replaced by the Catalog window.

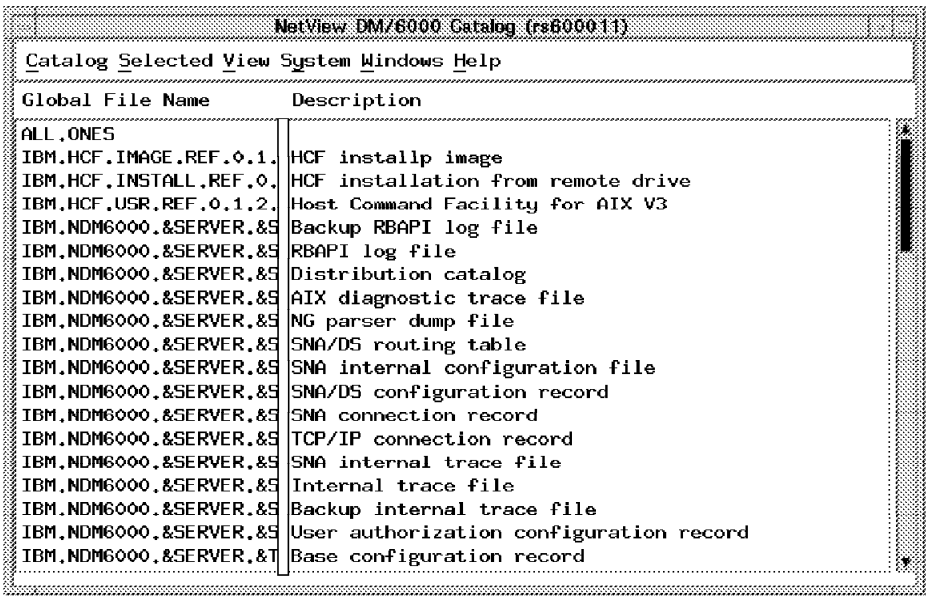

Figure 302. NetView DM/6000 Catalog Window (UI Only Target Server)

If you have problems starting the GI, see G.1, "Starting the Graphical Interface (GI)" on page 437 for possible causes.

If you are not at a graphics terminal, or simply prefer to use the command line interface, follow the command line alternative instructions for each task.

To add the UI only agent to the server's configuration, do the following:

Step 1. Go to the Targets window of the server. If the Targets window is not already open, you can call it up by selecting **Windows** from the menu bar in any other NetView DM/6000 window (the Catalog window, for example) and selecting **Targets** from the pull-down menu.

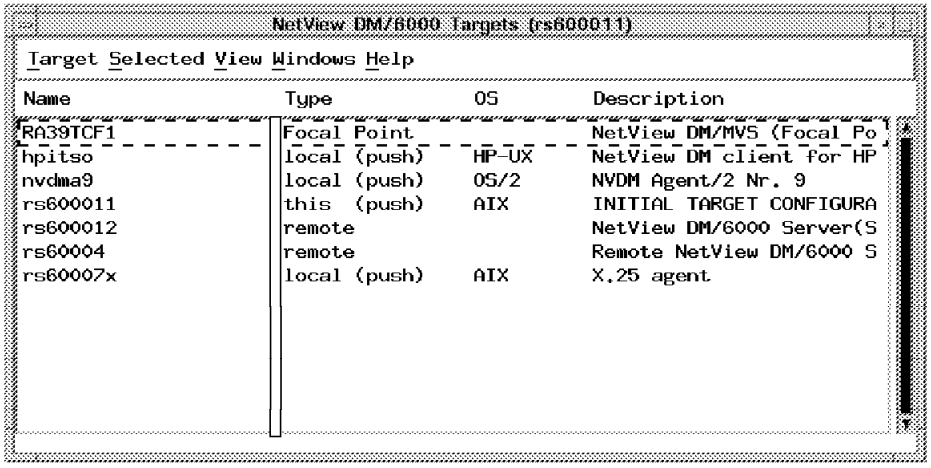

Figure 303. NetView DM/6000 Targets Window (Server)

Step 2. Select **Target** from the Targets window menu bar.

Step 3. Select **New UI Only target** from the pull-down menu After a short delay, the New UI Only Target window will open.

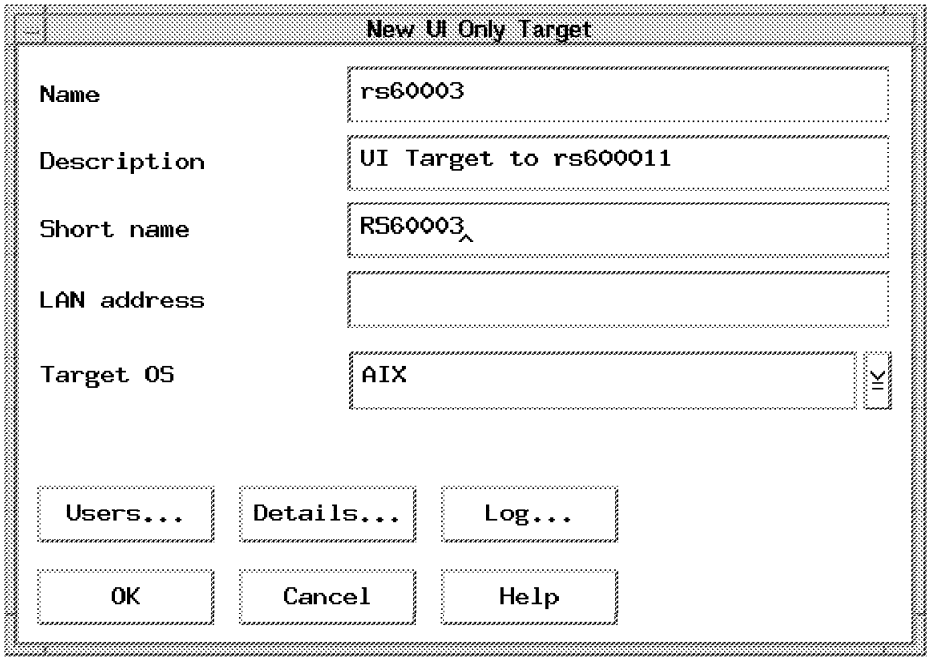

Figure 304. New UI Only Target Window (Server)

Step 4. Fill in all fields according to Figure 304.

Step 5. Select the **Users** button and the Target Users window will open.

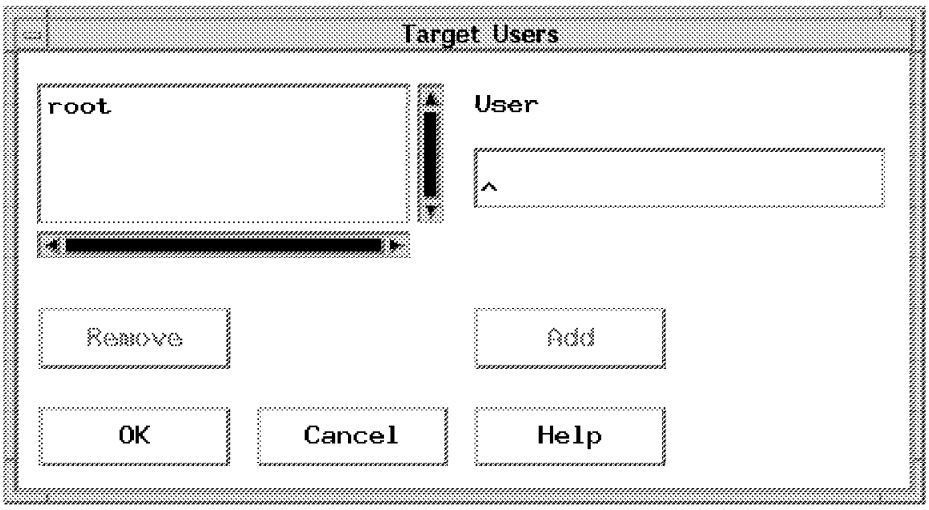

Figure 305. Updated Targets Window (Server)

Step 6. Fill in the User field with root and select the **Add** button (see Figure 305).

Step 7. Select the **OK** button. You will be returned to the New UI Only Target window.

Step 8. Select the **OK** push button to make the changes effective. You will be returned to the Targets window with the UI only target added to the list of targets.

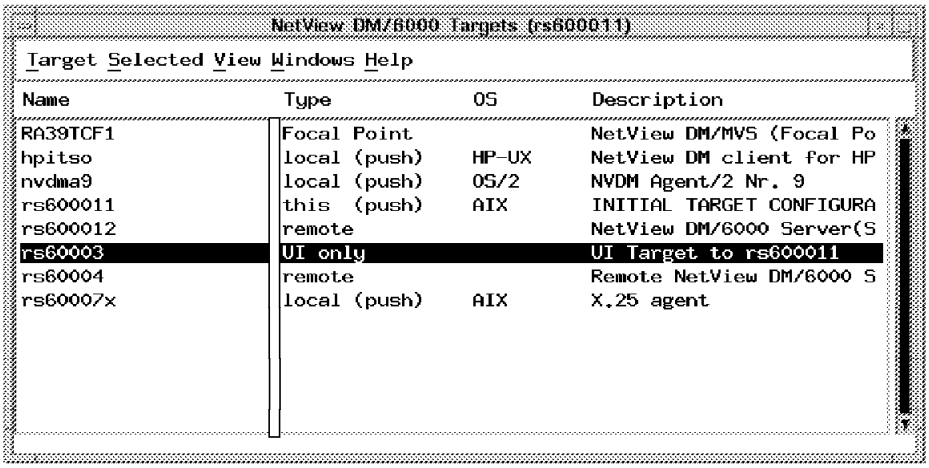

Figure 306. Updated Targets Window (Server)

Command Line Alternative:

```
nvdm addtg rs60003 -s rs60003 -m ui -d 'UI Target to rs600011'
```

Repeat the above instructions at each server where you would like the UI only client to have access (rs600011 in our example).

14.2.1.1 Explanation

We have set the Name to rs60003 to be the same as the hostname, for ease of reference. You may wish to choose something more meaningful to you. The only restriction is, that this name must be connected to the TCP/IP address (hostname, alias or address).

We have added root as a user because it is the NetView DM/6000 administrator in our example.

You have to configure the UI Only agent on all NetView DM/6000 servers that you want to have access to from this agent.

14.3 Using a User Interface Only Target

Start the GI on the client system, as follows:

Step 1. Log on to the UI only client at a graphics terminal as the administrator (root in our example).

Step 2. Start the NetView DM/6000 GI with the following command:

```
nvdmgi&
```

After entering this command, the NetView DMA/6000 Servers window (instead of the managing server's Catalog window) will open.

If you have problems starting the GI, see G.1, "Starting the Graphical Interface (GI)" on page 437 for possible causes.

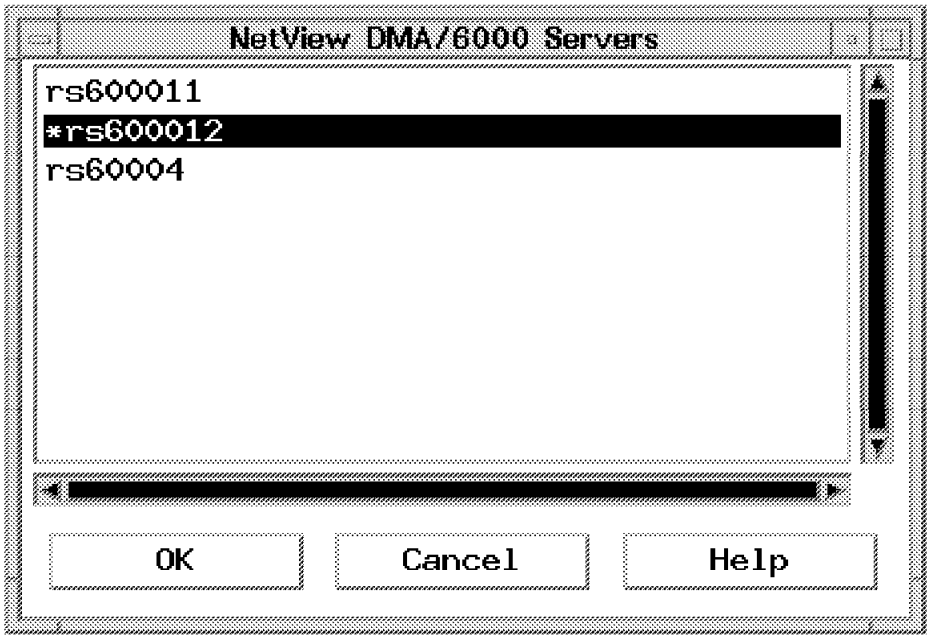

Figure 307. NetView DMA/6000 Servers Window

Step 3. Select any server from the list.

Note: The asterisk (*) in front of rs600012 indicates that this server is the change control server of rs60003.

Step 4. Select the **OK** push button. A transient program copyright window will be displayed. You can either click on the **OK** push button or wait a

few moments. The copyright window will close and be replaced by the selected server's Catalog window.

You can bring up the Catalog window for the other servers at the UI only client by repeating these steps, selecting the appropriate server in step 3.

Once you have the server's Catalog window displayed, you can bring up the other windows in the usual way from the **Windows** menu bar item in the Catalog window.

Part 6. Appendix

Appendix A. Change Management Request Processing

In this appendix, we look at how NetView Distribution Manager/6000 processes each type of change management request.

A.1 Install

There are two major variants of this request, install and install with immediate accept. The latter is processed just as if the install and accept were two separate requests arriving in immediate succession.

Table 1 summarizes the processing carried out by NetView DM/6000 in servicing the install request, depending on change management state, whether the install is removable and whether the activation required option is specified with the request. Table 1 shows the same information for the install with immediate accept request.

Table 1 (Page 1 of 2). Install Request Processing

Change Management State	Rem	Act	Processing
Component not installed. No requests awaiting activate.	-	Yes	Store install request in service area. Await activate request.
	Yes	No	Back up files affected in active area to backup area. Install change in active area.
	No	No	Install change in active area.
Change file installed non-removably. No requests awaiting activate.	-	Yes	Store install request in service area. Await activate request.
	Yes	No	Back up level in active area to backup area. Install change in active area over current level.
	No	No	Install change in active area over current level.
Change file installed removably. No requests awaiting activate.	-	-	Reject request.
Change file installed removably. Remove request awaiting activate request.	-	-	Reject request.
Change file installed removably. Uninstall request awaiting activate.	-	-	Reject request.
Change file installed non-removably. Uninstall request awaiting activate.	-	-	Reject request.
Component not installed. Install non-removable request awaiting activate.	-	-	Reject request.
Component not installed. Install removable request awaiting activate request.	-	-	Reject request.

Table 1 (Page 2 of 2). Install Request Processing			
Change Management State	**Rem**	**Act**	**Processing**
Component not installed. ″Install & accept″ request awaiting activate.	-	-	Reject request.
Previous level installed. Install non-removable request awaiting activate.	-	-	Reject request.
Previous level installed. Install removable request awaiting activate.	-	-	Reject request.
Previous level installed. ″Install & accept″ request awaiting activate.	-	-	Reject request.

Notes on Install Table

1. The **Act** column indicates whether ″activation required″ is specified with the install request.
2. The **Rem** column indicates whether removable is specified with the install request. YES means that the change is removable. NO means that it is non-removable.

Table 2 (Page 1 of 2). Install with Immediate Accept Request Processing			
Change Management State	**Rem**	**Act**	**Processing**
Component not installed. No requests awaiting activate.	No	-	Reject request.
	Yes	No	Back up files affected in active area to backup area. Install change in active area. Deleted backed up files from backup area.
	Yes	Yes	Store ″install & accept″ request in service area. Await activate request.
Change file installed non-removably. No requests awaiting activate.	No	-	Reject request.
	Yes	No	Back up level in active area to backup area. Install change in active area. Remove backed up level from backup area.
	Yes	Yes	Store ″install & accept″ request in service area. Await activate request.
Change file installed removably. No requests awaiting activate.	-	-	Reject request.
Change file installed removably. Remove request awaiting activate request.	-	-	Reject request.
Change file installed removably. Uninstall request awaiting activate.	-	-	Reject request.

Table 2 (Page 2 of 2). Install with Immediate Accept Request Processing			
Change Management State	**Rem**	**Act**	**Processing**
Change file installed non-removably. Uninstall request awaiting activate.	-	-	Reject request.
Component not installed. Install non-removable request awaiting activate.	-	-	Reject request.
Component not installed. Install removable request awaiting activate request.	-	-	Reject request.
Component not installed. ″Install & accept″ request awaiting activate.	-	-	Reject request.
Previous level installed. Install non-removable request awaiting activate.	-	-	Reject request.
Previous level installed. Install removable request awaiting activate.	-	-	Reject request.
Previous level installed. ″Install & accept″ request awaiting activate.	-	-	Reject request.

Notes on Install with Immediate Accept Table

1. The **Act** column indicates whether ″activation required″ is specified with the install request.
2. The **Rem** column indicates whether ″removable″ is specified with the install request. YES means that the change is removable. NO means that it is non-removable.

To install the change, NetView DM/6000 copies the application files into the active area, using the information and file contents provided in the change file. You will recall from 8.1.1, “Processing a Change Management Request” on page 205 that the active area is the actual directory where the application files reside during normal operation.

NetView DM/6000 creates any new directories as it needs to. NetView DM/6000 also preserves the original ownership and permissions of files and directories, that is the ownership and permissions they had on the preparation system when the change file was built.

An install request for a change file that is of the same or lower level than the currently installed level, is considered invalid unless it is accompanied by the *force* option. If the install request is forced, history or backup files belonging to previous levels are deleted, and the change file is processed as if the application was being installed for the first time.

The force option is useful in cases where the application on the client has become damaged in some way (for example, some files have been accidentally deleted) and it is necessary to override the history and reinstall. It also provides a quick way of regressing to a known good level in cases where an unacceptable change is currently installed non-removably.

A.2 Accept

The accept request accepts a change that is installed removably. Any backup information is deleted, rendering the change non-removable. Deleting the backup information releases storage. In the case of a large application this could be considerable, perhaps tens or even hundreds of megabytes.

Table 3 summarizes the processing carried out by NetView DM/6000 in servicing the accept request, depending on change management state.

Table 3. Accept Request Processing

Change Management State	**Processing**
Component not installed. No requests awaiting activate.	Reject request.
Change file installed non-removably. No requests awaiting activate.	Reject request.
Change file installed removably. No requests awaiting activate.	Delete backup information from backup area.
Change file installed removably. Remove request awaiting activate request.	Reject request.
Change file installed removably. Uninstall request awaiting activate.	Reject request.
Change file installed non-removably. Uninstall request awaiting activate.	Reject request.
Component not installed. Install non-removable request awaiting activate.	Reject request.
Component not installed. Install removable request awaiting activate request.	Change ″install removable″ request in service area to ″install & accept″ request.
Component not installed. ″Install & accept″ request awaiting activate.	Reject request.
Previous level installed. Install non-removable request awaiting activate.	Reject request.
Previous level installed. Install removable request awaiting activate.	Change ′install removable′ request in service area to ″install & accept″ request.
Previous level installed. ″Install & accept″ request awaiting activate.	Reject request.

A.3 Remove

After a remove request, NetView DM/6000 will always return the client to the state it was in prior to the corresponding install request. NetView Distribution Manager/6000 has to be able to cope with the following situations:

- The present change file may contain fewer application files than the previous change file. The deleted files must be re-instated.
- The present change file may contain more application files than the previous change file. The additional files must be deleted.

- The present change file may alter the contents of one or more application files installed by the previous change file. The contents of altered files must be restored to their previous state.
- The application installed by the present change file had already been installed in the system, but not under change control. Although remove processing has no way of knowing the level of this ″rogue″ level, it must fully re-instate it.

These requirements strongly influence the files and information that need to be backed up to the backup area when servicing a removable install request.

Table 4 summarizes the processing carried out by NetView DM/6000 in servicing the remove request, depending on change management state and whether the activation required option is specified with the request.

Table 4 (Page 1 of 2). Remove Request Processing

Change Management State	**Act**	**Processing**
Component not installed. No requests awaiting activate.	-	Reject request.
Change file installed non-removably. No requests awaiting activate.	-	Reject request.
Change file installed removably. No requests awaiting activate.	Yes	Copy backup information from backup to service area. Await activate.
	No	Remove change from active area. Restore active area from backup area.
Change file installed removably. Remove request awaiting activate request.	-	Reject request.
Change file installed removably. Uninstall request awaiting activate.	-	Reject request.
Change file installed non-removably. Uninstall request awaiting activate.	-	Reject request.
Component not installed. Install non-removable request awaiting activate.	-	Reject request.
Component not installed. Install removable request awaiting activate request.	Yes	Reject request
	No	Remove install request from service area.
Component not installed. ″Install & accept″ request awaiting activate.	Yes	Reject request
	No	Remove ″install & accept″ request from service area.
Previous level installed. Install non-removable request awaiting activate.	-	Reject request.
Previous level installed. Install removable request awaiting activate.	Yes	Reject request
	No	Remove install request from service area.

Table 4 (Page 2 of 2). Remove Request Processing		
Change Management State	**Act**	**Processing**
Previous level installed. ″Install & accept″ request awaiting activate.	Yes	Reject request
	No	Remove ″install & accept″ request from service area.

Notes on Remove Table

1. The **Act** column indicates whether ″activation required″ is specified with the remove request.

A.4 Uninstall

The uninstall request must purge the application from the system completely, and return it to the state prior to the first time the application was installed under change management control.

Table 5 summarizes the processing carried out by NetView DM/6000 in servicing the uninstall request, depending on change management state and whether the activation required option is specified with the request.

Table 5 (Page 1 of 2). Uninstall Request Processing		
Change Management State	**Act**	**Processing**
Component not installed. No requests awaiting activate.	-	Reject request.
Change file installed non-removably. No requests awaiting activate.	Yes	Await activate request.
	No	Purge all levels of application from active area.
Change file installed removably. No requests awaiting activate.	Yes	Await activate request.
	No	Purge all levels of application from active area. Delete backup information from backup area.
Change file installed removably. Remove request awaiting activate request.	Yes	Reject request.
	No	Purge all levels of application from active area. Delete backup information from service area.
Change file installed removably. Uninstall request awaiting activate.	-	Reject request.
Change file installed non-removably. Uninstall request awaiting activate.	-	Reject request.
Component not installed. Install non-removable request awaiting activate.	Yes	Reject request.
	No	Delete install request from service area.
Component not installed. Install removable request awaiting activate request.	Yes	Reject request.
	No	Delete install request from service area.
Component not installed. ″Install & accept″ request awaiting activate.	Yes	Reject request.
	No	Delete ″install & accept″ request from service area.

Table 5 (Page 2 of 2). Uninstall Request Processing		
Change Management State	**Act**	**Processing**
Previous level installed. Install non-removable request awaiting activate.	Yes	Reject request.
	No	Purge all levels of application from active area. Delete install request from service area.
Previous level installed. Install removable request awaiting activate.	Yes	Reject request.
	No	Purge all levels of application from active area. Delete install request from service area.
Previous level installed. ″Install & accept″ request awaiting activate.	Yes	Reject request.
	No	Purge all levels of application from active area. Delete ″install & accept″ request from service area.

Notes on Uninstall Table

1. The **Act** column indicates whether ″activation required″ is specified with the uninstall request.

A.5 Activate

Install, remove and uninstall change management requests may optionally specify that servicing the request is to be held until a subsequent activate request is received. This option also forces a system reboot. It is provided primarily for changes that do not take full effect until the system has been rebooted.

Table 6 summarizes the processing carried out by NetView DM/6000 in servicing the remove request, depending on change management state.

Table 6 (Page 1 of 2). Activate Request Processing	
Change Management State	**Processing**
Component not installed. No requests awaiting activate.	Reject request.
Change file installed non-removably. No requests awaiting activate.	Reject request.
Change file installed removably. No requests awaiting activate.	Reject request.
Change file installed removably. Remove request awaiting activate request.	Remove change from active area. Restore active area from service area. Reboot.
Change file installed removably. Uninstall request awaiting activate.	Purge all levels of application from active area. Delete backup information from backup area. Reboot.
Change file installed non-removably. Uninstall request awaiting activate.	Purge all levels of application from active area. Reboot.
Component not installed. Install non-removable request awaiting activate.	Install change waiting in service area into active area. Reboot.

Table 6 (Page 2 of 2). Activate Request Processing	
Change Management State	**Processing**
Component not installed. Install removable request awaiting activate request.	Back up files affected in active area to backup area. Install change waiting in service area into active area. Reboot.
Component not installed. ″Install & accept″ request awaiting activate.	Back up files affected in active area to backup area. Install change waiting in service area into active area. Delete backed up files from backup area Reboot.
Previous level installed. Install non-removable request awaiting activate.	Install change waiting in service area into active area over current level. Reboot.
Previous level installed. Install removable request awaiting activate.	Back up previous level in active area to backup area. Install change waiting in service area into active area over current level. Reboot.
Previous level installed. ″Install & accept″ request awaiting activate.	Back up previous level in active area to backup area. Install change waiting in service area into active area over current level. Delete previous level from backup area. Reboot.

Notes on Activate Table

1. Before the activate is executed, agent adds the Distribution and Change Control Agent Manager (DACA) to the /etc/inittab file. The system is rebooted, the DACA manager performs the move and change of the files, removes itself from the /etc/inittab and returns control to the next process in the inittab file.

   Before the system is rebooted you will find the following entry for the DACA manager in /etc/inittab:

   ```
   fndcmam: :wait:fndcmam >/usr/lpp/netviewdm/mkitab.out 2>&1
   ```

   mkitab.out will hold any errors that occurred during the changing of the inittab file.

An activation request will not normally be executed until after the system is quiesced (no users logged on). However, an activate request may optionally be *forced*. In this case, a message will be sent to all users warning them of an impending shutdown (with a 10 minute delay). After the 10 minutes have elapsed, the system is forcibly shut down and the activation request serviced.

Appendix B. Change Management Scripts and Parameters

In this appendix, we give details of the scripts called and parameter values passed for each change management request.

General Notes on Tables:

1. Each table is laid out as closely as possible to its counterpart in Appendix A, “Change Management Request Processing” on page 367 for ease of reference.
2. The **Act** column, when present, indicates whether ″activation required″ is specified with the install request.
3. The **Rem** column, when present, indicates whether ″removable″ is specified with the install request. YES means that the change is removable. NO means that is it non-removable.
4. The **Script & Parameters** column names the change management script(s) invoked, and the positional parameters passed. The parameters are listed in the precise order in which they are passed. Any parameters that you specify with the script in the change file profile *precede* the parameters in the table, when the script is invoked.
5. The term <BU> represents the name of the backup subdirectory.
6. The term <SVC> represents the name of the service subdirectory.
7. The term <NUL> represents the value NUL which means that this positional parameter is not used.
8. ″- REJECTED -″ means that the particular change management request is rejected, and that therefore no change management scripts are called.

B.1 Install

Table 7 (Page 1 of 2). CM Script Parameters for Install Request

Change Management State	Rem	Act	Script & Parameters
Component not installed. No requests awaiting activate.	Yes	Yes	PRE-INSTALL NO <SVC> YES <BU>
	No	Yes	PRE-INSTALL NO <SVC> NO NUL
	Yes	No	PRE-INSTALL YES NUL YES <BU> POST-INSTALL YES NUL YES <BU>
	No	No	PRE-INSTALL YES NUL NO NUL POST-INSTALL YES NUL NO NUL
Change file installed non-removably. No requests awaiting activate.	Yes	Yes	PRE-INSTALL NO <SVC> YES <BU>
	No	Yes	PRE-INSTALL NO <SVC> NO NUL
	Yes	No	PRE-INSTALL YES NUL YES <BU> POST-INSTALL YES NUL YES <BU>
	No	No	PRE-INSTALL YES NUL NO NUL POST-INSTALL YES NUL NO NUL
Change file installed removably. No requests awaiting activate.	-	-	- REJECTED -
Change file installed removably. Remove request awaiting activate request.	-	-	- REJECTED -

Table 7 (Page 2 of 2). CM Script Parameters for Install Request

Change Management State	Rem	Act	Script & Parameters
Change file installed removably. Uninstall request awaiting activate.	-	-	- REJECTED -
Change file installed non-removably. Uninstall request awaiting activate.	-	-	- REJECTED -
Component not installed. Install non-removable request awaiting activate.	-	-	- REJECTED -
Component not installed. Install removable request awaiting activate request.	-	-	- REJECTED -
Component not installed. ″Install & accept″ request awaiting activate.	-	-	- REJECTED -
Previous level installed. Install non-removable request awaiting activate.	-	-	- REJECTED -
Previous level installed. Install removable request awaiting activate.	-	-	- REJECTED -
Previous level installed. ″Install & accept″ request awaiting activate.	-	-	- REJECTED -

Table 8 (Page 1 of 2). CM Script Parameters for Install with Immediate Accept Request

Change Management State	Rem	Act	Script & Parameters
Component not installed. No requests awaiting activate.	No	-	- REJECTED -
	Yes	No	PRE_INSTALL YES NUL YES <BU> POST_INSTALL YES NUL YES <BU> PRE-ACCEPT INSTALL <BU> <NUL> POST-ACCEPT INSTALL <BU> <NUL>
	Yes	Yes	PRE-INSTALL NO <SVC> YES <BU> POST-INSTALL NO <SVC> YES <BU> PRE-ACCEPT INSTALL <BU> <SVC> POST-ACCEPT INSTALL <BU> <SVC>
Change file installed non-removably. No requests awaiting activate.	No	-	- REJECTED -
	Yes	No	PRE_INSTALL YES NUL YES <BU> POST_INSTALL YES NUL YES <BU> PRE-ACCEPT INSTALL <BU> <NUL> POST-ACCEPT INSTALL <BU> <NUL>
	Yes	Yes	PRE-INSTALL NO <SVC> YES <BU> POST-INSTALL NO <SVC> YES <BU> PRE-ACCEPT INSTALL <BU> <SVC> POST-ACCEPT INSTALL <BU> <SVC>
Change file installed removably. No requests awaiting activate.	-	-	- REJECTED -
Change file installed removably. Remove request awaiting activate request.	-	-	- REJECTED -
Change file installed removably. Uninstall request awaiting activate.	-	-	- REJECTED -

Table 8 (Page 2 of 2). CM Script Parameters for Install with Immediate Accept Request

Change Management State	Rem	Act	Script & Parameters
Change file installed non-removably. Uninstall request awaiting activate.	-	-	- REJECTED -
Component not installed. Install non-removable request awaiting activate.	-	-	- REJECTED -
Component not installed. Install removable request awaiting activate request.	-	-	- REJECTED -
Component not installed. ″Install & accept″ request awaiting activate.	-	-	- REJECTED -
Previous level installed. Install non-removable request awaiting activate.	-	-	- REJECTED -
Previous level installed. Install removable request awaiting activate.	-	-	- REJECTED -
Previous level installed. ″Install & accept″ request awaiting activate.	-	-	- REJECTED -

B.2 Accept

Table 9 (Page 1 of 2). CM Script Parameters for Accept Request

Change Management State	Processing
Component not installed. No requests awaiting activate.	- REJECTED -
Change file installed non-removably. No requests awaiting activate.	- REJECTED -
Change file installed removably. No requests awaiting activate.	PRE-ACCEPT ACCEPT <BU> NUL POST-ACCEPT ACCEPT <BU> NUL
Change file installed removably. Remove request awaiting activate request.	- REJECTED -
Change file installed removably. Uninstall request awaiting activate.	- REJECTED -
Change file installed non-removably. Uninstall request awaiting activate.	- REJECTED -
Component not installed. Install non-removable request awaiting activate.	- REJECTED -
Component not installed. Install removable request awaiting activate request.	PRE-ACCEPT ACCEPT NUL <SVC> POST-ACCEPT ACCEPT NUL <SVC>
Component not installed. ′Install & accept′ request awaiting activate.	- REJECTED -

Table 9 (Page 2 of 2). CM Script Parameters for Accept Request	
Change Management State	**Processing**
Previous level installed. Install non-removable request awaiting activate.	- REJECTED -
Previous level installed. Install removable request awaiting activate.	PRE-ACCEPT ACCEPT NUL <SVC> POST-ACCEPT ACCEPT NUL <SVC>
Previous level installed. ″Install & accept″ request awaiting activate.	- REJECTED -

B.3 Remove

Table 10. CM Script Parameters for Remove Request		
Change Management State	**Act**	**Script & Parameters**
Component not installed. No requests awaiting activate.	-	- REJECTED -
Change file installed non-removably. No requests awaiting activate.	-	- REJECTED -
Change file installed removably. No requests awaiting activate.	Yes	PRE-REMOVE REMOVE RESTORE_SERVICE <BU> <SVC>
	No	PRE-REMOVE REMOVE RESTORE_ACTIVE <BU> NUL POST-REMOVE REMOVE RESTORE_ACTIVE <BU> NUL
Change file installed removably. Remove request awaiting activate.	-	- REJECTED -
Change file installed removably. Uninstall request awaiting activate.	-	- REJECTED -
Change file installed non-removably. Uninstall request awaiting activate.	-	- REJECTED -
Component not installed. Install non-removable request awaiting activate.	-	- REJECTED -
Component not installed. Install removable request awaiting activate.	Yes	- REJECTED -
	No	PRE-REMOVE REMOVE DELETE_SERVICE NUL <SVC> POST-REMOVE REMOVE DELETE_SERVICE NUL <SVC>
Component not installed. ′Install & accept′ request awaiting activate.	Yes	- REJECTED -
	No	PRE-REMOVE REMOVE DELETE_SERVICE NUL <SVC> POST-REMOVE REMOVE DELETE_SERVICE NUL <SVC>
Previous level installed. Install non-removable request awaiting activate.	-	- REJECTED -
Previous level installed. Install removable request awaiting activate.	Yes	- REJECTED -
	No	PRE-REMOVE REMOVE DELETE_SERVICE NUL <SVC> POST-REMOVE REMOVE DELETE_SERVICE NUL <SVC>
Previous level installed. ′Install & accept′ request awaiting activate.	Yes	- REJECTED -
	No	PRE-REMOVE REMOVE DELETE_SERVICE NUL <SVC> POST-REMOVE REMOVE DELETE_SERVICE NUL <SVC>

B.4 Uninstall

Table 11. CM Script Parameters for Uninstall Request

Change Management State	Act	Script & Parameters
Component not installed. No requests awaiting activate.	-	- REJECTED -
Change file installed non-removably. No requests awaiting activate.	Yes	PRE-UNINSTALL RESTORE_SERVICE NUL <SVC>
	No	PRE-UNINSTALL RESTORE_ACTIVE NUL NUL POST-UNINSTALL RESTORE_ACTIVE NUL NUL
Change file installed removably. No requests awaiting activate.	Yes	PRE-UNINSTALL RESTORE_SERVICE <BU> <SVC>
	No	PRE-UNINSTALL RESTORE_ACTIVE <BU> NUL POST-UNINSTALL RESTORE_ACTIVE <BU> NUL
Change file installed removably. Remove request awaiting activate request.	Yes	- REJECTED -
	No	PRE-UNINSTALL DELSERV_RESTACT <BU> <SVC> POST-UNINSTALL DELSERV_RESTACT <BU> <SVC>
Change file installed removably. Uninstall request awaiting activate.	-	- REJECTED -
Change file installed non-removably. Uninstall request awaiting activate.	-	- REJECTED -
Component not installed. Install non-removable request awaiting activate.	Yes	- REJECTED -
	No	PRE-UNINSTALL DELETE_SERVICE NUL <SVC> POST-UNINSTALL DELETE_SERVICE NUL <SVC>
Component not installed. Install removable request awaiting activate request.	Yes	- REJECTED -
	No	PRE-UNINSTALL DELETE_SERVICE NUL <SVC> POST-UNINSTALL DELETE_SERVICE NUL <SVC>
Component not installed. ″Install & accept″ request awaiting activate.	Yes	- REJECTED -
	No	PRE-UNINSTALL DELETE_SERVICE NUL <SVC> POST-UNINSTALL DELETE_SERVICE NUL <SVC>
Previous level installed. Install non-removable request awaiting activate.	Yes	- REJECTED -
	No	PRE-UNINSTALL DELETE_SERVICE NUL <SVC> POST-UNINSTALL DELETE_SERVICE NUL <SVC>
Previous level installed. Install removable request awaiting activate.	Yes	- REJECTED -
	No	PRE-UNINSTALL DELETE_SERVICE NUL <SVC> POST-UNINSTALL DELETE_SERVICE NUL <SVC>
Previous level installed. ″Install & accept″ request awaiting activate.	Yes	- REJECTED -
	No	PRE-UNINSTALL DELETE_SERVICE NUL <SVC> POST-UNINSTALL DELETE_SERVICE NUL <SVC>

B.5 Activate

Table 12 (Page 1 of 2). CM Script Parameters for Activate Request

Change Management State	Script & Parameters
Component not installed. No requests awaiting activate.	- REJECTED -
Change file installed non-removably. No requests awaiting activate.	- REJECTED -
Change file installed removably. No requests awaiting activate.	- REJECTED -
Change file installed removably. Remove request awaiting activate request.	PRE-ACTIVATE REMOVE <SVC>

Table 12 (Page 2 of 2). CM Script Parameters for Activate Request

Change Management State	Script & Parameters
Change file installed removably. Uninstall request awaiting activate.	PRE-ACTIVATE UNINSTALL <SVC>
Change file installed non-removably. Uninstall request awaiting activate.	PRE-ACTIVATE UNINSTALL <SVC>
Component not installed. Install non-removable request awaiting activate.	PRE-ACTIVATE INSTALL <SVC>
Component not installed. Install removable request awaiting activate request.	PRE-ACTIVATE INSTALL <SVC>
Component not installed. ″Install & accept″ request awaiting activate.	PRE-ACTIVATE INSTALL <SVC>
Previous level installed. Install non-removable request awaiting activate.	PRE-ACTIVATE INSTALL <SVC>
Previous level installed. Install removable request awaiting activate.	PRE-ACTIVATE INSTALL <SVC>
Previous level installed. ″Install & accept″ request awaiting activate.	PRE-ACTIVATE INSTALL <SVC>

Appendix C. Guidance on Change Management Scripts and Tokens

To cater for the more demanding change management requirements, NetView DM/6000 allows you to supply your own shell script to be executed before and after most change management requests. These scripts are called *change management scripts*.

To help you understand how to create your own change management scripts, we have created an application called SNAMON, with accompanying change management scripts.

SNAMON is a substantial application, and the change management scripts that go with it are non-trivial. We do not intend you to type the application into your system, unless, of course, you think you have a need for SNAMON. We do not, therefore, explain the workings of the application here. Instead, we highlight aspects of the application that are relevant to the change management scripts.

We look at the SNAMON change management scripts in more detail, because they are a potential model for your own change management scripts, and also give you some insight into how NetView DM/6000 processes change management scripts in general.

Another important facility of NetView DM/6000 in meeting more complex change management requirements are *tokens*. We give an explanation of these in C.2, “Token Evaluation” on page 384.

To get the most out of this appendix, you will need to have a good understanding of shell script programming, particularly in Korn shell. If you are a programmer, but lack Korn shell experience, we recommend that you have the book *Korn Shell Command and Programming Language*, written by David Korn himself, (or a similar text) at hand when looking through the scripts.

Warning About Shell Script Listings

Listings for the shell scripts used here are reproduced (in the following appendixes) with the sole intention of improving your understanding of how to write change management scripts. They have undergone *limited* testing only, and are likely to contain some bugs. If you plan to use them as they stand in your system, you should first test them adequately for your purposes.

C.1 Introduction to Change Management Scripts

You will recall from 8.1, “Change Files Explained” on page 204 that you tell NetView DM/6000 which change management script to execute before and after each change management request (if any) in the *change file profile*.

```
GLOBAL NAME:            TOOLS.SNAMON.REF.1.1
DESCRIPTION:            SNA Monitor for SNA/Services 1.2
CHANGE FILE TYPE:       UNIXGEN
PACK FILES:             NO

# Shared environment variables file
DEFAULT TOKEN:          ENVFILE=/usr/lpp/snamon/bin/snamon.env
# Base directory for SNA Monitor files
DEFAULT TOKEN:          BASEDIR=/usr/lpp/snamon
# Log directory for SNA Monitor files
DEFAULT TOKEN:          LOGDIR=/var/snamon
# /etc/inittab label for SNA Monitor
DEFAULT TOKEN:          SYSLABEL=SnaMon

# PRE_INSTALL ensures that snamon.env is in place for snamon.cm in
#                       POST-INSTALL
PRE-INSTALL:            /usr/lpp/snamon/bin/snamon.env
POST-INSTALL:           /usr/lpp/snamon/cm_scripts/snamon.cm POSTINSTALL
PRE-REMOVE:             /usr/lpp/snamon/cm_scripts/snamon.cm PREREMOVE
POST-ACCEPT:            /usr/lpp/snamon/cm_scripts/snamon.cm POSTACCEPT
PRE-UNINSTALL:          /usr/lpp/snamon/cm_scripts/snamon.cm PREUNINSTALL
PRE-ACTIVATE:           /usr/lpp/snamon/cm_scripts/snamon.cm PREACTIVATE

# Change management scripts
OBJECT:
        SOURCE NAME:    /u/mckechni/snamon/V1.1/cm_scripts/snamon.cm
        TARGET NAME:    /usr/lpp/snamon/cm_scripts/snamon.cm
        TYPE:           FILE_WITH_TOKENS
        ACTION:         COPY

# SNAMON files
OBJECT:
        SOURCE NAME:    /u/mckechni/snamon/V1.1/bin/*
        TARGET NAME:    /usr/lpp/snamon/bin/*
        TYPE:           FILE_WITH_TOKENS
        ACTION:         COPY
```

Figure 308. Change File Profile for SNAMON Version 1.1

In the change file profile, you specify the trigger, the full path name of the shell script on the client, and any parameters. The trigger may be one of:

- PRE-INSTALL
- POST-INSTALL
- PRE-ACCEPT
- POST-ACCEPT
- PRE-REMOVE
- POST-REMOVE
- PRE-UNINSTALL
- POST-UNINSTALL
- PRE-ACTIVATE

For example, if you need to create some additional directories for your application, you would create a shell script that does this for you, and specify the name of this script, and any parameters, in the change file profile as the post-install script. NetView DM/6000 will execute this script after completing its own install request processing.

Change management scripts are optional. If you don't need to do any special processing before or after a request, don't specify any scripts in the change file profile for this request.

Each of the change management scripts gets passed a fixed number of positional parameters, depending on the request. These are described in Appendix B, "Change Management Scripts and Parameters" on page 375 and the *NetView DM/6000 User's Guide*. Your parameters are passed *before* the fixed parameters.

The parameters are passed exactly in the order they appear in Appendix B, "Change Management Scripts and Parameters" on page 375. For example, in the case of the pre- and post-install scripts, if you pass no parameters, $1 would be **Request Type**, $2 would be **Action**, $3 would be **Backup Subdirectory**, and $4 would be **Service Subdirectory**. If you pass a single parameter, then $1 would be your parameter, $2 would be **Request Type**, $3 would be **Action**, and so on.

In our change file profile (Figure 308 on page 382), we pass a single parameter, the name of the trigger event.

Some change management scripts also get called in other circumstances. For instance, the post-remove script gets also called by NetView DM/6000 if an install request fails to complete. The reason for calling post-remove is passed in one of the fixed parameters.

NetView DM/6000 executes the scripts using *bourne* shell, unless instructed otherwise. You can force a different shell with a #! statement in the first line of your script. For example, if you want to instruct NetView DM/6000 to use the *korn* shell, put the following as the first line in your script:

```
#!/bin/ksh
```

Don't forget to include your change management scripts in the list of files that make up the change file, so that they get installed along with the application. You can, if you wish, install them on the client before installing the change file. However, we recommend that you include them in the change file itself, because:

- It automates the whole process, cutting out error-prone manual steps.
- It subjects the scripts to the same change management control as the application files.
- It is easy to do. We show you how in our examples.

For example, if you change the scripts between the previous level of the application and the latest, and find you need to remove the latest level, you won't have to remember to manually roll back the scripts.

Note:

If your change management scripts are part of the change file, the post-remove and post-uninstall scripts get copied to the work area $(CMWORK), then they are removed from the active area and executed from the work area.

The process is equivalent for the pre-install script at installation time. NetView DM/6000 scans the change file for the pre-install script, and pre-loads it into the $(CMWORK) directory before starting the installation process proper.

It is important to note that unlike the other change management scripts, the pre-install, post-remove and post-uninstall scripts get executed from the $(CMWORK) directory (see Figure 311 on page 393).

If your shell script completes without error, make sure the return code is set to 0. If your shell script encounters an error that is serious enough to invalidate the whole request, set the return code to a non-zero value. This will cause NetView DM/6000 to undo any processing it has completed already for the request, and deem the request to have failed.

Output from your script, whether written to *stdout* or *stderr* is redirected to a file called *request.out*. The full path name of this file defaults to /usr/lpp/netviewdm/work/request.out, or symbolically $(CMWORK)/request.out. This file is deleted before each change management request is processed. Thus if your change management request fails, look in this file immediately for possible causes.

C.2 Token Evaluation

Tokens allow you to use a symbolic name for any entity that you choose. You may place tokens anywhere in the application files or the change management scripts (so long as the file is text, such as a shell script).

To reference a token in an application or change management file, enclose the token name in parentheses, and place a dollar ($) symbol before the open parenthesis. To illustrate this, suppose you wanted to use a token to represent the directory where the application files reside on the target, and decide to call the token BASEDIR, say. An excerpt from the release notes that get installed with the package might read:

```
The application places its executable files in the directory $(B ASEDIR). You
must ensure that this directory does not already exist in your system.
```

Tokens are evaluated when a change management request is processed. On the server, you can assign values to tokens against each target. This allows you to give the token a specific value for each target, if you wish.

When the token is evaluated, NetView DM/6000 first checks if a target specific value has been assigned. If so, it substitutes this value for the token. If not, it checks if a default value has been specified for the token in the change file. If so, it substitutes the default value for the token. Otherwise, it leaves the token unevaluated.

A number of predefined tokens are available on all targets:

TARGET Name of the target.

SERVER Name of the server for the target.

CMSVCE Fully qualified path name of the target's service area (see 8.1.1, "Processing a Change Management Request" on page 205 for an explanation of service area).

CMBKUP Fully qualified path name of the target's backup area (see 8.1.1, "Processing a Change Management Request" on page 205 for an explanation of backup area).

CMWORK Fully qualified path name of the target's work area (see 8.1.1, "Processing a Change Management Request" on page 205 for an explanation of work area).

REPOSITORY Fully qualified path name of the target's repository directory. This is where the catalog objects are stored, for example the change files.

Note:

The meaning of **token** here is entirely different from the meaning of the word when used in conjunction with *global name* (see 1.6, "SNA/FS Conventions for Global Names" on page 16).

You can customize the location of the service, backup and work areas or the repository in the base configuration file, if you wish (see 1.5.1, "Base Configuration" on page 13).

C.3 The SNAMON Application

We have created an application entirely of Korn shell scripts. Its purpose is to monitor an SNA Services/6000 Version 1.2 attachment and attempt to start it if it stops for any reason, for example if the PU is re-cycled by NetView. We have called it SNA Monitor, or SNAMON for short.

The source listings are reproduced in Appendix E, "The SNAMON Application" on page 415. As stated above, we do not expect you to key in this application at your terminal, but rather to look at it in conjunction with the change management scripts.

In SNAMON, we have tried to create a realistic application that presents some of the challenges that frequently confront the change file writer:

1. It comprises a number of executables that need placing together in a common directory.
2. It needs additional directories to be created for it:
   - It writes a log file in a directory under the AIX /var directory structure (/var/snamon). This subdirectory must be created by the change management scripts.
   - It creates temporary working files within its own directory structure. The subdirectory to hold these temporary files must be created by the change management scripts.

The change management scripts should be able to cope with the possibility of these directories existing already (because of a previously installed level, for example, that wasn′t installed under change control).

3. The application expects application specific entries to be present in the AIX system file /etc/environment. The entries concerned must be added to /etc/environment by the change management scripts. The application specific entries must also be managed correctly when the change file is removed, uninstalled or replaced by a later level, so as not to undo legitimate changes made by others.
4. The application is relocatable. Its location in the file system is not fixed until it is actually installed on the client, and may vary from client to client.
5. There are entities referenced in the application that are created by the change management scripts. The names of these entities must correspond in both places, and must be kept in step during any future maintenance work. For example, the names given to directories created by the change management scripts must be those expected by the application.
6. There are entities referenced in the application that are created by the user following instructions given in the online release notes (the README file). Once again, the names of these entities must correspond in both places, and must be kept in step from one release to the next.

We treat these ″challenges″ as requirements. In C.5, “Meeting Complex Change Management Requirements” on page 389 we look at how we can use the facilities of NetView DM/6000 to meet each requirement.

That is all we intend to say about SNAMON itself. We look now in more detail at the change management scripts for this application.

C.4 The Change Management Scripts for SNAMON

In general, you would write a separate shell script for each pre- or post- change management request where you need to do some additional processing. This works well where there are only one or two scripts involved, or the processing involved in each case has little in common.

For SNAMON, we needed to do some additional processing with most of the change management requests. We had potentially a lot of scripts to write, with a good deal of commonality among them.

We took a different approach. Instead of creating a new script for each case, repeating much of the content of the other scripts, we created a single script that caters for all cases. We pass the name of the triggering event as a parameter to the script, so that the script knows what processing needs to be done.

We have called the script *snamon.cm*. A full listing for snamon.cm is reproduced in Appendix D, “The SNAMON Change Management Scripts” on page 399.

Note to programmers

Such ″bundling″ of function is normally only justifiable where the functions concerned have a lot in common, for example where they share much of the same processing. Artificial bundling can create maintainability problems that outweigh any benefits.

To help you understand how to write your own change management scripts, we walk you through snamon.cm, explaining the points of general interest.

The tables in Appendix B, “Change Management Scripts and Parameters” on page 375 give details of the scripts called and parameters passed for each change management request, depending on change management state.

C.4.1 Understanding snamon.cm

snamon.cm is a *korn* shell script. Korn shell is similar in many ways to bourne shell, but is more powerful, and has some new (and often better) ways of doing things. If you are familiar with bourne shell, but not korn, here are the main korn shell specifics that we exploit in snamon.cm:

- Enhanced parameter expansion using the `${}` syntax.
- Command substitution using the korn `$(command)` syntax instead of the bourne `'command'` syntax.
- The `print` built-in command instead of the bourne `echo` built-in command.
- The korn shell function syntax:

  ```
  function myfunc
  {
     body ...
  }
  ```

  instead of the bourne syntax:

  ```
  myfunc()
  {
     body ...
  }
  ```

- Local variables in functions (using the `typeset` statement).
- Korn shell test statement syntax `[[condition]]` instead of the bourne syntax `[condition]`.

snamon.cm is made up of four main parts:

- Re-usable utility functions, such as *cleanup* and *ErrorExit*, that are used throughout by other functions and the main program.
- Functions that carry out the main processing for a particular trigger event, or a variation of the event. For example, *RemoveDeleteService* that deletes a pending SNAMON request from the service area or *RemoveRestoreActive* that removes an SNAMON request from the active area and restores the previous level, that is both dealing with different variations of the post-remove event.
- Functions, such as *PostInstall* or *PreActivate* that validate each supported trigger event, before invoking the appropriate main function for that event (according to variation). Unsupported trigger events are rejected.

Note: Supported trigger events are those for which we need to do additional processing. We only actually call snamon.cm for these events (see Figure 308 on page 382).

- The main program sets up the common environment and invokes the validation function for each trigger event.

snamon.cm writes information, warning and error messages to *stderr*. As explained in 8.1.2, "Change Management Scripts" on page 207, NetView DM/6000 redirects stderr to /u/lpp/netviewdm/work/request.out. We check the messages in this file after each management request involved, especially if the request fails, because this is a valuable source of diagnostic information.

If snamon.cm completes processing without error, it sets the return code to 0. Otherwise, it sets the return code to 1 to indicate to NetView DM/6000 that the script has failed, and therefore the request has failed. snamon.cm writes an error message to request.out describing the nature of the problem.

We recommend that you write the following type of messages in your change management script:

- An informational message at the beginning, stating the name of the script, the number parameters passed and their values. This provides a useful check that the script that gets called is the one you expected, and that the parameters passed are also what you expected. We noticed, for example, that the pre- and post-accept scripts get passed a third parameter (**Service Subdirectory**) that is not documented in the NetView DM/6000 manuals.
- An error message for each occasion that your script sets the return code to a non-zero value. Be explicit and precise about the cause of the error, and where in your script it occurred, because this is likely to be the only diagnostic information that you will have when it comes to tracking down a problem in your script.
- An informational message before returning control to the NetView DM/6000 driver program. You should include the return code value in this message.

snamon.cm shares a number of entities in common with SNAMON itself, such as the names of directories and return codes. To avoid having to keep the values associated with these entities in step in two places, we define them in a common file, *snamon.env*, and include this file in the SNAMON scripts and in snamon.cm. We do this using the korn shell *dot* (.) command. A full listing for snamon.env is reproduced in E.2, "The snamon.env Program Listing" on page 422.

Testing, testing ...

It is vitally important that your change management scripts are properly tested before they are installed. Obvious defects in the pre- and post-install scripts should show up the first time you attempt an installation. Problems with other scripts may lie dormant for ages. For instance defects in the pre- and post-remove scripts will not manifest themselves until you attempt to remove a bad version of the product. This may first occur months (or even years) later, and probably at precisely the most inconvenient moment for bugs to bite you!

C.5 Meeting Complex Change Management Requirements

You will recall from C.3, “The SNAMON Application” on page 385 that the SNAMON application places a number of requirements on the NetView DM/6000 change management facilities. In this section we look at each requirement in turn, and explain how it is met using the standard features of NetView DM/6000, and our change management script.

C.5.1 Requirement 1 (Executables in Common Directory)

This requirement is easily met because we are able to specify the fully qualified source and target files in the change file profile, using the wildcard (*) symbol as a short-hand notation for ″all files in source directory to be copied to target directory″ (see Figure 308 on page 382). NetView DM/6000 automatically creates and populates the required directory at installation time (and deletes it when the application is uninstalled or the earliest level removed).

C.5.2 Requirement 2 (Creation of Additional Directories)

In order to meet this requirement, we create the additional directories (/var/snamon and /usr/lpp/snamon/tmp) during post-install and pre-activate processing, and delete them during pre-remove and pre-uninstall processing, within snamon.cm (see C.5.3, “Requirement 3 (Appends to System Files)”). For robustness, no error is reported if snamon.cm tries to create a directory which already exists, or delete a directory which has already been deleted.

Note: When SNAMON is being uninstalled, or the earliest level removed, snamon.cm doesn′t restore these directories if they existed prior to SNAMON first being installed under change management. For completeness, you may wish to include the logic to handle this in your own scripts.

C.5.3 Requirement 3 (Appends to System Files)

We use a combination of change management scripts and tokens to meet this requirement. First, the token SYSLABEL defines the unique string that identifies the SNAMON entries in /etc/environment. We set this token to SnaMon in the change file profile (see Figure 308 on page 382). One of the SNAMON application files is *etc.environment.append*, whose contents are shown in Figure 309.

```
#BEGIN $(SYSLABEL)
# Do not remove these BEGIN/END comments or any lines in between
SnaMonLogDir=/var/snamon
SnaMonSleepTime=120
#END $(SYSLABEL)
```

Figure 309. SNAMON Append to /etc/environment (Tokens Unevaluated)

When this file is installed on the client (along with the rest of SNAMON) the token $(SYSLABEL) is replaced by SnaMon, because in the change file profile, we have set the file type to FILE_WITH_TOKENS (rather than just FILE). After evaluation, the contents change to those in Figure 310 on page 390.

```
#BEGIN SnaMon
# Do not remove these BEGIN/END comments or any lines in between
SnaMonLogDir=/var/snamon
SnaMonSleepTime=120
#END SnaMon
```

Figure 310. SNAMON Append to /etc/environment (Tokens Evaluated)

The BEGIN/END SnaMon comment pair makes it easy for snamon.cm to identify precisely which entries belong to SNAMON.

During processing, snamon.cm does the following, depending on trigger event:

Post-Install If the install request is removable, snamon.cm places a copy of /etc/environment in the backup subdirectory.

If activation is required, the following processing is deferred until an activate request is received:

- The additional SNAMON directories are created.
- Any existing SNAMON entries are removed from /etc/environment (including the BEGIN/END comment pair), and the contents of etc.environment.append (Figure 310) appended to /etc/environment.

Notes:

1. It is necessary to take a backup copy of /etc/environment here, even if activation has been requested, because when the pre-activate script is invoked, no indication is given whether the deferred install request is removable or not.
2. It is important to backup/restore the BEGIN/END comment pair because the SYSLABEL value may change from release to release.

Pre-Remove If activation is required (action parameter is set to ″RESTORE_SERVICE″), processing is deferred until an activate request is received.

If the change file is installed removably in the active area (action parameter is set to ″RESTORE_ACTIVE″), the current /etc/environment is overwritten with the backup copy, and the backup copy discarded.

If the change file is installed in the service area, pending activation (action parameter is set to ″DELETE_SERVICE″), the backup copy of /etc/environment is discarded.

Notes:

1. We have elected not to support the case where the pre-remove script is called because an install request failed. We recommend that you provide some logic for this case.
2. It is impossible to deduce in the pre- and post-remove scripts whether there is a previous version to roll back to. Therefore, it is impossible to tell whether it is appropriate to delete the additional directories.

Post-Accept The backup copy of /etc/environment is discarded.

Pre-Uninstall If activation is required (action parameter is set to ″RESTORE_SERVICE″), processing is deferred until an activate request is received.

If the change file is installed removably in the active area (action parameter is set to ″RESTORE_ACTIVE″), the following processing takes place:

- The current /etc/environment is overwritten with the backup copy, and the backup copy discarded.

  Any SNAMON entries in the restored /etc/environment are removed (including the BEGIN/END comment pair).

  Any SNAMON entries added to /etc/inittab by the user (see E.4, “The ″README″ Program Listing” on page 424) are removed.

  The additional SNAMON directories are deleted.

If the change file is installed only in the service area pending activation (action parameter is set to ″DELETE_SERVICE″), the backup copy of /etc/environment is discarded.

If the component is installed in the active area, and a change file installed in the service area pending activation (action parameter is set to ″DELSERV_RESTACT″), the processing for the ″RESTORE_ACTIVE″ case is carried out, followed by the processing for the ″DELETE_SERVICE″ case.

Pre-Activate It is possible to request activation on the install, remove and uninstall requests. We have elected only to support the install case in our pre-activate logic.

In the install case, the deferred processing is carried out:

- The additional SNAMON directories are created.
- Any existing SNAMON entries are removed from /etc/environment (including the BEGIN/END comment pair), and the contents of etc.environment.append (Figure 310 on page 390) appended to /etc/environment.

In the remove case, the only type of remove request that can be deferred pending activation is where the change file is installed removably in the active area (see Table 10 on page 378). Thus we could simply call the *RemoveRestoreActive* function here.

Similarly, in the uninstall case, the only type of remove request that can be deferred pending activation is where the change file is installed in the active area only (see Table 11 on page 379). Thus we could simply call the *UninstRestoreActive* function here.

The /etc/environment file is a system file that is wider in scope than SNAMON. It may be customized by the system administrator, or by the installation of some other package. It is important, therefore, not to simply replace the current /etc/environment with the backup copy in a remove or uninstall script, or any customization that took place between the install and remove (or uninstall) will be lost.

Our scripts deal with system files in this primitive way. A better approach would be as follows:

- In the post-install (removably) script, remove the SNAMON entries (including the BEGIN/END pair) from /etc/environment, and place them in the file called, say, etc.env.app in the backup directory. If no such entries exist, create etc.env.app anyway as an empty file.
- In the pre-remove and pre-uninstall scripts, remove the SNAMON entries (including the BEGIN/END pair) from /etc/environment, and replace them with the contents of the backup file (etc.env.app). Discard the backup file.

C.5.4 Requirement 4 (Relocating the Application)

Relocation is achieved using the token BASEDIR. The SNAMON directories are defined in one place, namely snamon.env with the $(BASEDIR) token as a common root (see E.2, “The snamon.env Program Listing” on page 422). We set this token to /usr/lpp/snamon in the change file profile (see Figure 308 on page 382).

When the application and change management scripts and files are installed on the client, the token $(BASEDIR) is replaced by /usr/lpp/snamon, because in the change file profile, we have set the file type to FILE_WITH_TOKENS (rather than just FILE). We can override the default value in the change file profile by defining a client-specific value for the token at the client's server, thus enabling us to place the application anywhere we want on the client.

For example, if you wanted to place it under /u/util/snamon instead of /usr/lpp/snamon, and the client was rs60003, then at the server you would enter the command:

```
nvdm updtg rs60003 -h BASEDIR=/u/util/snamon
```

C.5.5 Requirement 5 (Common Entities)

All entities that are common to both the application and the change management scripts are defined in one place, namely snamon.env (see Figure 308 on page 382). The contents of snamon.env are brought into the application and change management environments by ″dot (.) executing″ it in the respective main programs.

On the target, snamon.env resides in the SNAMON application directory. The scripts that ″dot execute″ it must first be told where to find it (especially since the application is relocatable). We do this with a token called ENVFILE (see Figure 308 on page 382) which is resolved in a similar manner to BASEDIR above.

C.5.6 Requirement 6 (Cross-References in Release Notes)

Once again, tokens form the basis of the solution. The SNAMON release notes are contained in a file called README, stored with the application. The full contents of this file are given in E.4, “The ″README″ Program Listing” on page 424. The README file instructs the installer to add a line /etc/inittab, thus:

```
$(SYSLABEL):2:respawn:$(BASEDIR)/bin/sna
 mond MY_ATTACH > /dev/console 2>&1
```

The label associated with this line must also be known to the uninstall script so that it is able to delete it when the time comes. Once again we use the SYSLABEL token.

The directory in which the program (snamond) is stored is also part of the /etc/inittab entry. As explained above, for relocatability, the application directory is referenced through the BASEDIR token. If the defaults in the change file profile are accepted (see Figure 308 on page 382), the /etc/inittab line of the README file gets evaluated at installation time to:

```
SnaMon:2:respawn:/usr/lpp/snamon/bin/snamond MY_ATTACH > /dev/console 2>&1
```

C.5.7 Client Log Entries

In this section we list the NetView DM/6000 log entries generated by the client (rs60003) when scenario II is repeated using the real SNAMON application in Appendix E, “The SNAMON Application” on page 415, the change management scripts in Appendix D, “The SNAMON Change Management Scripts” on page 399, and the change file profile in Figure 308 on page 382. The log is stored in /usr/lpp/netviewdm/fndlog.

Note that we have created tokens on the target for ENVFILE, BASEDIR, LOGDIR and SYSLABEL, but have set them to the same values as in the change file profile.

We have also added a dummy PRE-INSTALL instruction in the change file profile, that nominates snamon.env as the program to execute. On its own, snamon.env doesn′t actually do anything, but helps illustrate that the pre-install script gets loaded into the $(CMWORK) directory, and executed from there.

```
1994/11/20 17:05:53 rs60003   27100 FNDRX021I: CRBX socket is 8.
1994/11/20 17:05:53 rs60003   27100 FNDCM030I: @rs600012 1994/11/20 10 rs60003 :
                    Received an Install request for file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:05:53 rs60003   27100 FNDCM022I: @rs600012 1994/11/20 10 rs60003 :
                    The Alter-Active-Component option is Yes - processing
                    request in the Active Area.
1994/11/20 17:05:53 rs60003   27100 FNDCM053I: @rs600012 1994/11/20 10 rs60003 :
                    The Removability option is Yes - backups will be taken.
1994/11/20 17:05:53 rs60003   27100 FNDCM032I: @rs600012 1994/11/20 10 rs60003 :
                    Installing change file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:05:54 rs60003   27100 FNDCM015I: @rs600012 1994/11/20 10 rs60003 :
                    Calling CM Driver: /usr/bin/fndcmi
                    /usr/lpp/netviewdm/work/rrstatus.
1994/11/20 17:05:54 rs60003   27399 FNDCO022I: Initializing trace and logging.
1994/11/20 17:05:54 rs60003   27399 FNDCO015I: Task fndcmi has pid 27399.
1994/11/20 17:05:56 rs60003   27100 FNDCO028I: Program /usr/bin/fndcmi
                    /usr/lpp/netviewdm/work/rrstatus executed successfully
                    exit status 0.
1994/11/20 17:05:56 rs60003   27100 FNDCM033I: @rs600012 1994/11/20 10 rs60003 :
                    Installed change file TOOLS.SNAMON.REF.1.1 successfully.
1994/11/20 17:05:56 rs60003   27100 FNDCM034I: @rs600012 1994/11/20 10 rs60003 :
                    TOOLS.SNAMON.REF.1.1 and any corequisites were Installed
                    successfully.
```

Figure 311. Install Removable SNAMON Version 1.1

```
1994/11/20 17:10:38 rs60003   27100 FNDRX021I: CRBX socket is 9.
1994/11/20 17:10:38 rs60003   27100 FNDCM070I: @rs600012 1994/11/20 11 rs60003 :
                    Received an Accept request for change file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:10:38 rs60003   27100 FNDCM071I: @rs600012 1994/11/20 11 rs60003 :
                    Accepting change file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:10:38 rs60003   27100 FNDCM015I: @rs600012 1994/11/20 11 rs60003 :
                    Calling CM Driver: /usr/bin/fndcma
                    /usr/lpp/netviewdm/work/rrstatus.
1994/11/20 17:10:38 rs60003    7196 FNDC0022I: Initializing trace and logging.
1994/11/20 17:10:38 rs60003    7196 FNDC0015I: Task fndcma has pid 7196.
1994/11/20 17:10:38 rs60003   27100 FNDC0028I: Program /usr/bin/fndcma
                    /usr/lpp/netviewdm/work/rrstatus executed successfully
                    exit status 0.
1994/11/20 17:10:39 rs60003   27100 FNDCM072I: @rs600012 1994/11/20 11 rs60003 :
                    Accepted change file TOOLS.SNAMON.REF.1.1 successfully.
1994/11/20 17:10:39 rs60003   27100 FNDCM073I: @rs600012 1994/11/20 11 rs60003 :
                    TOOLS.SNAMON.REF.1.1 and any corequisites were Accepted
                    successfully.
```

Figure 312. Accept SNAMON Version 1.1

```
1994/11/20 17:13:11 rs60003   27100 FNDRX021I: CRBX socket is 10.
1994/11/20 17:13:11 rs60003   27100 FNDCM080I: @rs600012 1994/11/20 12 rs60003 :
                    Received an Uninstall request for component TOOLS.SNAMON.
1994/11/20 17:13:12 rs60003   27100 FNDCM022I: @rs600012 1994/11/20 12 rs60003 :
                    The Alter-Active-Component option is Yes - processing
                    request in the Active Area.
1994/11/20 17:13:12 rs60003   27100 FNDCM081I: @rs600012 1994/11/20 12 rs60003 :
                    Uninstalling change file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:13:12 rs60003   27100 FNDCM015I: @rs600012 1994/11/20 12 rs60003 :
                    Calling CM Driver: /usr/bin/fndcmu
                    /usr/lpp/netviewdm/work/rrstatus.
1994/11/20 17:13:12 rs60003    7241 FNDC0022I: Initializing trace and logging.
1994/11/20 17:13:12 rs60003    7241 FNDC0015I: Task fndcmu has pid 7241.
1994/11/20 17:13:13 rs60003   27100 FNDC0028I: Program /usr/bin/fndcmu
                    /usr/lpp/netviewdm/work/rrstatus executed successfully
                    exit status 0.
1994/11/20 17:13:13 rs60003   27100 FNDCM082I: @rs600012 1994/11/20 12 rs60003 :
                    Uninstalled change file TOOLS.SNAMON.REF.1.1 successfully.
1994/11/20 17:13:13 rs60003   27100 FNDCM083I: @rs600012 1994/11/20 12 rs60003 :
                    Component TOOLS.SNAMON was Uninstalled successfully.
```

Figure 313. Uninstall SNAMON

```
1994/11/20 17:15:31 rs60003   27100 FNDRX021I: CRBX socket is 11.
1994/11/20 17:15:31 rs60003   27100 FNDCM030I: @rs600012 1994/11/20 13 rs60003 :
                    Received an Install request for file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:15:31 rs60003   27100 FNDCM022I: @rs600012 1994/11/20 13 rs60003 :
                    The Alter-Active-Component option is Yes - processing
                    request in the Active Area.
1994/11/20 17:15:31 rs60003   27100 FNDCM053I: @rs600012 1994/11/20 13 rs60003 :
                    The Removability option is Yes - backups will be taken.
1994/11/20 17:15:31 rs60003   27100 FNDCM032I: @rs600012 1994/11/20 13 rs60003 :
                    Installing change file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:15:34 rs60003   27100 FNDCM015I: @rs600012 1994/11/20 13 rs60003 :
                    Calling CM Driver: /usr/bin/fndcmi
                    /usr/lpp/netviewdm/work/rrstatus.
1994/11/20 17:15:34 rs60003    7263 FNDCO022I: Initializing trace and logging.
1994/11/20 17:15:34 rs60003    7263 FNDCO015I: Task fndcmi has pid 7263.
1994/11/20 17:15:36 rs60003   27100 FNDCO028I: Program /usr/bin/fndcmi
                    /usr/lpp/netviewdm/work/rrstatus executed successfully
                    exit status 0.
1994/11/20 17:15:37 rs60003   27100 FNDCM033I: @rs600012 1994/11/20 13 rs60003 :
                    Installed change file TOOLS.SNAMON.REF.1.1 successfully.
1994/11/20 17:15:37 rs60003   27100 FNDCM071I: @rs600012 1994/11/20 13 rs60003 :
                    Accepting change file TOOLS.SNAMON.REF.1.1.
1994/11/20 17:15:37 rs60003   27100 FNDCM015I: @rs600012 1994/11/20 13 rs60003 :
                    Calling CM Driver: /usr/bin/fndcma
                    /usr/lpp/netviewdm/work/rrstatus.
1994/11/20 17:15:37 rs60003    7279 FNDCO022I: Initializing trace and logging.
1994/11/20 17:15:37 rs60003    7279 FNDCO015I: Task fndcma has pid 7279.
1994/11/20 17:15:37 rs60003   27100 FNDCO028I: Program /usr/bin/fndcma
                    /usr/lpp/netviewdm/work/rrstatus executed successfully
                    exit status 0.
1994/11/20 17:15:37 rs60003   27100 FNDCM072I: @rs600012 1994/11/20 13 rs60003 :
                    Accepted change file TOOLS.SNAMON.REF.1.1 successfully.
1994/11/20 17:15:37 rs60003   27100 FNDCM034I: @rs600012 1994/11/20 13 rs60003 :
                    TOOLS.SNAMON.REF.1.1 and any corequisites were Installed
                    successfully.
```

Figure 314. Install Removable with Auto-Accept SNAMON Version 1.1

```
1994/11/20 17:22:34 rs60003   27100 FNDRX021I: CRBX socket is 12.
1994/11/20 17:22:34 rs60003   27100 FNDCM030I: @rs600012 1994/11/20 14 rs60003 :
                    Received an Install request for file TOOLS.SNAMON.REF.1.2.
1994/11/20 17:22:34 rs60003   27100 FNDCM022I: @rs600012 1994/11/20 14 rs60003 :
                    The Alter-Active-Component option is Yes - processing
                    request in the Active Area.
1994/11/20 17:22:34 rs60003   27100 FNDCM053I: @rs600012 1994/11/20 14 rs60003 :
                    The Removability option is Yes - backups will be taken.
1994/11/20 17:22:34 rs60003   27100 FNDCM032I: @rs600012 1994/11/20 14 rs60003 :
                    Installing change file TOOLS.SNAMON.REF.1.2.
1994/11/20 17:22:35 rs60003   27100 FNDCM015I: @rs600012 1994/11/20 14 rs60003 :
                    Calling CM Driver: /usr/bin/fndcmi
                    /usr/lpp/netviewdm/work/rrstatus.
1994/11/20 17:22:35 rs60003    7364 FNDCO022I: Initializing trace and logging.
1994/11/20 17:22:35 rs60003    7364 FNDCO015I: Task fndcmi has pid 7364.
1994/11/20 17:22:38 rs60003   27100 FNDCO028I: Program /usr/bin/fndcmi
                    /usr/lpp/netviewdm/work/rrstatus executed successfully
                    exit status 0.
1994/11/20 17:22:38 rs60003   27100 FNDCM033I: @rs600012 1994/11/20 14 rs60003 :
                    Installed change file TOOLS.SNAMON.REF.1.2 successfully.
1994/11/20 17:22:38 rs60003   27100 FNDCM034I: @rs600012 1994/11/20 14 rs60003 :
                    TOOLS.SNAMON.REF.1.2 and any corequisites were Installed
                    successfully.
```

Figure 315. Install Removable SNAMON Version 1.2

```
1994/11/20 17:24:24 rs60003   27100 FNDRX021I: CRBX socket is 13.
1994/11/20 17:24:24 rs60003   27100 FNDCM060I: @rs600012 1994/11/20 15 rs60003 :
                    Received a Remove request for change file
                    TOOLS.SNAMON.REF.1.2.
1994/11/20 17:24:24 rs60003   27100 FNDCM022I: @rs600012 1994/11/20 15 rs60003 :
                    The Alter-Active-Component option is Yes - processing
                    request in the Active Area.
1994/11/20 17:24:24 rs60003   27100 FNDCM061I: @rs600012 1994/11/20 15 rs60003 :
                    Removing change file TOOLS.SNAMON.REF.1.2.
1994/11/20 17:24:24 rs60003   27100 FNDCM015I: @rs600012 1994/11/20 15 rs60003 :
                    Calling CM Driver: /usr/bin/fndcmr
                    /usr/lpp/netviewdm/work/rrstatus.
1994/11/20 17:24:24 rs60003    7396 FNDCO022I: Initializing trace and logging.
1994/11/20 17:24:24 rs60003    7396 FNDCO015I: Task fndcmr has pid 7396.
1994/11/20 17:24:25 rs60003   27100 FNDCO028I: Program /usr/bin/fndcmr
                    /usr/lpp/netviewdm/work/rrstatus executed successfully
                    exit status 0.
1994/11/20 17:24:25 rs60003   27100 FNDCM062I: @rs600012 1994/11/20 15 rs60003 :
                    Removed change file TOOLS.SNAMON.REF.1.2 successfully.
1994/11/20 17:24:25 rs60003   27100 FNDCM063I: @rs600012 1994/11/20 15 rs60003 :
                    TOOLS.SNAMON.REF.1.2 and any corequisites were Removed
                    successfully.
```

Figure 316. Remove SNAMON Version 1.2

C.5.8 Change Management Script Output

In this section we list the output written to $(CMWORK)/request.out by the change management scripts when scenario II is repeated using the real SNAMON application in Appendix E, “The SNAMON Application” on page 415, the change management scripts in Appendix D, “The SNAMON Change Management Scripts” on page 399, and the change file profile in Figure 316 on page 396.

```
11/20/94 17:05:56 SNAMON52I: Program snamon.cm starting with parameters
                  POSTINSTALL YES NUL YES /usr/lpp/netviewdm/backup/BSadwFs9
11/20/94 17:05:56 SNAMON53I: Function PostInstall called with parameters YES
                  NUL YES /usr/lpp/netviewdm/backup/BSadwFs9
11/20/94 17:05:56 SNAMON50I: Program snamon.cm ending
```

Figure 317. Install Removable SNAMON Version 1.1

```
11/20/94 17:10:38 SNAMON52I: Program snamon.cm starting with parameters
                  POSTACCEPT ACCEPT /usr/lpp/netviewdm/backup/BSadwFs9 NUL
11/20/94 17:10:38 SNAMON55I: Function PostAccept called with parameters
                  ACCEPT /usr/lpp/netviewdm/backup/BSadwFs9 NUL
11/20/94 17:10:38 SNAMON50I: Program snamon.cm ending
```

Figure 318. Accept SNAMON Version 1.1

```
11/20/94 17:13:12 SNAMON52I: Program snamon.cm starting with parameters
                  PREUNINSTALL RESTORE_ACTIVE NUL NUL
11/20/94 17:13:12 SNAMON51I: Function PreUninstall called with parameters
                  RESTORE_ACTIVE NUL NUL
11/20/94 17:13:13 SNAMON93W: Unable to stop SNA Monitor.
11/20/94 17:13:13 SNAMON50I: Program snamon.cm ending
```

Figure 319. Uninstall SNAMON

```
11/20/94 17:15:36 SNAMON52I: Program snamon.cm starting with parameters
                  POSTINSTALL YES NUL YES /usr/lpp/netviewdm/backup/BSadwNrB
11/20/94 17:15:36 SNAMON53I: Function PostInstall called with parameters YES
                  NUL YES /usr/lpp/netviewdm/backup/BSadwNrB
11/20/94 17:15:36 SNAMON50I: Program snamon.cm ending
11/20/94 17:15:37 SNAMON52I: Program snamon.cm starting with parameters
                  POSTACCEPT INSTALL /usr/lpp/netviewdm/backup/BSadwNrB NUL
11/20/94 17:15:37 SNAMON55I: Function PostAccept called with parameters
                  INSTALL /usr/lpp/netviewdm/backup/BSadwNrB NUL
11/20/94 17:15:37 SNAMON50I: Program snamon.cm ending
```

Figure 320. Install Removable with Auto-Accept SNAMON Version 1.1

```
11/20/94 17:22:37 SNAMON52I: Program snamon.cm starting with parameters
                  POSTINSTALL YES NUL YES /usr/lpp/netviewdm/backup/BSadwWLQ
11/20/94 17:22:37 SNAMON53I: Function PostInstall called with parameters YES
                  NUL YES /usr/lpp/netviewdm/backup/BSadwWLQ
11/20/94 17:22:38 SNAMON50I: Program snamon.cm ending
```

Figure 321. Install Removable SNAMON Version 1.2

```
11/20/94 17:24:24 SNAMON52I: Program snamon.cm starting with parameters
                  PREREMOVE REMOVE RESTORE_ACTIVE
                  /usr/lpp/netviewdm/backup/BSadwWLQ NUL
11/20/94 17:24:24 SNAMON51I: Function PreRemove called with parameters REMOVE
                  RESTORE_ACTIVE /usr/lpp/netviewdm/backup/BSadwWLQ NUL
11/20/94 17:24:24 SNAMON50I: Program snamon.cm ending
```

Figure 322. Remove SNAMON Version 1.2

Appendix D. The SNAMON Change Management Scripts

In this appendix, we list the files that make up the SNAMON change management scripts. These are:

snamon.cm The master shell script that handles all change management requests.

snamon.env The variables that are common to the SNAMON application and to the change management scripts. This file is simply a symbolic link to the same file stored with the application. We do not repeat the contents here. See E.2, “The snamon.env Program Listing” on page 422.

D.1 The snamon.cm Program Listing

```
#!/bin/ksh
##############################################################################
# Program Name:
#    snamon.cm
#
# Author:
#    Mike McKechnie
#
# Purpose:
#    Master change management script for SNA Monitor
#
# Description:
#    Performs pre-installation checks and activities
#
# Input Parameters:
#
#    $1 - Change Management Request. Must be one of:
#           PREINSTALL
#           POSTINSTALL
#           PREREMOVE
#           POSTREMOVE
#           PREACCEPT
#           POSTACCEPT
#           PREUNINSTALL
#           POSTUNINSTALL
#           PREACTIVATE
#
#    $2 onwards - parameters to the specific change management request
#
# Environment Variables Read:
#   None
#
# Environment Variables Written:
#   None
#
# Return Codes:
#   0 - change management activities completed without error
#   1 - error(s) encountered whilst performing change management activities
#
##############################################################################

function cleanup
{
   eval ${SnaMonRmEtcEnvBackup}
   eval ${SnaMonRmTmpDir}
   eval ${SnaMonRmDataDir}
   eval ${SnaMonRmLogDir}
   eval ${SnaMonRmTmpEtcEnvBackup}
```

Figure 323 (Part 1 of 15). Change Management Script snamon.cm

```
}

function ErrorExit
{
   ${SnaMonCpTmpEtcEnvBackup} # restore /etc/environment to its original \
state
   cleanup
   LogMsg "SNAMON50I: Program $ProgName Ending"
   exit ${RC_FAIL:-1}
}

function LogMsg
{
   print "$(date +"$DateFmt") $*" 1>&2
}

function MakeDirectory
{
   typeset directory="$1"
   if [[ -d "$directory" ]]
   then
      return $RC_OK
   fi
   $MKDIR -p "$directory" > /dev/null 2>&1
   if [[ $? -ne 0 ]]
   then
      return $RC_FAIL
   fi
   return $RC_OK
}

function RemoveDirectory
{
   typeset directory="$1"
   if [[ ! -d "$directory" ]]
   then
      return $RC_OK
   fi
   $RM -r "$directory" > /dev/null 2>&1
   if [[ $? -ne 0 ]]
   then
      return $RC_FAIL
   fi
   return $RC_OK
}

function ActivateChangeFile
{
   MakeDirectory "$SnaMonTmpDir"
   if [[ $? -ne 0 ]]
   then
```

Figure 323 (Part 2 of 15). Change Management Script snamon.cm

```
      LogMsg "SNAMON57E: Unable to create directory $SnaMonTmpDir"
      return $RC_FAIL
   fi
   # Set up the remove command for the temporary directory as a
   # variable so that the cleanup function can remove this directory.
   SnaMonRmTmpDir='$RM -rf $SnaMonTmpDir'

   MakeDirectory "$SnaMonDataDir"
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON58E: Unable to create directory $SnaMonDataDir"
      return $RC_FAIL
   fi
   # Set up the remove command for the data directory as a
   # variable so that the cleanup function can remove this directory.
   SnaMonRmDataDir='$RM -rf $SnaMonDataDir'

   MakeDirectory "$SnaMonLogDir"
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON73E: ${0##*/} unable to create directory $SnaMonLogDir"
      return $RC_FAIL
   fi
   # Set up the remove command for the temporary directory as a
   # variable so that the cleanup function can remove this directory.
   SnaMonRmLogDir='$RM -rf $SnaMonLogDir'

   $CP /etc/environment $SnaMonTmpEtcEnvBackupFile
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON61E: Unable to make temporary backup copy of  \
/etc/environment to $SnaMonTmpEtcEnvBackupFile"
      return $RC_FAIL
   fi
   # Set up the copy and the remove command variables for the temporary
   # backup of /etc/environment so that the ErrorExit function can restore
   # /etc/environment to its original state and delete the temporary backup.
   SnaMonRmTmpEtcEnvBackup='$RM -f $SnaMonTmpEtcEnvBackupFile'
   SnaMonCpTmpEtcEnvBackup='$CP $SnaMonTmpEtcEnvBackupFile /etc/environment'

   # Remove old SNA Monitor entries from /etc/environment
   $AWK '
      /^#BEGIN $(SYSLABEL)/,/^#END $(SYSLABEL)/{
         next
      }
      {print}
   ' < /etc/environment > $SnaMonEtcEnvWorkFile
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON62E: Unable to remove old SNA Monitor entries from \
/etc/environment"
      return $RC_FAIL
```

Figure 323 (Part 3 of 15). Change Management Script snamon.cm

```
   fi

   # Append latest SNA Monitor stuff to /etc/environment

   $CAT $SnaMonEtcEnvWorkFile $EtcEnvironmentAppendFile > /etc/environment
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON63E: Unable to add new SNA Monitor entries to \
/etc/environment"
      return $RC_FAIL
   fi

   return $RC_OK
}

function RemoveRestoreActive
{
   typeset BackupDir="$1"
   if [[ $BackupDir != "NUL" && -f $BackupDir/etc.environment ]]
   then
      $MV $BackupDir/etc.environment /etc/environment
      if [[ $? -ne 0 ]]
      then
         LogMsg "SNAMON74E: Unable to restore /etc/environment (backup \
file: $BackupDir/etc.environment)"
         return $RC_FAIL
      fi
   fi
   return $RC_OK
}

function RemoveDeleteService
{
   typeset BackupDir="$1"
   $RM -f $BackupDir/etc.environment
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON81E: Unable to delete backup of /etc/environment \
(backup file: $BackupDir/etc.environment)"
      return $RC_FAIL
   fi
   return $RC_OK
}

function UninstRestoreActive
{
   typeset BackupDir="$1"
   if [[ $BackupDir != "NUL" && -f $BackupDir/etc.environment ]]
   then
      $MV $BackupDir/etc.environment /etc/environment
      if [[ $? -ne 0 ]]
      then
         LogMsg "SNAMON74E: Unable to restore /etc/environment (backup \
file: $BackupDir/etc.environment)"
```

Figure 323 (Part 4 of 15). Change Management Script snamon.cm

```
         return $RC_FAIL
      fi
   fi

   # Try to remove SNA Monitor entries from /etc/environment. Don't fail if
   # we can't.
   $AWK '
      /^#BEGIN $(SYSLABEL)/,/^#END $(SYSLABEL)/{
         next
      }
      {print}
   ' < /etc/environment > $SnaMonEtcEnvWorkFile
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON62W: Unable to remove old SNA Monitor entries from \
/etc/environment"
   else
      $MV $SnaMonEtcEnvWorkFile /etc/environment
      if [[ $? -ne 0 ]]
      then
         LogMsg "SNAMON82W: Unable to remove old SNA Monitor entries from \
/etc/environment"
      fi
   fi

   # Try to stop any running SNA Monitor processes. Don't fail if we can't.
   $AWK 'BEGIN{OFS=FS=":"}
      $1 == "$(SYSLABEL)" {
         $3="stop"
         print
         next
      }
      {print}
   ' < /etc/inittab > $SnaMonEtcItabWorkFile
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON9OW: Unable to stop SNA Monitor."
   else
      $MV $SnaMonEtcItabWorkFile /etc/inittab
      if [[ $? -ne 0 ]]
      then
         LogMsg "SNAMON91W: Unable to stop SNA Monitor."
      else
         # Tell init to re-read its table
         $TELINIT q
         if [[ $? -ne 0 ]]
         then
            LogMsg "SNAMON92I: SNA Monitor stopped."
            $SLEEP 3
         else
            LogMsg "SNAMON93W: Unable to stop SNA Monitor."
         fi
```

Figure 323 (Part 5 of 15). Change Management Script snamon.cm

```
      fi
   fi

   # Try to remove SNA Monitor entries from /etc/inittab.
   # Don't fail if we can't
   $AWK 'BEGIN{FS=":"}
      $1 == "$(SYSLABEL)" {
         next
      }
      {print}
   ' < /etc/inittab > $SnaMonEtcItabWorkFile
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON88W: Unable to remove SNA Monitor entries from \
/etc/inittab"
   else
      $MV $SnaMonEtcItabWorkFile /etc/inittab
      if [[ $? -ne 0 ]]
      then
         LogMsg "SNAMON89W: Unable to remove SNA Monitor entries from \
/etc/inittab"
      fi
   fi

   RemoveDirectory "$SnaMonTmpDir"
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON78E: Unable to remove directory $SnaMonTmpDir"
      return $RC_FAIL
   fi

   RemoveDirectory "$SnaMonDataDir"
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON79E: Unable to remove directory $SnaMonDataDir"
      return $RC_FAIL
   fi

   RemoveDirectory "$SnaMonLogDir"
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON80E: ${0##*/} unable to remove directory $SnaMonLogDir"
      return $RC_FAIL
   fi

   return $RC_OK
}

function UninstDeleteService
{
   typeset BackupDir="$1"
   $RM -f $BackupDir/etc.environment
   if [[ $? -ne 0 ]]
```

Figure 323 (Part 6 of 15). Change Management Script snamon.cm

```
   then
      LogMsg "SNAMON81E: Unable to delete backup of /etc/environment \
(backup file: $BackupDir/etc.environment)"
      return $RC_FAIL
   fi
   return $RC_OK
}

function PreInstall
{
   LogMsg "SNAMON59W: Function ${0##*/} called with parameters $*. \
Function not supported.
   return $RC_OK
}

function PostInstall
{
   # Input Parameters:
   #    $1 - Install to Active or Service Area (YES=active, NO=service)
   #    $2 - Service Subdirectory Name (or NUL if installing in active)
   #    $3 - Install removably (YES, NO or DESIRED)
   #    $4 - Backup Subdirectory Name (or NUL if installing non-removably)
   #
   LogMsg "SNAMON53I: Function ${0##*/} called with parameters $*"
   if [[ $# -ne 4 ]]
   then
      LogMsg "SNAMON54E: ${0##*/} Expected 4 parameters. You gave me $#
      return $RC_FAIL
   fi

   typeset InstallToActive="$1"
   typeset ServiceDir="$2"
   typeset Removability="$3"
   typeset BackupDir="$4"

   if [[ $Removability = "YES" ]]
   then
      $CP /etc/environment $BackupDir/etc.environment
      if [[ $? -ne 0 ]]
      then
         LogMsg "SNAMON65E: Unable to copy /etc/environment to \
$BackupDir/etc.environment"
         return $RC_FAIL
      fi
      # Set up the remove command for the /etc/environment backup file as a
      # variable so that the cleanup function can remove this file.
      SnaMonRmEtcEnvBackup='$RM -f $BackupDir/etc.environment'
   fi
   if [[ $InstallToActive = "NO"  ]]
   then
      LogMsg "SNAMON56I: ${0##*/} Installation postponed awaiting ACTIVATE \
request."
      return $RC_OK
   fi
```

Figure 323 (Part 7 of 15). Change Management Script snamon.cm

```
   ActivateChangeFile
   if [[ $? -ne 0 ]]
   then
      return $RC_FAIL
   fi

   return $RC_OK
}

function PreRemove
{
   # Input Parameters:
   #    $1 - Request Type (REMOVE or INSTALL)
   #    $2 - Action (DELETE_SERVICE, RESTORE_SERVICE or RESTORE_ACTIVE)
   #    $3 - Backup Subdirectory Name
   #    $4 - Service Subdirectory Name (NUL if Action=RESTORE_ACTIVE)
   #
   LogMsg "SNAMON51I: Function ${0##*/} called with parameters $*"
   if [[ $# -ne 4 ]]
   then
      LogMsg "SNAMON69E: ${0##*/} Expected 4 parameters. You gave me $#
      return $RC_FAIL
   fi

   typeset RequestType="$1"
   typeset Action="$2"
   typeset BackupDir="$3"
   typeset ServiceDir="$4"

   case $RequestType in

   REMOVE)
     # Good case.
   ;;

   INSTALL)
      LogMsg "SNAMON70E: Request Type INSTALL not supported"
      return $RC_FAIL
   ;;

   *)
      LogMsg "SNAMON71E: Unexpected Request Type: $RequestType"
      return $RC_FAIL

   esac

   case $Action in

   DELETE_SERVICE)
      RemoveDeleteService "$BackupDir"
```

Figure 323 (Part 8 of 15). Change Management Script snamon.cm

```
      if [[ $? -ne 0 ]]
      then
         return $RC_FAIL
      fi
   ;;

   RESTORE_SERVICE)
      LogMsg "SNAMON72I: Remove postponed awaiting activate request."
      return $RC_OK
   ;;

   RESTORE_ACTIVE)
      RemoveRestoreActive "$BackupDir"
      if [[ $? -ne 0 ]]
      then
         return $RC_FAIL
      fi
   ;;

   *)
      LogMsg "SNAMON66E: Unexpected action: $Action"
      return $RC_FAIL
   ;;
   esac

   return $RC_OK
}

function PostRemove
{
   LogMsg "SNAMON59W: Function ${0##*/} called with parameters $*. \
Function not supported.
   return $RC_OK
}

function PreAccept
{
   LogMsg "SNAMON59W: Function ${0##*/} called with parameters $*. \
Function not supported.
   return $RC_OK
}

function PostAccept
{
   # Input Parameters:
   #    $1 - Request Type (ACCEPT or INSTALL)
   #    $2 - Backup Subdirectory Name
   #
   # NB. there is a bug in the 12th November 1993 code where a third
   #     parameter is passed. We shall ignore it.
   #
   LogMsg "SNAMON55I: Function ${0##*/} called with parameters $*"
```

Figure 323 (Part 9 of 15). Change Management Script snamon.cm

```
   if [[ $# < 2 || $# > 3 ]]
   then
      LogMsg "SNAMON68E: ${0##*/} Expected 2 parameters. You gave me $#
      return $RC_FAIL
   fi

   typeset RequestType="$1"
   typeset BackupDir="$2"

   $RM -f $BackupDir/etc.environment
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON67E: Unable to delete backup copy of /etc/environment \
($BackupDir/etc.environment)"
      return $RC_FAIL
   fi
   return $RC_OK
}

function PreUninstall
{
   # Input Parameters:
   #    $1 - Action (DELETE_SERVICE, RESTORE_SERVICE, RESTORE_ACTIVE or
   #         DELSERV_RESTACT)
   #    $2 - Backup Subdirectory Name
   #    $3 - Service Subdirectory Name (NUL if Action=RESTORE_ACTIVE)
   #
   LogMsg "SNAMON51I: Function ${0##*/} called with parameters $*"
   if [[ $# -ne 3 ]]
   then
      LogMsg "SNAMON75E: ${0##*/} Expected 3 parameters. You gave me $#
      return $RC_FAIL
   fi

   typeset Action="$1"
   typeset BackupDir="$2"
   typeset ServiceDir="$3"

   case $Action in

   DELETE_SERVICE)
      UninstDeleteService "$BackupDir"
      if [[ $? -ne 0 ]]
      then
         return $RC_FAIL
      fi
   ;;

   RESTORE_SERVICE)
      LogMsg "SNAMON76I: Uninstall postponed awaiting activate request."
      return $RC_OK
```

Figure 323 (Part 10 of 15). Change Management Script snamon.cm

```
   ;;

   RESTORE_ACTIVE)
      UninstRestoreActive "$BackupDir"
      if [[ $? -ne 0 ]]
      then
         return $RC_FAIL
      fi
   ;;

   DELSERV_RESTACT)
      UninstDeleteService "$BackupDir"
      if [[ $? -ne 0 ]]
      then
         return $RC_FAIL
      fi
      UninstRestoreActive "$BackupDir"
      if [[ $? -ne 0 ]]
      then
         return $RC_FAIL
      fi
   ;;

   *)
      LogMsg "SNAMON87E: Unexpected action: $Action"
      return $RC_FAIL
   ;;
   esac

   return $RC_OK
}


function PostUninstall
{
   return $RC_OK
   LogMsg "SNAMON59W: Function ${0##*/} called with parameters $*. \
Function not supported.
}

function PreActivate
{
   # Input Parameters:
   #    $1 - Request Type (INSTALL, REMOVE or UNINSTALL)
   #    $2 - Service Subdirectory Name
   #
   LogMsg "SNAMON55I: Function ${0##*/} called with parameters $*"
   if [[ $# -ne 2 ]]
   then
      LogMsg "SNAMON84E: ${0##*/} Expected 2 parameters. You gave me $#
      return $RC_FAIL
```

Figure 323 (Part 11 of 15). Change Management Script snamon.cm

```
   fi

   typeset RequestType="$1"
   typeset ServiceDir="$2"

   case $RequestType in

   INSTALL)
      ActivateChangeFile
      if [[ $? -ne 0 ]]
      then
         return $RC_FAIL
      fi
   ;;

   REMOVE)
      LogMsg "SNAMON83E: Request Type REMOVE not supported"
      return $RC_FAIL
   ;;

   UNINSTALL)
      LogMsg "SNAMON85E: Request Type UNINSTALL not supported"
      return $RC_FAIL
   ;;

   *)
      LogMsg "SNAMON86E: Unexpected Request Type: $RequestType"
      return $RC_FAIL
   ;;

   esac

   $RM -f $BackupDir/etc.environment
   if [[ $? -ne 0 ]]
   then
      LogMsg "SNAMON77E: Unable to delete backup copy if /etc/environment \
($BackupDir/etc.environment)"
      return $RC_FAIL
   fi
   return $RC_OK
}

################################################################################
# VARIABLE DEFINITIONS
################################################################################

ProgName=${0##*/}

# The following variables take their values from installation tokens
SnaMonEnv="$(ENVFILE)"
```

Figure 323 (Part 12 of 15). Change Management Script snamon.cm

```
# Initialise the command variable for removing the /etc/environment
# backup file.
typeset SnaMonRmEtcEnvBackup=""
# Initialise the command variable for removing the temporary directory
typeset SnaMonRmTmpDir=""
# Initialise the command variable for removing the data directory
typeset SnaMonRmDataDir=""
# Initialise the command variable for removing the log directory
typeset SnaMonRmLogDir=""
# Initialise the command variable for removing the temporary \
# /etc/environment backup file.
typeset SnaMonRmTmpEtcEnvBackup=""
# Initialise the command variable for restoring /etc/environment to its \
# original state
typeset SnaMonCpTmpEtcEnvBackup=""

##############################################################################
# MAIN PROGRAM
##############################################################################

if [[ ! -r "$SnaMonEnv" ]]
then
   LogMsg "SNAMON11E: Can't read environment file $SnaMonEnv"
   ErrorExit
fi

. $SnaMonEnv
if [[ $? -ne $RC_OK ]]
then
   LogMsg "SNAMON05E: Unable to execute environment file $SnaMonEnv"
   ErrorExit
fi

if [[ $# -lt 1 ]]
then
   LogMsg "SNAMON60E: ${0##*/} Expect at least one parameter. Received none.
   ErrorExit
fi

LogMsg "SNAMON52I: Program ${0##*/} starting with parameters $*"

CMFunctionRequested="$1"
case $CMFunctionRequested in
   PREINSTALL)
      shift
      PreInstall $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
```

Figure 323 (Part 13 of 15). Change Management Script snamon.cm

```
   POSTINSTALL)
      shift
      PostInstall $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   PREREMOVE)
      shift
      PreRemove $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   POSTREMOVE)
      shift
      PostRemove $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   PREACCEPT)
      shift
      PreAccept $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   POSTACCEPT)
      shift
      PostAccept $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   PREUNINSTALL)
      shift
      PreUninstall $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   POSTUNINSTALL)
      shift
```

Figure 323 (Part 14 of 15). Change Management Script snamon.cm

```
      PostUninstall $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   PREACTIVATE)
      shift
      PreActivate $@
      if [[ $? -ne 0 ]]
      then
         ErrorExit
      fi
      ;;
   *)
      LogMsg "SNAMON64E: Invalid change managemt request received: $*"
      ErrorExit
      ;;
esac

LogMsg "SNAMON50I: Program $ProgName ending"
exit $RC_OK
```

Figure 323 (Part 15 of 15). Change Management Script snamon.cm

Appendix E. The SNAMON Application

In this appendix, we list the files that make up the SNAMON application. These are:

snamond The daemon that constantly monitors and recovers the attachment.

snamon.env The variables that are common to SNAMON and to the change management scripts.

etc.environment.append The lines (environment variable declarations) to be appended to the /etc/environment system file.

README Brief instructions on using SNAMON.

E.1 The snamond Program Listing

```
#!/bin/ksh
###############################################################################
# Program Name:
#    snamond
#
# Version:
#    1.1
#
# Author:
#    Mike McKechnie
#
# Purpose:
#    Monitor and recover SNA communications
#
# Description:
#    Monitors a list of SNA attachments. If any attachment is found to
#    be inactive, snamon will attempt to recover it. This program is a
#    daemon.
#
#    Error and progress messages are logged in the file $SnaMonLog
#
# Environment Variables Read:
#   None
#
# Environment Variables Written:
#   None
#
# Return Codes:
#   1 - terminated due to some fatal error
#   2 - terminated due to receiving a signal
#
###############################################################################

function cleanup
{
   rm -f $SnaMonLssrcOutFile.$att
   rm -f $SnaMonLssrcErrFile.$att
}

function ErrorExit
{
   cleanup
   LogMsg "$(date +"$DateFmt") SNAMON15I: ${0##*/}[line=$LINENO&rbr
attachment $attachment"
   exit ${RC_FAIL:-1}
}

function quit
{
   cleanup
```

Figure 324 (Part 1 of 6). The snamond Program Listing

```
   LogMsg "$(date +"$DateFmt") SNAMON15I: ${0##*/}[line=$LINENO&rbr
attachment $attachment"
   exit $RC_QUIT
}

function LogMsg
{
   print $* >> $SnaMonLogFile
}

function suspend
{
   LogMsg "$(date +"$DateFmt") SNAMON10I: ${0##*/}[line=$LINENO&rbr
   while true
   do
      $SLEEP $SnaMonSleepTime
   done
}

function UserIsNotRoot
{
   if [[ $($ID -un ) = "root" ]]
   then
      return 1 #false because user IS root!
   else
      return 0 #true - user is NOT root
   fi
}

function InitialiseAttachmentStatus
{
   attach="$1"
   stat="$2"
      print "$stat" > "$SnaMonLastStatus.$attach"
      if [[ $? -ne 0 ]]
      then
LogMsg "$(date +"$DateFmt") SNAMON08W: ${0##*/}[line=$LINENO]
$SnaMonLastStatus.$attach"
      fi
   return $RC_OK
}

function GetAttachmentStatus
{
   typeset status
   att="$1"
   $LSSRC -l -s sna 2> $SnaMonLssrcErrFile.$att > $SnaMonLssrcOutFile.$att
```

Figure 324 (Part 2 of 6). The snamond Program Listing

```
   if [[ $? -ne 0  ]]
   then
      status=$($AWK ' BEGIN{status="unknown"; rc=1}
      $1 ~ "0513-036" {
         status="inactive"
         rc=0.
         exit
      }
      END{printf("%s\n",status); exit rc}
      ' < $SnaMonLssrcOutFile.$att)
      rc=$?
   else
      status=$($AWK ' BEGIN{status="inactive";attachment="'"$att"'";rc=0}
      $1 == attachment && $2 == "Attachment" && $3 == "-" {
         status=$4
         exit
      }
      END{printf("%s\n",status); exit rc}
      ' < $SnaMonLssrcOutFile.$att)
      rc=$?
   fi
#   print status:$status > /dev/tty
   if [[ $rc -ne 0 ]]
   then
      LogMsg "$(date +"$DateFmt") SNAMON12E: ${0##*/}[line=$LINENO&
following message: $(<$SnaMonLssrcOutFile.$att))"
      return $RC_FAIL
   else
      print $status
      return $RC_OK
   fi
}

function LogStatus
{
   stat="$1"
   attach="$2"

   LastStatus=$(< "$SnaMonLastStatus.$attach")
   if [[ $? -ne 0 ]]
   then
      LogMsg "$(date +"$DateFmt") SNAMON07W: ${0##*/}[line=$LINENO&
$SnaMonLastStatus.$attach"
      return $RC_OK
   fi

   if [[ "$stat" != "$LastStatus" ]]
   then
      LogMsg "$(date +"$DateFmt") SNAMON10I: ${0##*/}[line=$LINENO&
      print "$stat" > "$SnaMonLastStatus.$attach"
```

Figure 324 (Part 3 of 6). The snamond Program Listing

```
      if [[ $? -ne 0 ]]
      then
         LogMsg "$(date +"$DateFmt") SNAMON08W: ${0##*/}[line=$LINE
$SnaMonLastStatus.$attach"
         LogMsg "$(date +"$DateFmt") SNAMON10I: ${0##*/}[line=$LINE
      fi
   fi
   return $RC_OK
}

function ActivateAttachment
{
   attach="$1"

   status='unknown'
   until [[ $status = "active" ]]
   do
      status=$(GetAttachmentStatus $attach)
      rc=$?
      if [[ $rc -eq $RC_OK ]]
      then
         LogStatus "$status" "$attach"
         if [[ "$status" = "active" ]]
         then
            return $RC_OK
         elif [[ "$status" = "starting" ]]
         then
            $SLEEP $SnaMonWaitForAttachmentActiveDelay
            continue
         else
            LogMsg "$(date +"$DateFmt") SNAMON13I: ${0##*/}[line=$L
$attach"
            $STARTSRC -t attachment -o $attach > /dev/null 2>&1 &
            $SLEEP $SnaMonWaitForAttachmentActiveDelay
         fi
      else
         LogMsg "$(date +"$DateFmt") SNAMON02E: ${0##*/}[line=$LINE
attachment $attach"
         return $RC_FAIL
      fi
   done
}

function ValidateAttachment
{
   attach="$1"
   $QRYSNAOBJ -t attachment $attach > /dev/null 2>&1
   if [[ $? -ne 0  ]]
   then
      LogMsg "$(date +"$DateFmt") SNAMON02E: ${0##*/}[line=$LINENO&
$attach"
      return $RC_FAIL
   fi
   return $RC_OK
}
```

Figure 324 (Part 4 of 6). The snamond Program Listing

```
#############################################################################
# VARIABLE DEFINITIONS
#############################################################################

# The following variables take there values from installation tokens
 SnaMonEnv="$(ENVFILE)".

#############################################################################
# MAIN PROGRAM
#############################################################################

ProgName=${0##*/}
if [[ ! -r "$SnaMonEnv" ]]
then
   print "$(date +"%x %T") SNAMON11: ${0##*/}[line=$LINENO] Can't rea
$SnaMonEnv" 1>&2
   ErrorExit
fi

. $SnaMonEnv
if [[ $? -ne $RC_OK ]]
then
   print "$(date +"%x %T") SNAMON05: ${0##*/}[line=$LINENO] Unable to
$SnaMonEnv" 1>&2
   ErrorExit
fi

# Check that all the subdirectories exist
if [[ ! -d "$SnaMonBinDir" ]]
then
   print "$(date +"$DateFmt") SNAMON16E: ${0##*/}[line=$LINENO]
1>&2
   exit $RC_FAIL
fi

if [[ ! -d "$SnaMonTmpDir" ]]
then
   print "$(date +"$DateFmt") SNAMON06E: ${0##*/}[line=$LINENO]
1>&2
   exit $RC_FAIL
fi

if [[ ! -d "$SnaMonDataDir" ]]
then
   print "$(date +"$DateFmt") SNAMON12E: ${0##*/}[line=$LINENO]
1>&2
   exit $RC_FAIL
fi

if [[ ! -d "$SnaMonLogDir" ]]
then
   print "$(date +"$DateFmt") SNAMON07E: ${0##*/}[line=$LINENO]
1>&2
   exit $RC_FAIL
fi
```

Figure 324 (Part 5 of 6). The snamond Program Listing

```
if [[ $# -ne 1 ]]
then
   LogMsg "$(date +"$DateFmt") SNAMON09E: ${0##*/}[line=$LINENO&rbr
   ErrorExit
fi

if UserIsNotRoot
then
   LogMsg "$(date +"$DateFmt") SNAMON14E: ${0##*/}[line=$LINENO&rbr
program"
   ErrorExit
fi

trap 'suspend' INT
trap 'quit' $SnaMonQuitTrapList

attachment="$1"
LogMsg "$(date +"$DateFmt") SNAMON14I: ${0##*/}[line=$LINENO]
attachment $attachment with a poll value of $SnaMonSleepTime seconds"

ValidateAttachment "$attachment"
InitialiseAttachmentStatus "$attachment" "unknown"
while true
do
   ActivateAttachment $attachment
   rc=$?
   if [[ $rc != $RC_OK ]]
   then
      ErrorExit
   fi
   $SLEEP $SnaMonSleepTime
done
```

Figure 324 (Part 6 of 6). The snamond Program Listing

E.2 The snamon.env Program Listing

```
#!/bin/ksh
###############################################################################
# Program Name:
#    snamon.env
#
# Version:
#    1.1
#
# Author:
#    Mike McKechnie
#
# Description:
#    Shared environment variables for the Monitor and recover SNA
#    communications program.
#
# Description:
#    Monitors a list of SNA attachments. If any attachment is found to
#    be inactive, snamon will attempt to recover it. This program is a
#    daemon.
#
#    Error and progress messages are logged in the file $SnaMonLog
#
# Environment Variables Read:
#   SnaMonLogDir
#
# Environment Variables Written:
#   See below
#
# Return Codes:
#   0    - all enviromnet variables set up OK
#   else - terminated due to some fatal error
#
###############################################################################

###############################################################################
# CONSTANTS
###############################################################################

SnaMonWaitForAttachmentActiveDelay=10
SnaMonQuitTrapList="HUP QUIT"
DateFmt="%x %T"
# Default poll rate to 2 minutes, if not set in /etc/environment
SnaMonSleepTime=${SnaMonSleepTime:-120}

###############################################################################
# RETURN CODES
###############################################################################

RC_OK=0
```

Figure 325 (Part 1 of 2). The snamon.env Program Listing

```
RC_FAIL=1
RC_QUIT=2

##############################################################################
# DIRECTORIES and FILES
##############################################################################

# Set the SNA Monitor base directory. This variable is tokenised so that it
# can be set at build time.
SnaMonBaseDir=$(BASEDIR)

# Set the SNA Monitor log directory.  This variable is tokenised so that it
# can be set at build time.  It can also be changed in operation by setting
# SnaMonLogDir to the desired directory in /etc/environment.  The
# /etc/environment value will over-ride the default.
SnaMonLogDir=${SnaMonLogDir:-$(LOGDIR)}

SnaMonBinDir=${SnaMonBaseDir:?"$(date +"$DateFmt") SNAMON03E: \
SnaMonBaseDir not set"}/bin
SnaMonTmpDir=${SnaMonBaseDir:?"$(date +"$DateFmt") SNAMON03E: \
SnaMonBaseDir not set"}/tmp
SnaMonDataDir=${SnaMonBaseDir:?"$(date +"$DateFmt") SNAMON03E: \
SnaMonBaseDir not set"}/da
SnaMonLogFile=${SnaMonLogDir:?"$(date +"$DateFmt") SNAMON03E: \
SnaMonLogDir not set"}/mess
SnaMonLastStatus=$SnaMonDataDir/status
SnaMonLssrcOutFile=$SnaMonTmpDir/lssrc.out
SnaMonLssrcErrFile=$SnaMonTmpDir/lssrc.err
EtcEnvironmentAppendFile=$SnaMonBinDir/etc.environment.append
SnaMonEtcEnvWorkFile=$SnaMonTmpDir/etc.environment.work
SnaMonEtcItabWorkFile=$SnaMonTmpDir/etc.inittab.work
SnaMonTmpEtcEnvBackupFile=$SnaMonTmpDir/etc.environment.backup

##############################################################################
# AIX COMMANDS
##############################################################################

AWK=/usr/bin/awk
CAT=/usr/bin/cat
CP=/usr/bin/cp
GREP=/usr/bin/grep
ID=/usr/bin/id
LS=/usr/bin/ls
MKDIR=/usr/bin/mkdir
MV=/usr/bin/mv
LSSRC=/usr/bin/lssrc
QRYSNAOBJ=/usr/bin/qrysnaobj
RM=/usr/bin/rm
SLEEP=/usr/bin/sleep
STARTSRC=/usr/bin/startsrc
TELINIT=/etc/telinit
```

Figure 325 (Part 2 of 2). The snamon.env Program Listing

E.3 The etc.environment.append Program Listing

```
#BEGIN $(SYSLABEL)
# Do not remove these BEGIN/END comments or any lines in between
SnaMonLogDir=/var/snamon
SnaMonSleepTime=120
#END $(SYSLABEL)
```

Figure 326. The etc.environment.append Program Listing

E.4 The ″README″ Program Listing

```
* COMPONENT_NAME:  SNA Monitor 1.1
*


                        SNA Monitor 1.1
                    Maintenance Level -NONE-



                     TABLE of CONTENTS
                     -----------------

NOTE:  Search on ″letter)″ to find any of the sections.

A)     ENABLING SNA MONITOR




A)     ENABLING SNA MONITOR

       To enable SNA Monitor, place the following entry in /etc/inittab:

          $(SYSLABEL):2:respawn:$(BASEDIR)/bin/snamond
                  MY_ATTACH > /dev/console 2>&1

       MY_ATTACH is the name of the attachment profile to be monitored.

       You may place additional entires in /etc/inittab for each attachment
       you wish to monitor.

       To make the changes take effect, enter the command:

          telinit q

       Watch the console for any errors during startup.
```

Figure 327. README

Appendix F. SNA Server/6000 Configuration for Scenario V

In this appendix, we list the SNA Server/6000 configuration profiles used in 13.1, " Intermediate Node Configuration" on page 336.

The configuration profiles are for:

- NetView DM/6000 server A (rs600011, intermediate node)
- NetView DM/6000 server B (rs600012)

For the network configuration, see Figure 277 on page 335.

F.1 SNA Server/6000 Configuration Profile for Server A

```
sna:
        prof_name                                       = "sna"
        max_sessions                                    = 200
        max_conversations                               = 200
        restart_action                                  = once
        rrm_enabled                                     = no
        dynamic_inbound_partner_lu_definitions_allowed = yes
        standard_output_device                          = "/dev/console"
        standard_error_device                           = "/var/sna/sna.stderr"
        nmvt_action_when_no_nmvt_process                = reject
        comments                                        = ""

control_pt:
        prof_name                                       = "node_cp"
        xid_node_id                                     = "*"
        network_name                                    = "USIBMRA"
        control_pt_name_alias                           = "RA6011CP"
        control_pt_name                                 = "RA6011CP"
        control_pt_node_type                            = appn_network_node
        max_cached_trees                                = 500
        max_nodes_in_topology_database                  = 500
        route_addition_resistance                       = 128
        comments                                        = ""

local_lu_lu6.2:
        prof_name                                       = "RA60011B"
        local_lu_name                                   = "RA60011B"
        local_lu_alias                                  = "RA60011B"
        local_lu_dependent                              = no
        local_lu_address                                =
        sscp_id                                         = *
        link_station_prof_name                          = ""
        conversation_security_list_profile_name         = ""
        comments                                        = ""

partner_lu6.2:
        prof_name                                       = "RA39TCF1"
        fq_partner_lu_name                              = "USIBMRA.RA39TCF1"
        partner_lu_alias                                = ""
        session_security_supp                           = no
        parallel_session_supp                           = no
        conversation_security_level                     = none
        comments                                        = ""

partner_lu6.2:
        prof_name                                       = "RA60012B"
        fq_partner_lu_name                              = "USIBMRA.RA60012B"
        partner_lu_alias                                = ""
        session_security_supp                           = no
        parallel_session_supp                           = yes
        conversation_security_level                     = none
        comments                                        = ""
```

Figure 328 (Part 1 of 7). SNA Server/6000 Configuration Profile for Server A

```
partner_lu6.2_location:
        prof_name                                   = "RA39TCF1"
        fq_partner_lu_name                          = "USIBMRA.RA39TCF1"
        fq_partner_owning_cp_name                   = "USIBMRA.RA39"
        local_node_is_network_server_for_len_node   = no
        fq_node_server_name                         = ""
        comments                                    = ""

partner_lu6.2_location:
        prof_name                                   = "RA60012B"
        fq_partner_lu_name                          = "USIBMRA.RA60012B"
        fq_partner_owning_cp_name                   = "USIBMRA.RA6012CP"
        local_node_is_network_server_for_len_node   = no
        fq_node_server_name                         = ""
        comments                                    = ""

side_info:
        prof_name                                   = "NVDMSIDS"
        local_lu_or_control_pt_alias                = "RA60011B"
        partner_lu_alias                            = ""
        fq_partner_lu_name                          = "USIBMRA.RA39TCF1"
        mode_name                                   = "NVDMNORM"
        remote_tp_name_in_hex                       = yes
        remote_tp_name                              = "21F0F0F7"
        comments                                    = ""

side_info:
        prof_name                                   = "NVDMSIDR"
        local_lu_or_control_pt_alias                = "RA60011B"
        partner_lu_alias                            = ""
        fq_partner_lu_name                          = "USIBMRA.RA39TCF1"
        mode_name                                   = "NVDMNORM"
        remote_tp_name_in_hex                       = yes
        remote_tp_name                              = "21F0F0F8"
        comments                                    = ""

side_info:
        prof_name                                   = "NVD6SIDS"
        local_lu_or_control_pt_alias                = "RA60011B"
        partner_lu_alias                            = ""
        fq_partner_lu_name                          = "USIBMRA.RA60012B"
        mode_name                                   = "NVDMRS6K"
        remote_tp_name_in_hex                       = yes
        remote_tp_name                              = "21F0F0F7"
        comments                                    = ""

side_info:
        prof_name                                   = "NVD6SIDR"
        local_lu_or_control_pt_alias                = "RA60011B"
        partner_lu_alias                            = ""
        fq_partner_lu_name                          = "USIBMRA.RA60012B"
        mode_name                                   = "NVDMRS6K"
        remote_tp_name_in_hex                       = yes
        remote_tp_name                              = "21F0F0F8"
        comments                                    = ""
```

Figure 328 (Part 2 of 7). SNA Server/6000 Configuration Profile for Server A

```
local_tp:
        prof_name                                = "NVDMSND"
        tp_name                                  = "21F0F0F7"
        tp_name_in_hex                           = yes
        pip_data_present                         = no
        pip_data_subfields_number                = 0
        conversation_type                        = basic
        sync_level                               = none
        resource_security_level                  = none
        resource_access_list_profile_name        = ""
        full_path_tp_exe                         = "/usr/lpp/netviewdm/bin/fndts"
        multiple_instances                       = yes
        user_id                                  = 0
        server_synonym_name                      = ""
        restart_action                           = once
        communication_type                       = signals
        ipc_queue_key                            = 0
        standard_input_device                    = "/dev/console"
        standard_output_device                   = "/dev/console"
        standard_error_device                    = "/dev/console"
        comments                                 = ""

local_tp:
        prof_name                                = "NVDMRCV"
        tp_name                                  = "21F0F0F8"
        tp_name_in_hex                           = yes
        pip_data_present                         = no
        pip_data_subfields_number                = 0
        conversation_type                        = basic
        sync_level                               = none
        resource_security_level                  = none
        resource_access_list_profile_name        = ""
        full_path_tp_exe                         = "/usr/lpp/netviewdm/bin/fndtr"
        multiple_instances                       = yes
        user_id                                  = 0
        server_synonym_name                      = ""
        restart_action                           = once
        communication_type                       = signals
        ipc_queue_key                            = 0
        standard_input_device                    = "/dev/console"
        standard_output_device                   = "/dev/console"
        standard_error_device                    = "/dev/console"
        comments                                 = ""
```

Figure 328 (Part 3 of 7). SNA Server/6000 Configuration Profile for Server A

```
link_station_token_ring:
        prof_name                                = "RAK"
        use_control_pt_xid                       = no
        xid_node_id                              = 0x07100011
        sna_dlc_profile_name                     = "tok0"
        stop_on_inactivity                       = no
        time_out_value                           = 0
        LU_registration_supported                = no
        LU_registration_profile_name             = ""
        link_tracing                             = no
        trace_format                             = long
        access_routing_type                      = link_address
        remote_link_name                         = ""
        remote_link_address                      = 0x400001240000
        remote_sap                               = 0x04
        verify_adjacent_node                     = no
        net_id_of_adjacent_node                  = ""
        cp_name_of_adjacent_node                 = ""
        xid_node_id_of_adjacent_node             = "*"
        node_type_of_adjacent_node               = learn
        solicit_sscp_sessions                    = yes
        call_out_on_activation                   = yes
        activate_link_during_system_init         = no
        activate_link_on_demand                  = no
        cp_cp_sessions_supported                 = yes
        cp_cp_session_support_required           = no
        adjacent_node_is_preferred_server        = no
        initial_tg_number                        = 0
        restart_on_normal_deactivation           = no
        restart_on_abnormal_deactivation         = no
        restart_on_activation                    = no
        TG_effective_capacity                    = 4300800
        TG_connect_cost_per_time                 = 0
        TG_cost_per_byte                         = 0
        TG_security                              = nonsecure
        TG_propagation_delay                     = lan
        TG_user_defined_1                        = 128
        TG_user_defined_2                        = 128
        TG_user_defined_3                        = 128
        comments                                 = ""
```

Figure 328 (Part 4 of 7). SNA Server/6000 Configuration Profile for Server A

```
link_station_token_ring:
        prof_name                                = "RA6012CP"
        use_control_pt_xid                       = yes
        xid_node_id                              = "*"
        sna_dlc_profile_name                     = "tok0"
        stop_on_inactivity                       = no
        time_out_value                           = 0
        LU_registration_supported                = no
        LU_registration_profile_name             = ""
        link_tracing                             = no
        trace_format                             = long
        access_routing_type                      = link_address
        remote_link_name                         = ""
        remote_link_address                      = 0x10005ab14fcb
        remote_sap                               = 0x04
        verify_adjacent_node                     = no
        net_id_of_adjacent_node                  = ""
        cp_name_of_adjacent_node                 = ""
        xid_node_id_of_adjacent_node             = "*"
        node_type_of_adjacent_node               = learn
        solicit_sscp_sessions                    = yes
        call_out_on_activation                   = yes
        activate_link_during_system_init         = no
        activate_link_on_demand                  = no
        cp_cp_sessions_supported                 = yes
        cp_cp_session_support_required           = no
        adjacent_node_is_preferred_server        = no
        initial_tg_number                        = 0
        restart_on_normal_deactivation           = no
        restart_on_abnormal_deactivation         = no
        restart_on_activation                    = no
        TG_effective_capacity                    = 4300800
        TG_connect_cost_per_time                 = 0
        TG_cost_per_byte                         = 0
        TG_security                              = nonsecure
        TG_propagation_delay                     = lan
        TG_user_defined_1                        = 128
        TG_user_defined_2                        = 128
        TG_user_defined_3                        = 128
        comments                                 = ""
```

Figure 328 (Part 5 of 7). SNA Server/6000 Configuration Profile for Server A

```
sna_dlc_token_ring:
        prof_name                                   = "tok0"
        datalink_device_name                        = "tok0"
        force_timeout                               = 120
        user_defined_max_i_field                    = no
        max_i_field_length                          = 30729
        max_active_link_stations                    = 100
        num_reserved_inbound_activation             = 0
        num_reserved_outbound_activation            = 0
        transmit_window_count                       = 16
        dynamic_window_increment                    = 1
        retransmit_count                            = 8
        receive_window_count                        = 8
        priority                                    = 0
        inact_timeout                               = 48
        response_timeout                            = 4
        acknowledgement_timeout                     = 1
        link_name                                   = ""
        local_sap                                   = 0x04
        retry_interval                              = 60
        retry_limit                                 = 20
        dynamic_link_station_supported              = no
        trace_base_listen_link_station              = no
        trace_base_listen_link_station_format       = long
        dynamic_lnk_solicit_sscp_sessions           = yes
        dynamic_lnk_cp_cp_sessions_supported        = yes
        dynamic_lnk_cp_cp_session_support_required  = no
        dynamic_lnk_TG_effective_capacity           = 4300800
        dynamic_lnk_TG_connect_cost_per_time        = 0
        dynamic_lnk_TG_cost_per_byte                = 0
        dynamic_lnk_TG_security                     = nonsecure
        dynamic_lnk_TG_propagation_delay            = lan
        dynamic_lnk_TG_user_defined_1               = 128
        dynamic_lnk_TG_user_defined_2               = 128
        dynamic_lnk_TG_user_defined_3               = 128
        comments                                    = ""

mode:
        prof_name                                   = "NVDMNORM"
        mode_name                                   = "NVDMNORM"
        max_sessions                                = 1
        min_conwinner_sessions                      = 0
        min_conloser_sessions                       = 0
        auto_activate_limit                         = 0
        max_adaptive_receive_pacing_window          = 16
        receive_pacing_window                       = 7
        max_ru_size                                 = 3840
        min_ru_size                                 = 256
        class_of_service_name                       = "#CONNECT"
        comments                                    = ""
```

Figure 328 (Part 6 of 7). SNA Server/6000 Configuration Profile for Server A

```
mode:
        prof_name                                       = "NVDMRS6K"
        mode_name                                       = "NVDMRS6K"
        max_sessions                                    = 8
        min_conwinner_sessions                          = 4
        min_conloser_sessions                           = 0
        auto_activate_limit                             = 0
        max_adaptive_receive_pacing_window              = 16
        receive_pacing_window                           = 7
        max_ru_size                                     = 3840
        min_ru_size                                     = 256
        class_of_service_name                           = "#INTER"
        comments                                        = ""
```

Figure 328 (Part 7 of 7). SNA Server/6000 Configuration Profile for Server A

F.2 SNA Server/6000 Configuration Profile for Server B

```
sna:
        prof_name                                       = "sna"
        max_sessions                                    = 200
        max_conversations                               = 200
        restart_action                                  = once
        rrm_enabled                                     = no
        dynamic_inbound_partner_lu_definitions_allowed = yes
        standard_output_device                          = "/dev/console"
        standard_error_device                           = "/var/sna/sna.stderr"
        nmvt_action_when_no_nmvt_process                = reject
        comments                                        = ""

control_pt:
        prof_name                                       = "node_cp"
        xid_node_id                                     = "*"
        network_name                                    = "USIBMRA"
        control_pt_name_alias                           = "RA6012CP"
        control_pt_name                                 = "RA6012CP"
        control_pt_node_type                            = appn_network_node
        max_cached_trees                                = 500
        max_nodes_in_topology_database                  = 500
        route_addition_resistance                       = 128
        comments                                        = ""
```

Figure 329 (Part 1 of 5). SNA Server/6000 Configuration Profile for Server B

```
local_lu_lu6.2:
        prof_name                                       = "RA60012B"
        local_lu_name                                   = "RA60012B"
        local_lu_alias                                  = "RA60012B"
        local_lu_dependent                              = no
        local_lu_address                                =
        sscp_id                                         = *
        link_station_prof_name                          = ""
        conversation_security_list_profile_name         = ""
        comments                                        = "LU for NVDM/6000"

partner_lu6.2:
        prof_name                                       = "RA60011B"
        fq_partner_lu_name                              = "USIBMRA.RA60011B"
        partner_lu_alias                                = ""
        session_security_supp                           = no
        parallel_session_supp                           = yes
        conversation_security_level                     = none
        comments                                        = ""

partner_lu6.2_location:
        prof_name                                       = "RA60011B"
        fq_partner_lu_name                              = "USIBMRA.RA60011B"
        fq_partner_owning_cp_name                       = "USIBMRA.RA6011CP"
        local_node_is_network_server_for_len_node       = no
        fq_node_server_name                             = ""
        comments                                        = ""

side_info:
        prof_name                                       = "NVD6SIDS"
        local_lu_or_control_pt_alias                    = "RA60012B"
        partner_lu_alias                                = ""
        fq_partner_lu_name                              = "USIBMRA.RA60011B"
        mode_name                                       = "NVDMRS6K"
        remote_tp_name_in_hex                           = yes
        remote_tp_name                                  = "21F0F0F7"
        comments                                        = ""
```

Figure 329 (Part 2 of 5). SNA Server/6000 Configuration Profile for Server B

```
side_info:
        prof_name                                       = "NVD6SIDR"
        local_lu_or_control_pt_alias                    = "RA60012B"
        partner_lu_alias                                = ""
        fq_partner_lu_name                              = "USIBMRA.RA60011B"
        mode_name                                       = "NVDMRS6K"
        remote_tp_name_in_hex                           = yes
        remote_tp_name                                  = "21F0F0F8"
        comments                                        = ""

local_tp:
        prof_name                                       = "NVMDSND"
        tp_name                                         = "21F0F0F7"
        tp_name_in_hex                                  = yes
        pip_data_present                                = no
        pip_data_subfields_number                       = 0
        conversation_type                               = basic
        sync_level                                      = none
        resource_security_level                         = none
        resource_access_list_profile_name               = ""
        full_path_tp_exe                                = "/usr/lpp/netviewdm/bin/fndts"
        multiple_instances                              = yes
        user_id                                         = 0
        server_synonym_name                             = ""
        restart_action                                  = once
        communication_type                              = signals
        ipc_queue_key                                   = 0
        standard_input_device                           = "/dev/console"
        standard_output_device                          = "/dev/console"
        standard_error_device                           = "/dev/console"
        comments                                        = "Send TP for NVDM/6000"

local_tp:
        prof_name                                       = "NVMDRCV"
        tp_name                                         = "21f0f0f8"
        tp_name_in_hex                                  = yes
        pip_data_present                                = no
        pip_data_subfields_number                       = 0
        conversation_type                               = basic
        sync_level                                      = none
        resource_security_level                         = none
        resource_access_list_profile_name               = ""
        full_path_tp_exe                                = "/usr/lpp/netviewdm/bin/fndtr"
        multiple_instances                              = yes
        user_id                                         = 0
        server_synonym_name                             = ""
        restart_action                                  = once
        communication_type                              = signals
        ipc_queue_key                                   = 0
        standard_input_device                           = "/dev/console"
        standard_output_device                          = "/dev/console"
        standard_error_device                           = "/dev/console"
        comments                                        = "Receive TP for NVDM/6000"
```

Figure 329 (Part 3 of 5). SNA Server/6000 Configuration Profile for Server B

```
link_station_token_ring:
        prof_name                                = "RA6011CP"
        use_control_pt_xid                       = yes
        xid_node_id                              = "*"
        sna_dlc_profile_name                     = "tok0"
        stop_on_inactivity                       = no
        time_out_value                           = 0
        LU_registration_supported                = no
        LU_registration_profile_name             = ""
        link_tracing                             = no
        trace_format                             = long
        access_routing_type                      = link_address
        remote_link_name                         = ""
        remote_link_address                      = 0x10005ab1b51a
        remote_sap                               = 0x04
        verify_adjacent_node                     = no
        net_id_of_adjacent_node                  = ""
        cp_name_of_adjacent_node                 = ""
        xid_node_id_of_adjacent_node             = "*"
        node_type_of_adjacent_node               = learn
        solicit_sscp_sessions                    = no
        call_out_on_activation                   = no
        activate_link_during_system_init         = yes
        activate_link_on_demand                  = no
        cp_cp_sessions_supported                 = yes
        cp_cp_session_support_required           = no
        adjacent_node_is_preferred_server        = no
        initial_tg_number                        = 0
        restart_on_normal_deactivation           = no
        restart_on_abnormal_deactivation         = no
        restart_on_activation                    = no
        TG_effective_capacity                    = 4300800
        TG_connect_cost_per_time                 = 0
        TG_cost_per_byte                         = 0
        TG_security                              = nonsecure
        TG_propagation_delay                     = lan
        TG_user_defined_1                        = 128
        TG_user_defined_2                        = 128
        TG_user_defined_3                        = 128
        comments                                 = ""
```

Figure 329 (Part 4 of 5). SNA Server/6000 Configuration Profile for Server B

```
sna_dlc_token_ring:
        prof_name                                   = "tok0"
        datalink_device_name                        = "tok0"
        force_timeout                               = 120
        user_defined_max_i_field                    = no
        max_i_field_length                          = 30729
        max_active_link_stations                    = 100
        num_reserved_inbound_activation             = 0
        num_reserved_outbound_activation            = 0
        transmit_window_count                       = 16
        dynamic_window_increment                    = 1
        retransmit_count                            = 8
        receive_window_count                        = 8
        priority                                    = 0
        inact_timeout                               = 48
        response_timeout                            = 4
        acknowledgement_timeout                     = 1
        link_name                                   = ""
        local_sap                                   = 0x04
        retry_interval                              = 60
        retry_limit                                 = 20
        dynamic_link_station_supported              = no
        trace_base_listen_link_station              = no
        trace_base_listen_link_station_format       = long
        dynamic_lnk_solicit_sscp_sessions           = yes
        dynamic_lnk_cp_cp_sessions_supported        = yes
        dynamic_lnk_cp_cp_session_support_required  = no
        dynamic_lnk_TG_effective_capacity           = 4300800
        dynamic_lnk_TG_connect_cost_per_time        = 0
        dynamic_lnk_TG_cost_per_byte                = 0
        dynamic_lnk_TG_security                     = nonsecure
        dynamic_lnk_TG_propagation_delay            = lan
        dynamic_lnk_TG_user_defined_1               = 128
        dynamic_lnk_TG_user_defined_2               = 128
        dynamic_lnk_TG_user_defined_3               = 128
        comments                                    = ""

mode:
        prof_name                                   = "NVDMRS6K"
        mode_name                                   = "NVDMRS6K"
        max_sessions                                = 8
        min_conwinner_sessions                      = 4
        min_conloser_sessions                       = 0
        auto_activate_limit                         = 0
        max_adaptive_receive_pacing_window          = 16
        receive_pacing_window                       = 7
        max_ru_size                                 = 3840
        min_ru_size                                 = 256
        class_of_service_name                       = "#INTER"
        comments                                    = ""
```

Figure 329 (Part 5 of 5). SNA Server/6000 Configuration Profile for Server B

Appendix G. Problem Determination

Many sources of diagnostic information are available to help with problem determination:

- NetView DM/6000 message log
- AIX error log
- SNA attachment trace
- SNA log file

Each of the log files mentioned above has its own scope of logged messages. In many cases you will need more than one log file in order to determine the cause of a problem.

G.1 Starting the Graphical Interface (GI)

If you get the following message at your display when you try to start nvdmgi:

```
Error: Can't open display:
```

check that the DISPLAY variable is set correctly. You can check it by entering the command:

```
echo $DISPLAY
```

The value of this variable is the IP name of the system in which the X-server resides, postfixed with the string ":0". For example, if you are at an X-station whose IP name is xstn2, the DISPLAY variable should be set to xstn2:0. You must also export this variable.

To set and export the DISPLAY variable, type the following on the command line:

```
DISPLAY=xstn2:0; export DISPLAY
```

Note: Don't forget to substitute the IP name of the system containing *your* X-server for xstn2.

G.2 Could Not Load Program Nvdmgi

If you get the following message at your display when you try to start Nvdmgi:

```
"Could not load program Nvdmgi
Symbol _XmGetDefaultDisplay in Nvdmgi is undefined?
Error was: Exec format error"
```

check that AIX and AIX Windows/6000 are at the correct level on your machine.

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ITSO Technical Bulletin Evaluation RED000

The NetView Distribution Manager/6000 Cookbook

Publication No. GG24-4246-00

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