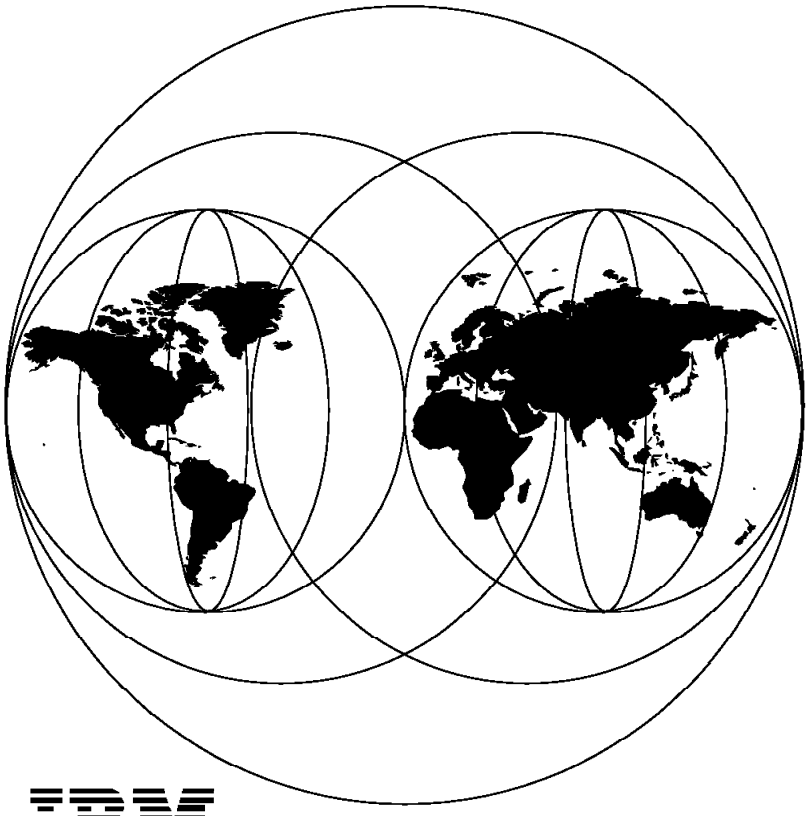
SG24-4621-00

Migrating NetView DM/6000 Release 1.2 to TME 10 Software Distribution for AIX 3.1

December 1996



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Take Note!

Before using this information and the product it supports, be sure to read the general information in Chapter 9, “Special Notices” on page 191.

First Edition (December 1996)

This edition applies to NetView Distribution Manager/6000 Version 1.2 and Software Distribution for AIX Version 3.1 or higher, for use with the AIX Version 3.2.5 or higher.

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Contents

Preface vii
How This Redbook Is Organized vii
The Team That Wrote This Redbook viii
Comments Welcome viii

Chapter 1. Introduction 1
1.1 Reasons for a Migration to Software Distribution for AIX 3.1.3 1
1.2 Limitations of a Migration to Software Distribution for AIX 3.1.3 1
1.3 Overview of This Book 1
1.4 Overview of Related Migration Scenarios 2
1.5 Terminology in NetView DM and SD 2

Chapter 2. Versions, Features, and Compatibility Topics 5
2.1 Features of NetView DM and Software Distribution 5
2.2 Migration with Configuration Change 9
2.3 Change File Issues 10
2.3.1 Version Dependency 10
2.3.2 Operating System Dependency 10
2.4 Interoperability Issues 11
2.4.1 Client/Server Interoperability 11
2.4.2 Multiplatform Interoperability 11
2.5 Security Issues 12
2.5.1 Security in NetView DM/6000 1.2.1 12
2.5.2 Security in Software Distribution for AIX 3.1.3 12
2.5.3 Migration of Security Feature 12
2.6 Software Inventory Database Issues 12
2.6.1 Base Installation of a Product 16
2.6.2 Installation of a Fix Package 16
2.6.3 Database Alignment Problems 17

Chapter 3. Overview of the Migration Scenarios 19

Chapter 4. Scenario 1: Manual Migration of an SD Focal Point 23
4.1 Understanding the Scenario 23
4.2 Avoiding Migration Problems 23
4.3 Status of SD Focal Point before Migration 23
4.4 Migrating the SD Focal Point 29
4.5 Status of an SD Focal Point After Migration 35
4.6 Recovery from an Unsuccessful Migration 43

Chapter 5. Scenario 2: Migrating a Local SD Client 45
5.1 Understanding the Scenario 45
5.2 Avoiding Migration Problems 48
5.3 Status of the SD Preparation Site 48
5.4 Status of the SD Focal Point 52
5.5 Status of the Local SD Client before the Migration 57
5.6 Verifying the ODM/SD Database Status of the Remote SD Server 59
5.7 Removing Obsolete LPP Options 59
5.8 Migrating the Local SD Client 65
5.8.1 Accessing the Installation Images 65
5.8.2 Restoring Profiles and Preinstallation Scripts 66

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5.8.3 Customizing the Change File Profiles . . . 69
5.8.4 Building Change Files from Profiles . . . 72
5.8.5 Sending the Change Files to the SD Focal Point . . . 72
5.8.6 Exporting the Installation Images at the NFS Server . . . 73
5.8.7 Installing the Change Files at the SD Client . . . 73
5.9 Status of the Local SD Client after Migration . . . 78
5.10 Recovery from an Unsuccessful Migration . . . 82

Chapter 6. Scenario 3: Migrating a Remote SD Server . . . 83
6.1 Understanding the Scenario . . . 83
6.2 Avoiding Migration Problems . . . 85
6.3 Status of the SD Preparation Site . . . 86
6.4 Status of the SD Focal Point . . . 86
6.5 Status Remote SD Server before Migration . . . 88
6.6 Verifying the ODM/SD Database Status of the Remote SD Server . . . 93
6.7 Removing Obsolete LPP Options . . . 93
6.8 Migrating the Remote SD Server . . . 96
6.8.1 Accessing the Installation Images . . . 97
6.8.2 Restoring Profiles and Preinstallation Scripts . . . 98
6.8.3 Customizing the Change File Profiles . . . 101
6.8.4 Building the Change Files from Profiles . . . 104
6.8.5 Sending the Change Files to the SD Focal Point . . . 104
6.8.6 Exporting the Installation Images at the NFS Server . . . 105
6.8.7 Installing Change Files at the Remote SD Server . . . 105
6.9 Status of the Remote SD Server after the Migration . . . 109
6.10 Recovery from an Unsuccessful Migration . . . 113

Chapter 7. Scenario 4: Migrating a Remote SD Client Using the Plan Feature 115
7.1 Understanding the Scenario . . . 115
7.2 Avoiding Migration Problems . . . 118
7.3 Status of the SD Preparation Site . . . 119
7.4 Status of the SD Focal Point . . . 119
7.5 Status of the Remote SD Server . . . 121
7.6 Status of the Remote SD Client before Migration . . . 124
7.7 Verifying the ODM/SD Database Status of SD Client . . . 126
7.8 Preparing Change Files for Removing Obsolete LPP Options . . . 126
7.9 Migrating the Remote SD Client . . . 129
7.9.1 Accessing the Installation Images . . . 129
7.9.2 Restoring Profiles and Preinstallation Scripts . . . 130
7.9.3 Customizing the Change File Profiles . . . 133
7.9.4 Building the Change Files from Profiles . . . 135
7.9.5 Sending the Change Files to SD Focal Point . . . 136
7.9.6 Exporting the Installation Images at the NFS Server . . . 136
7.9.7 Creating a Plan for the Migration . . . 137
7.9.8 Executing the Plan . . . 139
7.10 Status of the Remote SD Client after Migration . . . 144
7.11 Recovery from Unsuccessful Migration . . . 147

Chapter 8. Advanced Topics . . . 149
8.1 Removing LPPs in AIX 3.2 . . . 149
8.2 .toc File Compatibility . . . 151
8.3 Implementing a Simple Watchdog . . . 151
8.4 More about the Security Migration . . . 152
8.4.1 Security Configuration before the Migration . . . 152
8.4.2 Security Configuration after Migration . . . 154

8.5 More about the Plan Feature 160
8.5.1 General Considerations 160
8.5.2 Building the Transmission Plan 163
8.5.3 Execution of the Transmission Plan 179
8.5.4 Tracking and Restarting the Transmission Plan 180
8.5.5 Monitoring the Installation Process 184

Chapter 9. Special Notices 191

Chapter 10. Related Publications 193
10.1 International Technical Support Organization Publications 193
10.2 Redbooks on CD-ROMs 193
10.3 Other Publications 193

How To Get ITSO Redbooks 195
How IBM Employees Can Get ITSO Redbooks 195
How Customers Can Get ITSO Redbooks 196
IBM Redbook Order Form 197

Index 199

Preface

This redbook provides a general guideline for migrating NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3 using NetView DM/6000 1.2.1. The guideline is given as several migration scenarios.

This redbook is intended for system administrators who are planning to migrate a software distribution system consisting of several RS/6000s running NetView DM/6000 1.2.1 on AIX 3.2.5 or AIX 4.1. A set of migration scenarios is described which can be easily combined and customized for a specific environment. Advanced knowledge of the operating systems AIX 3.2.5 or AIX 4.1 and of NetView DM/6000 1.2.1 and Software Distribution for AIX 3.1.3 is required.

How This Redbook Is Organized

This redbook contains 205 pages. It is organized as follows:

- Chapter 1, “Introduction”

  This chapter gives a short introduction to the subject.

- Chapter 2, “Versions, Features, and Compatibility Topics”

  In this chapter we summarize the versions, features, compatibility topics for NetView DM/6000 1.2.1 and Software Distribution for AIX 3.1.3

- Chapter 3, “Overview of the Migration Scenarios”

  An overview of the migration scenarios is given in this chapter.

- Chapter 4, “Scenario 1: Manual Migration of an SD Focal Point”

  A manual migration of an SD Focal Point from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3 is described in this chapter.

- Chapter 5, “Scenario 2: Migrating a Local SD Client”

  A migration of a local SD Client from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3 is described in this chapter.

- Chapter 6, “Scenario 3: Migrating a Remote SD Server”

  A migration of an SD Server from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3 is described in this chapter.

- Chapter 7, “Scenario 4: Migrating a Remote SD Client Using the Plan Feature”

  A migration of a remote SD Client from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3 using the new plan feature of SD is described in this chapter.

- Chapter 8, “Advanced Topics”

  Advanced topics are discussed in this chapter.

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The Team That Wrote This Redbook

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Comments Welcome

We want our redbooks to be as helpful as possible. Should you have any comments about this or other redbooks, please send us a note at the following address:

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Your comments are important to us!

Chapter 1. Introduction

In this chapter we describe the benefits and the limitations of a migration from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3. We give an overview of the book and describe related migration scenarios.

1.1 Reasons for a Migration to Software Distribution for AIX 3.1.3

There are two main reasons to migrate:

- New features

  Some of the most relevant new functions are:

  - Using the plan feature
  - Dynamic change files
  - Dynamic grouping
  - Inventory commands
  - File transfer commands for uncataloged files.

  These commands are described in Chapter 2, “Versions, Features, and Compatibility Topics” on page 5.

- Staying on the migration path

  The other main reason for a migration to Software Distribution for AIX 3.1.3 is to stay on the TME 10 migration path.

1.2 Limitations of a Migration to Software Distribution for AIX 3.1.3

After the migration to Software Distribution for AIX 3.1.3 you will be able to take advantage of major functional improvements. Further improvements, however, such as using the new server-to-server protocol (STS) and the accompanying new file transfer commands, require manual reconfiguration. In this book we describe the migration only from the latest level of NetView DM/6000 1.2.1 to the newest refresh of Software Distribution for AIX 3.1.3. The newest refresh of Software Distribution for AIX 3.1.3 is Software Distribution for AIX Version 3.1.3.

1.3 Overview of This Book

In this redbook we describe the migration from NetView DM/6000 1.2.1 (NetView DM/6000 V1.2.1) to Software Distribution 3.1 (Software Distribution for AIX V3.1.2 or TME 10 Software Distribution for AIX V3.1.3). In our description we assume that you have a working NetView DM/6000 1.2.1 environment based on AIX 3.2.5 or AIX 4.1 consisting of a central SD Focal Point, local SD Clients, SD Servers. and remote SD Clients. This overall scenario is described in detail in Chapter 3, “Overview of the Migration Scenarios” on page 19.

Migration steps are illustrated separately in scenarios:

- Chapter 4, “Scenario 1: Manual Migration of an SD Focal Point” on page 23,
- Chapter 5, “Scenario 2: Migrating a Local SD Client” on page 45,
- Chapter 6, “Scenario 3: Migrating a Remote SD Server” on page 83, and

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- Chapter 6, “Scenario 3: Migrating a Remote SD Server” on page 83.

Hints and examples are given in Chapter 8, “Advanced Topics” on page 149.

1.4 Overview of Related Migration Scenarios

Other migration scenarios for this environment include the migration of several applications and the migration of the operating system itself.

- Application migration

  The migration of applications is a standard function of NetView DM/6000 and Software Distribution for AIX and is described in the standard product documentation and in *The TME 10 Software Distribution for AIX Cookbook*, GG24-4246.

- Migration of the operating system

  The migration of the operating system itself can be done with Software Distribution for AIX 3.1.3 tools. In our experience, however, the migration of the operating system must be done together with the migration of the applications. The migration of the operating system and some of its applications is described in:

  – *A Holistic Approach to AIX 4.1 Migration, Planning Guide*, SG24-4651

  – *A Holistic Approach to AIX 4.1 Migration, Volume 1: AIX, UP to SMP and Oracle*, SG24-4652

  – *A Holistic Approach to AIX 4.1 Migration, Volume 2: TCP/IP, SNA, HACMP and Multiple Systems*, SG24-4653

  In order to migrate the operating system in a SD environment you must consider the following cases:

  – Low bandwidth environment

    In a low bandwidth environment (mainly WAN connections) we suggest that you use individually configured tapes or CD-ROMs (or CD-WORMs) under SD control.

  – High bandwidth environment

    In a high bandwidth environment (token-ring, Ethernet, FDDI) we suggest that you use NIM, as described in *AIX Version 4.1: Network Installation Management, Guide and Reference*, SC23-2627 under SD control.

1.5 Terminology in NetView DM and SD

In this book we use the Software Distribution for AIX 3.1.3 terminology. That means:

- The name ″Software Distribution″ and its abbreviation ″SD″ refer to all versions of NetView DM and Software Distribution.
- The name ″client″ is used instead of the word ″agent″.
- The name ″Focal Point″ (an SD expression) also refers to the ″Report-To Focal Point″ of NetView DM.
- The name ″Manager″ (an SD expression) also refers to the term ″Focal″ of NetView DM.

- The expression ″remote″ refers to all connections that use a server-to-server connection (SNA/DS or STS over TCP/IP or SNA).

Chapter 2. Versions, Features, and Compatibility Topics

This chapter includes the following:

- An overview of the features of the different versions of NetView DM and Software Distribution, showing which package of NetView DM/6000 1.2.1 can be migrated to which package of Software Distribution for AIX 3.1.3.
- Tables for the interoperability of different versions of NetView DM and Software Distribution, describing the impact of the version of the operating system (AIX 3.2.5 versus AIX 4.1) on Software Distribution functions.

2.1 Features of NetView DM and Software Distribution

The following table gives a short overview of the different features of NetView DM and Software Distribution.

Table 1. Features of NetView DM and Software Distribution

Feature	**V1.2**[1]	**V1.2+U**[2]	**V1.2+U**[3]	**V3.1**	**V3.1.2.1**[4]	**V3.1.3**[5]
AIX 4.1 Support	no	yes	yes	yes	yes	yes
Uninstall for AIX 4.1	no	yes	yes	yes	yes	yes
Tools for Pristine Installation	no	yes	yes	yes	yes	no
Motif 1.2 Support	no	yes	yes	yes	yes	yes
Support for non-English Locale	no	no	yes	yes	yes	yes
Plan Feature	no	no	no	yes	yes	yes
Enhanced Communication Support	no	no	no	yes	yes	yes
Enhanced Security Support	no	no	no	yes	yes	yes
Extended Change File Functions	no	no	no	yes	yes	yes
Mobile Client Support	no	no	no	no	no	yes
Inventory Discovery	no	no	no	no	no	yes
Dynamic Groups	no	no	no	no	no	yes
Dynamic Change Files	no	no	no	no	no	yes
Multiple Focal Point Support	no	no	no	no	no	yes
Other Enhancements	no	no	no	no	no	yes

These features are defined as follows:

- AIX 4.1 support

  AIX 4.1 support allows NetView DM or Software Distribution to run on top of AIX 4.1.

1 Client: V1.2=V1.0+U433559, Server: V1.2=V1.0+U433567.

2 Client: V1.2+U436929, Server: V1.2+U436928.

3 Client: V1.2+U436929+U438390 or V1.2+U441843, Server: V1.2+U436928+U438399 or V1.2+U441842.

4 Client: V3.1.2.1=V3.1.2.0+U444139+U444140+U444141, Server: V3.1.2.1=V3.1.2.0+U444136+U444140+U444141.

5 Client: V3.1.3.0=V3.1.2.1+U444910+U444919+U444920, Server: V3.1.3.0=V3.1.2.1+U444904+U444919+U444920.

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- Uninstall for AIX 4.1

  In AIX 4.1, committed software can be removed. Software Distribution uses this feature to implement an *uninstall* command.

- Tools for pristine installation

  These tools allow the installation of the operating system on a pristine client. The tools do not support AIX 4.2.

- Motif 1.2 support

  Motif 1.2 support allows the graphical user interface of NetView DM or Software Distribution to run under Motif 1.2.

- Support for non-English locale

  This feature allows you to work with NetView DM or Software Distribution using a non-English language environment. The language of the product itself remains English.[6].

- Plan feature

  The plan feature allows you to execute change requests from an SD Manager or SD Focal Point in a predefined sequence and to make the execution of subsequent requests, depending on conditions. These conditions can be based on a specific error message, the completion of a previous request, a certain sense code, or the percentage of completion of previous requests. The plan feature allows automation in large environments managed by an SD Focal Point. A plan can be executed recursively as any other request.

- Enhanced Communication Support
  - Enhanced server-to-server communications

    A new connectivity option, called STS (server-to-server), can be configured on top of TCP/IP or LU 6.2. If two servers are connected using the STS protocol, they can take advantage of additional functions that are not available using SNA/DS. The STS connection is based on the same connection mechanism as a client/server connection. It is based on the RB-API (Request Block API). The following functions are available only with STS:

    - Uncataloged files

      Files that are not referenced in the catalog can be managed between servers. They can be:

      - Sent from one domain to another
      - Retrieved from another domain
      - Deleted from another system
      - Executed on remote clients

    - Remote authorization

      Data files and change files can be authorized and unauthorized for use on remote targets. Without STS, this is only possible at the local level.

[6] Japanese, Chinese and German locales are available for Software Distribution for AIX Version 3.1.3, in addition to English.

- Inventory discovery

  Inventory discovery (`nvdm inv`) can be run on remote targets that are linked across STS.

– LU 6.2 for client/server communications

  You can now connect certain clients (for example, AIX and OS/2 clients) to the server using LU 6.2.

– Checkpoint/restart for client/server communications

  Up to NVDM 1.2, checkpoint restart was only supported between servers. Now this function is also available between clients and servers. It is supported for TCP/IP and LU 6.2 communication protocols. This feature is useful when you have unreliable low-speed links between your systems.

– Compression for client/server communications

  Another enhancement of the client/server communication is the use of compression algorithms for change management requests and file service commands.

• Enhanced Security Support

– User authorization scheme

  The user authorization scheme of NetView DM/6000 1.2.1 was based on the AIX user authorization scheme. The new user authorization scheme of Software Distribution for AIX 3.1.3 is built into Software Distribution and thus platform independent. The new scheme is based on user profiles for every user.

– Target authentication scheme

  A new target authentication scheme is used. The new password authentication mechanism is based on the CPU ID of the target system.

– Target access keys

  Target access keys (TAKs) allow the administrator to control the accessibility of specific targets.

– Data access keys

  Data access keys (DAKs) allow the administrator to control the accessibility of specific catalog objects.

• Modified target definitions

– Target definition dialogs

  The target definition dialogs have been reorganized in the new release of the product. Now there is a common definition dialog for local and remote targets.

– Target autoregistration

  The target autoregistration allows the client to be automatically defined at the SD Server. The SD Server propagates this definition to higher levels (focal point, managers and intermediate servers) in the hierarchy. If you want to propagate the target definitions to a NetView DM/MVS focal point you need Version 1.6.1. of NetView DM/MVS with the SPMF feature installed.

– Operating system dependent tokens

You can now define token values depending on the operating system of the client. This helps to reduce the number of tokens you have to define and lessens the complexity.

- Extended change file functions
  - Export and mount functions

    You can now specify values for the export and mount commands directly in the change file. This means that you can export a file system, which holds the installation images without specifying commands to export and mount the file system in pre-install scripts. This is now done by new keywords. If the SD Server is at the same time the NFS server, exporting the NFS directories is done automatically.
  - New change file attributes

    You can now define the change request commands that are not allowed to be used with a specific change file. You can, for example, specify that a change file cannot be installed as *removable* or with the option *activation required*.
  - New change file commands

    There are some new change file commands (for example, the `unbld` command) that allow you to extract the files included in the change file.
- Mobile client support

  Mobile client support provides the support for mobile users, for example, travelling sales personnel such as insurance agents who by definition of their job, need to communicate with and receive updates from their corporation. Updating the workstation can be performed without being connected to any server, and all status reports are sent to the server when the client connects to the server the next time.
- Inventory discovery

  Inventory discovery provides the ability to determine the hardware and software characteristics of workstations, and to propagate this information to SD Servers and SD Focal Points in the network, so that a consolidated view of all workstations distributed throughout the network is available. This feature has to be customized for specific applications.
- Dynamic groups

  The dynamic group feature allows you to send a change file to a group specified by a dynamically evaluated condition (for example, to all targets using AIX 4.1 that belong to a certain CC domain).
- Dynamic change files

  This feature allows you to build change files that use conditions to determine which module has to be installed on a specific target. For example, a dynamic change file might execute a different script for each type of operating system.
- Multiple focal points support

  With Software Distribution 3.1.3 you can define up to eight focal points per server and single node. This means that all defined focal points will get a full change-management report.
- Other enhancements

Other enhancements include the following functions:

- Shared object management: This allows you to define tokens that are valid and usable within the whole CC domain.
- `updcm` command for updating the database.

2.2 Migration with Configuration Change

While migrating from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3 you can change the configuration of SD, for example, make an SD Server an SD Focal Point. The following table shows which configuration can be migrated to which configuration:

Table 2. Migration with Configuration Change

From/To	Client	Server	Remote Administrator	Focal Point	Single Node
Client	supported, see below	no	no	no	no
Server	no	supported, see below	partially supported, see below	partially supported, see below	partially supported, see below
Remote Administrator	no	partially supported, see below	supported, see below	partially supported, see below	partially supported, see below
Focal Point	no	partially supported, see below	partially supported, see below	supported, see below	partially supported, see below
Single Node	no	partially supported, see below	partially supported, see below	partially supported, see below	supported, see below

The following limitations apply to these migrations:

- Migration of an SD Client without configuration change

  This migration is fully supported. We recommend that you delete (see 8.1, “Removing LPPs in AIX 3.2” on page 149 for deleting LPPs under AIX 3.2.5) the option `netviewdm6000.clbooks.obj` before the migration. This option no longer exists in the new client package.

  In general: If you do not need a certain feature after the migration (for example, if you do not need the graphical user interface) you should remove these options before the migration.

- Migration of SD Server/SD Remote Administrator/SD Focal Point/SD Single Node without configuration change

  We recommend that you delete the two options which are no longer supported in the new version of the product. These options are `netviewdm6000.info.obj` and `netviewdm6000.books.obj`.

- Migration of an SD Client with configuration change

  A migration of an SD Client with configuration change is not possible.

- Migration of an SD Server/SD Remote Administrator/SD Focal Point/SD Single Node with configuration change

Since the server, remote administrator (manager), focal point, and single node are based on the same package, you can migrate and change the configuration within this group of node types. Again, we recommend that you delete the two options that have become obsolete in the new version of the product before the migration. These options are `netviewdm6000.info.obj` and `netviewdm6000.books.obj`.

2.3 Change File Issues

When using change files on different versions of Software Distribution or AIX, you should consider the following facts.

2.3.1 Version Dependency

Change files built on NetView DM/6000 1.2.1 can be installed on Software Distribution for AIX 3.1.3 clients. But you can not use the new functions which are provided by Software Distribution for AIX 3.1.3. Software Distribution 3.1 change files can be installed on NetView DM/6000 V1.2.1 clients if you only use the subset of functions that was already implemented in Version 1.2.1. Since using a limited subset is error prone, we recommend that you use a NetView DM/6000 1.2.1 preparation site because it is easier to handle. Otherwise there is a risk that the NetView DM/6000 1.2.1 clients cannot interpret the internal format of the change files.

We recommend that you put an additional token in the global names to differentiate between change files built on NetView DM/6000 1.2.1 and Software Distribution for AIX 3.1.3.

2.3.2 Operating System Dependency

The process of building change files depends on the operating system version. You have to consider the following:

- Version-dependent change file options
- Version-dependent .toc files

2.3.2.1 OOP Options Compatibility

The building of installp-type change files on a NetView DM/6000 1.2.1 Preparation Site depends on the version of the operating system. When you prepare profiles on an AIX 3.2.5 system, the format for the OPP options inside the profile has to be the format used by AIX 3.2.5. If you prepare the profiles on an AIX 4.1 system, the format for the OPP options inside the profiles has to be the format used by AIX 4.1. This is a limitation of NetView DM/6000 1.2.1. Since you have to build the change files on a NetView DM/6000 1.2.1 Preparation Site you have to consider this limitation. To overcome the above limitation you can delete all lines in the profile specifying OPP options. In that case you can build the change file independent of the operating system. But in this case all options included in the image are installed by default. You cannot deselect some options. This limitation applies only to the process of building change files. No matter which version of AIX you build it on, you can install it on either.

The product generally is shipped with different profiles for different versions of the operating system on which you are going to build the change files. This is not true for the profiles you have to use for the installation of the NLS packages of the client and the server package. You have to change the format of the OPP

options manually from AIX 3.2.5 to AIX 4.1 format, if you want to build these change files on an AIX 4.1 system.

2.3.2.2 .toc File Dependency

If you are using a common directory for AIX 3.2.5 and AIX 4.1 images, you will have problems with the .toc file. The format of the .toc file is different in AIX 3.2.5 and AIX 4.1. See 8.2, ".toc File Compatibility" on page 151 for details.

2.4 Interoperability Issues

While migrating from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3 you have to consider which versions on which platforms can interconnect.

2.4.1 Client/Server Interoperability

In a mixed environment (NetView DM/6000 1.2.1 and Software Distribution for AIX 3.1.3) there are some limitations in connecting old clients to new servers. For example, all NetView DM/6000 1.2.1 clients can be fully managed by Software Distribution for AIX 3.1.3 servers but you can not use the graphical user interface on these clients. Furthermore you have only a limited choice of Software Distribution command line commands. A full list of supported commands is provided in *Tivoli TME 10 Software Distribution for AIX V.3.1.3 Up and Running!*, SH19-4333. Therefore it is recommended that you take a top-down approach (first servers, then clients) when you plan the migration.

If your preparation site is a NetView DM/6000 1.2.1 client connected to a Software Distribution for AIX 3.1.3 server, which is required for the unattended migration process, you can not use the graphical user interface on the client to build the change files. Therefore, we recommend that you use a NetView DM/6000 1.2.1 server as the preparation site on which you can build your change files. After you have built the change files, you can send them over to the Software Distribution for AIX 3.1.3 server or retrieve them from there.

In *Software Distribution 3.1 for AIX Installation and Customization Guide*, SH19-4164, another limitation between Software Distribution for AIX 3.1.3 servers and NetView DM/6000 1.2.1 clients is documented. When commands are issued from the server, the connection may break down, which causes a series of error messages logged in the message log (`fndlog`) of the product. These error messages can be ignored.

2.4.2 Multiplatform Interoperability

There are several other products that complement the SD family of products. Those products are in particular NetView DM/MVS, NetView DM for NetWare and NetView DM/2 and the new implementations Software Distribution for OS/2 and Software Distribution for Windows NT.

You can connect these products using an SNA/DS and in some cases STS connections to a Software Distribution for AIX 3.1.3 server. If the Software Distribution for AIX 3.1.3 server is defined as a focal point, you can even manage the clients connected to those servers.

If you are planning to have a mixed environment using SNA/DS and STS connections you should be aware of certain limitations. For more information refer to *The TME 10 Software Distribution for AIX Cookbook*, GG24-4246.

2.5 Security Issues

The security scheme of NetView DM/6000 1.2.1 is different from the Software Distribution for AIX 3.1.3 security scheme. While doing a migration you have to consider the following security topics:

- Security in NetView DM/6000 1.2.1
- Security in Software Distribution for AIX 3.1.3
- Migration of Security Feature

2.5.1 Security in NetView DM/6000 1.2.1

NetView DM/6000 1.2.1 security is based on the user IDs and group IDs of the operating system. After installing NetView DM/6000 1.2.1 three AIX user groups are defined (FNDADMN, FNDBLD, FNDUSER). Every user working with NetView DM has to be assigned to one of these user groups. Each of these groups is assigned to a group-specific authorization profile. The authorization profile defines the tasks a member of that group is allowed to do. There is no way to define user-specific authorization profiles.

2.5.2 Security in Software Distribution for AIX 3.1.3

In Software Distribution for AIX 3.1.3 the security mechanism is completely different. When you install a server, only one SD user group (FNDADMN) is created. The only member of this group is, by default, the AIX root user. Since only members of this group are allowed to use the product, all SD users have to be members of this user group. Further authorization options can be defined within Software Distribution for AIX 3.1.3 as user-specific profiles.

For compatibility reasons the profiles that are provided by default have the same names as the AIX user groups defined in NetView DM/6000 1.2.1.

2.5.3 Migration of Security Feature

When you are migrating an software distribution server, the NetView DM/6000 1.2.1 users are migrated to the appropriate software distribution server users. The users will also be assigned to the corresponding user profiles of Software Distribution for AIX 3.1.3. If FNDBLD, or FNDUSER is the primary group for any user the group is not deleted during the migration process. If no AIX user has these groups as primary group the definitions are migrated to the user profiles of Software Distribution for AIX 3.1.3 and the groups are deleted. There are some further new security aspects in Software Distribution for AIX 3.1.3. Please refer to *Software Distribution 3.1 for AIX Installation and Customization Guide*, SH19-4164 for more details.

2.6 Software Inventory Database Issues

This section is intended to show how the native AIX ODM database and the Software Distribution for AIX 3.1.3 product database relate to each other. We explain how the installation status in both databases is aligned for installp-type installations using AIX 3.2.5 or AIX 4.1.

The status of the software distribution server database reflects operations performed by software distribution server requests based on the report that the agent sends back to the server. The status in the ODM database reflects

operations performed using the `installp` command directly. When an operation is performed using only the `installp` command of AIX the SD database it not updated automatically.

We therefore strongly recommend that all installations and other change requests are initiated by SD commands. Otherwise, there might be misalignment problems between the two databases.

Table 3. Installation of a Base Product

Software Distribution Change Request Command	Status in the SD Database before Change Request		Status in the SD Database after Change Request		Status in the ODM Database before Change Request		Status in the ODM Database after Change Request		Comments
	AIX 3.2	AIX 4.1	AIX 3.2	AIX 4.1	AIX 3.2	AIX 4.1	AIX 3.2	AIX 4.1	
Install with `Removability=Yes`	Not Installed	Not Installed	Installed, Removable, Active	Installed, Not Removable, Active	Not Installed	Not Installed	Applied	Committed	Base installations under AIX 4.1 are always set to `Committed`. Therefore the status in the SW Distribution database changes automatically to `Installed, Not Removable, Active`.
Install with `Removability=No`	Not Installed	Not Installed	Installed, Not Removable, Active	Installed, Not Removable, Active	Not Installed	Not Installed	Committed	Committed	Base installations under AIX 4.1 are always set to `Committed`. Therefore the status in the SW Distribution database changes automatically to `Installed, Not Removable, Active`.
Accept (Autoaccept)	Installed, Removable, Active	N/A	Installed, Not Removable, Active	N/A	Applied	N/A	Committed	N/A	The same is true for initial installations with the option `Autoaccept=yes`.
Remove	Installed, Removable, Active	N/A	Available	N/A	Applied	N/A	Not Installed	N/A	Because initial installations under AIX 4.1 are always in `Committed` status, remove operations are generally not available.
Uninstall	N/A	Installed, Not Removable, Active	N/A	Not Installed	N/A	Commit	N/A	Not Installed	Uninstall operations are not supported under AIX 3.2.5. therefore an error message is created in the `fndlog` file. The SD database status is not changed.

Table 4. Installation of a Fix Package

Software Distribution Change Request Command	Status of SD Database before Change Request		Status of SD Database after Change Request		Status of ODM Database before Change Request		Status of ODM Database after Change Request		Comments
	AIX 3.2	AIX 4.1	AIX 3.2	AIX 4.1	AIX 3.2	AIX 4.1	AIX 3.2	AIX 4.1	
Install with `Removability=Yes`	Available	Available	Installed, Removable, Active	Installed, Removable, Active	Not Installed	Not Installed	Applied	Applied	The status of the product before the operation is related to the base product. The status differs in AIX 3.2.5 and AIX 4.1. In AIX 4.1 a base product is always in the `Committed` status. To be able to install a fix level on top of a product which has the SD status `Installed`, `Removable`, `Active` you have to accept the change file first. This is a constraint by Software Distribution for AIX 3.1.3. From an `installp` point of view, it would be possible to apply a fix to an applied base level product.
Install with `Removability=No`	Available	Available	Installed, Not Removable, Active	Installed, Not Removable, Active	Not Installed	Not Installed	Committed	Committed	The status of the product before the operation is related to the base product. The status differs in AIX 3.2.5 and AIX 4.1 In AIX 4.1 a base product is always in the `Committed` status. To be able to install a fix level on top of a product which has the SD status `Installed`, `Removable`, `Active`, you have to accept the change file first. This is a constraint by Software Distribution for AIX 3.1.3. From an `installp` point of view, it would be possible to apply a fix to an applied base level product.
Accept (Autoaccept)	Installed, Removable, Active	Installed, Removable, Active	Installed, Not Removable, Active	Installed, Not Removable, Active	Applied	Applied	Committed	Committed	The status of the product before the operation is related to the fix level of the product after the initial install request of the fix level.
Remove	Installed, Removable, Active	Installed, Removable, Active	Available	Available	Applied	Applied	Not Installed	Not Installed	The status of the product before the operation is related to the fix level of the product after the initial install request of the fix level.
Uninstall	N/A	Installed, Not Removable or Removable, Active	N/A	Available	N/A	Committed or Applied	N/A	Not Installed	From an SD point of view, an `uninstall` operation is always applied to a base product level (component name), which means if you perform an `uninstall` operation for a fix level of a product, the base product is uninstalled as well. Software Distribution for AIX 3.1.3 uses only the component name of the global name for `uninstall` operations. `Uninstall` operations are only supported for AIX 4.1. Therefore we did not fill any status for AIX 3.2.5 systems even if a status before the operation is available. The status of the operation before the operation refers to the status of the installation of the fix level.

2.6.1 Base Installation of a Product

Important

If the level of a product is changed during an installation process the `installp` operation causes the old version of the product to be deleted first. This means that even if you install a new level of a product with `Removability=YES`, there is no backup of the old version. If you try to recover the old level, you have to reinstall the old version.

This is a limitation of `installp`, not a limitation of Software Distribution for AIX 3.1.3.

Please be aware of this when migrating from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3. In this case the level is changed and there is no fallback. This limitation applies to AIX 3.2.5 and AIX 4.1.

Table 3 on page 14 shows the status of the SD database and the ODM database before and after specific change requests. In this table we assume that this is the initial installation of a product, not an overwriting of a previous version of the product in the ODM or SD database. We furthermore assume that the change type used is refresh. This is reflected in the global name by the token `REF`. The table is valid only for the option `Activation Required=No`. The option `Activation Required=Yes` is not supported for `installp` change files.

2.6.2 Installation of a Fix Package

Table 4 on page 15 compares the installation status of the AIX ODM database and the Software Distribution for AIX 3.1.3 database after the installation of a fix package.

We assume that this fix package contains a fix level for a product that has already been installed using Software Distribution for AIX 3.1.3 change requests. This means that the status of the product in both databases is aligned (for example, status `Committed` in the ODM database and `Installed, Not Removable, Active` in the Software Distribution for AIX 3.1.3 database) before the fix package is going to be installed.

We furthermore assume that the fix package is built and cataloged as change type *FIX.* This is reflected in the global name token of `FIX`.

If you are going to install a new level of a product, which means that *one of the first two level identifiers* of the product changes, as is the case between NetView DM/6000 1.2.1 and Software Distribution for AIX 3.1.3, we recommend that you use a change type *refresh* represented by the global name token of `REF`.

From a technical point of view, a change type of *update* represented by the global name token of `UPD` could also be used. To make it clear that you are dealing with a completely new change type, we recommend you use the refresh change type rather than the update.

To summarize, the initial installation change request of the fix package is a follow-up action to the installation of the base-level product, while all other change request commands listed in the table are based on the status after the installation of the fix package itself.

2.6.3 Database Alignment Problems

There are some differences between the AIX 4.1 and AIX 3.2.5 installp commands. The following list summarizes these changes and describes how these changes influence the commands initiated by Software Distribution for AIX 3.1.3:

- When installing a new level of a product to a system running AIX 4.1, the status is always set to Committed in the ODM database. This means that even if you install a product using a Software Distribution for AIX 3.1.3 installation request with Removability=Yes, the status changes to Committed in the ODM database and to Installed, **Not** Removable, Active in the SD database. The system will *not* inform you about the discrepancy between the submitted request and the outcome of the request.
- Software Distribution for AIX 3.1.3 uninstall operations are allowed even if the status of the product in the ODM database is set to Committed, which is always done automatically for the base level of a product. uninstall operations are not supported for installp change files on AIX 3.2.5 systems. If you install a fix package on top of the base level of a product and afterwards submit the uninstall request the whole product will be deleted from the system. Software Distribution for AIX 3.1.3 uses the component name (not the global name of a change file) to perform the uninstall operation. This is also the true when you remove the product manually using native installp commands. The status of the product after the uninstall operation has successfully ended is set to available.

To solve alignment problems you can use the following methods:

- Use the updcm command. This command changes the status of a change file as desired.
- If a product on an AIX 4.1 system is manually removed, you can re-align the databases using the SD uninstall change request. In AIX 3.2.5 there is no way to align the databases after a product has been manually deleted.
- If a product on a target system is manually installed, you can re-align the databases using the SD updcm command to set the correct status.
- You can check the alignment of the SD database and the ODM database with the SD vercm command. In order to use this command it is required that you specify additional information in the change file concerning the options, of the product.
- Using the new change file options you can build change files for which only a limited set of change request options can be successfully used. By limiting the number of options, you can prevent some possible problems.

Chapter 3. Overview of the Migration Scenarios

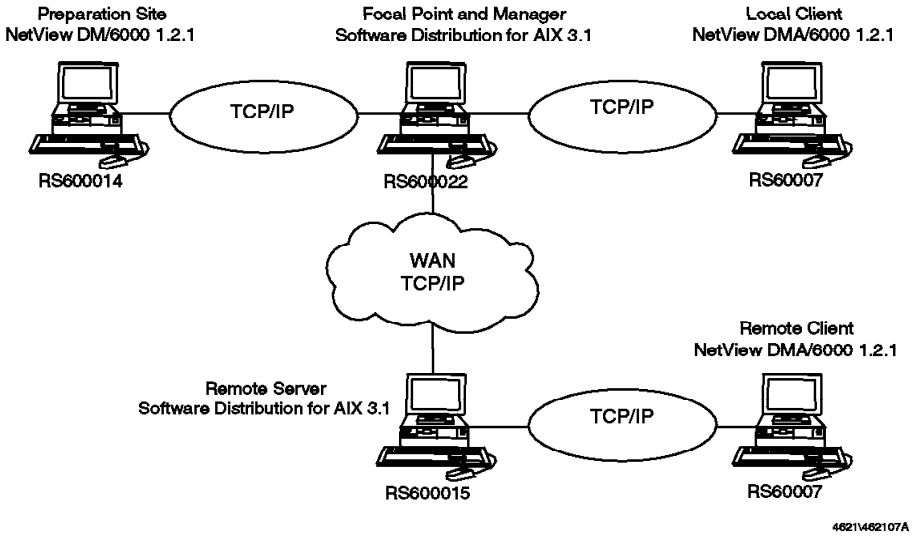

Figure 1. Scenario Overview

In this chapter we give a general overview of the migration scenarios. The scenarios are documented in the following chapters.

Our overall migration scenario is the migration of an SD Focal Point, a local SD Client, an SD Server, and a remote SD Client from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3. For all these migrations we need a NetView DM/6000 1.2.1 preparation site. The SD Preparation Site is the last computer to be migrated. The migration of the SD Preparation Site is a migration of an SD Server. This overall scenario itself is depicted in Figure 1. The installed software of this overall scenario before the migration is given in Table 5 on page 20. The installed software after the migration is given in Table 6 on page 21.

The overall scenario consists of several simple scenarios. These scenarios are based on each other because they reflect the order of migration steps you have to perform when migrating your environment.

We show the following scenarios in detail:

1. Scenario 1: Manual migration of an SD Focal Point

   This scenario assumes that your first step is the migration of the SD Focal Point.

2. Scenario 2: Migrating a local SD Client

   In this scenario a local SD Client is migrated from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3. The migration is described with and without using NFS.

3. Scenario 3: Migrating an SD Server

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In this scenario we show how to migrate an SD Server which is connected to a focal point using Software Distribution for AIX 3.1.3 through a wide area network. We describe the scenario with and without using NFS.

4. Scenario 4: Migrating a remote SD Client using the plan feature

   In this scenario we use the plan feature to migrate a remote SD Client from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3. The migration is described with and without using NFS.

We do not show the migration of the SD Preparation Site. This migration can be done manually, as described in Scenario 1, or using SD, as described in Scenario 3.

Table 5 (Page 1 of 2). Installed Software of the Overall Scenario before the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.remoteadmin.obj.1.0.2.0 netviewdm6000.remoteadmin.obj.1.0.2.1.U436928 netviewdm6000.remoteadmin.obj.1.0.2.1.U438399 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399

Table 5 (Page 2 of 2). Installed Software of the Overall Scenario before the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs60007	Local Client	RS600022.RS60007	netviewdm6000.clbook.obj.1.0.2.0 netviewdm6000.clbook.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.0 netviewdm6000.clgi.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.1.U438390 netviewdm6000.client.obj.1.0.2.0 netviewdm6000.client.obj.1.0.2.1.U436929 netviewdm6000.client.obj.1.0.2.1.U438390
rs600015	Server	RS600015.RS600015	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399
rs60007	Remote Client	RS600015.RS60007	netviewdm6000.clbook.obj.1.0.2.0 netviewdm6000.clbook.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.0 netviewdm6000.clgi.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.1.U438390 netviewdm6000.client.obj.1.0.2.0 netviewdm6000.client.obj.1.0.2.1.U436929 netviewdm6000.client.obj.1.0.2.1.U438390

Note: We use the target rs60007 in two different ways - as a local client for rs600022 and as a remote client connected to rs600015.

Table 6 (Page 1 of 2). Installed Software of the Overall Scenario after the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitext.En_US.3.1.3.0 netviewdm6000.gitext.en_US..3.1.3.0 netviewdm6000.man.En_US.3.1.3.0 netviewdm6000.man.en_US.3.1.3.0 netviewdm6000.msg.en_US.3.1.3.0 netviewdm6000.msg.en_US.3.1.3.0 netviewdm6000.plan.obj.3.1.3.0 netviewdm6000.remoteadmin.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0

Table 6 (Page 2 of 2). Installed Software of the Overall Scenario after the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitext.En_US.3.1.3.0 netviewdm6000.gitext.en_US..3.1.3.0 netviewdm6000.man.En_US.3.1.3.0 netviewdm6000.man.en_US.3.1.3.0 netviewdm6000.msg.en_US.3.1.3.0 netviewdm6000.msg.en_US.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0
rs60007	Local Client	RS600022.RS60007	netviewdm6000.clgi.obj.3.1.3.0 netviewdm6000.client.obj.3.1.3.0
rs600015	Server	RS600015.RS600015	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0
rs60007	Remote Client	RS600015.RS60007	netviewdm6000.clgi.obj.3.1.3.0 netviewdm6000.client.obj.3.1.3.0

Chapter 4. Scenario 1: Manual Migration of an SD Focal Point

This scenario shows the manual migration of the central SD Focal Point.

4.1 Understanding the Scenario

This first scenario is the manual migration of the SD Focal Point. In this scenario we migrate the manager from NetView DM/6000 1.2.1 to an SD Focal Point Software Distribution for AIX 3.1.3 and prepare for the following scenarios.

4.2 Avoiding Migration Problems

In the rest of this chapter we show how to migrate manually to an SD Focal Point. In our experience this migration may quite often fail because of some trivial errors. Typical trivial errors are:

- The previous version of the software to be migrated is not committed.
- Your system is running out of disk space.

In order to avoid disaster we strongly recommend backing up the current configuration files before attempting the migration. In case of problems, first verify that your system is in the right status before the migration, then check the log files.

4.3 Status of SD Focal Point before Migration

Before you start the migration we recommend that you document the status of your system. This documentation allows you to analyze the migration in case of problems. The following commands are only examples you may want to use. If you deal with a very sensitive environment, you might want to document some additional configuration data.

Create a directory `migrate_before` in the NetView DM base directory by using the following commands:

```
cd /usr/lpp/netviewdm
mkdir migrate_before
```

To document NetView DM-related information, do the following:

- Copy the base configuration file `nvdm.cfg` into the `migrate_before` directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ►
  /usr/lpp/netviewdm/migrate_before/nvdm.cfg
  ```

  The output should look similar to the following:

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```
WORKSTATION NAME:     rs600022
MESSAGE LOG LEVEL:    D
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:               rs600022
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 2. nvdm lsbs at the SD Focal Point before Migration

As you can see the system is configured as an SD Server with the remote administration option.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_before directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_before/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:               Server
Server name:                 rs600022
Remote administration:       Yes
Remote communications:       Yes
LAN authorization:           No
```

Figure 3. nvdm lsbs at the SD Focal Point before Migration

The SD Focal Point is configured with the remote administration feature, which also has to include the remote communication option.

- List all defined targets with their description and copy the output to a file (named, for example, nvdm_lstg) into the migrate_before directory using:

  ```
  nvdm lstg \* -l > /usr/lpp/netviewdm/migrate_before/nvdm_lstg
  ```

  The following panel shows the contents of this file:

```
Target:                rs600014
Description:           Preparation Site
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Remote
Short name:            RS600014
Network ID:            RS600014

Target:                rs600015
Description:           Server
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Remote
Short name:            RS600015
Network ID:            RS600015

Target:                rs600022
Description:           Focal Point and Manager
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Push
Operating system:      AIX
Short name:            RS600022
Network ID:            RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Logging level:         Normal
Tracing state:         Off
Installation parms:    None.
Hardware parms:        None.
Discovered inventory:  None.
Users:                 root

Target:                rs60007
Description:           Client
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Push
Operating system:      AIX
Short name:            RS60007
Network ID:            RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Logging level:         Normal
Tracing state:         Off
Installation parms:    None.
Hardware parms:        None.
Discovered inventory:  None.
Users:                 root
```

*Figure 4. nvdm lstg * -l at the SD Focal Point before Migration*

You can see that there are two remote servers (rs600014 and rs600015), a local client (rs60007, push mode) and the server itself (rs600022, push mode) defined at the server.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named for example, nvdmdbdir in the migrate_before directory using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_before/nvdmdbdir
  ```

  The following panel shows the contents of the output we received:

```
total 264
drwxr-sr-x   9 root     FNDADMN      512 Aug 28 17:59 .
drwxrwsrwx  16 sys      FNDADMN      512 Aug 28 19:24 ..
-rw-rw----   1 root     FNDADMN    81920 Aug 28 19:16 catalog
drwxrwx---   2 root     FNDADMN      512 Aug 28 19:18 cm_status
-rw-r--r--   1 root     FNDADMN      558 Aug 28 18:21 nvdm.cfg
drwxrwx---   2 root     FNDADMN      512 Aug 28 17:20 parms
-rw-rw----   1 root     FNDADMN       69 Aug 28 18:04 routetab
-rw-rw----   1 root     FNDADMN      149 Mar 22 1995  snads_config
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 18:05 snads_conn
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 19:17 target_config
drwxrwx---   2 root     FNDADMN      512 Aug 28 17:20 target_group
drwxrwx---   2 root     FNDADMN      512 Aug 28 17:20 target_hw
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 19:17 tmp
-rw-rw----   1 root     FNDADMN      430 Mar 22 1995  user_config
```

Figure 5. ls -al /usr/lpp/netviewdm/db at the SD Focal Point Before Migration

- To compare the names of the files in the product's repository, you can redirect the listing of this directory to a file named, for example, nvdmreposdir into the migrate_before directory using:

  ```
  ls -al /usr/lpp/netviewdm/repos ►
  > /usr/lpp/netviewdm/migrate_before/nvdmreposdir
  ```

  The following panel shows the contents of the output we received:

```
total 32
drwxrwx---   2 root     FNDADMN      512 Aug 28 19:16 .
drwxrwsrwx  16 sys      FNDADMN      512 Aug 28 19:24 ..
-rwxrwxr-x   1 root     FNDADMN     6817 Aug 28 19:16 TEST.FILE.REF.1
-rwxrwxr-x   1 root     FNDADMN     6713 Aug 28 20:23 TEST.APPL.CF1.REF.1
-rwxrwxr-x   1 root     FNDADMN     7524 Aug 28 21:13 TEST.APPL.CF2.REF.1
-rwxrwxr-x   1 root     FNDADMN     7117 Aug 28 23:57 TEST.APPL.CF3.REF.1
```

Figure 6. ls -al /usr/lpp/netviewdm/repos at the SD Focal Point before Migration

- To check the installed product level in the AIX ODM database, redirect the output of the lslpp command into a file (named, for example, lslppnvdm):

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:20:03
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     17:23:49
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     17:23:49

  netviewdm6000.books.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34

  netviewdm6000.comms.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:48
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:48

  netviewdm6000.gi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:47
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:48

  netviewdm6000.info.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:47

  netviewdm6000.remoteadmin.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:49
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:49

  netviewdm6000.server.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:48
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:49

  netviewdm6000.tool.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:48
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:48
```

Figure 7. lslpp -h netviewdm6000 at the SD Focal Point before Migration*

The output shows that we have installed NetView DM/6000 1.2.1 including the PTF levels U436928 and U438399.

- To check the change management history, execute the following command:

  `nvdm lscm \* > /usr/lpp/netviewdm/migrate_before/nvdmlscm`

  We received the following output:

```
Global file name:      IBM.NDM6000.BASE.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BOOKS.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.INFO.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.INFO.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      TEST.FILE.REF.1

    Target:            rs600022
    Status:            Not Authorized, Distributed

Global file name:      TEST.APPL.CF1.REF.1

    Target:            rs600022
    Status:            OK, Installed Not Removable, Active

Global file name:      TEST.APPL.CF2.REF.1

    Target:            rs600022
    Status:            OK, Installed Removable, Active

Global file name:      TEST.APPL.CF3.REF.1

    Target:            rs600022
    Status:            OK, Installed Removable, Inactive
```

Figure 8. nvdm lscm at the SD Focal Point before Migration

The output shows the change management status of the different change files:

- Look out for change files that are installed as *removable*. If you can accept or remove them, you can free up disk space that might be needed during the migration.
- It is recommended that you do not leave change files in the status of *inactive* but activate these pending changes before you start the migration process.
- Copy the routetab file into the migrate_before directory using:

  ```
  cp /usr/lpp/netviewdm/db/routetab ►
  > /usr/lpp/netviewdm/migrate_before/routetab
  ```

  We received the following output:

```
NETWORK PROTOCOL:   TCP/IP
RS600014.*  RS600014
RS600015.*  RS600015
```

Figure 9. routetab at the SD Focal Point before the Migration

- Copy all the connection files referenced in the routetab file into the migrate_before directory using, for example:

  ```
  cp /usr/lpp/netviewdm/db/snads_conn/RS600014 ►
  > /usr/lpp/netviewdm/migrate_before/RS600014
  ```

  We received the following output:

```
PROTOCOL:                       TCP/IP
REMOTE SERVER NAME:             rs600014
TCP/IP TIME-OUT:                300
NEXT DSU:                       RS600014.RS600014
TRANSMISSION TIME-OUT:          60
RETRY LIMIT:                    3
SEND MU_ID TIME-OUT:            60
RECEIVE MU_ID TIME-OUT:         120
```

Figure 10. RS600014 at the SD Focal Point before Migration

- Redirect the status of the targets into the migrate_before directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_before/nvdm_stattg
  ```

  We received the following output:

```
Target                          Status

rs600022                        Active
rs60007                         Attached
```

*Figure 11. nvdm stattg * at the SD Focal Point before Migration*

4.4 Migrating the SD Focal Point

After documenting and backing up your system, you are prepared to start the migration. As documented in the previous section of this chapter, our system has the remote administration option installed. If your system has the same configuration, but you want to migrate to Software Distribution for AIX 3.1.3 without this option, you have to remove it first. You can additionally install the new plan feature of Software Distribution for AIX 3.1.3, as shown in our example.

Perform the following steps:

1. Check that there are no pending change management or distribution requests in any queue (local and remote) by submitting `nvdm stat`, which shows you all the available queues and if they have any entries. If any queue has an entry, analyze it carefully before deciding to delete it.
2. Stop the product using `nvdm stop -x -k` and exit from all graphical interfaces.

   Note that using any kind of NetView DM commands while the migration process is still running can lead to unpredictable results.
3. Remove obsolete options.

   There are two product options in NetView DM/6000 1.2.1 that no longer exist in Software Distribution for AIX 3.1.3. You should remove them before you start the migration. If you do not remove these options, the installation process will not fail but:

   - You cannot remove them later any more because the base version of the product has changed.
   - They will take away disk space and can no longer being used.

   So we suggest you remove them.

   The two options for the server part of the product are:

   - `netviewdm6000.info.obj`
   - `netviewdm6000.books.obj`

   Please be aware that there are differences between AIX 4.1 and AIX 3.2:

   - In AIX 4.1 you can remove the options using the standard AIX commands or `smit`.
   - In AIX 3.2.5 you have to use the tricks given in 8.1, “Removing LPPs in AIX 3.2” on page 149 to remove the obsolete options.

   To check the levels of the product we used the command:

   ```
   lslpp -h netviewdm6000*
   ```

   After removing these options the following product levels should be active:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:20:03
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     17:23:49
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     17:23:49

  netviewdm6000.comms.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:48
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:48

  netviewdm6000.gi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:47
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:48

  netviewdm6000.remoteadmin.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:49
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:49

  netviewdm6000.server.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:48
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:49

  netviewdm6000.tool.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:57:34
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:00:48
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:00:48
```

Figure 12. lslpp -h netviewdm6000 at the SD Focal Point after Removing Obsolete Options*

4. Check if NetView DM/6000 1.2.1 is in the COMMIT status in the ODM database, which is a prerequisite for a migration to a new product level. If you find that your product or single options of the product that you are going to migrate are in the status APPLIED, you have to commit them first.

   Enter the following command to verify whether your product options have the correct status for proceeding in the migration process:

   ```
   installp -s
   ```

   If the output contains APPLIED options, you have to commit them using:

   ```
   installp -c <option>
   ```

   where <option> is the name of the product option shown by the installp -s command.

5. Make sure you have the installation images available. We suggest that you copy the images from the tape to the /usr/sys/inst.images directory of your system. Assuming there is a tape with all the SD software in /dev/rmt0, you can use the following command:

   ```
   bffcreate -d '/dev/rmt0.1' '-X' all
   ```

   You can also use the smit panels (fast path smitty bffcreate) to copy the images into this directory.

6. You have to restore two procedures from the server or single node installation image, which you copied in the previous step to your hard disk. Assuming you have copied the images into the /usr/sys/inst.images directory, enter the following commands:

   ```
   cd /

   restore -qf /usr/sys/inst.images/<installation image> ►
   -xv ./usr/lpp/netviewdm/bin/fndckeq
   ```

```
restore -qf /usr/sys/inst.images/<installation image> ►
-xv /usr/lpp/netviewdm/script/preinst_srv.3130
```

where <installation image> should be replaced by the name of the image, for example, netviewdm6000.usr.3.1.3.0. If the restore command is successful, you should receive the following message (for each restore operation):

```
The number of restored files is 1
```

Figure 13. Successful Restore for Scenario 1

7. After restoring these files, execute the procedure preinst_srv.3130 by entering:

   ```
   ksh /usr/lpp/netviewdm/script/preinst_srv.3130
   ```

   The procedure saves the product database directory in order to recover the old version of the product in case of a failed migration. It is also responsible for migrating the internal database structure of the product to the format of NVDM 1.2 if a release prior to that is still installed. This is because the installp migration procedure requires NVDM 1.2 to migrate to Software Distribution for AIX 3.1.3. The process calls the fndckeq procedure, which checks if there are any requests in local or remote queues. If there are any requests, the installation is aborted.

   The procedure does the following:

   - Checks for the installed version of NetView DM/6000.
   - If NVDM 1.0 is the installed version, the products database is saved to /usr/lpp/netviewdm6000/savemigr10. After that the format of the CM status file is migrated to the format of NVDM 1.2. Because from NVDM 1.0 to NVDM 1.2 some keywords in the base configuration file were changed (MAX TARGETS, MAX CONNECTIONS, MAX USER INTERFACES), they are aligned to Version 1.2.

     Other things which are updated to the internal format of NVDM 1.2 are the user_config file and the configuration files for remote communications (routetab, snads_conn/* files).
   - If NVDM 1.1 is installed, the products database is saved to /usr/lpp/netviewdm6000/savemigr11. The CM status file is migrated to the internal format of NVDM 1.2 and some additional keywords that were not supported in NVDM 1.1 are added to the internal structure of the target_config file.
   - If NVDM 1.2 is installed, the products database directory is saved to /usr/lpp/netviewdm6000/savemigr.

8. Migrate to Software Distribution for AIX 3.1.3 using smitty.

   Since we now have verified the status of the product, we will start the migration:

   a. Type smitty install on the AIX command line.
   b. Select **Install and Update Software** .
   c. Select **Install/Update Selectable Software (Custom Install)**.
   d. Select **Install Software Products at Latest Level**.
   e. Select **Install New Software Products at Latest Level**.

f. Fill in the name of the input device or the directory of your installation images or press F4 to select the input device (directory) from the selection list.

g. Select **Software to install** by moving the cursor to that line and pressing F4. This should bring up the following panel:

```
                          SOFTWARE to install

Move cursor to desired item and press F7. Use arrow keys to scroll.
    ONE OR MORE items can be selected.
Press Enter AFTER making all selections.

  #------------------------------------------------------------------------
  # + = No license password required
  # $ = License found
  # ! = No license found
  # @ = Currently installed
  #
  # The "all_licensed" filter will include filesets with "+" and "$".
  #------------------------------------------------------------------------
  3.1.3.0  netviewdm6000                                              ALL
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Base System
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Communications Feat
    + 3.1.3.0  Software Distribution (3.1.3) for AIX GUI text files (En_
    + 3.1.3.0  Software Distribution (3.1.3) for AIX GUI text files (en_
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Graphical Interface
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Man Pages (En_US)
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Man Pages (en_US)
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Plans Feature
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Remote Administrato
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Server Feature
    + 3.1.3.0  Software Distribution (3.1.3) for AIX Tool Feature
    + 3.1.3.0  Software Distribution Client (3.1.3) for AIX Client Featu
    + 3.1.3.0  Software Distribution Client (3.1.3) for AIX Graphical In
    + 3.1.3.0  Software Distribution Client for AIX Mobile Feature

F1=Help                 F2=Refresh              F3=Cancel
F7=Select               F8=Image                F10=Exit
Enter=Do                /=Find                  n=Find Next
```

Figure 14. SMIT Menu: Show Installable Options

h. Select the options you want to install by moving the cursor to the line and pressing F7. We selected all the available options from the server package as well as the options for the remote administrator and the plan feature. We also recommend that you install the message option. If you do not do this, you will see error messages in the fndlog when you start the SD Focal Point after the migration has finished. For convenience, we selected all GUI text files and the man pages.

```
                          SOFTWARE to install

Move cursor to desired item and press F7. Use arrow keys to scroll.
    ONE OR MORE items can be selected.
Press Enter AFTER making all selections.

  #-----------------------------------------------------------------------
  # + = No license password required
  # $ = License found
  # ! = No license found
  # @ = Currently installed
  #
  # The "all_licensed" filter will include filesets with "+" and "$".
  #-----------------------------------------------------------------------
  3.1.3.0  netviewdm6000                                              ALL
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Base System
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Communications Feat
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX GUI text files (En_
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX GUI text files (en_
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Graphical Interface
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Man Pages (En_US)
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Man Pages (en_US)
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Plans Feature
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Remote Administrato
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Server Feature
>   + 3.1.3.0  Software Distribution (3.1.3) for AIX Tool Feature
    + 3.1.3.0  Software Distribution Client (3.1.3) for AIX Client Featu
    + 3.1.3.0  Software Distribution Client (3.1.3) for AIX Graphical In
    + 3.1.3.0  Software Distribution Client for AIX Mobile Feature

F1=Help                 F2=Refresh              F3=Cancel
F7=Select               F8=Image                F10=Exit
Enter=Do                /=Find                  n=Find Next
```

Figure 15. SMIT Menu: Selected Options

i. Press Enter to make the selections effective. You will see the following panel. Make sure to set the EXTEND file systems if space needed to YES. if you are not sure that there is enough DASD space left in your file system /usr/lpp/netviewdm.

```
                    Install Software Products at Latest Level

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

                                                      [Entry Fields]
* INPUT device / directory for software               /usr/sys/inst.images
* SOFTWARE to install                                [+ 3.1.3.0  Software Di> +
  PREVIEW only? (install operation will NOT occur)    no                      +
  COMMIT software updates?                            yes                     +
  SAVE replaced files?                                no                      +
  ALTERNATE save directory                           []
  AUTOMATICALLY install requisite software?           yes                     +
  EXTEND file systems if space needed?                yes                     +
  OVERWRITE same or newer versions?                   no                      +
  VERIFY install and check file sizes?                no                      +
  Include corresponding LANGUAGE filesets?            yes                     +
  DETAILED output?                                    no                      +



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

Figure 16. SMIT Menu: Install Selected Options

j. After you have chosen all your options you can press Enter to start the migration process.

k. Before you proceed, make sure the migration has ended successfully.

9. Restart SD using the command:

   `nvdm start`

Attention

Sometimes the file /usr/lpp/netviewdm/bin/fndsrbx is missing. In that case you have to reinstall the options in the following sequence: base, comm, server, remoteadmin, and plan. The error occurred in our environment if the remoteadmin option was installed before the server option.

4.5 Status of an SD Focal Point After Migration

After you have migrated to Software Distribution for AIX 3.1.3 you should now verify if everything is still running and configured as expected. We will use the same commands as we used before the migration process. We suggest that you create a directory named, for example, migrate_after in the netviewdm base directory:

```
cd/usr/lpp/netviewdm

mkdir migrate_after
```

We recommend that you copy the files or redirect the output of the following commands into this directory.

- Copy the base configuration file nvdm.cfg into the migrate_after directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg  ►
  /usr/lpp/netviewdm/migrate_after/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs600022
MESSAGE LOG LEVEL:    D
LAN AUTHORIZATION:    0
LOG FILE SIZE:        500000
TRACE FILE SIZE:      1000000
API TRACE FILE SIZE:  500000
TCP/IP PORT:          729
MAX TARGETS:          600
MAX CONNECTIONS:      1
MAX USER INTERFACES:  20
CONFIGURATION:        REMOTE_ADMIN_SERVER
MACHINE TYPE:         AIX
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
SERVER:               rs600022
MAX SERVER TARGETS:   2048
PLAN FEATURE:         Y
```

Figure 17. nvdm.cfg at the SD Focal Point after Migration

  As you can see the system is configured as an SD Server with the remote administration option and the plan feature.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_after directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_after/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:              Server
Server name:                rs600022
Remote administration:      Yes
Remote communications:      Yes
LAN authorization:          No
Authorize                   NONE
```

Figure 18. nvdm lsbs at the SD Focal Point after Migration

  The SD Focal Point is using remote administration and remote communications which is a prerequisite for the remote administration feature.

- List all defined targets with their configuration and redirect the output to a file (named, for example, nvdm_lstg) into the migrate_after directory using:

  ```
  nvdm lstg \* -l > /usr/lpp/netviewdm/migrate_after/nvdm_lstg
  ```

  The following panel shows the contents of this file:

```
Target:                rs600014
Description:           Preparation Site
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600014
Domain address:        RS600014
LAN address:
Network:               TCP rs600014
Installation parms:    (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs600015
Description:           Server
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600015
Domain address:        RS600015
LAN address:
Network:               TCP rs600015
Installation parms:    (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs600022
Description:           INITIAL TARGET CONFIGURATION RECORD
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600022
Domain address:        RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs600022
Logging level:         Normal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)
```

*Figure 19 (Part 1 of 2). nvdm lstg * -l at the SD Focal Point after Migration*

```
Target:                rs60007
Description:           Client
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Server name:           rs600022
Type:                  CLIENT
Operating system:      AIX
Target address:        RS60007
Domain address:        RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs60007
Logging level:         Normal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)
```

*Figure 19 (Part 2 of 2). nvdm lstg * -l at the SD Focal Point after Migration*

You can see that there are two remote servers (rs600014 and rs600015) and a local client (rs60007, push mode) and the server itself (rs600022, push mode) defined to the server. The migration has preserved the target specific configurations.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named for example, nvdmdbdir into the migrate_after directory using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_after/nvdmdbdir
  ```

  The following panel shows the contents of the output we received:

```
total 496
drwxrwx---   4 root     FNDADMN      512 Aug 28 22:40 .
drwxrwsrwx  14 sys      FNDADMN      512 Aug 28 22:36 ..
-rw-rw----   1 root     FNDADMN    18432 Aug 28 22:43 auth
-rw-rw----   1 root     FNDADMN    45056 Aug 28 22:43 catalog
-rw-rw----   1 root     FNDADMN    29696 Aug 28 22:43 cmstatus
-rw-rw----   1 root     FNDADMN     4096 Aug 28 22:43 dyntggrp
-rw-rw----   1 root     FNDADMN     6556 Aug 01 14:30 errtolvl
-rw-rw----   1 root     FNDADMN      608 Aug 28 22:40 nvdm.cfg
-rw-rw----   1 root     FNDADMN       69 Aug 28 22:37 routetab
-rw-rw----   1 root     FNDADMN     9216 Aug 28 22:43 snacorr
-rw-r-----   1 root     FNDADMN      149 Aug 28 22:37 snadscfg
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 22:37 snadscon
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 22:37 tmp
-rw-rw----   1 root     FNDADMN    14336 Aug 28 22:43 trgcfg
-rw-rw----   1 root     FNDADMN     4096 Aug 28 22:43 trggrp
-rw-rw----   1 root     FNDADMN    70656 Aug 28 22:44 userreq
-rw-rw----   1 root     FNDADMN     7168 Aug 28 22:43 users
```

Figure 20. ls -al /usr/lpp/netviewdm/db at the SD Focal Point after Migration

The migration has changed the names of the directories. This has been done to have a common directory structure for all platforms. Since some file systems support only an 8.3 character naming convention, shorter names are used.

- To compare the names of the files in the product's repository you can redirect the listing of this directory to a file named, for example, nvdmreposdir into the migrate_after directory using:

```
ls -al /usr/lpp/netviewdm/repos ►
> /usr/lpp/netviewdm/migrate_after/nvdmreposdir
```

The following panel shows the contents of the output we received:

```
total 32
drwxrwx---   2 root     FNDADMN      512 Aug 28 22:30 .
drwxrwsrwx  14 sys      FNDADMN      512 Aug 28 22:36 ..
-rwxrwxr-x   1 root     FNDADMN     6817 Aug 28 22:30 TEST.FILE.REF.1
-rwxrwxr-x   1 root     FNDADMN     6713 Aug 28 22:30 TEST.APPL.CF1.REF.1
-rwxrwxr-x   1 root     FNDADMN     7524 Aug 28 22:31 TEST.APPL.CF2.REF.1
-rwxrwxr-x   1 root     FNDADMN     7117 Aug 28 22:32 TEST.APPL.CF3.REF.1
```

Figure 21. ls -al /usr/lpp/netviewdm/repos at the SD Focal Point after the Migration

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, `lslppnvdm`) into the `migrate_after` directory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_after/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:48

  netviewdm6000.comms.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:49

  netviewdm6000.gi.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:48

  netviewdm6000.gitext.En_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:02

  netviewdm6000.gitext.en_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:06

  netviewdm6000.man.En_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:11

  netviewdm6000.man.en_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:21

  netviewdm6000.msg.en_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:29

  netviewdm6000.plan.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:33

  netviewdm6000.remoteadmin.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:33

  netviewdm6000.server.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:39:24

  netviewdm6000.tool.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:48
```

Figure 22. lslpp -h netviewdm6000 at the SD Focal Point after Migration*

  The output shows that we have installed Software Distribution for AIX 3.1.3 with all server options.

- To check the change management history execute the following command:

  ```
  nvdm lscm \* > /usr/lpp/netviewdm/migrate_after/nvdmlscm
  ```

  We received the following output:

```
Global file name:      IBM.NDM6000.BASE.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.EN_US.GITEXT.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.EN_US.MAN.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.PLAN.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered
```

```
Global file name:      IBM.NDM6000.REMOTEADMIN.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.REMOTEADMIN.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.REMOTEADMIN.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.REMOTEADMIN.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.TOOL.FIX.112.U436928

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.TOOL.FIX.112.U438399

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.TOOL.REF.112

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.TOOL.REF.3130

    Target:            rs600022
    Status:            Not Authorized, Discovered

Global file name:      TEST.FILE.REF.1

    Target:            rs600022
    Status:            Not Authorized, Distributed

Global file name:      TEST.APPL.CF1.REF.1

    Target:            rs600022
    Status:            OK, Installed Not Removable, Active
```

```
Global file name:      TEST.APPL.CF2.REF.1

    Target:            rs600022
    Status:            OK, Installed Removable, Active

Global file name:      TEST.APPL.CF3.REF.1

    Target:            rs600022
    Status:            OK, Installed Removable, Active
```

Figure 23 (Part 3 of 3). nvdm lscm at the SD Focal Point After Migration

The output shows that the new SD packages have been discovered but that there are also some entries left from the previous levels. In our opinion this is not completely correct but it does not affect the behavior of the installed system in any way.

- Copy the routetab file into the migrate_after directory using:

  ```
  cp /usr/lpp/netviewdm/db/routetab ►
  > /usr/lpp/netviewdm/migrate_after/routetab
  ```

  We received the following output:

```
NETWORK PROTOCOL:   TCP/IP
RS600014.*  RS600014
RS600015.*  RS600015
```

Figure 24. routetab at the SD Focal Point After Migration

The route table file routetab has been preserved.

- Copy the all relevant connection files (for example, RS600014) that are listed in the route table into the migrate_after directory using:

  ```
  cp /usr/lpp/netviewdm/db/snadscon/RS600014 ►
  > /usr/lpp/netviewdm/migrate_after/RS600014
  ```

  We received the following output:

```
PROTOCOL:                       TCP/IP
REMOTE SERVER NAME:             rs600014
TCP/IP TIME-OUT:                300
NEXT DSU:                       RS600014.RS600014
TRANSMISSION TIME-OUT:          60
RETRY LIMIT:                    3
SEND MU_ID TIME-OUT:            60
RECEIVE MU_ID TIME-OUT:         120
TYPE:                           SNA
```

Figure 25. RS600014 at the SD Focal Point After Migration

The file RS600014 has been preserved but it:

  - Is stored in a different directory .../snadscon
  - Has been modified: TYPE: SNA means that the distribution protocol SNA/DS is to be used (not STS).

- Redirect the status of the targets into the migrate_after directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_after/nvdm_stattg
  ```

  We received the following output:

```
The required command could take a long execution time.
Do you really want to execute the command for all targets [y/n]?
Target                          Status

rs600022                        Available
rs60007                         Available
```

*Figure 26. nvdm stattg * at the SD Focal Point after the Migration*

The client status is now Available.

As we have seen in the previous steps the manual migration has preserved the configuration.

4.6 Recovery from an Unsuccessful Migration

If the migration process fails, which could, for example, happen when you have not specified the installation option to extend the file system and there is not enough space left in the /usr/lpp/netviewdm file system, you can recover manually to the old version of the product.

We explained that when you are going to migrate to a new version of a product and you change at least one of the first two levels of the installation image, the old version of the product is deleted. When the installation of the new version is started and does not have enough disk space to perform the installation, it is stopped and neither the old nor the new version of the product is installed.

In this case you are no longer able to start the product because the directory /usr/lpp/netviewdm/bin holding the executables of the product is empty.

To reinstall NetView DM/6000 1.2.1 on the SD Client you have to perform the following steps:

1. Clean up the installation with the command:

   ```
   installp -C
   ```

2. Install NetView DM/6000 1.2.1 on the SD Server manually using smitty.

3. Restore the recovery script restore_nvdm to the directory /usr/lpp/netviewdm/script by using the following commands:

   ```
   cd /
   ```

   ```
   restore -qf /usr/sys/inst.images/<installation image> ►
   -xv ./usr/lpp/netviewdm/script/restore_nvdm
   ```

   where <installation image> should be replaced by the name of the image, for example, netviewdm6000.usr.3.1.3.0.

4. Execute the recovery script from the directory:

   ```
   ksh restore_nvdm
   ```

5. Start NetView DM using the command:

   ```
   nvdm start
   ```

Chapter 5. Scenario 2: Migrating a Local SD Client

In this scenario we show how to migrate an SD Client. We show how to do this in two different ways: with and without using the Network File System (NFS).

5.1 Understanding the Scenario

Before we document the migration step by step we describe the process flow of the migration. As already mentioned, we perform the installation process with and without NFS. The differences are shown in the preparation of the change files (refer to 5.8.3, “Customizing the Change File Profiles” on page 69).

The scenario with NFS components installed is shown in Figure 27.

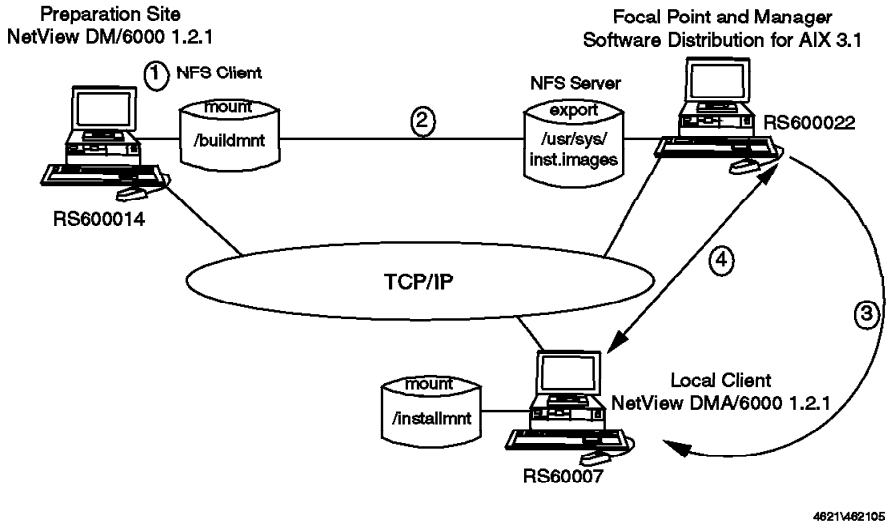

Figure 27. Process Flow of Client Migration

We are using three different systems in this scenario:

- An SD Preparation Site
- An SD Focal Point
- An local SD Client which is going to be migrated to Software Distribution for AIX 3.1.3

The software configuration of these computers before the migration is shown in Table 7 on page 46. After the migration we have the software levels of Table 8 on page 47.

The preparation site is necessarily based on NetView DM/6000 1.2.1 because we have to build the change files on this version. Otherwise, the client that will be migrated can not understand the internal format of the change files. The SD Focal Point is based on Software Distribution for AIX 3.1.3. This is a prerequisite that we already described in Chapter 3, “Overview of the Migration Scenarios” on page 19. The SD Focal Point is also the NFS server where the installation images are located. The exported directory is `/usr/sys/inst.nvdm.images/nvdm313`.

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At the time the change file is built, the SD Preparation Site mounts the exported file system over the directory /buildmnt.

When using NFS, the SD Client mounts the exported file system at installation time over the directory /usr/sys/inst.images.

All systems are connected in the same LAN. The migration of the SD Client goes through the following steps. (The numbered steps refer to the numbers in Figure 80 on page 83.)

1. Preparation of the change files at the preparation site.
2. Transfer of the change file to the repository of the SD Server as part of the build process.
3. Start of the migration by installing the change files on the SD Client.
4. When using NFS, mount of the remote file system from the NFS server.

If you don't want to use NFS mounts during the installation process, use change file profiles where the images are included in the change files. The disadvantage of this method is the overhead of disk space that is needed on the SD Client to temporarily store these change files in the work area. The NFS method requires some overhead regarding exporting directories and assigning access rights to systems and users. You have to talk to your LAN administrator to make an agreement between the requirements of software distribution and other aspects of security definition in the LAN.

Table 7 (Page 1 of 2). Installed Software of Scenario 2 before the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitest.En_US.obj.3.1.3.0 netviewdm6000.gitest.en_US.obj.3.1.3.0 netviewdm6000.man.En_US.obj.3.1.3.0 netviewdm6000.man.en_US.obj.3.1.3.0 netviewdm6000.msg.en_US.obj.3.1.3.0 netviewdm6000.plan.obj.3.1.3.0 netviewdm6000.remoteadmin.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0

Table 7 (Page 2 of 2). Installed Software of Scenario 2 before the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399
rs60007	Local Client	RS600022.RS60007	netviewdm6000.clbook.obj.1.0.2.0 netviewdm6000.clbook.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.0 netviewdm6000.clgi.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.1.U438390 netviewdm6000.client.obj.1.0.2.0 netviewdm6000.client.obj.1.0.2.1.U436929 netviewdm6000.client.obj.1.0.2.1.U438390

Table 8 (Page 1 of 2). Installed Software of Scenario 2 after the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitest.En_US.obj.3.1.3.0 netviewdm6000.gitest.en_US.obj.3.1.3.0 netviewdm6000.man.En_US.obj.3.1.3.0 netviewdm6000.man.en_US.obj.3.1.3.0 netviewdm6000.msg.en_US.obj.3.1.3.0 netviewdm6000.plan.obj.3.1.3.0 netviewdm6000.remoteadmin.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0

Table 8 (Page 2 of 2). Installed Software of Scenario 2 after the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399
rs60007	Local Client	RS600022.RS60007	netviewdm6000.clgi.obj.3.1.3.0 netviewdm6000.client.obj.1.0.2.0

5.2 Avoiding Migration Problems

In the rest of this chapter we show how to migrate the local SD Client. In our experience this migration may fail because of some trivial errors such as:

- The previous version of the software to be migrated is not committed.
- Your system is running out of disk space.

In order to avoid disaster, we strongly recommend that you test the migration on a local test system before attempting a large-scale migration. In case of problems, first verify that your system is in the right status before you start the migration, then check the log files.

5.3 Status of the SD Preparation Site

Before starting the migration, we show the status of the SD Preparation Site. This documentation allows you to analyze the migration in case of problems. The following commands are only examples. If there are serious problems, you might document additional configuration data.

Create a directory `migrate_before` in the NetView DM base directory by using the following commands:

```
cd /usr/lpp/netviewdm
mkdir migrate_before
```

To document NetView DM-related information, do the following:

- Copy the base configuration file `nvdm.cfg` into the `migrate_before` directory using:

```
cp /usr/lpp/netviewdm/db/nvdm.cfg ►
/usr/lpp/netviewdm/migrate_before/nvdm.cfg
```

The output should look similar to the following:

```
WORKSTATION NAME:     rs600014
MESSAGE LOG LEVEL:    D
LAN AUTHORIZATION:    0
CONFIGURATION:        SERVER_WITH_COMMS
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:               rs600014
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 28. nvdm.cfg at the SD Preparation Site

As you can see, the system is configured as an SD Server.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_before directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_before/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:               Server
Server name:                 rs600014
Remote administration:       No
Remote communications:       Yes
LAN authorization:           No
```

Figure 29. nvdm lsbs at the SD Preparation Site

The SD Preparation Site is using remote communications.

- List all defined targets with their description and copy the output to a file (named, for example, nvdm_lstg) into the migrate_before directory using:

  ```
  nvdm lstg \* -l > /usr/lpp/netviewdm/migrate_before/nvdm_lstg
  ```

  The following panel shows the contents of this file:

```
Target:                rs600014
Description:           Preparation Site
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Push
Operating system:      AIX
Short name:            RS600014
Network ID:            RS600014
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Logging level:         Normal
Tracing state:         Off
Installation parms:    None.
Hardware parms:        None.
Discovered inventory:  None.
Users:                 root

Target:                rs600022
Description:           Focal Point and Manager
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Report-to Focal Point
Short name:            RS600022
Network ID:            RS600022
```

*Figure 30. nvdm lstg * -l at the SD Preparation Site*

You can see that there is one remote server (rs600022), no local client, and the server itself (rs600014, push mode) defined to the server.

- To compare the names of the files in the product's database directory you can redirect the listing of this directory to a file named, for example, nvdmdbdir into the migrate_before directory, using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_before/nvdmdbdir
  ```

  The following panel shows the contents of the output we received:

```
total 184
drwxr-sr-x   9 root     FNDADMN      512 Aug 28 18:10 .
drwxrwsrwx  16 sys      FNDADMN     1024 Aug 28 19:25 ..
-rw-rw----   1 root     FNDADMN    40960 Aug 28 18:54 catalog
drwxrwx---   2 root     FNDADMN      512 Aug 28 18:09 cm_status
-rw-rw----   1 root     FNDADMN      556 Aug 28 18:20 nvdm.cfg
drwxrwx---   2 root     FNDADMN      512 Aug 28 17:23 parms
-rw-rw----   1 root     FNDADMN       48 Aug 28 18:16 routetab
-rw-rw----   1 root     FNDADMN      149 Mar 22 1995  snads_config
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 18:17 snads_conn
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 19:08 target_config
drwxrwx---   2 root     FNDADMN      512 Aug 28 17:23 target_group
drwxrwx---   2 root     FNDADMN      512 Aug 28 17:23 target_hw
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 19:08 tmp
-rw-rw----   1 root     FNDADMN      430 Mar 22 1995  user_config
```

Figure 31. ls -al /usr/lpp/netviewdm/db at the SD Preparation Site

- To compare the names of the files in the product's repository you can redirect the listing of this directory to a file named for example, nvdmreposdir into the migrate_before directory using:

  ```
  ls -al /usr/lpp/netviewdm/repos ►
  > /usr/lpp/netviewdm/migrate_before/nvdmreposdir
  ```

  the following panel shows the contents of the output we received:

```
total 32
drwxrwx---   2 root     FNDADMN      512 Aug 28 18:54 .
drwxrwsrwx  16 sys      FNDADMN     1024 Aug 28 19:25 ..
-rw-rw----   1 root     FNDADMN     6817 Aug 28 18:54 TEST.FILE.REF.1
```

Figure 32. ls -al /usr/lpp/netviewdm/repos at the SD Preparation Site

The repository contains only a test file from a previous run.

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, lslppnvdm) into the migrate_before directory, use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:21:27
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     17:33:39
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     17:33:40

  netviewdm6000.books.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:02:50

  netviewdm6000.comms.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:02:50
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:15:52
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:15:53

  netviewdm6000.gi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:02:50
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:15:50
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:15:51

  netviewdm6000.info.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:02:50
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:15:50

  netviewdm6000.server.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:02:50
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:15:53
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:15:54

  netviewdm6000.tool.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:02:50
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:15:51
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:15:52
```

Figure 33. lslpp -h netviewdm6000 at the SD Preparation Site*

The output shows that we have installed NetView DM/6000 1.2.1 including the PTF levels U436928 and U438399.

- Copy the routetab file into the migrate_before directory using:

  ```
  cp /usr/lpp/netviewdm/db/routetab ►
  > /usr/lpp/netviewdm/migrate_before/routetab
  ```

  We received the following output:

```
NETWORK PROTOCOL:   TCP/IP
RS600022.*  RS600022
```

Figure 34. routetab at the SD Preparation Site

- Copy the connection file RS600022 file listed in the routetab file into the migrate_before directory using:

```
cp /usr/lpp/netviewdm/db/snads_conn/RS600022 ►
> /usr/lpp/netviewdm/migrate_before/RS600022
```

We received the following output:

```
PROTOCOL:                       TCP/IP
REMOTE SERVER NAME:             rs600022
TCP/IP TIME-OUT:                300
NEXT DSU:                       RS600022.RS600022
TRANSMISSION TIME-OUT:          60
RETRY LIMIT:                    3
SEND MU_ID TIME-OUT:            60
RECEIVE MU_ID TIME-OUT:         120
```

Figure 35. RS600022 at the SD Preparation Site

- Redirect the status of the targets into the migrate_before directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_before/nvdm_stattg
  ```

  We received the following output:

```
Target                          Status

rs600014                        Active
```

*Figure 36. nvdm stattg * at the SD Preparation Site*

5.4 Status of the SD Focal Point

Before you start the migration we recommend that you document the status of your SD Focal Point. This documentation allows you to analyze the migration in case of problems. The following commands are only examples. If there are serious problems, you might document some more configuration data.

Create a directory migrate_before in the NetView DM base directory by using the following commands:

```
cd /usr/lpp/netviewdm

mkdir migrate_before
```

To document NetView DM-related information, do the following:

- Copy the base configuration file nvdm.cfg into the migrate_before directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ►
  /usr/lpp/netviewdm/migrate_before/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs600022
MESSAGE LOG LEVEL:    D
LAN AUTHORIZATION:    0
LOG FILE SIZE:        500000
TRACE FILE SIZE:      1000000
API TRACE FILE SIZE:  500000
TCP/IP PORT:          729
MAX TARGETS:          600
MAX CONNECTIONS:      1
MAX USER INTERFACES:  20
CONFIGURATION:        REMOTE_ADMIN_SERVER
MACHINE TYPE:         AIX
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
SERVER:               rs600022
MAX SERVER TARGETS:   2048
PLAN FEATURE:         Y
```

Figure 37. nvdm.cfg at the SD Focal Point

As you can see the system is configured as an SD Server with the remote administration option and the plan feature.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_before directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_before/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:               Server
Server name:                 rs600022
Remote administration:       Yes
Remote communications:       Yes
LAN authorization:           No
Authorize                    NONE
```

Figure 38. nvdm lsbs at the SD Focal Point

The SD Focal Point is using remote administration and remote communications.

- List all defined targets with their description and copy the output to a file (named, for example, nvdm_lstg) into the migrate_before directory using:

  ```
  nvdm lstg \* -l /usr/lpp/netviewdm/migrate_before/nvdm_lstg
  ```

  The following panel shows the contents of this file:

```
Target:               rs600014
Description:          Preparation Site
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Type:                 SERVER
Operating system:     AIX
Target address:       RS600014
Domain address:       RS600014
LAN address:
Network:              TCP rs600014
Installation parms:   (none)
Hardware parms:       (none)
Discovered inventory: (none)

Target:               rs600015
Description:          Server
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Type:                 SERVER
Operating system:     AIX
Target address:       RS600015
Domain address:       RS600015
LAN address:
Network:              TCP rs600015
Installation parms:   (none)
Hardware parms:       (none)
Discovered inventory: (none)

Target:               rs600022
Description:          INITIAL TARGET CONFIGURATION RECORD
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Type:                 SERVER
Operating system:     AIX
Target address:       RS600022
Domain address:       RS600022
LAN address:
CM window:            00:00:00 - 23:59:00
Distribution window:  00:00:00 - 23:59:00
Network:              TCP rs600022
Logging level:        Normal
Tracing state:        Off
Installation parms:   (none)
Shared tokens:        (none)
Hardware parms:       (none)
Discovered inventory: (none)
```

```
Target:                rs60007
Description:           Client
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Server name:           rs600022
Type:                  CLIENT
Operating system:      AIX
Target address:        RS60007
Domain address:        RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs60007
Logging level:         Normal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)
```

*Figure 39 (Part 2 of 2). nvdm lstg * -l at the SD Focal Point*

You can see that there are two remote servers (rs600014 and rs600015), a local client (rs60007, push mode) and the server itself (rs600022, push mode) defined to the SD Focal Point.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named, for example, `nvdmdbdir` into the `migrate_before` directory using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_before/nvdmdbdir
  ```

  The following figure shows the contents of the output we received:

```
total 496
drwxrwx---   4 root     FNDADMN      512 Aug 28 22:40 .
drwxrwsrwx  14 sys      FNDADMN      512 Aug 28 22:36 ..
-rw-rw----   1 root     FNDADMN    18432 Aug 28 22:45 auth
-rw-rw----   1 root     FNDADMN    45056 Aug 28 22:45 catalog
-rw-rw----   1 root     FNDADMN    29696 Aug 28 22:45 cmstatus
-rw-rw----   1 root     FNDADMN     4096 Aug 28 22:45 dyntggrp
-rw-rw----   1 root     FNDADMN     6556 Aug 01 14:30 errtolvl
-rw-rw----   1 root     FNDADMN      608 Aug 28 22:40 nvdm.cfg
-rw-rw----   1 root     FNDADMN       69 Aug 28 22:37 routetab
-rw-rw----   1 root     FNDADMN     9216 Aug 28 22:45 snacorr
-rw-r-----   1 root     FNDADMN      149 Aug 28 22:37 snadscfg
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 22:37 snadscon
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 22:37 tmp
-rw-rw----   1 root     FNDADMN    14336 Aug 28 22:45 trgcfg
-rw-rw----   1 root     FNDADMN     4096 Aug 28 22:45 trggrp
-rw-rw----   1 root     FNDADMN    70656 Aug 28 23:01 userreq
-rw-rw----   1 root     FNDADMN     7168 Aug 28 22:45 users
```

Figure 40. ls -al /usr/lpp/netviewdm/db at the SD Focal Point

- To compare the names of the files in the product's repository, you can redirect the listing of this directory to a file named, for example, `nvdmreposdir` into the `migrate_before` directory using:

  ```
  ls -al /usr/lpp/netviewdm/repos ►
  > /usr/lpp/netviewdm/migrate_before/nvdmreposdir
  ```

  The following panel shows the contents of the output we received:

```
total 32
drwxrwx---   2 root     FNDADMN      512 Aug 28 22:30 .
drwxrwsrwx  14 sys      FNDADMN      512 Aug 28 22:36 ..
-rwxrwxr-x   1 root     FNDADMN     6817 Aug 28 22:30 TEST.FILE.REF.1
-rwxrwxr-x   1 root     FNDADMN     6713 Aug 28 20:23 TEST.APPL.CF1.REF.1
-rwxrwxr-x   1 root     FNDADMN     7524 Aug 28 21:13 TEST.APPL.CF2.REF.1
-rwxrwxr-x   1 root     FNDADMN     7117 Aug 28 23:57 TEST.APPL.CF3.REF.1
```

Figure 41. ls -al /usr/lpp/netviewdm/repos at the SD Focal Point

The repository contains only some test change files from previous runs.

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, `lslppnvdm`) into the `migrate_before` directory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:48

  netviewdm6000.comms.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:49

  netviewdm6000.gi.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:48

  netviewdm6000.gitext.En_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:02

  netviewdm6000.gitext.en_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:06

  netviewdm6000.man.En_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:11

  netviewdm6000.man.en_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:21

  netviewdm6000.msg.en_US
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:29

  netviewdm6000.plan.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:33

  netviewdm6000.remoteadmin.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:38:33

  netviewdm6000.server.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:39:24

  netviewdm6000.tool.obj
                  3.1.3.0   COMMIT       COMPLETE     08/28/96     22:34:48
```

Figure 42. lslpp -h netviewdm6000 at the SD Focal Point*

The output shows that we have installed Software Distribution for AIX 3.1.3.

- Copy the routetab file into the `migrate_before` directory using:

  ```
  cp /usr/lpp/netviewdm/db/routetab ►
  > /usr/lpp/netviewdm/migrate_before/routetab
  ```

  We received the following output:

```
NETWORK PROTOCOL:   TCP/IP
RS600014.*  RS600014
RS600015.*  RS600015
```

Figure 43. routetab at the SD Focal Point

- Copy the connection file RS600014 listed in the routetab file into migrate_before directory using:

  ```
  cp /usr/lpp/netviewdm/db/snadscon/RS600014 ►
  > /usr/lpp/netviewdm/migrate_before/RS600014
  ```

  We received the following output:

```
PROTOCOL:                       TCP/IP
REMOTE SERVER NAME:             rs600014
TCP/IP TIME-OUT:                300
NEXT DSU:                       RS600014.RS600014
TRANSMISSION TIME-OUT:          60
RETRY LIMIT:                    3
SEND MU_ID TIME-OUT:            60
RECEIVE MU_ID TIME-OUT:         120
TYPE:                           SNA
```

Figure 44. RS600014 at the SD Focal Point

- We will also copy all other relevant connection files into the migrate_before directory.
- Redirect the status of the targest into a file in the migrate_before directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_before/nvdm_stattg
  ```

  We received the following output:

```
The required command could take a long execution time.
Do you really want to execute the command for all targets [y/n]?
Target                          Status

rs600022                        Available
rs60007                         Available
```

*Figure 45. nvdm stattg * at the SD Focal Point*

5.5 Status of the Local SD Client before the Migration

Before you start the migration we recommend that you document the status of the local SD Client. This documentation allows you to analyze the migration in case of problems. The following commands are only examples. If there are serious problems, you might document additional configuration data.

Create a directory migrate_before in the NetView DM base directory by using the following commands:

```
cd /usr/lpp/netviewdm

mkdir migrate_before
```

To document NetView DM-related information, do the following:

- Copy the base configuration file nvdm.cfg into the migrate_before directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg  ►
  /usr/lpp/netviewdm/migrate_before/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs60007
MESSAGE LOG LEVEL:    D
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:               rs600022
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 46. nvdm.cfg at the Local SD Client before the Migration

As you can see the system is configured as an SD Client.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_before directory using:

  nvdm lsbs > /usr/lpp/netviewdm/migrate_before/nvdm_lsbs

  The following figure shows the message you will get back from the system:

```
FNDCL081E: The request could not be scheduled because the request
was not valid.  View the message log for details.
```

Figure 47. nvdm lsbs at the local SD Client before Migration

Because of different versions of SD at the client and server the nvdm lsbs command does not work. The same behavior can be seen for many other new or modified commands.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named, for example, nvdmdbdir into the migrate_before directory using:

  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_before/nvdmdbdir

  The following panel shows the contents of the output we received:

```
total 184
drwxr-sr-x   9 root     FNDADMN      512 Aug 28 18:10 .
drwxrwsrwx  16 sys      FNDADMN     1024 Aug 28 19:25 ..
-rw-rw----   1 root     FNDADMN      556 Aug 28 18:20 nvdm.cfg
```

Figure 48. ls -al /usr/lpp/netviewdm/db at Local SD Client before Migration

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, lslppnvdm) into the migrate_before directory use:

  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppnvdm

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.clbooks.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:24:26
          1.0.2.1.U436929   COMMIT       COMPLETE     08/28/96     17:34:34

  netviewdm6000.clgi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:24:26
          1.0.2.1.U436929   COMMIT       COMPLETE     08/28/96     17:34:34
          1.0.2.1.U438390   COMMIT       COMPLETE     08/28/96     17:34:34

  netviewdm6000.client.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:24:26
          1.0.2.1.U436929   COMMIT       COMPLETE     08/28/96     17:34:33
          1.0.2.1.U438390   COMMIT       COMPLETE     08/28/96     17:34:33
```

Figure 49. lslpp -h netviewdm6000 at the Local SD Client before the Migration*

The output shows that we have installed NetView DM/6000 1.2.1 including the PTF levels U436929 and U438390.

- Redirect the output of the target status into the migrate_before directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_before/nvdm_stattg
  ```

  We received the following output:

```
FNDCL081E: The request could not be scheduled because the request
was not valid.  View the message log for details.
```

*Figure 50. nvdm stattg * at the Local SD Client before the Migration*

Because of different versions of SD on the server and client the nvdm stattg command does not work. The same problem occurs when you execute the nvdm lscm command to list the change management history for this client. If you want to list the history you must submit the request at the server or at a client that already has Software Distribution for AIX 3.1.3 installed.

5.6 Verifying the ODM/SD Database Status of the Remote SD Server

We described how to use the command lslpp -h netviewdm6000* to check the installation status of the application at the SD Client (refer to Figure 49). It shows that all installed options are in the status of COMMIT. Since it is a prerequisite for installp-type installations you have to commit your options if they are still in the status APPLIED. You can do that by using the following command:

```
installp -c <option>
```

where <option> is the installation option you want to commit. You can also use the smit panels (fast path: smitty install_manage_applied) to do this.

If you want to use the application to do that, you have to write a procedure which executes the above-mentioned installp command and catalog it as a procedure.

5.7 Removing Obsolete LPP Options

For a NetView DM/6000 1.2.1 SD Client there is an installation option which no longer exists in Software Distribution for AIX 3.1.3. The option is netviewdm6000.clbooks.obj. It is not necessary to remove this option from a technical point of view but it takes away disk space, so we suggest you remove it.

If you decide to remove obsolete options, you have to do that *before* you migrate to Software Distribution for AIX 3.1.3. This is true no matter if you use smit or software distribution change requests to remove the option.

The reason for this is that the option has the base client option `netviewdm6000.client.obj` of NetView DM/6000 1.2.1 as a prerequisite. When you have already migrated the application, this required option no longer exists, so the removal will fail.

You will see an output similar to Figure 51 when you try to remove the option after you have already migrated the application:

```
                                COMMAND STATUS

Command: failed        stdout: yes           stderr: no

Before command completion, additional instructions may appear below.

[MORE...13]
0503-269 installp:  The following software products will not be applied
        unless products upon which they depend are applied first:

Product  netviewdm6000.clbooks.obj
at level 1.0.2.0 requires:
   At least 1 of the following:
   | = netviewdm6000.client.obj v=1, r=0, m=2

where:
"=" indicates a base level product for which there is another version
    that is either already installed or was selected to be installed
    during this installation session.
```

Figure 51. Failed Removal Message

When you use Software Distribution for AIX 3.1.3 to remove the option, you will see similar output in the file `extlog1` at the SD Client. This file contains the log of the actual installp operation initiated by Software Distribution for AIX 3.1.3 and is located in the the product's root directory.

There are different methods for removing the option depending on the actual status of the option (COMMIT or APPLIED) and the version of the operating system.

We show SD profiles for the two standard situations:

- AIX 3.2.5 and status APPLIED
- AIX 4.1 and status COMMITTED

In all other cases you have to use the tricks given in 8.1, "Removing LPPs in AIX 3.2" on page 149.

If you want to use SD for this, do the following:

Attention

The following commands sometimes kill the client process. Do not try this scenario without a watchdog for SD. See 8.3, "Implementing a Simple Watchdog" on page 151 for more information on how to do it.

- AIX 3.2.5 and Status APPLIED

1. Create a profile which includes the installation option which you want to remove. Give the change file a name (for example, CLEANUP.CLIENT.VERSION12.REF.1) and build it at the preparation site.

   It is important that you don't build the change file from the installation image containing the PTF. You have to build it from the base installation image.

   We assume that you decide to include the installation image in the change file (Type: INSTALLP_IMAGE) and that /usr/sys/inst.nvdm.images/nvdm121 is the directory where your installation images reside. Create the following change file profile with the name client_cleanup.profile:

```
GLOBAL NAME:         CLEANUP.CLIENT.VERSION12.REF.1
CHANGE FILE TYPE:    AIXINSTP
COMPRESSION TYPE:    LZW
REBOOT REQUIRED:     NO
PACK FILES:          NO
SECURE PACKAGE:      NO
OBJECT:
   NAME:             /usr/sys/inst.nvdm.images/nvdm121/netviewdm6000.client.1.0.2.0
   OPP OPTION:       netviewdm6000.clbooks.obj 01.00.0002.0000
   TYPE:             INSTALLP_IMAGE
```

Figure 52. client_cleanup.profile for AIX 3.2.5

2. At the SD Preparation Site build a change file from this profile with the command:

   ```
   nvdm bld client_cleanup.profile
   ```

3. At the SD Preparation Site send the change file to the Software Distribution for AIX 3.1.3 SD Focal Point by typing:

   ```
   nvdm send cleanup.client.version12.ref.1 rs600022
   ```

4. On the SD Focal Point install the change file to the client using the force option by typing:

   ```
   nvdm inst cleanup.client.version12.ref.1 -w rs60007 -f
   ```

5. If the change has been executed successfully, the status in the database of the server is Installed, Removable, Active, while the status in the ODM database is APPLIED. You can now remove the change file by typing:

   ```
   nvdm rem cleanup.client.version12.ref.1 -w rs60007
   ```

6. Now the option is removed. This means the status in both databases is Available.

- AIX 4.1 and Status COMMITTED

  1. Create a profile that includes the installation option that you want to remove. Give the change file a name (for example, CLEANUP.CLIENT.VERSION12.REF.1). You have to build the change file at the preparation site.

     It is important that you don't build the change file from the installation image containing the PTF. You have to build it from the base installation image.

     We assume that you decide to include the installation image in the change file (Type: INSTALLP_IMAGE) and that /usr/sys/inst.nvdm.images/nvdm121 is the directory where your installation images reside. Create the following change file profile with the name client_cleanup.profile.41:

```
GLOBAL NAME:         CLEANUP.CLIENT.VERSION12.REF.1
CHANGE FILE TYPE:    AIXINSTP
COMPRESSION TYPE:    LZW
REBOOT REQUIRED:     NO
PACK FILES:          NO
SECURE PACKAGE:      NO
OBJECT:
   NAME:             /usr/sys/inst.nvdm.images/nvdm121/netviewdm6000.client.1.0.2.0
   OPP OPTION:       netviewdm6000.clbooks.obj 1.0.2.0
   TYPE:             INSTALLP_IMAGE
```

Figure 53. client_cleanup.profile.41 for AIX 4.1

2. At the SD Preparation Site build a change file from this profile with the command:

   ```
   nvdm bld client_cleanup.profile.41
   ```

3. Send the change file from the SD Preparation Site to the Software Distribution for AIX 3.1.3 SD Focal Point by typing:

   ```
   nvdm send cleanup.client.version12.ref.1 rs600022
   ```

4. Install the change file to the client using the force option by typing:

   ```
   nvdm inst cleanup.client.version12.ref.1 -w rs60007 -f
   ```

5. If the change has been executed successfully, the status in the database of Software Distribution for AIX 3.1.3 is `Installed, Not Removable, Active`, while the status in the ODM database is `Committed`. You can now uninstall the change file by typing:

   ```
   nvdm uninst cleanup.client.version12.ref.1 -w rs60007
   ```

6. Now the option is uninstalled. This means the status in both databases has changed to Available.

- During the migration you can check the `fndlog` file that shows the installp output at the local SD Focal Point by using the following commands:

  ```
  cd /usr/lpp/netviewdm

  tail -f fndlog
  ```

  We received the following output:

```
1996/08/29 00:19:03 rs600022
 37432 FNDRQ148I: @root rs600022 4 0 N/A rs60007 :
 Install request completed.  Error severity is 12.
1996/08/29 00:22:15 rs600022
 37432 FNDRQ034I: @root rs600022 5 0 N/A N/A :
 Install request completed store in the local database.
1996/08/29 00:24:32 rs60007
 26468 FNDRB169E: Version 1.X target rs60007 has attempted to perform
 an unknown or unsupported command.
1996/08/29 00:25:34 rs60007
 33640 FNDCL786I: The product is stopping.
1996/08/29 00:25:38 rs60007
 41052 FNDCM312I: @rs600022 1996/08/29 2 rs60007 :
 The installation was successful, but it was necessary to perform the
 installation with removability = no, even though the request was for
 removability = desired.
1996/08/29 00:25:38 rs60007
 41052 FNDCM317I: @rs600022 1996/08/29 2 rs60007 :
 The installation was successful with removability=yes (desired).
1996/08/29 00:25:38 rs600022
 35898 FNDSH010I: @root rs600022 5 0 N/A rs60007 :
 Install succeeded on CLEANUP.CLIENT.VERSION12.REF.1.
1996/08/29 00:25:38 rs600022
 37432 FNDRQ108I: @root rs600022 5 0 N/A rs60007 :
 Received successful Install report.
1996/08/29 00:25:38 rs600022
 37432 FNDRQ147I: @root rs600022 5 0 N/A rs60007 :
 Install request completed successfully.
1996/08/29 00:28:41 rs600022
 37432 FNDRQ034I: @root rs600022 6 0 N/A N/A :
 Uninstall request completed store in the local database.
1996/08/29 00:29:17 rs600022
 29104 FNDRX100W: Failed to connect to DACA at client rs60007 with
 outstanding request.  The system will retry the connection later.
1996/08/29 00:35:33 rs60007
 26482 FNDRX011W: Received bad send_length 4434.
1996/08/29 00:35:33 rs60007
 26482 FNDRX010W: The operating system returned error 32 on send call
 for socket 39.
1996/08/29 00:35:33 rs60007
 37774 FNDRB055E: File IBM.NDM6000.CLBOOKS.REF.112 cannot be
 uncataloged because it is in use on target rs60007.
1996/08/29 00:35:34 rs60007
 39682 FNDCL786I: The product is stopping.
1996/08/29 00:35:41 rs600022
 35898 FNDSH025I: @root rs600022 6 0 N/A rs60007 :
 Uninstall succeeded on CLEANUP.CLIENT.VERSION12.
1996/08/29 00:35:42 rs600022
 37432 FNDRQ108I: @root rs600022 6 0 N/A rs60007 :
 Received successful Uninstall report.
1996/08/29 00:35:42 rs600022
 37432 FNDRQ147I: @root rs600022 6 0 N/A rs60007 :
 Uninstall request completed successfully.
```

Figure 54. tail -f fndlog at the SD Focal Point after Removing Obsolete Options

In this log we see some breakdowns of the connection and the successful completion of the uninstall command.

- During the Migration you can check the extlog1 file that shows that installp output at the local SD Client by using the following commands:

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

  ```
  tail -f extlog1
  ```

  We received the following output:

```
+-----------------------------------------------------------------------------+
                   Pre-deinstall Verification...
+-----------------------------------------------------------------------------+
installp:  Pre-deinstall verification may take several minutes.
Please wait...
Verifying selections...done
Verifying requisites...done
Results...

SUCCESSES
---------
  Filesets listed in this section passed pre-deinstall verification
  and will be removed.

  Selected Filesets
  -----------------
  netviewdm6000.clbooks.obj 1.0.2.0           # NetView DM/6000 Online Docum...

  << End of Success Section >>

FILESET STATISTICS
------------------
    1  Selected to be deinstalled, of which:
        1  Passed pre-deinstall verification
  ----
    1  Total to be deinstalled
+-----------------------------------------------------------------------------+
                          Deinstalling Software...
+-----------------------------------------------------------------------------+

installp:  DEINSTALLING software for:
        netviewdm6000.clbooks.obj 1.0.2.0

Finished processing all filesets.  (Total time:  12 secs).

+-----------------------------------------------------------------------------+
                       Post-deinstall Processing...
+-----------------------------------------------------------------------------+
+-----------------------------------------------------------------------------+
                                Summaries:
+-----------------------------------------------------------------------------+

Installation Summary
--------------------
Name                        Level           Part        Event       Result
-------------------------------------------------------------------------------
netviewdm6000.clbooks.obj   1.0.2.0         USR         DEINSTALL   SUCCESS
```

Figure 55. tail -f extlog1 at the Local SD Client After Removing Obsolete Options

In this log we can follow the removal of an obsolete option step by step.

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, `lslppuninst`) in the `migrate_before` directory, use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppuninst
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.clgi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:24:26
          1.0.2.1.U436929   COMMIT       COMPLETE     08/28/96     17:34:34
          1.0.2.1.U438390   COMMIT       COMPLETE     08/28/96     17:34:34

  netviewdm6000.client.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     17:24:26
          1.0.2.1.U436929   COMMIT       COMPLETE     08/28/96     17:34:33
          1.0.2.1.U438390   COMMIT       COMPLETE     08/28/96     17:34:33
```

Figure 56. lslpp -h netviewdm6000 at the local SD Client after Removing Obsolete Options*

The output shows that we have installed NetView DM/6000 1.2.1 with some PTFs.

After you have removed the option we suggest you also delete the history of the original change file which is still in the status DISCOVERED.

Note

Even if you delete the change management status of the discovered change file of the clbooks option, it will not be deleted from the file fndswinv, which is the client's inventory file. This causes the change file again to be discovered when the nvdm inv command is issued the next time.

You have to delete the corresponding line at the client's inventory file if you don't want to get the DISCOVERED status again.

5.8 Migrating the Local SD Client

The main steps that you have to perform have to be done at the SD Preparation Site and the SD Focal Point. Therefore we will go through them step by step.

5.8.1 Accessing the Installation Images

First you have to make sure that you have the installation images available. You can access the images directly from a tape, copy them to a directory on your hard disk (for example, /usr/sys/inst.images) by using the command bffcreate or, if they are already available on one of the systems in your network, you can mount the directory where the images are located using NFS. We use the second method. Our images are located on the Software Distribution for AIX 3.1.3 SD Focal Point (rs600022) in the directory /usr/sys/inst.nvdm.install/nvdm313. Export this directory on the SD Focal Point (rs600022) with the command:

```
/usr/sbin/mknfsexp -d '/usr/sys/inst.nvdm.images/nvdm313' -t 'rw' '-B'
```

This allows other systems to access this NFS file system. Mount this directory at the preparation site (rs600014) as /buildmnt using the following commands:

```
mkdir /buildmnt
```

```
mount rs600022:/usr/sys/inst.nvdm.images/nvdm313 /buildmnt
```

You can list the contents of the directory by using the command:

```
ls -al /buildmnt
```

You should receive an output similar to the following:

```
total 125928
drwxr-sr-x   2 root     sys          512 Aug 21 15:53 .
drwxr-xr-x  19 bin      bin         1024 Aug 26 17:56 ..
-rw-r--r--   1 root     sys         8221 Aug 21 16:03 .toc
-rw-r--r--   1 root     sys     11967488 Aug 12 17:34 netviewdm6000.client.3.1.3.0
-rw-r--r--   1 root     sys       984064 Aug 12 17:36 netviewdm6000.gitext.En_US.3.1.3.0
-rw-r--r--   1 root     sys       984064 Aug 12 17:37 netviewdm6000.gitext.en_US.3.1.3.0
-rw-r--r--   1 root     sys       317440 Aug 12 17:37 netviewdm6000.man.En_US.3.1.3.0
-rw-r--r--   1 root     sys       317440 Aug 12 17:38 netviewdm6000.man.en_US.3.1.3.0
-rw-r--r--   1 root     sys      6412288 Aug 12 17:45 netviewdm6000.mobclient.3.1.3.0
-rw-r--r--   1 root     sys       507904 Aug 12 17:46 netviewdm6000.msg.En_US.3.1.3.0
-rw-r--r--   1 root     sys       507904 Aug 12 17:47 netviewdm6000.msg.en_US.3.1.3.0
-rw-r--r--   1 root     sys      1174528 Aug 12 17:48 netviewdm6000.plan.3.1.3.0
-rw-r--r--   1 root     sys     20951040 Aug 12 18:12 netviewdm6000.server.3.1.3.0
-rw-r--r--   1 root     sys     20316160 Aug 12 18:36 netviewdm6000.singlenode.3.1.3.0
```

Figure 57. "ls -al /buildmnt" at the SD Preparation Site

In this scenario we use the netviewdm6000.client.3.1.3.0 images. This image includes the client base option and the one for the graphical user interface. To list which installation options are included in the installation image you can use the command:

```
installp -l -d <image>
```

We used the following command:

```
installp -l -d netviewdm6000.client.3.1.3.0
```

to list the contents of the client base package and received the following output:

```
  Fileset Name               Level                  I/U Q Content
  ================================================================
  netviewdm6000.clgi.obj     3.1.3.0                 I  N usr
#   Software Distribution Client (3.1.3) for AIX Graphical

  netviewdm6000.client.obj   3.1.3.0                 I  N usr
#   Software Distribution Client (3.1.3) for AIX Client
```

Figure 58. Options in the Client Package

Note

The format of the software levels depends on the version of AIX:

- In AIX 3.2.5 the level is shown as 03.01.0003.0000.
- In AIX 4.1 the level is shown as 3.1.3.0.

5.8.2 Restoring Profiles and Preinstallation Scripts

If you perform the migration using the application itself, you have to restore change file profiles and preinstall scripts.

Note

If you have installed your Software Distribution for AIX 3.1.3 SD Focal Point including the tool option, you will find two directories called script and tool under the product's base directory. The files we are going to restore are located in these directories. This means that you can also mount these directories at the SD Preparation Site. In this case you don't need to restore the files from the installation images.

Note

Make sure that you have the latest documentation update available. In the *Software Distribution for AIX 3.1.3 Installation and Customization Guide* the documented steps 5-7 are wrong. The name of the profile to restore is `preinst.profile.client`, not `preinst.profile` as documented. `preinst.profile` is the preinstall profile for the server migration.

The profiles will be restored into the directory `/usr/lpp/netviewdm/tool` while the scripts will be restored into the directory `/usr/lpp/netviewdm/script`.

If your preparation site is an SD Server and you have installed the tool option of NetView DM/6000 1.2.1, you probably should save the old files in this directory otherwise files could be overwritten.

First we restore the change file profiles for the installation of the client package of Software Distribution for AIX 3.1.3.

- For AIX 3.2.5 use the following commands:

```
cd /

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/profile.client

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/preinst.profile.client
```

- For AIX 4.1 use the following commands:

```
cd /

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/profile.client.41

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/preinst.profile.client
```

where:

- `/buildmnt` is the directory in which the images are located.
- `netviewdm6000.server.3.1.3.0` is the image from where the profile is restored.

The files are restored from the tool option inside the server package.

You can replace the name of the server image with the name of the single node image as well, since the tool option is also included in this package.

After a few seconds you will see a message like the following for each restore command:

```
Cluster size is 51200 bytes (100 blocks).
The volume number is 1.
The backup date is: Wed Oct 18 16:10:57 EDT 1995
Files are backed up by name.
The user is builder.
x          833 ./usr/lpp/netviewdm/tool/profile.client
The total size is 833 bytes.
The number of restored files is 1.
```

Figure 59. Successful Restore Message

The restored profiles have the following content:

```
GLOBAL NAME:                IBM.NDM6000.PREINST_CLN.REF.3130
DESCRIPTION:                Pre-installation script Change File
CHANGE FILE TYPE:           GEN
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
SECURE PACKAGE:             NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TARGET NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
```

Figure 60. preinst.profile.client As Delivered in Install Images

This cleanup script will be used for clients that run on AIX 3.2.5 and AIX 4.1.

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REF.3130
DESCRIPTION:                Software Distribution Client for AIX Client feature
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
#PREREQ COMMAND:            mount <hostname>:/usr/sys/inst.images /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.clgi.obj 03.01.0003.0000
    TYPE:                   REMOTE_IMAGE
```

Figure 61. profile.client As Delivered for AIX 3.2.5 Based Clients

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REF.3130
DESCRIPTION:                Software Distribution Client for AIX Client feature
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
#PREREQ COMMAND:            mount <hostname>:/usr/sys/inst.images /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.clgi.obj 3.1.3.0
    TYPE:                   REMOTE_IMAGE
```

Figure 62. profile.client.41 As Delivered for AIX 4.1 Based Clients

Attention

You have to use the proper files for your operating system:

- On an AIX 3.2.5 system you have to use `profile.client`.
- On an AIX 4.1 system you have to use `profile.client.41`.

The difference between the profiles is the formatting of the OPP options. That means, for AIX 3.2 the level has to be in the format `03.01.0003.0000` while for AIX 4.1 the format has to be `3.1.3.0`.

If you do not use the correct version of the profile according to the level of the operating system, the build process of the change file will fail.

This is a limitation of NetView DM/6000 1.2.1 that has been solved in Software Distribution for AIX 3.1.3. But as long you build your change files for the migration on a system running the old version of the product, you have to keep this in mind.

This limitation is only related to the build process, not to the installation process.

Now we have to restore scripts which have to run before the migration itself. To restore these scripts use the following commands:

```
cd /

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/script/preinst_cln.3130

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/bin/fndckeq
```

These scripts are executed as preinstall scripts of the change file installing the client option. The purpose of the scripts is to save the base configuration file `nvdm.cfg` and the two inventory files `fndswinv` and `fndhwinv` to the directory `/usr/lpp/netviewdm/savemigr`. If the migration process fails for any reason you can restore those files from the `savemigr` directory. Because the script `preinst_cln.3130` is used in the change file for the base client package as a preinstall script, it has to be on the client in the directory where the main change file is expecting it.

In our case this is in the directory `/usr/lpp/netviewdm/script`.

5.8.3 Customizing the Change File Profiles

If you followed the documented steps, you should now have three change file profiles, which we will now customize to our needs. These profiles are located at the SD Preparation Site in the directory `/usr/lpp/netviewdm/tool`.

The profiles are not sufficient for our needs. We created the following change file profile for the different operating systems and for use with and without NFS:

- AIX 3.2.5 without NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.clgi.obj 03.01.0003.0000
    TYPE:                   INSTALLP_IMAGE
```

Figure 63. profile.client.installp Customized for AIX 3.2.5 without NFS

- AIX 4.1 without NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.clgi.obj 3.1.3.0
    TYPE:                   INSTALLP_IMAGE
```

Figure 64. profile.client.installp.41 Customized for AIX 4.1 without NFS

- AIX 3.2.5 with NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PREREQ COMMAND:             mount $(SERVER):/usr/sys/inst.images /usr/sys/inst.images
POSTREQ COMMAND:            unmount /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.clgi.obj 03.01.0003.0000
    TYPE:                   REMOTE_IMAGE
```

Figure 65. profile.client.nfs Customized for AIX 3.2.5 with NFS

- AIX 4.1 with NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PREREQ COMMAND:             mount $(SERVER):/usr/sys/inst.images /usr/sys/inst.images
POSTREQ COMMAND:            unmount /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.clgi.obj 3.1.3.0
    TYPE:                   REMOTE_IMAGE
```

Figure 66. profile.client.nfs.41 Customized for AIX 4.1 with NFS

- Profile for preinstall - AIX 3.2.5 and AIX 4.1:

```
GLOBAL NAME:                IBM.NDM6000.PREINST_CLN.REF.3130
CHANGE FILE TYPE:           GEN
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
SECURE PACKAGE:             NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TARGET NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
```

Figure 67. preinst.profile.client for Preinstall Script

We modified the lines with the following keywords:

- DESCRIPTION

  We removed the description line, since sometimes the description lines caused code page problems during the send or retrieve in a mixed SD environment.

- PREREQ COMMAND
  - Without NFS:

    When you are not using NFS, you do not need any PREREQ or POSTREQ commands. You can therefore delete these lines.

  - With NFS:

    We changed the line to the following value:

    ```
    mount $(SERVER):/usr/sys/inst.nvdm.images/nvdm313 ►
    /usr/sys/inst.images
    ```

    The token $(SERVER) is replaced by the name of the SD Server at the time the change file is installed.

    We used this built-in token because our SD Server (rs600022) is equal to the NFS server holding the installation images. It is important that the host name of the SD Server is equal to the target address that you have defined in the Software Distribution for AIX 3.1.3 database; otherwise, the mount command will fail. In that case the $(SERVER) token would be resolved with a wrong name. Please note that in Software Distribution for AIX 3.1.3 it is no longer necessary to have the same name for the target address and the TCP/IP host name.

    An advantage of using tokens in the change file is given when you have several SD Servers for multiple domains where the SD Server is also the NFS server holding the installation images. If the NFS server and the SD Server are different, you may want to create a token for the NFS server that you reference in the mount and unmount command.

    We replaced the first directory name on this line with /usr/sys/inst.nvdm.images/nvdm313 which is the name of the directory on our NFS server where the installation images are located.

    We replaced the second directory name on this line with /usr/sys/inst.images which is the name that the SD Client will use to mount the image directory at installation time. Make sure that this directory, which is also called a mount point, already exists at the SD Client; otherwise, the mount command will fail.

- POSTREQ COMMAND
  - Without NFS:

Without using NFS, you do not need a POSTREQ command.

– With NFS:

  We added a line with an `unmount` command that corresponds to the `mount` command after the keyword PREREQ COMMAND.

- PRE-INSTALL, POST-INSTALL, PRE-REMOVE, POST-REMOVE

  These lines were left at their defaults. You don′t have to restore the scripts which are specified in these lines, except for the preinstallation script. They are restored during the installp installation of the change file. The post-install script `postinst_cln` cleans up the system after the migration process, stops the old agent and starts the agent of the Software Distribution for AIX 3.1.3 SD Client.

- OOP OPTION

  We left the line containing the `OPP OPTION` at default, as well as the change file type `REMOTE_IMAGE`. If you do not want to install the option for the graphical user interface you have to simply delete that line. If you delete an option from the profile and you have installed the appropriate option in the old version of the product, we recommend that you remove this option of the old version before you start the migration.

5.8.4 Building Change Files from Profiles

We are now able to build the change files from the profiles we have restored and customized in the previous steps.

If you use the command line interface to do this at the preparation site, change to the directory `/usr/lpp/netviewdm/tool` and enter the following commands:

- AIX 3.2.5 without NFS.

  ```
  nvdm bld profile.client.installp
  nvdm bld preinst.profile.client
  ```

- AIX 3.2.5 with NFS.

  ```
  nvdm bld profile.client.nfs
  nvdm bld preinst.profile.client
  ```

- AIX 4.1 without NFS.

  ```
  nvdm bld profile.client.installp.41
  nvdm bld preinst.profile.client
  ```

- AIX 4.1 with NFS.

  ```
  nvdm bld profile.client.nfs.41
  nvdm bld preinst.profile.client
  ```

You can use the graphical user interface to do that as well.

5.8.5 Sending the Change Files to the SD Focal Point

Your change files have now been cataloged at the SD Preparation Site and can be sent to the SD Focal Point, which is then being used to install the change files on the SD Clients.

To send the change files to the SD Focal Point we used the command line interface at the SD Preparation Site. You can use the following commands to do that:

```
nvdm send ibm.ndm6000.client.reminst.3130 rs600022

nvdm send ibm.ndm6000.preinst_cln.ref.3130 rs600022
```

For each send request you get a sequence number which you can use to track the status of the change request. To check the status, you can use

```
nvdm lsrq <sequence number>
```

where <sequence number> is the number you get when issuing the send request.

To trigger change requests and messages originated by the application in general, we suggest you open a separate window at the preparation site where you should enter the following command from the products base directory to check the message log:

```
tail -f fndlog
```

When the change files have successfully arrived at the SD Focal Point the message log should show an output similar to the following:

```
1996/08/27 12:19:07 rs600022                  30312 FNDTC201I:
@root rs600014 1 0 Y1996M08D27 rs600022 : Sent to remote target.
1996/08/27 12:19:10 rs600022                  30312 FNDTC201I:
@root rs600014 2 0 Y1996M08D27 rs600022 : Sent to remote target.
```

Figure 68. fndlog at the SD Preparation Site after Sending the Change Files

Note

You can also use the new plan feature of the product to automate the execution of multiple change requests using requests inside a transmission plan. The requests can be conditioned on the result of each other.

If you want, you can use a transmission plan to retrieve the change files from the SD Preparation Site and install them at the SD Client. We show you how to use the plan feature in Chapter 7, “Scenario 4: Migrating a Remote SD Client Using the Plan Feature” on page 115.

5.8.6 Exporting the Installation Images at the NFS Server

When using the NFS profiles you have to export the directory with the installation images at the SD Server. Execute the following command at the NFS and SD Server:

```
/usr/sbin/mknfsexp -d '/usr/sys/inst.nvdm.images' -t 'rw' '-B'
```

5.8.7 Installing the Change Files at the SD Client

To install the generic change file containing the preinstallation script preinst_cln.3130 at the local SD Client enter the following command at the SD Focal Point:

```
nvdm inst ibm.ndm6000.preinst_cln.ref.3130 -w rs60007
```

To check the status of the change file during and after the installation enter the following command:

```
nvdm lscm ibm.ndm6000.preinst_cln.ref.3130 -w rs60007
```

To check the status of the related local queue of the change file enter the following command:

```
nvdm lsq rs60007
```

Also check for the messages shown in the message log.

If the installation fails, check the request.out file in the clients work directory. It shows you all the redirected output that was printed during the installation.

You can now install the change file that migrates the SD Client from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3. The name of the change file is IBM.NDM6000.CLIENT.REMINST.3130. Enter the following command:

```
nvdm inst ibm.ndm6000.client.reminst.3130 -w rs60007 -e
```

Important

Do not forget to use the installation option to extend the file system (-e) unless you are sure that you have enough disk space left in the file system.

If your target is still running a version prior to 1.2, it does not support the option to extend the file system. In this case you have to extend it manually or execute a script that does it.

During the migration process, you should always watch the message log fndlog at the SD Focal Point to monitor the installation process. To do this, use the following commands:

```
cd /usr/lpp/netviewdm
tail -f fndlog
```

We received the following output:

```
1996/08/29 01:55:04 rs600022
 37432 FNDRQ034I: @root rs600022 7 0 N/A N/A :
 Install request completed store in the local database.
1996/08/29 01:55:40 rs600022
 28672 FNDRX100W: Failed to connect to DACA at client rs60007 with
 outstanding request.  The system will retry the connection later.
1996/08/29 01:58:09 rs600022
 35898 FNDSH010I: @root rs600022 7 0 N/A rs60007 :
 Install succeeded on IBM.NDM6000.PREINST_CLN.REF.3130.
1996/08/29 01:58:09 rs600022
 37432 FNDRQ108I: @root rs600022 7 0 N/A rs60007 :
 Received successful Install report.
1996/08/29 01:58:09 rs600022
 37432 FNDRQ147I: @root rs600022 7 0 N/A rs60007 :
 Install request completed successfully.
1996/08/29 02:03:43 rs600022
 37432 FNDRQ034I: @root rs600022 8 0 N/A N/A :
 Install request completed store in the local database.
1996/08/29 02:08:34 rs60007
 26592 FNDCM312I: @rs600022 1996/08/29 5 rs60007 :
 The installation was successful, but it was necessary to perform the
 installation with removability = no, even though the request was for
 removability = desired.
1996/08/29 02:08:34 rs60007
 26592 FNDCM317I: @rs600022 1996/08/29 5 rs60007 :
 The installation was successful with removability=yes (desired).
1996/08/29 02:08:35 rs600022
 35898 FNDSH010I: @root rs600022 8 0 N/A rs60007 :
 Install succeeded on IBM.NDM6000.CLIENT.REMINST.REF.3130.
1996/08/29 02:08:35 rs600022
 37432 FNDRQ108I: @root rs600022 8 0 N/A rs60007 :
 Received successful Install report.
1996/08/29 02:08:35 rs600022
 37432 FNDRQ147I: @root rs600022 8 0 N/A rs60007 :
 Install request completed successfully.
1996/08/29 02:10:16 rs600022
 37432 FNDRQ034I: @root rs600022 9 0 N/A N/A :
 Retrieve Inventory request completed store in the local database.
1996/08/29 02:10:18 rs60007
 37878 FNDFS001I: Cataloged IBM.NDM6000.CLGI.REF.3130 as local file .
1996/08/29 02:10:19 rs600022
 35898 FNDSH010I: @root rs600022 9 0 N/A rs60007 :
 Install succeeded on IBM.NDM6000.CLGI.REF.3130.
1996/08/29 02:10:19 rs600022
 37432 FNDRQ108I: @root rs600022 9 0 N/A rs60007 :
 Received successful Install report.
1996/08/29 02:10:19 rs600022
 35898 FNDSH062I: @root rs600022 9 0 N/A rs60007 :
 Retrieve Inventory request succeeded.
1996/08/29 02:10:20 rs600022
 37432 FNDRQ108I: @root rs600022 9 0 N/A rs60007 :
 Received successful Retrieve Inventory report.
1996/08/29 02:10:20 rs600022
 37432 FNDRQ147I: @root rs600022 9 0 N/A rs60007 :
 Retrieve Inventory request completed successfully.
```

Figure 69. tail -f fndlog at the SD Focal Point during Migration

Besides the possibilities we showed you on how to monitor the installation process, there is another possibility you can make use of when you install installp-type change files.

In the working directory of the SD Client, the file `extlog1` contains a log of the installp process. The file is always reset if a new change request using the installp installation of Software Distribution for AIX 3.1.3 is executed. During the migration process we opened a separate window at the client and used the following command from the products root directory:

```
tail -f extlog1
```

We received the following output. All messages which are generated during the installation process are appended to this log file.

```
+-----------------------------------------------------------------------------+
                    Pre-installation Verification...
+-----------------------------------------------------------------------------+
installp:  Pre-installation verification may take several minutes.
Please wait...
Verifying selections...done
Verifying requisites...done
Results...

SUCCESSES
---------
  Filesets listed in this section passed pre-installation verification
  and will be installed.

  Selected Filesets
  -----------------
  netviewdm6000.clgi.obj 3.1.3.0              # Software Distribution Client...
  netviewdm6000.client.obj 3.1.3.0            # Software Distribution Client...

  << End of Success Section >>

FILESET STATISTICS
------------------
    2  Selected to be installed, of which:
        2  Passed pre-installation verification
  ----
    2  Total to be installed

+-----------------------------------------------------------------------------+
                        Installing Software...
+-----------------------------------------------------------------------------+

installp:  APPLYING software for:
        netviewdm6000.client.obj 3.1.3.0
        netviewdm6000.clgi.obj 3.1.3.0


 . . . . . << Copyright notice for netviewdm6000 >> . . . . . .
 Licensed Materials - Property of IBM

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   (C) Copyright IBM Corp. 1994, 1995.

 All rights reserved.
 US Government Users Restricted Rights - Use, duplication or disclosure
 restricted by GSA ADP Schedule Contract with IBM Corp.
 . . . . . << End of copyright notice for netviewdm6000 >>. . . .

Restoring files, please wait.

Work, Repository, Service and Backup directories are defaulted to
/usr/lpp/netviewdm
Please ensure adequate space or modify the nvdm.cfg file accordingly

Finished processing all filesets.  (Total time:  3 mins 29 secs).

+-----------------------------------------------------------------------------+
                     Post-installation Processing...
+-----------------------------------------------------------------------------+
+-----------------------------------------------------------------------------+
                                Summaries:
+-----------------------------------------------------------------------------+

Installation Summary
--------------------
Name                        Level           Part        Event       Result
-------------------------------------------------------------------------------
netviewdm6000.client.obj    3.1.3.0         USR         APPLY       SUCCESS
netviewdm6000.clgi.obj      3.1.3.0         USR         APPLY       SUCCESS
```

Figure 70. extlog1 at the Local SD Client during Migration

If the file system of the application at the client does not have enough disk space to fulfill the requirement of the installp process, you will see a message that the file system size was changed. We had enough disk space allocated before the migration so we don't see the message.

Another command that you can use during the migration process of the SD Client that checks whether the processes which are responsible for the installation are still running is:

```
ps -ef
```

This command will show you the active processes which are actually running at the client. Those processes which have a prefix of fnd belong to the application. We have customized the output to the processes which are important for the installation:

```
USER   PID  PPID   C    STIME    TTY  TIME CMD
root 11299 14114 113 00:11:07
-  2:00 /usr/sbin/installp -ad/usr/lpp/netviewdm/work -X -f /usr/lpp/netviewdm/work/inst
root 15874 15361   0 00:11:05      -  0:00 /usr/bin/fndcmip /usr/lpp/netviewdm/work/rrstatus
root 16548     1   0 21:51:36      -  0:00 fndcmps
```

Figure 71. Process Status of the Local SD Client During Migration

The fndcmps is the base process of the agent. The fndcmip driver is the installp driver used by Software Distribution for AIX 3.1.3. You can see that the process is using the rrstatus status file in the client's working directory. The status file is holding the actual change management status for the change request.

You can also see that the native installp driver is running as well. This is because fndcmip calls this driver using Software Distribution for AIX 3.1.3 change requests.

Another interesting view of what happens during an installation process is obtained by issuing the ls -l command from the client's working directory. When using NFS you will get an output similar to the following:

```
total 56
-rw-r--r--  1 root  FNDADMN   931 Feb  8 00:11 .toc
-rw-rw-rw-  1 root  FNDADMN     0 Feb  8 00:11 chngfile
-rw-rw----  1 root  FNDADMN     0 Feb  8 00:11 drvmlog
-rw-rw----  1 root  FNDADMN    80 Feb  8 00:11 instpinput
-rw-r--r--  1 root  system      0 Feb  8 00:12 ls_-l
lrwxrwxrwx  1 root  FNDADMN    40 Feb  8 00:1
1 netviewdm6000.client.3.1.3.0 -> /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
-rw-r--r--  1 root  FNDADMN   650 Feb  8 00:11 request.out
-rw-rw----  1 root  FNDADMN  5444 Feb  8 00:11 rrstatus
-rw-rw----  1 root  FNDADMN   111 Feb  8 00:11 tmpinstp
-rw-rw----  1 root  FNDADMN   564 Feb  8 00:11 tokendef.lst
```

Figure 72. Working Directory of the Local SD Client During Migration

The result shows that a symbolic link to the installation image is used which is located in the directory /usr/sys/inst.images.

You can also see that the AIX user which is responsible for the process execution is the root user belonging to the FNDADMN user group of AIX.

Most of the other files you can see are temporary files used for the installation process. They will be deleted when the process has finished.

You have now successfully migrated the SD Client from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3.

5.9 Status of the Local SD Client after Migration

After you have migrated to Software Distribution for AIX 3.1.3 you should now verify everything is still running and configured as expected. We use the same commands as we used before the migration process. We suggest that you create a directory named, for example, migrate_after in the NetView/DM base directory:

```
cd/usr/lpp/netviewdm

mkdir migrate_after
```

You should copy the files or redirect the output of the following commands into this directory.

- Copy the base configuration file nvdm.cfg into the migrate_after directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ►
  /usr/lpp/netviewdm/migrate_after/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs60007
MESSAGE LOG LEVEL:    D
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:               rs600022
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 73. nvdm.cfg at the Local SD Client after Migration

  As you can see the system is configured as an SD Client.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_after directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_after/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:              Server
Server name:                rs600022
Remote administration:      Yes
Remote communications:      Yes
LAN authorization:          No
Authorize                   NONE
```

Figure 74. nvdm lsbs at the Local SD Client after Migration

  The nvdm lsbs command shows the status of the SD Server, in our case the SD Focal Point.

- List all defined targets with their description and copy the output to a file (named for example, nvdm_lstg) into the migrate_after directory using:

  ```
  nvdm lstg \* -l /usr/lpp/netviewdm/migrate_after/nvdm_lstg
  ```

  The following panel shows the contents of this file:

```
Target:               rs600014
Description:          Preparation Site
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Type:                 SERVER
Operating system:     AIX
Target address:       RS600014
Domain address:       RS600014
LAN address:
Network:              TCP rs600014
Installation parms:   (none)
Hardware parms:       (none)
Discovered inventory: (none)

Target:               rs600015
Description:          Server

  .....

Network:              TCP rs600015
Installation parms:   (none)
Hardware parms:       (none)
Discovered inventory: (none)

Target:               rs600022
Description:          INITIAL TARGET CONFIGURATION RECORD
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Type:                 SERVER
Operating system:     AIX
Target address:       RS600022
Domain address:       RS600022
LAN address:
CM window:            00:00:00 - 23:59:00
Distribution window:  00:00:00 - 23:59:00
Network:              TCP rs600022
Logging level:        Normal
Tracing state:        Off
Installation parms:   (none)
Shared tokens:        (none)
Hardware parms:       (none)
Discovered inventory: (none)

Target:               rs60007
Description:          Client
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Server name:          rs600022
Type:                 CLIENT
Operating system:     AIX
Target address:       RS60007
Domain address:       RS600022
LAN address:
CM window:            00:00:00 - 23:59:00
Distribution window:  00:00:00 - 23:59:00
Network:              TCP rs60007
Logging level:        Normal
Tracing state:        Off
Installation parms:   (none)
Shared tokens:        (none)
Hardware parms:       (none)
Discovered inventory: (none)
```

*Figure 75. nvdm lstg * -l at the Local SD Client after Migration*

The command shows the target definitions on the SD Server, in our case the SD Focal Point. The migration has preserved the configuration.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named, for example, nvdmdbdir into the migrate_after directory using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_after/nvdmdbdir
  ```

  The following panel shows the contents of the output we received:

```
total 24
drwxrwx---   2 root     FNDADMN      512 Aug 29 02:09 .
drwxrwsrwx  13 sys      FNDADMN      512 Aug 29 02:11 ..
-rw-rw----   1 root     FNDADMN      464 Aug 29 02:09 nvdm.cfg
```

Figure 76. ls -al /usr/lpp/netviewdm/db at the Local SD Client after Migration

The migration has preserved the names of the directories.

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, lslppnvdm) into the migrate_after directory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_after/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.clgi.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     02:06:55

  netviewdm6000.client.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     02:06:55
```

Figure 77. lslpp -h netviewdm6000 at the Local SD Client after the Migration*

The output shows that we have installed Software Distribution for AIX 3.1.3.

- To check the change management history execute the following command:

  ```
  nvdm lscm \* > /usr/lpp/netviewdm/migrate_after/nvdmlscm
  ```

  We received the following output:

```
Global file name:      CLEANUP.CLIENT.VERSION12.REF.1

    Target:            rs60007
    Status:            Available

Global file name:      IBM.NDM6000.CLBOOKS.FIX.112.U436929

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLBOOKS.REF.112

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLGI.FIX.112.U436929

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLGI.FIX.112.U438390

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLGI.REF.112

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLGI.REF.3130

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLIENT.FIX.112.U436929

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLIENT.FIX.112.U438390

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLIENT.REF.112

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLIENT.REMINST.REF.3130

    Target:            rs60007
    Status:            Installed, not removable, active

Global file name:      IBM.NDM6000.PREINST_CLN.REF.3130

    Target:            rs60007
    Status:            Installed, removable, active
```

Figure 78. nvdm lscm at the Local SD Client after Migration

The output shows that the new SD packages have been discovered but that there are also some entries left from the previous levels. In our opinion this is not completely correct but it does not affect the behavior of the installed system in any way.

- Redirect the status of the targets into the migrate_after directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_after/nvdm_stattg
  ```

  We received the following output:

```
The required command could take a long execution time.
Do you really want to execute the command for all targets [y/n]?
Target                          Status

rs6000022                       Available
rs60007                         Available
```

*Figure 79. nvdm stattg * at the Local SD Client after Migration*

The client status is Available.

As we have seen the manual migration has preserved the configuration.

5.10 Recovery from an Unsuccessful Migration

If the migration process fails, which could, for example, happen when you have not specified the install option to extend the file system and there is not enough space left in the /usr/lpp/netviewdm file system, you can recover manually to the old version of the product. We found no way to do this automatically by issuing change requests from the SD Focal Point because after the migration fails, the connection between the SD Focal Point and the SD Client is inactive.

We explained that when you are going to migrate to a new version of a product and you change one of the first two levels of the installation image, the old version of the product is deleted. When the installation of the new version is started and does not have enough disk space to perform the installation, it is stopped and neither the old nor the new version of the product is installed.

In this case you are no longer able to start the agent process because the directory /usr/lpp/netviewdm/bin holding the executables of the product is empty.

To reinstall NetView DM/6000 1.2.1 at the SD Client you have to perform the following steps:

1. Clean up the installation with the command:

   ```
   installp -C
   ```

2. Install NetView DM/6000 1.2.1 on the SD Client manually using smitty.
3. Copy the recovery script restore_nvdm in the directory /usr/lpp/netviewdm/script at the SD Focal Point to the root directory of the SD Client using ftp or another method.
4. Execute the recovery script from the directory:

   ```
   ksh restore_nvdm
   ```

5. Start NetView DM using the command:

   ```
   nvdm start
   ```

Chapter 6. Scenario 3: Migrating a Remote SD Server

In this scenario we show you how to migrate a remote SD Server that is connected over a wide area network to the SD Focal Point. We use TCP/IP as the underlying communication protocol between the focal point and the remote SD Server.

6.1 Understanding the Scenario

Before we document the migration step by step, we describe the process flow of the migration. The scenario is shown in Figure 80.

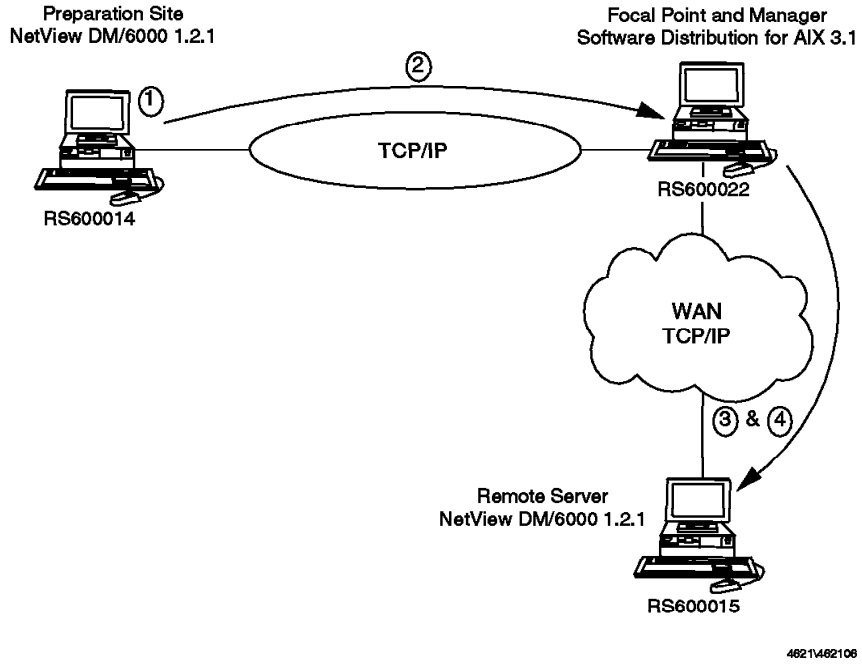

Figure 80. Process Flow of Scenario 3

We are using three different systems in this scenario, an SD Preparation Site, an SD Focal Point and the remote SD Server, which is the system that we are going to migrate. The installed software of these computers before the migration is shown in Table 9 on page 84. After migration, the levels should be as given in Table 10 on page 85.

The preparation site has to be a NetView DM/6000 1.2.1 system, while the SD Focal Point runs the new version of the product. We install an additional option during the migration, which is the `tool` option.

The remote SD Server is connected to the SD Focal Point using SNA/DS over TCP/IP. We describe the following steps in more detail in this scenario (the steps correlate to the numbers in Figure 80:

1. Preparation of the change files at the SD Preparation Site
2. Transfer of the change files to the SD Focal Point
3. Transfer of the change files to the remote SD Server

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4. Issue of the installation request from the SD Focal Point to the remote SD Server

Table 9. Installed Software of Scenario 3 before the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitest.En_US.obj.3.1.3.0 netviewdm6000.gitest.en_US.obj.3.1.3.0 netviewdm6000.man.En_US.obj.3.1.3.0 netviewdm6000.man.en_US.obj.3.1.3.0 netviewdm6000.msg.en_US.obj.3.1.3.0 netviewdm6000.plan.obj.3.1.3.0 netviewdm6000.remoteadmin.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399
rs600015	Remote Server	RS600015.RS600015	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399

Table 10. Installed Software of Scenario 3 after the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitest.En_US.obj.3.1.3.0 netviewdm6000.gitest.en_US.obj.3.1.3.0 netviewdm6000.man.En_US.obj.3.1.3.0 netviewdm6000.man.en_US.obj.3.1.3.0 netviewdm6000.msg.en_US.obj.3.1.3.0 netviewdm6000.plan.obj.3.1.3.0 netviewdm6000.remoteadmin.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399
rs600015	Remote Server	RS600015.RS600015	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0

6.2 Avoiding Migration Problems

In the rest of this chapter, we show how to prepare change files and how to execute the migration of the remote SD Server. In our experience, this migration will often fail because of some trivial errors. Typical trivial errors are:

- The previous version of the software to be migrated is not committed.
- Your system is running out of disk space.

In order to avoid disaster, we strongly recommend you test the migration on a local test system before attempting a large-scale migration. In case of problems, first verify that your system is in the right status before you start the migration, and then check the log files.

6.3 Status of the SD Preparation Site

The configuration of our preparation site is exactly the same as the one we have documented in the first scenario (refer to 5.3, “Status of the SD Preparation Site” on page 48).

Remember that your file system `/usr/lpp/netviewdm` has to have enough disk space left since we will use change files of the type installp_image. This implies that the complete installation image is included in the change file and requires a lot of disk space in the product’s repository.

6.4 Status of the SD Focal Point

We did not change the configuration of the SD Focal Point as shown in 5.4, “Status of the SD Focal Point” on page 52.

In contrast to scenario 2, three points are now relevant:

- The remote administration feature (option `netviewdm6000.remoteadmin.obj`) must be installed. Otherwise, you will not be able to issue change management requests to the remote SD Server.
- The remote SD Server must be defined at the SD Focal Point.

  To see which targets are defined at your focal point system, use the command `nvdm lstg \* -l`. The command should show that the remote SD Server is defined at the SD Focal Point as shown in the following output:

```
Target:                rs600014
Description:           Preparation Site
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600014
Domain address:        RS600014
LAN address:
Network:               TCP rs600014
Installation parms:    (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs600015
Description:           Server

   ......

Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600015
Domain address:        RS600015
LAN address:
Network:               TCP rs600015
Installation parms:    (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs600022
Description:           INITIAL TARGET CONFIGURATION RECORD

   ......

Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600022
Domain address:        RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs600022
Logging level:         Normal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs60007
Description:           Client

   ......

Server name:           rs600022
Type:                  CLIENT
Operating system:      AIX
Target address:        RS60007
Domain address:        RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs60007
Logging level:         Normal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)
```

*Figure 81. lstg * -l at the SD Focal Point*

You can see that the target rs600015 is defined as a server target.

- Check that all queues concerning the remote SD Server are empty.

  To check whether there are any requests in the remote queue to the remote SD Server, you can use the following command:

  ```
  nvdm lsq rs600015
  ```

  You should receive the following output:

```
There are no distributions on the queue.
```

Figure 82. lsq rs600015 at the SD Focal Point

If you do not receive this output you should not start the migration process. This is just to make sure that there is nothing scheduled for the remote environment.

It is a prerequisite that there are neither local nor remote queue entries for the remote SD Server. This means you can write a simple script and execute the `nvdm lsq` command on rs600015. This will be checked again before the actual migration is started.

6.5 Status Remote SD Server before Migration

Before you start the migration we recommend that you document the status of your system. This documentation allows you to analyze the migration in case of problems. The following commands are only examples which can easily be included in a shell script. If there are serious problems you might document additional configuration data.

Create a directory `migrate_before` in the NetView DM base directory by using the following commands:

```
cd /usr/lpp/netviewdm
mkdir migrate_before
```

To document NetView DM-related information, do the following:

- Copy the base configuration file `nvdm.cfg` into the `migrate_before` directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ►
  /usr/lpp/netviewdm/migrate_before/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs600015
MESSAGE LOG LEVEL:    D
LAN AUTHORIZATION:    0
CONFIGURATION:        SERVER_WITH_COMMS
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:               rs600015
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 83. nvdm.cfg at Remote SD Server before Migration

As you can see the system is configured as an SD Server.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_before directory using:

  `nvdm lsbs > /usr/lpp/netviewdm/migrate_before/nvdm_lsbs`

  The following figure shows the contents of this file:

```
Configuration:              Server
Server name:                rs600015
Remote administration:      No
Remote communications:      Yes
LAN authorization:          No
```

Figure 84. nvdm lsbs at Remote SD Server before Migration

- List all defined targets with their description and copy the output to a file (named, for example, nvdm_lstg) into the migrate_before directory using:

  `nvdm lstg \* -l /usr/lpp/netviewdm/migrate_before/nvdm_lstg`

  The following panel shows the contents of this file:

```
Target:                rs600015
Description:           Remote Server
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Push
Operating system:      AIX
Short name:            RS600015
Network ID:            RS600015
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Logging level:         Normal
Tracing state:         Off
Installation parms:    None.
Hardware parms:        None.
Discovered inventory:  None.
Users:                 root

Target:                rs600022
Description:           Focal Point and Manger
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Report-to Focal Point
Short name:            RS600022
Network ID:            RS600022
```

*Figure 85. nvdm lstg * -l at the Remote SD Server before the Migration*

As can be seen, the SD Focal Point is defined as Report-To Focal Point which means the remote server will accept change management requests from it.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named, for example, nvdmdbdir into the migrate_before directory using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_before/nvdmdbdir
  ```

  The following figure shows the contents of the output we received:

```
total 240
drwxr-sr-x   9 root     FNDADMN      512 Aug 28 18:43 .
drwxrwsrwx  15 sys      FNDADMN     1024 Aug 28 19:19 ..
-rw-rw----   1 root     FNDADMN    67584 Aug 28 19:18 catalog
drwxrwx---   2 root     FNDADMN      512 Aug 28 18:43 cm_status
-rw-rw----   1 root     FNDADMN      556 Aug 28 18:49 nvdm.cfg
drwxrwx---   2 root     FNDADMN      512 Aug 28 18:41 parms
-rw-rw----   1 root     FNDADMN       48 Aug 28 18:49 routetab
-rw-rw----   1 root     FNDADMN      149 Mar 22 1995  snads_config
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 18:50 snads_conn
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 19:00 target_config
drwxrwx---   2 root     FNDADMN      512 Aug 28 18:41 target_group
drwxrwx---   2 root     FNDADMN      512 Aug 28 18:41 target_hw
drwxr-sr-x   2 root     FNDADMN      512 Aug 28 19:00 tmp
-rw-rw----   1 root     FNDADMN      430 Mar 22 1995  user_config
```

Figure 86. ls -al /usr/lpp/netviewdm/db at Remote SD Server before Migration

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, lslppnvdm) into the migrate_before directory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:08
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09

  netviewdm6000.books.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44

  netviewdm6000.comms.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:09
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09

  netviewdm6000.gi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:09
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09

  netviewdm6000.info.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:09

  netviewdm6000.server.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:09
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09
```

Figure 87. lslpp -h netviewdm6000 at the Remote SD Server before Migration*

The output shows that we have installed NetView DM/6000 1.2.1 including PTF levels U436928 and U438399.

- Redirect the target status into the migrate_before directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_before/nvdm_stattg
  ```

  We received the following output:

```
Target                          Status

rs600015                        Active
```

*Figure 88. nvdm stattg * at the Remote SD Server before Migration*

- To list the change management history on the SD Server use:

  ```
  nvdm lscm \* > /usr/lpp/netviewdm/migrat_before/nvdm_lscm
  ```

  You should receive the following output:

```
Global file name:      IBM.NDM6000.BASE.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BOOKS.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.INFO.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.INFO.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      TEST.FILE.REF.1

    Target:            rs600015
    Status:            Not Authorized, Installed, removable, active
```

*Figure 89. nvdm lscm * at the Remote SD Server before Migration*

6.6 Verifying the ODM/SD Database Status of the Remote SD Server

We described how to use the command `lslpp -h netviewdm6000*` to check the installation status of the application at the remote SD Client. It showed that all installed options are in the status of COMMIT. Since it is a prerequisite for installp-type installations that the options to be migrated have to be in the COMMIT status when changing to a new level of an application, you have to commit your options if they are still in the status APPLIED. You can do that by using the following command:

```
installp -c <option>
```

where `<option>` is the installation option you want to commit. You can also use the smit panels (fast path: `smitty install_manage_applied`) to do this.

If you want to use the application to do that, you have to write a procedure which executes the above-mentioned installp command and put it in a data file of type procedure.

6.7 Removing Obsolete LPP Options

For a NetView DM/6000 1.2.1 SD Server there are two installation options which no longer exist in Software Distribution for AIX 3.1.3. The options are `netviewdm6000.info.obj` and `netviewdm6000.books.obj`. It is not necessary to remove the options from a technical point of view but it takes away disk space, so we suggest you remove it.

If you decide to remove the options, you have to do that *before* you migrate to Software Distribution for AIX 3.1.3.

The reason for this is that the option has the base server option `netviewdm6000.server.obj` of NetView DM/6000 1.2.1 as a prerequisite. When you have already migrated the application, this required option no longer exists, so the removal will fail.

You will see an output similar to Figure 90 when you try to remove the option after you have already migrated the application:

```
                                COMMAND STATUS

Command: failed        stdout: yes           stderr: no

Before command completion, additional instructions may appear below.

[MORE...13]
0503-269 installp:  The following software products will not be applied
        unless products upon which they depend are applied first:

Product  netviewdm6000.books.obj
at level 1.0.2.0 requires:
   At least 1 of the following:
   | = netviewdm6000.server.obj v=1, r=0, m=2

where:
"=" indicates a base level product for which there is another version
    that is either already installed or was selected to be installed
    during this installation session.
```

Figure 90. Failed Removal Message for "netviewdm.books.obj"

When you use Software Distribution for AIX 3.1.3 to remove the options, you will see similar output in the file `extlog1` at the SD Server. This file contains the log

of the actual installp operation initiated by Software Distribution for AIX 3.1.3 and is located in the the product's root directory.

There are different methods for removing the options depending on the actual status of the option (COMMIT or APPLIED) and the version of the operating system.

For the two standard situations (AIX 3.2.5 and status APPLIED, AIX 4.1 and status COMMITTED) we show SD scripts. In all other cases you have to use the tricks given in 8.1, "Removing LPPs in AIX 3.2" on page 149.

If you want to use Software Distribution for AIX 3.1.3 for this, do the following:

Attention

The following commands sometimes kill the client process. Do not not try this scenario without a watchdog for SD. See 8.3, "Implementing a Simple Watchdog" on page 151 for implementing a watchdog.

- AIX 3.2.5 and status APPLIED

  1. Create a profile that includes the installation option that you want to remove. Give the change file a name (for example, CLEANUP.SERVER.VERSION12.REF.1). You have to build the change file at the SD Preparation Site.

     It is important that you don't build the change file from the installation image containing the PTF. You have to build it from the base installation image.

     We assume that you decide to include the installation image in the change file (Type: INSTALLP_IMAGE) and that /usr/sys/inst.nvdm.images/nvdm121 is the directory where your installation images reside. Create the following change file profile with the name server_cleanup.profile:

```
GLOBAL NAME:         CLEANUP.SERVER.VERSION12.REF.1
CHANGE FILE TYPE:    AIXINSTP
COMPRESSION TYPE:    LZW
REBOOT REQUIRED:     NO
PACK FILES:          NO
SECURE PACKAGE:      NO
OBJECT:
   NAME:             /usr/sys/inst.nvdm.images/nvdm121/netviewdm6000.server.1.0.2.0
   OPP OPTION:       netviewdm6000.info.obj 01.00.0002.0000
   OPP OPTION:       netviewdm6000.books.obj 01.00.0002.0000
   TYPE:             INSTALLP_IMAGE
```

Figure 91. server_cleanup.profile for AIX 3.2.5

  2. At the SD Preparation Site build a change file from this profile with the command:

     ```
     nvdm bld server_cleanup.profile
     ```

  3. Send the change file from the SD Preparation Site to the Software Distribution for AIX 3.1.3 SD Focal Point by typing:

     ```
     nvdm send cleanup.server.version12.ref.1 rs600022
     ```

  4. Send the change file from the SD Focal Point to the remote SD Server by typing:

```
nvdm send cleanup.server.version12.ref.1 rs600015
```

5. Submit the install request from the SD Focal Point to install the change file at the remote SD Server using the force option by typing:

   ```
   nvdm inst cleanup.server.version12.ref.1 -w rs600015 -f
   ```

6. If the change file has been installed successfully the status in the database of Software Distribution for AIX 3.1.3 is Installed, Removable, Active, while the status in the ODM database is APPLIED. You can now remove the change file by typing:

   ```
   nvdm rem cleanup.server.version12.ref.1 -w rs600015
   ```

7. Now the option is removed. This means the status in both databases is Available.

- AIX 4.1 and Status COMMITTED

1. Create a profile that includes the installation option that you want to remove. Give the change file a name (for example, CLEANUP.SERVER.VERSION12.REF.1). You have to build the change file at the SD Preparation Site.

   It is important that you do not build the change file from the installation image containing the PTF. You have to build it from the base installation image.

   We assume that you decide to include the installation image in the change file (Type: INSTALLP_IMAGE) and that /usr/sys/inst.nvdm.images/nvdm121 is the directory where your installation images reside. Create the following change file profile with the name server_cleanup.profile.41:

```
GLOBAL NAME:         CLEANUP.SERVER.VERSION12.REF.1
CHANGE FILE TYPE:    AIXINSTP
COMPRESSION TYPE:    LZW
REBOOT REQUIRED:     NO
PACK FILES:          NO
SECURE PACKAGE:      NO
OBJECT:
   NAME:             /usr/sys/inst.nvdm.images/nvdm121/netviewdm6000.server.1.0.2.0
   OPP OPTION:       netviewdm6000.info.obj 1.0.2.0
   OPP OPTION:       netviewdm6000.books.obj 1.0.2.0
   TYPE:             INSTALLP_IMAGE
```

Figure 92. server_cleanup.profile.41 for AIX 4.1

2. At the SD Preparation Site, build a change file from this profile with the command:

   ```
   nvdm bld server_cleanup.profile.41
   ```

3. Send the change file from the SD Preparation Site to the Software Distribution for AIX 3.1.3 SD Focal Point by typing:

   ```
   nvdm send cleanup.server.version12.ref.1 rs600022
   ```

4. Send the change file from the SD Focal Point to the remote SD Server by typing:

   ```
   nvdm send cleanup.server.version12.ref.1 rs600015
   ```

5. Install the change file from the SD Focal Point on the remote SD Server using the force option by typing:

   ```
   nvdm inst cleanup.server.version12.ref.1 -w rs600015 -f
   ```

6. If the change file has been executed successfully the status in the SD database is Installed, Not Removable, Active, while the status in the ODM database is Committed. You can now uninstall the change file by typing:

   ```
   nvdm uninst cleanup.server.version12.ref.1 -w rs600015
   ```

7. Now the option is uninstalled. This means the status in both databases is Available.

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, lslppuninst) in the migrate_before directory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppuninst
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:08
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09

  netviewdm6000.comms.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:09
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09

  netviewdm6000.gi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:09
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09

  netviewdm6000.server.obj
                  1.0.2.0   COMMIT       COMPLETE     08/28/96     18:40:44
          1.0.2.1.U436928   COMMIT       COMPLETE     08/28/96     18:48:09
          1.0.2.1.U438399   COMMIT       COMPLETE     08/28/96     18:48:09
```

Figure 93. lslpp -h netviewdm6000 at Remote SD Server after Removing Obsolete Options*

The output shows that we have removed the book and info options.

After you have removed the option we suggest you also delete the history of the original change file which is still in the status of DISCOVERED.

Note

Even if you delete the change management status of the discovered change file of the info and books option, it will not be deleted from the file fndswinv, which is the server's inventory file. This causes the change file again to be discovered when the nvdm inv command is issued the next time.

You have to delete the corresponding lines at the server's inventory file if you do not want to get the DISCOVERED status again.

6.8 Migrating the Remote SD Server

The main steps have to be done at the SD Preparation Site and the SD Focal Point. Therefore we will go through them step by step.

6.8.1 Accessing the Installation Images

First you have to make sure that you have the installation images available. You can access the images directly from a tape, copy them to a directory on your hard disk (for example, /usr/sys/inst.images) by using the command bffcreate or, if they are already available on one of the systems in your network, you can mount the directory where the images are located. We use the second method. Our images are located on the Software Distribution for AIX 3.1.3 SD Focal Point (rs600022) in the directory /usr/sys/inst.nvdm.install/nvdm313. Export this directory on the SD Focal Point (rs600022) with the command:

```
/usr/sbin/mknfsexp -d '/usr/sys/inst.nvdm.images/nvdm313' -t 'rw' '-B'
```

Mount this directory from the SD Preparation Site (rs600014) as /buildmnt using the following commands:

```
mkdir /buildmnt
```

```
mount rs600022:/usr/sys/inst.nvdm.images/nvdm313 /buildmnt
```

You can list the contents of the directory by using the command:

```
ls -al /buildmnt
```

You should receive an output similar to the following:

```
total 125928
drwxr-sr-x   2 root     sys          512 Aug 21 15:53 .
drwxr-xr-x  19 bin      bin         1024 Aug 26 17:56 ..
-rw-r--r--   1 root     sys         8221 Aug 21 16:03 .toc
-rw-r--r--   1 root     sys     11967488 Aug 12 17:34 netviewdm6000.client.3.1.3.0
-rw-r--r--   1 root     sys       984064 Aug 12 17:36 netviewdm6000.gitext.En_US.3.1.3.0
-rw-r--r--   1 root     sys       984064 Aug 12 17:37 netviewdm6000.gitext.en_US.3.1.3.0
-rw-r--r--   1 root     sys       317440 Aug 12 17:37 netviewdm6000.man.En_US.3.1.3.0
-rw-r--r--   1 root     sys       317440 Aug 12 17:38 netviewdm6000.man.en_US.3.1.3.0
-rw-r--r--   1 root     sys      6412288 Aug 12 17:45 netviewdm6000.mobclient.3.1.3.0
-rw-r--r--   1 root     sys       507904 Aug 12 17:46 netviewdm6000.msg.En_US.3.1.3.0
-rw-r--r--   1 root     sys       507904 Aug 12 17:47 netviewdm6000.msg.en_US.3.1.3.0
-rw-r--r--   1 root     sys      1174528 Aug 12 17:48 netviewdm6000.plan.3.1.3.0
-rw-r--r--   1 root     sys     20951040 Aug 12 18:12 netviewdm6000.server.3.1.3.0
-rw-r--r--   1 root     sys     20316160 Aug 12 18:36 netviewdm6000.singlenode.3.1.3.0
```

Figure 94. "ls -al /buildmnt" at the SD Preparation Site

In this scenario, we use the netviewdm6000.server.3.1.3.0 images. This image contains all server options.

To list all the options included in the server package, use the command:

```
installp -l -d netviewdm6000.server.3.1.3.0
```

We got the following output:

```
  Fileset Name                Level                    I/U Q Content
  ================================================================
  netviewdm6000.base.obj      3.1.3.0                   I  N usr
#   Software Distribution for AIX Base System

  netviewdm6000.comms.obj     3.1.3.0                   I  N usr
#   Software Distribution for AIX Communications Feature

  netviewdm6000.gi.obj        3.1.3.0                   I  N usr
#   Software Distribution for AIX Graphical Interface

  netviewdm6000.server.obj    3.1.3.0                   I  N usr
#   Software Distribution for AIX Server Feature

  netviewdm6000.tool.obj      3.1.3.0                   I  N usr
#   Software Distribution for AIX Tool Feature
```

Figure 95. Contents of the Server Package

If you are planning to migrate the remote SD Server and define it as an SD Focal Point or an SD Manager you have to install the option netviewdm6000.remoteadmin.obj which is included in the plan package.

The name of the package is netviewdm6000.plan.3.1.3.0 and contains the following options (again we used the command installp -l -d):

```
  Fileset Name               Level                    I/U Q Content
  ================================================================
  netviewdm6000.plan.obj     3.1.3.0                   I  N usr
#   Software Distribution for AIX Plans Feature

  netviewdm6000.remoteadmin.obj 3.1.3.0                  I  N usr
#   Software Distribution for AIX Remote Administrator F
```

Figure 96. Contents of the Plan Package

We do not install any of the plan package options in this scenario because in most environments you will have the plan feature and remote administration feature on a very limited number of machines.

Note

The formatting of the software levels depends on the version of AIX:

- In AIX 3.2.5 the level is shown as 03.01.0003.0000.
- In AIX 4.1 the level is shown as 3.1.3.0.

6.8.2 Restoring Profiles and Preinstallation Scripts

If you perform the migration using the application itself, you have to restore change file profiles and preinstall scripts.

Note

If you have installed your Software Distribution for AIX 3.1.3 SD Focal Point including the tool option, you will find two directories called script and tool under the product's base directory. The files we are going to restore are located in these directories. This means that you can also mount these directories from the SD Focal Point. In this case you do not need to restore the files from the installation images.

The profiles will be restored into the directory /usr/lpp/netviewdm/tool, while the scripts will be restored into the directory /usr/lpp/netviewdm/script.

If your preparation site is an SD Server and you have installed the tool option of NetView DM/6000 1.2.1, you probably should save the old files in this directory. Otherwise, files could be overwritten.

First we restore the change file profiles for the installation of the server package of Software Distribution for AIX 3.1.3.

- For AIX 3.2.5 use the following commands:

  ```
  cd /
  restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
  -xv ./usr/lpp/netviewdm/tool/profile.server
  ```

```
restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/preinst.profile
```

- For AIX 4.1 use the following commands:

  ```
  cd /
  ```

  ```
  restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
  -xv ./usr/lpp/netviewdm/tool/profile.server.41
  ```

  ```
  restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
  -xv ./usr/lpp/netviewdm/tool/preinst.profile
  ```

where /buildmnt is the directory in which the images are located and netviewdm6000.server.3.1.3.0 is the image from where the profile is restored. The files are restored from the tool option inside the server package.

You can replace the name of the server image with the name of the single node image as well, since the tool option is also included in this package.

After a few seconds you will see a message like the following for each restore command:

```
Cluster size is 51200 bytes (100 blocks).
The volume number is 1.
The backup date is: Wed Oct 18 16:10:57 EDT 1995
Files are backed up by name.
The user is builder.
x          833 ./usr/lpp/netviewdm/tool/profile.server
The total size is 833 bytes.
The number of restored files is 1.
```

Figure 97. Successful Restore Message for "profile.server"

The restored profiles have the following content:

```
GLOBAL NAME:                IBM.NDM6000.PREINST_SRV.REF.3130
DESCRIPTION:                Pre-installation script Change File
CHANGE FILE TYPE:           GEN
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
SECURE PACKAGE:             NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/script/preinst_srv.3130
    TARGET NAME:            /usr/lpp/netviewdm/script/preinst_srv.3130
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/bin/fndckeq
    TARGET NAME:            /usr/lpp/netviewdm/bin/fndckeq
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
```

Figure 98. preinst.profile As Delivered for AIX 3.2.5 and AIX 4.1

```
GLOBAL NAME:                  IBM.NDM6000.BASE.REF.3130
DESCRIPTION:                  Software Distribution for AIX Base feature
LOCAL NAME:                   $(REPOSITORY)/IBM.NDM6000.BASE.REF.3130
CHANGE FILE TYPE:             AIXINSTP
COMPRESSION TYPE:             LZW
PACK FILES:                   NO
#PREREQ COMMAND:              mount <hostname>:/usr/sys/inst.images /usr/sys/inst.images
PRE-INSTALL:                  /usr/lpp/netviewdm/script/preinst_srv.3130
POST-INSTALL:                 /usr/lpp/netviewdm/script/postinst_srv
OBJECT:
    NAME:                     /usr/sys/inst.images/netviewdm6000.server.3.1.3.0
    OPP OPTION:               netviewdm6000.base.obj 03.01.0003.0000
    OPP OPTION:               netviewdm6000.comms.obj 03.01.0003.0000
    OPP OPTION:               netviewdm6000.gi.obj 03.01.0003.0000
    OPP OPTION:               netviewdm6000.server.obj 03.01.0003.0000
    OPP OPTION:               netviewdm6000.tool.obj 03.01.0003.0000
    TYPE:                     REMOTE_IMAGE
```

Figure 99. profile.server As Delivered for AIX 3.2.5

```
GLOBAL NAME:                  IBM.NDM6000.BASE.REF.3130
DESCRIPTION:                  Software Distribution for AIX Base feature
LOCAL NAME:                   $(REPOSITORY)/IBM.NDM6000.BASE.REF.3130
CHANGE FILE TYPE:             AIXINSTP
COMPRESSION TYPE:             LZW
PACK FILES:                   NO
#PREREQ COMMAND:              mount <hostname>:/usr/sys/inst.images /usr/sys/inst.images
PRE-INSTALL:                  /usr/lpp/netviewdm/script/preinst_srv.3130
POST-INSTALL:                 /usr/lpp/netviewdm/script/postinst_srv
OBJECT:
    NAME:                     /usr/sys/inst.images/netviewdm6000.server.3.1.3.0
    OPP OPTION:               netviewdm6000.base.obj 3.1.3.0
    OPP OPTION:               netviewdm6000.comms.obj 3.1.3.0
    OPP OPTION:               netviewdm6000.gi.obj 3.1.3.0
    OPP OPTION:               netviewdm6000.server.obj 3.1.3.0
    OPP OPTION:               netviewdm6000.tool.obj 3.1.3.0
    TYPE:                     REMOTE_IMAGE
```

Figure 100. profile.server.41 As Delivered for AIX 4.1

Attention

You have to use the proper files for your version of the operating system:

- In AIX 3.2.5 you have to use `profile.server`.
- In AIX 4.1 you have to use `profile.server.41`.

The difference between the profiles is the formatting of the OPP options. That means, for AIX 3.2 the level has to be in the format `03.01.0003.0000` while for AIX 4.1 the format has to be `3.1.3.0`.

If you do not restore the correct level of the profile according to the level of the operating system, the build process of the change file will fail.

This is a limitation of NetView DM/6000 1.2.1. In Software Distribution for AIX 3.1.3, the problem has been solved. However, as long you have to build your change files for the migration on a system running the old version of the product, you have to keep this in mind.

This limitation is only related to the build process, not to the installation process.

Now you have to restore scripts which have to run before the migration itself. To restore these scripts use the following commands:

```
cd /
```

```
restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/script/preinst_srv.3130

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/bin/fndckeq
```

These scripts are executed as pre- and post-install scripts of the change file installing the server option. The purpose of the scripts is to save the base configuration to directory /usr/lpp/netviewdm/savemigr. If the migration process fails for any reason you can restore those files from the /savemigr directory. Because the preinstallation script preinst_srv.3130 is used in the change file for the base server package as a preinstall script, it has to be on the server in the directory where the migration process expects it.

In our case this is the directory /usr/lpp/netviewdm/script.

6.8.3 Customizing the Change File Profiles

If you followed the documented steps, you should now have three change file profiles, which we now customize to our needs. These profiles are located at the SD Preparation Site in the directory /usr/lpp/netviewdm/tool.

These profile are not sufficient for practical purposes. We created change file profiles for the different operating systems and for use with and without NFS:

- AIX 3.2.5 without NFS:

```
GLOBAL NAME:                IBM.NDM6000.BASE.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.BASE.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_srv.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_srv
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.server.3.1.3.0
    OPP OPTION:             netviewdm6000.base.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.comms.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.gi.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.server.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.tool.obj 03.01.0003.0000
    TYPE:                   INSTALLP_IMAGE
```

Figure 101. profile.server.installp Customized for AIX 3.2.5 without NFS

- AIX 4.1 without NFS:

```
GLOBAL NAME:                IBM.NDM6000.BASE.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.BASE.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_srv.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_srv
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.server.3.1.3.0
    OPP OPTION:             netviewdm6000.base.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.comms.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.gi.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.server.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.tool.obj 3.1.3.0
    TYPE:                   INSTALLP_IMAGE
```

Figure 102. profile.server.installp.41 Customized for AIX 4.1 without NFS

- AIX 3.2.5 with NFS:

```
GLOBAL NAME:                IBM.NDM6000.BASE.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.BASE.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
DEFAULT TOKEN:              NFSSERVER=rs600022
PREREQ COMMAND:             mount $(NFSSERVER):/usr/sys/inst.images /usr/sys/inst.images
POSTREQ COMMAND:            unmount /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_srv.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_srv
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.server.3.1.3.0
    OPP OPTION:             netviewdm6000.base.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.comms.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.gi.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.server.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.tool.obj 03.01.0003.0000
    TYPE:                   REMOTE_IMAGE
```

Figure 103. profile.server.nfs Customized for AIX 3.2.5 with NFS

- AIX 4.1 with NFS:

```
GLOBAL NAME:                IBM.NDM6000.BASE.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.BASE.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
DEFAULT TOKEN:              NFSSERVER=rs600022
PREREQ COMMAND:             mount $(NFSSERVER):/usr/sys/inst.images /usr/sys/inst.images
POSTREQ COMMAND:            unmount /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_srv.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_srv
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.server.3.1.3.0
    OPP OPTION:             netviewdm6000.base.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.comms.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.gi.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.server.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.tool.obj 3.1.3.0
    TYPE:                   REMOTE_IMAGE
```

Figure 104. profile.server.nfs.41 Customized for AIX 4.1 with NFS

- Profile for preinstall script for AIX 3.2.5 and AIX 4.1:

```
GLOBAL NAME:                IBM.NDM6000.PREINST_SRV.REF.3130
CHANGE FILE TYPE:           GEN
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
SECURE PACKAGE:             NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/script/preinst_srv.3130
    TARGET NAME:            /usr/lpp/netviewdm/script/preinst_srv.3130
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/bin/fndckeq
    TARGET NAME:            /usr/lpp/netviewdm/bin/fndckeq
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
```

Figure 105. preinst.profile customized for AIX 3.2.5 and AIX 4.1

We modified the lines with the following keywords:

- DESCRIPTION

  We removed the description line, since sometimes the description lines caused code page problems during the send or retrieve in a mixed SD environment.

- PREREQ COMMAND

– Without NFS:

  When you are not using NFS, you do not need PREREQ or POSTREQ commands. Therefore, you can delete these lines.

– With NFS

  We changed the line to the value

  ```
  mount $(NFSSERVER):/usr/sys/inst.nvdm.images/nvdm313 ►
  /usr/sys/inst.images
  ```

  The token $(NFSSERVER) is replaced by the name of the NFS server as it is defined:

  - At the target (for example, the SD Server)
  - In the change file as the default token

  at the time the change file is installed.

  We used this additional token because our SD Server (rs600015) is not the same as our NFS server holding the installation images. If you want to use the built-in token $(SERVER), it is important that the host name of the SD Server is equal to the target address that you have defined in the Software Distribution for AIX 3.1.3 database, otherwise the mount command will fail. In that case the $(SERVER) token would be resolved with a wrong name. Please note that in Software Distribution for AIX 3.1.3 it is no longer necessary to have the same name for the target address and the TCP/IP host name.

  An advantage of using tokens in the change file is given when you have several SD Servers for multiple domains where the SD Server is also the NFS server holding the installation images.

  We replaced the first directory name on this line with `/usr/sys/inst.nvdm.images/nvdm313` which is the name of the directory on our NFS server where the installation images are located.

  We replaced the second directory name on this line with `/usr/sys/inst.images` which is the name that the SD Client will use to mount the image directory at installation time. Make sure that this directory, which is also called a mount point, already exists at the SD Client; otherwise, the `mount` command will fail.

• POSTREQ COMMAND

  – Without NFS:

    Without using NFS, you do not need a POSTREQ command.

  – With NFS

    We added a line with an `unmount` command that corresponds to the `mount` command after the keyword PREREQ COMMAND.

• PRE-INSTALL, POST-INSTALL

  These lines were left at their defaults. You do not have to restore the scripts which are specified in these lines, except for the preinstallation script. They are restored during the installp installation of the change file. The post-install script `postinst_cln` cleans up the system after the migration process, stops the old agent and starts the agent of the Software Distribution for AIX 3.1.3 SD Client.

• OOP OPTION

We left the line containing the OPP OPTION at default, as well as the change file type REMOTE_IMAGE. If you do not want to install the option for the graphical user interface you have to simply delete that line. If you delete an option from the profile and you have installed the appropriate option in the old version of the product we recommend that you remove this option of the old version before you start the migration.

6.8.4 Building the Change Files from Profiles

You are now able to build the change files from the profiles you have restored and customized in the previous steps.

If you use the command line interface to do this at the SD Preparation Site, change to the directory /usr/lpp/netviewdm/tool and enter the following commands:

- AIX 3.2.5 without NFS:

  ```
  nvdm bld profile.server.installp
  nvdm bld preinst.profile
  ```

- AIX 3.2.5 with NFS:

  ```
  nvdm bld profile.server.nfs
  nvdm bld preinst.profile
  ```

- AIX 4.1 without NFS:

  ```
  nvdm bld profile.server.installp.41
  nvdm bld preinst.profile
  ```

- AIX 4.1 with NFS:

  ```
  nvdm bld profile.server.nfs.41
  nvdm bld preinst.profile
  ```

You can use the graphical user interface to do that as well.

6.8.5 Sending the Change Files to the SD Focal Point

Your change files have now been cataloged at the SD Preparation Site and can be sent over to the SD Focal Point, which is then used to install the change files to the remote SD Server.

To send the change files to the SD Focal Point, we used the command line interface at the SD Preparation Site. Use the following commands:

```
nvdm send ibm.ndm6000.base.reminst.3130 rs600022
nvdm send ibm.ndm6000.preinst_srv.ref.3130 rs600022
```

For each send request you get a sequence number that you can use to track the status of the change request. To check the status, type:

```
nvdm lsrq <sequence number>
```

where <sequence number> is the number you get when issuing the send request.

To trigger change requests and messages originated by the application in general, open a separate window at the preparation site. Enter the following command from the products base directory to check the message log:

```
tail -f fndlog
```

When the change files have successfully arrived at the SD Focal Point, the message log should show an output similar to the following:

```
1996/08/27 12:19:07 rs600022                  3O312 FNDTC201I:
@root rs600014 1 0 Y1996M08D27 rs600022 : Sent to remote target.
1996/08/27 12:19:10 rs600022                  3O312 FNDTC201I:
@root rs600014 2 0 Y1996M08D27 rs600022 : Sent to remote target.
```

Figure 106. tail -f fndlog at the SD Preparation Site after Sending the Change Files

Note

You can also use the new plan feature of the product to automate the execution of multiple change requests using requests inside a transmission plan. The requests can be conditioned on the result of each other.

If you want, you can use a transmission plan to retrieve the change files from the SD Preparation Site and install them at the SD Client. We show how to use the plan feature in Chapter 7, “Scenario 4: Migrating a Remote SD Client Using the Plan Feature” on page 115.

6.8.6 Exporting the Installation Images at the NFS Server

When using NFS you have to export the directory with the installation images at NFS server. Execute the following command at the NFS server:

```
/usr/sbin/mknfsexp -d '/usr/sys/inst.nvdm.images' -t 'rw' '-B'
```

6.8.7 Installing Change Files at the Remote SD Server

To install the generic change file containing the preinstallation script preinst_srv.3130 at the remote SD Server enter the following commands at the SD Focal Point:

```
nvdm send ibm.ndm6000.preinst_srv.ref.3130 rs600015
```

```
nvdm inst ibm.ndm6000.preinst_srv.ref.3130 -w rs600015
```

Also check for the messages shown in the message log.

If the installation fails, check the request.out file in the remote SD Servers work directory.

You can now install the change file which migrates the remote SD Server from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3. The name of the change file is ibm.ndm6000.base.reminst.3130. Enter the following commands:

```
nvdm send ibm.ndm6000.base.reminst.ref.3130 rs600015
```

```
nvdm inst ibm.ndm6000.base.reminst.ref.3130 -w rs600015 -e
```

Important

Do not forget to use the installation option to extend the file system (-e) unless you are sure that you have enough disk space left in the file system.

If your target is still running a version prior to 1.2 it does not support the option to extend the file system. In this case you have to extend it manually or by executing a simple script.

During the migration process, you should always watch the message log fndlog at the SD Focal Point to monitor the installation process. To do this, enter the following commands:

```
cd /usr/lpp/netviewdm

tail -f fndlog
```

We received the following output:

```
1996/08/29 12:56:56 rs600022
 19642 FNDRQ147I: @root rs600022 18 0 N/A rs600015 :
 Fetch request completed successfully.
1996/08/29 12:58:56 rs600022
 19642 FNDRQ034I: @root rs600022 19 0 N/A N/A :
 Install request completed store in the local database.
1996/08/29 12:58:56 rs600022
 18876 FNDSH268I: @root rs600022 19 0 N/A N/A :
 Install request/report queued for transmission on SNA/DS connection
 RS600015.
1996/08/29 12:59:09 rs600022
 41256 FNDTC201I: @root rs600022 19 0 N/A N/A :
 Sent to remote target.
1996/08/29 12:59:44 rs600022
 19642 FNDRQ108I: @root rs600022 19 0 N/A N/A :
 Received successful Install report.
1996/08/29 12:59:44 rs600022
 19642 FNDRQ147I: @root rs600022 19 0 N/A rs600015 :
 Install request completed successfully.
1996/08/29 13:01:24 rs600022
 19642 FNDRQ034I: @root rs600022 20 0 N/A N/A :
 Install request completed store in the local database.
1996/08/29 13:01:25 rs600022
 18876 FNDSH268I: @root rs600022 20 0 N/A N/A :
 Install request/report queued for transmission on SNA/DS connection
 RS600015.
1996/08/29 13:01:27 rs600022
 41354 FNDTC201I: @root rs600022 20 0 N/A N/A :
 Sent to remote target.
1996/08/29 13:09:03 rs600022
 41440 FNDTC065I: MU_ID registry resynch completed successfully on
 connection RS600015.
1996/08/29 13:09:04 rs600022
 19642 FNDRQ108I: @root rs600022 20 0 N/A N/A :
 Received successful Install report.
1996/08/29 13:09:05 rs600022
 19642 FNDRQ147I: @root rs600022 20 0 N/A rs600015 :
 Install request completed successfully.
1996/08/29 13:09:35 rs600022
 19642 FNDRQ108I: @root rs600015 512000 0 Y1996M08D29 N/A :
 Received successful Install report.
1996/08/29 13:09:35 rs600022
 19642 FNDFS001I: Cataloged IBM.NDM6000.TOOL.REF.3130 as local file .
1996/08/29 13:09:37 rs600022
 19642 FNDRQ108I: @root rs600015 512000 0 Y1996M08D29 N/A :
 Received successful Install report.
1996/08/29 13:09:39 rs600022
 19642 FNDRQ108I: @root rs600015 512000 0 Y1996M08D29 N/A :
 Received successful Install report.
1996/08/29 13:09:39 rs600022
 19642 FNDFS001I: Cataloged IBM.NDM6000.GI.REF.3130 as local file .
1996/08/29 13:09:40 rs600022
 19642 FNDRQ108I: @root rs600015 512000 0 Y1996M08D29 N/A :
 Received successful Install report.
```

Figure 107. tail -f fndlog at SD Focal Point during Migration

Besides the possibilities we showed you on how to monitor the installation process, there is another possibility you can make use of when you install installp-type change files.

In the working directory of the remote SD Client, the file extlog1 contains a log of the installp process. The file is always reset if a new change request using the installp installation of Software Distribution for AIX 3.1.3 is executed. During the

migration process we opened a separate window at the client and used the following command from the products root directory:

```
tail -f extlog1
```

We received the following output. All messages that are generated during the installation process are appended to this log file.

```
+-----------------------------------------------------------------------------+
                    Pre-installation Verification...
+-----------------------------------------------------------------------------+
installp:  Pre-installation verification may take several minutes.
Please wait...
Verifying selections...done
Verifying requisites...done
Results...

SUCCESSES
---------
  Filesets listed in this section passed pre-installation verification
  and will be installed.

  Selected Filesets
  -----------------
  netviewdm6000.base.obj 3.1.3.0              # Software Distribution (3.1.3...
  netviewdm6000.comms.obj 3.1.3.0             # Software Distribution (3.1.3...
  netviewdm6000.gi.obj 3.1.3.0                # Software Distribution (3.1.3...
  netviewdm6000.server.obj 3.1.3.0            # Software Distribution (3.1.3...
  netviewdm6000.tool.obj 3.1.3.0              # Software Distribution (3.1.3...

  << End of Success Section >>

FILESET STATISTICS
------------------
    5  Selected to be installed, of which:
        5  Passed pre-installation verification
  ----
    5  Total to be installed

+-----------------------------------------------------------------------------+
                         Installing Software...
+-----------------------------------------------------------------------------+

installp:  APPLYING software for:
        netviewdm6000.base.obj 3.1.3.0
        netviewdm6000.tool.obj 3.1.3.0
        netviewdm6000.server.obj 3.1.3.0
        netviewdm6000.gi.obj 3.1.3.0
        netviewdm6000.comms.obj 3.1.3.0


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Restoring files, please wait.
111 files restored.

Work, Repository, Service and Backup directories are defaulted to
/usr/lpp/netviewdm
Please ensure adequate space or modify the nvdm.cfg file accordingly

Finished processing all filesets.  (Total time:  4 mins 17 secs).

+-----------------------------------------------------------------------------+
                      Post-installation Processing...
+-----------------------------------------------------------------------------+
+-----------------------------------------------------------------------------+
                                Summaries:
+-----------------------------------------------------------------------------+

Installation Summary
--------------------
Name                        Level           Part        Event       Result
-------------------------------------------------------------------------------
netviewdm6000.base.obj      3.1.3.0         USR         APPLY       SUCCESS
netviewdm6000.tool.obj      3.1.3.0         USR         APPLY       SUCCESS
netviewdm6000.server.obj    3.1.3.0         USR         APPLY       SUCCESS
netviewdm6000.gi.obj        3.1.3.0         USR         APPLY       SUCCESS
netviewdm6000.comms.obj     3.1.3.0         USR         APPLY       SUCCESS
```

Figure 108. extlog1 at Remote SD Server during Migration

If the file system of the application at the SD Server did not have enough disk space to fulfill the requirement of the installp process you will also see a message that the file system size was changed. We had enough disk space allocated before the migration so we do not see the message.

You have now successfully migrated the remote SD Server from NetView DM/6000 1.2.1 to Software Distribution for AIX 3.1.3.

6.9 Status of the Remote SD Server after the Migration

After you have migrated to Software Distribution for AIX 3.1.3 you should now verify if everything is still running and configured as expected. We used the same commands as we used before the migration process. We suggest that you create a directory named, for example, migrate_after in the NetView/DM base directory:

```
cd/usr/lpp/netviewdm

mkdir migrate_after
```

You should copy the files or redirect the output of the following commands into this directory.

- Copy the base configuration file nvdm.cfg into the migrate_after directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ►
  /usr/lpp/netviewdm/migrate_after/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs600015
MESSAGE LOG LEVEL:    D
LAN AUTHORIZATION:    0
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
CONFIGURATION:        SERVER_WITH_COMMS
MACHINE TYPE:         AIX
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
SERVER:               rs600015
MAX SERVER TARGETS:   2048
```

Figure 109. nvdm.cfg at Remote SD Server after Migration

  As you can see, the system is configured as an SD Server with remote communication.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_after directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_after/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:              Server
Server name:                rs600015
Remote administration:      No
Remote communications:      Yes
LAN authorization:          No
Authorize                   NONE
```

Figure 110. nvdm lsbs at Remote SD Server after Migration

The nvdm lsbs command shows the status of the SD Server.

- List all defined targets with their description and copy the output to a file (named, for example, nvdm_lstg) into the migrate_after directory using:

  ```
  nvdm lstg \* -l /usr/lpp/netviewdm/migrate_after/nvdm_lstg
  ```

  The following figure shows the contents of this file:

```
Target:               rs600015
Description:          Remote Server
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Type:                 SERVER
Operating system:     AIX
Target address:       RS600015
Domain address:       RS600015
LAN address:
CM window:            00:00:00 - 23:59:00
Distribution window:  00:00:00 - 23:59:00
Network:              TCP rs600015
Logging level:        Normal
Tracing state:        Off
Installation parms:   (none)
(none)
Hardware parms:       (none)
Discovered inventory: (none)

Target:               rs600022
Description:          Focal Point and Manger
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Focal
Type:                 SERVER
Operating system:     AIX
Target address:       RS600022
Domain address:       RS600022
LAN address:
Network:              TCP rs600022
```

*Figure 111. nvdm lstg * -l at Remote SD Server after Migration*

The command shows all target definitions on the SD Server. The migration has preserved the configuration.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file (named, for example, nvdmdbdir) in the migrate_after directory using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_after/nvdmdbdir
  ```

  The following figure shows the contents of the output we received:

```
total 464
drwxrwx---   4 root     FNDADMN      512 Aug 29 13:08 .
drwxrwsrwx  16 sys      FNDADMN     1024 Aug 29 13:09 ..
-rw-rw----   1 root     FNDADMN    18432 Aug 29 13:09 auth
-rw-rw----   1 root     FNDADMN    40960 Aug 29 13:09 catalog
-rw-rw----   1 root     FNDADMN    27648 Aug 29 13:09 cmstatus
-rw-rw----   1 root     FNDADMN     4096 Aug 29 13:09 dyntggrp
-rw-rw----   1 root     FNDADMN     6556 Aug 01 14:22 errtolvl
-rw-rw----   1 root     FNDADMN      583 Aug 29 13:08 nvdm.cfg
-rw-rw----   1 root     FNDADMN       48 Aug 29 13:07 routetab
-rw-rw----   1 root     FNDADMN     9216 Aug 29 13:09 snacorr
-rw-r-----   1 root     FNDADMN      149 Aug 29 13:07 snadscfg
drwxr-sr-x   2 root     FNDADMN      512 Aug 29 13:07 snadscon
drwxr-sr-x   2 root     FNDADMN      512 Aug 29 13:08 tmp
-rw-rw----   1 root     FNDADMN     8192 Aug 29 13:09 trgcfg
-rw-rw----   1 root     FNDADMN     4096 Aug 29 13:09 trggrp
-rw-rw----   1 root     FNDADMN    70656 Aug 29 13:15 userreq
-rw-rw----   1 root     FNDADMN     7168 Aug 29 13:09 users
```

Figure 112. ls -al /usr/lpp/netviewdm/db at Remote SD Server after Migration

The migration has changed the names of the directories.

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, `lslppnvdm`) into the `migrate_after` directory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_after/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.comms.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.gi.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.server.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.tool.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15
```

Figure 113. lslpp -h netviewdm6000 at Remote SD Server after Migration*

The output shows that we have installed Software Distribution for AIX 3.1.3.

- To check the change management history, execute the following: command:

  ```
  nvdm lscm \* > /usr/lpp/netviewdm/migrate_after/nvdmlscm
  ```

  We received the following output:

```
Global file name:      CLEANUP.SERVER.VERSION12.REF.1

    Target:            rs600015
    Status:            Not Authorized.

Global file name:      IBM.NDM6000.BASE.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.BASE.REMINST.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Installed, not removable, active

Global file name:      IBM.NDM6000.COMMS.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.COMMS.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.INFO.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.INFO.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered
```

Figure 114 (Part 1 of 2). nvdm lscm at Remote SD Server after Migration

```
Global file name:      IBM.NDM6000.PREINST_SRV.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Installed, removable, active

Global file name:      IBM.NDM6000.SERVER.FIX.112.U436928

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.FIX.112.U438399

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.REF.112

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.SERVER.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.TOOL.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      TEST.FILE.REF.1

    Target:            rs600015
    Status:            Not Authorized, Installed, removable, active
```

Figure 114 (Part 2 of 2). nvdm lscm at Remote SD Server after Migration

The output shows that the new SD packages have been discovered but that there are also some entries left from the previous levels. In our opinion this is not completely correct but it does not affect the behavior of the installed system in any way.

- Redirect the status of the targets into the migrate_after directory using:

  `nvdm stattg \* > /usr/lpp/netviewdm/migrate_after/nvdm_stattg`

  We received the following output:

```
The required command could take a long execution time.
Do you really want to execute the command for all targets [y/n]?
Target                         Status

rs600015                       Available
```

*Figure 115. nvdm stattg * at the Remote SD Server after the Migration*

The target status of the remote SD Server is Available.

As we have seen the migration has preserved the configuration.

6.10 Recovery from an Unsuccessful Migration

If the migration process fails, which could, for example, happen when you have not specified the installation option to extend the file system and there is not enough space left in the /usr/lpp/netviewdm file system, you can only recover manually to the old version of the product. We found no way to do that by automatically issuing change requests from the SD Focal Point because after the migration fails the connection between the SD Focal Point and the remote SD Server is inactive.

We explained that when you are going to migrate to a new version of a product and you change one of the first two levels of the installation image the old version of the product is deleted. When the installation of the new version is started and does not have enough disk space to perform the installation it is stopped and neither the old nor the new version of the product is installed.

In this case you are no longer able to start the agent process because the directory `/usr/lpp/netviewdm/bin` holding the executables of the product is empty.

To reinstall NetView DM/6000 1.2.1 on the remote SD Server you have to perform the following steps:

1. Clean up the installation with the command:

   ```
   installp -C
   ```

2. Install NetView DM/6000 1.2.1 on the remote SD Server manually using `smitty`.
3. Copy the recovery script `restore_nvdm` in the directory `/usr/lpp/netviewdm/script` at the SD Focal Point to the root directory of the SD Server using ftp or another method.
4. Execute the recovery script from the directory:

   ```
   ksh restore_nvdm
   ```

5. Start NetView DM using the command:

   ```
   nvdm start
   ```

Chapter 7. Scenario 4: Migrating a Remote SD Client Using the Plan Feature

In this scenario we show how to migrate a remote SD Client whose SD Server is connected to the SD Focal Point over a wide area network.

Before you start to follow the documented steps in this chapter, make sure that you have already migrated the remote SD Server to which the remote SD Client is connected to. We showed you how to do this in Chapter 6, “Scenario 3: Migrating a Remote SD Server” on page 83.

Regarding the sequence of migration steps that you perform to migrate your environment, the migration of a remote SD Client is the last step in the chain because this system is at the bottom of the hierarchy in the environment.

7.1 Understanding the Scenario

Before we show you how to perform the migration in detail, we describe the process flow of this migration scenario.

The scenario is based on the following environment:

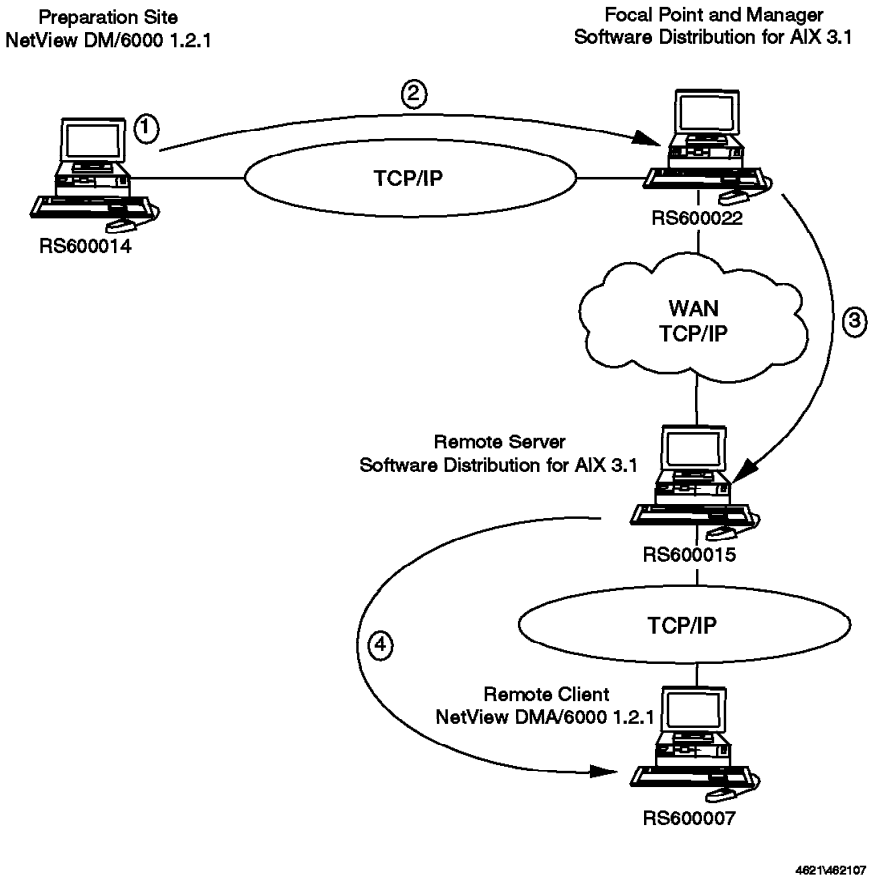

Figure 116. Process Flow of Scenario 4

We are using four different systems in this environment:

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- An SD Preparation Site
- An SD Focal Point
- A remote SD Server
- The remote SD Client that we will migrate

The installed software of these computers before the migration is given in Table 11. After the migration, the software should have the levels of Table 12 on page 118.

The SD Preparation Site is based on NetView DM/6000 1.2.1 since we have to build the change files on a system running the old version of the product.

We have shown how to migrate the local SD Client in Chapter 5, “Scenario 2: Migrating a Local SD Client” on page 45. We now show an example of how to migrate this remote client in an automated way, using the plan feature to control the outcome of the different requests.

In Chapter 6, “Scenario 3: Migrating a Remote SD Server” on page 83 we have shown how to migrate the remote SD Server to Software Distribution for AIX 3.1.3. The remote SD Client that we migrate in this scenario is connected to this server over TCP/IP.

The remote SD Server uses SNA/DS over TCP/IP as its connection protocol to the focal point. We assume a wide area network between those systems.

The following steps are necessary to migrate a remote SD Client. We describe the steps in more detail in the following sections:

1. Preparing the change files at the preparation site
2. Sending the change files to the SD Focal Point
3. Sending the change files to the remote SD Server using the Plan Feature
4. Installing the change files at the remote SD Client using the Plan Feature

Table 11 (Page 1 of 2). Installed Software of Scenario 4 before the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitest.En_US.obj.3.1.3.0 netviewdm6000.gitest.en_US.obj.3.1.3.0 netviewdm6000.man.En_US.obj.3.1.3.0 netviewdm6000.man.en_US.obj.3.1.3.0 netviewdm6000.msg.en_US.obj.3.1.3.0 netviewdm6000.plan.obj.3.1.3.0 netviewdm6000.remoteadmin.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0

Table 11 (Page 2 of 2). Installed Software of Scenario 4 before the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399
rs600015	Remote Server	RS600015.RS600015	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399
rs60007	Remote Client	RS600015.RS60007	netviewdm6000.clbooks.obj.1.0.2.0 netviewdm6000.clbooks.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.0 netviewdm6000.clgi.obj.1.0.2.1.U436929 netviewdm6000.clgi.obj.1.0.2.1.U438390 netviewdm6000.client.obj.1.0.2.0 netviewdm6000.client.obj.1.0.2.1.U436929 netviewdm6000.client.obj.1.0.2.1.U438390

Table 12. Installed Software of Scenario 3 after the Migration

Name	Type	DomainAddress.TargetAddress	Installed Features
rs600022	Focal Point	RS600022.RS600022	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.gitest.En_US.obj.3.1.3.0 netviewdm6000.gitest.en_US.obj.3.1.3.0 netviewdm6000.man.En_US.obj.3.1.3.0 netviewdm6000.man.en_US.obj.3.1.3.0 netviewdm6000.msg.en_US.obj.3.1.3.0 netviewdm6000.plan.obj.3.1.3.0 netviewdm6000.remoteadmin.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0
rs600014	Prepa-ration Site	RS600014.RS600014	netviewdm6000.base.obj.1.0.2.0 netviewdm6000.base.obj.1.0.2.1.U436928 netviewdm6000.base.obj.1.0.2.1.U438399 netviewdm6000.books.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.0 netviewdm6000.comms.obj.1.0.2.1.U436928 netviewdm6000.comms.obj.1.0.2.1.U438399 netviewdm6000.gi.obj.1.0.2.0 netviewdm6000.gi.obj.1.0.2.1.U436928 netviewdm6000.gi.obj.1.0.2.1.U438399 netviewdm6000.info.obj.1.0.2.0 netviewdm6000.info.obj.1.0.2.0.U436928 netviewdm6000.server.obj.1.0.2.0 netviewdm6000.server.obj.1.0.2.1.U436928 netviewdm6000.server.obj.1.0.2.1.U438399 netviewdm6000.tool.obj.1.0.2.0 netviewdm6000.tool.obj.1.0.2.1.U436928 netviewdm6000.tool.obj.1.0.2.1.U438399
rs600015	Remote Server	RS600015.RS600015	netviewdm6000.base.obj.3.1.3.0 netviewdm6000.comms.obj.3.1.3.0 netviewdm6000.gi.obj.3.1.3.0 netviewdm6000.server.obj.3.1.3.0 netviewdm6000.tool.obj.3.1.3.0
rs60007	Remote Client	rs600015.rs60007	netviewdm6000.clgi.obj.3.1.3.0 netviewdm6000.client.obj.3.1.3.0

7.2 Avoiding Migration Problems

In the rest of this chapter, we show how to migrate an SD Client. In our experience, this migration will often fail because of some trivial errors. Typical trivial errors are:

- The previous version of the software to be migrated is not committed.
- Your system is running out of disk space.

In order to avoid disaster, we strongly recommend that you test the migration on a local test system before attempting a large-scale migration. In case of problems, first verify that your system is in the right status before the migration, and then check the log files.

7.3 Status of the SD Preparation Site

The configuration of our preparation site is the same as the one we documented in the first scenario, refer to 5.3, “Status of the SD Preparation Site” on page 48.

Remember that your file system `/usr/lpp/netviewdm` has to have enough disk space left when using change files of the type installp_image. This implies that the complete installation image is included in the change file and requires a lot of disk space at the target system.

7.4 Status of the SD Focal Point

We did not change the configuration of the SD Focal Point as given in 5.4, “Status of the SD Focal Point” on page 52.

In contrast to Scenario 2, the following points are now relevant:

- The option `netviewdm6000.remoteadmin.obj` must be installed on rs600022. Otherwise, rs600015 would not accept change management requests from rs600022.
- The remote SD Server and the remote SD Client must be defined at the SD Focal Point. To see which targets are defined at your SD Focal Point, use the command `nvdm lstg \* -l`. The command should show that the remote SD Client and the remote SD Server are defined at the SD Focal Point as shown in the following output:

```
Target:                rs600014
Description:           Preparation Site
   ......
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600014
Domain address:        RS600014
LAN address:
Network:               TCP rs600014
Installation parms:    (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs600015
Description:           Server
   ......
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600015
Domain address:        RS600015
LAN address:
Network:               TCP rs600015
Installation parms:    (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs600022
Description:           INITIAL TARGET CONFIGURATION RECORD
   ......
Mailing address:
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600022
Domain address:        RS600022
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs600022
Logging level:         Normal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs60007
Description:           Client
   ......
Target access key:     (none)
Mode:                  Push
Server name:           rs600015
Type:                  CLIENT
Operating system:      AIX
Target address:        RS60007
Domain address:        RS600015
Installation parms:    (none)
Hardware parms:        (none)
Discovered inventory:  (none)
```

Figure 117. lstg -l at the SD Focal Point

You can see that the remote SD Client rs60007 is defined as a client target with rs600015 as the remote SD Server.

7.5 Status of the Remote SD Server

Before you start the migration, we recommend that you document the status of your system. This documentation allows you to analyze the migration in case of problems. The following commands are only examples. If there are serious problems, you might document additional configuratio data. They can also be run in a simple script for the remote systems.

Create a directory migrate_before in the NetView DM base directory by using the following commands:

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

```
mkdir migrate_before
```

To document NetView DM-related information, do the following:

- Copy the base configuration file nvdm.cfg into the migrate_before directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ► 
  /usr/lpp/netviewdm/migrate_before/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs600015
MESSAGE LOG LEVEL:    D
LAN AUTHORIZATION:    0
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
CONFIGURATION:        SERVER_WITH_COMMS
MACHINE TYPE:         AIX
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
SERVER:               rs600015
MAX SERVER TARGETS:   2048
```

Figure 118. nvdm.cfg at the Remote SD Server

  As you can see the system is configured as an SD Server with remote communication.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_before directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_before/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:              Server
Server name:                rs600015
Remote administration:      No
Remote communications:      Yes
LAN authorization:          No
Authorize                   NONE
```

Figure 119. nvdm lsbs at the Remote SD Server

- List all defined targets with their description and copy the output to a file (named, for example, nvdm_lstg) into the migrate_before directory using:

nvdm lstg * -l /usr/lpp/netviewdm/migrate_before/nvdm_lstg

The following figure shows the contents of this file:

```
Target:               rs600015
Description:          Remote Server
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Type:                 SERVER
Operating system:     AIX
Target address:       RS600015
Domain address:       RS600015
LAN address:
CM window:            00:00:00 - 23:59:00
Distribution window:  00:00:00 - 23:59:00
Network:              TCP rs600015
Logging level:        Normal
Tracing state:        Off
Installation parms:   (none)
(none)
Hardware parms:       (none)
Discovered inventory: (none)

Target:               rs600022
Description:          Focal Point and Manger
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Focal
Type:                 SERVER
Operating system:     AIX
Target address:       RS600022
Domain address:       RS600022
LAN address:
Network:              TCP rs600022

Target:               rs60007
Description:          Client
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:    (none)
Mode:                 Push
Server name:          rs600015
Type:                 CLIENT
Operating system:     AIX
Target address:       RS60007
Domain address:       RS600015
LAN address:
CM window:            00:00:00 - 23:59:59
Distribution window:  00:00:00 - 23:59:59
Network:              TCP rs60007
Logging level:        Minimal
Tracing state:        Off
Installation parms:   (none)
(none)
Hardware parms:       (none)
Discovered inventory: (none)
```

*Figure 120. nvdm lstg * -l at the remote SD Server*

As can be seen in the target list, the SD Focal Point is defined as Report-To Focal Point. Our remote SD Client is defined as a push target.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named, for example, nvdmdbdir into the migrate_before directory using:

```
ls -al /usr/lpp/netviewdm/db ►
> /usr/lpp/netviewdm/migrate_before/nvdmdbdir
```

The following figure shows the contents of the output we received:

```
total 512
drwxrwx---   4 root     FNDADMN      512 Aug 29 13:08 .
drwxrwsrwx  16 sys      FNDADMN     1024 Aug 29 15:16 ..
-rw-rw----   1 root     FNDADMN    18432 Aug 29 15:21 auth
-rw-rw----   1 root     FNDADMN    40960 Aug 29 15:21 catalog
-rw-rw----   1 root     FNDADMN    27648 Aug 29 15:21 cmstatus
-rw-rw----   1 root     FNDADMN     4096 Aug 29 15:21 dyntggrp
-rw-rw----   1 root     FNDADMN     6556 Aug 01 14:22 errtolvl
-rw-rw----   1 root     FNDADMN      583 Aug 29 13:08 nvdm.cfg
-rw-rw----   1 root     FNDADMN       48 Aug 29 13:07 routetab
-rw-rw----   1 root     FNDADMN     9216 Aug 29 15:21 snacorr
-rw-r-----   1 root     FNDADMN      149 Aug 29 13:07 snadscfg
drwxr-sr-x   2 root     FNDADMN      512 Aug 29 13:07 snadscon
drwxr-sr-x   2 root     FNDADMN      512 Aug 29 13:08 tmp
-rw-rw----   1 root     FNDADMN    13312 Aug 29 15:21 trgcfg
-rw-rw----   1 root     FNDADMN     4096 Aug 29 15:21 trggrp
-rw-rw----   1 root     FNDADMN    87040 Aug 29 15:25 userreq
-rw-rw----   1 root     FNDADMN     7168 Aug 29 15:21 users
```

Figure 121. ls -al /usr/lpp/netviewdm/db at the Remote SD Server

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, `lslppnvdm`) into the `migrate_before` directory, use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.base.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.comms.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.gi.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.server.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15

  netviewdm6000.tool.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     13:03:15
```

Figure 122. lslpp -h netviewdm6000 at the Remote SD Server*

  The output shows that we have installed Software Distribution for AIX 3.1.3 on the SD Server.

- Redirect the target status into the `migrate_before` directory using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_before/nvdm_stattg
  ```

  We received the following output:

```
The required command could take a long execution time.
Do you really want to execute the command for all targets [y/n]?
Target                          Status

rs600015                        Available
rs60007                         Available
```

*Figure 123. nvdm stattg * at the Remote SD Server*

- To list the change management history on the SD Server, use:

```
nvdm lscm \* > /usr/lpp/netviewdm/migrate_before/nvdm_lscm
```

You should receive the following output:

```
Global file name:      CLEANUP.SERVER.VERSION12.REF.1

    Target:            rs600015
    Status:            Not Authorized.

Global file name:      IBM.NDM6000.BASE.REMINST.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Installed, not removable, active

Global file name:      IBM.NDM6000.COMMS.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.GI.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.PREINST_SRV.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Installed, removable, active

Global file name:      IBM.NDM6000.SERVER.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.TOOL.REF.3130

    Target:            rs600015
    Status:            Not Authorized, Discovered

Global file name:      TEST.FILE.REF.1

    Target:            rs600015
    Status:            Not Authorized, Installed, removable, active
```

*Figure 124. nvdm lscm * at the Remote SD Server*

7.6 Status of the Remote SD Client before Migration

Before you start the migration, we recommend that you document the status of your system. This documentation allows you to analyze the migration in case of problems. The following commands are only examples. If there are serious problems, you might document additional configuration data.

Create the directory migrate_before in the NetView DM base directory by using the following commands:

```
cd /usr/lpp/netviewdm

mkdir migrate_before
```

To document NetView DM-related information, do the following:

- Copy the base configuration file nvdm.cfg into the migrate_before directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ►
  /usr/lpp/netviewdm/migrate_before/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs60007
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:               rs600015
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 125. nvdm.cfg at the Remote SD Client before the Migration

As you can see, the system is configured as an SD Client.

- To compare the names of the files in the product's database directory you can redirect the listing of this directory to a file named, for example, nvdmdbdir into the migrate_before directory by using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_before/nvdmdbdir
  ```

  The following figure shows the contents of the output we received:

```
total 200
drwxr-sr-x   9 root     FNDADMN      512 Aug 28 18:10 .
drwxrwsrwx  16 sys      FNDADMN     1024 Aug 29 10:52 ..
-rw-rw----   1 root     FNDADMN      556 Aug 28 18:20 nvdm.cfg

Remote SD Client before Migration
```

Figure 126. ls -al /usr/lpp/netviewdm/db at the

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, lslppnvdm) into the migrate_beforedirectory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_before/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.clbooks.obj
                  1.0.2.0   COMMIT       COMPLETE     08/29/96     14:48:42
          1.0.2.1.U436929   COMMIT       COMPLETE     08/29/96     14:58:46

  netviewdm6000.clgi.obj
                  1.0.2.0   COMMIT       COMPLETE     08/29/96     14:48:42
          1.0.2.1.U436929   COMMIT       COMPLETE     08/29/96     14:58:46
          1.0.2.1.U438390   COMMIT       COMPLETE     08/29/96     14:58:46

  netviewdm6000.client.obj
                  1.0.2.0   COMMIT       COMPLETE     08/29/96     14:48:42
          1.0.2.1.U436929   COMMIT       COMPLETE     08/29/96     14:58:45
          1.0.2.1.U438390   COMMIT       COMPLETE     08/29/96     14:58:45
```

Figure 127. lslpp -h netviewdm6000 at the Remote SD Client before the Migration*

The output shows that we have installed NetView DM/6000 1.2.1, including the PTF levels U436929 and U438390.

- Redirect the output of the target status into the migrate_before directory by using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_before/nvdm_stattg
  ```

  We received the following output:

```
FNDCL081E: The request could not be scheduled because the request
was not valid.  View the message log for details.
```

*Figure 128. nvdm stattg * at the Remote SD Client before the Migration*

Because of different versions of SD, the `nvdm stattg` command does not work.

- To list the change management history on the SD Client, use:

  `nvdm lscm \* > /usr/lpp/netviewdm/migrate/nvdm_lscm`

  You should receive the following output:

```
FNDCL136E: Connection to server has failed.
```

*Figure 129. nvdm lscm * at Remote SD Client before Migration*

Because of different versions of SD, the `nvdm lscm` command does not work.

7.7 Verifying the ODM/SD Database Status of SD Client

We described how to use the command `lslpp -h netviewdm6000*` to check the installation status of the application at the remote SD Client. It showed that all installed options are in the status of COMMIT. Since it is a prerequisite for installp-type installations that the options that will be migrated have to be in the COMMIT status when changing to a new level of an application, you have to commit your options if they are still in the status APPLIED. You can do that by using the following command:

```
installp -c <option>
```

Where `<option>` is the installation option you want to commit. You can also use the smit panels (fast path: `smitty install_manage_applied`) to do this.

If you want to use the application to do that, you have to write a procedure that executes the installp command. Put it in a script file and catalog it as a procedure.

7.8 Preparing Change Files for Removing Obsolete LPP Options

For a NetView DM/6000 1.2.1 SD Client, there is an installation option which no longer exists in Software Distribution for AIX 3.1.3. The option is `netviewdm6000.clbooks.obj`. It is not necessary to remove this option from a technical point of view but it takes away disk space, so we suggest you remove it.

If you decide to remove this option, you have to do that *before* you migrate to Software Distribution for AIX 3.1.3. The same is true whether you use smitty or software distribution change requests to remove the option.

The reason for this is that the option has the base client option `netviewdm6000.client.obj` of NetView DM/6000 1.2.1 as a prerequisite. When you already have migrated the application, this required option no longer exists, so the removal will fail.

You will see an output similar to Figure 130 on page 127 when you try to remove the option after you have already migrated the application:

```
                                COMMAND STATUS

Command: failed        stdout: yes           stderr: no

Before command completion, additional instructions may appear below.

[MORE...13]
0503-269 installp:  The following software products will not be applied
         unless products upon which they depend are applied first:

Product  netviewdm6000.clbooks.obj
at level 1.0.2.0 requires:
   At least 1 of the following:
   | = netviewdm6000.client.obj v=1, r=0, m=2

where:
"=" indicates a base level product for which there is another version
    that is either already installed or was selected to be installed
    during this installation session.
```

Figure 130. Failed Removal Message at the Remote SD Client

When you use Software Distribution for AIX 3.1.3 to remove the option, you will see similar output in the file `extlog1` at the remote SD Client. This file contains the log of the actual `installp` operation initiated by Software Distribution for AIX 3.1.3 and is located in the the product's root directory.

There are different methods for removing the option depending on the actual status of the option (COMMIT or APPLIED) and the version of the operating system.

For the two standard situations (AIX 3.2.5 and status APPLIED, AIX 4.1 and status COMMITTED) we show SD scripts. In all other cases, you have to use the tricks given in 8.1, "Removing LPPs in AIX 3.2" on page 149.

If you want to use Software Distribution for AIX 3.1.3 for this, do the following:

Attention

The following commands sometimes kill the client process.

Do not not try this scenario without a watchdog for SD. See 8.3, "Implementing a Simple Watchdog" on page 151 for implementing a watchdog.

- AIX 3.2.5 and Status APPLIED

  1. Create a profile that includes the installation option that you want to remove. Give the change file a name (for example, `cleanup.client.version12.ref.1`). You have to build the change file at the preparation site.

     It is important that you do not build the change file from the installation image containing the PTF. You have to build it from the base installation image.

     We assume that you decide to include the installation image in the change file (`Type: INSTALLP_IMAGE`) and that `/usr/sys/inst.nvdm.images/nvdm121` is the directory where your installation images reside. Create the following change file profile with the name `client_cleanup.profile`:

```
GLOBAL NAME:         CLEANUP.CLIENT.VERSION12.REF.1
CHANGE FILE TYPE:    AIXINSTP
COMPRESSION TYPE:    LZW
REBOOT REQUIRED:     NO
PACK FILES:          NO
SECURE PACKAGE:      NO
OBJECT:
   NAME:             /usr/sys/inst.nvdm.images/nvdm121/netviewdm6000.client.1.0.2.0
   OPP OPTION:       netviewdm6000.clbooks.obj 01.00.0002.0000
   TYPE:             INSTALLP_IMAGE
```

Figure 131. Change File Profile for Client Cleanup on AIX 3.2.5

2. At the SD Preparation Site, build a change file from this profile with the command:

   `nvdm bld client_cleanup.profile`

3. Send the change file from the SD Preparation Site to the Software Distribution for AIX 3.1.3 SD Focal Point by typing:

   `nvdm send cleanup.client.version12.ref.1 rs600022`

4. The installation and the removal of these change files will be done using a plan.

- AIX 4.1 and Status COMMITTED

  1. Create a profile that includes the installation option which you want to remove. Give the change file a name (for example, `cleanup.client.version12.ref.1`). You have to build the change file at the preparation site.

     It is important that you do not build the change file from the installation image containing the PTF. You have to build it from the base installation image.

     We assume that you decide to include the installation image in the change file (`Type: INSTALLP_IMAGE`) and that `/usr/sys/inst.nvdm.images/nvdm121` is the directory where your installation images reside. Create the following change file profile with the name `client_cleanup.profile.41`:

```
GLOBAL NAME:         CLEANUP.CLIENT.VERSION12.REF.1
CHANGE FILE TYPE:    AIXINSTP
COMPRESSION TYPE:    LZW
REBOOT REQUIRED:     NO
PACK FILES:          NO
SECURE PACKAGE:      NO
OBJECT:
   NAME:             /usr/sys/inst.nvdm.images/nvdm121/netviewdm6000.client.1.0.2.0
   OPP OPTION:       netviewdm6000.clbooks.obj 1.0.2.0
   TYPE:             INSTALLP_IMAGE
```

Figure 132. Change File Profile for Client Cleanup on AIX 4.1

  2. At the SD Preparation Site build a change file from this profile with the command:

     `nvdm bld client_cleanup.profile.41`

  3. Send the change file from SD Preparation Site to the Software Distribution for AIX 3.1.3 SD Focal Point by typing:

     `nvdm send cleanup.client.version12.ref.1 rs600022`

  4. The installation and unistallation of this change file will be done using a plan.

7.9 Migrating the Remote SD Client

The main steps you have to perform have to be done at the SD Preparation Site and the SD Focal Point. We go through this process step by step.

7.9.1 Accessing the Installation Images

Make sure that you have the installation images available. You can access the images directly from a tape, copy them to a directory on your hard disk (for example, /usr/sys/inst.images) by using the command bffcreate or, if they are already available on one of the systems in your network, you can mount the directory where the images are located. We use the second method. Our images are located on the Software Distribution for AIX 3.1.3 SD Focal Point (rs600022) in the directory /usr/sys/inst.nvdm.install/nvdm313. Export this directory on the SD Focal Point (rs600022) with the command:

```
/usr/sbin/mknfsexp -d '/usr/sys/inst.nvdm.images/nvdm313' -t
'rw' '-B'
```

Mount this directory from the preparation site (rs600014) as /buildmnt using the following commands:

```
mkdir /buildmnt
```

```
mount rs600022:/usr/sys/inst.nvdm.images/nvdm313 /buildmnt
```

You can list the contents of the directory by using the command:

```
ls -al /buildmnt
```

You should receive an output similar to the following:

```
total 125928
drwxr-sr-x   2 root     sys          512 Aug 21 15:53 .
drwxr-xr-x  19 bin      bin         1024 Aug 26 17:56 ..
-rw-r--r--   1 root     sys         8221 Aug 21 16:03 .toc
-rw-r--r--   1 root     sys     11967488 Aug 12 17:34 netviewdm6000.client.3.1.3.0
-rw-r--r--   1 root     sys       984064 Aug 12 17:36 netviewdm6000.gitext.En_US.3.1.3.0
-rw-r--r--   1 root     sys       984064 Aug 12 17:37 netviewdm6000.gitext.en_US.3.1.3.0
-rw-r--r--   1 root     sys       317440 Aug 12 17:37 netviewdm6000.man.En_US.3.1.3.0
-rw-r--r--   1 root     sys       317440 Aug 12 17:38 netviewdm6000.man.en_US.3.1.3.0
-rw-r--r--   1 root     sys      6412288 Aug 12 17:45 netviewdm6000.mobclient.3.1.3.0
-rw-r--r--   1 root     sys       507904 Aug 12 17:46 netviewdm6000.msg.En_US.3.1.3.0
-rw-r--r--   1 root     sys       507904 Aug 12 17:47 netviewdm6000.msg.en_US.3.1.3.0
-rw-r--r--   1 root     sys      1174528 Aug 12 17:48 netviewdm6000.plan.3.1.3.0
-rw-r--r--   1 root     sys     20951040 Aug 12 18:12 netviewdm6000.server.3.1.3.0
-rw-r--r--   1 root     sys     20316160 Aug 12 18:36 netviewdm6000.singlenode.3.1.3.0
```

Figure 133. "ls -al /buildmnt" at the SD Preparation Site

In this scenario, we use the netviewdm6000.client.3.1.3.0 images. This image includes the client base option and the one for the graphical user interface. To list which installation options are included in the installation image, use the command:

```
installp -l -d <image>
```

We used:

```
installp -l -d netviewdm6000.client.3.1.3.0
```

to list the contents of the client base package and received the following output:

```
  Fileset Name               Level                    I/U Q Content
  ============================================================================
  netviewdm6000.clgi.obj     3.1.3.0                   I  N usr
#   Software Distribution Client (3.1.3) for AIX Graphical

  netviewdm6000.client.obj   3.1.3.0                   I  N usr
#   Software Distribution Client (3.1.3) for AIX Client
```

Figure 134. Contents of the Client Package

Note

The formatting of the software levels depends on the version of AIX:

- In AIX 3.2.5 the level is shown as 03.01.0003.0000.
- In AIX 4.1 the level is shown as 3.1.3.0.

7.9.2 Restoring Profiles and Preinstallation Scripts

If you perform the migration using the application itself, you have to restore change file profiles and preinstall scripts.

Note

If you have installed your Software Distribution for AIX 3.1.3 SD Focal Point including the tool option, you will find two directories called `script` and `tool` under the product's base directory.

The files we are going to restore are located in these directories. This means that you can also mount these directories from the preparation site. In this case you do not need to restore the files from the installation images.

Note

Make sure that you have the latest documentation update available. In the *Software Distribution for AIX 3.1.3 Installation and Customization Guide* the documented steps 5-7 are wrong. The name of the profile to restore is `preinst.profile.client` not as documented `preinst.profile`.

`preinst.profile` is the preinstall profile for the server migration.

The profiles will be restored into the directory `/usr/lpp/netviewdm/tool` while the scripts will be restored into the directory `/usr/lpp/netviewdm/script`.

If your preparation site is an SD Server and you have installed the tool option of NetView DM/6000 1.2.1, you probably should save the old files in this directory, otherwise files could be overwritten.

First, we restore the change file profiles for the installation of the client package of Software Distribution for AIX 3.1.3.

- For AIX 3.2.5, use the following commands:

  ```
  cd /

  restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
  -xv ./usr/lpp/netviewdm/tool/profile.client
  ```

```
restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/preinst.profile.client
```

- For AIX 4.1, use the following commands:

```
cd /

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/profile.client.41

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/tool/preinst.profile.client
```

where /buildmnt is the directory in which the images are located and netviewdm6000.server.3.1.3.0 is the image where the profile is restored. The files are restored from the tool option inside the server package.

You can replace the name of the server image with the name of the single node image as well, since the tool option is also included in this package.

After a few seconds you will see a message similar to the following for each restore command:

```
Cluster size is 51200 bytes (100 blocks).
The volume number is 1.
The backup date is: Wed Oct 18 16:10:57 EDT 1995
Files are backed up by name.
The user is builder.
x          833 ./usr/lpp/netviewdm/tool/profile.client
The total size is 833 bytes.
The number of restored files is 1.
```

Figure 135. Successful Restore Message

The restored profiles have the following content:

```
GLOBAL NAME:                IBM.NDM6000.PREINST_CLN.REF.3130
DESCRIPTION:                Pre-installation script Change File
CHANGE FILE TYPE:           GEN
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
SECURE PACKAGE:             NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TARGET NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
```

Figure 136. preinst.profile.client As Delivered for AIX 3.2.5 and AIX 4.1

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REF.3130
DESCRIPTION:                Software Distribution Client for AIX Client feature
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
#PREREQ COMMAND:            mount <hostname>:/usr/sys/inst.images /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.clgi.obj 03.01.0003.0000
    TYPE:                   REMOTE_IMAGE
```

Figure 137. profile.client As Delivered for AIX 3.2.5

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REF.3130
DESCRIPTION:                Software Distribution Client for AIX Client feature
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
#PREREQ COMMAND:            mount <hostname>:/usr/sys/inst.images /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.clgi.obj 3.1.3.0
    TYPE:                   REMOTE_IMAGE
```

Figure 138. profile.client.41 As Delivered for AIX 4.1

Attention

You have to use the proper files for your version of the operating system. In AIX 3.2.5 you have to use profile.client. In AIX 4.1 you have to use profile.client.41. The difference in between the profiles is the formatting of the OPP options. That means, for AIX 3.2.5 the level has to be in the format 03.01.0003.0000, while for AIX 4.1 the format has to be 3.1.3.0.

If you do not restore the correct level of the profile according to the level of the operating system, the build process will fail.

This is a limitation of NetView DM/6000 1.2.1. In Software Distribution for AIX 3.1.3, the problem has been solved. But as long you have to build your change files for the migration on a system running the old version of the product, you have to keep this in mind.

This limitation is only related to the build process, not to the installation process.

Now you have to restore scripts which have to run before the migration itself. To restore these scripts use the following commands:

```
cd /

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/script/preinst_cln.3130

restore -qf /buildmnt/netviewdm6000.server.3.1.3.0 ►
-xv ./usr/lpp/netviewdm/bin/fndckeq
```

These scripts are executed as preinstall scripts of the change file installing the client option. The purpose of the scripts is to save the base configuration file nvdm.cfg and the two inventory files fndswinv and fndhwinv to the directory /usr/lpp/netviewdm/savemigr. If the migration process fails for any reason, you can restore those files from the .../savemigr directory. Because the preinstallation script preinst_cln.3130 is used in the change file for the base client package as a preinstall script, it has to be on the client in the directory where the main change file is expecting it.

In our case this is the directory /usr/lpp/netviewdm/script.

7.9.3 Customizing the Change File Profiles

If you followed the documented steps, you should now have three change file profiles, which we will now customize to our needs. These profiles are located at the preparation site in the directory `/usr/lpp/netviewdm/tool`.

These profiles are not sufficient for practical purposes. We created the following profiles for the different operating systems and for use with/without NFS:

- AIX 3.2.5 without NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.clgi.obj 03.01.0003.0000
    TYPE:                   INSTALLP_IMAGE
```

Figure 139. profile.client.installp Customized for AIX 3.2.5 without NFS

- AIX 4.1 without NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.clgi.obj 3.1.3.0
    TYPE:                   INSTALLP_IMAGE
```

Figure 140. profile.client.installp.41 Customized for AIX 4.1 without NFS

- AIX 3.2.5 with NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
DEFAULT TOKEN:              NFSSERVER=rs600022
PREREQ COMMAND:             mount $(NFSSERVER):/usr/sys/inst.images /usr/sys/inst.images
POSTREQ COMMAND:            unmount /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 03.01.0003.0000
    OPP OPTION:             netviewdm6000.clgi.obj 03.01.0003.0000
    TYPE:                   REMOTE_IMAGE
```

Figure 141. profile.client.nfs Customized for AIX 3.2.5 with NFS

- AIX 4.1 with NFS:

```
GLOBAL NAME:                IBM.NDM6000.CLIENT.REMINST.REF.3130
LOCAL NAME:                 $(REPOSITORY)/IBM.NDM6000.CLIENT.REMINST.REF.3130
CHANGE FILE TYPE:           AIXINSTP
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
DEFAULT TOKEN:              NFSSERVER=rs600022
PREREQ COMMAND:             mount $(NFSSERVER):/usr/sys/inst.images /usr/sys/inst.images
POSTREQ COMMAND:            unmount /usr/sys/inst.images
PRE-INSTALL:                /usr/lpp/netviewdm/script/preinst_cln.3130
POST-INSTALL:               /usr/lpp/netviewdm/script/postinst_cln
OBJECT:
    NAME:                   /usr/sys/inst.images/netviewdm6000.client.3.1.3.0
    OPP OPTION:             netviewdm6000.client.obj 3.1.3.0
    OPP OPTION:             netviewdm6000.clgi.obj 3.1.3.0
    TYPE:                   REMOTE_IMAGE
```

Figure 142. profile.client.nfs.41 Customized for AIX 4.1 with NFS

- AIX 3.2.5 and AIX 4.1 with/without NFS:

```
GLOBAL NAME:                IBM.NDM6000.PREINST_CLN.REF.3130
CHANGE FILE TYPE:           GEN
COMPRESSION TYPE:           LZW
PACK FILES:                 NO
SECURE PACKAGE:             NO
OBJECT:
    SOURCE NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TARGET NAME:            /usr/lpp/netviewdm/script/preinst_cln.3130
    TYPE:                   FILE
    ACTION:                 COPY
    INCLUDE SUBDIRS:        NO
```

Figure 143. preinst.profile.client Customized without Description

We modified the lines with the following keywords:

- DESCRIPTION

  We removed the description line, since sometimes the description lines cause problems in a mixed environment.

- PREREQ COMMAND
  - Without NFS:

    When you are not using NFS, you do not need PREREQ or POSTREQ commands. You can therefore delete these lines.

  - With NFS:

    We changed the line to the value:

    ```
    mount $(NFSSERVER):/usr/sys/inst.nvdm.images/nvdm313 ►
    /usr/sys/inst.images
    ```

    The token $(NFSSERVER) is replaced by the name of the NFS server as it is defined at the time the change file is installed:

    - At the target (for example, the SD Server)
    - In the change file as the default token

    We used this additional token because our SD Server (rs600015) is not the same as our NFS server holding the installation images. If you want to use the built-in token $(SERVER), it is important that the host name of the SD Server is equal to the target address that you have defined in the Software Distribution for AIX 3.1.3 database otherwise, the mount command will fail. In that case, the $(SERVER) token would be resolved with a wrong name. Please note that in Software Distribution for AIX 3.1.3, it is no longer necessary to have the same name for the target address and the TCP/IP host name.

An advantage of using tokens in the change file is given when you have several SD Servers for multiple domains where the SD Server is also the NFS server holding the installation images.

We replaced the first directory name on this line with /usr/sys/inst.nvdm.images/nvdm313 which is the name of the directory on our NFS server where the installation images are located.

We replaced the second directory name on this line with /usr/sys/inst.images which is the name that the SD Client will use to mount the image directory at installation time. Make sure that this directory, which is also called a mount point, already exists at the SD Client; otherwise, the mount command will fail.

- POSTREQ COMMAND
  - Without NFS:

    Without using NFS you do not need a POSTREQ command.
  - With NFS

    We added a line with an unmount command that corresponds to the mount command after the keyword PREREQ COMMAND.
- PRE-INSTALL, POST-INSTALL, PRE-REMOVE, POST-REMOVE

  These lines were left at their defaults. You do not have to restore the scripts which are specified in these lines except for the preinstallation script. They are restored during the installp installation of the change file. The postinstallation script postinst_cln cleans up the system after the migration process, stops the old agent and starts the agent of the Software Distribution for AIX 3.1.3 SD Client.
- OOP OPTION

  We left the line containing the OPP OPTION on default as well as the change file type REMOTE_IMAGE. If you do not want to install the option for the graphical user interface, you have to delete that line. If you delete an option from the profile and you have installed the appropriate option in the old version of the product, we recommend you remove this option of the old version first.

7.9.4 Building the Change Files from Profiles

You are now able to build the change files from the profiles you have restored and customized in the previous steps.

If you use the command line interface to do this at the preparation site, change to the directory /usr/lpp/netviewdm/tool and enter the following commands:

- AIX 3.2.5 without NFS:

  ```
  nvdm bld profile.client.installp

  nvdm bld preinst.profile.client
  ```
- AIX 3.2.5 with NFS:

  ```
  nvdm bld profile.client.nfs

  nvdm bld preinst.profile.client
  ```
- AIX 4.1 without NFS:

```
nvdm bld profile.client.installp.41

nvdm bld preinst.profile.client
```

- AIX 4.1 with NFS:

```
nvdm bld profile.client.nfs.41

nvdm bld preinst.profile.client
```

You can also use the graphical user interface to do it.

7.9.5 Sending the Change Files to SD Focal Point

Your change files have now been cataloged at the preparation site server and can be sent over to the SD Focal Point, which is then used to submit the install request for the change files to the SD Clients.

To send the change files to the SD Focal Point we used the command line interface at the SD Preparation Site. Use the following commands:

```
nvdm send ibm.ndm6000.client.reminst.3130 rs600022

nvdm send ibm.ndm6000.preinst_cln.ref.3130 rs600022
```

For each send request, you get a sequence number which you can use to track the status of the change request. To check the status, use:

```
nvdm lsrq <sequence number>
```

where <sequence number> is the number you get when issuing the send request.

To trigger change requests and messages originated by the application in general, open a separate window at the preparation site. Enter the following command from the products base directory to check the message log:

```
tail -f fndlog
```

When the change files have successfully arrived at the SD Focal Point, the message log should show an output similar to the following:

```
1996/08/27 12:19:07 rs600022                  30312 FNDTC201I:
@root rs600014 1 0 Y1996MO8D27 rs600022 : Sent to remote target.
1996/08/27 12:19:10 rs600022                  30312 FNDTC201I:
@root rs600014 2 0 Y1996MO8D27 rs600022 : Sent to remote target.
```

Figure 144. fndlog at the SD Preparation Site after Sending the Change Files

7.9.6 Exporting the Installation Images at the NFS Server

When using NFS, you have to export the directory with the installation images at the NFS Server. Execute the following command at the NFS Server:

```
/usr/sbin/mknfsexp -d '/usr/sys/inst.nvdm.images' -t 'rw' '-B'
```

7.9.7 Creating a Plan for the Migration

In this chapter, we show how to use the plan feature from the command line to control the migration. See Chapter 8, “Advanced Topics” on page 149 for using the plan feature from the GUI.

Create one of the following plan profiles on the SD Focal Point:

- AIX 3.2.5

```
GLOBAL NAME:                IBM.NDM6000.REMINST.PLAN.3130
DESCRIPTION:                Plan for Installation of AIX 3.2.5 Remote Client
ERROR SEVERITY:             12
RECURSION TYPE:             NO_RECURSION
ENTRY:
    ID:                     $00000
    FUNCTION:               SEND CLEANUP.CLIENT.VERSION12.REF.1
    DESTINATION:            rs600015
ENTRY:
    ID:                     $00001
    FUNCTION:               SEND IBM.NDM6000.PREINST_CLN.REF.3130
    DESTINATION:            rs600015
    CONDITION:              ET ($00001)
ENTRY:
    ID:                     $00002
    FUNCTION:               SEND IBM.NDM6000.CLIENT.REMINST.REF.3130
    DESTINATION:            rs600015
    CONDITION:              ET ($00002)
ENTRY:
    ID:                     $00003
    FUNCTION:               INST CLEANUP.CLIENT.VERSION12.REF.1 -F -E
    DESTINATION:            rs60007
    CONDITION:              ED ($00002)
ENTRY:
    ID:                     $00004
    FUNCTION:               REM CLEANUP.CLIENT.VERSION12.REF.1
    DESTINATION:            rs60007
    CONDITION:              ET ($00003)
ENTRY:
    ID:                     $00005
    FUNCTION:               INST IBM.NDM6000.PREINST_CLN.REF.3130
    DESTINATION:            rs60007
    CONDITION:              ET ($00004)
ENTRY:
    ID:                     $00006
    FUNCTION:               INST IBM.NDM6000.CLIENT.REMINST.REF.3130
    DESTINATION:            rs60007
    CONDITION:              ET ($00005)
```

Figure 145. reminst.profile.plan for AIX 3.2.5 Clients

- AIX 4.1

```
GLOBAL NAME:                  IBM.NDM6000.REMINST.PLAN.3130
DESCRIPTION:                  Plan for Installation of AIX 4.1 Remote Client
ERROR SEVERITY:               12
RECURSION TYPE:               NO_RECURSION
ENTRY:
    ID:                       $00000
    FUNCTION:                 SEND CLEANUP.CLIENT.VERSION12.REF.1
    DESTINATION:              rs600015
ENTRY:
    ID:                       $00001
    FUNCTION:                 SEND IBM.NDM6000.PREINST_CLN.REF.3130
    DESTINATION:              rs600015
    CONDITION:                ET ($00001)
ENTRY:
    ID:                       $00002
    FUNCTION:                 SEND IBM.NDM6000.CLIENT.REMINST.REF.3130
    DESTINATION:              rs600015
    CONDITION:                ET ($00002)
ENTRY:
    ID:                       $00003
    FUNCTION:                 INST CLEANUP.CLIENT.VERSION12.REF.1 -F -E
    DESTINATION:              rs60007
    CONDITION:                ED ($00002)
ENTRY:
    ID:                       $00004
    FUNCTION:                 UNINST CLEANUP.CLIENT.VERSION12.REF.1
    DESTINATION:              rs60007
    CONDITION:                ET ($00003)
ENTRY:
    ID:                       $00005
    FUNCTION:                 INST IBM.NDM6000.PREINST_CLN.REF.3130
    DESTINATION:              rs60007
    CONDITION:                ET ($00004)
ENTRY:
    ID:                       $00006
    FUNCTION:                 INST IBM.NDM6000.CLIENT.REMINST.REF.3130
    DESTINATION:              rs60007
    CONDITION:                ET ($00005)
```

Figure 146. reminst.profile.plan.41 for AIX 4.1

Both plans consist of seven entries. Each is described in an ENTRY section. These sections have the following meaning:

1. ID: $00000

   In this phase the cleanup change file is sent to the remote SD Server.

2. ID: $00001

   In this phase the preinstall change file is sent to the remote SD Server.

3. ID: $00002

   In this phase the change file with the new SD version is sent to the SD Server.

4. ID: $00003

   In this phase the cleanup change file is installed at the remote SD Client.

5. ID: $00004

   In this phase the cleanup change file is removed (AIX 3.2.5) or uninstalled (AIX 4.1) at the remote SD Client.

6. ID: $00005

   In this phase the preinstall change file is installed at the remote SD Client.

7. ID: $00006

   In this phase, the change file with the new SD version is installed at the SD Client.

All but the first entry are conditioned on the result of the previous entry. The conditions are set in a way so that clients can be migrated independently from each other as long as the SD Server has received the images. For more information on the plan feature, refer to *The TME 10 Software Distribution for AIX Cookbook*, GG24-4246.

Add the plan to the catalog by using one of the following commands:

- AIX 3.2.5:

  ```
  nvdm addpln reminst.profile.plan
  ```

- AIX 4.1:

  ```
  nvdm addpln reminst.profile.plan.41
  ```

7.9.8 Executing the Plan

To execute the plan, enter the following command at the SD Focal Point:

```
nvdm execpln ibm.ndm6000.reminst.plan.3130
```

The command returns a request number. The command `nvdm lsrq <request number>` then returns the status of the request. The migration takes about an hour depending on network traffic and computer model. In our example, we used the command:

```
nvdm lsrq 44
```

We got the following result:

```
Request ID:             rs600022 root 44 0
Submission time:        08/29/96 17:29:27
Request type:           Execplan
Object:                 IBM.NDM6000.REMINST.PLAN.3130
Status:                 Successful
Error severity:         0
```

Figure 147. nvdm lsrq 44

Using the option `-h *` you will get more details about all the entries. In our example, we used the command:

```
nvdm lsrq -h * 44
```

We got the following output:

```
Request ID:             rs600022 root 44 0 $00000
SNA correlator:         rs600022 08/29/96 89
Submission time:        08/29/96 17:29:27
Request type:           send
Object:                 CLEANUP.CLIENT.VERSION12.REF.1
Status:                 Successful
Error severity:         0

Request ID:             rs600022 root 44 0 $00001
SNA correlator:         rs600022 08/29/96 90
Submission time:        08/29/96 17:29:27
Request type:           send
Object:                 IBM.NDM6000.PREINST_CLN.REF.3130
Status:                 Successful
Error severity:         0

Request ID:             rs600022 root 44 0 $00002
SNA correlator:         rs600022 08/29/96 91
Submission time:        08/29/96 17:29:27
Request type:           send
Object:                 IBM.NDM6000.CLIENT.REMINST.REF.3130
Status:                 Successful
Error severity:         0

Request ID:             rs600022 root 44 0 $00003
SNA correlator:         rs600022 08/29/96 92
Submission time:        08/29/96 17:29:27
Request type:           Install
Object:                 CLEANUP.CLIENT.VERSION12.REF.1
Status:                 Successful
Error severity:         0

Request ID:             rs600022 root 44 0 $00004
SNA correlator:         rs600022 08/29/96 93
Submission time:        08/29/96 17:29:27
Request type:           Uninstall
Object:                 CLEANUP.CLIENT.VERSION12
Status:                 Successful
Error severity:         0

Request ID:             rs600022 root 44 0 $00005
SNA correlator:         rs600022 08/29/96 94
Submission time:        08/29/96 17:29:27
Request type:           Install
Object:                 IBM.NDM6000.PREINST_CLN.REF.3130
Status:                 Successful
Error severity:         0

Request ID:             rs600022 root 44 0 $00006
SNA correlator:         rs600022 08/29/96 95
Submission time:        08/29/96 17:29:27
Request type:           Install
Object:                 IBM.NDM6000.CLIENT.REMINST.REF.3130
Status:                 Successful
Error severity:         0
```

*Figure 148. nvdm lsrq -h * 44*

During the migration process you should always watch the message log `fndlog` at the SD Focal Point to monitor the installation process. To do this, enter the following commands:

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

```
tail -f fndlog
```

We received the following output:

```
1996/08/29 17:29:27 rs600022
20900 FNDRQ034I: @root rs600022 44 0 $00006 N/A :
Execute Plan request completed store in the local database.
1996/08/29 17:29:45 rs600022
29350 FNDSH046I: @root rs600022 44 0 $00000 N/A :
Fetch succeeded for file CLEANUP.CLIENT.VERSION12.REF.1 from rs600022.
1996/08/29 17:29:46 rs600022
29350 FNDSH268I: @root rs600022 44 0 $00000 N/A :
Store request/report queued for transmission on SNA/DS connection RS600015.
1996/08/29 17:30:54 rs600022
39076 FNDTC201I: @root rs600022 44 0 $00000 N/A :
Sent to remote target.
1996/08/29 17:31:30 rs600022
20900 FNDRQ108I: @root rs600022 44 0 $00000 N/A :
Received successful Transfer report.
1996/08/29 17:31:30 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00000 rs600015 :
Fetch request completed successfully.
1996/08/29 17:31:31 rs600022
29350 FNDSH268I: @root rs600022 44 0 $00001 N/A :
Install request/report queued for transmission on SNA/DS connection
RS600015.
1996/08/29 17:32:00 rs600022
22708 FNDTC201I: @root rs600022 44 0 $00001 N/A :
Sent to remote target.
1996/08/29 17:34:55 rs600022
20900 FNDRQ108I: @root rs600022 44 0 $00001 N/A :
Received successful Install report.
1996/08/29 17:34:55 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00001 rs60007 :
Install request completed successfully.
1996/08/29 17:34:55 rs600022
29350 FNDSH268I: @root rs600022 44 0 $00002 N/A :
Uninstall request/report queued for transmission on SNA/DS connection RS600015.
1996/08/29 17:35:27 rs600022
22732 FNDTC201I: @root rs600022 44 0 $00002 N/A :
Sent to remote target.
1996/08/29 17:39:35 rs600022
20900 FNDRQ108I: @root rs600022 44 0 $00002 N/A :
Received successful Uninstall report.
1996/08/29 17:39:35 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00002 rs60007 :
Uninstall request completed successfully.
1996/08/29 17:39:37 rs600022
29350 FNDSH046I: @root rs600022 44 0 $00003 N/A :
Fetch succeeded for file IBM.NDM6000.PREINST_CLN.REF.3130 from rs600022.
1996/08/29 17:39:38 rs600022
29350 FNDSH268I: @root rs600022 44 0 $00003 N/A :
Store request/report queued for transmission on SNA/DS connection
RS600015.
1996/08/29 17:40:06 rs600022
22756 FNDTC201I: @root rs600022 44 0 $00003 N/A : Sent to remote target.
1996/08/29 17:40:42 rs600022
20900 FNDRQ108I: @root rs600022 44 0 $00003 N/A :
Received successful Transfer report.
1996/08/29 17:40:42 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00003 rs600015 :
Fetch request completed successfully.
1996/08/29 17:40:42 rs600022
29350 FNDSH268I: @root rs600022 44 0 $00004 N/A :
Install request/report queued for transmission on SNA/DS connection
RS600015.
1996/08/29 17:41:15 rs600022
22768 FNDTC201I: @root rs600022 44 0 $00004 N/A :
Sent to remote target.
1996/08/29 17:48:47 rs600022
20900 FNDRQ108I: @root rs600022 44 0 $00004 N/A :
Received successful Install report.
```

Figure 149 (Part 1 of 2). tail -f fndlog at the SD Focal Point during the Migration

```
1996/08/29 17:48:47 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00004 rs60007 :
Install request completed successfully.
1996/08/29 17:48:47 rs600022
20900 FNDRS004W: @root rs600022 44 0 $00004 rs60007 :
A report whose type is Install was received from the remote target
rs60007.  The existing change management status for the change file
 IBM.NDM6000.PREINST_CLN.REF.3130 had an unexpected status and it has
 been set to match the report received.
1996/08/29 17:49:07 rs600022
29350 FNDSH046I: @root rs600022 44 0 $00005 N/A :
Fetch succeeded for file IBM.NDM6000.CLIENT.REMINST.REF.3130 from
rs600022.
1996/08/29 17:49:07 rs600022
29350 FNDSH268I: @root rs600022 44 0 $00005 N/A :
Store request/report queued for transmission on SNA/DS connection
RS600015.
1996/08/29 17:50:16 rs600022
22552 FNDTC201I: @root rs600022 44 0 $00005 N/A :
Sent to remote target.
1996/08/29 17:51:02 rs600022
20900 FNDRQ108I: @root rs600022 44 0 $00005 N/A :
Received successful Transfer report.
1996/08/29 17:51:02 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00005 rs600015 :
Fetch request completed successfully.
1996/08/29 17:51:03 rs600022
29350 FNDSH268I: @root rs600022 44 0 $00006 N/A :
Install request/report queued for transmission on SNA/DS connection
RS600015.
1996/08/29 17:51:36 rs600022
22572 FNDTC201I: @root rs600022 44 0 $00006 N/A :
Sent to remote target.
1996/08/29 17:56:46 rs600022
20900 FNDRQ108I: @root rs600022 44 0 $00006 N/A :
Received successful Install report.
1996/08/29 17:56:46 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00006 rs60007 :
Install request completed successfully.
1996/08/29 17:56:46 rs600022
20900 FNDRS004W: @root rs600022 44 0 $00006 rs60007 :
A report whose type is Install was received from the remote target
rs60007.  The existing change management status for the change file
IBM.NDM6000.CLIENT.REMINST.REF.3130 had an unexpected status and it
has been set to match the report received.
1996/08/29 17:56:46 rs600022
20900 FNDRQ147I: @root rs600022 44 0 $00006 rs60007 :
Execute Plan request completed successfully.
1996/08/29 17:58:26 rs600022
20900 FNDRQ108I: @root rs600015 512007 0 Y1996M08D29 N/A :
Received successful Install report.
```

Figure 149 (Part 2 of 2). tail -f fndlog at the SD Focal Point during the Migration

Besides the possibilities we showed you on how to monitor the installation process, there is another possibility you can make use of when you install installp-type change files.

In the working directory of the SD Client, the file extlog1 contains a log of the installp process. The file is always reset if a new change request using the installp installation of Software Distribution for AIX 3.1.3 is executed. During the migration process we opened a separate window at the client and used the following command from the products root directory:

```
tail -f extlog1
```

We received the following output. All messages that are generated during the installation process are appended to this log file.

```
+-----------------------------------------------------------------------------+
                    Pre-installation Verification...
+-----------------------------------------------------------------------------+
installp:  Pre-installation verification may take several minutes.
Please wait...
Verifying selections...done
Verifying requisites...done
Results...

SUCCESSES
---------
  Filesets listed in this section passed pre-installation verification
  and will be installed.

  Selected Filesets
  -----------------
  netviewdm6000.clgi.obj 3.1.3.0              # Software Distribution Client...
  netviewdm6000.client.obj 3.1.3.0            # Software Distribution Client...

  << End of Success Section >>

FILESET STATISTICS
------------------
    2  Selected to be installed, of which:
        2  Passed pre-installation verification
  ----
    2  Total to be installed

+-----------------------------------------------------------------------------+
                        Installing Software...
+-----------------------------------------------------------------------------+

installp:  APPLYING software for:
        netviewdm6000.client.obj 3.1.3.0
        netviewdm6000.clgi.obj 3.1.3.0


 . . . . . << Copyright notice for netviewdm6000 >> . . . . . .
 Licensed Materials - Property of IBM

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 . . . . . << End of copyright notice for netviewdm6000 >>. . . .

Restoring files, please wait.

Work, Repository, Service and Backup directories are defaulted to
/usr/lpp/netviewdm
Please ensure adequate space or modify the nvdm.cfg file accordingly

Finished processing all filesets.  (Total time:  3 mins 26 secs).

+-----------------------------------------------------------------------------+
                     Post-installation Processing...
+-----------------------------------------------------------------------------+
+-----------------------------------------------------------------------------+
                                Summaries:
+-----------------------------------------------------------------------------+

Installation Summary
--------------------
Name                        Level           Part        Event       Result
-------------------------------------------------------------------------------
netviewdm6000.client.obj    3.1.3.0         USR         APPLY       SUCCESS
netviewdm6000.clgi.obj      3.1.3.0         USR         APPLY       SUCCESS
```

Figure 150. extlog1 at Remote SD Client during Migration

If the file system of the application at the client does not have enough disk space to fulfill the requirement of the installp process, you will see a message that the file system size was changed.

We had enough disk space allocated before the migration, so we do not see the message.

7.10 Status of the Remote SD Client after Migration

After you have migrated to Software Distribution for AIX 3.1.3, you should verify everything is still running and configured as expected. We used the same commands as we used before the migration process. We suggest that you create a directory named, for example, migrate_after in the NetView/DM base directory:

```
cd/usr/lpp/netviewdm

mkdir migrate_after
```

You should copy the files or redirect the output of the following commands into this directory.

- Copy the base configuration file nvdm.cfg into the migrate_after directory using:

  ```
  cp /usr/lpp/netviewdm/db/nvdm.cfg ►
  /usr/lpp/netviewdm/migrate_after/nvdm.cfg
  ```

  The output should look similar to the following:

```
WORKSTATION NAME:     rs60007
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:               rs600015
REPOSITORY:           /usr/lpp/netviewdm/repos
SERVICE AREA:         /usr/lpp/netviewdm/service
BACKUP AREA:          /usr/lpp/netviewdm/backup
WORK AREA:            /usr/lpp/netviewdm/work
```

Figure 151. nvdm.cfg at Remote SD Client after Migration

  As you can see, the system is configured as an SD Client.

- List the base definition of your system and redirect the output of the command to a file (named, for example, nvdm_lsbs) into the migrate_after directory using:

  ```
  nvdm lsbs > /usr/lpp/netviewdm/migrate_after/nvdm_lsbs
  ```

  The following panel shows the contents of this file:

```
Configuration:              Server
Server name:                rs600015
Remote administration:      No
Remote communications:      Yes
LAN authorization:          No
Authorize                   NONE
```

Figure 152. nvdm lsbs at Remote SD Client after Migration

  This command is simply used to show that the client is working properly. The nvdm lsbs command shows the status of the remote SD Server

- List all defined targets with their description and copy the output to a file (named, for example, nvdm_lstg) into the migrate_after directory using:

  ```
  nvdm lstg \* -l /usr/lpp/netviewdm/migrate_after/nvdm_lstg
  ```

  The following panel shows the contents of this file:

```
Target:                rs600015
Description:           Remote Server
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600015
Domain address:        RS600015
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs600015
Logging level:         Normal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)

Target:                rs600022
Description:           Focal Point and Manger
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Focal
Type:                  SERVER
Operating system:      AIX
Target address:        RS600022
Domain address:        RS600022
LAN address:
Network:               TCP rs600022

Target:                rs60007
Description:           Client
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Server name:           rs600015
Type:                  CLIENT
Operating system:      AIX
Target address:        RS60007
Domain address:        RS600015
LAN address:
CM window:             00:00:00 - 23:59:59
Distribution window:   00:00:00 - 23:59:59
Network:               TCP rs60007
Logging level:         Minimal
Tracing state:         Off
Installation parms:    (none)
Shared tokens:         (none)
Hardware parms:        (none)
Discovered inventory:  (none)
```

*Figure 153. nvdm lstg * -l at Remote SD Client after Migration*

The command shows the target definitions on the remote SD Server. The migration has preserved the configuration.

- To compare the names of the files in the product's database directory, you can redirect the listing of this directory to a file named, for example, nvdmdbdir into the migrate_after direcory by using:

  ```
  ls -al /usr/lpp/netviewdm/db ►
  > /usr/lpp/netviewdm/migrate_after/nvdmdbdir
  ```

  The following panel shows the contents of the output we received:

```
total 24
drwxrwx---   2 root     FNDADMN      512 Aug 29 17:57 .
drwxrwsrwx  13 sys      FNDADMN      512 Aug 29 17:59 ..
-rw-rw----   1 root     FNDADMN      464 Aug 29 17:57 nvdm.cfg
```

Figure 154. ls -al /usr/lpp/netviewdm/db at Remote SD Client after Migration

The migration has preserved the names of the directories.

- To check the installed product level in the AIX ODM database and redirect the output to a file (named, for example, `lslppnvdm`) into the `migrate_after` directory use:

  ```
  lslpp -h netviewdm6000* > /usr/lpp/netviewdm/migrate_after/lslppnvdm
  ```

  We received the following output:

```
  Fileset         Level     Action       Status       Date         Time
  ----------------------------------------------------------------------------
Path: /usr/lib/objrepos
  netviewdm6000.clgi.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     17:54:50

  netviewdm6000.client.obj
                  3.1.3.0   COMMIT       COMPLETE     08/29/96     17:54:50
```

Figure 155. lslpp -h netviewdm6000 at Remote SD Client after Migration*

The output shows that we have installed Software Distribution for AIX 3.1.3.

- To check the change management history, execute the following command:

  ```
  nvdm lscm \* > /usr/lpp/netviewdm/migrate_after/nvdmlscm
  ```

  We received the following output:

```
Global file name:      CLEANUP.CLIENT.VERSION12.REF.1

    Target:            rs60007
    Status:            Not Authorized.

Global file name:      IBM.NDM6000.CLGI.REF.3130

    Target:            rs60007
    Status:            Not Authorized, Discovered

Global file name:      IBM.NDM6000.CLIENT.REMINST.REF.3130

    Target:            rs60007
    Status:            Not Authorized, Installed, not removable, active

Global file name:      IBM.NDM6000.PREINST_CLN.REF.3130

    Target:            rs60007
    Status:            Not Authorized, Installed, removable, active

Global file name:      TEST.FILE.REF.1

    Target:            rs60007
    Status:            Not Authorized, Distributed
```

Figure 156. nvdm lscm at Remote SD Client after Migration

The output shows that the SD packages have been discovered.

- Redirect the status of the target into the `migrate_after` directory by using:

  ```
  nvdm stattg \* > /usr/lpp/netviewdm/migrate_after/nvdm_stattg
  ```

We received the following output:

```
The required command could take a long execution time.
Do you really want to execute the command for all targets [y/n]?
Target                          Status

rs600015                        Available
rs60007                         Available
```

*Figure 157. nvdm stattg * at Remote SD Client after Migration*

The client status is Available.

The manual migration has preserved the configuration.

7.11 Recovery from Unsuccessful Migration

If the migration process fails, which could, for example, happen when you have not specified the installation option to extend the file system and there is not enough space left in the /usr/lpp/netviewdm file system, you can recover manually to the old version of the product. We found no way to do that automatically by issuing change requests from the SD Focal Point because after the migration fails, the connection between the SD Focal Point and the remote SD Client is inactive.

We explained that when you are going to migrate to a new version of a product and you change one of the first two levels of the installation image, the old version of the product is deleted. When the installation of the new version is started and does not have enough disk space to perform the installation, it is stopped and neither the old nor the new version of the product is installed.

In this case you are no longer able to start the agent process because the directory /usr/lpp/netviewdm/bin holding the executables of the product is empty.

To reinstall NetView DM/6000 1.2.1 on the SD Client you have to perform the following steps:

1. Clean up the installation with the command:

   ```
   installp -C
   ```

2. Install NetView DM/6000 1.2.1 on the SD Client manually using smitty.
3. Copy the recovery script restore_nvdm in the directory /usr/lpp/netviewdm/script at the SD Focal Point to the root directory of the SD Client using ftp or another method. (The script part of the tool option of the product.)
4. Execute the recovery script from the directory:

   ```
   ksh restore_nvdm
   ```

5. Start NetView DM using the command:

   ```
   nvdm start
   ```

Chapter 8. Advanced Topics

In this chapter we show how to:

- Remove LPPs in AIX 3.2.5
- Describe the problems of .toc files of different AIX versions
- Implement a watchdog
- Explain security migration and the plan feature in more detail

8.1 Removing LPPs in AIX 3.2

In AIX 4.1 you can remove any LPPs using the command:

```
installp -u <name>
```

or using SMIT (`smit install_remove`). In AIX 3.2 there is no command to remove committed LPPs. In order to remove a committed LPP in AIX 3.2 you have to complete the following:

1. Overwrite the existing installation of the LPP without committing it.
2. Remove the applied but not committed LPP.

For example, to remove the committed LPP `1.0.2.0 netviewm6000.books.obj` you have to:

1. Insert the original installation media (for example, tape or CD).
2. Call the SMIT installation fast path `smit install_latest`.
3. Select the installation media.
4. Choose the LPP.
5. Set the options:
   - `Automatically install PREREQUISITE software?` to `no`
   - `COMMIT software?` to `no`
   - `SAVE replaced files?` to `yes`
   - `OVERWRITE existing version` to `yes`

   Set these by using the following panel:

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```
                Install Software Products at Latest Available Level

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

                                                      [Entry Fields]
* INPUT device / directory for software               /usr/sys/inst.images.o>
* SOFTWARE to install                                 [1.0.2.0  netviewdm6000> +
  Automatically install PREREQUISITE software?        no                      +
  COMMIT software?                                    no                      +
  SAVE replaced files?                                yes                     +
  VERIFY Software?                                    no                      +
  EXTEND file systems if space needed?                yes                     +
  REMOVE input file after installation?               no                      +
  OVERWRITE existing version?                         yes                     +
  ALTERNATE save directory                           []

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

6. Press Enter to execute the installation.
7. Leave SMIT by pressing F10.
8. Call the SMIT installation fast path `smit install_remove`.
9. Choose the LPP.
10. Set the option `Automatically remove DEPENDENT software?` to yes using the following panel:

```
                          Remove Applied Software Products

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

                                                      [Entry Fields]
* SOFTWARE name                                      [netviewdm6000.books.ob> +
  Automatically remove DEPENDENT software?            yes                     +
  EXTEND file systems if space needed?                yes                     +

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

11. Press Enter to execute the command.
12. Leave SMIT by pressing F10.

8.2 .toc File Compatibility

Between AIX 3.2 and AIX 4.1 the format of the .toc file has changed. This causes trouble if you try to use a software package built for AIX 3.2 on an AIX 4.1 system and vice versa. This incompatibility causes the installp command, when used to list the software on media, and the bffcreate command to fail.

In order to use a software package built for AIX 3.2 on a AIX 4.1 system or vice versa you have to:

1. Create a new directory:

   ```
   mkdir <directory_name>
   ```

2. Change into that directory:

   ```
   cd <directory_name>
   ```

3. Copy the software packages into that directory:

   - Copy from another directory:

     ```
     cp -r <another_directory_name>
     ```

   - Copy from tape device rmt0:

     ```
     tar -xf /dev/rmt0
     ```

   - Copy from CD-ROM mounted on /mnt:

     ```
     cp -r /mnt
     ```

4. Remove the old .toc file:

   ```
   rm .toc
   ```

5. Create a new .toc file:

   ```
   inutoc .
   ```

Attention

The inutoc command in this example needs the "." (DOT). Without this argument the inutoc command will create a .toc file in /usr/sys/inst.images.

8.3 Implementing a Simple Watchdog

In our scenarios sometimes the SD Client aborted. In order to reconnect the client to the server you have to restart the SD Client assuming that the server is still active. But you cannot restart the SD Client remotely without connection. A simple solution to that problem is to add a line to the crontab table and to restart the SD Client every 10 minutes. Do the following to implement this simple watchdog:

- Edit the crontab file by entering:

  ```
  crontab -e
  ```

- Add the following line:

  ```
  0,10,20,30,40,50 * * * * /usr/bin/nvdm start
  ```

- Save and leave the editor.

Now the SD will be started every 10 minutes.

8.4 More about the Security Migration

In Chapter 2, “Versions, Features, and Compatibility Topics” on page 5 we described the effects of a security migration. In this chapter we describe in detail how the security configuration is migrated. For this purpose we show the security configuration of an SD Server before and after the migration.

8.4.1 Security Configuration before the Migration

One part of the security configuration is embedded in the target definition. The command `nvdm lstg \* -l` shows this configuration. We got the following output:

```
Target:                rs600013
Description:           Server_to_Migrate
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Mode:                  Push
Operating system:      AIX
Short name:            RS600013
Network ID:            RS600013
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Logging level:         Normal
Tracing state:         Off
Installation parms:    token=tokenmigrate
Hardware parms:        hwtoken=hwmigrate
Discovered inventory:  None.
Users:                 miguser1
                       miguser2
                       root
```

Figure 158. Target Definitions before Migration

The target definition shows that additional options for the target rs600013 are defined. These options are installation parameters, hardware parameters and two additional users which are allowed to work with the target. These users are `miguser1` and `miguser2`.

Remember that in NetView DM/6000 1.2.1 the user IDs have to be defined as AIX users as well.

In 2.5, “Security Issues” on page 12 we documented what happens to the AIX user groups `FNDADMN`, `FNDBLD` and `FNDUSER` during the migration process and what happens to the definitions in the authorization profiles when the migration to Software Distribution for AIX 3.1.3 has finished successfully.

The first user is a member of the AIX user group `FNDBLD`, so that this user automatically has assigned the equivalent authorization profile. The user has the user group `FNDBLD` defined as its *primary* user group.

To list the AIX user definitions of `miguser1` you can use the following command:

`lsuser miguser1`

We received the following output:

```
miguser1 id=202 pgrp=FNDBLD groups=FNDBLD,staff home=/home/miguser1
shell=/usr/bin/ksh login=true su=true rlogin=true daemon=true
admin=false sugroups=ALL admgroups= tpath=nosak ttys=ALL expires=0
auth1=SYSTEM auth2=NONE umask=22 SYSTEM=compat logintimes=
loginretries=0 pwdwarntime=0 account_locked=false minage=0 maxage=0
maxexpired=-1 minalpha=0 minother=0 mindiff=0 maxrepeats=8
minlen=0 histexpire=0 histsize=0 pwdchecks= dictionlist= dce_export=false
fsize=2097151 cpu=-1 data=262144 stack=65536 core=2048
rss=65536
```

Figure 159. lsuser miguser1 before Migration

The second user is a member of the user group FNDUSER, so that the authorization profile with the same name is automatically assigned to this user.

The user has the FNDUSER user group not defined as its primary user group.

We use again the `lsuser` command to list the AIX user definitions of `miguser2` and get the following output:

```
miguser2 id=203 pgrp=system groups=FNDUSER,system,staff home=/home/miguser2
shell=/usr/bin/ksh login=true su=true rlogin=true
daemon=true admin=false sugroups=ALL admgroups= tpath=nosak ttys=ALL expires=0
auth1=SYSTEM auth2=NONE umask=22 SYSTEM=compat
logintimes= loginretries=0 pwdwarntime=0 account_locked=false minage=0 maxage=0
maxexpired=-1 minalpha=0 minother=0 mindiff=0
maxrepeats=8 minlen=0 histexpire=0 histsize=0 pwdchecks= dictionlist=
dce_export=false fsize=2097151 cpu=-1 data=262144 stack=65536
core=2048 rss=65536
```

Figure 160. lsuser miguser2 before Migration

In our example, we assume modified definitions of the authorization profile for the group FNDUSER. In this example, we assume that the authorization level for the keyword `configuration` was set to `modify` by using the command:

`nvdm updusr user -c m`

The authorization options can be listed using the following command:

`nvdm lsusr`

We received the following output:

```
Administrator:
    Manage All Targets:              Yes
    Change Management Install:       Yes
    Change Management Activate:      Yes
    Change Management Execute:       Yes
    Change Management Authorize:     Yes
    Preparation:                     Modify
    Send:                            Yes
    Retrieve, Delete and Replace:    Yes
    Queues:                          Manage
    System Administration:           Modify
    Configuration:                   Modify

Builder:
    Manage All Targets:              Yes
    Change Management Install:       Yes
    Change Management Activate:      Yes
    Change Management Execute:       Yes
    Change Management Authorize:     No
    Preparation:                     Modify
    Send:                            Yes
    Retrieve, Delete and Replace:    Yes
    Queues:                          View
    System Administration:           View
    Configuration:                   View

User:
    Manage All Targets:              No
    Change Management Install:       Yes
    Change Management Activate:      Yes
    Change Management Execute:       Yes
    Change Management Authorize:     No
    Preparation:                     None
    Send:                            No
    Retrieve, Delete and Replace:    No
    Queues:                          View
    System Administration:           None
    Configuration:                   Modify
```

Figure 161. Authorization Profiles before Migration

As it can be seen in the last line, for normal users the access rights for `Configuration` are set to `Modify`. The default is `View`.

8.4.2 Security Configuration after Migration

After migrating the server we can examine the security configuration again.

To check if the target definitions are preserved, we used the following command:

```
nvdm lstg \* -l
```

We received the following output:

```
Target:                rs600013
Description:           Server_to_Migrate
Customer name:
Contact name:
Telephone number:
Manager:
Mailing address:
Target access key:     (none)
Mode:                  Push
Type:                  SERVER
Operating system:      AIX
Target address:        RS600013
Domain address:        RS600013
LAN address:
CM window:             00:00:00 - 23:59:00
Distribution window:   00:00:00 - 23:59:00
Network:               TCP rs600013
Logging level:         Normal
Tracing state:         Off
Installation parms:    token=tokenmigrate
Hardware parms:        hwtoken=hwmigrate
Discovered inventory:  (none)
```

Figure 162. Defined Targets after Migration

You can see that the additional options which we had defined before the migration are still defined. These options are the hardware and installation parameters.

You will miss the defined users `miguser1` and `miguser2` which were defined to the target before the migration.

As we already said, the security mechanism in Software Distribution for AIX 3.1.3 has changed. The users have become an own entity and are no longer dependent attributes of the target definition. In other words, an SD user can now exit without being assigned to a target which was not the case in NetView DM/6000 1.2.1. This also affects the definition of the targets.

In Software Distribution for AIX 3.1.3 the user will be defined as a user of the product and is no longer an AIX user. The user of the product will be defined independently of the target definitions and will have those targets assigned at which they are allowed to log in.

During the migration process the user ID which was defined as an option to the target definition is preserved, but according to the new security mechanisms of Software Distribution for AIX 3.1.3.

Following we show the definitions of the users `miguser1` and `miguser2` using the graphical user interface.

Both user IDs were defined as target options before the migration. To see the security definitions of these users using the graphical interface you have to perform the following steps:

1. At the Catalog window select **System** from the menu bar.
2. Select **User** from the pull-down menu. This will open the User Management window.

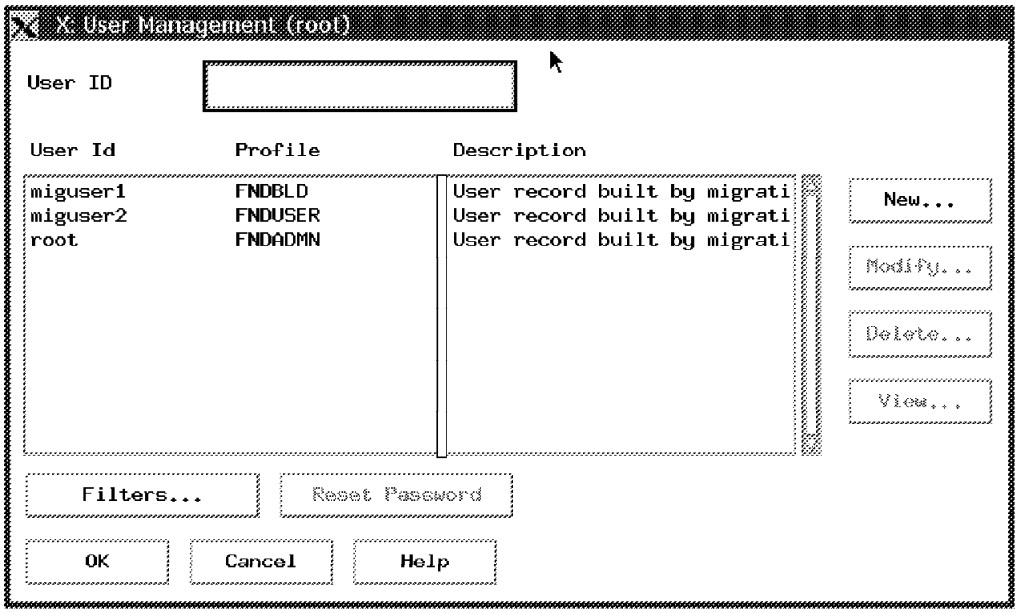

Figure 163. User Management Window after Migration

You can see that besides the product's default root user ID (this is *not* the AIX root user) the two user IDs `miguser1` and `miguser2` are defined. They have been migrated from NetView DM/6000 1.2.1. This is also shown by the description field.

You can also see that the user `miguser1` has the user profile `FNDBLD` assigned while the user `miguser2` has the profile `FNDUSER` assigned.

Remember that in the old version the user IDs have been AIX user IDs and were assigned to the AIX user groups `FNDADMN`, `FNDBLD` and `FNDUSER`.

All the users defined to the former AIX user groups are assigned to the product's user profiles with the same name.

To get more detailed information about the user definition, select the line specifying the user `miguser1`. This will highlight the Modify push button.

3. Select the **Modify** push button. This will open the Modify User window.

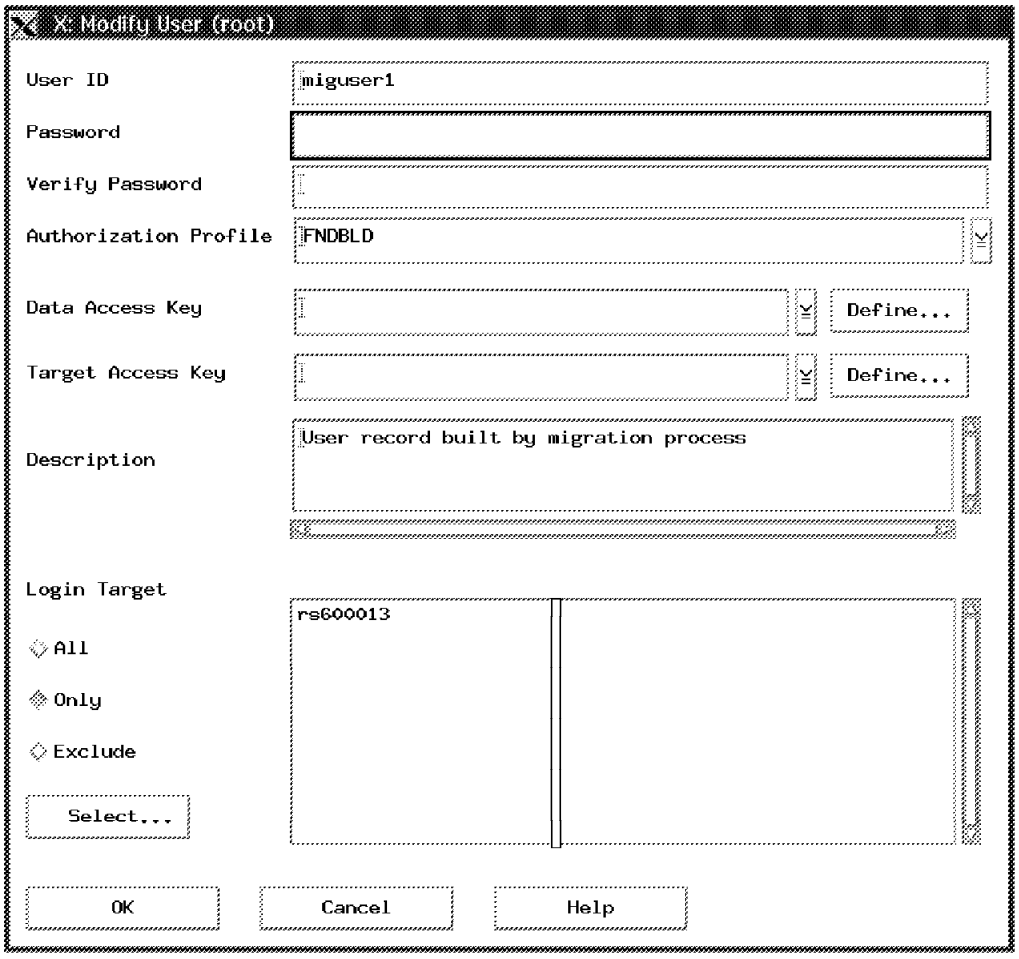

Figure 164. Modify User Window after Migration

You see that the target rs600013 is defined as a login target for the user miguser1. This is the result of the former definition where the user was defined as an option to the target rs600013.

4. Select the **OK** push button to return to the User Management window.
5. Select the **OK** push button to return to the Catalog window.
6. Repeat the steps for user miguser2.

Before the migration we had the AIX user miguser1 assigned to the AIX user group FNDBLD as its primary user group. miguser2 was assigned to FNDUSER but it was not its primary user group.

We now show what happened to these definitions after the migration.

We first list the user definition for the AIX user miguser1 by using the following command:

```
lsuser miguser1
```

The result is:

```
miguser1 id=205 pgrp=FNDBLD groups=FNDBLD,staff home=/u/miguser1
shell=/bin/ksh login=true su=true rlogin=true daemon=true admin=false
ugroups=ALL tpath=nosak ttys=ALL expires=0 auth1=SYSTEM auth2=NONE
umask=22 fsize=2097151 cpu=-1 data=262144 stack=65536 core=2048
rss=65536
```

Figure 165. lsuser miguser1 after Migration

You can see that the primary group is still FNDBLD.

We check the definition of the AIX user group FNDBLD by using the following command:

```
lsgroup FNDBLD
```

The output is:

```
FNDBLD id=210 admin=false users=miguser1,builder adms=root
```

Figure 166. lsgroup FNDBLD after Migration

Next we list the definitions of the AIX user miguser2. We use the following command:

```
lsuser miguser2
```

```
miguser2 id=206 pgrp=system groups=system,staff home=/u/miguser2
shell=/bin/ksh login=true su=true rlogin=true daemon=true admin=false
sugroups=ALL tpath=nosak ttys=ALL expires=0 auth1=SYSTEM
auth2=NONE uma  sk=22 fsize=2097151 cpu=-1 data=262144 stack=65536
core= 2048 rss=65536
```

Figure 167. lsuser miguser2 after Migration

You can see that the user group FNDUSER is no longer assigned to the user. This is because the user group has been deleted during the migration process.

We check the definition of the user group FNDUSER by using the following command:

```
lsgroup FNDUSER
```

The following result shows that the group has been deleted:

```
3004-686 Group "FNDUSER" does not exist.
```

Figure 168. lsgroup FNDUSER after Migration

The reason why the user group FNDUSER has been deleted is because it did not contain a user whose primary user group was originally FNDUSER.

The user group FNDBLD contained the user miguser1 for which it was the primary user group so therefoe it has been preserved.

Independently from the fact that the AIX user group is deleted, all the definitions are migrated to the user definitions of Software Distribution for AIX 3.1.3.

We have described how former AIX user groups are migrated to the new user profiles. We now check whether the changes which we made to the definitions of the authorization profiles have also been migrated.

Before the migration the keyword Configuration was set to Modify for users of the group FNDUSER. We use the graphical user interface to show that this value has been migrated to the new authorization profile FNDUSER.

You have to perform the following steps if you want to do that:

1. At the Catalog window select **System** from the menu bar.
2. Select **Authorization** from the pull-down menu.
3. Select **Authorization Profile** from the cascaded menu. This will open the Authorization Profiles window.

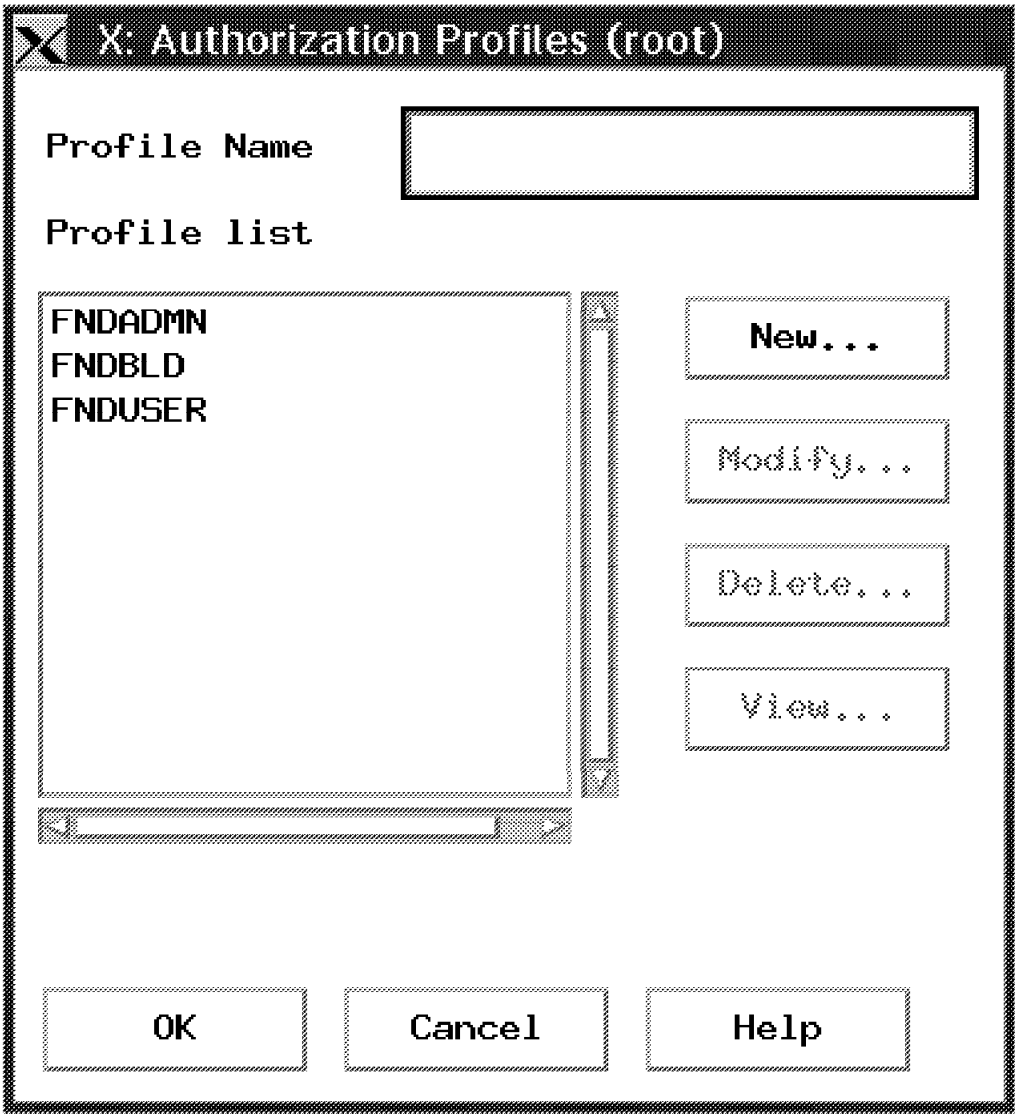

Figure 169. Authorization Profiles Window after Migration

4. Select the user profile FNDUSER. This will highlight the View push button.
5. Select the **View** push button. This will open the View Authorization Profile window. You can see that the value for the keyword Configuration is set to Modify.

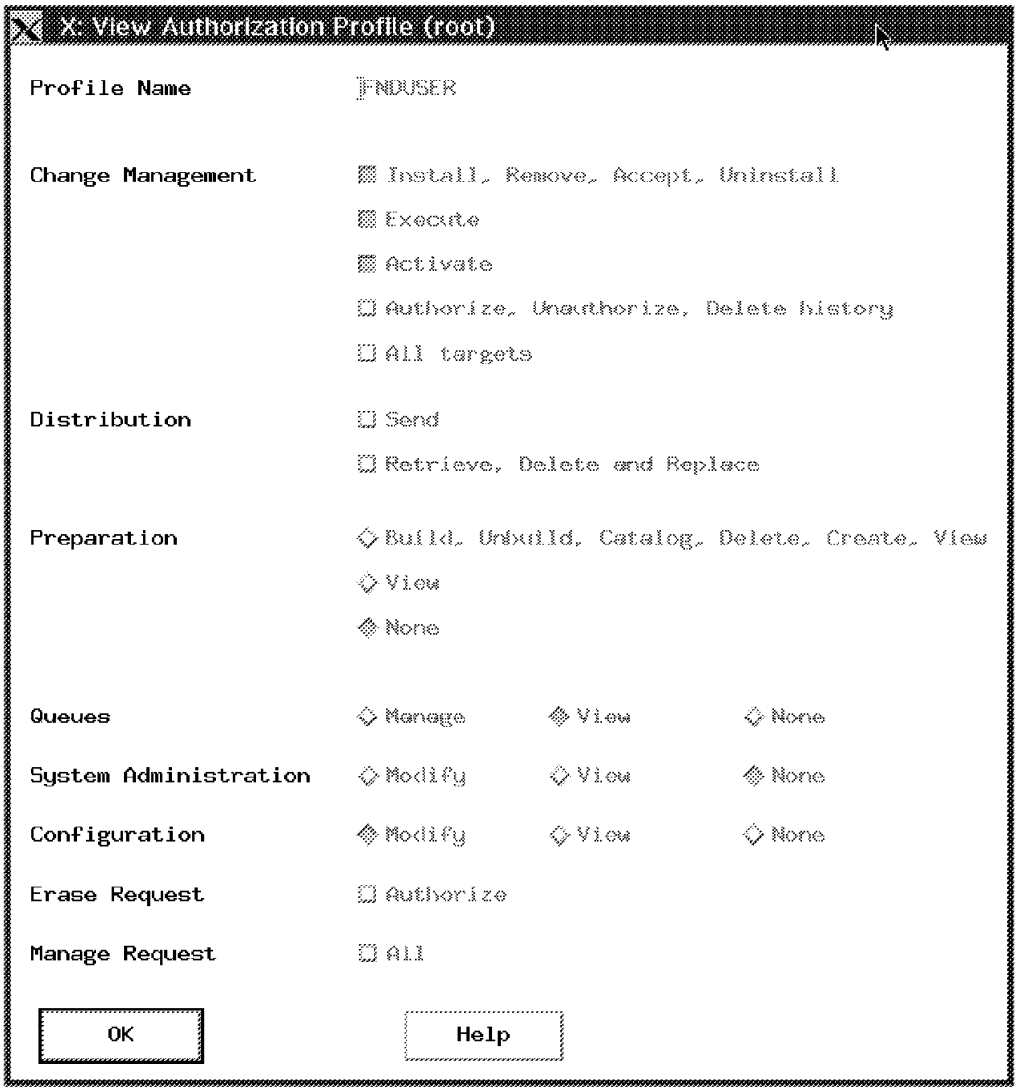

Figure 170. View Authorization Profile Window after Migration

6. Select the **OK** push button to return to the Authorization Profile window.
7. Select the **OK** push button to return to the Catalog window.

8.5 More about the Plan Feature

In this section we show how to build a migration plan using the graphical interface and give some additional hints for using the plan feature.

8.5.1 General Considerations

An SD plan is a collection of SD requests that, in most cases, depend on each other. A plan consists of several entries. Each entry represents the execution of one command for one or several targets or target groups. The first entry will be executed unconditionally. The second entry may be conditioned on the outcome of the first entry. The third phase will be conditioned on a prior entry and so on.

We use the conditioning type `Error for Entry` which means that an entry is only started if the prior entry (including all affected targets) was successfully executed.

This is just one possibility to condition the execution of an entry.

If you are going to build the transmission plan for an environment which consists of multiple domains, the conditioning type that you use depends on the way you are going to migrate your environment.

There are two main approaches on how you can migrate your environment. We describe their influence on using different conditioning types in this section.

The following picture shows the two main approaches:

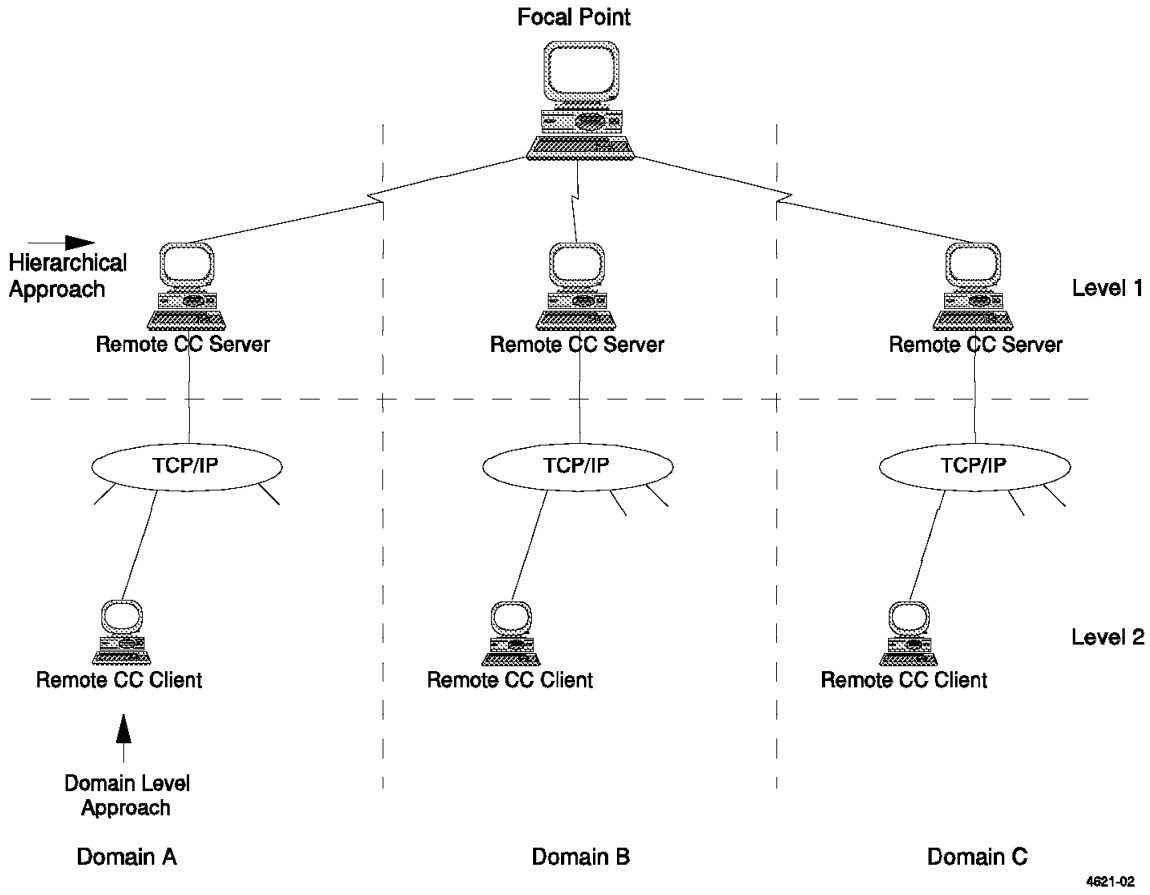

Figure 171. Hierarchical Approach versus Domain Level Approach

The two approaches shown are:

- The hierarchical approach
- The domain level approach

The hierarchical approach makes the assumption that the environment is migrated level by level in the hierarchy. That means, that before the migration for any remote client somewhere in the network is started you have to migrate all your remote SD Servers.

If you apply the domain level approach you have to migrate a remote server before the remote client as well. You do not have to migrate all the servers of other domains before you start with the migration of a client in a domain where the server has already been migrated.

Domains are migrated one after the other, which means that a remote server in LAN A can be still based on the old version of the product while a remote client in LAN B is already migrated.

In Figure 171 on page 161, the hierarchical approach is highlighted by the horizontal line while the domain level approach is highlighted by the vertical lines separating the different domains and targets.

The approach you choose is highly dependent on the application environment you have. In general we recommend you use the hierarchical approach because we think it is easier to track the migration of the environment and the execution of the transmission plan in this case.

If you migrate your environment level by level you should use the Error on Entry conditioning type in your transmission plan because that makes sure that all systems of the first hierarchy level have to be successfully updated before the migration of the next hierarchy level is started.

If you use the domain level approach you have to use the conditioning type Error on Domain which means that as far as a request has completed in one domain the next phase can be started even if the first request has not been completed in another domain.

Because we use only a single domain environment in our scenario, it does not make any difference whether you use the Error on Entry or Error on Domain conditioning type.

We use the Error on Entry conditioning type because we suggest that you migrate your environment using the hierarchical approach.

Notes

1. Errors can occur when using the default conditioning type Error on Target in the transmission plan.

   If you use this type throughout the plan, the execution will fail at the point when changing the addressed target. For example, when you define an entry A, which retrieves a change file from an SD Preparation Site and you condition the following entry B which sends the change file to another system on the first phase, by using the Error on Target conditioning type, the execution will end with an error message. This is because the second entry expects a successful execution of entry 1 for the *same* target. Since you have addressed entry 1 to another target, entry 2 will be started immediately in this case because the condition will become true immediately.

   We find this misleading and want to make you aware of the problem.

2. Whenever you want to enforce a certain sequence in the execution of requests you *must* specify a condition.

   Entries that are not conditioned will be executed in parallel.

8.5.2 Building the Transmission Plan

In the rest of this chapter we show how to build a transmission plan. The change files in this example have arbitrary names derived from the ″real life″ example of the previous chapters. Before you can use this example you have to build your own change files and replace the names of our example with the names of your change files.

Follow these steps to build a transmission plan that automates the following change requests:

1. Retrieve the change files from the SD Preparation Site to the SD Focal Point.
2. Send the change files from the SD Focal Point to the remote SD Server.
3. Initiate the installation requests to the remote SD Client.

If you have already cataloged the change files at the SD Focal Point, you have to define plan entries just to send the change files over to the remote SD Server and initiate the installation request to the remote SD Client.

Note

In the Version 3.1 plan feature, you have to make a catalog entry for the objects that you want to retrieve. This is a bug and should be fixed in a later version.

Use the following command syntax to catalog change files that:

```
nvdm cat <global name> <local name> -o software
```

where <global name> has to match the global name you have used in the profile when building the change file at the preparation site. Replace <local name> with the name of the local file which will be used when the change file is retrieved. We recommend that you specify the product's repository as the directory holding the file and that you use the same name for the file as you have used for the global name.

You have to specify the object type software. This is done by using the option -o software.

We used the following commands:

```
nvdm cat migrate.prerecovery.client.scen3.ref.1 ►
/usr/lpp/netviewdm/repos/migrate.prerecovery.client.scen3.ref.1 ►
-o software
```

```
nvdm cat ibm.ndm6000.preinst_cln.scen3.ref.3100 ►
/usr/lpp/netviewdm/repos/ibm.ndm6000.preinst_cln.scen3.ref.3100 ►
-o software
```

```
nvdm cat ibm.ndm6000.client.scen3.ref.3100 ►
/usr/lpp/netviewdm/repos/ibm.ndm6000.client.scen3.ref.3100 ►
-o software
```

```
nvdm cat ibm.ndm6000.en_us.msg.client.scen3.ref.3100 ►
/usr/lpp/netviewdm/repos/ibm.ndm6000.en_us.msg.client.scen3.ref.3100 ►
-o software
```

You are now ready to build a transmission plan that contains entries for the change requests you have to perform.

We use the graphical user interface to build the transmission plan. After we do that, we show you the profile that has been created by the build process of the plan. If you already have such a profile, you can also use it to build the transmission plan.

Perform the following steps to build the transmission plan using the graphical user interface:

1. From the Catalog window select **Catalog** from the menu bar.
2. Select **Plan** from the pull-down menu.
3. Select **Create New** from the cascaded menu. This will open the Define Plan window.

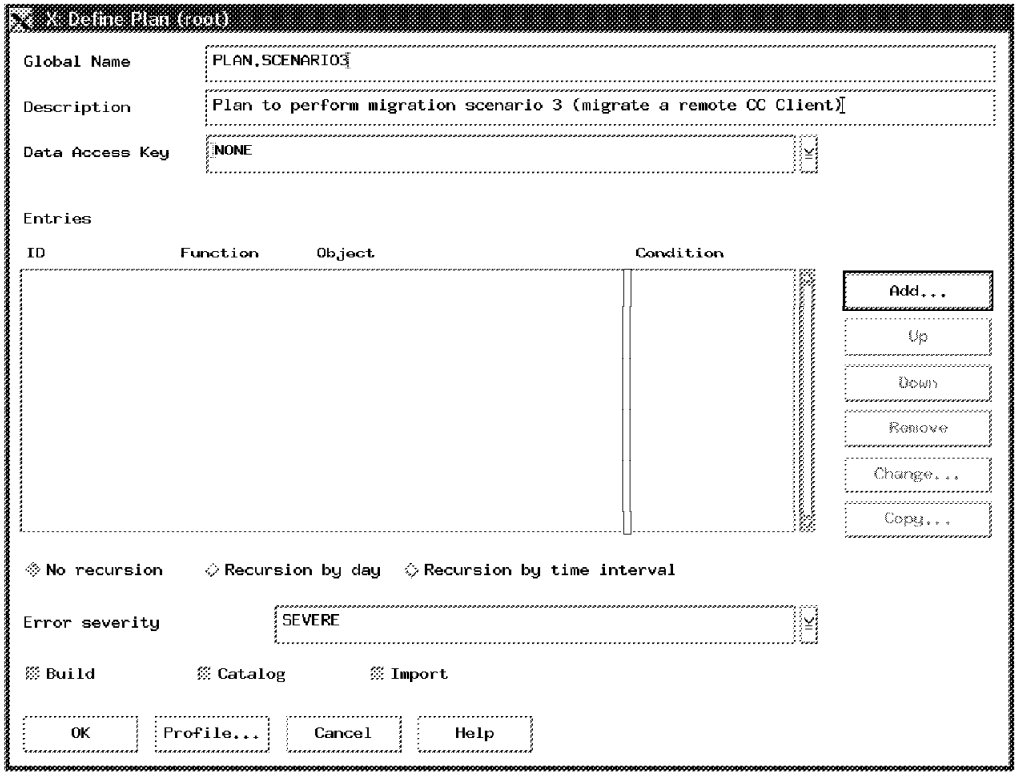

Figure 172. Define Plan Window

4. Enter the Global Name and a Description for the plan in the appropriate fields. If you want, you can use a Data Access Key (DAK) which we do not use in this scenario.
5. To add the first plan entry select the **Add** push button. This will open the following Add Plan Entry window:

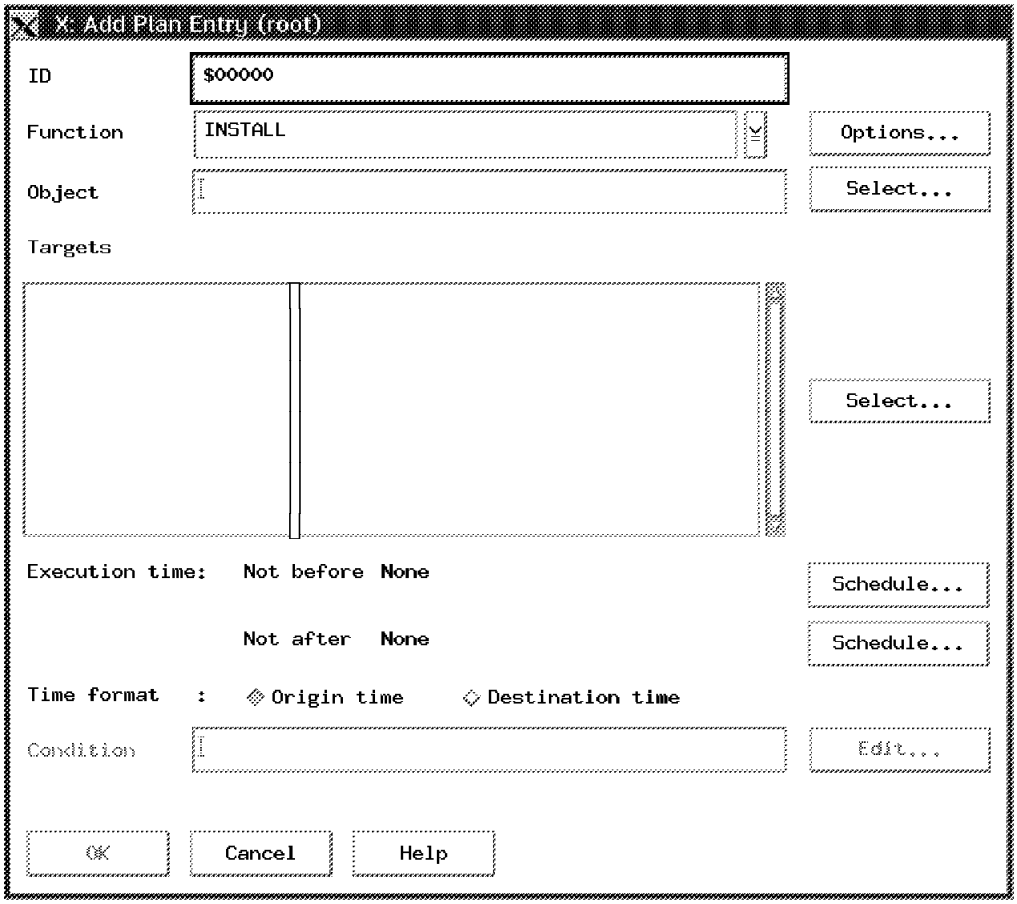

Figure 173. Entry $0000: Add Plan Entry Window

You can see that there is a default value for for the ID field. The value is a sequence number for the entry you are defining. You can use your own ID values, but we leave the value at its default ($00000).

6. You have to associate the object, which you define as a plan entry with a function that you want to execute. To do this, click on the arrow to open the list box. Scroll down to select the **Retrieve** function.
7. Next you have to select the object you want to use in this entry of the plan. Select the **Select** push button next to the Object field. This will open the Select Global Name with Filter window.

Figure 174. Entry $00000: Select Global Name with Filter Window

Scroll down to select the object **MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1**. Select the **OK** push button to return to the Add Plan Entry window.

8. To select the target against the request that is executed, click on the **Select** push button beside the Targets selection box. This will open the following Select Targets with Filter window:

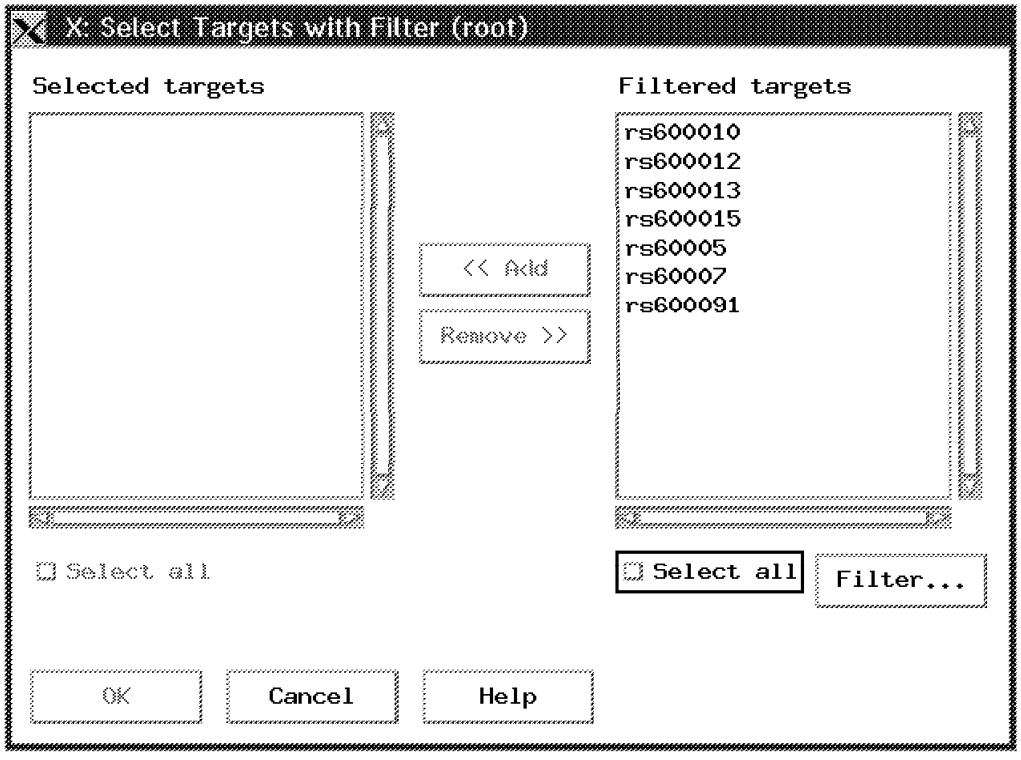

Figure 175. Entry $00000: Select Targets with Filter Window

9. Select target **rs600010** in the Filtered targets box. This will highlight the Add push button.
10. Select the **Add** push button.

    The target is now listed in the Selected targets box.
11. Select the **OK** push button to return to the Add Plan Entry window.

    The window should look similar to the following:

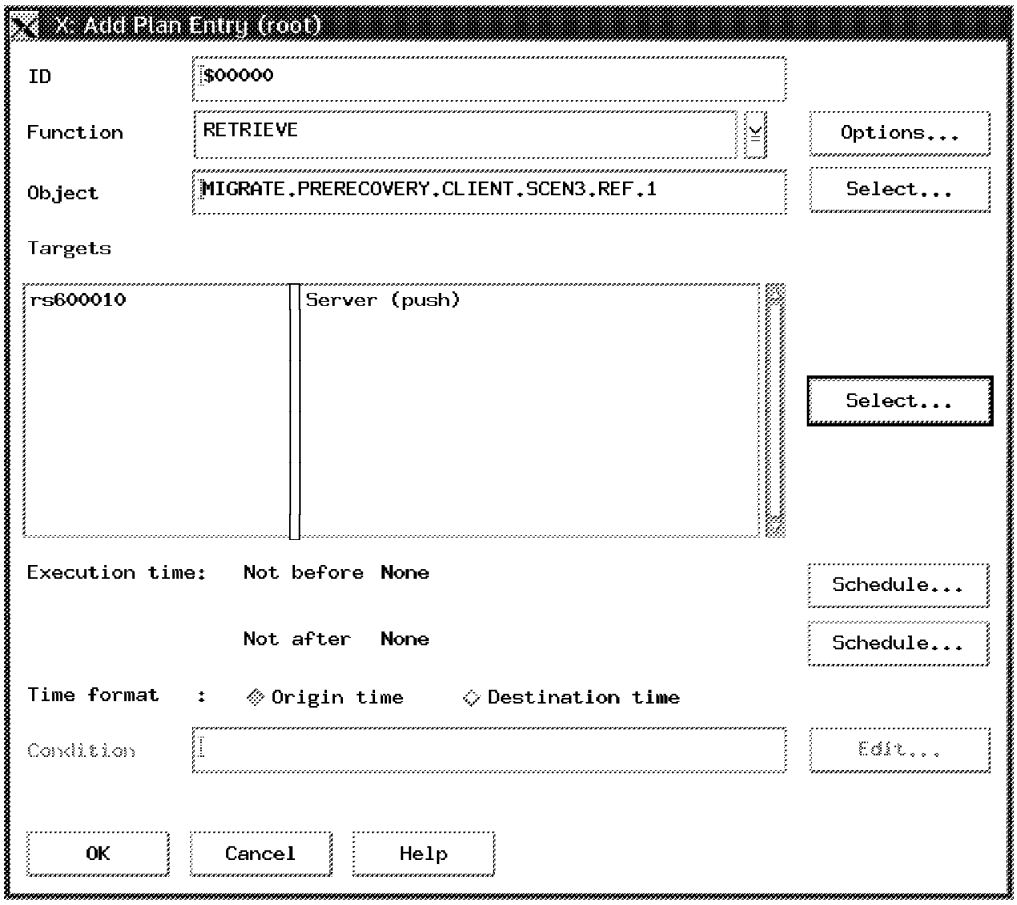

Figure 176. Entry $00000: Add Plan Entry Window

12. Select the **OK** push button to return to the Define Plan window.

You have now defined the first entry of the transmission plan. This entry is the base for all further definitions. We condition the next phase on the success of the first entry that we just defined. Now define the second entry of the plan. To do this, perform the following steps beginning from the Define Plan window, which is still open:

1. Select the **Add** push button. This will open the Add Plan Entry window. You can see that the ID is automatically increased by one. We suggest you leave this number at its default.
2. Change the function to Retrieve.
3. Select the object **IBM.NDM6000.PREINST_CLN.SCEN3.REF.3100**.
4. Select **rs600010** as the target.

5. You can condition the execution of the entry on the result of the first entry by selecting the **Edit** push button.

   This will open the following Edit Condition window:

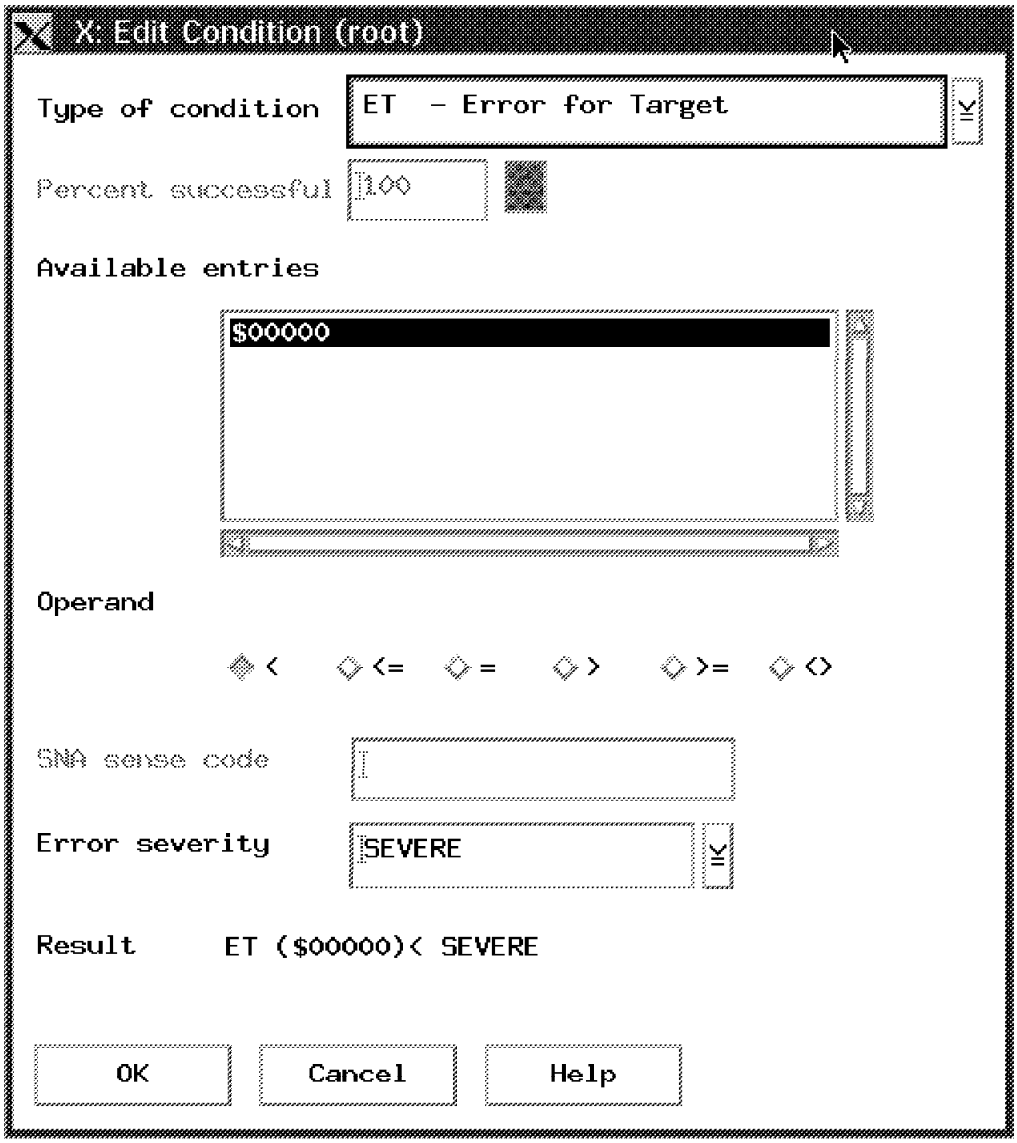

Figure 177. Entry $00001: Edit Condition Window

6. We change the Type of condition default value. Click on the arrow to open the list box. Select **EE - Error for Entry**.

   The highlighted default value to which the entry is conditioned (Available entries) is always the last entry you have defined. You should leave this as it is.

   You can leave the other values in the window at their defaults as well.

7. Select the **OK** push button to return to the Add Plan Entry window.
8. Select the **OK** push button to return to the Define Plan window.

   You should now see the following defined entries:

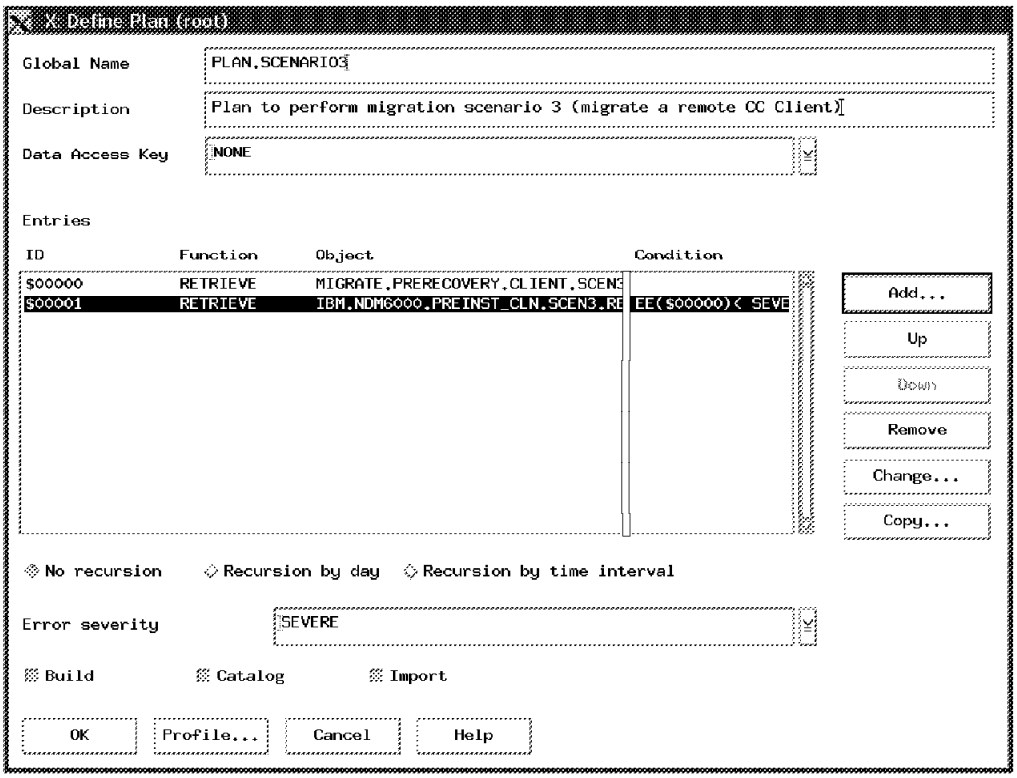

Figure 178. Entry $00000-$00001: Define Plan Window

Repeat the last step for the change files IBM.NDM6000.CLIENT.SCEN3.REF.3100 and IBM.NDM6000.EN_US.MSG.CLIENT.SCEN3.REF.3100.

Associate them with the Retrieve function and select **rs600010** as the addressed target.

Always condition these entries to the prior entry with the conditioning type Error on Entry.

After you have defined these two entries the Define Plan window should show the following:

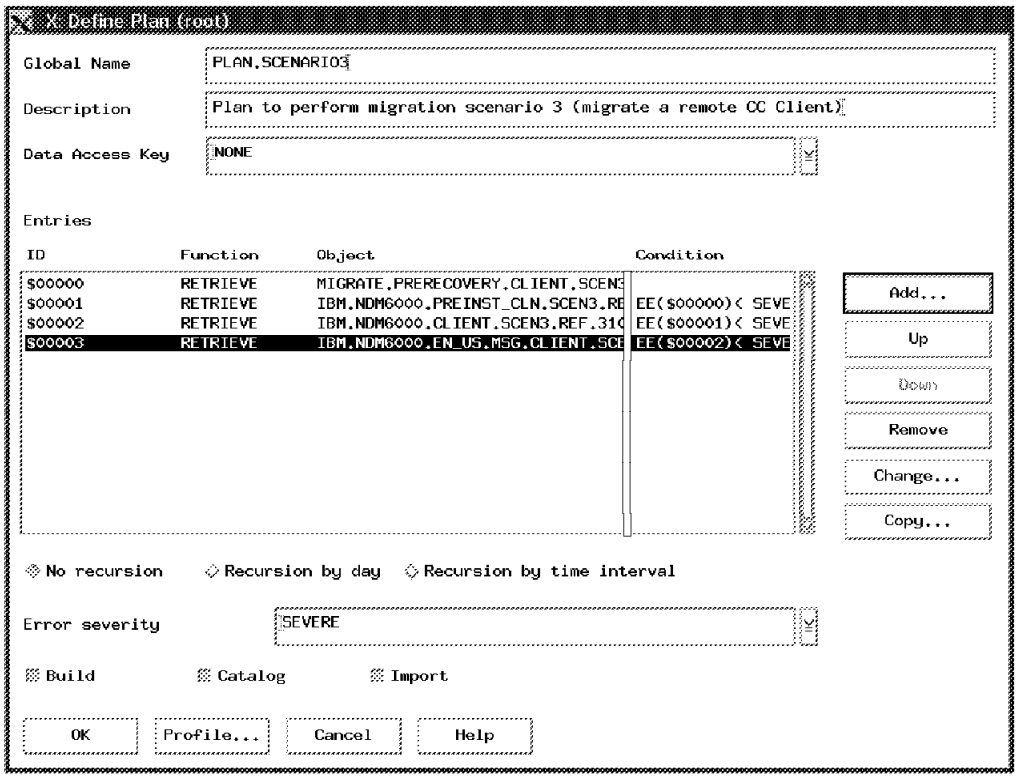

Figure 179. Entry $00000-$00003: Define Plan Window

You have now completed the definition of the entries that retrieve the change files from the preparation site.

The next step is to define the entries which send all of these change files to the remote SD Server (rs600013). To do this, you have to perform the following steps:

1. At the Define Plan window select the **Add** push button. This will open the Add Plan Entry window.
2. Select **Send** from the list box of the available functions.
3. Select the **Options** push button to display the Send Options window:

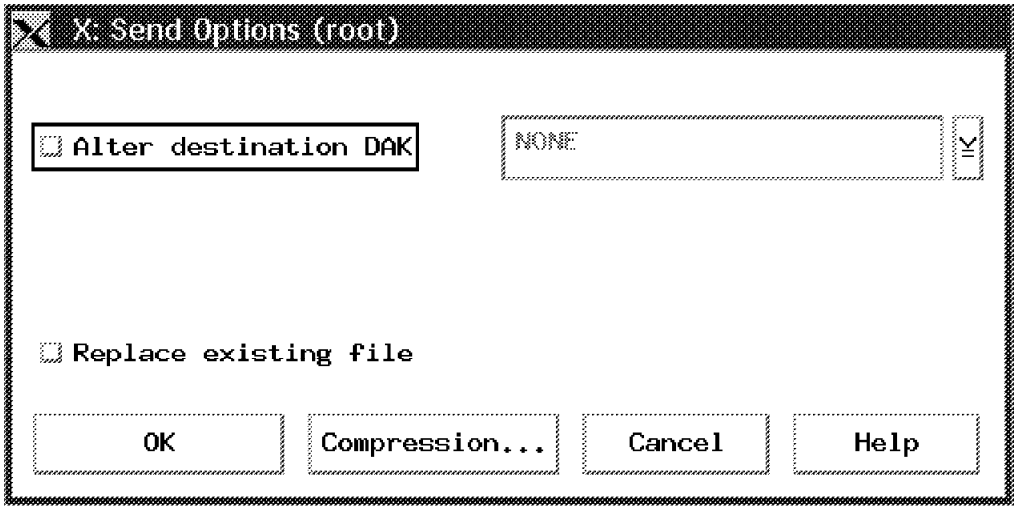

Figure 180. Entry $00004: Send Options Window

4. Select the **Replace existing file** check box. It is not necessary that you specify this option, but we suggest you do because it is possible that you have sent the same change file to the remote SD Server. In this case the execution of the plan would be stopped.
5. Select the **OK** push button to return to Add Plan Entry window.
6. Select **MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1** as the object.
7. Select **rs600013** as the addressed target.
8. Define Error on Entry as the condition and set it to the last defined entry.
9. Select the **OK** push button to return to the Define Plan window. This window is as follows:

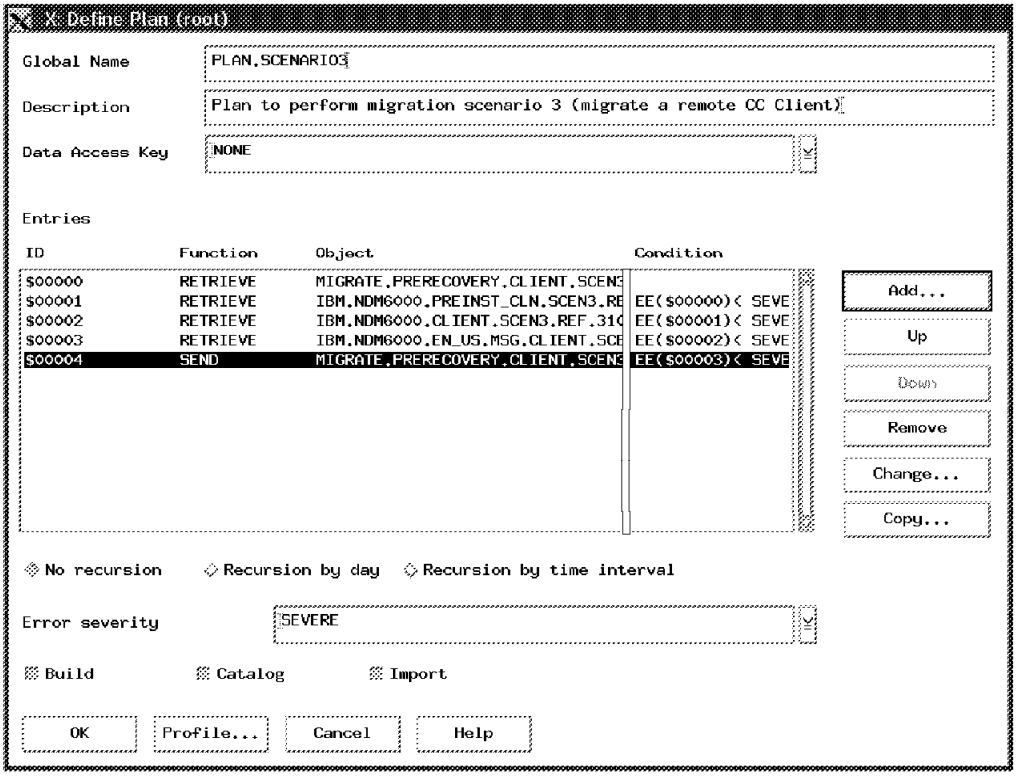

Figure 181. Entry $00000-$00004: Define Plan Window

Repeat the last step for the other three change files which include:

- IBM.NDM6000.PREINST_CLN.SCEN3.REF.3100
- IBM.NDM6000.CLIENT.SCEN3.REf.3100
- IBM.NDM6000.EN_US.MSG.CLIENT.SCEN3.REF.3100

After you have done that, the Define Plan window should show the following:

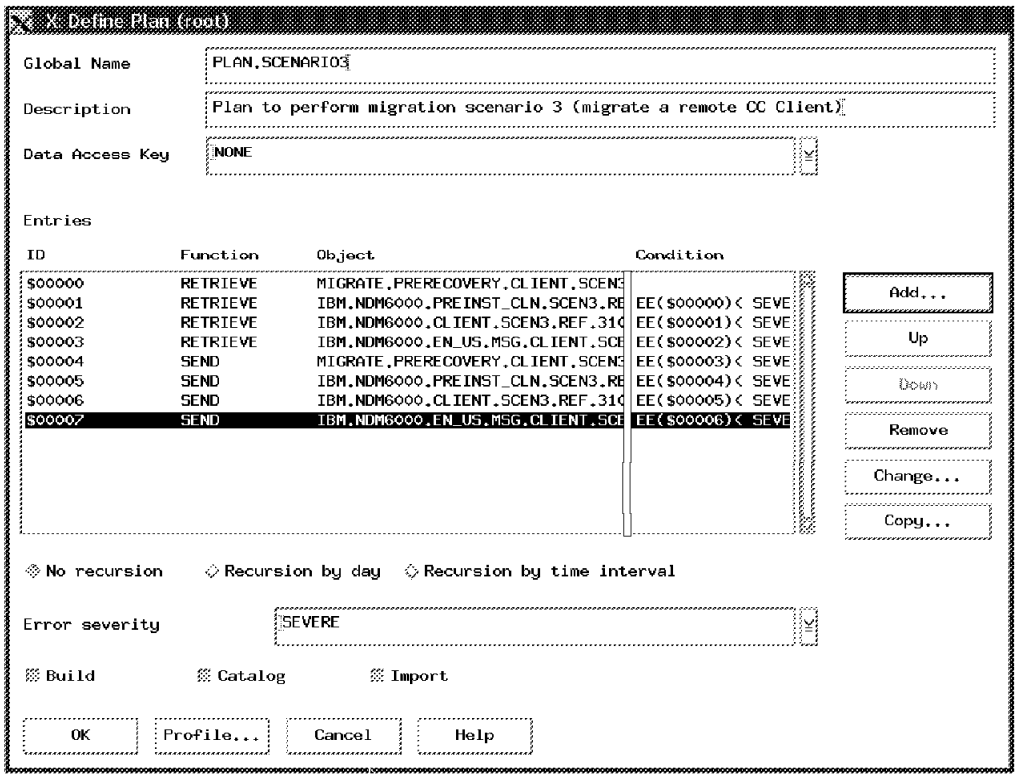

Figure 182. Entry $00000-$00007: Define Plan Window

You have now defined all the entries to send the change files to the remote SD Server.

The last step is to define the entries that contain the installation requests to install the change files to the remote SD Client. From the Define Plan window, perform the following steps:

1. Select the **Add** push button. This will open the Add Plan Entry window.
2. Leave the Function at its default value of INSTALL.
3. Select **MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1** as the object that you will use in this entry.
4. Select **rs60007** as the target to which you address the execution of this entry.
5. Condition the entry to the prior one using the conditioning type Error on Entry.
6. Select the **OK** push button to return to the Define Plan window.

This should look like the following:

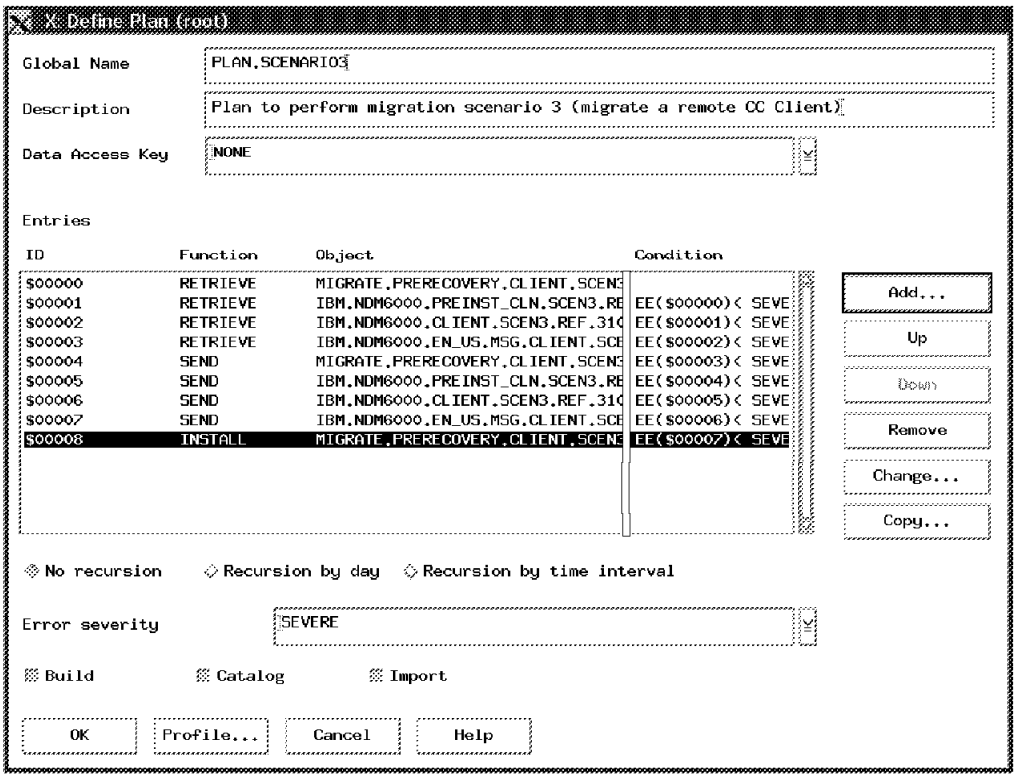

Figure 183. Entry $00000-$00008: Define Plan Window

Repeat the previous steps for the change file IBM.NDM6000.PREINST_CLN.SCEN3.REF.3100.

To add the change file IBM.NDM6000.CLIENT.SCEN3.REF.3100 which contains an installp package, perform the following steps:

1. At the Define Plan window select the **Add** push button. This will open the Add Plan Entry window.
2. Leave the change request function at its default value of INSTALL and click on the **Options** push button. This opens the following Install Options window:

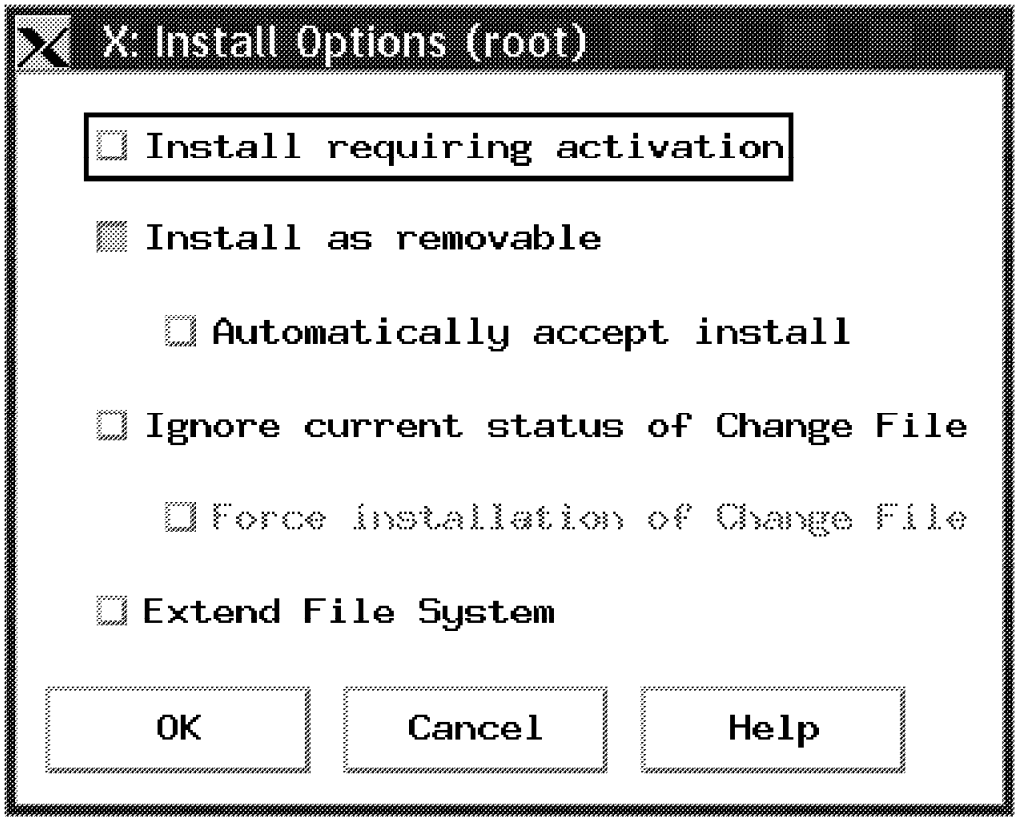

Figure 184. Entry $00008: Install Options Window

3. Select the **Extend File System** check box to make sure that the product file system is extended in case there is not enough disk space left in the file system.

   Note

   The option to extend the file system is only supported since Version 1.2 of the product. If you have a version running prior to 1.2 you have to extend the file system before you start the migration.

4. Select the **OK** push button to return to the Add Plan Entry window.
5. Select **IBM.NDM6000.CLIENT.SCEN3.REF.3100** as the object you want to use.
6. Select **rs60007** as the addressed target.
7. Condition the entry on the prior entry using the Error on Entry conditioning type.
8. Select the **OK** push button to return to the Define Plan window.

Repeat the previous steps for the change file IBM.NDM6000.EN_US.MSG.CLIENT.SCEN3.REF.3100.

After you have done that, the Define Plan window should look like the following:

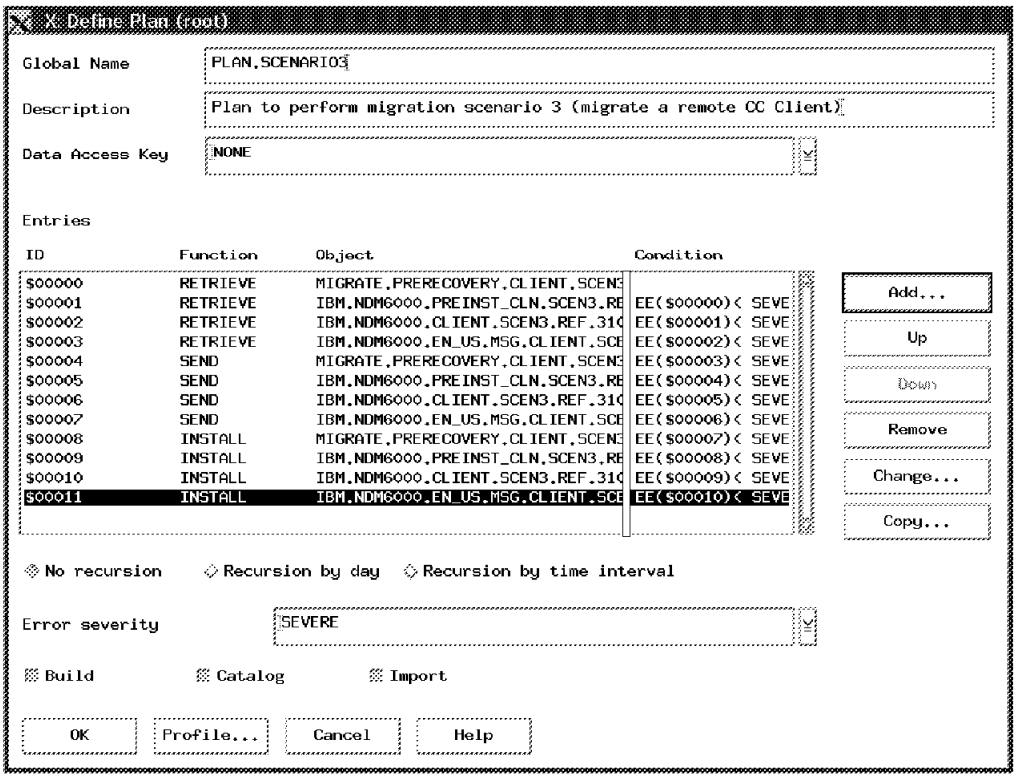

Figure 185. Entry $00000-$00011: Define Plan Window

You have now defined all of the phases which are necessary to migrate the remote SD Client.

It is possible to create a profile from the definitions you have made.

You can use this profile as a model profile for other similar transmissions plans that you have to build in the future.

1. At the Define Plan window select the **Profile** push button. This will open the following Create Profile window:

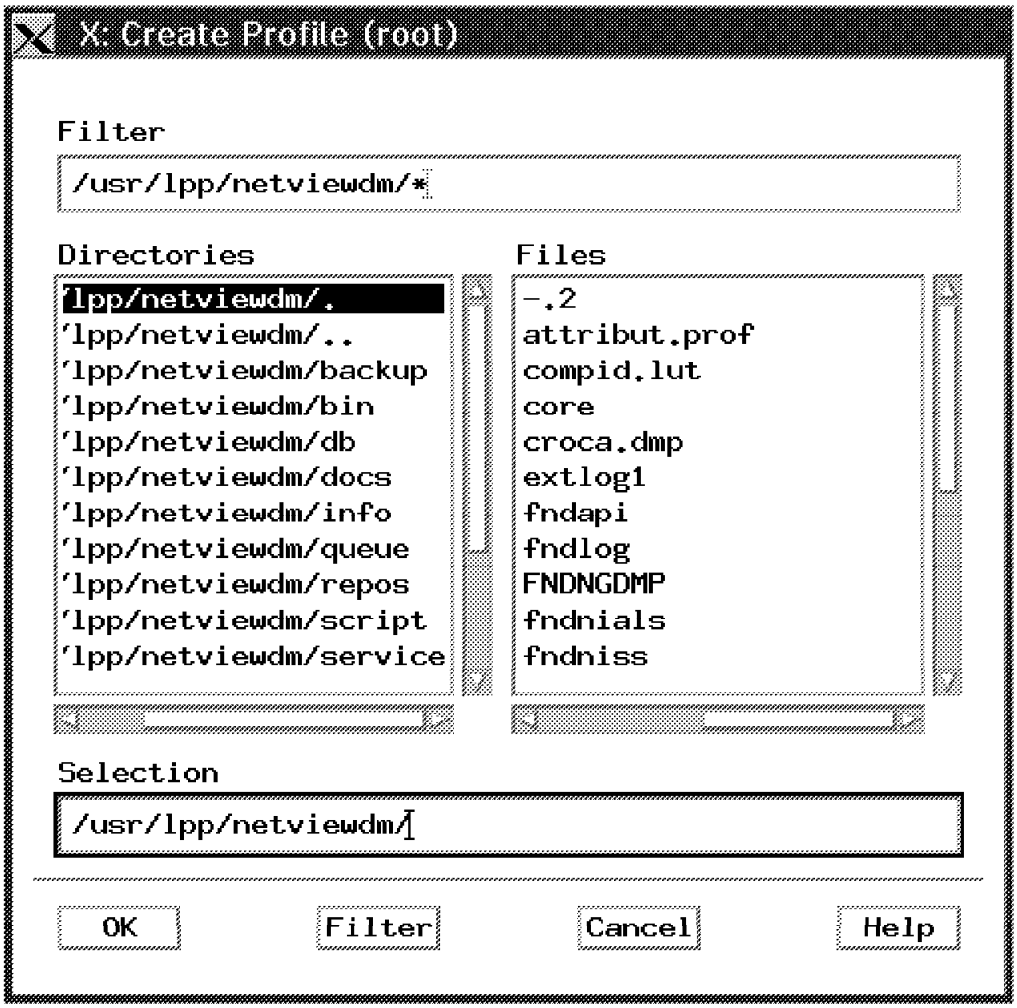

Figure 186. Create Profile Window

2. Scroll down the directory list to select the directory `/usr/lpp/netviewdm/tool`. Double-click on this entry.

   This will set the Selection entry to the directory `/usr/lpp/netviewdm/tool`.

3. Move the cursor behind the last sign in the Selection entry field and enter `profile.plan.scen3`. Your entries should look similar to the following:

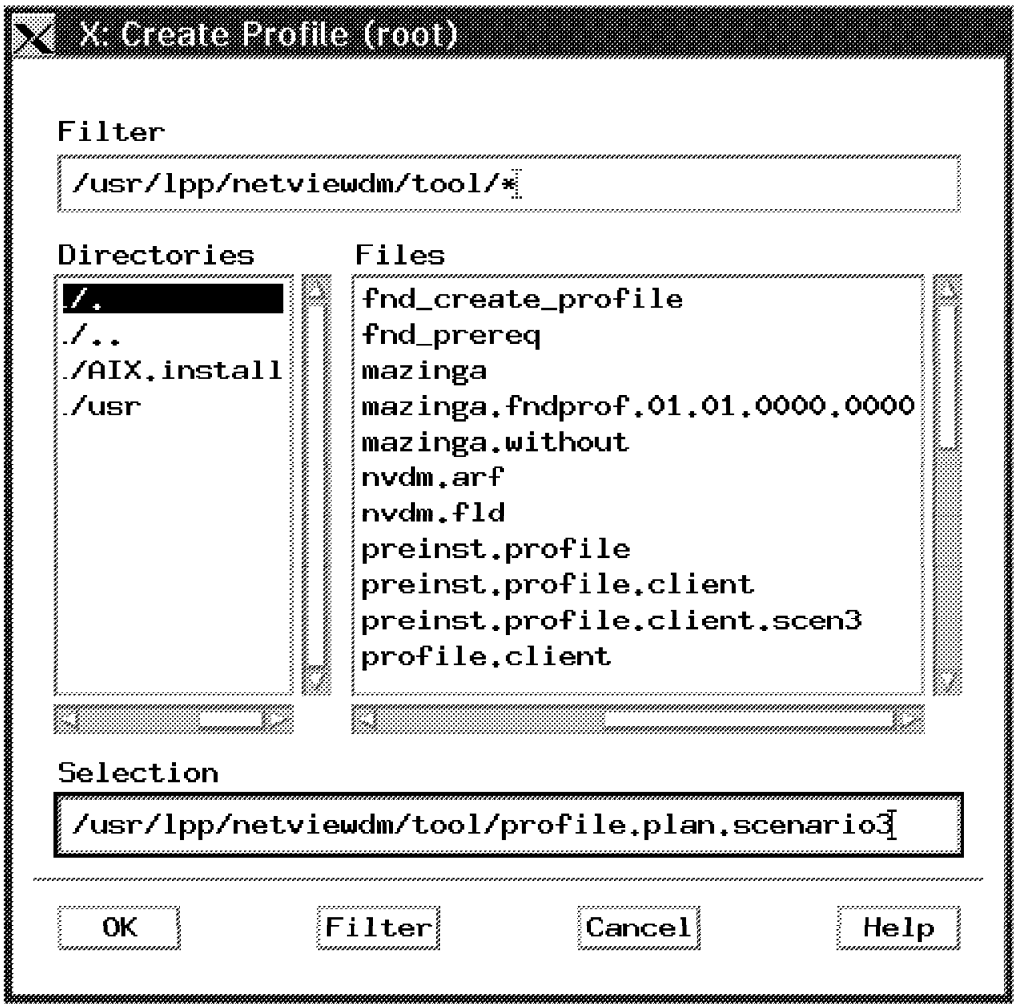

Figure 187. Create Profile Window

4. Select the **OK** push button to return to the Define Plan window.

Finally, click on the **OK** push button to build the transmission plan and the equivalent profile.

You will see the following catalog entry at the focal point:

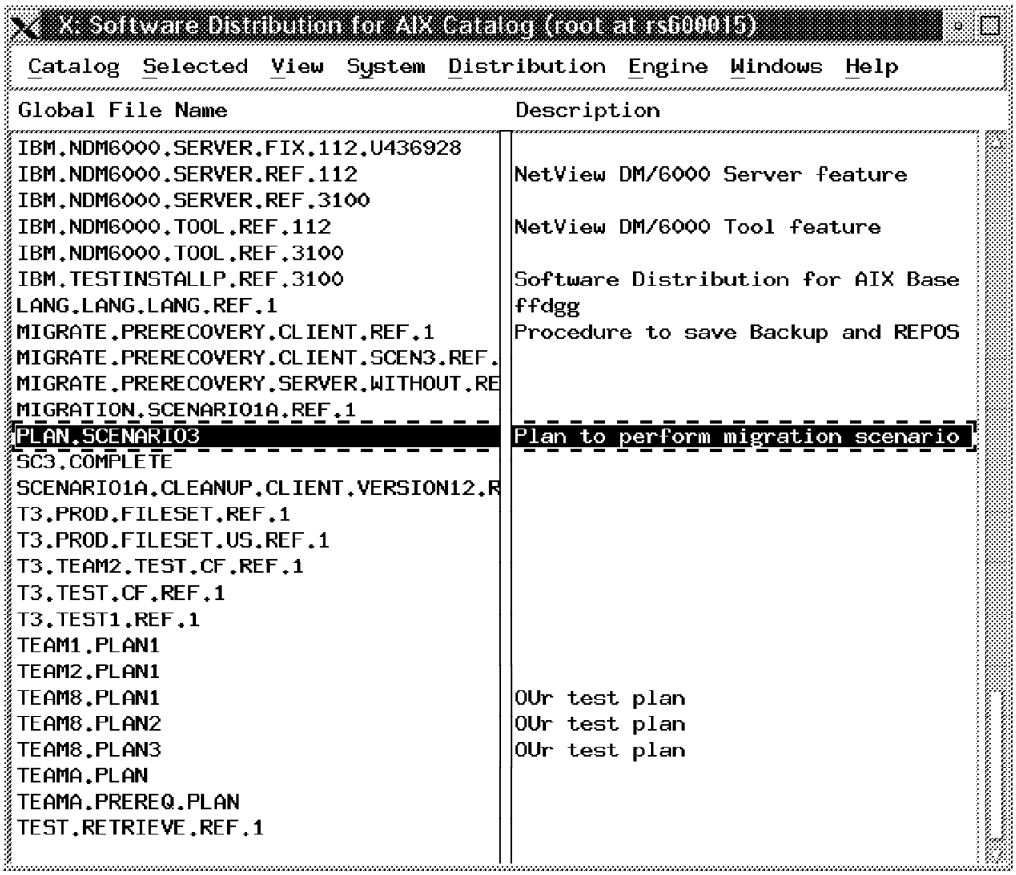

Figure 188. Software Distribution for AIX Catalog Window

The profile we have created had the following content:

```
GLOBAL NAME:              PLAN.SCENARIO3
DESCRIPTION:              Plan to perform migration scenario 3 (migrate a remote CC Client)
ERROR SEVERITY:           12
RECURSION TYPE:           NO_RECURSION
ENTRY:
    ID:                   $00000
    FUNCTION:             RTRV MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1 rs600010 -Z O -S U -R U
    DESTINATION:          rs600015
ENTRY:
    ID:                   $00001
    FUNCTION:             RTRV IBM.NDM6000.PREINST_CLN.SCEN3.REF.3100 rs600010 -Z O -S U -R U
    DESTINATION:          rs600015
    CONDITION:            EE($00000)< SEVERE
ENTRY:
    ID:                   $00002
    FUNCTION:             RTRV IBM.NDM6000.CLIENT.SCEN3.REF.3100 rs600010 -Z O -S U -R U
    DESTINATION:          rs600015
    CONDITION:            EE($00001)< SEVERE
ENTRY:
    ID:                   $00003
    FUNCTION:             RTRV IBM.NDM6000.EN_US.MSG.CLIENT.SCEN3.REF.3100 rs600010 -Z O -S U -R U
    DESTINATION:          rs600015
    CONDITION:            EE($00002)< SEVERE
ENTRY:
    ID:                   $00004
    FUNCTION:             SEND MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1 -Z O -O -S U -R U
    DESTINATION:          rs600013
    CONDITION:            EE($00003)< SEVERE
ENTRY:
    ID:                   $00005
    FUNCTION:             SEND IBM.NDM6000.PREINST_CLN.SCEN3.REF.3100 -Z O -O -S U -R U
    DESTINATION:          rs600013
    CONDITION:            EE($00004)< SEVERE
ENTRY:
    ID:                   $00006
    FUNCTION:             SEND IBM.NDM6000.CLIENT.SCEN3.REF.3100 -Z O -O -S U -R U
    DESTINATION:          rs600013
    CONDITION:            EE($00005)< SEVERE
ENTRY:
    ID:                   $00007
    FUNCTION:             SEND IBM.NDM6000.EN_US.MSG.CLIENT.SCEN3.REF.3100 -Z O -O -S U -R U
    DESTINATION:          rs600013
    CONDITION:            EE($00006)< SEVERE
ENTRY:
    ID:                   $00008
    FUNCTION:             INST MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1 -Z O -V A
    DESTINATION:          rs60007
    CONDITION:            EE($00007)< SEVERE
ENTRY:
    ID:                   $00009
    FUNCTION:             INST IBM.NDM6000.PREINST_CLN.SCEN3.REF.3100 -Z O -V A
    DESTINATION:          rs60007
    CONDITION:            EE($00008)< SEVERE
ENTRY:
    ID:                   $00010
    FUNCTION:             INST IBM.NDM6000.CLIENT.SCEN3.REF.3100 -Z O -V A -E
    DESTINATION:          rs60007
    CONDITION:            EE($00009)< SEVERE
ENTRY:
    ID:                   $00011
    FUNCTION:             INST IBM.NDM6000.EN_US.MSG.CLIENT.SCEN3.REF.3100 -Z O -V A -E
    DESTINATION:          rs60007
    CONDITION:            EE($00010)< SEVERE
```

Figure 189. Plan Profile for Scenario 3

If you want to build the transmission plan from the profile, use the command:

```
nvdm bld profile.plan.scenario3
```

8.5.3 Execution of the Transmission Plan

You are now ready to execute the transmission plan. You can either use the command line interface or the graphical user interface to do that.

If you want to use the command line interface, type:

```
nvdm execpln plan.scenario3
```

If you want to use the graphical user interface, perform the following steps:

1. At the Catalog window mark the global name for the plan.
2. Select **Selected** from the menu bar.
3. Select **Execute Plan** from the pull-down menu which will open the Execute Plan window.

> **Note**
>
> You do not have to select a target because you have already assigned the targets to the functions during the definition process.
>
> If you used the token $(TARGETLIST) during the definition process, you have to select the targets in this window.

4. Select the **Execute** push button to initiate the execution of the plan.
5. This will open a correlators window. Select the **OK** push button to return to the Execute Plan window.
6. Select the **Close** push button to return to the Catalog window.

8.5.4 Tracking and Restarting the Transmission Plan

If the plan execution stops for any reason, you can check for the reason by using the graphical user interface or use the command line. To do this, perform the following steps:

1. At the Catalog window select **Windows** from the menu bar.
2. Select **Requests** from the pull-down menu. This will open the Requests window.

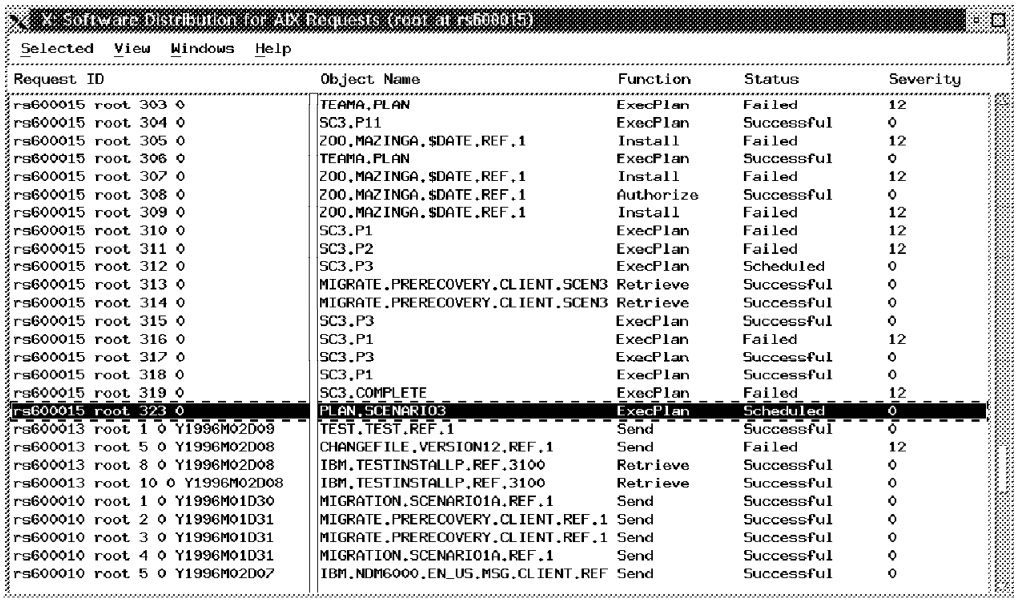

Figure 190. Software Distribution for AIX Requests Window

3. Use the scroll bar to scroll down until you find the request for the plan, and select it. Select **Selected** from the menu bar.
4. Select **Open** from the pull-down menu. This will open the following Open Plan window:

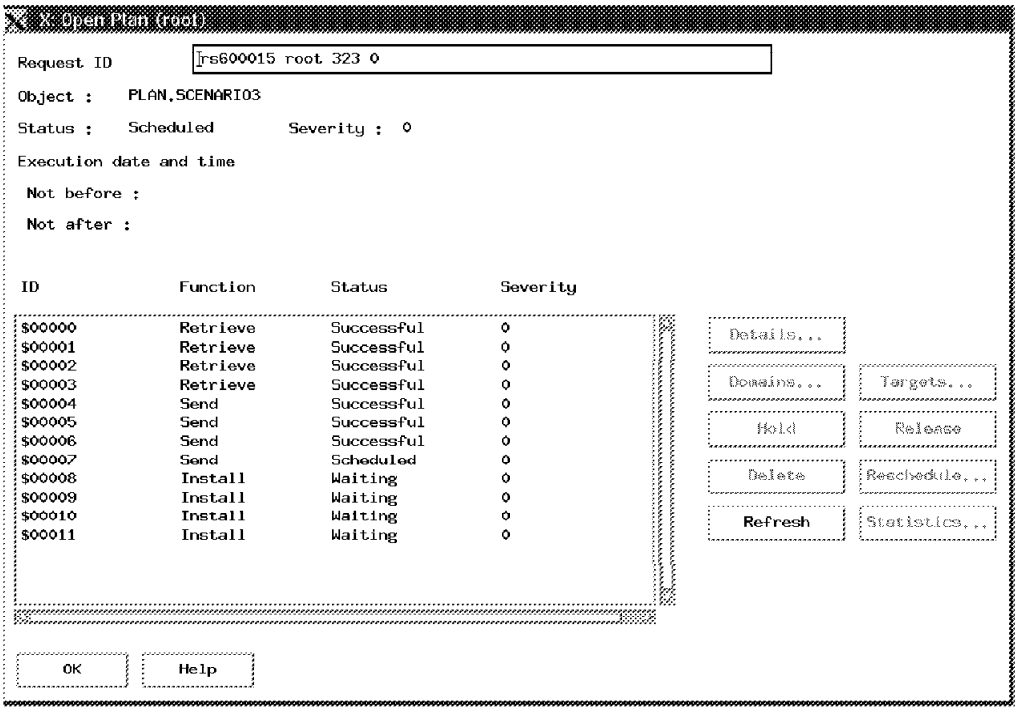

Figure 191. Open Plan Window

You can see the status of all the phases of the transmission plan.

5. Select the entry you want to track. This will highlight the Details push button.

6. Select the **Details** push button. This will open the following Plan Entry Detail window:

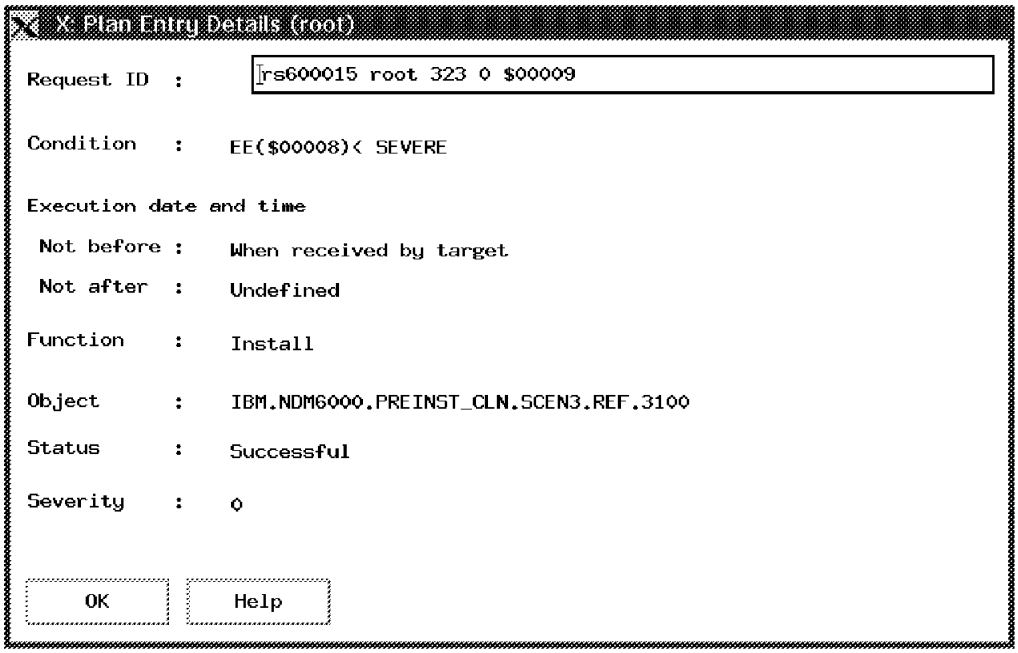

Figure 192. Entry $00009: Plan Entry Details Window

You can see information about the selected phase.

7. Select the **OK** push button to return to the Open Plan window.

8. Select the **Target** push button. This will open the following Addressed Targets window:

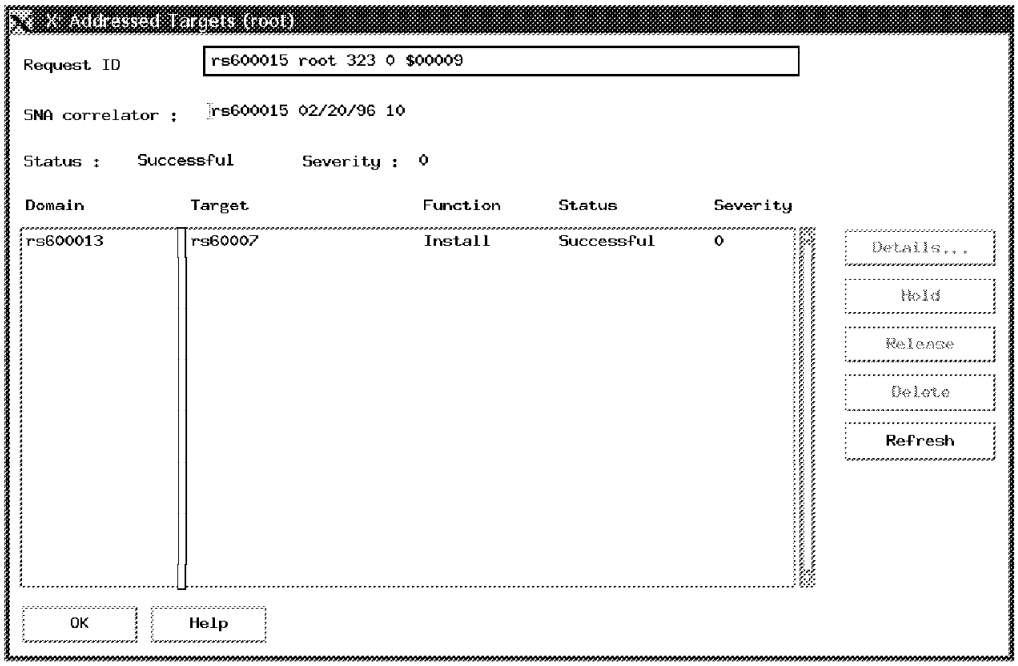

Figure 193. Entry $00009: Addressed Targets Window

You can see the target and domain the request was issued to.

9. Mark the entry and the the Details push button will be highlighted.
10. Click on the **Details** push button.

    This will open the Target Details window:

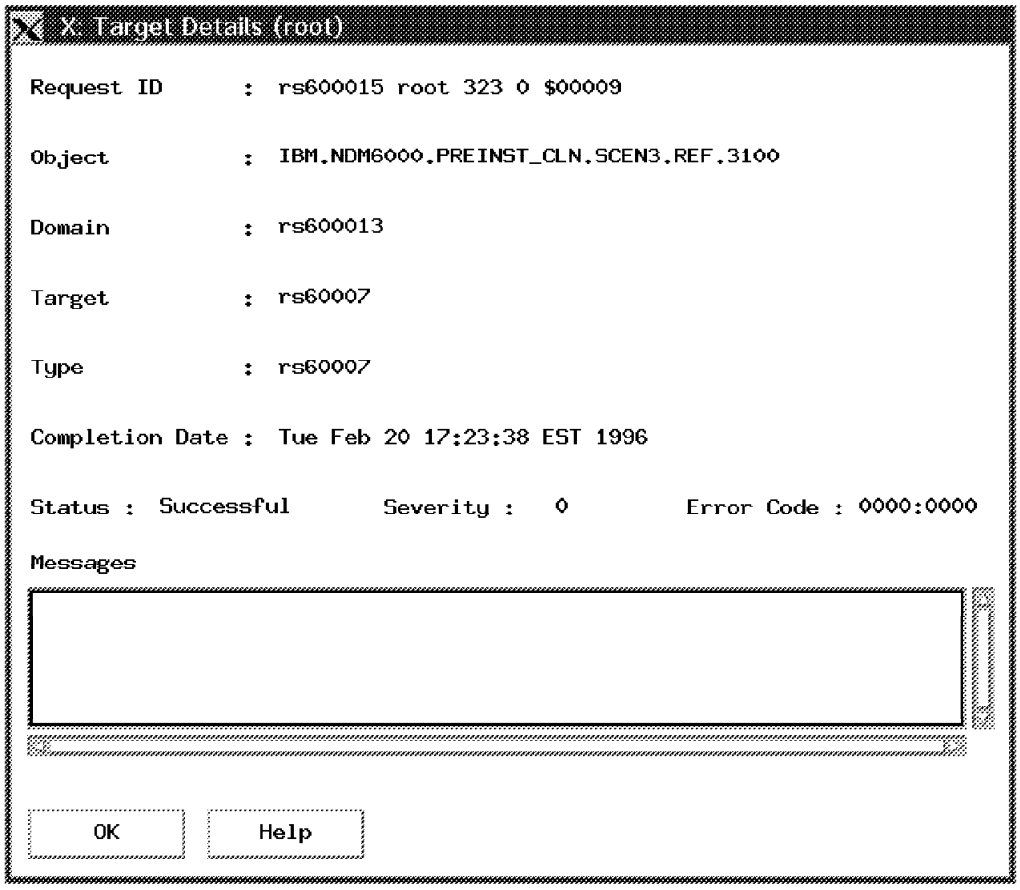

Figure 194. Entry $00009: Target Details Window

You see all the details about the request, and in case of a failure you can see the error message as well. In this case the phase has been successfully installed.

11. Select the **OK** push button to return to the Addressed Targets window.
12. Select the **OK** push button to return to the Open Plan window.
13. Select the **OK** push button to return to the Requests window.
14. Double-click in the upper left corner to close the window and return to the Catalog window.

If you want to restart the transmission plan from the entry where it has failed, you have to use the following steps from the graphical user interface:

1. At the Catalog window select **Windows** from the menu bar.
2. Select **Requests** from the pull-down menu. This will open the Requests window. Scroll down to select the transmission plan and mark it.
3. Select **Selected** from the menu bar.
4. Select **Restart** from the pull-down menu.
5. Select **From Error** from the cascaded menu. This will cause the entry to be restarted but only for those targets where the execution had failed before.
6. Double-click in the upper left corner to close the window and return to the Catalog window.

8.5.5 Monitoring the Installation Process

To help you understand what happens after initiating the transmission plan, the following depicts the data flow: picture:

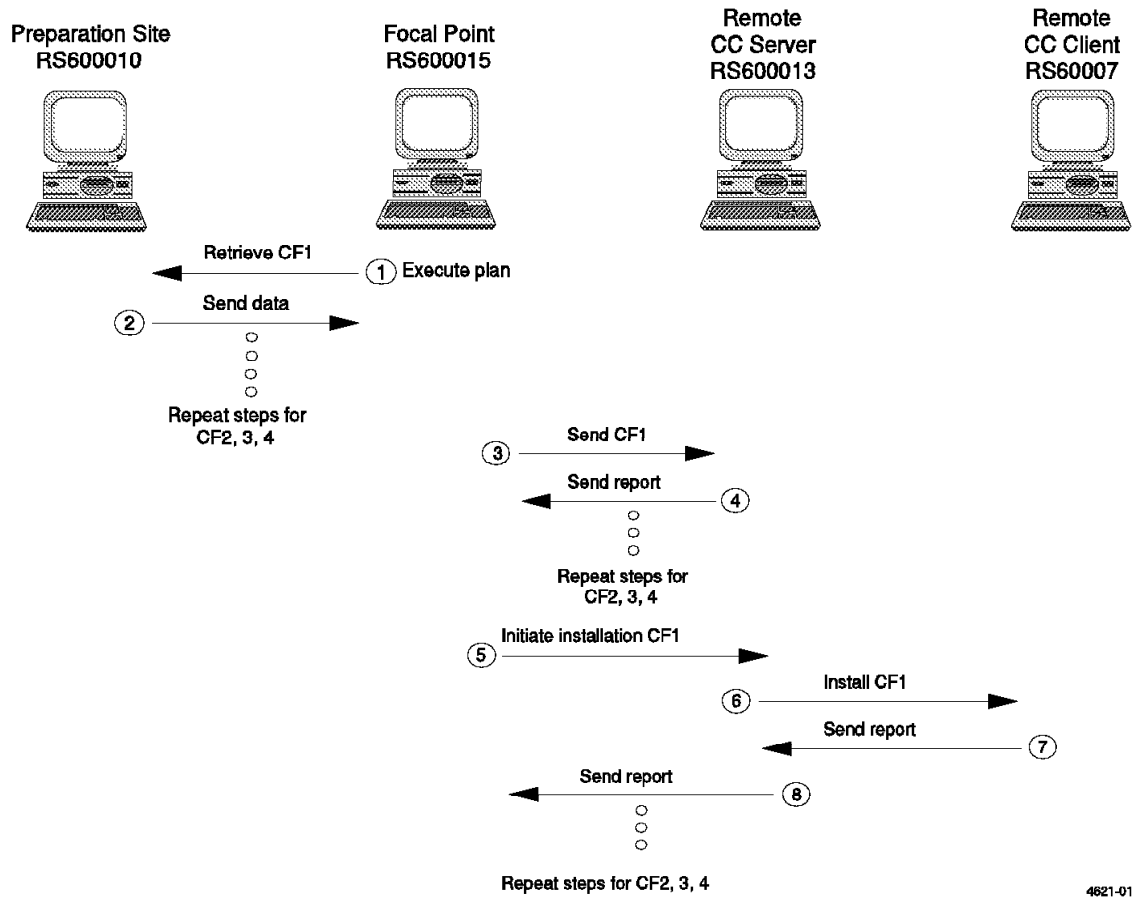

Figure 195. Execution Phases of the Plan

The order of the explanations is related to the numbers in the picture:

1. The focal point rs600015 initiates the execution of the plan.

   You will see the following message in the message log of the focal point:

```
1996/02/20 13:19:52 rs600015    29102 FNDRQ034I: @root rs600015 338 0 $00011 N/A :
                                                 Execute Plan request completed
```

Figure 196. fndlog at SD Focal Point: Step 1a

   The first entry is starting and issues a command to system rs600010 to retrieve the first change file.

   This will produce the following message at the focal point:

```
1996/02/20 13:19:53 rs600015
 23472 FNDSH268I: @root rs600015 338 0 $00000 N/A :
 Fetch request/report queued for t
1996/02/20 13:20:21 rs600015
 29678 FNDTC059I: Starting MU_ID registry resynch on connection
 RS600010.
1996/02/20 13:20:21 rs600015
 29678 FNDTC065I: MU_ID registry resynch completed successfully on
 connection RS60001
1996/02/20 13:20:23 rs600015
 29678 FNDTC201I: @root rs600015 338 0 $00000 N/A :
 Sent to remote target.
```

Figure 197. fndlog at the SD Focal Point: Step 1b

2. The preparation site rs600010 receives the request and sends the data (first change file) to the focal point.

   The processes issues the following messages:

```
1996/02/20 13:20:23 rs600010
 29510 FNDFS054I: Fetch request global file name
 MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1 resolve
1996/02/20 13:20:24 rs600010
 39995 FNDSH046I: @rs600015 1996/02/20 18 rs600015 :
 Fetch succeeded for file MIGRATE.PRERECOVE
1996/02/20 13:20:30 rs600010
 32355 FNDTC059I: Starting MU_ID registry resynch on connection
 RS600015.
1996/02/20 13:20:30 rs600010
 32355 FNDTC065I: MU_ID registry resynch completed successfully on
 connection RS600015.
1996/02/20 13:20:33 rs600010
 32355 FNDTC201I: @rs600015 1996/02/20 18 rs600015 :
 Sent to remote target.
```

Figure 198. fndlog at SD Preparation Site: Step 2a

   The focal point receives the change file and stores it in its repository:

```
1996/02/20 13:20:34 rs600015
 27326 FNDFS057I: Store request received with global file name
 MIGRATE.PRERECOVERY.CL
1996/02/20 13:20:39 rs600015
 23472 FNDSH049I: @root rs600015 338 0 $00000 rs600015 :
 Store request completed for
1996/02/20 13:20:39 rs600015
 29102 FNDRQ108I: @root rs600015 338 0 $00000 rs600015 :
 Received successful Store re
```

Figure 199. fndlog at SD Focal Point: Step 2b

   Those steps are repeated for the retrieval of the remaining three change files.

3. The focal point sends the first change to the remote SD Server:

```
1996/02/20 13:27:18 rs600015
 23472 FNDSH046I: @root rs600015 338 0 $00004 N/A :
 Fetch succeeded for file MIGRATE.
1996/02/20 13:27:20 rs600015
 23472 FNDSH268I: @root rs600015 338 0 $00004 N/A :
 Store request/report queued for t
1996/02/20 13:27:53 rs600015
 29454 FNDTC201I: @root rs600015 338 0 $00004 N/A :
 Sent to remote target.
```

Figure 200. fndlog at SD Focal Point: Step 3

4. After the transmission is complete and the remote server rs600013 has stored the file in its repository it sends back a report to the focal point:

```
1996/02/20 19:26:25 rs600013
 12109 FNDFS001I: Cataloged MIGRATE.PRERECOVERY.CLIENT.SCEN3.REF.1
 as local file $(RE
1996/02/20 19:26:26 rs600013
 22085 FNDRQ034I: @root rs600015 22 0 Y1996M02D20 rs600013 :
 Store request completed
1996/02/20 19:26:28 rs600013
 22342 FNDSH049I: @root rs600015 22 0 Y1996M02D20 rs600013 :
 Store request completed
1996/02/20 19:26:29 rs600013
 22085 FNDRQ108I: @root rs600015 22 0 Y1996M02D20 rs600013 :
 Received successful Stor
1996/02/20 19:26:29 rs600013
 22085 FNDRQ147I: @root rs600015 22 0 Y1996M02D20 rs600013 :
 Store request completed
1996/02/20 19:26:29 rs600013
 22342 FNDSH268I: @root rs600015 22 0 Y1996M02D20 rs600013 :
 Store request/report que
1996/02/20 19:27:05 rs600013
 18799 FNDTC201I: @root rs600015 22 0 Y1996M02D20 rs600013 :
 Sent to remote target.
```

Figure 201. fndlog at Remote SD Server: Step 4a

The focal point receives the successful transmission report:

```
1996/02/20 13:28:35 rs600015
 29102 FNDRQ108I: @root rs600015 338 0 $00004 N/A : Received successful Transfer repo
```

Figure 202. fndlog at SD Focal Point: Step 4b

Those steps are repeated for the data distribution of the three remaining change files from the focal point to the remote SD Server.

5. The focal point initiates the installation request for the first change file. It routes the request to the remote server rs600013 which is the server for the client rs60007.

```
1996/02/20 13:38:15 rs600015
 23472 FNDSH268I: @root rs600015 338 0 $00008 N/A :
 Install request/report queued for
1996/02/20 13:38:30 rs600015
 31058 FNDTC201I: @root rs600015 338 0 $00008 N/A :
 Sent to remote target.
```

Figure 203. fndlog at SD Focal Point: Step 5

6. The installation request is actually executed by the remote SD Server of the client. This is the system rs600013. It receives the installation request initiated by the focal point and starts the installation process to its client rs60007.

```
1996/02/20 19:37:03 rs600013
 22085 FNDRQ034I: @root rs600015 26 0 Y1996M02D20 rs60007 :
 Install request completed
```

Figure 204. fndlog at Remote SD Server: Step 6

7. The client receives the installation request. In the message log you can see several error messages. They are caused by the fact that the server is on Version 3 of the product while the agent is on version 1.

   You can ignore these messages. The following message log includes the installation requests for all four installation phases of the transmission plan. You can see that at the end of the message, log error messages no longer occur. This is because the new version of the product has been installed by

the third installation phase of the plan. The fourth installation phase, which installs the NLS package of the product, no longer causes error messages.

After the installation has finished, the client sends back an installation report to its server.

```
1970/01/05 22:17:16 rs60007
  4251 FNDCO022I: Initializing trace and logging.
1970/01/05 22:17:16 rs60007
  4251 FNDCO015I: Task nvdm has pid 4251.
1970/01/05 22:17:16 rs60007
  4251 FNDRXO20I: Attempting to connect to server rs600013 on port 729.
1970/01/05 22:17:16 rs60007
  4251 FNDRXO01I: New connection 5 from client rs60007 agent 3.
1970/01/05 22:17:17 rs60007
 11936 FNDCO022I: Initializing trace and logging.
1970/01/05 22:17:17 rs60007
 11936 FNDCO015I: Task fndcmps has pid 11936.
1970/01/05 22:17:17 rs60007
 11936 FNDRXO20I: Attempting to connect to server rs600013 on port 729.
1970/01/05 22:17:17 rs60007
  4251 FNDCL785I: Product started successfully.
1970/01/05 22:17:17 rs60007
 11936 FNDRXO01I: New connection 7 from client rs60007 agent 2.
1970/01/06 00:00:46 rs60007
 11936 FNDRXO79E: Unexpected type of response 20302, received from the server.
1970/01/06 00:00:46 rs60007
 11936 FNDCM006W: "?" Server connection rs600013 failed; attempting recovery.
1970/01/06 00:00:48 rs60007
  3118 FNDCO022I: Initializing trace and logging.
1970/01/06 00:00:48 rs60007
  3118 FNDCO015I: Task fndcmi has pid 3118.
1970/01/06 00:01:19 rs60007
 11936 FNDRXO79E: Unexpected type of response 20302,
 received from the server.
1970/01/06 00:01:19 rs60007
 11936 FNDCM006W: "?" Server connection rs600013 failed;
 attempting recovery.
1970/01/06 00:01:21 rs60007
 11321 FNDCO022I: Initializing trace and logging.
1970/01/06 00:01:21 rs60007
 11321 FNDCO015I: Task fndcmi has pid 11321.
1970/01/06 00:01:52 rs60007
 11936 FNDRXO79E: Unexpected type of response 20302, received from the server.
1970/01/06 00:01:52 rs60007
 11936 FNDCM006W: "?" Server connection rs600013 failed; attempting recovery.
1970/01/06 00:02:52 rs60007
 11324 FNDCO022I: Initializing trace and logging.
1970/01/06 00:02:52 rs60007
 11324 FNDCO015I: Task fndcmip has pid 11324.
1970/01/06 00:21:50 rs60007
 11936 FNDCM317I: @rs600015 1996/02/20 28 rs60007 : The installation was successful with remova
1970/01/06 00:22:14 rs60007
 11936 FNDRXO79E: Unexpected type of response 20302, received from the server.
1970/01/06 00:22:14 rs60007
 11936 FNDCM006W: "?" Server connection rs600013 failed; attempting recovery.
1970/01/06 00:22:23 rs60007
 11936 FNDCO149I: The last task is exiting.
1970/01/06 00:23:15 rs60007
 12454 FNDCO022I: Initializing trace and logging.
1970/01/06 00:23:15 rs60007
 12454 FNDCO015I: Task nvdm has pid 12454.
1970/01/06 00:23:15 rs60007
 12454 FNDRXO20I: Attempting to connect to server rs600013 on port 729.
1970/01/06 00:23:15 rs60007
 12454 FNDRXO01I: New connection 17 from client rs60007 agent 3.
1970/01/06 00:23:16 rs60007
  4269 FNDCO022I: Initializing trace and logging.
1970/01/06 00:23:16 rs60007
  4269 FNDCO015I: Task fndcmps has pid 4269.
1970/01/06 00:23:16 rs60007
 12454 FNDCL785I: The product started successfully.
1970/01/06 00:23:16 rs60007
 12462 FNDCO022I: Initializing trace and logging.
1970/01/06 00:23:16 rs60007
 12462 FNDCO015I: Task nvdm has pid 12462.
1970/01/06 00:23:16 rs60007
 12462 FNDRXO20I: Attempting to connect to server rs600013 on port 729.
1970/01/06 00:23:16 rs60007
 12462 FNDRXO01I: New connection 17 from client rs60007 agent 3.
1970/01/06 00:30:40 rs60007
  4269 FNDRXO21I: CRBX socket is 20.
1970/01/06 00:30:40 rs60007
  4269 FNDCM002I: D&CC Agent is terminating with reason code 0.
```

```
1970/01/06 00:30:40 rs60007
  4269 FNDRX019W: Connection on call recv(common) socket 20 reset by peer.
1970/01/06 00:30:40 rs60007
  4269 FNDRX023I: Connection 20 is closing.
1970/01/06 00:32:24 rs60007
  4269 FNDRX021I: CRBX socket is 20.
1970/01/06 00:33:27 rs60007
  4269 FNDCM006W: @root rs600015 29 0 Y1996M02D20 rs60007 : server connection rs60001
1970/01/06 00:33:30 rs60007
  4269 FNDRX103W: The operating system returned error 22 on connect call during a con
1970/01/06 00:37:15 rs60007
  5088 FNDC0022I: Initializing trace and logging.
1970/01/06 00:37:15 rs60007
  5088 FNDC0015I: Task fndcmip has pid 5088.
1970/01/06 00:37:25 rs60007
 11496 FNDC0022I: Initializing trace and logging.
1970/01/06 00:37:25 rs60007
 11496 FNDC0015I: Task nvdm has pid 11496.
1970/01/06 00:37:25 rs60007
 11496 FNDRX020I: Attempting to connect to server rs600013 on port 729.
1970/01/06 00:37:25 rs60007
 11496 FNDRX001I: New connection 5 from client rs60007 agent 3.
1970/01/06 00:37:26 rs60007
 11496 FNDCL786I: Product stopping.
1970/01/06 00:37:30 rs60007
 11499 FNDC0022I: Initializing trace and logging.
1970/01/06 00:37:30 rs60007
 11499 FNDC0015I: Task nvdm has pid 11499.
1970/01/06 00:37:31 rs60007
 11499 FNDRX020I: Attempting to connect to server rs600013 on port 729.
1970/01/06 00:37:31 rs60007
 11499 FNDRX001I: New connection 5 from client rs60007 agent 3.
1970/01/06 00:38:07 rs60007
 11503 FNDC0022I: Initializing trace and logging.
1970/01/06 00:38:07 rs60007
 11503 FNDC0015I: Task nvdm has pid 11503.
1970/01/06 00:38:08 rs60007
 11503 FNDRX020I: Attempting to connect to server rs600013 on port 729.
1970/01/06 00:38:08 rs60007
 11503 FNDRX001I: New connection 5 from client rs60007 agent 3.
1970/01/06 00:38:13 rs60007
 11506 FNDC0022I: Initializing trace and logging.
1970/01/06 00:38:13 rs60007
 11506 FNDC0015I: Task nvdm has pid 11506.
1970/01/06 00:38:13 rs60007
 11506 FNDRX020I: Attempting to connect to server rs600013 on port 729.
1970/01/06 00:38:13 rs60007
 11506 FNDRX001I: New connection 5 from client rs60007 agent 3.
1970/01/06 00:38:13 rs60007
 11506 FNDCL786I: Product stopping.
1970/01/06 00:40:47 rs60007
  4269 FNDCM317I: @root rs600015 29 0 Y1996M02D20 rs60007 :
  The installation was succ
1970/01/06 00:40:48 rs60007
  4269 FNDC0149I: The last product task is exiting.
1970/01/06 00:47:40 rs60007
  4189 FNDC0022I: Initializing trace and logging.
1970/01/06 00:47:40 rs60007
  4189 FNDC0015I: Task nvdm has pid 4189.
1970/01/06 00:47:40 rs60007
  4189 FNDRX020I: Attempting to connect to server rs600013 on port 729.
1970/01/06 00:47:40 rs60007
  4189 FNDRX001I: New connection 5 from client rs60007 agent 3.
1970/01/06 00:47:41 rs60007
  4189 FNDCL786I: Product stopping.
1970/01/06 00:47:41 rs60007
  4189 FNDC0149I: The last product task is exiting.
```

Figure 205 (Part 2 of 2). fndlog at Remote SD Client: Step 7

8. The remote server rs600013 receives the installation report, stores it in its database and sends it back to the focal point so that the change management history can be updated at the focal point as well.

```
1996/02/20 19:37:08 rs600013      22342 FNDSH010I: @root rs600015 26 0 Y1996M02D20 rs60007 :
Install succeeded on MIGR
1996/02/20 19:37:09 rs600013      22085 FNDRQ108I: @root rs600015 26 0 Y1996M02D20 rs60007 :
Received successful Insta
1996/02/20 19:37:09 rs600013      22085 FNDRQ147I: @root rs600015 26 0 Y1996M02D20 rs60007 :
Install request completed
1996/02/20 19:37:09 rs600013      22342 FNDSH268I: @root rs600015 26 0 Y1996M02D20 rs60007 :
Install request/report qu
1996/02/20 19:37:17 rs600013       3462 FNDTC201I: @root rs600015 26 0 Y1996M02D20 rs60007 :
Sent to remote target.
```

Figure 206. fndlog at Remote SD Server: Step 8a

The focal point receives the successful installation report and updates its own database.

```
1996/02/20 13:38:47 rs600015      29102 FNDRQ108I: @root rs600015 338 0 $00008 N/A :
Received successful Install repor
1996/02/20 13:38:47 rs600015      29102 FNDRQ147I: @root rs600015 338 0 $00008 rs60007 :
Install request completed suc
1996/02/20 13:38:48 rs600015      23472 FNDSH268I: @root rs600015 338 0 $00009 N/A :
Install request/report queued for
1996/02/20 13:39:03 rs600015      31066 FNDTC201I: @root rs600015 338 0 $00009 N/A :
Sent to remote target.
```

Figure 207. fndlog at Remote SD Client: Step 8b

These steps are repeated for the installation for the remaining three change files.

When all phases of the plan have been executed successfully and the focal point has updated its database for all installation requests you should see the following message:

```
 1996/02/20 14:19:05 rs600015
29102 FNDRQ147I: @root rs600015 338 0 $00011 rs60007 : Execute
Plan request completed successfully.
```

Figure 208. fndlog at the SD Focal Point: After Successful Completion

You can also use other methods to check the migration process. We suggest that you apply the following methods beside triggering the message log:

- Check the status file `request.out` at the client for the installation of the generic change files.
- Check the file `/usr/lpp/netviewdm/extlog1` at the client for the installation of the installp-type change files.
- Check the change management history for the client during the installation of the change files.
- Check the working directory at the client during the installation of both, the generic and the installp-type change files.
- Check the queue between the focal point and the remote server.

Chapter 9. Special Notices

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Chapter 10. Related Publications

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

10.1 International Technical Support Organization Publications

For information on ordering these ITSO publications see “How To Get ITSO Redbooks” on page 195.

- NetView Distribution Manager
  - *The TME 10 Software Distribution for AIX Cookbook*, GG24-4246
- AIX Migration
  - *A Holistic Approach to AIX 4.1 Migration, Planning Guide*, SG24-4651
  - *A Holistic Approach to AIX 4.1 Migration, Volume 1: AIX, UP to SMP and Oracle*, SG24-4652
  - *A Holistic Approach to AIX 4.1 Migration, Volume 2: TCP/IP, SNA, HACMP and Multiple Systems*, SG24-4653

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Transaction Processing and Data Management Redbook	SBOF-7240	SK2T-8038
AS/400 Redbooks Collection	SBOF-7270	SK2T-2849
RS/6000 Redbooks Collection (HTML, BkMgr)	SBOF-7230	SK2T-8040
RS/6000 Redbooks Collection (PostScript)	SBOF-7205	SK2T-8041
Application Development Redbooks Collection	SBOF-7290	SK2T-8037
Personal Systems Redbooks Collection	SBOF-7250	SK2T-8042

10.3 Other Publications

These publications are also relevant as further information sources:

- NetView Distribution Manager/6000
  - *NetView Distribution Manager/6000 Concepts and Overview Release 1.2*, GH19-5001
  - *NetView Distribution Manager/6000 Installation and Customization Guide Release 1.2*, SH19-5002
  - *NetView Distribution Manager/6000 User's Guide Release 1.2*, SH19-5003
  - *NetView Distribution Manager/6000 Message and Error Recovery Guide Release 1.2*, SH19-5004
  - *NetView Distribution Management Agent/6000 User's Guide Release 1.2*, SH19-4071

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- Software Distribution for AIX
  - *Software Distribution 3.1 for AIX Concepts*, GH19-4161
  - *Software Distribution 3.1 for AIX Getting Started*, SH19-4162
  - *Software Distribution 3.1 for AIX User's Guide*, SH19-4163
  - *Software Distribution 3.1 for AIX Installation and Customization Guide*, SH19-4164
- Tivoli TME 10 Software Distribution
  - *Tivoli TME 10 Software Distribution for AIX V.3.1.3 Up and Running!*, SH19-4333
- AIX in General
  - *AIX Version 3.2: Installation Guide*, SC23-2341
  - *AIX Version 4.1: Installation Guide*, SC23-2550
  - *POWERstation and POWERserver: Common Diagnostics Information Manual*, SA23-2765
  - *AIX Version 4.1: Network Installation Management, Guide and Reference*, SC23-2627

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This section explains how both customers and IBM employees can find out about ITSO redbooks, CD-ROMs, workshops, and residencies. A form for ordering books and CD-ROMs is also provided.

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Index

Special Characters

.toc 151
.toc File Dependency 11
.toc files 10
$(NFSSERVER) 103, 134
$(SERVER) 71, 134
$(TARGETLIST) 180

A

access rights 154
Activation Required=No 16
Activation Required=Yes 16
active processes 77
addressed target 169, 183
advantage of using tokens 103
AIX 4.1 support 5
AIX commands
  bffcreate 97, 129, 151
  bffcreate -d 31
  crontab -e 151
  installp -C 43, 59, 93, 114
  installp -l -d 66, 97
  installp -s 31
  inutoc 151
  lsgroup 158
  lslpp -h 26, 30, 39, 51, 56, 58, 80, 111, 123, 125, 146
  lsuser 153, 157
  mknfsexp 65
  mknfsexp -d 73, 97, 105, 129
  mount 65, 71, 97, 103, 129, 134
  ps -ef 77
  restore 43, 67, 98, 131
  restore -qf 31
  tail -f 62, 73
  tar -xf 151
AIX root user 12, 156
AIX user 155
AIX user group 158
Application migration 2
APPLIED 31, 60, 93, 94, 127
authorization profile 12, 152, 159
automate the execution 73
automation 6

B

base configuration file 23
bffcreate 97, 129, 151
bffcreate -d 31
bibliography 193
build process 69, 100, 132
build the change files 45
build the transmission plan from the profile 179
built-in token 103, 134

C

catalog entry 177
change file
  options 10, 17
  profiles 130
change files 10, 11, 56, 75, 85
change management
  history 111, 123, 189
  requests 90, 119
  status 29, 77
change request 13, 16, 77
change type FIX. 16
change type refresh 16
checkpoint/restart 7
clbooks option 65
cleanup script 68
client base option 66
client status 43
client/server communications 7
COMMIT 60, 93, 127
Committed 16, 17, 61, 95
compression 7
condition 162, 167
condition type 171
conditioned 139, 160
conditioning type 160, 161
connecting old clients to new servers 11
connection files 42
crontab -e 151
crontab table 151

D

DAK 164
data access key 7, 164
data flow 184
default conditioning type 162
default token 103, 134
default user ID 156
defined targets 49, 78
differences between the AIX 4.1 and AIX 3.2.5 17
discovered 42, 65, 81, 96, 113
disk space 74, 76, 105, 143
document the status 23
domain 182
domain level approach 161
Dynamic change files 1, 8
Dynamic groups 8

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E

Enhanced Communication Support 6
ENTRY 138, 160
Error for Entry 160, 168
Error on Domain 162
Error on Entry 162, 171
Error on Target 162
execute the transmission plan 179
execution of the plan 184
exported file system 46
Extend File System 34, 174
extend the file system 74, 105
extended change file functions 8
extlog1 60, 64, 76, 93, 106, 127, 142

F

fallback 16
feature 98
features of NetView DM and Software Distribution 5
file system size 76, 109, 143
fix package 16
FNDADMN 152
FNDBLD 152
fndcmip 77
fndcmps 77
fndhwinv 69, 132
fndlog 62, 104, 140
fndswinv 65, 69, 132
FNDUSER 152
focal point 185
format of the .toc file 151
format of the software levels 66
formatting of the OPP options 69, 100, 132
formatting of the software levels 130
function 165

G

generic change file 73
Global Name 164, 165
graphical user interface 66
group IDs 12

H

hardware parameters 152, 155
hierarchical approach 161
hierarchy 161
high bandwidth 2
history 65
host name 103

I

inactive 29
Initiate 163
initiating thetransmission plan 184
Install Options 173
installation
  change files 46
  images 31, 127, 128
  option 127
  parameters 152, 155
  process 69, 100, 132
  report 189
  request 186
installed removable 29
installp 10, 12, 16, 32, 75, 127
installp -C 43, 59, 82, 93, 114
installp -l -d 66, 97
installp -s 31
installp driver 77
installp process 143
installp_image 86, 119, 127
internal format of the change files 45
inutoc 151
Inventory commands 1
Inventory discovery 7, 8
inventory file 65

L

level by level 161
local queue 88
local SD Client 19
localqueues 32
login target 157
Low bandwidth 2
lsgroup 158
lslpp -h 26, 30, 39, 51, 56, 58, 80, 90, 111, 123, 125, 146
lsuser 153, 157
LU 6.2 6

M

management history 39
manual migration 23
migration
  configuration change 9
  operating system 2
  SD Client 9
  SD Server/SD Remote Administrator/SD Focal Point/SD Single Node 9
mknfsexp 65
mknfsexp -d 73, 97, 105, 129
Mobile client support 8
Motif 1.2 support 6
mount 46, 65, 71, 97, 103, 129, 134
multiple change requests 73
multiple domains 161
Multiple focal points support 8

N

Network File System 45
NFS 19, 20, 45, 71, 133
NFS mounts 46
non-English locale 6
nvdm 30
nvdm addpln 139
nvdm bld 61, 72, 94, 179
nvdm cat 163
nvdm execpln 139, 179
nvdm inst 61, 73, 95, 105
nvdm lsbs 24, 36, 49, 58, 110, 121
nvdm lscm 27, 39, 59, 74, 80, 91, 111, 124, 146
nvdm lsq 74
nvdm lsrq 73, 104, 139
nvdm lstg 24, 36, 49, 78, 110, 119, 144
nvdm rem 61, 95
nvdm send 61, 73, 94, 105
nvdm stattg 29, 59, 81, 91, 113, 123, 125, 146
nvdm uninst 96
nvdm updusr 153
nvdm.cfg 49, 57, 121, 144
nvdm.inv 96

O

object 165, 166
obsolete options 30
ODM 12, 16, 17, 26, 31, 39, 51, 56, 61, 64, 80, 123, 125, 146
OOP OPTION 72, 103, 135
operating system 69
Operating System Dependency 10
OPP OPTION 72
OPP options 10
output of the target 59

P

plan 160, 164
plan entry 165
plan feature 1, 6, 20, 36, 53, 73, 137
Plan for the Migration 137
plan package 98
Plan Profile 179
plans 138
POST-INSTALL 72, 103, 135
post-install scripts 101
POST-REMOVE 72, 135
POSTREQ COMMAND 71, 103, 135
PRE-INSTALL 72, 103, 135
PRE-REMOVE 72, 135
preinstall scripts 69, 98, 101, 130
preparation site 11
PREREQ COMMAND 71, 102, 134
prerequisite 31, 45, 60, 88
primary user group 152, 157
pristine installation 6
profile 67, 99, 175
profiles 10
ps -ef 77
PTF 128
push mode 25, 38, 50, 55

Q

queues 88

R

remote
- administration 98
- administration feature 24, 86
- administration option 24, 36, 53
- communication 121
- communication option 24
- communications 36, 53
- queue 88
- queues 32
- SD Client 20, 116
- SD Server 85, 116
- server 50, 90
- servers 25, 38, 55

REMOTE_IMAGE 72, 104, 135
Removability=YES 16, 17
Removable 16
remove
- committed LPPs 149
- obsolete option 64
- obsolete options 60
- options 93

replace existing file 171
report 185
Report-To Focal Point 90, 122
repository 38, 46, 50, 56, 185
request 32, 160, 180
required option 60
Restart 183
restart the transmission plan 183
restore 43, 67, 98, 131
restore -qf 31
restored profiles 67
result of the previous entry 139
Retrieve 163, 165
root user 12
route table 42
rrstatus 77

S

SD Client 45, 58
SD Focal Point 6, 19, 23, 24, 45, 52, 55, 86, 104, 116
SD for AIX commands
- nvdm 30
- nvdm bld 61, 94
- nvdm cat 163

SD for AIX commands *(continued)*
  nvdm inst 61, 73, 95
  nvdm lsbs 24, 36, 49, 58
  nvdm lscm 27, 39, 74, 91
  nvdm lsq 74
  nvdm lstg 24, 36, 49
  nvdm rem 61, 95
  nvdm send 61, 94
  nvdm stattg 29, 59, 81, 91
  nvdm uninst 96
  nvdm.cfg 49
SD packages 81
SD Preparation Site 20, 45, 104, 116
SD Server 19, 36
security 7
security mechanism 155
security scheme 12
Send 163
Send Options 170
sequence in the execution 162
sequence number 165
server options 39
server package 67, 99
server-to-server protocol (STS) 1, 6
Shared object 9
smitty 32
SNA/DS 6, 11, 42, 83, 116
status 17
status file 77
STS (server-to-server) 6, 42
STS connections 11

T

tail -f 62, 73
tar -xf 151
target 160, 180, 182
  access keys 7
  address 103
  authentication 7
  autoregistration 7
  definitions 110
  groups 160
  selection 166
TCP/IP 6, 83, 116
token 71, 180
tool option 66, 67, 98
top-down approach 11
transmission plan 161
trigger change requests 73

U

Uninstall 6, 17
updcm 17
user authorization 7
user group 12, 152
user IDs 12

V

vercm 17
Version Dependency 10
version of the operating system 100

W

watchdog 94, 127, 151

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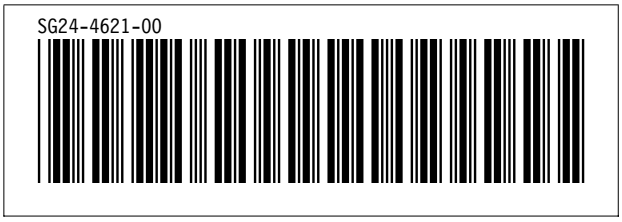
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