

# **Software Change Management Using NetView DM/MVS with SPMF R2 and MSS/400**

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International Technical Support Organization  
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**Take Note!**

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

**First Edition (December 1994)**

This edition applies to Version 1, Release 5 of NetView Distribution Manager, 5685-016, for use with MVS/ESA, to Release 2 of Software Profile Management Facility, PRPQ 85254, for use with MVS/ESA, to Version 2 of NetView Distribution Manager/2, 5621-439 for use with OS/2, and to Version 2, Release 3 of SystemView Managed System Services/400, 5738-MG1, for use with OS/400.

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## Abstract

This document describes the functionality that the new releases of NetView Distribution Manager/MVS and Software Profile Management Facility will provide.

The installation and customization of SystemView Managed System Services/400 is described with some scenarios covering software distribution using SystemView Managed System Services/400 with NetView Distribution Manager/MVS.

For large NetView DM/MVS installations this document includes a description of a multiple TCP environment that can help address some operational aspects of trying to manage large distribution networks. A scenario is also shown using NetView DM/MVS and SPMF R2.

This document is written for technical personnel including new users of the SystemView Managed System Services/400, experienced users of NVDM/MVS who need to know how to set up NVDM/MVS with multiple TCPs (Transmission Control Programs), and users who want to read about the enhancements of the new releases of NVDM/MVS and SPMF.

(244 pages)



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## Special Notices

This publication is intended to help customer technical personnel and IBM system engineers manage software changes in a LAN network. The information in this publication is not intended as the specification of any programming interfaces that are provided by NetView Distribution Manager Release 5, Software Profile Management Facility Release 2, NetView Distribution Manager/2 Version 2, and SystemView Managed System Services/400 Version 2. See the PUBLICATIONS section of the IBM Programming Announcement for NetView DM/MVS, Software Profile Management Facility, NetView DM/2, and SystemView Managed System Services/400 for further information about what publications are considered to be product documentation.

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## Preface

This document consists of three logical sections. First we discuss the new function that NetView Distribution Manager/MVS R5 and Software Profile Management Facility R2 provides.

Part of the new functionality of NetView Distribution Manager/MVS is the support for two new CMEP node types, NetView Distribution Manager/6000 and Managed System Services/400. The installation and customization of the Managed System Services/400 node type and remote change management scenarios on the AS/400 using NetView Distribution Manager/MVS and Managed System Services/400 are described.

The last section describes the operational issues that current NetView Distribution Manager/MVS and NetView Distribution Manager/2 installations are experiencing. For large NetView Distribution Manager/MVS installations the multiple TCP environment is discussed.

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

- New users of SPMF and MSS/400.
- Experienced users of NVDM/2 and NVDM/MVS who need to know how to maintain their LAN environment and to set up NVDM/MVS with multiple TCPs (Transmission Control Program).
- Users who want to read about the enhancements to the new releases of NVDM/MVS and SPMF.

At the beginning of each chapter you will find a short description of the intended audience and the skill level which we think is required to understand the appropriate part.

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## How This Document is Organized

The document is organized as follows:

- Chapter 1, "Introduction"  
This chapter introduces this publication.
- Chapter 2, "New Functions in NVDM/MVS Release 5 and SPMF Release 2"  
In this chapter of the document you will find a short description of the new functions and enhancements of NVDM/MVS Release 5 and SPMF Release 2.
- Chapter 3, "Software Distribution for NVDM/2 Using SPMF"  
This chapter describes in a scenario the distribution of OS/2 software using SPMF, NVDM/MVS and NVDM/2.
- Chapter 4, "SystemView Managed System Services/400"  
This chapter is intended as a guideline for new MSS/400 users who want to install and configure the product for a host-connected NVDM/MVS environment.
- Chapter 5, "NetView Distribution Manager/MVS with Managed System Services/400"

Remote change management scenarios using MSS/400 and NVDM/MVS are described in this chapter.

- Chapter 6, “NVDM/MVS: Multiple TCP Environments”

This chapter is intended as a guideline for experienced NVDM/MVS users who need an example of how to set up a multiple TCP environment.

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## Related Publications

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

### NetView DM/MVS Release 5 Publications

- *NetView DM/MVS General Information*, GH19-6792
- *NetView DM/MVS Overview and Scenarios*, SH19-6797
- *NetView DM/MVS Installation and Customization*, SH19-6794
- *NetView DM/MVS User's Guide*, SH19-6795
- *NetView DM/MVS Base Application Programming*, SH19-6958
- *NetView DM/MVS Distribution & Change Control Application Programming*, SH19-6959
- *NetView DM/MVS Message and Codes*, SH19-6798
- *NetView DM/MVS Diagnosis*, LY19-6374 (available to IBM-licensed customers only)

### NetView DM/2 Version 2 Publications

- *NetView DM/2 Concepts and Overview*, GH19-4009
- *NetView DM/2 Installation and Customization Guide*, SH19-6915
- *NetView DM/2 CDM User's Guide*, SH19-5048
- *NetView DM/2 LDU User's Guide*, SH19-5049
- *NetView DM/2 Message and Error Recovery Guide*, SH19-6924

### SystemView Managed System Services/400 Version 2 Publication

- *SystemView Managed System Services/400 User's Guide*, SC41-0142

### VTAM and SNA Publications

- *VTAM Resource Definition Reference*, SC31-6438
- *VTAM Message and Codes*, SC31-6433
- *VTAM Operation*, SC31-6435
- *VTAM Programming for LU 6.2*, SC31-6437
- *SNA Formats*, GA27-3136
- *SNA Management Services Reference*, SC30-3346
- *SNA Distribution Services Reference*, SC30-3098
- *SNA File Services Reference*, SC31-6807
- *Advanced Architectures APPC, SNADS, DIA, and DCA*, GG22-9105

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## International Technical Support Organization Publications

- *OS/2 Version 2.0 Remote Installation and Maintenance*, GG24-3780
- *Centralized Workgroup Management*, GG24-4181
- *Automated Installation of CID Enabled Products Using NetViewDM/2 V2.0 and NetView DM R4*, GG24-3782

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

*International Technical Support Organization Bibliography of Redbooks*, GG24-3070.

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Tim Bidwell  
International Technical Support Organization, Raleigh Center  
Wolfgang Geiger  
International Technical Support Organization, Raleigh Center

The authors of this document are:

Mike Cook  
IBM Canada  
Brian Rogers  
IBM South Africa

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## Chapter 1. Introduction

To meet customer requirements for the change management function in a heterogeneous environment, IBM announced NetView Distribution Manager/MVS Version 1 Release 5, Software Profile Management Facility Release 2, and a new release of Managed System Services/400

The product Managed System Services/400 is implemented as an additional Change Management Entry Point (CMEP) node. NetView Distribution Manager/MVS Release 5 is the extended host product with new and enhanced functionality. The new release of NetView Distribution Manager/MVS provides the support for the new Change Management Entry Point (CMEP) nodes that includes:

- Support of new node implementation specific commands.
- Handling of node specific resource types.

This increases the number of different environments which are used to perform the change management tasks from the central site.

The AS/400 environment has had the product DSNX used for its change management functions. DSNX operated as an LU0 type node with NetView Distribution Manager/MVS and because of this the functionality that was available to the AS/400 users was limited. Managed System Services/400 was announced and this product operated as a Change Management Entry Point (CMEP) with NetView Distribution Manager/MVS. There is more function available to the AS/400 users in the systems operation scenario with NetView Distribution Manager/MVS being able to restart the AS/400 as well as send and apply Program Temporary Fixes to the system.

Software Profile Management Facility (SPMF) Release 2 has new functionality that has been added. The product now allows software change management to be managed by a central administrator using predefined structures, for the NetView Distribution Manager/2 networks and the change files. These predefined structures are called profiles and are set up based on the workstation functionality.



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## Chapter 2. New Functions in NVDM/MVS Release 5 and SPMF Release 2

This chapter is intended for readers who are already familiar with NVDM/MVS R4 and SPMF Release 1. It describes the new functions and enhancements in NVDM/MVS R5 and SPMF Release 2, and how to implement:

- Immediate network configuration updates in NVDM/MVS Release 5.
- The NVDM/MVS Release 5 Service Provider.

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### 2.1 What's New in NVDM/MVS Release 5

NetView DM Release 5 provides the following enhancements:

- Immediate effect of network configuration updates.
- Improved VSAM I/O performance using a new "Service Provider" address space and Cross Memory Services.
- Extended support for Change Management Entry Points (CMEPs).
- UNINSTALL change control function.
- Catalog control functions for the Distribution and Change Control (D&CC) Application Programming Interface (API).

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### 2.2 Immediate Effect of Network Configuration Updates

Prior to Release 5 of NetView DM it was an operational restriction that the Transmission Control Program (TCP) had to be stopped and restarted before it could recognize changes to network configuration information. NetView DM Release 5 has been changed to remove this restriction.

This means that, if a Generalized Interactive Executive (GIX) user, a Batch Utilities user, or an application program user of the D&CC API adds, deletes, or changes node definitions or the assignments of LUs to transmission profiles or connection profiles, then the TCP can take such changes into account immediately, *without* the need to shut down and restart the TCP using START=COLD.

#### 2.2.1 How to Implement Immediate Network Configuration Updates

It's important to understand that the default installation parameters for NVDM/MVS Release 5 provide the same functionality as earlier releases. In order to exploit the new function it must be explicitly enabled by the system programmer.

The following steps are required:

1. You must add the parameter NETCHNG=IMMEDIATE to the NDMTCP macro on your NVDM/MVS stage 1 job, as shown in Figure 1 on page 4.

The default value of NETCHNG is DELAYED, and the value IMMEDIATE *must* be specified if you want network configuration changes to be recognized without having to perform a cold start of the TCP.

2. You must rerun the stage 1 job specifying *at least* GENTYPE=PROFILE on the NDMGEN macro.
3. You must run the resulting stage 2 job to re-assemble and re-link the TCP parameters into, for example, the profile load module NDMTCP01.
4. You must stop and restart the TCP in order to activate the change.

```

NDMGEN GENTYPE=PROFILE,                                X
.
.
etc.
.
.
NDMTCP APPLID=(RAIADT15,*),                             X
      IAPPLID=(RAIADI15,*),                             X
.
.
NETCHNG=IMMEDIATE
.
.
etc.

```

Figure 1. Enabling Immediate Network Configuration Changes. The parameter NETCHNG=IMMEDIATE must be added to the NDMTCP macro in your NVDM/MVS stage 1 job, and the TCP execution parameters must be regenerated.

## 2.2.2 Additional Considerations for NETCHNG=IMMEDIATE

Some other conditions also apply to the use of NETCHNG=IMMEDIATE:

- If you are working with multiple TCPs and a single Distributed Resource Directory (DRD), then only one of your TCPs can handle immediate changes. For further discussions of how you can implement multiple TCPs please refer to the following:
  - In this book, see Chapter 6, “NVDM/MVS: Multiple TCP Environments” on page 209.
  - in *NetView DM Installation and Customization*, SH19-6794, please see, Chapter 3 “Generating Multiple TCP Environments”.
- If changes are being made using GIX or the SUBMIT batch utility, then the TCP that is sharing the Request Queue File (RQF) with that user will handle the change *as soon as possible*.
- Requests issued from the D&CC API will only have an immediate effect if the TCP is also running with NDCCAPI=YES.

---

## 2.3 Improved VSAM I/O Performance Using the Service Provider

NetView DM consists of different components (the TCP, GIX, D&CC API, and Batch Utilities), each running in different address spaces. Each component can issue VSAM I/O requests for the different NetView DM data bases, and in a heavily used NVDM/MVS system it is possible to see considerable I/O activity on some of the VSAM files, especially the following DD names:

- DSXCWK - the NetView DM work file.



- DSXHFDA - the data portion of the Holding file, which is a part of the Resource Repository (RR) database.

The Holding file stores resources used by CMEP node types, including Managed System Services/400, NetView DM/2, and NetView DM/6000.

- DSXLIB - the data portion of the library, which is also a part of the resource repository.

The library stores resources used by LU0 node types.

- DSXTCF - the Transmission Control File (TCF).

NetView DM Release 5 provides an option to get substantially improved VSAM I/O performance for write accesses to the Transmission Control File (TCF), Distributed Resource Directory (DRD), and Resource Repository (RR) data sets. This can be done by setting up a common Service Provider (SVP) address space. The SVP makes use of Cross Memory Services to provide NVDM/MVS user address spaces with fast controlled write access to the DRD, TCF, and RR. The SVP accesses these datasets in write-only mode, and requires the use of VSAM SHAREOPTION(2 3) for VSAM clusters which are part of these databases.

**Note:** You must be running MVS/ESA\* 4.2.2 or higher to use the Service Provider.

### 2.3.1 I/O Arrangement without the NVDM/MVS Service Provider

The diagram in Figure 2 on page 6 illustrates the input-output (I/O) arrangements implemented in NVDM/MVS Release 5 when not using the Service Provider, and in earlier releases of NetView DM.

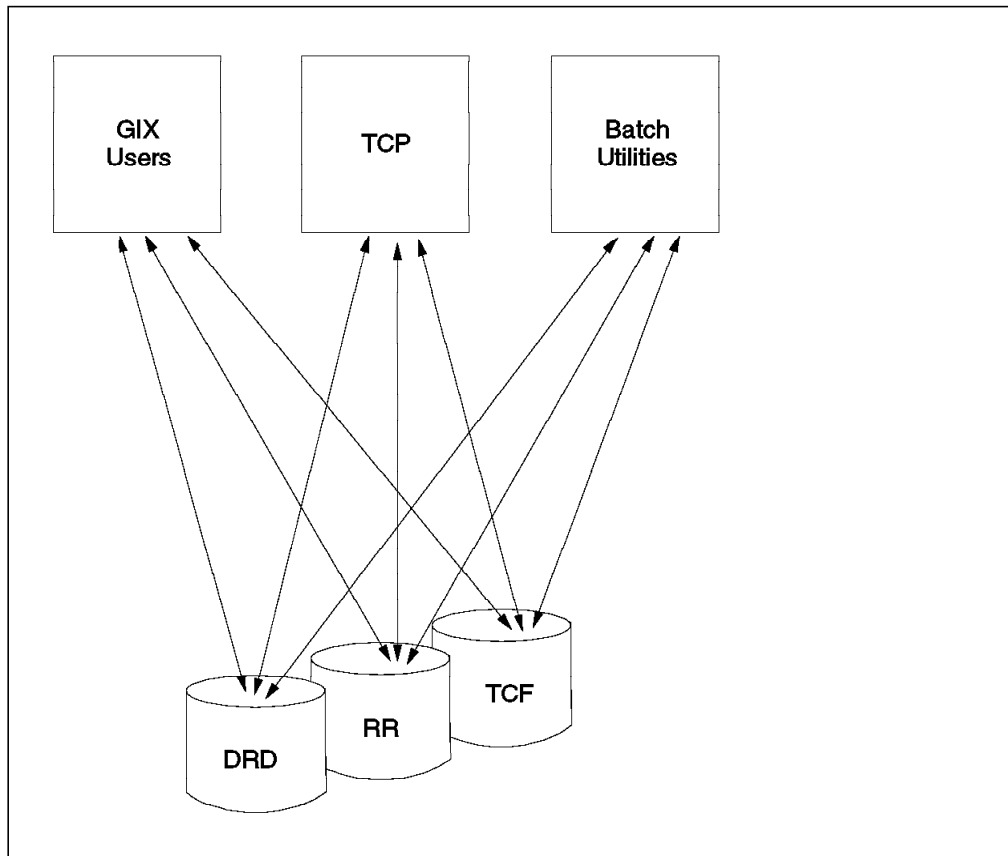


Figure 2. I/O Arrangement when Not Using the Service Provider. I/O accesses to the DRD, RR, and TCF by NVDM/MVS user address spaces are managed on a contention basis. All users have read-write access to the data.

In this case all the NetView DM database files are allocated by each NVDM/MVS user address space. Inter-address space communications between GIX, Batch Utilities, and the TCP are handled by means of the Supervisor Call (SVC) routine IGX00037, but data sharing is handled by standard Data Facility Product (DFP) facilities, using VSAM SHAREOPTION (4 3).

Using VSAM SHAREOPTION (4 3) means that sharing of VSAM clusters between different address spaces is fully enabled for both read and write accesses. The disadvantage of this approach is that a number of overheads are incurred by all the address spaces involved. These overheads include:

- Each address space using the data sets must allocate its own storage for data and index buffers.
- Each address space using the data sets also incurs additional processing overheads because of increased code path length in system I/O routines, etc.
- As a direct result of the shared use of the data sets, each address space using them must compete with others for access to resources associated with the shared use, principally during write access.

For example, system-wide enqueues occur when updating individual records, and these records incur overheads in SRB time, and so can result in delays.

Depending on various external performance factors, for example DASD seek time, or contention for the device with other users, on a heavily used system this can result in long wait times for NetView DM I/O requests. This in turn

brings increased likelihood of swapping or other delays for the user address spaces that are affected.

Any MVS application that uses data sharing between address spaces can have its performance and throughput impacted in this way.

### 2.3.2 How the NVDM/MVS Service Provider Is Implemented

The diagram in Figure 3 on page 7 illustrates the input-output (I/O) arrangement implemented in NVDM/MVS Release 5 by the Service Provider (SVP).

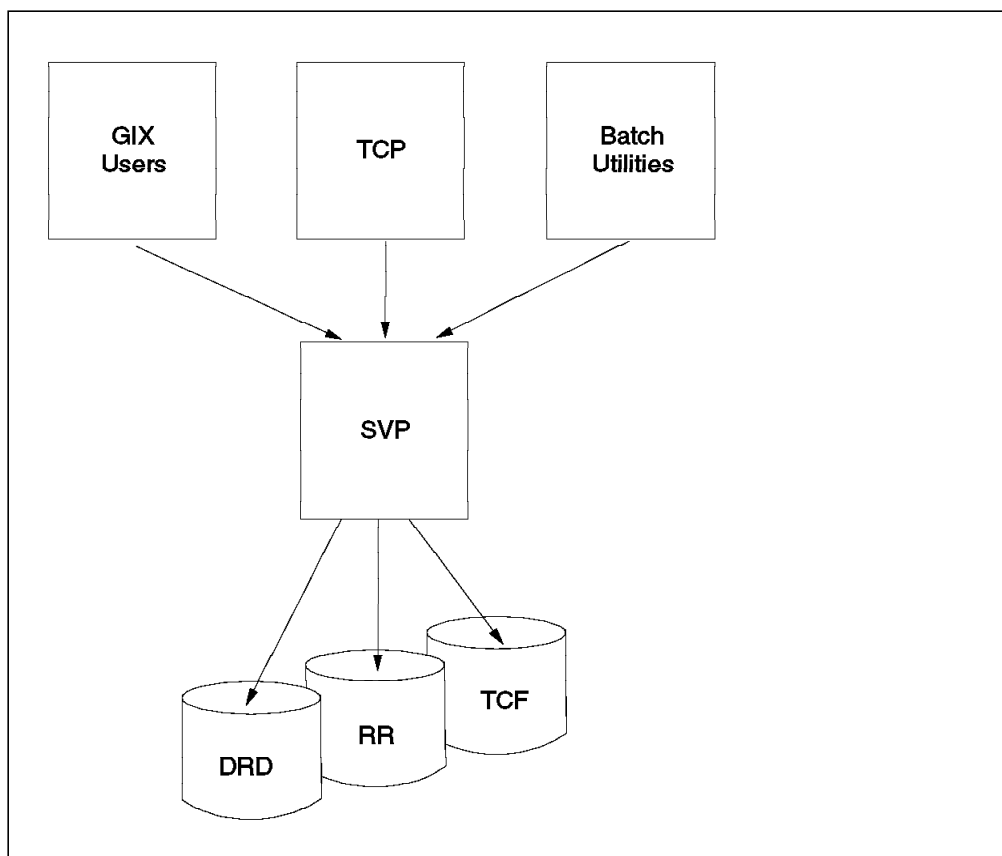


Figure 3. I/O Arrangement with the NVDM/MVS Release 5 Service Provider. All write accesses to the DRD, RR, and TCF databases are managed by the Service Provider (SVP).

Using the Service Provider requires that you specify VSAM SHAREOPTION (2 3) for the DRD, RR, and TCF VSAM clusters instead of (4 3). This allows read-only accesses to these clusters from multiple users, but limits access for write operations to a single user, the SVP address space, which manages all write activity for the DRD, RR and TCF VSAM clusters, so that update requests can be executed much more efficiently.

The SVP is able to do this by its use of MVS/ESA 4.2.2 Cross Memory Services (XMS) functions. These services allow the SVP to provide other address spaces with write access to data in memory. Other NVDM/MVS user address spaces request SVP services by means of calls to XMS functions, and they identify the SVP address space by its name, which is known from parameters specified in the NDMCOM generation macro.

This is a very efficient approach, with much reduced code path length, data set queuing time, wait times, and other overheads. Only one set of data and index

buffers is maintained for write operations, and contention between NVDM/MVS user address spaces is almost completely eliminated.

If the SVP is implemented (see 2.3.3, "How to Set Up the NVDM/MVS Service Provider" on page 8 for a discussion of the steps required), NVDM/MVS user address spaces are mostly freed from the delays which result from DASD device contention.

### 2.3.3 How to Set Up the NVDM/MVS Service Provider

In order to set up the NetView DM Release 5 Service Provider address space you must follow these steps:

1. The load modules that are part of the SVP must reside in an APF-authorized library.

This means that in order to allow NVDM/MVS programs to issue Cross Memory Services requests the NVDM/MVS load modules must reside in a privileged library that has been authorized for this purpose by the MVS system programmer. Usually it will be appropriate to make the entire NVDM/MVS load library an authorized library.

2. One copy of each of the following NetView DM load modules **must** reside in the Pageable Link Pack Area (PLPA):

- IGX00037
- FZDESPC0

This may be accomplished by changing the data set high-level qualifier for the \*.SDMLPA1 SMP target library, cataloging the data set in the Master Catalog, and then including the name of this data set within 'SYS1.PARMLIB(LPALSTxx)'.

3. The Service Provider main load module FZDES00 must be defined in 'SYS1.PARMLIB(SCHEDxx)', coding the Program Properties Table (PPT) entry as shown in Figure 4 on page 8.

```
width=column,
PPT PGMNAME(FZDES00)          /* PROGRAM NAME          */
CANCEL                       /* CANCELLABLE           */
NOSWAP                        /* NON-SWAPPABLE         */
KEY(3)                       /* KEY 3                  */
PASS                          /* NO PASSWORD BYPASS    */
SYST                          /* NON-TIMED SYSTEM TASK */
AFF(NONE)                    /* NO PROCESSOR AFFINITY */
                              /* IN JES2 ENVIRONMENT.  */
```

Figure 4. Coding the PPT Entry for the Service Provider

4. It is recommended that the dispatching priority of the SVP address space should be greater than that assigned to the other NVDM/MVS components (GIX, Batch Utilities, TCP, and any other programs accessing files accessed through the SVP). Usually this is achieved by making the SVP run as a Started Task.
5. You should review the region size specified for the SVP region, with regard to the expected number of user address spaces, and the sizes of VSAM buffer pools.

In general we recommend that you specify the following parameters on the EXEC JCL statement in the start procedure for the SVP address space:

- TIME=1440 or TIME=NOLIMIT in order to allow the SVP to run 24 hours a day.
- REGION=0K or REGION=0M in order to allow the SVP to allocate storage dynamically as required.

Please refer to "Planning for Installation", in Chapter 1 of *NetView DM Installation and Customization*, SH19-6794 for further information about this aspect of implementing the SVP. Figure 6 on page 12 shows you the JCL we used on our test system to run the SVP for TCP setup "A".

6. You must specify the FSERVER and MAXFILE parameters in the NDMCOM customization macro in the NVDM/MVS stage 1 job:
  - FSERVER is used to specify the name of the SVP.
  - MAXFILE is used to specify the maximum number of VSAM files that the SVP can keep open.

Figure 5 on page 10 illustrates the specification of the NDMCOM macro that would normally be specified in North America.

Note the consideration of what code page should be specified by means of the HCCSID parameter of the NDMCOM macro. This consideration should not present a problem for existing users of NVDM/MVS, but it is an important one for new users.

```

NDMGEN GENTYPE=PROFILE, X
.
.
etc.
.
.
NDMTCP APPLID=(RAIADT15,*), X
      IAPPLID=(RAIADI15,*), X
.
.
etc.
.
.
NDMCOM HCCSID=0025, 1 X
      MAXFILE=30, 2 X
      MAXREQ=500, 3 X
      SERVER=YES, 4 X
      SRVNAME=FZDSERV 5

```

**Notes:**

**1**

The default value for HCCSID is 01F4, which gets you the default code page of 00500.

**2**

"MAXFILE" specifies the maximum number of files that the Service Provider will keep open.

**3**

"MAXREQ" specifies the maximum number of concurrent operations allowed for the SVP. The default value is 500.

**4**

"SERVER" is used to indicate whether the SVP is to be used. The default value is "SERVER=NO".

**5**

"SRVNAME" specifies the name of the Service Provider address space to be used by *the current NVDM/MVS system* (that is, the one for which the NDMCOM macro is being assembled).

Multiple Server Provider address spaces can be started, but each Service Provider must use a different data set.

Figure 5. Example of NDMCOM Macro Specification in Stage 1

The NDCOM macro should usually be specified explicitly in the stage 1 job even if the Service Provider will *not* be used, because NDMCOM controls the selection of the default Host Character Set Identifier (CCSID). This is used when performing EBCDIC-ASCII or ASCII-EBCDIC translation during the following NVDM/MVS transmission functions:

- CONVERT
- LOAD

- PREPARE
- UNLOAD

For further information about the HCCSID parameter, please refer to Chapter 6, "Using the NVDM/MVS Customization Macros", in *NetView DM Installation and Customization*, SH19-6794.

In order to allow write access only from the SVP address space, the SHAREOPTION specification for the following VSAM clusters in the NVDM/MVS database *must* be set to (2 3):

- DSXDRD
- DSXHFDA
- DSXHFDI
- DSXLIB
- DSXLIBT
- DSXTCF

These VSAM SHAREOPTIONS are usually set to (4 3) by the NVDM/MVS stage 2 installation job. You can use the Access Method Services (AMS) ALTER command in order to change SHAREOPTION on your existing VSAM clusters, but in the case of a new installation we recommend making these changes to your stage 2 job. In 2.3.3.1, "How to List SHAREOPTION for Existing VSAM Clusters" on page 12 and 2.3.3.2, "How to Alter SHAREOPTION for Existing VSAM Clusters" on page 13 respectively, we show you how to list and modify the SHAREOPTIONS for existing VSAM clusters.

7. If you have your own procedures that are used to delete and reallocate NVDM/MVS data sets for backup and recovery purposes, you must also review the specifications of SHAREOPTION for the clusters that are used by the SVP.
8. You must create and authorize a procedure to start the SVP. Figure 6 on page 12 shows you the JCL we used on our test system to set up the SVP address space.

In 2.3.4, "Operating the Service Provider" on page 14 we show you how to operate the SVP address space.

```

//FIYSTATE PROC
//*****
//* 'RISC.PROCLIB(FIYSTATE)' PROC FOR SPMFR2 INSTANCE #1          *
//* ASSOCIATED WITH NETVIEW DM R5 DATASETS NDM.NDM15E.*          *
//* N.B. SPMF R1 PROC IS CALLED FIYSTAT.                          *
//* SEE COMMENTS 93/11/30 (3) BELOW INDICATING MODS. - M.C.      *
//*****
//*IYSTAT JOB MSGLEVEL=(1,1),MSGCLASS=A                          *
//SPMFR2I1 EXEC PGM=FIYXST01,PARM=' DSNX,1,SPMF12 INSTANCE1',
//      TIME=1440,REGION=OM
//STEPLIB DD DSN=NDM.SPMF12.SFIYLOAD,DISP=SHR **SPMF
//      DD DSN=DSN220.DSNLOAD,DISP=SHR **DB2
//      DD DSN=NDM.NDM15E.LOADLIB,DISP=SHR **NETVIEW DM
//DSXDRD DD DSN=NDM.NDM15E.NDMDRD,DISP=SHR
//DSXGIX DD DSN=NDM.NDM15E.NDMGIX,DISP=SHR
//DSXGIXD DD DSN=NDM.NDM15E.NDMGIXD,DISP=SHR
//NDMRQFDA DD DSN=NDM.NDM15E.NDMRQFDA,DISP=SHR
//NDMRQF DD DSN=NDM.NDM15E.NDMRQF,DISP=SHR
//DSXTCF DD DSN=NDM.NDM15E.NDMTCF,DISP=SHR
//DSXLIB DD DSN=NDM.NDM15E.NDMLIB,DISP=SHR
//DSXLIBT DD DSN=NDM.NDM15E.NDMLIBT,DISP=SHR
//DSXHFDI DD DSN=NDM.NDM15E.NDMHFDI,DISP=SHR
//DSXHFDA DD DSN=NDM.NDM15E.NDMHFDA,DISP=SHR
//BATCHID DD DSN=NDM.SPMF12.BATCHID,DISP=SHR <===
//BATCHPW DD DSN=NDM.SPMF12.BATCHPW,DISP=SHR <===
//SYSUDUMP DD SYSOUT=*
//DSNTRACE DD SYSOUT=*
//DSXLOG DD SYSOUT=*
//DSXPRINT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SNAP DD SYSOUT=*

```

Figure 6. JCL Used to Start the SVP Address Space for Test Setup "A"

### 2.3.3.1 How to List SHAREOPTION for Existing VSAM Clusters

First of all, if you are not sure what the current value of SHAREOPTION is for a particular data set you can list the setting by issuing the AMS LISTCatalog command from the ISPF command line.

For example, to list the AMS catalog information for the DRD associated with TCP setup "B" in our test environment, we used the following command in the foreground:

```
TSO LISTC ENT('NDM.NDM15A.NDMDRD') ALL
```

Figure 7 on page 13 shows part of the output from this command. This is the second page of the listing. If you are not completely familiar with PDF on the MVS system, remember to press Enter when the three asterisks appear. Note where SHAREOPTIONS appears near the bottom of the listing.



```

      DATASET-OWNER----(NULL)      CREATION-----1993.327
      RELEASE-----2          EXPIRATION-----0000.000
      PROTECTION-PSWD----(NULL)    RACF----- (NO)
      ASSOCIATIONS
      DATA----NDM.NDM15A.NDMDRD.DATA
      INDEX----NDM.NDM15A.NDMDRD.INDEX
      DATA ----- NDM.NDM15A.NDMDRD.DATA
      IN-CAT --- VWTL855.ICFCAT
      HISTORY
      DATASET-OWNER----(NULL)      CREATION-----1993.327
      RELEASE-----2          EXPIRATION-----0000.000
      PROTECTION-PSWD----(NULL)    RACF----- (NO)
      ASSOCIATIONS
      CLUSTER--NDM.NDM15A.NDMDRD
      ATTRIBUTES
      KEYLEN-----104          AVGLRECL-----500          BUFSPA
-----12288      CISIZE-----4096
      RKP-----0          MAXLRECL-----4080          EXCPEX
----(NULL)      CI/CA-----140
      STRIPE-COUNT----(NULL)
      SHROPTNS(4,3)  RECOVERY          UNIQUE
***

```

Figure 7. Part of the Sample Output from the LISTC Command in the Foreground. Share Options are listed on the last line of this display, but it is not the last line of the output from the LISTC command.

### 2.3.3.2 How to Alter SHAREOPTION for Existing VSAM Clusters

Here is an example of the AMS ALTER command format required to change the value of SHAREOPTION from (4 3) to (2 3) in the foreground:

```
tso alter 'ndm.ndm15a.ndmdrd.data' shr(2 3)
```

Figure 8 on page 13 illustrates the output of this command. Note the AMS message at the bottom of the screen, showing successful completion of the request.

```

                                NETVIEW DISTRIBUTION MANAGER - MAIN MENU
-----
DSLIST - DATA SETS BEGINNING WITH NDM.NDM15A.* ----- ROW 1 OF 41
COMMAND ==> tso alter 'ndm.ndm15a.ndmdrd.data' shr(2 3)   SCROLL ==> PAGE

COMMAND      NAME                                     TRACKS %USED XT  DEVICE
-----
      NDM.NDM15A.JCL                             60  88  3  3380
      NDM.NDM15A.LOADLIB                         291  94  1  3380
      NDM.NDM15A.NDMCLST                          7  42  1  3380
      NDM.NDM15A.NDMCWK                           0   ?  0  3380
      NDM.NDM15A.NDMCWK.DATA                      15  ?  1  3380
      NDM.NDM15A.NDMCWK.INDEX                     15  ?  1  3380
      NDM.NDM15A.NDMDRD                           0   ?  0  3380
      NDM.NDM15A.NDMDRD.DATA                      150 ?  1  3380
      NDM.NDM15A.NDMDRD.INDEX                     60  ?  1  3380
      NDM.NDM15A.NDMEIF                           0   ?  0  3380
      NDM.NDM15A.NDMEIF.DATA                      15  ?  1  3380
      NDM.NDM15A.NDMGIX                           0   ?  0  3380
      NDM.NDM15A.NDMGIX.DATA                      15  ?  1  3380
IDC0531I ENTRY NDM.NDM15A.NDMDRD.DATA ALTERED
***

```

Figure 8. Altering SHAREOPTIONS from a TSO Session

Lastly, Figure 9 on page 14 shows a sample batch job to run the required AMS ALTER commands against each of the NVDM/MVS VSAM clusters that must have their SHAREOPTION altered. Provide your own jobcard.

```
//MCOOKP JOB (0-224410),'MCOOK',  
// TIME=1440,REGION=3072K,  
// CLASS=I,MSGCLASS=0,MSGLEVEL=(2,1),NOTIFY=MCOOK  
//*ROUTE PRINT WTSCPOK.MCOOK  
//IDCAMS EXEC PGM=IDCAMS  
//SYSPRINT DD SYSOUT=*  
ALTER 'NDM.NDM15A.NDMDRD.DATA' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMDRD.INDEX' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMHFDA.DATA' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMHFDI.DATA' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMHFDI.INDEX' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMLIB.DATA' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMLIB.INDEX' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMLIBT.DATA' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMTCF.DATA' SHR(2 3)  
ALTER 'NDM.NDM15A.NDMTCF.INDEX' SHR(2 3)  
/*
```

Figure 9. Sample Job to ALTER SHAREOPTION for the Service Provider. This sample job shows the JCL and AMS control statements needed to ALTER the VSAM SHAREOPTION parameter for the clusters managed by the NVDM/MVS Service Provider on our test setup "A".

### 2.3.4 Operating the Service Provider

Chapter 2 of *NetView DM Installation and Customization*, SH19-6794 tells you how to set up and operate the Service Provider, and provides guidelines for starting and stopping the SVP address space.

In summary these guidelines are as follows. The following examples assume that you are using the default name for the SVP address space, as specified in the FSERVER parameter of the NDMCOM generation macro.

1. Start the Service Provider address space automatically at MVS IPL time. This is usually done by having the System Programmer include a START command in "SYS1.PARMLIB(IEACMD00)" naming the SVP procedure. Figure 10 on page 14 shows an example of such a command:

```
COM=' START FZDSERV'
```

Figure 10. Sample Automatic START Command for the Service Provider. This line must be added to "SYS1.PARMLIB(IEACMD00)" naming the correct SVP procedure name.

2. Specify TIME=NONE or TIME=1440 on the EXEC statement in the SVP procedure. This will help to prevent unplanned terminations of SVPs.
3. Always use the MVS MODIFY command to halt the SVP address space. To terminate the SVP when all its users are disconnected issue the following command:  
F FZDSERV,E  
To force the disk containing the VSAM files used by the SVP offline:

F FZDSERV,I

This will interrupt all I/O and will cause all NVDM/MVS programs currently connected to this SVP to encounter I/O errors. Figure 11 on page 15 shows you an example of the messages issued by an NVDM/MVS user address space if the SVP is inactive and a write I/O error occurs.

```
0093/12/17 14:59:49
NDM1028I SERVICE PROVIDER FZDSRVA IS NOT ACTIVE.
093/12/17 14:59:49
NDM1200E A VSAM ERROR OCCURRED ON THE DISTRIBUTED RESOURCE DIRECTORY FILE.
          OPERATION OPE, REGISTER 15 0, FEEDBACK CODE 0, RECORD KEY N.A..
093/12/17 14:59:49
NDM2005T AN IRRECOVERABLE ERROR OCCURRED WHILE ACCESSING FILE RESOURCE
          DIRECTORY.
```

Figure 11. I/O Error Messages Encountered when SVP Ends Unexpectedly

---

## 2.4 Extended Support for Change Management Entry Points

NetView DM Release 5 provides support for the following Change Management Entry Points (CMEPs):

- AS/400\* operating with OS/400\* Version 2 Release 3 or later, and the SystemView Managed System Services/400 licensed program.
- RISC System/6000 operating with AIX and NetView DM/6000.

SystemView Managed System Services/400 with OS/400 Version 2 Release 3 or later implements a CMEP that introduces two new data object types to the architecture:

- Resource type code 0156 - AS/400 object
- Resource type code 0158 - AS/400 data object container structure

The RS/6000 with NetView DM/6000 implements a RETRIEVE function, which allows the NVDM/6000 server to independently request retrieval of files from a partner:

- NetView DM/MVS Release 5 acting as a focal point
- NetView DM/6000 acting as a partner

---

## 2.5 UNINSTALL Change Control Function

A new *UNINSTALL* change management function can be used to *remove* software that has previously been installed at a node.

The UNINSTALL function removes software from a node, and also removes all of the system elements that were created by installing the associated change files, as well as removing inactive copies of these elements, and any backup copies. Additionally, software change elements that were modified, but not created by this change file, are also modified to reflect the uninstall.

Unlike the other change management functions that act upon change files, the UNINSTALL function acts on the refresh level of a component. The refresh level of a component consists of a refresh change file and all of the change files associated with that refresh level.

**Note:** The UNINSTALL function applies to NetView DM/6000\* servers only.

---

## 2.6 Catalog Control Functions for the D&CC API

New catalog control functions are introduced for the Distribution and Change Control (D&CC) Application Programming Interface (API). These new functions are available for LU 6.2 resources only.

In NetView DM/MVS the D&CC API now provides functions that allow a user application to:

- List entries in the NetView DM catalog and display information about resources held in the catalog.
- Prevent undesired modification or erasure of resources by locking resources held in the catalog.
- Delete resources from the NetView DM catalog.

The D&CC API verbs are implemented for C-language programs only.

---

## 2.7 Other Enhancements

NetView DM Release 5 also provides the following enhancements:

- You can authorize a user to change or delete plans owned by other users.
- You can make the password on Batch Utility job streams optional.
- You can create recursive plans that include multiple phases.
- The Interactive Operator Facility (IOF) operator can view the last unsolicited message without viewing all of the preceding messages.
- You can copy selected plans from one plan library to another.
- You can increase the maximum number of SNA sessions that can run concurrently while the TCP is running, using the CURTASK parameter of the MVS MODIFY command.
- You can notify an application program accessing the D&CC API when the TCP shuts down or abnormally ends, and when a report for that program is received from the node.
- You can define a node group specifying up to 2,000 node names.
- You can specify the decompressed size of an object that has been compressed when loading the object into the holding file.

---

## 2.8 What's New in SPMF Release 2

SPMF Release 2 provides the following enhancements:

- Separate send and install capability
- Install with removability

- Management of packages and change files outside of profiles, including tracking of profiles, packages, and change files by node
- Multiple SPMFs in a single CPU
- Tracking of server-applied installations
- Enhanced node selection criteria
- Assignment of profiles, packages, and change files to nodes without distribution
- Group management enhancements:
  - Assign/unassign nodes
  - Delete category
- Interactive list
- Problem determination tools



---

## Chapter 3. Software Distribution for NVDM/2 Using SPMF

This chapter describes how we installed SPMF Release 2 together with NetView DM/MVS V1.5, and provides a description of a simple scenario that we implemented using these products to distribute software to NVDM/2 nodes. A brief overview of SPMF and its concepts is also included.

---

### 3.1 Hardware and Software Requirements

This section provides a brief summary of the hardware and software prerequisites for NVDM/MVS and SPMF. It does not include information about NVDM/2 hardware and software prerequisites, which can be found in the NVDM/2 documentation.

#### 3.1.1 Hardware and Software Requirements for NVDM/MVS

In summary, the list of prerequisites is as follows:

- ACF/VTAM V3R2 or higher
- ISPF/PDF V3R2 or higher
- Supported level of MVS/SP or MVS/ESA JES2 or JES3
- Supported level of DFP required for the MVS operating system
- DFSORT or functionally equivalent product

For further details please refer to *NetView Distribution Manager Overview and Scenarios*, SH19-6797, and the IBM Programming Announcement for NetView DM Release 5 for MVS.

#### 3.1.2 Operating Environment

SPMF operates in a Time Sharing Option (TSO) environment on MVS/ESA.

SPMF requires the following other minimum levels of software:

- Interactive System Productivity Facility/Program Development Facility (ISPF/PDF) Version 3 Release 3, or later.
- IBM DATABASE 2 (DB2) Version 2 Release 2, or later. SPMF uses DB2 to maintain all information about the software distribution network.
- NVDM Version 1 Release 3, or later. The batch utility program (DSXPREP) is used by SPMF to interface with NVDM and the TCP Event Exit is used to gather statuses and monitor plan activity.
- NVDM/2 1.0 or NVDM/2 2.0. For support of CC servers and CC clients, NVDM/2 2.0 is required.

#### 3.1.3 Node Types Supported by SPMF Release 2

SPMF Release 2 only supports those node types which are supported by NetView DM as CMEP node types.

For further details please refer to *NetView Distribution Manager Software Profile Management Facility MVS/ESA Implementation Guide Release 2*, SC30-3574-02.

### 3.1.4 Resource Types Supported by SPMF Release 2

SPMF Release 2 supports only the following resource types:

- Type 0070 - software
- Type 0080 - procedure
- Type 0100 - flat data

### 3.1.5 SPMF and DB2

#### Important Note for Users of DB2 Version 2 Release 2

SPMF R2 was developed using DB/2 2.3. As a result, if you are running on a DB/2 2.2 system as we were, the SPMF BIND sequences do not run correctly unless you have the right toleration PTFs applied to DB/2 2.2.

IF you also have DB2 V2R2, then you must research and install PL78080/UL90538 and a number of other related PTFs on DB/2 before you can successfully complete the installation on a DB/2 2.2 system.

The error symptom which we encountered was that the FIYBIND installation job failed with system Abend code 04E, and Reason Code 00C89015. The explanation of this reason code, found in *DB/2 Messages and Codes*, is that on Bind or Rebind a host variable could not be found.

Your local IBM Support Center can advise you about acquiring and installing the maintenance required.

---

## 3.2 Installation of NVDM/MVS

This section summarizes the specifics of the installation procedure for NetView DM for MVS Release 5, as required for SPMF Release 2.

### 3.2.1 SMP Installation of NVDM/MVS

The SMP installation of NetView DM Release 5 was completed prior to the start of our residency, using the procedure provided in the *Program Directory* for the product.

NetView DM Release 5 had been installed into the following SMP target libraries on our test system:

- "NDM.NVDM15B.LOADLIB" execution time load library
- "NDM.NVDM15B.NDMGEN" macro library
- "NDM.NVDM15B.NDMPNLS" ISPF panel library

In your installation you should call your local IBM Support Center in order to request the latest information about any preventive maintenance for NVDM/MVS.

### 3.2.2 Post-SMP Installation Steps

This section describes the post-SMP installation steps that we took for NetView DM for MVS Release 5 in order to build the setup that we used for our SPMF Release 2 testing.

Here are the steps we took:



1. Manually made copies of the following five data sets from our existing setup, as described in Chapter 6, "NVDM/MVS: Multiple TCP Environments" on page 209:
  - "NDM.NDM15A.LOADLIB"
  - "NDM.NDM15A.PRINT"
  - "NDM.NDM15A.NDMSKLS"
  - "NDM.NDM15A.NDMCLST"
  - "NDM.NDM15A.PROFILE"
2. Created the stage 1 installation job listed in Figure 207 on page 233 and ran it in order to create the stage 2 installation job.

### 3.2.3 Points to Watch For

We found it was very important to ensure we dealt correctly with the following steps, as indicated in the manual *NetView Distribution Manager Software Profile Management Facility MVS/ESA Implementation Guide Release 2*, SC30-3574-02:

1. Collect the installation data for SPMF.

Please refer to the planning forms included in Chapter 3 of *NetView Distribution Manager Software Profile Management Facility MVS/ESA Implementation Guide Release 2*, SC30-3574-02.

See Table 1 on page 22 for the values we selected and used when installing SPMF on our test system.

2. Code the right parameters on the NDMTCP generation macro in the NetView DM stage 1 job. Figure 12 on page 21 highlights the important parameters affecting SPMF and shows recommended values, as follows:

- EVNEXIT=FIYXEX01 specifies the name of the TCP event exit is the one supplied by SPMF R2 for "Instance 1".

With SPMF Release 2 you can run up to four separate "instances" (or copies) of SPMF concurrently on a single MVS system.

- EVNOPT=(INTRM,PLANT) specifies that the TCP event exit is to be called for all possible event types. For further information, please refer to *NetView DM Installation and Customization*.

NDMTCP APPC=YES,	(ENABLE LU6.2 SUPPORT)	X
APPLID=(RAIADT5E,*),	(TCP APPL NAME, USE GIX PASSWORD)	X
AUTOEND=NO,	(NO IS THE DEFAULT)	X
AUTOSTR=YES,	(DEFAULT IS NO)	X
DDPREQ=YES,	(NODES CAN ISSUE REMOTE RELEASE REQS.)	X
DSCD1=6,	(DESCRIPTOR CODE FOR SYSTEM CONSOLE)	X
DSCD2=6,	(DESCRIPTOR CODE FOR NETVIEW CONSOLE)	X
<b>EVNEXIT=FIYXEX01,</b>	<b>(TCP EVENT EXIT FOR SPMFR2 INSTANCE1)</b>	<b>X</b>
<b>EVNOPT=(INTRM,PLANT),</b>	<b>(CALL FOR ALL EVENT TYPES).</b>	<b>X</b>

Figure 12. Important Parameters Affecting SPMF in NetView DM Stage 1 Job

<i>Table 1. SPMF Installation Data Worksheets</i>		
<b>Description</b>	<b>Value Used in the Test Network</b>	<b>Value Used in Your Network</b>
Change SPMF.V1R2M0 to "hlq" as needed in member .SFIYCLIB(FIYCINST).	"hlq" NDM.SPMF12	
Install TSO ID	GEIGER	
SPMF Admin ID	GEIGER	
hlq (see above).	NDM.SPMF12	
WTOR Prompt	SPMF12 Instance 1	
NvDM DSN qualifiers	NDM.NDM15E	
DB2 subsystem name	DSNX	
DB2 load library	DSN220.DSNLOAD	
DB2 runlib load dataset	DSN220.RUNLIB.LOAD	
DB2 program DSNTIAD plan name	DSNTIA22	
SPMF database name	SPMFDB2E	
SPMF storage group (SG) name	SPMF2SGE	
Volume where SPMF SG resides	WTLDB2	
VCAT for the SG	NDM	
SG name for indexes (optional)	SPMF2IGE	
Volume for index SG (optional)	WTLDB2	
VCAT for the index SG (optional)	NDM	
Catalog alias	NDM	
Routing group name (RGN)	USIBMRA	
Default server node type	DCCS	
Default client node type	CLNT	
Default Q3 node type	Q3	
Logmode	LU62	

### 3.3 Installation of SPMF

This section summarizes the steps taken when installing SPMF Release 2. Chapter 3 of the *SPMF Implementation Guide* gives detailed instructions of how to install SPMF once the SMP/E installation jobs have completed successfully. Basically, the following steps must be executed:

1. Collect installation specific information.
  - Use the worksheets referenced in Table 1 on page 22 to collect this information
2. Update SPMF parts using interactive tailoring dialog.
3. Run batch jobs to:
  - Define DB2 database.
  - Bind DB2 plans.
  - Add SPMF administrator ID.

- Grant authority to SPMF plans.
  - Add default options.
  - Add node types to SPMF.
4. Authorize SPMF load data set.
  5. Define SPMF as an MVS subsystem.
  6. Regen NVDM/MVS for the event exit.

The tailoring dialogs will update members of SFIYSAMP and SFIYCLIB data sets. The updated members will contain the JCL to run the batch jobs mentioned above.

---

## 3.4 SPMF Overview

This section provides a brief summary of SPMF concepts, as well as an overview of how NetView DM and SPMF work together.

### 3.4.1 SPMF Concepts

With the large number of workstations on LANs in today's business environment, it is important to be able to manage the distribution and installation of operating systems, application programs, and data across the network. Because of the large numbers of such workstations, it is especially important to minimize manual activities required for software management.

The Software Profile Management Facility (SPMF) provides functions for users of NetView Distribution Manager (NetView DM) and NetView DM/2 to automate software distribution to large numbers of workstations on LANs. Since SPMF builds, executes, and tracks NVDM plans, administrators do not need extensive knowledge of NVDM to manage large numbers of workstations. SPMF provides an important piece of a software distribution strategy.

Using workstation profiles, SPMF provides the mechanism to manage workstation software based on the function of the workstation rather than the individual software itself. Profiling concepts assume that a network is composed of large groups of end users which can be organized into logical functional groups. For each of these groups, a single software profile, which defines the function of the workstation, is defined and maintained. In this manner, a large network of workstations is described by a relatively small number of profiles.

SPMF is most beneficial when the workstations in an enterprise can be described by a relatively small number of profiles. This keeps the maintenance of the software distribution network to a minimum. The number of profiles is directly proportional to the number of types of workstations in the enterprise.

The software contained in the profile is installed and maintained for each workstation having the same function. This use of profiling makes it possible to manage software for thousands of workstations as if there were only a few.

Software changes are prepared at an NVDM/2 preparation site node as change files and either sent to SPMF or retrieved using SPMF and included as part of a package. When software on LAN workstations is to be changed, SPMF uses its knowledge of the workstation's profiles to determine which need updating.

Using SPMF's knowledge in addition to dynamic node selection criteria, the SPMF administrator can dynamically select the workstations to receive updates.

For the selected workstations, SPMF builds a NetView DM transmission plan and passes it to NetView DM through the batch interface. Status of the distribution and installation are returned to SPMF through the NetView DM TCP event exit. SPMF maintains, in DATABASE 2 (DB2), the workstations' configuration and status information.

More information about SPMF installation, operation, and maintenance can be found in the *Software Profile Management Facility MVS/ESA Implementation Guide* (SC30-3574).

### 3.4.2 The SPMF Software Hierarchy

The software managed by SPMF and NVDM is organized in a three-level hierarchy (from highest to lowest):

1. Profile
2. Package
3. Change File (CF)

Each level encompasses the level below it. That is, a profile is made up of one or more packages and a package is made up of one or more CFs.

The CF is a structured file, packaged at an NVDM/2 preparation site node, which can contain software, data files, procedures, parameters, lists, and other items. Any file to be installed at a workstation must first be packaged into a CF.

The package is a user-defined collection of related CFs for maintaining an application or system software product in SPMF. Typically, the package contains all files necessary to run one application or product. It may contain updates and fixes as well as the base software. A package may specify, as a prerequisite, another package for a product that must have already been installed or is included in the same distribution. A package may belong to one or many profiles. Package levels are created and maintained by SPMF to simplify the maintenance of the changes in the life cycle of a product. The package remains the same while the level is incremented as the product changes or matures.

The profile is a combination of packages that (collectively) defines the function of a workstation. Profile levels are created and maintained by SPMF. Each level represents a change to one or more of the packages within the profile or, in other words, a change to the software and/or the function of a workstation. Each workstation can have one (and only one) profile applied to it. All changes to workstations (defined to SPMF) are managed at the profile level.

### 3.4.3 The SPMF Software Distribution Network

An enterprise's software distribution network is essentially created by virtue of defining the network's topology within SPMF. SPMF provides a layered structure for defining the network topology and providing for software distribution. The network topology structure is a hierarchical organization with **Categories** at the top. Categories are made up of **Groups** and groups are made up of **Nodes**.

Categories are provided only for the logical organization of groups; they are not used for distribution of software. Selection for software distribution is based on supergroups, groups, and nodes. Supergroups, which are optional, are defined before distributing software and provide a mechanism to combine nodes, groups,

and/or other supergroups into a single entity that can be used for selecting which nodes are to receive a profile.

### 3.4.4 Major Functions of SPMF

SPMF provides a complete set of functions for maintaining software on (from small to large) local area networks in the previously described software environment. Some of the functions provided duplicate those provided through the GIX interface. These are necessary for the proper setup and maintenance of the software distribution network that SPMF creates. SPMF should not be considered a total replacement for GIX (the Generalized Interactive Executive of NetView DM). It is designed to augment, not replace, the software distribution capabilities provided by NVDM through GIX.

The major functions provided by SPMF for creating and maintaining a software distribution network are:

- Adding, updating, deleting, displaying users
- Adding, updating, deleting, displaying nodes (workstations), groups (of nodes), categories (of groups), and supergroups
- Retrieving change files from NVDM/2
- Creating packages
- Assigning change files to a package and making it ready (complete) to assign to a profile
- Creating profiles
- Assigning packages to a profile and making it ready (complete) for distribution
- Applying a profile to a group of nodes (building and submitting a NVDM plan for distributing software)
- Managing a plan submitted by SPMF (displaying status, resetting)
- Distributing individual change files outside of a profile
- Automatic definition of nodes to NVDM/MVS when they are defined to SPMF
- Support of the CID process through use of corequisites
- Provision for node selection criteria and dynamic node selection
- Support of NVDM/2 "install with removability" capability
- Tracking and maintenance of status of software of nodes using DB2
- Tracking change management functions performed at the Change Control (CC) server

### 3.4.5 How SPMF Works

SPMF is made up of 3 distinct components. The first component is that portion of SPMF which runs in a TSO interactive session. SPMF places no restrictions on the number of SPMF interactive sessions that may be active at one time. The Interactive component of SPMF is invoked as a dialog under ISPF. Chapter 4 of the *SPMF Implementation Guide, SC30-3574*, describes the process for adding an option to the ISPF Primary Option Menu to invoke SPMF. SPMF can also be invoked using ISPF Option 6, Commands, and typing FIYSTRT on the command line.

The second component is the batch SPMF status job. The batch job handles most of the communications with NetView DM. It must be running any time the TCP is executing to ensure the SPMF DB2 database remains in synchronization. The batch status job must also be running for a user to use the interactive session. There is one batch status job for each SPMF instance, therefore, the maximum is four. Finally, the batch status job executes as an authorized program (APF authorized).

The third component is a NetView DM TCP event exit, supplied by SPMF, which runs in the NetView DM TCP region. This component screens the TCP events, passing selected events to the SPMF status job for processing. There is one exit for each SPMF instance, therefore, the maximum is four.

The following diagram illustrates how SPMF works and shows how the various components interface with each other.

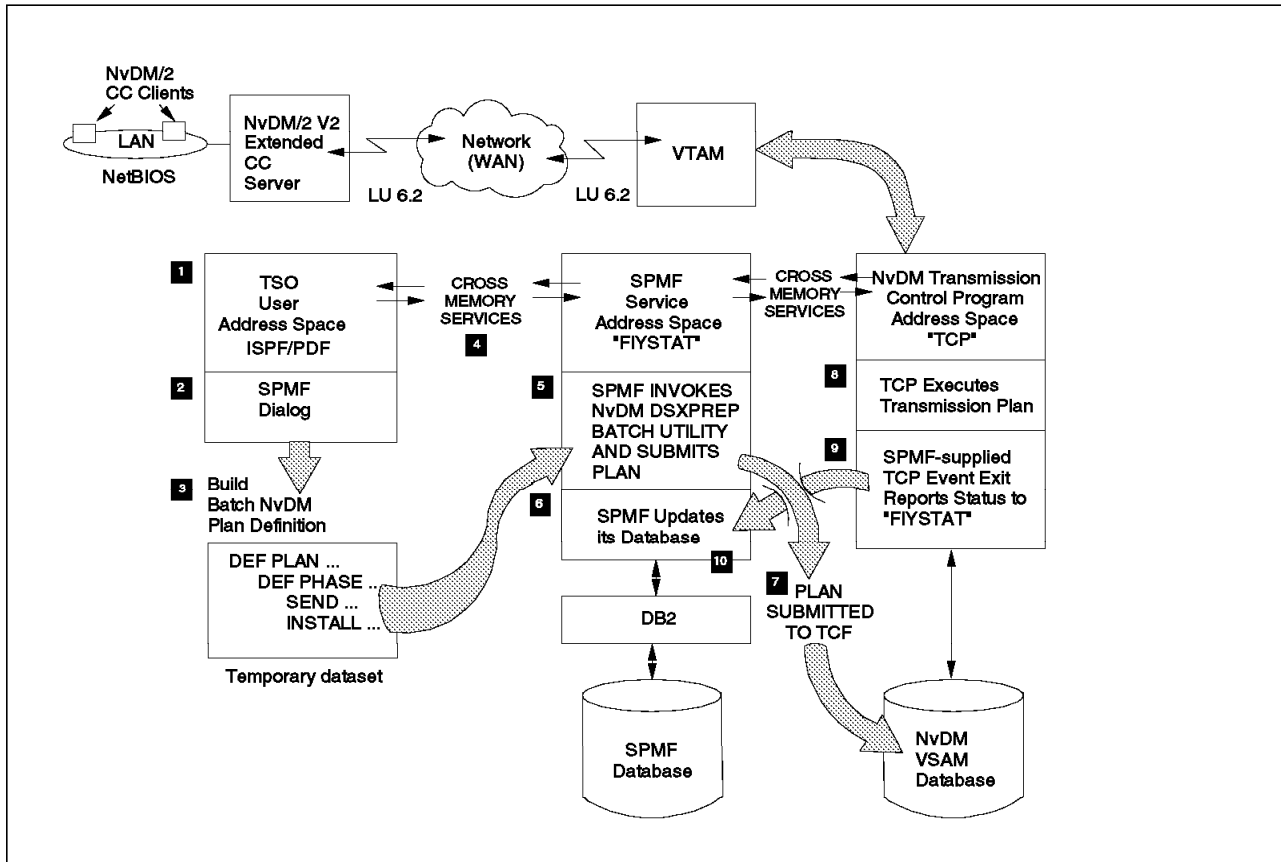


Figure 13. How SPMF Works

- 1** SPMF interactive session is started on TSO.
- 2** SPMF functions are initiated by the user via the SPMF dialogs.
- 3** SPMF builds the appropriate batch NetView DM plan definitions and stores the plan statements on a temporary data set.
- 4** MVS cross-memory services are used to pass the request to the SPMF batch status job.
- 5** SPMF then invokes the NetView DM DSXPREP batch utility to submit the plan to NetView DM.
- 6** SPMF updates its DB2 database with status information relevant to this plan. Final status will be recorded later once the plan completes.
- 7** The plan is submitted to the NetView DM Transmission Control File (TCF) to await processing by the TCP.

**8** The TCP checks the TCF, finds there is a plan to process, and executes the plan.

**9** The SPMF supplied TCP event exit, using MVS cross-memory services, reports the plan status back to the SPMF batch status job.

**10** SPMF updates its DB2 database with the final status information relevant to this plan.

### 3.4.6 SPMF User Tasks

Tasks performed by the user of SPMF are as follows:

1. Managing users in SPMF and NVDM/MVS
2. Managing network topology:
  - Supergroups
  - Categories
  - Groups
  - Nodes
3. Managing SPMF objects:
  - Change files (CFs)
  - Packages
  - Profiles
4. Scheduling and managing distributions to the network
5. Problem determination and recovery

---

## 3.5 Operating SPMF

### 3.5.1 Starting SPMF Release 2

After the installation is completed, the following steps must be completed in order to start using SPMF:

1. The DB2 subsystems must be started.

We did this on the test system by starting SDSF from ISPF and entering the following command:

```
/*START DB2
```

This command results in the startup of three DB2 address spaces, as shown on the following screen:

```
SDSF DA SA18 PAGING 0 SIO 0 CPU 29% LINE 1-3 (3)
COMMAND INPUT ==> SCROLL ==> PAGE
NP JOBNAME STEPNAME PROCSTEP JOBID OWNER C POS DP PGN REAL PAGING SIO
DSNXMSTR DSNXMSTR IEFPROC STC01140 STUSER NS 28 1 60 0.00 0.00
DSNXDBM1 DSNXDBM1 IEFPROC STC01141 STUSER NS 21 1 99 0.00 0.00
DSNXDIST DSNXDIST IEFPROC STC01143 STUSER NS 26 1 43 0.00 0.00
```

2. Next, we logged on with the TSO ID specified as the SPMF Administrator in the SPMF initialization job FIYUSER.

**Note:** This user ID *must* be the same as the NetView DM Administrator ID specified in the NDMGEN macro in the NVDM/MVS stage 1 job.

3. Next, we had to make sure that we allocated the right data sets in our ISPF/PDF session before attempting to start the SPMF dialogs.

We did this by returning to native TSO and entering the following command at the TSO READY prompt:

```
EX 'NDM.PROCLIB(NVDMPR5E)'
```

A listing of this command procedure is shown in Figure 14 on page 29.



```

Instance 1 on the test system
PROC 0 PANEL()
/*****/
/* THIS IS A COPY OF 'NDM.PROCLIB(NVDMR15)' (MANFRED'S) CREATED FOR */
/* USE WITH TSO LOGON PROC (N/A) AND TCP LU=RAIADT5E AND IOF LU= */
/* RAIADI5E - FOR SPMF USE (TSU GEIGER). */
/* THE FOLLOWING CHANGES HAVE BEEN MADE: */
/* C "NDM.NDM15." "NDM.NDM15E." ALL FOR .NDMTABLE */
/* FOR .NDMCLST */
/* FOR .NDMMSGS */
/* FOR .NDMSKLS */
/* ADDED ISPLLIB ALLOC STMT (FIRST ALLOC STMT) FOR LOADLIB. */
/* ADDED SPMF CLIB TO SYSPROC. */
/*****/
CONTROL NOFLUSH NOMSG MAIN
PROFILE MODE WTPMSG MSGID
FREE FILE(ISPLLIB,ISPLLIB,ISPLMLIB,ISPTLIB,ISPSLIB, +
          ISPPROF,ISPTABL)
FREE FI(SYSPROC)
FREE FI(DSXTABL)
ALLOC FI(ISPLLIB) SHR DA('NDM.NDM15E.LOADLIB')
ALLOC FI(SYSPROC) SHR DA( /* ISPF/PDF*/ +
                          'ITSC.DSNCLIST' +
                          'DSN220.DSNCLIST' +
                          'NDM.NDM15E.NDMCLST' /* NDM CLISTS */ +
                          'NDM.SPMF12.SFIYCLIB' /* SPMF R2 */ +
                          'ISR.V3R3M0.ISRCLIB' /* ISPF/PDF*/ +
                          'ITSC.ISPF.SA18' +
                          'ITSC.ISPF.CLISTS' +
                          'RISC.SPF.CLISTS' /* USER */ +
                          'SYS1.HRFCLST' )
SET &DSNAME = &SYSUID..ISPFNDM.ISPPROF
ALLOC FI(ISPPROF) SHR DA('&DSNAME.')
IF &LASTCC [= 0 THEN +
DO
FREE FI(ISPCRTE)
CONTROL MSG
ATTRIB ISPCRTE DSORG(PO) RECFM(F B) LRECL(80) BLKSIZE(3120)
ALLOC DA('&DSNAME.') SP(2,1) TRACKS DIR(2) USING(ISPCRTE) +
FI(ISPPROF) VOLUME(WTLSTG)
IF &LASTCC = 0 THEN +
WRITE *** ISPF PROFILE DATA SET '&DSNAME.' HAS BEEN CREATED
ELSE +
DO
WRITE *** UNABLE TO ALLOCATE ISPF PROFILE DATA SET '&DSNAME.'
FREE FI(ISPCRTE)
EXIT CODE(12)
END
FREE FI(ISPCRTE)
END
CONTROL MSG
ERROR EXIT
IF &PANEL = &STR() THEN +
SET &PNL = PANEL(ISR@MST5)
ELSE +
SET &PNL = PANEL(&PANEL)

```

Figure 14 (Part 1 of 2). ISPF Data Set Allocation Command Procedure for SPMF R2

```

ALLOC FI(ISPTABL) SHR DA('&DSNAME.')
ALLOC FI(DSXTABL) SHR DA('NDM.NDM15E.NDMTABLE') /* NDM */
ALLOC FI(ISPPLIB) SHR DA( +
    'DSN220.DSNSPPF' /* DB2 */ +
    'NDM.ISPPLIB' /* SDSF */ +
    'ISF.V1R3M3.ISFPLIB' /* SDSF */ +
    'ITSC.ISPF.SA18' +
    'NDM.NDM15.PANLIB' /* NDM */ +
    'ISR.V3R3M0.ISRPENU' /* ISPF/PDF*/ +
    'ISP.V3R3M0.ISPPENU' +
    'SYS1.HRFPANL') /* RACF */
ALLOC FI(ISPMLIB) SHR DA( +
    'DSN220.DSNSPFM' /* DB2 */ +
    'SYS1.HRFMSG' /* RACF */ +
    'ISR.V3R3M0.ISRMENU' /* ISPF/PDF*/ +
    'ISP.V3R3M0.ISPMENU' +
    'NDM.NDM15E.NDMMSG') /* NDM */
ALLOC FI(ISPTLIB) SHR DA('&DSNAME' +
    'ISF.V1R3M3.ISFTLIB' /* SDSF */ +
    'ISR.V3R3M0.ISRTLIB' /* ISPF/PDF*/ +
    'ISP.V3R3M0.ISPTENU' /* ISPF */ +
    'NDM.NDM15E.NDMTABLE') /* NDM */
ALLOC FI(ISPSLIB) SHR DA( +
    'SYS1.HRFSKEL' /* RACF */ +
    'ISR.V3R3M0.ISRSENU' /* ISPF/PDF*/ +
    'ISP.V3R3M0.ISPSLIB' /* ISPF */ +
    'NDM.NDM15E.NDMSKLS') /* NDM */

ERROR RETURN
PDF &PNL

```

Figure 14 (Part 2 of 2). ISPF Data Set Allocation Command Procedure for SPMF R2

4. Lastly, we used SDSF to start the SPMF user address space for SPMF Instance 1. We did this by issuing the following command from the SDSF command line:

```
/S FIYSTATE
```

For a listing of the JCL procedure invoked by this command see Figure 15 on page 31.

```

//FIYSTATE PROC
//*****
/* 'RISC.PROCLIB(FIYSTATE)' PROC FOR SPMFR2 INSTANCE #1          *
/* ASSOCIATED WITH NETVIEW DM R5 DATASETS NDM.NDM15E.*          *
/* N.B. SPMF R1 PROC IS CALLED FIYSTAT.                          *
/*                                                                *
//*****
/*IYSTAT JOB MSGLEVEL=(1,1),MSGCLASS=A                          *
//SPMFR2I1 EXEC PGM=FIYXST01,PARM='DSNX,1,SPMF12 INSTANCE1',
//          TIME=1440,REGION=6M
//STEPLIB DD DSN=NDM.SPMF12.SFIYLOAD,DISP=SHR **SPMF
//          DD DSN=DSN220.DSNLOAD,DISP=SHR **DB2
//          DD DSN=NDM.NDM15E.LOADLIB,DISP=SHR **NETVIEW DM
//DSXDRD  DD DSN=NDM.NDM15E.NDMDRD,DISP=SHR
//DSXGIX  DD DSN=NDM.NDM15E.NDMGIX,DISP=SHR
//DSXGIXD DD DSN=NDM.NDM15E.NDMGIXD,DISP=SHR
//NDMRQFDA DD DSN=NDM.NDM15E.NDMRQFDA,DISP=SHR
//NDMRQF  DD DSN=NDM.NDM15E.NDMRQF,DISP=SHR
//DSXTCF  DD DSN=NDM.NDM15E.NDMTCF,DISP=SHR
//DSXLIB  DD DSN=NDM.NDM15E.NDMLIB,DISP=SHR
//DSXLIBT DD DSN=NDM.NDM15E.NDMLIBT,DISP=SHR
//DSXHFDI DD DSN=NDM.NDM15E.NDMHFDI,DISP=SHR
//DSXHFDA DD DSN=NDM.NDM15E.NDMHFDA,DISP=SHR
//BATCHID DD DSN=NDM.SPMF12.BATCHID,DISP=SHR <===
//BATCHPW DD DSN=NDM.SPMF12.BATCHPW,DISP=SHR <===
//SYSUDUMP DD SYSOUT=*
//DSNTRACE DD SYSOUT=*
//DSXLOG  DD SYSOUT=*
//DSXPRINT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SNAP    DD SYSOUT=*

```

Figure 15. JCL Start Procedure for SPMF R2 Instance 1 User Address Space

### 3.5.2 Stopping SPMF

To stop the SPMF user address space it is necessary to reply to an outstanding Write-To-Operator-With-Reply (WTOR) message, as shown in Figure 16 on page 32.

#### Special Notice

Always be sure to stop the NetView DM Transmission Control Program BEFORE stopping the SPMF address space.

If SPMF is stopped first, there is a good chance of losing some of the status information that NetView DM passes to SPMF.

```

SDSF SYSLOG 1323.101 SA18 DATE 11/22/94 LINE 3,936 COLUMNS 1 80
COMMAND INPUT ==> SCROLL ==> PAGE
S LOG
N 4000000 ESA18 94326 14:38:10.20 STC01341 00000081 CNM039I AN IMPORTANT MES
S LOG
N 4000000 ESA18 94326 14:39:10.19 STC01341 00000081 CNM039I AN IMPORTANT MES
S LOG
N 4000000 ESA18 94326 14:40:10.20 STC01341 00000081 CNM039I AN IMPORTANT MES
S LOG
N 4000000 ESA18 94326 14:41:10.21 STC01341 00000081 CNM039I AN IMPORTANT MES
S LOG
NR0000000 ESA18 94326 14:41:39.91 INTERNAL 00000081 $HASP317 NO OUTPUT GROUP
NR0000000 ESA18 94326 14:41:39.95 INTERNAL 00000090 $HASP000 OK
NR0000000 ESA18 94326 14:41:39.95 TSU01363 00000081 $HASP656 SOUTSOS1
N 0200000 ESA18 94326 14:41:41.08 TSU01363 00000081 $HASP250 SOUTSOS IS PUR
N 4000000 ESA18 94326 14:42:10.22 STC01341 00000081 CNM039I AN IMPORTANT MES
S LOG
N 4000000 ESA18 94326 14:43:10.24 STC01341 00000081 CNM039I AN IMPORTANT MES
S LOG
8000000 ESA18 14.31.49 *04 IEA793A NO DUMP DATA SETS AVAILABLE FOR D
FFFFFFF ESA18 14.31.09 STC01368 *03 FIY0100I - SPMF12 INSTANCE1 SPMF - REPLY
8000000 ESA18 06.59.56 STC01341 *02 DSI802A RAIAN REPLY WITH VALID NCCF SY
8000000 ESA18 06.56.15 STC01325 *01 ERB306D ZZ : REPLY WITH OPTIONS OR GO
***** BOTTOM OF DATA *****

```

Figure 16. Sample SDSF Log Output Showing Outstanding Reply for SPMF

The message from SPMF is the following line:

```

FFFFFFF ESA18 14.31.09 STC01368 *03 FIY0100I - SPMF12 INSTANCE1 SPMF - REPLY

```

In order to terminate the address space, enter the following command from the SDSF command line, specifying the correct reply number, for example:

```

/3,SHUTDOWN

```

### 3.5.3 Starting the SPMF Dialog

Once all the correct data set allocations are made, and the DB2 and SPMF subsystems and address spaces are running, enter the following command on the ISPF command line:

```

TSO %FIYSTRT

```

The following ISPF screen shows this:

```

                                ITSC RALEIGH MASTER APPLICATION MENU
OPTION ==> TSO %FIYSTRT                                SCROLL ==> PAGE
-
                                                    SYSID      SA18
                                                    USERID    GEIGER
                                                    TIME      15:26
                                                    TERMINAL  3278

P  PDF      - ISPF/Program Development Facility
R  RACF     - Resource Access Control Facility
SD SDSF    - System Display and Search Facility
T  TSO/E   - TSO/E Information Center Facility
G  NVDM    - NetView Distribution Manager R5
DB DB2     - DB2 System - Subsystem DSNX
U  USER   - User JCL - compress, NCP gen, trace output
X  EXIT    - Terminate ISPF using list/log defaults

Use UP and DOWN PF Keys or commands to scroll MENU.
Enter END command to terminate.

```

### 3.5.4 SPMF Copyright Screen

The next screen you see is the SPMF copyright screen:

```

FIYPCPYR
-
                IIII BBBB  M  M
                II  B  B  MM MM
                II  B  B  M  M M
                II  B  B  M  M
                IIII BBBB  M  M

                NetView Distribution Manager
                Software Profile Management Facility (SPMF)

                Licensed Materials - Property of IBM

                5799-EPA (C) Copyright IBM Corp. 1992, 1993. All rights reserved.
                US Government Users Restricted Rights - Use, duplication or
                disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
                The following terms, used in this application, are trademarks of
                the IBM Corporation: DB2, NetView

                ENTER to continue

```

Press Enter to continue.

### 3.5.5 SPMF Primary Option Menu

The following screen is the SPMF Primary Option Menu:

```
FIYPMAIN -- SPMF - Primary Option Menu -----  
OPTION ==>  
  
-  
  
1  USERS      - Manage users in SPMF and NetView Distribution Manager  
2  TOPOLOGY   - Manage Network Topology  
3  OBJECTS    - Manage SPMF Objects (CFs, Packages, Profiles)  
4  SCHEDULE   - Schedule/Manage Distribution  
  
X  EXIT       - Terminate application  
  
ENTER to process, END to exit
```

The four selections you see give you access to all the functions of SPMF:

1. Managing users in SPMF and NVDM/MVS
2. Managing network topology:
  - Supergroups
  - Categories
  - Groups
  - Nodes
3. Managing SPMF objects:
  - Change files (CFs)
  - Packages
  - Profiles
4. Scheduling and managing distributions

---

### 3.6 Defining Your SPMF Scenario

The SPMF dialogs are quite extensive. Even if you are already very experienced with NetView DM, it takes some time to get acquainted with SPMF.

You have to understand how to create SPMF objects, how to manage the relationships between them, and how to set up and manage the NVDM/MVS workload using SPMF.

### Special Notice

We found that it was extremely important to schematize both the SPMF network topology and the SPMF workload very thoroughly beforehand.

We recommend most strongly that the planning of SPMF installation, and the performance of the definition tasks should not be rushed.

## 3.6.1 Scenario Objectives

Our test objectives were as follows:

1. Define users to SPMF.
2. Define the network topology to SPMF in terms of:
  - a. Node definitions
  - b. Group definitions
  - c. Category definitions
3. Define a sample software distribution workload in terms of:
  - a. Change file definitions
  - b. Package definitions
  - c. Profile definitions
4. Define and execute NVDM/MVS plans using SPMF.

## 3.6.2 Scenario Assumptions

The scenario we have chosen is to use SPMF to do a CID install of OS/2 V2.11, NTS/2, and NetView DM/2 V2.1 client code on a pristine client workstation.

Several important assumptions have been made regarding this test scenario:

1. You have experience using NVDM/MVS and NetView DM/2.
2. The following files, which will be used in the scenario, have been built at the preparation site and retrieved or sent to the host so that they reside in the NVDM/MVS VSAM data base and that SPMF knows that these change files exist:
  - IBM.OS2V211.INST.REF.2.1.1
  - IBM.LAPS.INST.REF.1.0
  - IBM.NVDM2.INST.REF.2.1
3. One example of a retrieve using SPMF will be shown.
4. OS/2 V2.11, NTS/2, and NVDM/2 V2.1 images and response files reside at the server to which the pristine client is attached.
5. The pristine client node has been defined to SPMF, NVDM, and NVDM/2 and has been booted from the two NVDM/2 boot diskettes. The server name and the client name have been entered as requested during the boot process.
6. Prior to starting the scenario, the keyword "panelid" was entered in the Primary Option menu so that the panel ID of the SPMF panels will be displayed in the upper-left corner of all panels.
7. ISPF fast path navigation will be used in some instances.

---

### 3.7 Test Network for SPMF

We set up a small test network consisting of a preparation site, an MVS host, a target server, and a target client. The test network is shown in the following diagram:

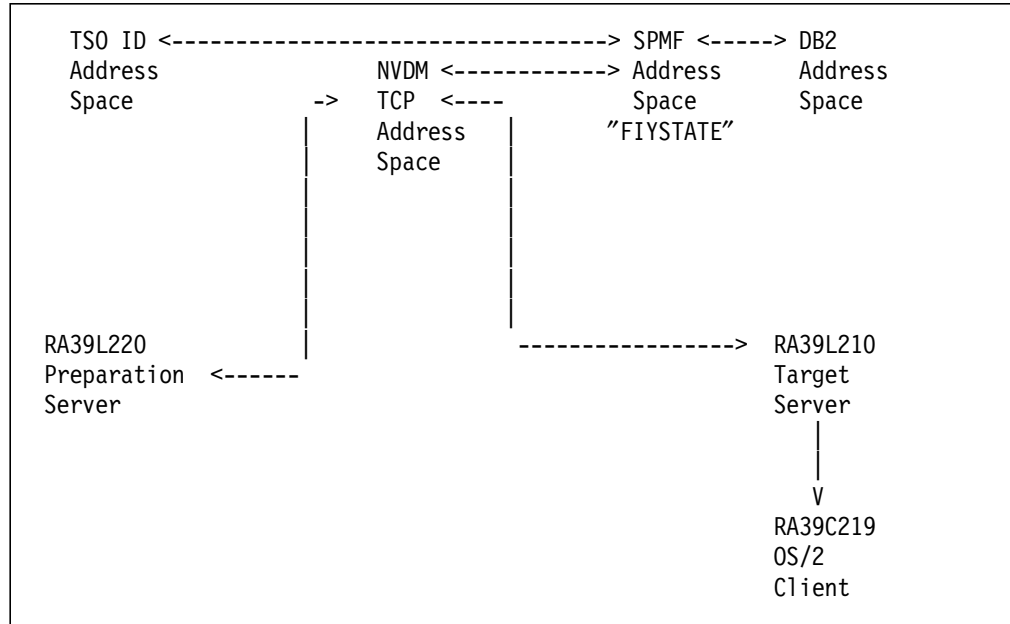


Figure 17. Test Network Used for SPMF Scenario Testing

#### 3.7.1 Test Topology

The next several pages show how to define users and nodes to SPMF. We will not cover defining groups or categories as they will not be used in our scenario. However, it is quite easy to set up group and category definitions and the procedure is well documented in the *SPMF Implementation Guide*, SC30-3574.

---

### 3.8 Managing Users In SPMF

In this section we show you how we added two more users to SPMF.



```
FIYPMAIN -- SPMF - Primary Option Menu -----
OPTION ==> 1
-

1  USERS    - Manage users in SPMF and NetView Distribution Manager
2  TOPOLOGY - Manage Network Topology
3  OBJECTS  - Manage SPMF Objects (CFs, Packages, Profiles)
4  SCHEDULE - Schedule/Manage Distribution

X  EXIT     - Terminate application

ENTER to process, END to exit
```

First, at the SPMF Primary Option Menu, type 1 as shown, and press Enter.

```
FIYP1000 -- SPMF - Manage Users -----
OPTION ==>
-

A - Add                I - User Information
D - Delete             U - Update

User Name ==>          User name to be processed

Model    ==>          User name to be used as a model
                    (Add function only)

An '*' may be used in name fields to invoke list functions for that field.

ENTER to process, END to exit
```

Press Enter again to see a list of the users currently defined.

```

FIYP1L00 -- SPMF - List Users ----- ROW 1 TO 1 OF 1
COMMAND ==> SCROLL ==> PAGE

-

Type one or more action codes. Then press Enter.
I - Authorization Information      C - Copy
D - Delete                          U - Update

----- Function Authorizations ----- NetView DM
Act  User Name   1   2   3   4   5   6   7   8   9   Defined
-----
      GEIGER      Y   Y   Y   Y   Y   Y   Y   Y   Y       Y
*****          ***** BOTTOM OF DATA *****

```

To begin with, only a single user is defined in the SPMF database by the FIYUSER installation job.

Press PF3 to return to the previous screen.

```

FIYP1000 -- SPMF - Manage Users -----
OPTION ==> A

A - Add                I - User Information
D - Delete             U - Update

User Name ==> MCOOK     User name to be processed
Model      ==> GEIGER   User name to be used as a model

-
                      (Add function only)

An '*' may be used in name fields to invoke list functions for that field.

ENTER to process, END to exit

```

To add a new user, type in the values as shown and press Enter to add the new user to the database.

```

FIYP1A00 -- SPMF - Add a New User -----
COMMAND ==>

User Name : MCOOK                Model : GEIGER

Y - Authorize User for Function
N - Do NOT Authorize User for Function

1) ==> Y  Manage User Profiles
2) ==> Y  Prepare plans and delete plans from plan library
3) ==> Y  Manage submitted plans in TCF
4) ==> Y  Manage network configurations
5) ==> Y  Manage resources in the resource repository
6) ==> Y  Maintain the repository and plan library utilities
7) ==> Y  Use the Interactive Operator Facility (IOF)
8) ==> Y  Delete phases, D and CC API, node requests using IOF
9) ==> Y  Change node profile authorizations

ENTER to process, END to exit

```

The screen you now see allows you to select various dialog options for the new user. We left these unchanged in this example.

Press Enter to add this new user profile to the database.

```

FIYP1000 -- SPMF - Manage Users ----- User add issued
OPTION ==>

A - Add                I - User Information
D - Delete            U - Update

User Name ==> MCOOK    User name to be processed
Model      ==> GEIGER  User name to be used as a model
            -
                    (Add function only)

An '*' may be used in name fields to invoke list functions for that field.

ENTER to process, END to exit

```

Note the message "User add issued" in the top right-hand corner of the screen.

We then added another user, called ANDREUS. At this point you can add any more new users that you require.

If you clear the User Name field, and press Enter, you will see the list of users again, now containing four IDs, as shown in the following screen:

```

FIYP1L00 -- SPMF - List Users ----- ROW 1 TO 3 OF 3
COMMAND ==>                               SCROLL ==> PAGE

-

Type one or more action codes. Then press Enter.
I - Authorization Information      C - Copy
D - Delete                          U - Update

Act  User Name      ----- Function Authorizations ----- NetView DM
      1  2  3  4  5  6  7  8  9      Defined
-----
      ANDREUS      Y  Y  Y  Y  Y  Y  Y  Y  Y  Y      Y
      BIDWELL      Y  Y  Y  Y  Y  Y  Y  Y  Y  Y      Y
      GEIGER       Y  Y  Y  Y  Y  Y  Y  Y  Y  Y      Y
      MCOOK        Y  Y  Y  Y  Y  Y  Y  Y  Y  Y      Y
***** BOTTOM OF DATA *****

```

### 3.9 Managing SPMF Topology

We use the SPMF topology selection to define our nodes. This is also the section you would use to define categories and groups. The following screens show examples of how to define network nodes to SPMF.

### 3.10 Managing Nodes

The lowest level of SPMF's topology definition process is to define the nodes. When it is defined, each node is given a number of attributes:

- Is it a server, a client, or a "Q3" node?
- If it is a server, is data preparation performed at the node?
- What groups does it belong to?

At the same time, the nodes being defined can be assigned to one or more groups.

Note that each node can only belong to a single group in each category. This is a very important consideration when defining the network topology to SPMF.

```

FIYP2000 -- SPMF - Manage Network Topology -----
OPTION ==> 4
-

1 CATEGORIES - Manage mandatory and non-mandatory categories
2 GROUPS      - Manage groups of nodes
3 SUPERGROUPS - Manage supergroups which define node selection
                criteria using logic operators
4 NODES       - Manage nodes

An '*' may be used in name fields to invoke list functions for that field.

ENTER to process, END to exit

```

From the SPMF Topology menu select option 4.

Press Enter.

```

FIYP2400 -- SPMF - Manage Nodes ----- No NetView DM node found
COMMAND ==>

A - Add                I - Node Information
D - Delete             U - Update

Option ==>

Node Name ==> -          NetView DM Node Name
Topology ==>           S - Servers
                        C - Clients
                        Q - Q3

For Add option when Topology = Client, Specify the NetView DM Server Name
- or -
The NetView DM Node Name to be used as a model.

CC Server ==>
- or -
Model ==>

An '*' may be used in name fields to invoke list functions for that field.

```

Pressing Enter at this point, when the database does not contain any node definitions, will produce a null list.

```

FIYP2400 -- SPMF - Manage Nodes ----- No NetView DM node found
COMMAND ===>
No NetView DM nodes were found that match search criteria.
  A - Add                               I - Node Information
  D - Delete                             U - Update

Option   ===>

Node Name ===>                      NetView DM Node Name
Topology  ===>                               S - Servers
                                                C - Clients
                                                Q - Q3

For Add option when Topology = Client, Specify the NetView DM Server Name
- or -
The NetView DM Node Name to be used as a model.

CC Server ===>
- or -
Model     ===>

An '*' may be used in name fields to invoke list functions for that field.

```

The message in the top-right corner of the above panel is the short form of the message.

The message highlighted *in bold* is displayed if you press PF1 at this point (assuming you have not altered the default PF key assignments).

To add a node, we will fill out the Manage Nodes panel, as the next screen shows.

```

FIYP2400 -- SPMF - Manage Nodes -----
COMMAND ===>

  A - Add                               I - Node Information
  D - Delete                             U - Update

Option   ===> A
Node Name ===> RA39L210   NetView DM Node Name

Topology  ===> S                               S - Servers
                                                C - Clients
                                                Q - Q3

For Add option when Topology = Client, Specify the NetView DM Server Name
- or -
The NetView DM Node Name to be used as a model.

CC Server ===>
- or -
Model     ===>

An '*' may be used in name fields to invoke list functions for that field.

```

The preceding screen illustrates defining a single node:

- Option "A" requests a node addition.
- "RA39L210" is the name of the node.
- "S" in the Topology field indicates this node is a server.

Press Enter to display the next panel.

```
FIYP2048 -- SPMF - Add Server/Q3 Node -----
COMMAND ==>

Node Name . . . : RA39L210           Model used . . . : _____
Node Type   ==> DCCS                 Prep Site Node ==> N (Y or N)
LUNAME      ==>                     Linetype      ==> L (L or S)

LOGMODE     ==> -
REN (NETLU) ==> RA39L210             RGN (NETID)   ==> USIBMRA
Note
  ==>                                     <===
  ==>                                     <===
  ==>                                     <===
  ==>                                     <===
Location
  ==>                                     <===
  ==>                                     <===
  ==>                                     <===
  ==>                                     <===
Assign Groups Below           Display Category-Group select list ==> N
```

This screen has to be completed for each node. When a node is added to SPMF, it is also added to NVDM/MVS. The reverse is NOT true.

The following information must be provided:

- If the server will be a preparation site then "Y" must be specified for "Prep Site Node". In our scenario this node (RA39L210) is not a "preparation site".
- The Logon Mode must be specified (LU62 in our case).
- The LU name must be specified. We always find it advantageous to make the "Node Name" in SPMF and NVDM/MVS *exactly the same* as the real LU name in all cases. This saves a lot of effort and avoids confusion and mistakes as well as unnecessary complexity.

```

FIYP2048 -- SPMF - Add Server/Q3 Node -----
COMMAND ==>

Node Name . . . : RA39L210          Model used . . . : _____
Node Type  ==> DCCS                 Prep Site Node ==> N (Y or N)
LUNAME     ==> RA39L210      Linetype      ==> L (L or S)

LOGMODE    ==> LU62
REN (NETLU) ==> RA39L210          RGN (NETID)   ==> USIBMRA
Note
==>                                     <==
==>                                     <==
==>                                     <==
==>                                     <==
Location
==>                                     <==
==>                                     <==
==>                                     <==
==>                                     <==
Assign Groups Below      Display Category-Group select list ==> N
DEVS _____
_____

```

Press Enter and the node will be added, and connected to the requested groups if groups are specified.

The following screen shows the full list of nodes defined in our test setup.

```

FIYP204E -- SPMF - List Nodes ----- ROW 1 TO 5 OF 5
COMMAND ==>                               SCROLL ==> CSR

Type one or more action codes. Then press Enter.
S - Select          I - Node Information
D - Delete          U - Update
N - Profile List    P - Package List          F - CF List

Node      CC      Topo  Node      --RGN--- --REN--- NVDM
Act Name  Server logy  Type  LUNAME   LOGMODE (Netid) (Netlu) Def
-----
RA39L210  RA39L210 S   DCCS  RA39L210 LU62    USIBMRA RA39L210 Y
RA39L220  RA39L220 S   DCCS  RA39L220 LU62    USIBMRA RA39L220 Y
RA39C219  RA39L210 C   CLNT  RA39L210 LU62    USIBMRA RA39C219 Y
***** BOTTOM OF DATA *****

```

Once the network topology has been correctly defined to SPMF, you are ready to set up your change files, packages, and profiles for distribution.

### 3.11 Managing Software Objects

SPMF allows change files/objects to be distributed in the following ways:

- Distributed as a single change file/object
- Distributed as part of a package
- Distributed as part of a profile



For our scenario, we decided to distribute our change files as part of a profile.

The screens in this section show you how we defined our sample workload to SPMF and installed a profile onto our pristine client.

The tasks we had to perform were:

1. Retrieve change files from the preparation site.
2. Create a package.
3. Assign the change files to the package.
4. Lock the package.
5. Create a profile.
6. Assign the package to the profile.
7. Lock the profile.
8. Install the profile on the client workstation.
9. Monitor plan status.
10. Monitor install status.

### **3.11.1 Retrieve Change Files**

The first step in our distribution scenario will be to retrieve the change files from our preparation site. Our assumption is that the change files for OS/2 V2.11, NTS/2, and NVDM/2 V2.1 have already been built and retrieved from the preparation site. However, an example of retrieving one change file will be illustrated to show what this looks like when using SPMF to do a retrieve.

From the SPMF Primary Option Menu, enter 3. This will take you to the Manage Software Objects screen.

```

FIYPMAIN -- SPMF - Primary Option Menu -----
OPTION  ==> 3

      1  USERS      - Manage users in SPMF and NetView Distribution Manager
      2  TOPOLOGY  - Manage Network Topology
      3  OBJECTS   - Manage SPMF Objects (CFs, Packages, Profiles)
      4  SCHEDULE  - Schedule/Manage Distribution

      X  EXIT      - Terminate application

ENTER to process, END to exit

```

Figure 18. SPMF Main Menu

Enter 1 on the Manage Software Objects screen.

```

FIYP3000 -- SPMF - Manage Software Objects -----
OPTION  ==> 1

      1  OBJECTS   - Manage Objects/CFs
      2  PACKAGES  - Manage Software Functional Packages
      3  PROFILES  - Manage Node Software Profiles

An '*' may be used in name fields to invoke list functions for that field.

ENTER to process, END to exit

```

Figure 19. Manage Software Objects

The next screen shown will be the Manage Objects/CFs screen. There are many options on this screen, some of which we will discuss later. For now, we are interested in option R, "Retrieve".

```

FIYP3100 -- SPMF - Manage Objects/CFs -----
OPTION ==> r

R - Retrieve      A - Add Alias CF   E - Add CF Entry   P - SPMF Plan
D - Delete       C - Save Changes   I - Object/CF Information
1 - Assign/Unassign CF to Packages 4 - List Packages containing this
2 - Assign/Unassign CF to Profiles 5 - List Profiles containing this
3 - Assign/Unassign CF to Nodes    6 - List Nodes with this CF

Name ==> IBM.OS2V211.INST.REF.2.1.1
Resource Type ==> 0070          Retrieval Date ==> / /
Prep Site Node ==> RA39L220      Time ==> :
Removable (Y/N) ==> N           Activate (Y/N) ==> N
Repository (Y/N) ==>
Description ==> OS/2 V2.11 BASE INSTALL

Package Name ==>                Package Level ==> 0
Profile Name ==>                Profile Level ==> 0
Node Name ==>

```

Figure 20. Retrieving a Change File

To retrieve a change file, the following fields must be filled in:

- Option - "r".
- Name - this is the name of the change file you want to retrieve.
- Resource type - we chose 0070 for software.
- Prep site node - our preparation site server is RA39L220.

We also chose to make this non-removable and no activation. Since we need to install our three files as coreqs, we will wait until all three files have been installed before we activate, or re-boot.

After pressing Enter, the screen will refresh with additional information and you will see Retrieve in Progress in the upper-right corner.

```

FIYP3100 -- SPMF - Manage Objects/CFs ----- Retrieve in Progress
OPTION ==>

R - Retrieve      A - Add Alias CF    E - Add CF Entry    P - SPMF Plan List
D - Delete       C - Save Changes    I - Object/CF Information
1 - Assign/Unassign CF to Packages  4 - List Packages containing this CF
2 - Assign/Unassign CF to Profiles  5 - List Profiles containing this CF
3 - Assign/Unassign CF to Nodes     6 - List Nodes with this CF

Name ==> IBM.OS2V211.INST.REF.2.1.1
Resource Type ==> 0070          Retrieval Date ==> 11 / 02 / 1994
Prep Site Node ==> RA39L220      Time ==> 17 : 39
Removable (Y/N) ==> N           Activate (Y/N) ==> N
Repository (Y/N) ==> N
Description ==> OS/2 V2.11 BASE INSTALL

Package Name ==>                Package Level ==> 0
Profile Name ==>                Profile Level ==> 0
Node Name ==>

```

Figure 21. Retrieve in Progress

There is no actual notification that the retrieve has successfully completed. Give it time and then list the change file by entering option "1" from the Manage Objects/CFs screen. This will display the change file information as follows:

```

FIYP3110 -- SPMF - Object/CF Information -----
COMMAND ==>

Name . . : IBM.OS2V211.INST.REF.2.1.1
Resource Type . . . . : 0070          Retrieval Date . . : 11 / 02 / 1994
Prep Site Node . . . . : RA39L210      Time . . : 17 : 39
Removable . . . . . : N           Activate . . . . . : N
CF Status . . . . . : C
Description . . . . . : OS/2 V2.11 BASE INSTALL

-----

SPMF Plan Name . . . . : N/A          SNADS Report Code : 00000000
NetView DM RC . . . . : 00          Agent Report Code : 00000000
Repository Status . . : Y           Server Report Code : 00000000
Change File Number . . : 14

END to exit

```

Figure 22. Listing Object/Change File Information

We are now ready to create a package and profile.

### 3.11.2 Create a Package

SPMF is an ISPF application, therefore, you can use fast path navigation. Most of the panel IDs match the function being performed. The last 4 characters in the panel ID, for example the 3200 in panel FIYP3200, match up to one of four levels of nesting of SPMF function. By entering =3.2 from the SPMF main menu you can skip panel FIYP3000 and go directly to the Manage Packages panel instead of having to enter option 2 on panel FIYP3000. Once you become familiar with the functions, you can fast path directly to that function

From the SPMF Primary Menu, enter =3.2 to go to the Manage Packages panel.

```
FIYP3200 -- SPMF - Manage Packages -----
OPTION ==> n

  N - New Level      D - Delete      K - Lock with Profile Auto-leveling
  L - Lock           U - Unlock      C - Save Changes
  P - Prerequisites I - Package Information
  1 - Assign/Unassign CFs      4 - List CFs in this Package
  2 - Assign/Unassign to Profiles  5 - List Profiles containing this Pkg
  3 - Assign/Unassign to Nodes    6 - List Nodes with this Package

Package Name ==> os21pndm      Package Status . : _____
Package Level ==> 0           Creation Date . . : __ / __ / ____
Removable     ==> N           Time . . . : __ : __
Description   ==> Package to install os/2, laps, and ndm/2

CF Name ==>
Profile Name ==>              Profile Level ==> 0
Node Name    ==>

ENTER to process, END to exit
```

Figure 23. SPMF Manage Packages

On the Manage Packages panel, enter the following:

- Option - N
- Package name
- Description, if desired

After pressing Enter, the screen is refreshed with some additional information and the message "Package created" is displayed in the upper-right corner. A level one package is now created in the pending state and is ready to have change files assigned to it. The next screen illustrates this.

```

FIYP3200 -- SPMF - Manage Packages ----- Package created
OPTION ==>

N - New Level      D - Delete      K - Lock with Profile Auto-leveling
L - Lock          U - Unlock      C - Save Changes
P - Prerequisites I - Package Information
1 - Assign/Unassign CFs      4 - List CFs in this Package
2 - Assign/Unassign to Profiles  5 - List Profiles containing this Pkg
3 - Assign/Unassign to Nodes    6 - List Nodes with this Package

Package Name ==> OS2LPNDM      Package Status . . : PENDING
Package Level ==> 1           Creation Date . . : 11 / 03 / 1994
Removable ==> N              Time . . : 11 : 29
Description ==> PACKAGE TO INSTALL OS/2, LAPS, AND NDM/2

CF Name ==>
Profile Name ==>           Profile Level ==> 0
Node Name ==>

ENTER to process, END to exit

```

Figure 24. SPMF Package Created

### 3.11.3 Assign Change Files to the Package

From the preceding Manage Packages screen, enter option 1 to assign change files to the package. This will bring you to the Assign CFs to Package screen which follows.

```

FIYP3210 -- SPMF - Assign CFs to Package ----- Row 1 to 12 of 12
COMMAND ==>                                SCROLL ==> PAGE

Display CFs Assigned? ==> Y   Catalogued? ==> Y

Type one or more action codes. Then press Enter.
  A - Assign                U - Unassign                S - Server Only
  O - Assign CoReq CF      I - CF Information          Install

Package Name : OS2LPNDM           Package Level : 1
                                   Removable . . : N

Assign
Act Status Ord CF Name
-----
                                BEAN.COUNTER.SPECIAL.REF.1.0
                                DPB.DISKUSE.REF.1.0
                                HHH.TST.REF.01
                                IBM.CM2.CONFIG.REF.1.1
                                IBM.LAPS.INST.REF.1.0
                                IBM.NVDM2.INST.REF.2.1
                                IBM.NVDM2V21.CODE.PKG.REF.2.1
o                                IBM.OS2V211.INST.REF.2.1.1
                                NODE.CONFIG.FILES.REF.2.1
                                TMB.BBB.REF.01
                                TMB.TST.REF.01
                                TMB.TST2.REF.01

```

Figure 25. Assign Change Files to Package

Here you will see a list of all of your change files. The list of change files can be limited by using a specific name or wildcard in the CF name field on the Manage Packages screen.

Enter action o in the ACT column beside the change file IBM.OS2V211.INST.REF.2.1.1 and press Enter. This assigns the change file to package OS2LPNDM as a change file that has coreq change files and takes you to the Select Coreqs for a CF screen which follows. On this screen you see the OS/2 change file with Assign Status = O and Ord = 01. This means that the OS/2 change file is first in the install order and has coreq change files to be installed along with it.

```

FIYP3210 -- SPMF - Select Coreqs for a CF ----- CF assigned to Package
COMMAND ==>                                SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
  S - Select      U - Unselect      I - CF Information

Package Name : OS2LPNDM          Package Level : 1
CF Name : IBM.OS2V211.INST.REF.2.1.1

Assign
Act Status Ord CF Name
-----
      0   01  IBM.OS2V211.INST.REF.2.1.1
      -   -   BEAN.COUNTER.SPECIAL.REF.1.0
      -   -   DPB.DISKUSE.REF.1.0
      -   -   HHH.TST.REF.01
      -   -   IBM.CM2.CONFIG.REF.1.1
      -   -   IBM.LAPS.INST.REF.1.0
      -   -   IBM.NVDM2.INST.REF.2.1
      -   -   IBM.NVDM2V21.CODE.PKG.REF.2.1
      -   -   NODE.CONFIG.FILES.REF.2.1
      -   -   TMB.BBB.REF.01
      -   -   TMB.TST.REF.01
      -   -   TMB.TST2.REF.01

*****

```

Figure 26. Change File Assigned to Package

The next screen shows how to assign IBM.LAPS.INST.REF.1.0 as a coreq of IBM.OS2V211.INST.REF.2.1.1.

```

FIYP3210 -- SPMF - Select Coreqs for a CF ----- CF assigned to Package
COMMAND ==>                                SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
  S - Select      U - Unselect      I - CF Information

Package Name : OS2LPNDM          Package Level : 1
CF Name : IBM.OS2V211.INST.REF.2.1.1

Assign
Act Status Ord CF Name
-----
      0   01  IBM.OS2V211.INST.REF.2.1.1
      -   -   BEAN.COUNTER.SPECIAL.REF.1.0
      -   -   DPB.DISKUSE.REF.1.0
      -   -   HHH.TST.REF.01
      -   -   IBM.CM2.CONFIG.REF.1.1
      s   -   IBM.LAPS.INST.REF.1.0
      -   -   IBM.NVDM2.INST.REF.2.1
      -   -   IBM.NVDM2V21.CODE.PKG.REF.2.1
      -   -   NODE.CONFIG.FILES.REF.2.1
      -   -   TMB.BBB.REF.01
      -   -   TMB.TST.REF.01
      -   -   TMB.TST2.REF.01

***** Bottom of data *****

```

Figure 27. Selecting Coreqs for a Change File



By entering s next to the change file, that change file becomes a coreq in this package. The next screen shows two files now in package OS2LPNDM and the order they will be installed. Repeat the process for IBM.NVDM2.INST.REF.2.1. The result should look like the next screen with 3 change files in the package. The first CF, IBM.OS2V211.INST.REF.2.1.1, is first in the install order (Ord column), and has coreqs (Assign Status - O).

The next two files in the order, 02 and 03 are coreqs of the first change file (Assign Status - R).

```

FIYP3210 -- SPMF - Select Coreqs for a CF ----- CF assigned as a coreq.
COMMAND ==>                                SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
  S - Select      U - Unselect      I - CF Information

Package Name : OS2LPNDM           Package Level : 1
CF Name      : IBM.OS2V211.INST.REF.2.1.1

Assign
Act Status Ord CF Name
-----
  O   01  IBM.OS2V211.INST.REF.2.1.1
  R   02  IBM.LAPS.INST.REF.1.0
  R   03  IBM.NVDM2.INST.REF.2.1
  -   -   BEAN.COUNTER.SPECIAL.REF.1.0
  -   -   DPB.DISKUSE.REF.1.0
  -   -   HHH.TST.REF.01
  -   -   IBM.CM2.CONFIG.REF.1.1
  -   -   IBM.NVDM2V21.CODE.PKG.REF.2.1
  -   -   NODE.CONFIG.FILES.REF.2.1
  -   -   TMB.BBB.REF.01
  -   -   TMB.TST.REF.01
  -   -   TMB.TST2.REF.01
***** Bottom of data *****

```

Figure 28. Change Files Assigned as Coreqs

### 3.11.4 Lock the Package

Before a package is distributed or assigned to a profile, it must be locked. Packages can be in two states - pending or locked. Pending simply means a package can be modified. Locked means no more modification of the package is allowed, and it is now ready for distribution.

To lock a package, simply enter L on the Manage Packages screen as shown in the following panel.

```

FIYP3200 -- SPMF - Manage Packages -----
OPTION ==> L

N - New Level      D - Delete      K - Lock with Profile Auto-leveling
L - Lock          U - Unlock      C - Save Changes
P - Prerequisites I - Package Information
1 - Assign/Unassign CFs      4 - List CFs in this Package
2 - Assign/Unassign to Profiles  5 - List Profiles containing this Pkg
3 - Assign/Unassign to Nodes    6 - List Nodes with this Package

Package Name ==> OS2LPNDM      Package Status . : PENDING
Package Level ==> 1          Creation Date . . : 11 / 03 / 1994
Removable ==> N              Time . . : 11 : 29
Description ==> PACKAGE TO INSTALL OS/2, LAPS, AND NDM/2

CF Name ==>
Profile Name ==>              Profile Level ==> 0
Node Name ==>

ENTER to process, END to exit

```

Figure 29. Locking a Package

The screen is refreshed and the package is locked, as the following screen illustrates.

```

FIYP3200 -- SPMF - Manage Packages ----- Package locked
OPTION ==>

N - New Level      D - Delete      K - Lock with Profile Auto-leveling
L - Lock          U - Unlock      C - Save Changes
P - Prerequisites I - Package Information
1 - Assign/Unassign CFs      4 - List CFs in this Package
2 - Assign/Unassign to Profiles  5 - List Profiles containing this Pkg
3 - Assign/Unassign to Nodes    6 - List Nodes with this Package

Package Name ==> OS2LPNDM      Package Status . : LOCKED
Package Level ==> 1          Creation Date . . : 11 / 03 / 1994
Removable ==> N              Time . . : 11 : 29
Description ==> PACKAGE TO INSTALL OS/2, LAPS, AND NDM/2

CF Name ==>
Profile Name ==>              Profile Level ==> 0
Node Name ==>

ENTER to process, END to exit

```

Figure 30. Package Locked

The package could now be distributed or assigned to a profile. For this scenario, the package will be assigned to a profile.

### 3.11.5 Create a Profile

Enter option =3.3 from any command line to get to the Manage Profiles panel.

```
FIYP3300 -- SPMF - Manage Profiles -----
OPTION ==> n

N - New Level      D - Delete      C - Save Changes
L - Lock          U - Unlock      I - Profile Information
1 - Assign/Unassign CFs      4 - List CFs in this Profile
2 - Assign/Unassign Packages 5 - List Packages in this Profile
3 - Assign/Unassign to Nodes 6 - List Nodes with this Profile

Profile Name ==> os2lpnd      Profile Status . . : _____
Profile Level ==> 0          Creation Date . . : __ / __ / ____
                               Time . . . : __ : __
Description ==> profile for installing os2, laps, and nvdm/2

CF Name ==>
Package Name ==>           Package Level ==> 0
Node Name ==>

ENTER to process, END to exit
```

Figure 31. Managing Profiles

Enter option N, a profile name, a description if desired, and press Enter. A level one profile is now created in the pending state and is ready to have packages assigned to it as shown in the next panel.

```

FIYP3300 -- SPMF - Manage Profiles ----- Profile created
OPTION ==> 2

N - New Level      D - Delete      C - Save Changes
L - Lock          U - Unlock      I - Profile Information
1 - Assign/Unassign CFs      4 - List CFs in this Profile
2 - Assign/Unassign Packages 5 - List Packages in this Profile
3 - Assign/Unassign to Nodes 6 - List Nodes with this Profile

Profile Name ==> OS2LPND      Profile Status . . : PENDING
Profile Level ==> 1          Creation Date . . : 11 / 03 / 1994
                               Time . . : 11 : 42
Description ==> PROFILE FOR INSTALLING OS2, LAPS, AND NVDM/2

CF Name ==>
Package Name ==>          Package Level ==> 0
Node Name ==>

ENTER to process, END to exit

```

Figure 32. New Profile Created

The new profile, OS2LPND, has been created in the PENDING state and is now at Profile Level 1. Enter option 2 to assign a package to this profile.

### 3.11.6 Assign Package to Profile

On the Assign Packages to Profile panel, enter a in the Act column next to the package you want to assign to this profile.

```

FIYP3320 -- SPMF - Assign Packages to Profile ----- Row 1 to 5 of 5
COMMAND ==>          SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
A - Assign      U - Unassign      4 - List CFs in Package
I - Package Information

Profile Name : OS2LPND      Profile Level : 1

Assign
Act Status Package Name      Lvl  Status Description
-----
a          HHPKPG              1    C
          OS2LPNDM           1    C  PACKAGE TO INSTALL OS/2, LAPS, AND NDM/
          SYDPKG              1    C
          TMBSAO              1    C
          TSTPKG1             1    C  TEST PACKAGE CREATION
***** Bottom of data *****

```

Figure 33. Assign Package to Profile

This completes assigning the package to the profile as shown on the following screen.

```

FIYP3320 -- SPMF - Assign Packages to Profile ----- Package assigned
COMMAND ==> SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
A - Assign      U - Unassign      4 - List CFs in Package
I - Package Information

Profile Name : OS2LPND                Profile Level : 1

  Assign
Act Status Package Name      Lvl  tus  Description
-----
  A   OS2LPNDM                1    C   PACKAGE TO INSTALL OS/2, LAPS, AND NDM/
      HHHPKG                  1    C
      SYDPKG                  1    C
      TMBSAO                  1    C
      TSTPKG1                 1    C   TEST PACKAGE CREATION
***** Bottom of data *****

```

Figure 34. Package Assigned to Profile

The Assign Status code A shows that package OS2LPNDM is assigned to profile OS2LPND. The profile is now ready to be locked. Press PF3 to get back to the Manage Profiles panel.

### 3.11.7 Lock the Profile

On the Manage Profiles panel, enter L in the OPTION field and press Enter.

```

FIYP3300 -- SPMF - Manage Profiles -----
OPTION ==> L

N - New Level      D - Delete      C - Save Changes
L - Lock          U - Unlock      I - Profile Information
1 - Assign/Unassign CFs      4 - List CFs in this Profile
2 - Assign/Unassign Packages  5 - List Packages in this Profile
3 - Assign/Unassign to Nodes  6 - List Nodes with this Profile

Profile Name ==> OS2LPND                Profile Status . . : PENDING
Profile Level ==> 1                    Creation Date . . : 11 / 03 / 1994
                                         Time . . . : 11 : 42
Description ==> PROFILE FOR INSTALLING OS2, LAPS, AND NVDM/2

CF Name ==>
Package Name ==>                        Package Level ==> 0
Node Name ==>

ENTER to process, END to exit

```

Figure 35. Locking a Profile

The screen is refreshed and the profile is locked.

```
FIYP3300 -- SPMF - Manage Profiles ----- Profile locked
OPTION ==>

N - New Level      D - Delete      C - Save Changes
L - Lock          U - Unlock      I - Profile Information
1 - Assign/Unassign CFs
2 - Assign/Unassign Packages
3 - Assign/Unassign to Nodes
4 - List CFs in this Profile
5 - List Packages in this Profile
6 - List Nodes with this Profile

Profile Name ==> OS2LPND      Profile Status . . : LOCKED
Profile Level ==> 1          Creation Date . . . : 11 / 03 / 1994
                               Time . . . : 11 : 42
Description ==> PROFILE FOR INSTALLING OS2, LAPS, AND NVDM/2

CF Name ==>
Package Name ==>           Package Level ==> 0
Node Name ==>

ENTER to process, END to exit
```

Figure 36. Profile Locked

The profile is now ready for distribution.

### 3.11.8 Install the Profile

To install the profile on our pristine client workstation, enter =4.3 on any command line. This takes you to the Distribute/Maintain Profiles panel.

```

FIYP4300 -- SPMF - Distribute/Maintain Profiles -----
OPTION ==>

M - Manage SPMF Plans          4 - List CFs in this Profile
I - Profile Information        5 - List Packages in this Profile
E - Execute Functions          6 - List Nodes with this Profile

For Option E type one or two Functions.  Then press Enter.
SEND      - Send to nodes      INSTALL - Install at nodes

SPMF Plan Name ==>
Profile Name  ==>              Profile Level ==> 0
Function1 ==>      Date ==>    / /      Time ==>   :
Function2 ==>      Date ==>    / /      Time ==>   :
Removable ==> N (Y/N)          Auto Removal ==> N (Y/N)
Activate ==> R (Y/N/R)        Auto Accept ==> N (Y/N)
Send Conditioning ==> 1 (0-99)  Install Conditioning ==> 0 (0-99)

Description      ==>

```

Figure 37. Distribute/Maintain Profiles

Enter option e, a plan name, the profile name and level, Function1 = install, and press Enter. There is no need to do a send as our images already reside on the server to which the client is attached.

```

FIYP4300 -- SPMF - Distribute/Maintain Profiles -----
OPTION ==> e

M - Manage SPMF Plans          4 - List CFs in this Profile
I - Profile Information        5 - List Packages in this Profile
E - Execute Functions          6 - List Nodes with this Profile

For Option E type one or two Functions.  Then press Enter.
SEND      - Send to nodes      INSTALL - Install at nodes

SPMF Plan Name ==> os21pnd
Profile Name  ==> os21pnd      Profile Level ==> 1
Function1 ==> install Date ==>  / /      Time ==>   :
Function2 ==>      Date ==>  / /      Time ==>   :
Removable ==> N (Y/N)          Auto Removal ==> N (Y/N)
Activate ==> R (Y/N/R)        Auto Accept ==> N (Y/N)
Send Conditioning ==> 1 (0-99)  Install Conditioning ==> 0 (0-99)

Description      ==>

```

Figure 38. Distribute/Maintain Profiles Execute Function

The next screen you see will be the Node Selection Criteria screen.

```

FIYP40NO -- SPMF - Node Selection Criteria -----
OPTION  ==>

      Y - Perform Distribution          E - Display Expanded Node List

SPMF Plan Name . . . . : OS2LPND      Submitted by . . . : BIDWELL
Type of Distribution . : PROFILE
Name : OS2LPND
Level : 1
Function1 . : INSTALL      Date . : 11 / 03 / 1994    Time . : 18 : 34
Function2 . : _____    Date . : __ / __ / ____    Time . : __ : __
Removable . : N (Y/N)      Auto Removal . : N (Y/N)
Activate . : R (Y/N/R)     Auto Accept . : N (Y/N)
Node Selection Criteria:
====>
====>
====>
====>

Include nodes that had this Name in a previous distribution (Y/N) ==> N

ENTER to process, END to exit

```

Figure 39. Node Selection Criteria Panel

On the Node Selection Criteria screen, enter option e, the pristine client's name in the Node Selection Criteria field, and press Enter. This will show the expanded node list, which is handy if you have specified groups or supergroups as it will show all the nodes in those groups.



```

FIYP40N0 -- SPMF - Node Selection Criteria -----
OPTION ==> e

      Y - Perform Distribution           E - Display Expanded Node List

SPMF Plan Name . . . . : OS2LPND       Submitted by . . . : BIDWELL
Type of Distribution . : PROFILE
Name : OS2LPND
Level : 1
Function1 . : INSTALL      Date . : 11 / 03 / 1994   Time . : 18 : 34
Function2 . : _____   Date . : __ / __ / ____   Time . : __ : __
Removable . : N (Y/N)      Auto Removal . : N (Y/N)
Activate . : R (Y/N/R)     Auto Accept . : N (Y/N)
Node Selection Criteria:
==> ra39c219
==>
==>
==>

Include nodes that had this Name in a previous distribution (Y/N) ==> N

ENTER to process, END to exit

```

Figure 40. Node Selection Criteria - Display Expanded Node List

On the Expanded Node Selection Criteria panel nodes can be deleted or information about the node can be obtained.

```

FIYP40N1 -- SPMF - Expanded Node Selection Criteria -----
COMMAND ==>                                SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
      I - Node Information           D - Delete from distribution list

      Node      CC      Node      Node      RGN      REN      NVDM  Srvr
Act Name      Server  Topology  Type  LUNAME  (NETID)  (NETLU) Def  Def
-----
      RA39C219 RA39L210 CLIENT  CLNT RA39L210 USIBMRA RA39C219 Y  F
***** Bottom of data *****

```

Figure 41. Expanded Node Selection Criteria

Press PF3 to get back to the Node Selection Criteria screen.

Enter option y to perform the distribution.

```

FIYP40NO -- SPMF - Node Selection Criteria -----
OPTION ==> y

    Y - Perform Distribution          E - Display Expanded Node List

SPMF Plan Name . . . . : OS2LPND      Submitted by . . . . : BIDWELL
Type of Distribution . : PROFILE
Name : OS2LPND
Level : 1
Function1 . : INSTALL      Date . : 11 / 03 / 1994    Time . : 18 : 34
Function2 . : _____    Date . : __ / __ / ____    Time . : __ : __
Removable . : N (Y/N)      Auto Removal . : N (Y/N)
Activate . : R (Y/N/R)     Auto Accept . : N (Y/N)
Node Selection Criteria:
    ==> RA39C219
    ==>
    ==>
    ==>

Include nodes that had this Name in a previous distribution (Y/N) ==> N

ENTER to process, END to exit

```

Figure 42. Node Selection Criteria - Perform Distribution

The plan will now be submitted to NVDM/MVS as shown in the following panel.

```

FIYP4300 -- SPMF - Distribute/Maintain Profiles ----- SPMF Plan submitted
OPTION ==>

    M - Manage SPMF Plans          4 - List CFs in this Profile
    I - Profile Information         5 - List Packages in this Profile
    E - Execute Functions           6 - List Nodes with this Profile

For Option E type one or two Functions. Then press Enter.
    SEND      - Send to nodes      INSTALL - Install at nodes

SPMF Plan Name ==> OS2LPND
Profile Name   ==> OS2LPND          Profile Level ==> 1
Function1 ==> INSTALL      Date ==>   /   /   Time ==>   :
Function2 ==>             Date ==>   /   /   Time ==>   :
Removable ==> N (Y/N)      Auto Removal ==> N (Y/N)
Activate ==> R (Y/N/R)     Auto Accept ==> N (Y/N)
Send Conditioning ==> 1 (0-99)  Install Conditioning ==> 0 (0-99)

Description    ==>

```

Figure 43. Distribute/Maintain Profiles Plan Submitted

The next section will show how to monitor the plan and install status.

### 3.11.9 Monitor Plan Status

From the Distribute/Maintain Profiles panel, enter option m. This will take you to the Manage SPMF Plans panel.

On the Manage SPMF Plans panel, you can see the current SPMF plan status. Repeatedly pressing Enter will refresh the screen.

```

FIYP4500 -- SPMF - Manage SPMF Plans ----- Information Refreshed
OPTION ==>

R - Reset Selected NVDM Plans      P - NetView DM Plan List
A - Reset Plan                     I - SPMF Plan Information
D - Delete Plan                    C - Cancel Plan

Plan Name ==> OS2LPND   Plan Type ==> N   Plan Status ==>   Plan RC : __
Object Name : PROFILE: OS2LPND      AT LEVEL 00000001

User Submitted by ==> BIDWELL      NetView DM Defined : N
Submitted Date . . . : 11 / 03 / 1994   Time . . . . . : 18 : 34
Completed Date . . . : __ / __ / ____   Time . . . . . : __ : __

Function(s) Performed : (1) INSTALL      (2) _____
Function (1) Date . . : 11 / 03 / 1994   Time . . . . . : 18 : 34
Function (2) Date . . : __ / __ / ____   Time . . . . . : __ : __
Description . . . . . : _____
_____
_____

```

Figure 44. Manage SPMF Plans

Enter option p on the Manage SPMF Plans panel to get to the NetView DM Plan List panel. You can then enter action code s to see the phases of the plan.

```

FIYP45P0 -- SPMF - NetView DM Plan List ----- Row 1 to 1 of 1
OPTION ==>                                     SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
S - List Related Phases      C - Cancel Plan

SPMF Plan Name . . . : OS2LPND      Submitted by : BIDWELL

      NetView DM      -----Started-----      -----Completed-----      NVDM
Act Plan Name      Date      Time      Date      Time      Status      RC
-----
s  FYPL0006      11-03-1994  18:34      NOT COMPLETED      P
***** Bottom of data *****

```

Figure 45. NetView DM Plan List - Plan not Completed

The next four screens were viewed after the distribution had completed. You see on the Netview DM Phase List panel that the phase has completed. Enter action s in the Act column and you will be able to look at the steps of this phase. SPMF steps correspond to NetView DM functions.

```

FIYP45P1 -- SPMF - NetView DM Phase List ----- Row 1 to 1 of 1
OPTION ==>                                     SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
  S - List Related Steps

SPMF Plan Name . . . : OS2LPND           Submitted by : BIDWELL
NetView DM Plan Name : FYPL0006

      NetView DM          *Scheduled|Started  ----Completed----      NVDM
Act Phase Name Node      Date      Time  Date      Time  Status RC
-----
s  PH000001  RA39C219  11-03-1994  18:34  11-03-1994  19:17  C    00
***** Bottom of data *****

```

Figure 46. NetView DM Phase List

The next panel shows the result of the steps in this phase. Enter Act code s to see step details.

```

FIYP45P2 -- SPMF - NetView DM Steps ----- Row 1 to 1 of 1
OPTION ==>                                     SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
  S - Step Details

SPMF Plan Name . . . : OS2LPND           Submitted by : BIDWELL
NetView DM Plan Name : FYPL0006         Phase Name . : PH000001

      Step Step      Node      NVDM PROC  SNADS      AGENT      SERVER
Act Number Function Name    Status RC  RC  Rep Code  Rep Code  Rep Code
-----
s  0001  INSTALL  RA39C219  C    00    00000000  00000000  00000000
***** Bottom of data *****

```

Figure 47. NetView DM Steps

The NetView DM Step Details screen shows all information relevant to this function, which was an install on client RA39C219.

```

FIYP45P3 -- SPMF - NetView DM Step Details -----
COMMAND ==>

  I - Change File Information

SPMF Plan Name . . . : OS2LPND      Submitted by : BIDWELL
NetView DM Plan Name : FYPL0006    Phase Name . : PH000001
Node Name . . . . . : RA39C219
SPMF Step Number . . : 0001        Step Function : INSTALL
SPMF Step Status . . : C           Complete Date : 11 / 03 / 1994
NetView DM RC . . . : 00           Time : 19 : 17

CF Name : IBM.OS2V211.INST.REF.2.1.1

CF at Node Information
Removable . . . . . : N           SNADS Report Code : 00000000
Send Status . . . . : _____ Agent Report Code : 00000000
Install Status . . . : INSTALLED  Server Report Code : 00000000

```

Figure 48. NetView DM Step Details

### 3.11.10 Monitor Install Status

Another very useful function in SPMF is the Interactive List facility, or ILIST. You can get into ILIST by entering the command ILIST on any command line in the SPMF panels. We can look at the status of our install on client RA39C219 using ILIST.

After entering ILIST on a command line, the main ILIST panel is displayed.

```

FIYP3L00 -- SPMF - Interactive List Functions -----
OPTION ==>

  1 - List Objects/CFs at Nodes      7 - List Packages at Nodes
  2 - List CFs in Package           8 - List Packages containing this CF
  3 - List CFs in Profile           9 - List Packages in Profile
  4 - List Nodes with this CF       A - List Profiles at Nodes
  5 - List Nodes with this Package  B - List Profiles containing this CF
  6 - List Nodes with this Profile  C - List Profiles containing Package

CF Name ==>
Package Name ==>
Profile Name ==>
Node Name   ==>

Package Level ==> 0
Profile Level ==> 0

An '*' may be used in name fields to invoke list functions for that field.

```

Figure 49. SPMF Interactive List (ILIST) Functions

We will choose option 1 to list objects/change files at node RA39C219. We should see OS/2 V2.11, NTS/2 and NVDM V2.1 client installed.

```

FIYP3L00 -- SPMF - Interactive List Functions -----
OPTION ==> 1

 1 - List Objects/CFs at Nodes      7 - List Packages at Nodes
 2 - List CFs in Package           8 - List Packages containing this CF
 3 - List CFs in Profile           9 - List Packages in Profile
 4 - List Nodes with this CF       A - List Profiles at Nodes
 5 - List Nodes with this Package  B - List Profiles containing this CF
 6 - List Nodes with this Profile  C - List Profiles containing Package

CF Name ==>
Package Name ==>
Profile Name ==>
Node Name   ==> RA39C219

Package Level ==> 0
Profile Level ==> 0

An '*' may be used in name fields to invoke list functions for that field.

```

Figure 50. Listing Objects at Nodes Using ILIST

As shown on the following panel, all of the change files that we installed on RA39C219 are displayed as installed.

```

FIYP3L10 -- SPMF - List Objects/CFs at Nodes ----- Row 1 to 3 of 3
COMMAND ==>                                     SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
 1 - Node Information      I - Object/CF Information

Act -----
Nodename: RA39C219 Status- Send: _____ Install: INSTALL-N Origin: N
CF Name : IBM.LAPS.INST.REF.1.0
-----
Nodename: RA39C219 Status- Send: _____ Install: INSTALL-N Origin: N
CF Name : IBM.NVDM2.INST.REF.2.1
-----
Nodename: RA39C219 Status- Send: _____ Install: INSTALL-N Origin: N
CF Name : IBM.OS2V211.INST.REF.2.1.1
-----
***** Bottom of data *****

```

Figure 51. Listing Objects at Nodes

We will use PF3 to get back to the main ILIST panel and try another display. This time we will enter option A to list profiles at our client node, RA39C219.

```

FIYP3L00 -- SPMF - Interactive List Functions -----
OPTION ==> A

  1 - List Objects/CFs at Nodes      7 - List Packages at Nodes
  2 - List CFs in Package           8 - List Packages containing this CF
  3 - List CFs in Profile           9 - List Packages in Profile
  4 - List Nodes with this CF       A - List Profiles at Nodes
  5 - List Nodes with this Package  B - List Profiles containing this CF
  6 - List Nodes with this Profile  C - List Profiles containing Package

CF Name ==>
Package Name ==>
Profile Name ==>
Node Name ==> RA39C219

Package Level ==> 0
Profile Level ==> 0

An '*' may be used in name fields to invoke list functions for that field.

```

Figure 52. Listing Profiles at Nodes Using ILIST

As shown on the following panel, the profile OS2LPND has indeed been installed on our client, RA39C219.

```

FIYP3LA0 -- SPMF - List Profiles at Nodes ----- Row 1 to 1 of 1
COMMAND ==>                                     SCROLL ==> PAGE

Type one or more action codes. Then press Enter.
  1 - Node Information  2 - Package List  3 - Profile Information

Node      CC
Act Name  Server  Profile Name  Lvl  -----Status-----
          Send   Install
-----
RA39C219 RA39L210 OS2LPND          1          INSTALLED
***** Bottom of data *****

```

Figure 53. Listing Profiles at Nodes

These are just two of the many functions available with the ILIST command. All of the ILIST commands are documented in the *SPMF Implementation Guide*.

This concludes the pristine workstation install scenario.





---

## Chapter 4. SystemView Managed System Services/400

This chapter is intended for users who are implementing Managed System Services/400 and NetView Distribution Manager/MVS for the first time. Users who are familiar with NetView Distribution Manager/MVS and would like to add Managed System Services/400 to their distribution network will also find this chapter useful.

The audience this chapter is intended for should have some knowledge of the AS/400 as well as some skill in the NetView Distribution Manager/MVS environment.

The Managed System Services/400 product we worked with was at the OS/400 Version 2 Release 3 Modification 0 level.

The chapter is organized with the overview of Managed System Services/400 in the beginning. Then follows a description of the panels that are used in the Managed System Services/400 product. Next we describe how the communications functions were customized on the AS/400 as well as on the Managed Systems Services/400 product. An explanation of the Managed System Services/400 security follows. Next we show how the central site was customized including how the NetView Distribution Manager/MVS was configured.

---

### 4.1 Overview of Managed System Services/400

SystemView Managed System Services/400 is a licensed program product that enables the AS/400 to be managed remotely from a central site. The program uses APPC LU 6.2 to communicate with NetView Distribution Manager/MVS at the host.

Managed System Services/400 used in conjunction with NetView Distribution Manager/MVS provides centralized management of software distribution by performing the following functions:

- NetView Distribution Manager/MVS can retrieve, send and delete the following resource types from the AS/400:
  - Container  
A container is an AS/400 save file type of file.
  - Object  
This could be either a program, library, document, file or a folder on the AS/400. A full list of all the AS/400 object types supported is documented in Figure 174 on page 187.
  - Flat Data  
Flat data is represented on the AS/400 as a member of a file and the file type of \*FILEDATA is used. Managed System Services/400 distributes this type of data without any additional file information.
  - Software  
On the AS/400 software refers to a Program Temporary Fix (PTF).
  - Procedure

This can be an AS/400 program, Command List (CL) input stream or REXX procedure.

- NetView Distribution Manager/MVS can initiate these program types on the AS/400:
  - Programs
  - CL input streams
  - REXX procedures
  
- NetView Distribution Manager/MVS has the ability to load, apply and remove PTFs.

The loading of the PTF is the action of getting the PTF in a state so that it can be applied.
  
- NetView Distribution Manager/MVS can also IPL an AS/400.

This term implies that the AS/400 will be restarted.
  
- The requested functions can be cancelled by the Managed System Services/400 user after they have been submitted using the NetView Distribution Manager/MVS plan.

To configure and work with the Managed System Services/400 there are some terms which are useful to know. These terms are used in the explanation of the operations of Managed System Services/400 and we will describe them briefly:

- Central Site System

NetView Distribution Manager/MVS is an MVS host application that can distribute data and software to many node types. In this environment the central site system is the host that has the NetView Distribution Manager/MVS application installed. NetView Distribution Manager/MVS will perform software distribution functions using the Managed System Services/400 application on the AS/400.

There can be more than one NetView Distribution Manager/MVS application in the network to distribute to the nodes. There can also be a whole network of AS/400 systems controlled by a single NetView Distribution Manager/MVS application.

- Managed System

The managed system is a system that has its software distribution managed by the NetView Distribution Manager/MVS host. An example of this in the AS/400 network is the AS/400 with Managed System Services/400 installed. The Managed System Services/400 ensures that the software distribution process can be managed and controlled by the NetView Distribution Manager/MVS on the central site system.

The following terms are used in the section to describe certain objects or tasks.

- Activity

These are change requests or functions that are run on the managed system at the request of the NetView Distribution Manager/MVS application.

Some examples of this are to run a program, send an object and load and apply a PTF. These are described in detail in 5.2, "Scenarios for Remote Change Management" on page 141.

- Global Name

This is a unique name that an object is known by in the SNA network. The global name consists of 1 to 10 tokens that are separated by a separator space.

- Object

An object can be anything that occupies storage and an action can be performed against. An example of an object is a file, which can be retrieved or sent.

- Distribution Catalog

The distribution catalog contains a list of objects that are identified by their global names. Each entry describes the object's characteristics. The object's storage location, type, class and repository filename are examples of its characteristics.

- Distribution Repository

The objects can either be stored in a standard AS/400 library or in an area known as the repository. When objects are cataloged they can either point to their own libraries or be copied into the repository for distribution. The objects that are received from other systems are kept in the repository or if special rules are applied for naming of the AS/400 objects, they are received into the standard AS/400 library.

- Managed System Attribute

The managed system attributes are a set of values that control the functions of the Managed System Services/400 product system wide.

- Node

These are systems that the NetView Distribution Manager/MVS application communicates with. Each node must be defined to the NetView Distribution Manager/MVS application.

- Service Provider

A service provider is a system to which your system can report problems and from which your system can request PTF orders.

## 4.2 Describing the Managed System Services/400 Panels

This section will give an overview of the panels that are used to configure and use SystemView Managed System Services/400. We will show the panel and describe the functions that the selections on the menus perform.

As well as being completely menu driven, the functions can also be used with the command line interface. These commands will be mentioned when the panel is described.

```
SVMSS                SystemView Managed System Services/400
                                     System:  RALYAS4A
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===>

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
(C) COPYRIGHT IBM CORP. 1993, 1993.
```

Figure 54. SystemView Managed System Services/400 Panel

This is the main menu of the Managed System Services/400 product. It is used to configure and use SystemView Managed System Services/400.

This menu allows you to perform the following tasks:

- Configure Managed System Services/400 (CHGMGDSYSA, DSPMGDSYSA)  
This option allows you to display and change managed system attributes, work with service providers, and configure distribution services.
- Start Managed System Services/400 (STRMGDSYS)  
Select this option to start the managed system functions.
- End Managed System Services/400 (ENDMGDSYS)  
This option will end the jobs that are performing the managed system functions.
- Work with distribution catalog entries (WRKDSTCLGE)  
You can use this option to work with and print a list of catalog entries. You can add entries, copy entries from the distribution repository to standard AS/400 objects, remove entries, display details, and print details.
- Work with received CRQ activities (WRKRCVCRQA)

This option is used to work with the list of change request activities received from the NetView Distribution Manager/MVS host. For each change request being run or scheduled you can see the change request type, when the request was received, and the current status.

- Work with distribution queues

Use this option to display and control distribution requests on distribution queues.

Change requests and responses sent between NetView Distribution Manager/MVS and the AS/400 node are placed on distribution queues for transmission.

- InfoSeeker for Managed System Services/400

This option allows you to use an online information index that describes all the SystemView Managed System Services/400 functions and tasks in detail.

From the SystemView Managed System Services/400 menu you are able to go into other menu selections. We will give an overview of the functions these selections provide. More detailed descriptions are given in 4.5.1, "Configuring Managed System Services/400 SNA Distribution Services" on page 107.

1. When option 1 (Configure Managed System Services/400) is selected the following panel is displayed.

```
CFGSVMSS          Configure Managed System Services/400          System:  RALYAS4A
Select one of the following:

    1. Display managed system attributes
    2. Change managed system attributes
    3. Work with service providers
    4. Configure distribution services

Selection or command
===> 1

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
Type option number or command.
```

Figure 55. Configure Managed System Services/400 Menu

The Configure Managed System Services/400 menu allows you to display and change managed system attributes, work with service providers, and configure distribution services.

- Display managed system attributes

This option will display the values which are in use for the managed system attributes.

- Change managed system attributes

This option is used to update the current values for the managed system attributes. They are configuration values that affect the entire operation of the managed system. The attribute values specify the following values:

- Whether to accept or reject activities received from the central site system.
- The security program that is run to determine which activities to accept, which user profile to use when processing activities, and which authorization list to use to secure distribution repository objects.
- The default user profile to use when processing activities.
- The time-out values for jobs waiting to process activities.
- Whether to send intermediate responses to the central site system.
- The prefix tokens that specify how automatic global-to-local name mapping should be done.

- Work with service providers

You select this option to add, change, copy, display, or remove information about the service providers that provide services and support for the system.

Problem descriptions and PTF orders can be sent electronically to the service providers.

- Configure distribution services

This option is used to configure distribution queues, the routing table, or the secondary system table for your SNA distribution services (SNADS) network.

A distribution queue of type \*SVDS is required for each central site system from which the managed system will receive change request activities.

2. When option 2 (Start Managed System Services/400) is selected the Managed System Services/400 tasks are started. Your user ID must have \*JOBCTL authority to use this command. The managed system functions must be started to receive and process activities sent by the NetView Distribution Manager/MVS host.
3. When option 3 (End Managed System Services/400) is selected the Managed System Services/400 is ended. Several jobs in the QSYSWRK subsystem are ended when Managed System Services/400 is stopped.

You can choose to end the jobs either:

- In a controlled manner (controlled)

Controlled allows you to specify a delay time and the jobs will end immediately after the delay specified.

- Immediately (immediate)

If you choose immediate, the jobs end immediately and no cleanup is performed.

4. When option 4 (Work with distribution catalog entries) is selected the following panel is displayed.

```

Work with DST Catalog Entries
System: RALYAS4A
Type options, press Enter.
  1=Add  3=Copy DST repository object  4=Remove  5=Display detail
  6=Print detail  8=Display token attributes
Opt      Global Name
-----
-        MSS TEST
-        MSS TEST FILE
-        MSS TEST FLATD
-        TEST MSS SAVFILE

Bottom

Parameters for option 1 and 3 or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Print list  F9=Retrieve  F12=Cancel
F14=Print detailed list  F17=Position to
(C) COPYRIGHT IBM CORP. 1993, 1993.

```

Figure 56. Work with DST Catalog Entries Panel

The Work with Distribution Catalog Entries display allows you to work with and print entries in a distribution catalog.

You can:

- Add an entry to the distribution catalog.
  - Copy a distribution repository object to a standard AS/400 file or member location.
  - Remove an entry from the distribution catalog.
  - Display all the information related to a distribution catalog entry.
  - Print details related to a distribution catalog entry.
  - Display all the tokens in a global name as well as their match and version attributes.
5. When option 5 (Work with received CRQ activities) is selected the following panel is displayed.

```

Work with Received CRQ Activities
RALLYAS4A
12/09/93 18:23:18
Type options, press Enter.
 3=Hold  4=End  5=Display details  6=Release

Control Network Current
Opt Point ID Status Activity
4 RAIADT5D USIBMRA Ended IPL system

Bottom

F3=Exit F5=Refresh F9=Command F11=Display dates and times F12=Cancel
F17=Top F18=Bottom
End option completed successfully.

```

Figure 57. Work with Received CRQ Activities Panel

The Work with Received Change Request Activities display allows you to work with change request activities that have been received at the managed system.

You can perform the following tasks with the change request:

- Hold, release, or end an activity that is not being processed.
- You can display the current status of an activity.
- End activities that are currently being processed.

An example of this is the end request that was put on the change request that was to IPL the system.

6. When option 6 (Work with distribution queues) is selected the following panel is displayed.



```

Work with Distribution Queues

Type options, press Enter.
 2=Send queue  3=Hold queue  5=Work with queue entries
 6=Release queue  7=Reroute queue

Opt  Queue Name      Queue      -----Send Time-----  -Queue Depth-
      Queue Name      Priority    From      To      Force  Send  Current  Status
-    QRALYAS4A      Normal    : - :      :      1      0      Waiting
-    QRALYAS4A      High     : - :      :      1      0      Waiting
-    QRALYAS4C      Normal    : - :      :      1      0      Waiting
-    QRALYAS4C      High     : - :      :      1      0      Waiting
-    RAIADT5D      Normal    : - :      :      1      0      Waiting

F3=Exit      F5=Refresh      F10=Configure distribution queues
F12=Cancel

Bottom

```

Figure 58. Work with Distribution Queues Panel

A distribution queue of type \*SVDS is required for each NetView Distribution Manager/MVS host that will send change requests to this AS/400. The queue is defined in Figure 106 on page 110.

The Work with Distribution Queues display allows you to look at the queue status and the distributions for the following queue types:

- \*DLS
- \*RPDS
- \*SNADS (SNA Distribution Services)
- \*SVDS (SystemView Distribution Services)

You can override certain functions, and the queues can be held, released, and sent.

7. When option 20 (InfoSeeker for Managed System Services/400) is selected the following panel is displayed.

```

InfoSeeker

Type options, press Enter. (+ indicates an expandable topic)
  5=Display topic  6=Print topic  7=Expand topic  8=Compress topic

Opt  Topic
     SystemView Managed System Services/400
     + APIs
     - + Commands
     - + Functions requested by the central site system
     - + Introduction to Managed System Services/400
     - + Objects
     - + Problem analysis
     - + Security
     - + Using Managed System Services/400

Or type search words and press Enter. (* indicates a topic match)
_____

F3=Exit help  F5=All topics  F6=Main topics  F11=Hide structure
F12=Cancel   F13=Information Assistant  F18=More indexes  F24=More keys

```

Figure 59. InfoSeeker Panel

The InfoSeeker online information contains detailed information about Managed System Services/400. InfoSeeker can give a detailed description of a particular subject or a term that you need more information about.

In the panel shown above there is a list of topics. Each topic can be viewed by typing 5 next to it and pressing Enter, or you can type 7 and press Enter to further expand the topic. All topics with a + next to the topic can be expanded further.

You can also type the topic or word you are looking for assistance with on the command line provided.

---

### 4.3 The SystemView Managed System Services/400 Installation

Managed System Services/400 has the product name of 5738-MG1. The installation for this product is done in the same way as it is done for all the AS/400 licensed products.

## 4.4 Customization of the AS/400 for Managed System Services/400

To enable NetView Distribution Manager/MVS on the host to communicate with the AS/400 we need to configure both the AS/400 and Managed System Services/400 as well as the NetView Distribution Manager/MVS application and VTAM on the central site system.

This section will describe how we configured the AS/400 with the lines and controller descriptions necessary to communicate with NetView Distribution Manager/MVS. The following picture will help in describing the scenario we configured.

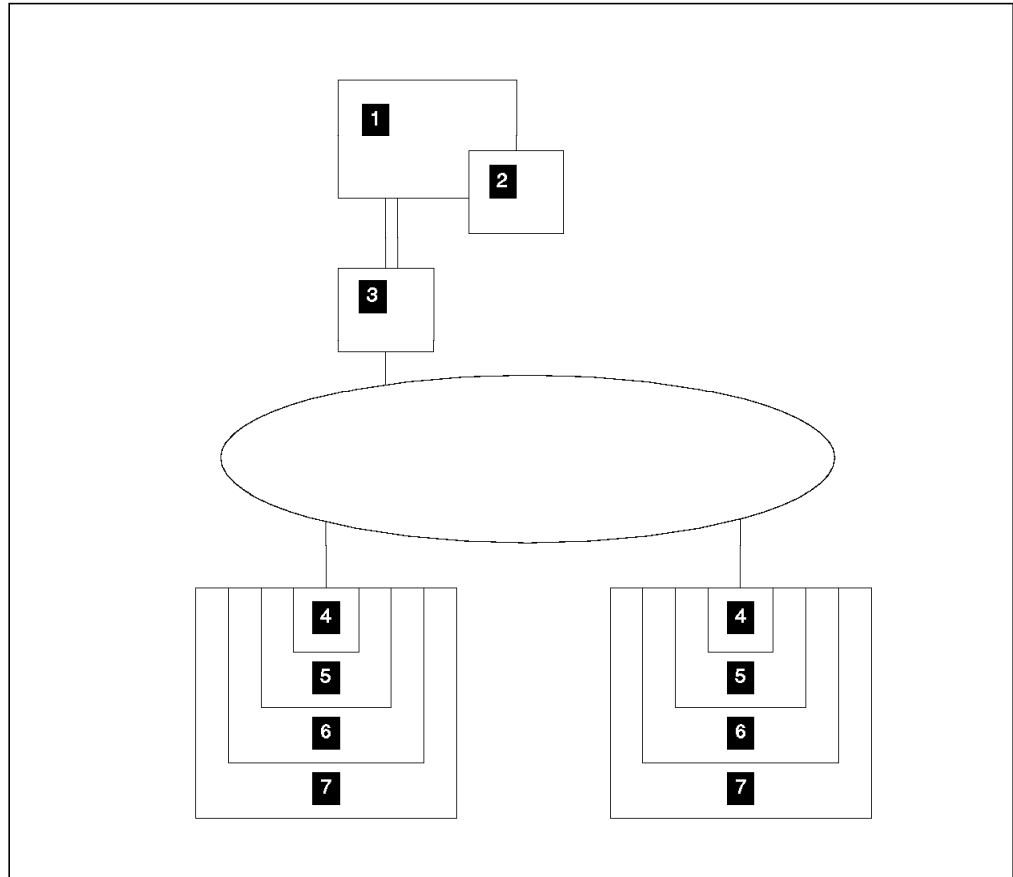


Figure 60. Configuration Scenario

- 1** VTAM
- 2** NetView Distribution Manager/MVS
- 3** 3725 NCP
- 4** AS/400 Line Descriptions
- 5** AS/400 Controller Descriptions
- 6** AS/400 Device Descriptions
- 7** AS/400 Configuration List

## 4.4.1 Configuring the AS/400 Communications

The AS/400 communications use the line controller and device descriptions. These descriptions are used to describe the components of the remote communications such as the controlling system and its applications.

For our connection to the NetView Distribution Manager/MVS application we need a connection to the controlling communication system, in this case VTAM as well as the description of the NetView Distribution Manager/MVS application.

### 4 AS/400 Line Descriptions

- We will define a Line description which describes the physical line connection and the protocol it will use.

### 5 AS/400 Controller Descriptions

- The type of remote system has to be defined. In this controller description we will describe the VTAM (controlling system) characteristics, for example, the NETID and CPNAME of VTAM.

### 6 AS/400 Device Descriptions

- If we create a device description we will describe the application we will communicate with in this description. Because we are using APPN it is not necessary to code a device description. The device will be created automatically when the NetView Distribution Manager/MVS application tries to establish a conversation with the Managed System Services/400 application.

### 7 AS/400 Configuration List

- We do however need to define the NetView Distribution Manager/MVS application name in the remote configuration list. This list is used to resolve the request that will be coming in for a conversation from the NetView Distribution Manager/MVS application. It will be described in more detail in 4.4.1.4, "Working with the Configuration Lists" on page 93.

We will now describe the creation of the Line and controller description. The controller has to be varied on line to become active. We will then show how the device description was automatically created once the NetView Distribution Manager/MVS application requested a session from the AS/400.

On our system some of the definitions that we will show were done previously.

#### Note

On AS/400 systems that already have a host connection this might also be the case. It is not necessary to re-create all the definitions and we are showing all the definitions that need to be present for the communications to work.

There are two ways to show how this configuration is performed, the batch and the interactive methods. We will show how to configure the AS/400 as it was done interactively via the panels.

For more experienced users the configurations will be shown in Figure 203 on page 225. These can then be used to configure the definitions you need, with a CL program.

#### 4.4.1.1 Creating the Line Description

This section will show how the line description was created. The line description on the AS/400 has the same function as the line definition on the line macro in the VTAM and NCP definitions.

At the main menu of the AS/400 some of the tasks available are shown.

```
MAIN                               AS/400 Main Menu                               System:  RALYAS4A
Select one of the following:
    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. PC Support tasks

    90. Sign off

Selection or command
===> 6

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F23=Set initial menu
```

Figure 61. AS/400 Main Menu

Select option 6 on the Main Menu to display the Communications configuration menu and press Enter. The following Communications menu is shown.

```

CMN                               Communications                               System:  RALYAS4A
Select one of the following:

    1. Communication status
    2. Messages
    3. Access a remote system
    4. Configure communications and remote hardware
    5. Network management
    6. Network configuration
    7. Verify communications
    8. Send or receive files
    9. Jobs

    70. Related commands

Selection or command
===> 4

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
(C) COPYRIGHT IBM CORP. 1980, 1993.

```

Figure 62. Communication Main Menu

To configure Communications select option 4 on the menu and press Enter.

The following panel is shown; select option 1 to work with the line descriptions and press Enter.

```

CFGCMN          Configure Communications and Remote Hardware          System:  RALYAS4A
Select one of the following:

    1. Work with lines
    2. Work with communications controllers
    3. Work with work station controllers
    4. Work with communications devices
    5. Work with printers
    6. Work with display stations
    7. Work with modes
    8. Work with classes-of-service
    9. Work with configuration lists
   10. Work with network interfaces
   11. Work with connection lists

   20. Configure TCP/IP

More...

Selection or command
===> 1

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 main menu
(C) COPYRIGHT IBM CORP. 1980, 1993.

```

Figure 63. Configure Communications and Remote Hardware Panel

On our system the line description was already defined. On many of the AS/400 installations this definition will exist if the AS/400 is connected to a host system by a line or token-ring connection.

We will show how one is defined via the panels to show how a complete communications definition is set up on the AS/400.

```
Work with Line Descriptions
System: RALYAS4A
Position to . . . . . Starting characters
Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  6=Print  7=Rename
  8=Work with status  9=Retrieve source

Opt  Line      Type  Text
    DIAL11    *SDLC
    LIN5494    *SDLC
    L0625394  *SDLC  Line 062 for 5394 T 2.1
    QESLINE   *SDLC
    QTILINE   *SDLC
    RA0L0020  *SDLC  SDLC Line to Subarea 20
    RA9L005   *SDLC  SDLC Line to Subarea 09
    X25NET    *X25   X.25 line for X25NET

Bottom

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status
```

Figure 64. Work with Line Descriptions Panel

This panel shows a list of all the line descriptions that exist on the AS/400.

If there is no line connection to the host where the NetView Distribution Manager/MVS application is installed, you will need to define a line description.

Press PF6 to create a new line description.

The following panel will appear. Enter the values which are asked for.

```

                                Create Line Description

Type choices, press Enter.

New line description      L41TR      Name
Line type . . . . . *TRLAN      *ASYNC = Asynchronous communications
                                *BSC  = Binary synchronous
                                communications
                                *DDI   = Distributed Data Interface
                                *ELAN  = Ethernet local area network
                                *FAX   = Fax
                                *FR    = Frame Relay
                                *IDLC  = ISDN data link control
                                *NET   = Network
                                *SDLC  = Synchronous data link control
                                *TDLC  = Twinaxial data link control
                                *TRLAN = Token-Ring local area network
                                *X25   = X.25 communications network

F3=Exit  F12=Cancel

```

Figure 65. Create Line Description Panel

Our line description was L41TR and the type was a token-ring local area network (\*TRLAN). The line description can be any name you choose to identify your line connection with.

Press Enter when you have filled in the parameters and the following panel is shown.

```

                                Create Line Desc (Token-Ring) (CRTLINTRN)

Type choices, press Enter.

Line description . . . . . > L41TR      Name
Resource name . . . . . LINO41      Name, *NWID
Online at IPL . . . . . *YES        *YES, *NO
Vary on wait . . . . . *NOWAIT     *NOWAIT, 15-180 (1 second)
Maximum controllers . . . . . 40      1-256

                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Figure 66. Create Line Description (Token-Ring) Panel



The resource name is the name that is assigned to the physical token-ring port that we will use.

The defaults can be accepted for the rest of the values. Press Enter and the line description will be continued.

```

                                Create Line Desc (Token-Ring) (CRTLINTRN)

Type choices, press Enter.

Line description . . . . . > L41TR           Name
Resource name . . . . . > LINO41           Name, *NWID
Online at IPL . . . . . *YES               *YES, *NO
Vary on wait . . . . . *NOWAIT            *NOWAIT, 15-180 (1 second)
Maximum controllers . . . . . 40           1-256
Line speed . . . . . 4M                   4M, 16M, *NWI
Maximum frame size . . . . . 1994         265-16393, 265, 521, 1033...
Local adapter address . . . . . 400010020001 400000000000-7FFFFFFF...
Exchange identifier . . . . . *SYSGEN      05600000-056FFFFF, *SYSGEN
SSAP list:
  Source service access point . *SYSGEN   02-FE, *SYSGEN
  SSAP maximum frame . . . . .             *MAXFRAME, 265-16393
  SSAP type . . . . .                     *CALC, *NONSNA, *SNA
  + for more values
Text 'description' . . . . . LINE DEFINITION L41TR

                                                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Figure 67. Create Line Description (Token-Ring) Panel

The local adapter address is the token-ring address of the AS/400 that will be used for communications with the host.

Enter your description and press Enter to accept the other definition defaults.

The main communications menu will be shown and the line is added to the line description list.

#### 4.4.1.2 Creating the Controller Description

The communications controller must now be configured. The communications controller description on the AS/400 has the same function as the PU macro in the VTAM and NCP definitions.

```

CFGCMN          Configure Communications and Remote Hardware
                                           System:  RALYAS4A
Select one of the following:

    1. Work with lines
    2. Work with communications controllers
    3. Work with work station controllers
    4. Work with communications devices
    5. Work with printers
    6. Work with display stations
    7. Work with modes
    8. Work with classes-of-service
    9. Work with configuration lists
   10. Work with network interfaces
   11. Work with connection lists

    20. Configure TCP/IP
                                           More...

Selection or command
===> 2

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 main menu

```

Figure 68. Configure Communications and Remote Hardware Panel

Select option 2 to work with the communications controllers and press Enter.

```

                                Work with Controller Descriptions
                                           System:  RALYAS4A
Position to . . . . . Starting characters

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  6=Print  7=Rename
  8=Work with status  9=Retrieve source

Opt  Controller  Type  Text
AA12819  *APPC  AUTOMATICALLY CREATED BY QLUS
BINAMEHOME  *APPC
BINAMEPS  *APPC
CLAUDE  *APPC  AUTOMATICALLY CREATED BY QLUS
CLAUDESDL  *APPC  CREATED BY PAUL BOOTH FOR SDLC DIAL-IN
CLAUDEX25  *APPC  X25 ctler for node CLAUDE
CMADM  *APPC  AUTOMATICALLY CREATED BY QLUS
CMLABB  *APPC  AUTOMATICALLY CREATED BY QLUS
CMMACHD  *APPC  created for CM/2 residency
                                           More...

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status

```

Figure 69. Work with Controller Descriptions Panel

The controller description describes the relationship between the AS/400 and the controlling system. In our case the controller description will describe the characteristics of the controlling system, which is VTAM on the host where the NetView Distribution Manager/MVS application resides. If a controller description exists on the AS/400 it is not necessary to code another one.

In our case there was no such relationship and we had to create a new controller description.

Press PF6 to create the controller description and the following panel is displayed.

```

                                Create Controller Description

Type choices, press Enter.

New controller
description . . . . NVDMHOST   Name

Controller type/class  *HOST      *APPC = Advanced program-to-program
                                communications
                                *ASYNC = Asynchronous communications
                                *BSC  = Binary synchronous
                                communications
                                *FNC  = Finance
                                *HOST = SNA host
                                *NET  = Network
                                *RTL  = Retail

F3=Exit  F12=Cancel
```

Figure 70. Create Controller Description Panel

The controller description is any name you choose to identify the controller with. We called ours NVDMHOST.

The controller type is \*HOST, as this controller description will describe the relationship between the AS/400 and the host.

Press Enter and the Create Controller (SNA Host) panel will continue.

```

                                Create Ctl Desc (SNA Host) (CRTCTLHOST)

Type choices, press Enter.

Controller description . . . . . > NVDMHOST      Name
Link type . . . . . *LAN                        *IDLC, *FR, *LAN, *SDLC, *X25
Online at IPL . . . . . *YES                    *YES, *NO

                                                                 Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display      F24=More keys

```

Figure 71. Create Controller Description (SNA Host) Panel

The link type describes the type of link the controller will be using. Ours was a \*LAN connection.

The Online at IPL must be set to \*YES, so that the controller is active after an IPL.

Press Enter and the Create Controller (SNA Host) panel will continue.

```

                                Create Ctl Desc (SNA Host) (CRTCTLHOST)

Type choices, press Enter.

Controller description . . . . . > NVDMHOST      Name
Link type . . . . . > *LAN                      *IDLC, *FR, *LAN, *SDLC, *X25
Online at IPL . . . . . *YES                    *YES, *NO
APPN-capable . . . . . *YES                    *YES, *NO
Switched line list . . . . .                    Name
      + for more values
Maximum frame size . . . . . *LINKTYPE          265-16393, 256, 265, 512...
Remote network identifier . . . USIBMRA        Name, *NETATR, *NONE, *ANY
Remote control point . . . . . RAI             Name, *ANY

                                                                 Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display      F24=More keys

```

Figure 72. Create Controller Description (SNA Host) Panel

The APPN-capable option was set to \*YES because this controller will use APPN. The AS/400 will check the values coded in the configuration list when a session request is started. This is described in Figure 83 on page 95. If these values are valid the device description, for the LU that is initiating the request, is automatically created. If the value was set to \*NO the controller would not use APPN and the device description would have to be defined for the session to be established.

The switched line list name must match the name you have given the line description that was coded in the panel that is shown in Figure 66 on page 84. If you are using an existing line description then just give the name of the line description that you will be using to connect to the host.

The remote network identifier is the network identifier of the remote system. The NETID of our host was USIBMRA.

The remote control point name is the SSCP name of the remote system. Our VTAM SSCP name was RAI. This name is coded in the VTAM startup parameters of the host that the AS/400 will be connected to.

```

                                Create Ctl Desc (SNA Host) (CRTCTLHOST)

Type choices, press Enter.

Controller description . . . . . > NVDMHOST      Name
Link type . . . . . > *LAN                      *IDLC, *FR, *LAN, *SDLC, *X25
Online at IPL . . . . . *YES                     *YES, *NO
APPN-capable . . . . . *YES                     *YES, *NO
Switched line list . . . . . L41TR              Name
      + for more values
Maximum frame size . . . . . *LINKTYPE          265-16393, 256, 265, 512...
Remote network identifier . . . > USIBMRA        Name, *NETATR, *NONE, *ANY
Remote control point . . . . . > RAI            Name, *ANY
SSCP identifier . . . . .                      050000000000-05FFFFFFFFF
Local exchange identifier . . . *LIND            05600000-056FFFFF, *LIND
Initial connection . . . . . *DIAL              *DIAL, *ANS

                                                                    Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Figure 73. Create Controller Description (SNA Host) Panel

These values can be left as the defaults. Press Enter to continue the controller description creation.

```

                                Create Ctl Desc (SNA Host) (CRTCTLHOST)

Type choices, press Enter.

Controller description . . . . . > NVDMHOST      Name
Link type . . . . . > *LAN                      *IDLC, *FR, *LAN, *SDLC, *X25
Online at IPL . . . . . *YES                    *YES, *NO
APPN-capable . . . . . *YES                    *YES, *NO
Switched line list . . . . . > L41TR           Name
      + for more values
Maximum frame size . . . . . *LINKTYPE         265-16393, 256, 265, 512...
Remote network identifier . . . > USIBMRA      Name, *NETATR, *NONE, *ANY
Remote control point . . . . . > RAI          Name, *ANY
SSCP identifier . . . . .                    050000000000-05FFFFFFFFFFFF
Local exchange identifier . . . *LIND         05600000-056FFFFFF, *LIND
Initial connection . . . . . *DIAL          *DIAL, *ANS
Dial initiation . . . . . *LINKTYPE         *LINKTYPE, *IMMED, *DELAY
LAN remote adapter address . . . 400001240001 000000000001-FFFFFFFFFFFF

                                                                    Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Figure 74. Create Controller Description (SNA Host) Panel

The LAN remote adapter address is the token-ring address that you will be using to establish the connection to the host system. In our installation this address was the address of the 3725 Communications Controller that was attached to the host where NetView Distribution Manager/MVS was installed.

Enter your address and press Enter to continue coding the controller description.

```

                                Create Ctl Desc (SNA Host) (CRTCTLHOST)

Type choices, press Enter.

Controller description . . . . . > NVDMHOST      Name
Link type . . . . . > *LAN                      *IDLC, *FR, *LAN, *SDLC, *X25
Online at IPL . . . . . *YES                    *YES, *NO
APPN-capable . . . . . *YES                    *YES, *NO
Switched line list . . . . . > L41TR           Name
      + for more values
Maximum frame size . . . . . *LINKTYPE         265-16393, 256, 265, 512...
Remote network identifier . . . > USIBMRA      Name, *NETATR, *NONE, *ANY
Remote control point . . . . . > RAI          Name, *ANY
SSCP identifier . . . . .                    050000000000-05FFFFFFFFFFFF
Local exchange identifier . . . *LIND         05600000-056FFFFFF, *LIND
Initial connection . . . . . *DIAL          *DIAL, *ANS
Dial initiation . . . . . *LINKTYPE         *LINKTYPE, *IMMED, *DELAY
LAN remote adapter address . . . > 400001240001 000000000001-FFFFFFFFFFFF
APPN CP session support . . . *YES        *YES, *NO
APPN node type . . . . . *ENDNODE           *ENDNODE, *LENNODE...

                                                                    More...
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Figure 75. Create Controller Description (SNA Host) Panel

Code \*YES for the APPN CP session support as this controller will support sessions between the control points (CP).

The APPN node type of the VTAM we are connecting to is an \*ENDNODE. Enter the values for your installation and press the scroll down key to scroll down to the next definitions. The following panel is then shown.

```

                                Create Ctl Desc (SNA Host) (CRTCTLHOST)

Type choices, press Enter.

APPN transmission group number      1          1-20, *CALC
APPN minimum switched status . . . *VRYONPND  *VRYONPND, *VRYON
Autocreate device . . . . .        *ALL      *ALL, *DEVINIT, *NONE
Autodelete device . . . . .        1440      1-10000, 1440, *NO
User-defined 1 . . . . .            *LIND     0-255, *LIND
User-defined 2 . . . . .            *LIND     0-255, *LIND
User-defined 3 . . . . .            *LIND     0-255, *LIND
Text 'description' . . . . .        CONTROLLER DEFINITION FOR NVDM HOST

                                                                 Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

Figure 76. Create Controller Description (SNA Host) Panel

The defaults can be accepted here and then fill in the desired description.

On pressing Enter the controller description will be added to the list of controller descriptions on the AS/400.

You can then browse through the list of controller definitions by scrolling through them using the scroll up and scroll down keys.

#### 4.4.1.3 Configuring the Mode Description

The mode description name in the AS/400 must match the mode table entry name that is specified in the VTAM and NCP definitions as well as the definition defined in Figure 120 on page 133. The NCP definition is not shown here as we used a VTAM switched major node for our definitions. In our VTAM and NetView Distribution Manager/MVS definitions the mode specified was LU62. We will now create the mode description on the AS/400 with the name of LU62.

On the Communications main menu select option 7 to work with modes and press Enter.

```

CFGCMN          Configure Communications and Remote Hardware
                                                    System:  RALYAS4A
Select one of the following:

    1. Work with lines
    2. Work with communications controllers
    3. Work with work station controllers
    4. Work with communications devices
    5. Work with printers
    6. Work with display stations
    7. Work with modes
    8. Work with classes-of-service
    9. Work with configuration lists
   10. Work with network interfaces
   11. Work with connection lists

    20. Configure TCP/IP
                                                    More...

Selection or command
===> 7

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 main menu

```

Figure 77. Communications Main Menu

The following panel is displayed with a list of all the mode descriptions that exist on the AS/400.

```

                                Work with Mode Descriptions
                                                    System:  RALYAS4A
Position to . . . . . Starting characters

Type options, press Enter.
    2=Change  3=Copy  4=Delete  5=Display  6=Print  9=Retrieve source

Option  Mode      Text
#BATCH  #BATCH      This Mode is IBM Supplied
#BATCHSC #BATCHSC    This Mode is IBM Supplied
#INTER  #INTER      This Mode is IBM Supplied
#INTERSC #INTERSC    This Mode is IBM Supplied
BERNHARD BERNHARD    TEST MODE DEFINITION FOR DATA COMP TEST B.TENHOLTE
BLANK    BLANK       This Mode is IBM Supplied
CANCTDCS CANCTDCS    IBM OMEGAMON/400
COMPRESS COMPRESS     Mode for test of LZ9 compression
INTERACT INTERACT     mode description created for netview bridge
MODE5494 MODE5494
QPCSUPP QPCSUPP     AS/400 PC Support mode entry
                                                    More...

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
Object LU62 in QSYS type *MODD deleted.

```

Figure 78. Work with Mode Descriptions Panel

Press PF6 to create a mode description. The following panel is shown.



```

                                Create Mode Description (CRTMODD)

Type choices, press Enter.

Mode description . . . . . LU62      Name
Maximum sessions . . . . . 8        1-512
Maximum conversations . . . . . 8    1-512
Locally controlled sessions . . . 4  0-512
Pre-established sessions . . . . 0    0-512
Inbound pacing value . . . . . 7    0-63
Outbound pacing value . . . . . 7    0-63
Maximum length of request unit    *CALC  241-16384, *CALC
Data compression . . . . . *NETATR  1-2147483647, *NETATR...
Inbound data compression . . . . *RLE  *RLE, *LZ9, *LZ10, *LZ12...
Outbound data compression . . . *RLE  *RLE, *LZ9, *LZ10, *LZ12...
Text 'description' . . . . . Mode Description for NVDM

                                                                    Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display      F24=More keys

```

Figure 79. Create Mode Description Panel

The mode description name must match the name specified in the VTAM definition for the AS/400, as well as the NetView Distribution Manager/MVS node definitions. We called ours LU62. Fill in the description and press Enter.

A mode description of LU62 will be added to the AS/400 configuration.

#### 4.4.1.4 Working with the Configuration Lists

The configuration list is where you specify the list of locations that are associated with our communications definitions.

Select option 9 to work with the configuration list and press Enter.

```

CFGCMN          Configure Communications and Remote Hardware
                                           System:  RALYAS4A
Select one of the following:

    1. Work with lines
    2. Work with communications controllers
    3. Work with work station controllers
    4. Work with communications devices
    5. Work with printers
    6. Work with display stations
    7. Work with modes
    8. Work with classes-of-service
    9. Work with configuration lists
   10. Work with network interfaces
   11. Work with connection lists

    20. Configure TCP/IP

                                           More...
Selection or command
===> 9

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 main menu

```

Figure 80. Communications Main Menu

The following panel is shown. This is a list of all the configuration lists on the system. A configuration list is a list of addresses, devices or locations associated with specific types of communications objects.

```

CFGLST          Configure Communications Configuration Lists
                                           System:  RALYAS4A
Select one of the following:

    1. Asynchronous PAD network address lists
    2. Asynchronous remote location list
    3. APPN local location list
    4. APPN remote location list
    5. Retail pass-through list

Selection or command
===> 4

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 main menu
(C) COPYRIGHT IBM CORP. 1980, 1993.

```

Figure 81. Configure Communications Configuration Lists Panel

We want to work with the APPN remote location list. Select option 4 and press Enter. The following panel is shown which displays the QAPPNRMT list. This is

where the list of the remote system location names that you want to communicate with using the AS/400 system is kept.

```

Work with Configuration Lists
System: RALYAS4A
Position to . . . . . Starting characters
Type options, press Enter.
  1=Create  2=Change  4=Delete  5=Display  6=Print  7=Rename
  8=Work with SNA pass-through groups
Opt List      Type      Text
-----
  2  QAPPNRMT  *APPNRMT

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
Bottom

```

Figure 82. Work with Configuration Lists

Select option 2 to change the list and press Enter. A list of all the APPN remote locations are shown.

```

Change Configuration List
RALYAS4A
11/12/93 17:06:04
Configuration list . . . : QAPPNRMT
Configuration list type : *APPNRMT
Text . . . . . :

Type changes, press Enter.

-----APPN Remote Locations-----
Remote      Remote      Local      Remote      Control      Location      Secure
Location    ID          Location   Point       Net ID       Password      Loc
CP539421    USIBMRA    RALYAS4A  CP539421    USIBMRA
DEMO        USIBMRA    RALYAS4A  CP539421    USIBMRA
RAIADT5D    USIBMRA    RALYAS4A  RAI        USIBMRA    *NO
RAOTNNB0    USIBMRA    RALYAS4A  RAK         USIBMRA
RAOTNNB0    USIBMRA    RAOTMMAO  RAK         USIBMRA
RA3AN       USIBMRA    RALYAS4A  RA3         USIBMRA
RS60007     USIBMRAA   RALYAS4A  RS60007C    USIBMRAA
             *NETATR    *NETATR             *NETATR
More...
F3=Exit  F11=Display session information  F12=Cancel  F17=Top  F18=Bottom

```

Figure 83. Change Configuration List Panel

The following values need to be completed.

- Remote Location

The remote location name is the name of the remote application LU. This name must match the application name that is given to the Transmission Control Program (TCP) of the NetView Distribution Manager/MVS application.

- Remote Network ID

This is the network identifier where the NetView Distribution Manager/MVS application resides. In our environment this was USIBMRA.

- Local Location

This is the local location name of the AS/400. It is used by APPN to match the local/remote entries. The VTAM switched major node LU definitions must reflect this name.

- Remote Control Point

The remote control point provides the network function for the remote location. This is the VTAM SSCP name which will provide network function for the NetView Distribution Manager/MVS application.

Our VTAM SSCP name was RAI.

- Control Point Net ID

This is the name of the network identifier in which our remote control point SSCP resides.

Then press PF11, Display session information, and fill in the other values.

- Single session must be \*YES. This is because single session communication is used with NetView Distribution Manager/MVS.
- The number of conversations we set to 1 but the communications will work with other values.

Enter the definition and press Enter to update the APPN remote location list.

This concludes the definitions that are needed on the AS/400. The following section is provided for information only, and will show how the device descriptions are automatically defined when the controller description is varied on.

#### 4.4.2 Varying the Communications Online

Now that the line and controller descriptions and configuration list are created we can vary them online. At this stage the central site customization is also complete. When the controller is varied online it becomes active as it contacts the controlling system, VTAM with an SSCP name of RAI.

Select option 8 next to the name of your controller definition to work with the status.

```

Work with Controller Descriptions
System: RALYAS4A
Position to . . . . . Starting characters
Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  6=Print  7=Rename
  8=Work with status  9=Retrieve source

Opt  Controller  Type  Text
    HENRY2      *APPC  AUTOMATICALLY CREATED BY QLUS
    LNMA400     *APPC  AUTOMATICALLY CREATED BY QLUS
    L41TRNET    *NET   CREATED BY AUTO-CONFIGURATION
    L41TRNET00 *NET   CREATED BY AUTO-CONFIGURATION
    MARTIN      *APPC  AUTOMATICALLY CREATED BY QLUS
  8  NVDMHOST    *HOST  NVDM 15 ON SA 18
    OLIVER2     *APPC  AUTOMATICALLY CREATED BY QLUS
    PCBINAME    *APPC
    PCOM5250    *APPC  AUTOMATICALLY CREATED BY QLUS
                                           More...

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status

```

Figure 84. Working with Controller Descriptions Panel

This will display the following panel.

```

Work with Configuration Status
System: RALYAS4A
Date: 11/12/93 17:02:52
Position to . . . . . Starting characters
Type options, press Enter.
  1=Vary on  2=Vary off  5=Work with job  8=Work with description
  9=Display mode status ...

Opt  Description  Status  -----Job-----
  1  NVDMHOST      VARIED OFF

Parameters or command
===>
F3=Exit  F4=Prompt  F12=Cancel  F23=More options  F24=More keys
Bottom

```

Figure 85. Work with Configuration Status Panel

We can see that the controller is in a varied off status. Select option 1 next to the name of the description and press Enter to vary on the controller.

```

                                Work with Configuration Status
                                RALYAS4A
                                11/12/93 17:02:52
Position to . . . . .           Starting characters

Type options, press Enter.
  1=Vary on   2=Vary off   5=Work with job   8=Work with description
  9=Display mode status ...

Opt  Description      Status      -----Job-----
     NVDMHOST        VARIED ON PENDING

Parameters or command
===>
F3=Exit  F4=Prompt  F12=Cancel  F23=More options  F24=More keys

Vary on completed for controller NVDMHOST.
                                Bottom

```

Figure 86. Work with Configuration Status Panel

A message will display at the bottom of the screen to show that the vary on command of the controller has been completed.

Press Enter and the following panel will be displayed.

```

                                Work with Controller Descriptions
                                System:  RALYAS4A
Position to . . . . .           Starting characters

Type options, press Enter.
  2=Change  3=Copy   4=Delete  5=Display  6=Print  7=Rename
  8=Work with status  9=Retrieve source

Opt  Controller  Type  Text
     HENRY2     *APPC  AUTOMATICALLY CREATED BY QLUS
     LNMA400    *APPC  AUTOMATICALLY CREATED BY QLUS
     L41TRNET   *NET   CREATED BY AUTO-CONFIGURATION
     L41TRNET00 *NET   CREATED BY AUTO-CONFIGURATION
     MARTIN     *APPC  AUTOMATICALLY CREATED BY QLUS
  8   NVDMHOST  *HOST  NVDM 15 ON SA 18
     OLIVER2    *APPC  AUTOMATICALLY CREATED BY QLUS
     PCBINAME   *APPC
     PCOM5250   *APPC  AUTOMATICALLY CREATED BY QLUS

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status
                                More...

```

Figure 87. Work with Controller Descriptions Panel

Select option 8 next to the controller description name again and press Enter to work with the status once again.

The following panel will be displayed and you can see that the controller has been varied on. The line description for the controller is in an active state.

```

Work with Configuration Status                                RALYAS4A
                                                           11/12/93 17:03:01
Position to . . . . . Starting characters

Type options, press Enter.
  1=Vary on  2=Vary off  5=Work with job  8=Work with description
  9=Display mode status ...

Opt  Description      Status      -----Job-----
     L41TR            ACTIVE
  8   NVDMHOST        VARIED ON

Parameters or command                                     Bottom
===>
F3=Exit  F4=Prompt  F12=Cancel  F23=More options  F24=More keys

```

Figure 88. Work with Configuration Status Panel

We now want to display the controller to see what we have created looks like.

Select option 8 to work with the status of the controller and press Enter. The following panel is shown.

```

Work with Controller Descriptions                          System:  RALYAS4A
                                                           System:  RALYAS4A
Position to . . . . . Starting characters

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  6=Print  7=Rename
  8=Work with status  9=Retrieve source  12=Print device addresses

Opt  Controller  Type  Text
  5   NVDMHOST   *HOST  NVDM 15 ON SA 18

Parameters or command                                     Bottom
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status

```

Figure 89. Work with Controller Descriptions Panel

Select option 5 to display the controller.

On the next panel you can see all the definitions for the controller description. To see more of the definitions use the scroll down keys.

```

                                Display Controller Description
                                RALYAS4A
                                11/12/93 17:03:10
Controller description . . . . . : NVDMMHOST
Option . . . . . : *BASIC
Category of controller . . . . . : *HOST

Link type . . . . . : *LAN
Online at IPL . . . . . : *YES
Active switched line . . . . . : L41TR
Character code . . . . . : *EBCDIC
Maximum frame size . . . . . : 16393
Remote network identifier . . . . : USIBMRA
Remote control point . . . . . : RAI
Local exchange identifier . . . . : *LIND
Initial connection . . . . . : *DIAL
Dial initiation . . . . . : *LINKTYPE
Switched disconnect . . . . . : *NO
LAN remote adapter address . . . . : 400001240001

Press Enter to continue.

F3=Exit  F11=Display keywords  F12=Cancel
More...

```

Figure 90. Display Controller Description Panel

Press Enter and the following panel is shown, we can see that the line description attached to the controller description is L41TR.

```

                                Display Controller Description
                                RALYAS4A
                                11/12/93 17:03:10
Controller description . . . . . : NVDMMHOST
Option . . . . . : *SWTLINLST
Category of controller . . . . . : *HOST

-----Switched Lines-----
L41TR

Press Enter to continue.

F3=Exit  F11=Display keywords  F12=Cancel
Bottom

```

Figure 91. Display Controller Discription Panel

Press Enter and the following panel is displayed and you can see that there are no device descriptions attached to the controller description.



```

                                Display Controller Description
                                11/12/93 17:03:10 RALYAS4A
Controller description . . . . . : NVDMHOST
Option . . . . . : *DEV
Category of controller . . . . . : *HOST

-----Attached Devices-----

(No devices attached)

                                Bottom

Press Enter to continue.

F3=Exit  F11=Display keywords  F12=Cancel

```

Figure 92. Display Controller Description Panel

Press Enter again and some more definitions which are in use are shown.

```

                                Display Controller Description
                                11/12/93 17:03:10 RALYAS4A
Controller description . . . . . : NVDMHOST
Option . . . . . : *APPN
Category of controller . . . . . : *HOST

APPN-capable . . . . . : *YES
APPN CP session support . . . . . : *YES
APPN node type . . . . . : *ENDNODE
APPN transmission group number . . : 1
APPN minimum switched status . . . : *VRYONPND
Autocreate device . . . . . : *ALL
Autodelete device . . . . . : 1440
User-defined 1 . . . . . : *LIND
User-defined 2 . . . . . : *LIND
User-defined 3 . . . . . : *LIND

                                Bottom

Press Enter to continue.

F3=Exit  F11=Display keywords  F12=Cancel

```

Figure 93. Display Controller Description Panel

Press Enter again and some more definitions which are in use are shown.

```

                                Display Controller Description
                                RALYAS4A
                                11/12/93 17:03:10
Controller description . . . . . : NVDMHOST
Option . . . . . : *TMRRTY
Category of controller . . . . . : *HOST

LAN frame retry . . . . . : 10
LAN connection retry . . . . . : 10
LAN response timer . . . . . : 10
LAN connection timer . . . . . : 70
LAN acknowledgement timer . . . . . : 1
LAN inactivity timer . . . . . : 100
LAN acknowledgement frequency . . . : 1
LAN max outstanding frames . . . . . : 2
LAN access priority . . . . . : 0
LAN window step . . . . . : *NONE

                                More...

Press Enter to continue.

F3=Exit  F11=Display keywords  F12=Cancel

```

Figure 94. Display Controller Description Panel

At this stage the NetView Distribution Manager/MVS application is not active and there has been no communication between the NetView Distribution Manager/MVS application and the Managed System Services/400.

**Note**

4.6, "Customization of the Central Site System" on page 131 must be completed before we can establish a session between the NetView Distribution Manager/MVS application and Managed System Services/400.

We now start the NetView Distribution Manager/MVS application and submit a plan to show how the device description is automatically created and the controller becomes active. This is because of the \*APPN=YES value that was coded in the Figure 72 on page 88. The device description will describe the characteristics of the NetView Distribution Manager/MVS application the Managed System Services/400 is in session with.

At the Work with Controller Descriptions panel select option 8 to work with the status and press Enter.

```

Work with Controller Descriptions
System: RALYAS4A
Position to . . . . . Starting characters
Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  6=Print  7=Rename
  8=Work with status  9=Retrieve source  12=Print device addresses

Opt  Controller  Type  Text
  8  NVDMHOST  *HOST  NVDM 15 ON SA 18

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status
Bottom

```

Figure 95. Work with Controller Descriptions Panel

The following panel is displayed.

On this panel we can see that the NVDMHOST controller description is now active. We can also see that there is now a device also active with a name of RAIADT5D. This is the name of the Transmission Control Program (TCP) of the NetView Distribution Manager/MVS application that was defined in the configuration list descriptions on 4.4.1.4, “Working with the Configuration Lists” on page 93.

The mode LU62 that is being used is also shown as being in an active state.

```

Work with Configuration Status                                RALYAS4A
                                                           12/01/93 14:43:01
Position to . . . . . _____ Starting characters

Type options, press Enter.
  1=Vary on   2=Vary off   5=Work with job   8=Work with description
  9=Display mode status ...

Opt  Description      Status      -----Job-----
---  L41TR             ACTIVE
---  NVDMHOST          ACTIVE
---  RAIADT5D          ACTIVE
---  LU62              ACTIVE/DETACHED   RAIADT5D   QGATE   003449

Parameters or command                                     Bottom
===> _____
F3=Exit  F4=Prompt  F12=Cancel  F23=More options  F24=More keys

```

Figure 96. Work with Configuration Status Panel

Press Enter to continue and the device description panel will be displayed.

Press PF3 to exit and get to the Configure Communications and Remote Hardware panel shown below.

```

CFGCMN          Configure Communications and Remote Hardware
                                                           System:  RALYAS4A
Select one of the following:

  1. Work with lines
  2. Work with communications controllers
  3. Work with work station controllers
  4. Work with communications devices
  5. Work with printers
  6. Work with display stations
  7. Work with modes
  8. Work with classes-of-service
  9. Work with configuration lists
 10. Work with network interfaces
 11. Work with connection lists

 20. Configure TCP/IP

Selection or command                                     More...
===> 4

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 main menu

```

Figure 97. Communications Main Menu

We now want to see what the automatically created device description looks like. Select option 4 as we want to work with the communications devices. The following panel will be displayed.

```

                                Work with Device Descriptions
                                System:  RALYAS4A
Position to . . . . .           Starting characters

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  6=Print  7=Rename
  8=Work with status  9=Retrieve source

Opt  Device      Type      Text
    QIADSP      *HOST
    QIAPRT      *HOST
    QQAHOST     *APPC
    QTIDA       *APPC
    QTIDA2      *APPC
  5  RAIADT5D   *APPC    AUTOMATICALLY CREATED BY QLUS
    RAK         *APPC    AUTOMATICALLY CREATED BY QLUS
    RALYAS4B   *APPC    AUTOMATICALLY CREATED BY QLUS
    RALYAS4C   *APPC    AUTOMATICALLY CREATED BY QLUS
                                           More...

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status

```

Figure 98. Work with Device Descriptions Panel

This is a list of all the device descriptions for the AS/400.

We select option 5 to display the RAIADT5D device description that was automatically created.

Press Enter and the following panel is displayed.

```

                                Display Device Description
                                RALYAS4A
                                11/12/93 17:04:54
Device description . . . . . : RAIADT5D
Option . . . . . : *BASIC
Category of device . . . . . : *APPC

Automatically created . . . . . : YES
Remote location . . . . . : RAIADT5D
Online at IPL . . . . . : *NO
Local location . . . . . : RALYAS4A
Remote network identifier . . . . . : *NETATR
Attached controller . . . . . : NVMHOST
Message queue . . . . . : QSYSOPR
  Library . . . . . : *LIBL
Local location address . . . . . : 00
APPN-capable . . . . . : *YES
                                           More...

Press Enter to continue

F3=Exit  F11=Display keywords  F12=Cancel

```

Figure 99. Display Device Description Panel

This panel shows all the definitions that are in use for the device description.

The values show us that the device was automatically created. The remote location name as well as the local location name are defined. The local location address of 00 for the independent LU 6.2 is also shown.

Press Enter to see more of the definitions and the following panel will be shown.

```

                                     Display Device Description
                                     RALYAS4A
                                     11/12/93 17:04:54
Device description . . . . . : RAIADT5D
Option . . . . . : *MODE
Category of device . . . . . : *APPC

-----Mode-----
*NETATR

                                     Bottom

Press Enter to continue.

F3=Exit  F11=Display keywords  F12=Cancel
```

Figure 100. Display Device Description Panel

---

## 4.5 Customization of Managed System Services/400

This section will describe how the Managed System Services/400 product was customized to perform the change management requests that are described in 5.2, “Scenarios for Remote Change Management” on page 141. The section will describe how the Managed System Services/400 distribution services were configured. Then the managed system attributes will be described and lastly the security of the Managed System Services/400 product.

### 4.5.1 Configuring Managed System Services/400 SNA Distribution Services

To configure the SNA Distribution services we need to bring up the Managed System Services/400 main menu.

Type GO SVMSS on the command line of a menu and press Enter.

```
MAIN                               AS/400 Main Menu                               System:  RALYAS4A
Select one of the following:
    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. PC Support tasks
    90. Sign off
Selection or command
===> GO SVMSS
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F23=Set initial menu
(C) COPYRIGHT IBM CORP. 1980, 1993.
```

Figure 101. Communications Main Menu

The SystemView Managed System Services/400 panel is displayed. The functions available to you on this panel were described in 4.2, “Describing the Managed System Services/400 Panels” on page 72.

```
SVMSS                SystemView Managed System Services/400
                                     System:  RALYAS4A
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> 1

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
(C) COPYRIGHT IBM CORP. 1993, 1993.
```

Figure 102. SystemView Managed System Services/400 Menu

This is the main menu of the Managed System Services/400 product.

Select option 1 to configure Managed System Services/400 and press Enter.

The following panel is shown.

```
CFG SVMSS           Configure Managed System Services/400
                                     System:  RALYAS4A
Select one of the following:

    1. Display managed system attributes
    2. Change managed system attributes
    3. Work with service providers
    4. Configure distribution services

Selection or command
===> 4

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
Type option number or command.
```

Figure 103. Configure Managed System Services/400 Menu



The Configure Managed System Services/400 menu allows you to display and change managed system attributes, work with service providers, and configure distribution services.

## 4.5.2 Configuring the Distribution Queue

This section will show how the distribution queue is configured.

Select option 4 to configure the distribution queue and press Enter. The following panel is displayed.

```

                                Configure Distribution Services

Type choice, press Enter.

Type of distribution services
information to configure . . . 1      1=Distribution queues
                                       2=Routing table
                                       3=Secondary system name table

F3=Exit      F12=Cancel
```

*Figure 104. Configure Distribution Services Panel*

The configure distribution services panel allows you to configure distribution queues, the routing table, or the secondary system table for your SNA distribution services (SNADS) network.

A distribution queue of type \*SVDS is required for each NetView Distribution Manager/MVS host that will send our AS/400 change requests.

Select option 1 and press Enter. A panel will be shown that displays all the queue names that exist on the AS/400.

These queue names are used to store distributions prior to their being sent or forwarded to other systems.

```

                                Configure Distribution Queues

Type options, press Enter.
  2=Change  4=Remove  5=Display details

Opt  Queue Name      Queue Type      Remote
      QMVSJES        *RPDS          RALVSMV6
      QRALYAS4B      *SNADS         RALYAS4B
      QRALYAS4C      *SNADS         RALYAS4C
                                Mode Name      Remote
                                *NETATR        Net ID
                                *NETATR        *LOC
                                *NETATR        USIBMRA
                                *NETATR        USIBMRA

F3=Exit      F5=Refresh      F6=Add distribution queue
F10=Work with distribution queues      F12=Cancel

```

Figure 105. Configure Distribution Queues Panel

We need to configure a SystemView Distribution Services (\*SVDS) queue type as this queue type is used to transfer distributions between systems that use the SystemView Managed System Services/400 licensed program.

Press PF6 to add a queue, and the Add Distribution Queue display appears. You can also use the Add Distribution Queue (ADDDSTQ) command.

The following panel is displayed.

```

                                Add Distribution Queue                                Page 1 of 2

Type choices, press Enter.

Queue . . . . . RAIADT5D      Name
Queue type . . . . . *SVDS      *SNADS, *RPDS, *SVDS, *DLS
Remote location name . . . . . RAIADT5D      Name
Mode . . . . . LU62      Name, *NETATR
Remote net ID . . . . . USIBMRA      Name, *LOC, *NONE
Local location name . . . . . RALYAS4A      Name, *LOC

Normal priority:
Send time:
  From/To . . . . . : : 00:00-23:59
  Force . . . . . : : 00:00-23:59
Send depth . . . . . 1      1-999, blank

High priority:
Send time:
  From/To . . . . . : : 00:00-23:59
  Force . . . . . : : 00:00-23:59
Send depth . . . . . 1      1-999, blank

F3=Exit      F12=Cancel

More...

```

Figure 106. Add Distribution Queue Panel

The following values have to be filled in:

- Queue name

The name of the queue in which distributions are stored prior to sending.

We used the application name of our NetView Distribution Manager/MVS application (RAIADT5D).

- Queue type

The type of distribution queue.

SVDS is the distribution queue type. SVDS queues are used for distributions between NetView Distribution Manager/MVS hosts and the SystemView Managed System Services/400 licensed program.

- Remote location name

The name of the remote location to which distributions are sent from this distribution queue. The remote location name must be the same as the remote location name specified in the device description of the device used when sending distributions to another system from this distribution queue.

We specified RAIADT5D which was the NetView Distribution Manager/MVS application name as shown in Figure 83 on page 95.

- Mode name

The name of the mode that defines the sessions on the device used by the distribution queue.

We specified LU62 as this was the mode name defined to the NetView Distribution Manager/MVS node definitions as well as on the AS/400 definitions.

- Remote net ID

The remote network identifier of the remote network to which this distribution queue sends distributions.

The remote network identifier of the NetView Distribution Manager/MVS application was USIBMRA.

- Normal priority

These definitions we left as default but we described the values below.

The following conditions are used for distributions routed on this queue because they have a service level of data low.

- Send time

The time period during which distributions are sent from this distribution queue. The distribution queue is only active for this time. If you do not enter a time period, the transmissions are controlled by the send depth value.

- From

The start of the transmission time.

- To

The end of the transmission time. The end of the transmission in progress is completed.

- Force

A specific time of the day when distributions in the queue are sent regardless of send depth.

If no from-time or to-time period is established to send distributions, there are no restrictions on force time. It can be any time in the 24 hour time period, and all non-held distributions in the queue are sent. If there are from-times or to-times entered, the force time must occur during the period specified by the from-times or to-times. Distributions are sent until the queue is empty or until the to-time is reached.

– Send depth

The number of non-held distributions that must be on the queue before the system automatically sends them. The value can be from 1 through 999 or blank; the default value is 1. If you do not specify a time period, send depth controls transmission. If you enter both a force time and send depth, the force time has priority. If blanks are specified, the distributions are sent only when an operator specifically sends them by using the Work with Distribution Queue (WRKDSTQ) or Send Distribution Queue (SNDDSTQ) commands.

• High priority

The conditions used for distributions on this queue are explained in the previous steps. They are routed to this distribution queue because they have a service level of fast, status, or data high.

There are more choices available on the next panel. Press the scroll down keys to complete them.

```

                                     Add Distribution Queue
                                     Page 2 of 2

Type choices, press Enter.

Number of retries . . . . .      3          0-9999
Number of minutes
  between retries . . . . .      5          0-9999
To ignore time/depth values
  while receiving:
  Send queue . . . . .           N          Y=Yes, N=No

F3=Exit      F12=Cancel
Bottom
```

Figure 107. Add Distribution Queue Panel

The values we accepted were the defaults.

The descriptions of the values are described below.

- Number of retries

The number of times a SNADS sender attempts to send distributions from a SNADS distribution queue after a failure occurs.

If you specify Number of retries=0, the SNADS sender makes no retry attempt to send the distributions after a failure occurs.

- Number of minutes

The time interval (in minutes) between the additional attempts a SNADS sender makes to send distributions from a distribution queue after a failure occurs.

If you specify Number of minutes between retries=0, the SNADS sender does not wait before attempting to send the distributions again.

- Send queue

Specifies whether a SNADS send is started when the receiver becomes active. This happens when a SNADS receiver becomes active that uses the same configured remote location name, mode name, local location name, and remote network ID as is defined in the distribution queue.

### 4.5.3 Configuring the Routing Table

The routing table determines which distribution queue receives a distribution on its way to a particular destination.

Distributions are routed to distribution queues based on service levels. One or more service levels must be specified for each routing table entry. The system will not route distributions for service levels you have not configured except when using the \*SVDS queue.

When using a \*SVDS queue, a routing table entry is optional. This is because each connection is normally an end-to-end connection.

We configured a routing table to enable the AS/400 to send responses to the requests sent from the NetView Distribution Manager/MVS application.

```

                                Configure Distribution Services

Type choice, press Enter.

Type of distribution services
information to configure . . . 2      1=Distribution queues
                                       2=Routing table
                                       3=Secondary system name table

F3=Exit      F12=Cancel

```

Figure 108. Configure Distribution Services Panel

Select option 2 to configure the routing table and press Enter.

The routing table is configured for the destination nodes to which the distribution queue entries can be routed.

The following panel will be shown.

```

                                Configure Routing Table

Type options, press Enter.
  2=Change 4=Remove 5=Display details

-----System-----
Opt  Name      Group      Description
    RALVSMV6
    RALYAS4B
    RALYAS4C      Route to Ralyas4C
    TS020
    WTSCPOK

F3=Exit      F5=Refresh      F6=Add routing table entry
F12=Cancel

```

Figure 109. Configure Routing Table Panel

This is a list of all the routing tables on the system. Press PF6 to add a routing table. You can also use the Add Distribution Route (ADDDSTRTE) command.

The Add Routing Table Entry display allows you to add an entry to the distribution services routing table.

```

                                Add Routing Table Entry
Destination system name/Group . . . . . : RAIADT5D USIBMRA
Type changes, press Enter. (At least one queue name is required.)

Description . . . . . ROUTING TABLE ENTRY FOR NVDMHOST
Service level:
  Fast:
    Queue name . . . . . RAIADT5D           Distribution queue name
    Maximum hops . . . . *DFT             Number of hops, *DFT
  Status:
    Queue name . . . . . RAIADT5D
    Maximum hops . . . . *DFT
  Data high:
    Queue name . . . . . RAIADT5D
    Maximum hops . . . . *DFT
  Data low:
    Queue name . . . . . RAIADT5D
    Maximum hops . . . . *DFT

F3=Exit      F12=Cancel

```

Figure 110. Add Routing Table Entry Panel

Type the information you want to use in each entry field and press the Enter key.

- Destination system name/Group

The NetView Distribution Manager/MVS host to which we are sending or forwarding distributions.

We defined ours as the NetView Distribution Manager/MVS application name, RAIADT5D.

- Description

A brief description of the routing table entry.

- Service level

The service level at which a distribution is handled. This priority level is assigned by the application that initially sent the distribution.

The service level determines if the distribution is on a high or low priority queue. A queue name and hop count must be specified for at least one of the service levels.

The \*SVDS queue is managed through the normal priority portion of the distribution queue. The queue is selected based on the service level of the distribution.

The service levels are:

- Fast

The highest priority level normally used for network messages.

- Status  
Normally used to report SNADS network status and other feedback information.
- Data high  
Used for high priority data traffic.
- Data low  
Used for most data traffic.
- Queue name  
The name of a previously configured distribution queue. Our previously defined queue was RAIADT5D.
- Maximum hops  
Specifies the maximum number of times a distribution can be routed between the systems (a hop). This includes the systems in the network that are participating in the SNADS level routing, including the final destination system. The hops done by APPN routing are not included. This number is assigned to originating distributions the very first time they are routed to a queue using this routing table entry. If the maximum number of hops is exceeded, the distribution is ended, and an error is sent to the feedback destination. The default (\*DFT) is specified by the network attribute (defaults to 16 hops).

#### **4.5.4 Configuring the Managed System Attributes**

To begin using Managed System Services/400 we have to configure the managed system attributes.

These attributes enable you to control which activities are accepted by the managed system and under which user profile the activity is run.

At the command line enter GO SVMSS and press Enter.



```
MAIN                                AS/400 Main Menu                                System:  RALYAS4A
Select one of the following:
    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. PC Support tasks

    90. Sign off

Selection or command
===> GO SVMSS

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F23=Set initial menu
(C) COPYRIGHT IBM CORP. 1980, 1993.
```

Figure 111. Communications Main Menu

The SystemView Managed System Services/400 screen is displayed. The functions provided were described briefly in 4.2, “Describing the Managed System Services/400 Panels” on page 72. We will go into more detail as we configure the system.

**Note**

Before you begin the definition of the managed system attributes make sure that the following are in order:

- The security program and the default user profile must exist with the proper authority available to them. This is necessary for the command to be processed.
- Your user must have \*ALLOBJ special authority to the security program and the user profile.

```

SVMSS                SystemView Managed System Services/400
                                     System:  RALYAS4A
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> 1

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
(C) COPYRIGHT IBM CORP. 1993, 1993.

```

Figure 112. SystemView Managed System Services/400 Menu

Select option 1 to configure Managed System Services/400 and press Enter. The following panel is displayed.

```

CFG SVMSS            Configure Managed System Services/400
                                     System:  RALYAS4A
Select one of the following:

    1. Display managed system attributes
    2. Change managed system attributes
    3. Work with service providers
    4. Configure distribution services

Selection or command
===> 2

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
Type option number or command.

```

Figure 113. Configure Managed System Services/400 Panel

Select option 2 and press Enter to change managed system attributes. The CHGMGDSYSA command could also be used from the command line.

The Change Managed System Attributes (CHGMGDSYSA) command will update the system wide configuration attributes that are used for the SystemView Managed System Services/400 functions.

The following panel is shown.

```

Change Managed System ATR (CHGMGDSYSA)

Type choices, press Enter.

Accept received activities . . . *YES          *SAME, *NO, *YES
Security program . . . . . *NONE          Name, *SAME, *DFT, *NONE
  Library . . . . .          Name, *LIBL, *CURLIB
Default user profile . . . . . QSVMS      Name, *SAME, *NONE
Inactive user time-out . . . . . 10        0-999, *SAME, *NONE
Send intermediate responses . . *YES          *SAME, *NO, *YES
Global name prefix tokens . . .
      + for more values

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 114. Change Managed System Attributes Panel

Complete the following definitions:

- Accept received activities (ACCRCVCRQA)

Specifies whether change request activities are to be accepted from remote locations for processing.

- \*YES

Change request activities received from remote systems are accepted.

- \*NO

Change request activities are not accepted.

We entered "YES" as we wanted to receive requests from the NetView Distribution Manager/MVS application.

- Security program (SECPGM)

Specifies the security program to be used. The program that you specify is run when a change request is received to determine which activities it is authorized to use. This sample security program resides in the library QSVMS and is called QACQSRC. The sample security program allows NetView Distribution Manager/MVS to retrieve, send and delete the object, file and file data categories of data. The program does not allow any other objects to be manipulated.

- \*DFT

The default security program is used. This security program allows NetView Distribution Manager/MVS to send a PTF. No other

manipulation of any data types is permitted by the default security program. The default security program is called QCQATDFT and resides in the QSVMS library.

- \*NONE

No security program is specified. All activities are accepted when the accept received activities, ACCRCVACT(\*YES) parameter is specified. The default user profile is used to process the activity.

- Name of the program

The name of the object can be qualified by a library name to be searched for by the program.

A security program that works for all actions and data categories is shown in 4.5.5, "Security on the Managed System Services/400" on page 122.

- Default user profile (DFTUSRPRF)

Specify the default user profile used for the change request activity if no security program has been specified. The user profiles QSECOFR, QSPL, QDOC, QDBSHR, QRJE, QSYS, QLPAUTO, QLPINSTALL, QTSTRQS, and QDFTOWN are not valid entries for this parameter.

- \*NONE

No default user profile is specified for processing requests. Then a security program must be specified and must indicate the name of the user profile to use if activities are to be processed.

- Specify the name of the user profile object to be used.

Make sure that the user profile specified has the required AS/400 authority to perform the tasks that you require it to perform. For example, that it has the authority to apply a PTF if that is what the remote request is to be.

- Inactive user time-out (INACTIV)

Specifies the number of minutes jobs should wait to receive a change request activity. The job is ended if both of the following are true:

- No activity is received during the specified time period.
- Another profile has activities pending and is not at the maximum number of jobs for the profile.

A new job starts when a new activity is received.

The possible values for inactive use time-out are:

- \*NONE

No time-out value is specified.

- Time-out interval

Specify the number of minutes for an inactive job to wait for additional requests.

- Send intermediate responses (SNDINTRSP)

Specifies whether intermediate responses are sent to the central site system. Intermediate responses may require activation of a switched communication link.

- Global name prefix tokens (PFXTOKEN)

Specifies the set of tokens which, when found at the beginning of a global name, indicate a standard AS/400 object name can be found in the global name.

- \*NONE

No prefix tokens are used. All objects to be changed are identified in the catalog.

- Prefix-token-value

Specifies a set of tokens which indicate that a standard AS/400 name can be found in the global name. If standard object names are used to transfer objects from one AS/400 to another, for instance when a plan is submitted which will retrieve an object from one AS/400 and send it to another, then the object will only be treated as a standard AS/400 name if both the AS/400 systems have the same prefix-token values.

## 4.5.5 Security on the Managed System Services/400

The following diagram will show how security is invoked on the AS/400.

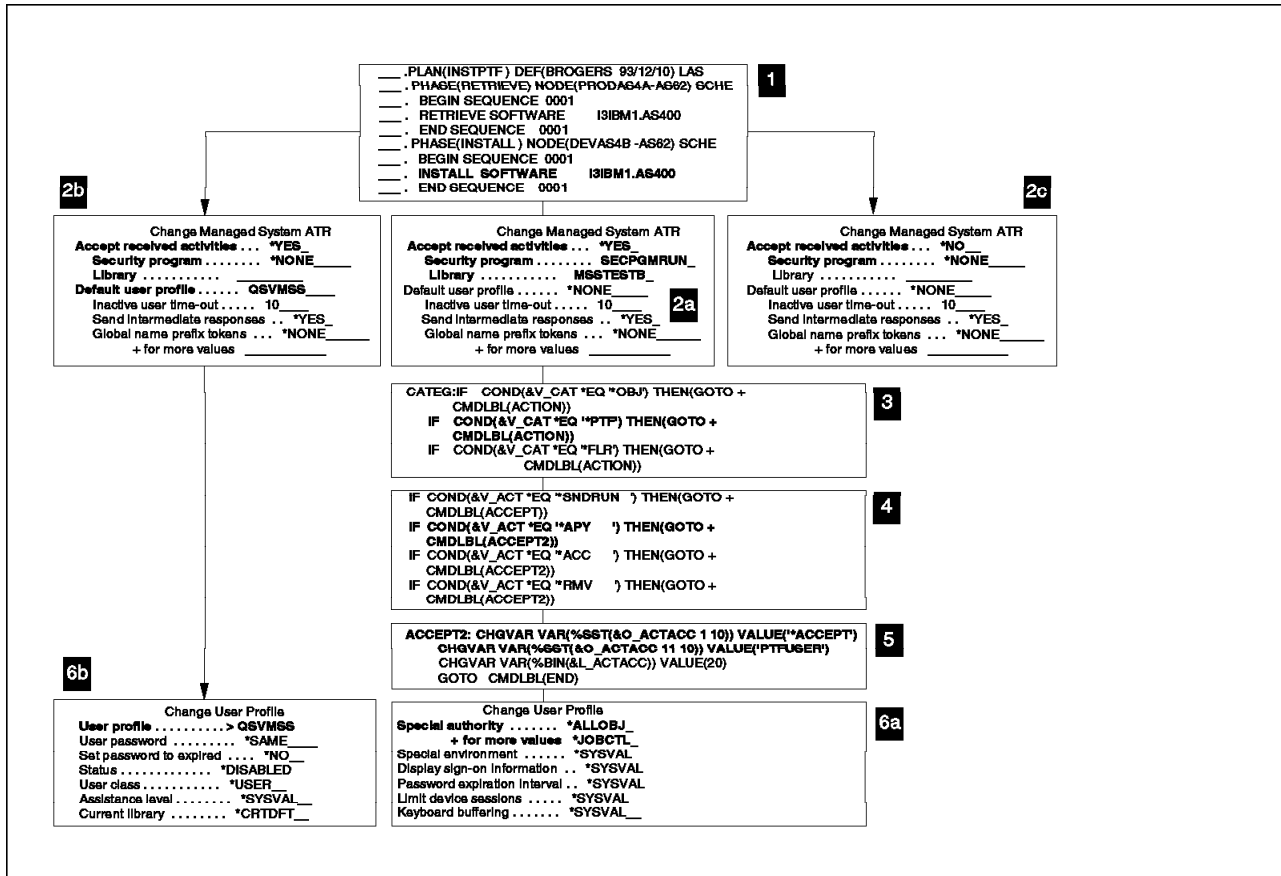


Figure 115. Flowchart of Security on the AS/400

- **1** A NetView Distribution Manager/MVS plan is submitted which will perform a function on the AS/400.  
When activities are received from the NetView Distribution Manager/MVS system the managed system attributes are checked to see which values are specified for security. From this it determines if the activity should be accepted and which user profile should be used to process the activity.
- **2a** The accept received activities parameter is checked to see if the managed system will accept any activities. If it is able to accept any activities it will check the security program parameter.
- **2b** If the security program parameter is \*NONE the default user profile that is specified is used to process the activity.
- **2c** The AS/400 will not accept any activities if the accept received activities parameter is set at \*NO.
- **3** The security program is checked to see if the object to be received is specified.
- **4** The activity is checked to see if it is allowed.
- **5** The user specified in the security program is used to perform the activity with the object type specified.

- **6a** The user profile must have the required AS/400 authority to use the commands and objects that are to be used in the activities. The user profile is PTFUSER and it must be given \*ALLOBJ authority.
- **6b** The user profile must have the required AS/400 authority to use the commands and objects that are to be used in the activities.

The default user profile is QSVMS and it must be given \*ALLOBJ authority. This user is created when the Managed System Services/400 is installed.

As explained in 4.5.4, “Configuring the Managed System Attributes” on page 116 there are some user profiles that cannot be used as the user profile in Managed System Services/400.

There are two security programs supplied with the Managed System Services/400 product. They are described below.

- Default Security Program

The security program that is supplied as default is not able to perform all the activities with all the objects. The default security program is called QCQATDFT and resides in the QSVMS library. The default security program allows NetView Distribution Manager/MVS to send a PTF. No other data types are able to be manipulated.

- Sample Security Program

This sample security program resides in the library QSVMS and is called QACQSRC. The sample security program allows NetView Distribution Manager/MVS to retrieve, send and delete the object, file and file data categories of data. The program does not allow any other data types to be manipulated.

Make sure that the security program that is specified is able to perform the activities it is required to. If the security program does not have sufficient authority a message will display as described in Figure 190 on page 204.

The security program is a user-written program that is used to verify if the activities received from the NetView Distribution Manager/MVS system should be processed and which user profile it will use to process the activity.

We copied the example of the QACQSRC file in the QSVMS library to a library we had created. There are two security program examples in this file. The SECPGMCL which is written in control language, and the SECPGMPL which is written in PL/I.

We edited the SECPGMCL program to accept the activities we required. An example of our program is listed on the following pages.

```

/*****/
/*                                          */
/* PROGRAM NAME: SECEXIT                    */
/*                                          */
/* PROGRAM DESC: EXAMPLE SECURITY EXIT PROGRAM */
/*                                          */
/* LANGUAGE:      CL                        */
/*                                          */
/* FUNCTION:      DETERMINES WHETHER OR NOT AN ACTIVITY RECEIVED FROM */
/*                A CENTRAL SITE SYSTEM SHOULD BE ACCEPTED FOR        */
/*                PROCESSING AND WHAT USER PROFILE SHOULD BE USED.    */
/*                                          */
/*                IN THIS EXAMPLE, ACTIVITIES THAT SEND, RETRIEVE,     */
/*                DELETE OR INITIATE OBJECTS OR FILES ARE ACCEPTED     */
/*                AND THE USER 'QUSER' WILL BE DEFINED TO PROCESS THE  */
/*                REQUEST. ALSO INCLUDED IN THIS CATEGORY ARE THOSE    */
/*                REQUESTS TO CANCEL A PREVIOUSLY SUBMITTED REQUEST.   */
/*                                          */
/*                ACTIVITIES THAT INSTALL, ACCEPT OR REMOVE A PTF, AS  */
/*                WELL AS REQUESTS TO ACTIVATE (IPL) THE SYSTEM, ARE    */
/*                ACCEPTED AND THE USER 'PTFUSR' DEFINED TO PROCESS    */
/*                THEM.                                                */
/*                                          */
/*                THE USER PROFILES USED IN THIS EXAMPLE ('QUSER' AND  */
/*                'PTFUSR') CAN BE CHANGED IN THIS PROGRAM TO REAL     */
/*                USER PROFILES EXISTING IN THIS MANAGED SYSTEM.      */
/*                                          */
/*                THE FOLLOWING USER PROFILES MUST NOT BE USED:       */
/*                                          */
/*                QDOC, QDBSHR, QDFTOWN, QLPAUTO, QLPINSTALL, QRJE,    */
/*                QSECOFR, QSPL, QSYS, QTSTRQS.                        */
/*                                          */
/*                ATTEMPTS TO REPLACE THIS PROGRAM WITH A PROGRAM     */
/*                RECEIVED FROM ANOTHER SYSTEM ARE NOT ALLOWED.      */
/*                                          */
/*                A CHECK IS MADE TO ENSURE THAT THE REQUEST IS SENT  */
/*                FROM AN ALLOWABLE CENTRAL SITE SYSTEM. A LIST OF    */
/*                2 CENTRAL SITE SYSTEMS IS DEFINED AND IT CAN BE     */
/*                EXPANDED. THIS LIST MUST BE CHANGED TO INDICATE    */
/*                THE REAL CENTRAL SITE SYSTEMS SUPPORTED.            */
/*                                          */

```

Figure 116 (Part 1 of 6). Example Security Program



```
/* PARAMETERS: */
/* */
/* 1 - INPUT - TRANSPORT TYPE */
/* 2 - INPUT - ACTION */
/* 3 - INPUT - LENGTH OF ACTION */
/* 4 - INPUT - ORIGIN */
/* 5 - INPUT - LENGTH OF ORIGIN */
/* 6 - INPUT - DATA OBJECT INFORMATION */
/* 7 - INPUT - LENGTH OF DATA OBJECT INFORMATION */
/* 8 - OUTPUT - ACTION ACCEPTANCE */
/* 9 - OUTPUT - LENGTH OF ACTION ACCEPTANCE */
/* */
/* FOR MORE INFORMATION ON THE SECURITY PROGRAM PARAMETERS, TYPE */
/* "GO SVMSS" AND SELECT MENU ITEM 20. */
/* */
/* TO USE THIS EXAMPLE: */
/* */
/* 1) COPY THIS SOURCE MEMBER TO A SOURCE PHYSICAL FILE MEMBER IN */
/* A DIFFERENT LIBRARY. */
/* 2) MODIFY THE PROGRAM AS NEEDED TO ACCEPT OR REJECT ACTIVITIES */
/* FOR YOUR ENVIRONMENT. THE ALLOWED ORIGIN LIST MUST BE */
/* MODIFIED FOR YOUR ENVIRONMENT. */
/* 3) COMPILE THE SOURCE USING THE CRTCLPGM COMMAND. */
/* 4) CHANGE THE MANAGED SYSTEM ATTRIBUTES USING THE CHGMGDSYSA */
/* COMMAND TO REFERENCE THE COMPILED PROGRAM. */
/* */
/*****/
```

Figure 116 (Part 2 of 6). Example Security Program

```

SECEXIT:   PGM          PARM(&I_TRANSP &I_ACTION &L_ACTION &I_ORIGIN +
                        &L_ORIGIN &I_DATOBJ &L_DATOBJ &O_ACTACC +
                        &L_ACTACC)

/*-----*/
/* PARAMETER DECLARATION                                     */
/*-----*/
          DCL          VAR(&I_TRANSP) TYPE(*CHAR) LEN(4)
          DCL          VAR(&I_ACTION) TYPE(*CHAR) LEN(20)
          DCL          VAR(&L_ACTION) TYPE(*CHAR) LEN(4)
          DCL          VAR(&I_ORIGIN) TYPE(*CHAR) LEN(24)
          DCL          VAR(&L_ORIGIN) TYPE(*CHAR) LEN(4)
          DCL          VAR(&I_DATOBJ) TYPE(*CHAR) LEN(230)
          DCL          VAR(&L_DATOBJ) TYPE(*CHAR) LEN(4)
          DCL          VAR(&O_ACTACC) TYPE(*CHAR) LEN(30)
          DCL          VAR(&L_ACTACC) TYPE(*CHAR) LEN(4)

/*-----*/
/* VARIABLE DECLARATION                                     */
/*-----*/

/* THE VARIABLE OR_ALLOW CONTAINS A LIST OF CENTRAL SITE SYSTEMS */
/* THAT MAY SEND ACTIVITIES. THE LIST IS CURRENTLY SET TO HANDLE */
/* 2 CENTRAL SITE SYSTEMS. THIS LIST MUST BE CHANGED TO INDICATE */
/* THE CENTRAL SITE SYSTEMS SUPPORTED.                             */
/* (THE LENGTH SHOULD BE IN MULTIPLES OF 16, THE FIRST 8 BYTES ARE */
/* THE NETWORK ID, LAST 8 BYTES ARE THE CP NAME)                   */
          DCL          VAR(&OR_ALLOW) TYPE(*CHAR) LEN(32) +
                        VALUE(' USIBMRA RAIADT5D ')
          DCL          VAR(&V_LEN) TYPE(*DEC) LEN(3) VALUE(32)

/* THE FOLLOWING VARIABLES WILL BE SUBSTRINGED FROM THE INPUT     */
/* PARAMETER STRUCTURES                                           */
          DCL          VAR(&V_ACT) TYPE(*CHAR) LEN(10)
          DCL          VAR(&V_ORIGIN) TYPE(*CHAR) LEN(16)
          DCL          VAR(&V_CAT) TYPE(*CHAR) LEN(10)
          DCL          VAR(&V_OBJTYP) TYPE(*CHAR) LEN(10)
          DCL          VAR(&V_NAME) TYPE(*CHAR) LEN(10)
          DCL          VAR(&V_STOR) TYPE(*CHAR) LEN(10)

/* THIS VARIABLE WILL CONTAIN AN ORIGIN FROM THE LIST             */
          DCL          VAR(&V_CMPORI) TYPE(*CHAR) LEN(16)

/* THIS IS AN INDEX TO THE LIST                                    */
          DCL          VAR(&POS) TYPE(*DEC) LEN(3)

/* DEC_TRANSP IS THE I_TRANSP VARIABLE CONVERTED TO DECIMAL     */
          DCL          VAR(&DEC_TRANSP) TYPE(*DEC) LEN(10 0)

```

Figure 116 (Part 3 of 6). Example Security Program

```

/*-----*/
/* START OF PROGRAM */
/*-----*/

/* INITIAL VARIABLE VALUES FROM THE PARAMETERS */
CHGVAR VAR(&DEC_TRANSP) VALUE(%BIN(&I_TRANSP))
CHGVAR VAR(&V_ACT) VALUE(%SST(&I_ACTION 1 10))
CHGVAR VAR(&V_ORIGIN) VALUE(%SST(&I_ORIGIN 1 16))
CHGVAR VAR(&V_CAT) VALUE(%SST(&I_DATOBJ 1 10))
CHGVAR VAR(&V_OBJTYP) VALUE(%SST(&I_DATOBJ 11 10))
CHGVAR VAR(&V_STOR) VALUE(%SST(&I_DATOBJ 21 10))

/*-----*/
/* VERIFY IF THE TRANSPORT TYPE IS VALID */
/* IF THE TRANSPORT IS NOT 1 (SVDS) THEN REJECT THE REQUEST */
/*-----*/
IF COND(&DEC_TRANSP *NE 1) THEN(GOTO +
CMDLBL(REJECT))

/*-----*/
/* VALIDATE IF THE ORIGIN RECEIVED IS IN THE LIST OF ALLOWED ORIGINS */
/*-----*/
CHGVAR VAR(&POS) VALUE(1)

ORGLoop: CHGVAR VAR(&V_CMPORI) VALUE(%SST(&OR_ALLOW &POS 16))
/* IF THE RECEIVED ORIGIN IS EQUAL TO THE ONE OBTAINED*/
/* FROM THE LIST, GO ON, THE ORIGIN IS ACCEPTED */
IF COND(&V_ORIGIN *EQ &V_CMPORI) THEN(GOTO +
CMDLBL(CATEG))
ELSE CMD(DO)
/* GET ANOTHER ORIGIN FROM THE LIST */
IF COND((&V_CMPORI *EQ ' ' ) *OR ((&POS + +
16) *GE &V_LEN)) THEN(GOTO CMDLBL(REJECT))
ELSE CMD(DO)
CHGVAR VAR(&POS) VALUE(&POS + 16)
GOTO CMDLBL(ORGLoop)
ENDDO
ENDDO

```

Figure 116 (Part 4 of 6). Example Security Program

```

/*-----*/
/* CHECK IF THE DATA CATEGORY IS VALID                                     */
/* ALL DEFINED DATA CATEGORIES ARE ACCEPTED                             */
/*-----*/
CATEG:   IF      COND(&V_CAT *EQ '*OBJ      ') THEN(GOTO + 2
          CMDLBL(ACTION))
          IF      COND(&V_CAT *EQ '*FILE     ') THEN(GOTO + 2
          CMDLBL(ACTION))
          IF      COND(&V_CAT *EQ '*FILEDATA ') THEN(GOTO + 2
          CMDLBL(ACTION))
          IF      COND(&V_CAT *EQ '*PTF      ') THEN(GOTO + 3
          CMDLBL(ACTION))
          IF      COND(&V_CAT *EQ '*CVRLTR   ') THEN(GOTO + 3
          CMDLBL(ACTION))
          IF      COND(&V_CAT *EQ '*FLR      ') THEN(GOTO + 3
          CMDLBL(ACTION))
          IF      COND(&V_CAT *EQ '*SYS      ') THEN(GOTO + 3
          CMDLBL(ACTION))
          GOTO    CMDLBL(REJECT)

/*-----*/
/* CHECK IF THE ACTION RECEIVED IS VALID                                   */
/* ALL DEFINED ACTIONS ARE ACCEPTED                                       */
/*-----*/
ACTION:  IF      COND(&V_ACT *EQ '*SND      ') THEN(GOTO + 4
          CMDLBL(PROC_SND))
          IF      COND(&V_ACT *EQ '*RTV      ') THEN(GOTO + 4
          CMDLBL(ACCEPT))
          IF      COND(&V_ACT *EQ '*DLT      ') THEN(GOTO + 4
          CMDLBL(ACCEPT))
          IF      COND(&V_ACT *EQ '*CNL      ') THEN(GOTO + 5
          CMDLBL(ACCEPT))
          IF      COND(&V_ACT *EQ '*RUN      ') THEN(GOTO + 5
          CMDLBL(ACCEPT))
          IF      COND(&V_ACT *EQ '*SNDRUN   ') THEN(GOTO + 5
          CMDLBL(ACCEPT))
          IF      COND(&V_ACT *EQ '*APY      ') THEN(GOTO + 6
          CMDLBL(ACCEPT2))
          IF      COND(&V_ACT *EQ '*ACC      ') THEN(GOTO + 6
          CMDLBL(ACCEPT2))
          IF      COND(&V_ACT *EQ '*RMV      ') THEN(GOTO + 6
          CMDLBL(ACCEPT2))
          IF      COND(&V_ACT *EQ '*SNDAPY   ') THEN(GOTO + 6
          CMDLBL(ACCEPT2))
          IF      COND(&V_ACT *EQ '*STR      ') THEN(GOTO + 6
          CMDLBL(ACCEPT2))
          GOTO    CMDLBL(REJECT)

```

Figure 116 (Part 5 of 6). Example Security Program

```

/*-----*/
/* WHEN THE *SND ACTION IS REQUESTED, THIS PROGRAM VALIDATES */
/* THAT THE OBJECT THAT IS BEING SENT IS NOT THIS SECURITY */
/* EXIT PROGRAM */
/*-----*/
PROC_SND:  CHGVAR    VAR(&V_NAME) VALUE(%SST(&I_DATOBJ 211 10)) 7
           IF       COND((&V_CAT *EQ '*OBJ      ') *AND +
                        (&V_OBJTYP *EQ '*PGM      ') *AND +
                        (&V_NAME *EQ '*SECPGMCL')) THEN(GOTO +
                        CMDLBL(REJECT))

/*-----*/
/* SET THE ACTION ACCEPTANCE OUTPUT VARIABLE TO INDICATE THAT THE */
/* REQUEST IS TO BE ACCEPTED AND INDICATE THAT THE "QUSER" USER */
/* PROFILE IS TO BE USED TO PROCESS IT. INDICATE THAT 20 CHARACTERS */
/* OF ACCEPTANCE INFORMATION IS BEING RETURNED. */
/*-----*/
ACCEPT:    CHGVAR    VAR(%SST(&O_ACTACC 1 10)) VALUE('*ACCEPT  ')
           CHGVAR    VAR(%SST(&O_ACTACC 11 10)) VALUE('QUSER  ') 8
           CHGVAR    VAR(%BIN(&L_ACTACC)) VALUE(20)
           GOTO      CMDLBL(END)

/*-----*/
/* SET THE ACTION ACCEPTANCE OUTPUT VARIABLE TO INDICATE THAT THE */
/* REQUEST IS TO BE ACCEPTED AND INDICATE THAT THE "PTFUSR" USER */
/* PROFILE IS TO BE USED TO PROCESS IT. INDICATE THAT 20 CHARACTERS */
/* OF ACCEPTANCE INFORMATION IS BEING RETURNED. */
/*-----*/
ACCEPT2:   CHGVAR    VAR(%SST(&O_ACTACC 1 10)) VALUE('*ACCEPT  ')
           CHGVAR    VAR(%SST(&O_ACTACC 11 10)) VALUE('PTFUSR  ') 9
           CHGVAR    VAR(%BIN(&L_ACTACC)) VALUE(20)
           GOTO      CMDLBL(END)

/*-----*/
/* SET THE ACTION ACCEPTANCE OUTPUT VARIABLE TO INDICATE THAT THE */
/* REQUEST IS TO BE REJECTED. INDICATE THAT 10 CHARACTERS */
/* OF ACCEPTANCE INFORMATION IS BEING RETURNED. */
/*-----*/
REJECT:    CHGVAR    VAR(%SST(&O_ACTACC 1 10)) VALUE('*REJECT  ')
           CHGVAR    VAR(%BIN(&L_ACTACC)) VALUE(10)

/*-----*/
/* END OF PROGRAM */
/*-----*/
END:       ENDPGM

```

Figure 116 (Part 6 of 6). Example Security Program

The values we changed which were important were the following:

**Notes:**

**1** Allowed Central Site System

The CP name and NETID of the NetView Distribution Manager/MVS system that may send this system activities. We coded USIBMRA our NETID and RAIADT5D the CP name of our NetView Distribution Manager/MVS application.

## **2** Default Data Categories

These are the data categories that are allowed with the security program example (SECPGMCL).

## **3** Additional Data Categories

These data categories were added to the list of those allowed for this security program.

## **4** Default Actions

These actions are those allowed by the security program example (SECPGMCL).

## **5** Additional Actions

We added these actions to the list of activities that this security program would allow.

These actions are to be used by the user that is specified in the ACCEPT portion of the security program.

## **6** Additional Actions

These actions were also added to the list of activities that would be allowed by the security program.

They are to be processed by the user that is specified in the ACCEPT2 portion of the security program.

## **7** Send Security

This is the portion of the security program that checks to see if the security program is being sent to the AS/400 system. If it is being sent a exception is reported.

## **8** ACCEPT

The actions are processed with the ACCEPT portion of the program and will use the user QUSER. The user QUSER does not have the authority to process all the activities that are specified.

## **9** ACCEPT2

The actions that are processed with the ACCEPT2 portion of the security program will use the user PTFUSR.

This user was created and has the required authority to perform all the activities that will be required of it.

The security program cannot be sent by the NetView Distribution Manager/MVS system; there is a check in the security program to see if it is being sent.

You should take the required steps so that the program is not updated by anyone without the required authority.

We then compiled the program and placed it in our library.

The changed Managed System Attributes panel must specify the name of the compiled program and the name of the library where it is to be found. If Managed System Services/400 cannot find the security program an error will be reported.

---

## 4.6 Customization of the Central Site System

This section will describe how the host components were configured to enable the AS/400 and the NetView Distribution Manager/MVS application to communicate. There are two parts to this section. The configurations that were necessary to configure the AS/400 to VTAM and the configurations that were necessary for NetView Distribution Manager/MVS to define the AS/400 as a node.

An example of the switched major node definitions that were defined in VTAM for the AS/400 are in A.1, "VTAM Major Node Definitions for the AS/400s" on page 223.

### 4.6.1 Configuring NetView Distribution Manager/MVS

In order for the Managed System Services/400 to communicate with the NetView Distribution Manager/MVS host, you need to configure the AS/400 system to the NetView Distribution Manager/MVS host. To do this start the GIX interface to bring up the panels.

At the main menu you enter 1 to configure the network. The configure network option provides access to the NetView Distribution Manager/MVS Distributed Resource Directory. The DRD holds information on the network, the nodes and the data to be transmitted and the resources.

```

                                NETVIEW DISTRIBUTION MANAGER - MAIN MENU
Selection ==> 1
                                                                12:38
 1 CONFIGURE NETWORK                Define nodes and resources, assign resources
 2 BROWSE NETWORK                    View list of nodes and related resources
 3 MANAGE RESOURCES                  Work on resources in the repository
 4 PREPARE PLANS                     Define and submit transmission plans
 5 MANAGE SUBMITTED PLANS            Work on plans and track their status
 6 HANDLE MESSAGES                   View and prepare messages
 7 MANAGE GROUPS                     Work on groups of nodes and resources
 8 SET PROFILES                      Define authorizations and defaults
 F GO TO ISPF                        Access ISPF without ending GIX session

 F1=HELP    F2=SPLIT    F3=END    F4=RETURN    F5=PF05/17  F6=PF06/18
 F7=UP      F8=DOWN     F9=SWAP   F10=PRINT   F11=PF11/23 F12=CURSOR
```

Figure 117. NetView Distribution Manager/MVS Main Menu

The next panel is used to configure the network resources and nodes. A node is known to NetView Distribution Manager/MVS by the hardware and software that it runs. This is the node type and the different node types the installation will use are defined in the setup of the NetView Distribution Manager/MVS application. The next panel illustrates this.

NetView Distribution Manager/MVS also needs to know the logical unit name and logon mode name to establish a session with the node.

These are defined in the following panels.

```

                                CONFIGURE NETWORK
SELECTION ==> 4                                                    12:40
Enter allowed value or accept the one shown:
NODE TYPE AS62      (Ignored when selection is 5 OR 6)
                   ALLOWED ENTRIES: RPS  RS62 AS62  CSCM  T174
                   CMFP  NDMT  CMEP  CDM   DCCS  Q3   SERV
                   CLNT
Select one of the following:
1 DEFINE RESOURCES
2 ASSIGN RESOURCES TO NODES
3 MAINTAIN RESOURCE HISTORY AT THE NODES
4 DEFINE NODES
5 MAINTAIN LU/TP ASSIGNMENTS
6 MAINTAIN LU/CP ASSIGNMENTS
F1=HELP   F2=SPLIT   F3=END     F4=RETURN  F5=PF05/17  F6=PF06/18
F7=UP     F8=DOWN    F9=SWAP   F10=PRINT F11=PF11/23 F12=CURSOR
```

Figure 118. Configure Network Panel

The allowed entries are all those node types that were defined in the node definitions when the NetView Distribution Manager/MVS application was customized. For the AS/400 the new node type is the Change Management Entry Point (CMEP) The user-defined name we gave the CMEP node was AS62. Enter AS62 or the name you defined in the setup of the NetView Distribution Manager/MVS at the node type. Select option 4 on the selection line and press Enter to define your nodes.

The menu that is now shown allows you to create a AS62 node definition in your network.



```

                SPECIFY OPERATION ON NODE AS62
Selection ==> 1
                                                    12:41

Enter desired values or accept the ones shown:

Node name  PRODAS4A  Blank or partial name followed by * for full-list
Node model _____ Allowed for the CREATE option only

Select one of the following:

1 CREATE      Create a new node definition
2 CHANGE      Change a node definition
3 DELETE      Delete a node definition
4 BROWSE      Browse a node definition
5 PRINT       Print a node definition
6 BROWSE-ALL  Browse all node definitions
7 PRINT-ALL   Print all node definitions

PF 1=HELP      2=SPLIT      3=END      4=RETURN
F1=HELP      F2=SPLIT      F3=END      F4=RETURN  F5=PF05/17  F6=PF06/18
F7=UP        F8=DOWN      F9=SWAP     F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 119. Create Node Panel

You must now give the AS/400 node you want to define a name. This name can be anything that is meaningful to you and identifies the node in your network.

In our test environment we gave the AS/400 the name of PRODAS4A.

Enter option 1 on the selection to create the node and enter the node name where specified.

```

                SPECIFY (AS62) NODE ATTRIBUTES
Command ==>
                                                    12:42

Enter desired values or accept the ones shown:

1 Node class . A0          Required
2 Status . . . 2          1 = Production  2 = Parallel  3 = Test
3 Logical unit RALYAS4A   Required (Logical unit name)
4 Logon mode . LU62_____ Logon mode name
5 Linetype . . 1          1 = Leased    2 = Switched
6 Rgn. . . . . USIBMRA_   Network identification
7 Ren. . . . . RALYAS4A   CP Logical unit name
8 Notes . . . 2          Enter 1 if you want additional node information
9 Profile. . . 2          Enter 1 if you want to change node profile
10 Server name. PRODAS4A  Server name
11 Timzoffs . . +00       Time Zone offset. Any value from -12 to 12

Tracking information:
  Activity: CREATE
  Node . . : PRODAS4A

F1=HELP      F2=SPLIT      F3=END      F4=RETURN  F5=PF05/17  F6=PF06/18
F7=UP        F8=DOWN      F9=SWAP     F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 120. Specify Node Attributes Panel

In Figure 120 there are a number of fields that have to be filled to complete the definition.

1. Node Class

This is the authorization class for the node. Users can be restricted to use nodes of a particular class. If class A0 is used then every user is able to use it. You cannot restrict the A0 class.

2. Status

The node's operational status. Enter one of the following:

- Production, if no testing is done at the node.
- Parallel, if production and testing are both done.
- Test, if no production work is done at the node.

3. Logical Unit

The logical unit name assigned to the node must match the one defined in the VTAM definitions. You will see this in A.1, "VTAM Major Node Definitions for the AS/400s" on page 223.

4. Logon Mode

The logon mode name assigned to the node must match the one defined in the VTAM switched major node. You will see this in A.1, "VTAM Major Node Definitions for the AS/400s" on page 223.

5. Line Type

This field identifies the type of line used to connect the node with the host. Token-ring LAN connection is a leased connection.

6. Rgn and Ren

These fields specify two qualifiers identifying the target. The target name in a SNA/DS network consists of two parts known as the Routing Group Name (RGN) and the Routing Element Name (REN). In SNA/MS, the NETLU and NETID values are, respectively, the REN and RGN specified in SNA/DS.

7. Notes

Enter 1 if you want to add notes to the definition.

8. Profile

Enter 1 if you want to change the profile.

9. Server Name

We gave our server name as PRODAS4A.

This is an optional field and is used to specify the server node for the node we are defining.

10. Timzoffs

This is used for the time zone offset.

## 4.6.2 Activating the NetView Distribution Manager/MVS Node Definitions

The node is now defined and you are able to use it as we assume that the VTAM definitions have been defined and that they are active.

On the installation of NetView Distribution Manager/MVS 1.5 there is an option to enable the dynamic addition of the nodes. If this is in use then you are ready to distribute to the AS/400. Otherwise you will need to end the TCP and start it again to load the updated node definitions.

## 4.7 NetView DM/MVS and Managed System Services/400 Relationships

This table will show the relationship between all the descriptions on the AS/400 and the NetView Distribution Manager/MVS and VTAM definitions on the central site. A description of the important values and parameters follows the table.

A spare set of columns has been created for you to fill in your definitions to help with the relationships of the systems in your own network.

<i>Table 2. Relationship between AS/400 Descriptions and VTAM/NVDM/MVS Definitions</i>			
AS/400	NVDM/MVS	Your AS/400	Your Host
<b>Network Attributes</b>	<b>VTAM Startup List</b>	<b>User Network Attributes</b>	<b>User VTAM Startup List</b>
<b>1</b> LCLNETID(USIBMRA)	<b>1B</b> NETID=USIBMRA	<b>1</b> LCLNETID( )	<b>1B</b> NETID=
<b>2</b> CPNAME(RALYAS4A)	<b>3</b> SSCPNAME=RAI	<b>2</b> CPNAME( )	<b>3</b> SSCPNAME=
<b>2B</b> LCLLOCNAME(RALYAS4A)		<b>2B</b> LCLLOCNAME( )	
<b>Line Description</b>	<b>AS/400 Switched Major Node</b>	<b>User Line Description</b>	<b>User AS/400 Switched Major Node</b>
<b>4</b> LIND(L41TR)	<b>2B</b> RALYAS4A LU <b>12</b> LOCADDR=0	<b>4</b> LIND( )	<b>2B</b> LUNAME LU <b>12</b> LOCADDR=0
<b>5</b> RSRNAME(LIN041 )	<b>6</b> MODETAB=NDMLU62Q	<b>5</b> RSRNAME( )	<b>6</b> MODETAB=
	<b>7</b> DLOGMOD=LU62		<b>7</b> DLOGMOD=
	<b>2</b> CPNAME=RALYAS4A		<b>2</b> CPNAME=
<b>Controller Description</b>	<b>NVDM/MVS Application Major Node</b>	<b>User Controller Description</b>	<b>User NVDM/MVS Application Major Node</b>
<b>8</b> CTLD(NVDMHOST)	<b>9</b> RAIADT5D APPL ACBNAME=RAIADT5D	<b>8</b> CTLD( )	<b>9</b> APPL NAME APPL ACBNAME=
<b>10</b> APPN(*YES)	<b>6</b> MODETAB=NDMLU62Q	<b>10</b> APPN(*YES)	<b>6</b> MODETAB=
<b>1</b> SWTLINLST(L41TR)	<b>7</b> DLOGMOD=LU62	<b>1</b> SWTLINLST( )	<b>7</b> DLOGMOD=
<b>1B</b> RMTNETID(USIBMRA)	<b>14</b> DSESSLIM=1	<b>1B</b> RMTNETID( )	<b>14</b> DESSLIM=1
<b>3</b> RMTCPNAME(RAI)		<b>3</b> RMTCPNAME( )	
<b>Device Description Auto Created</b>	<b>NVDM/MVS Node Definitions</b>	<b>User Device Description Auto Created</b>	<b>User NVDM/MVS Node Definitions</b>
DEVD(RAIADT5D)	<b>11</b> NODE NAME=PRODAS4A	DEVD( )	<b>11</b> NODE NAME=
<b>9</b> RMTLOCNAME(RAIADT5D)	<b>2B</b> LOGICAL UNIT=RALYAS4A	<b>9</b> RMTLOCNAME( )	<b>2B</b> LOGICAL UNIT=
<b>2B</b> LCLLOCNAME(RALYAS4A)	<b>1</b> NETWORK ID=USIBMRA	<b>2B</b> LCLLOCNAME( )	<b>1</b> NETWORK ID=
<b>8</b> CTL(NVDMHOST)	<b>7</b> LOGON MODE=LU62	<b>8</b> CTL( )	<b>7</b> LOGON MODE=
<b>7</b> MODE(LU62)	<b>1</b> RGN=USIBMRA	<b>7</b> MODE( )	<b>1</b> RGN=
<b>12</b> LOCADDR(00)	<b>2</b> REN=RALYAS4A	<b>12</b> LOCADDR(00)	<b>2</b> REN=
<b>Configuration List Description</b>		<b>User Configuration List Description</b>	
<b>2B</b> LCLLOCNAME(RALYAS4A)		<b>2B</b> LCLLOCNAME( )	
<b>9</b> RMTLOCNAME(RAIADT5D)		<b>9</b> RMTLOCNAME( )	
<b>3</b> RMTCPNAME(RAI)		<b>3</b> RMTCPNAME( )	
<b>13</b> RMTNETID(USIBMRA)		<b>13</b> RMTNETID( )	
<b>1B</b> CP NETID(USIBMRA)		<b>1B</b> CP NETID( )	
<b>14</b> SINGLE SESSION(YES)		<b>14</b> SINGLE SESSION(YES)	

## Notes:

### **1** Local Network Identifier (LCLNETID) AS/400

This name is the network name that the AS/400 resides in. In NetView Distribution Manager/MVS this name is defined with the logical unit name. In the NetView Distribution Manager/MVS node definitions this name matches the RGN name defined.

### **1B** Network Identifier (NETID) VTAM

This is the network identifier of the VTAM. The name defined in the AS/400 controller definitions as the remote net ID should match this name. The CP net ID in the AS/400 configuration list description must match this name.

### **2** Control Point Name (CPNAME)

The AS/400 is known by this name in the network. It matches the CP name in the VTAM switched major node for this LU. On the NetView Distribution Manager/MVS node definitions this name matches the REN value.

### **2B** Local Location Name (LCLLOCNAME)

The name defined in the configuration list as the local location name matches this name. The independent LU defined in the switched major node for the AS/400 uses this name. The logical unit defined to NetView Distribution Manager/MVS is this name. The device description will show this name as the local location name when the device is auto created.

### **3** VTAM Name (SSCPNAME)

The SSCP name is the name of the VTAM. The configuration list as well as the controller description on the AS/400 should have this name defined as the remote CP name. The AS/400 will use this control point to establish a session with the application.

### **4** Line Description Name (LIND)

The name given for the line description. It is defined in the controller definition as the switched line list resource to relate the controller to the line.

### **5** Resource Name (RSRCNAME)

This is the physical connection for the line on the AS/400.

### **6** Mode Table Name (MODETAB)

This is the logmode table where the log modes that are to be used are stored. The name is defined in the application major node as well as the AS/400 switched major node.

### **7** Log Mode (DLOGMOD)

This is a set of rules that the participants of the session establishment are to follow. The same name that is used to define the log mode on the host is to be used on the AS/400 when the mode description is set up. This name is defined on the NetView Distribution Manager/MVS node definitions as well as on the VTAM switched major node definitions for the AS/400 LU. The AS/400 will show this name on the device description that is auto-created when the session between the AS/400 and the NetView Distribution Manager/MVS application is set up.

#### **8** Controller Description Name (CTLD)

The controller description name is used in the AS/400 and once the device that is auto-created is active this name will appear in the device description.

#### **9** NetView Distribution Manager/MVS Application Name (RAIADT5D)

NetView Distribution Manager/MVS is defined to VTAM in an application major node. This is where the ACB name for the application is defined. This name must be defined in the configuration list remote location name as an LU name that the AS/400 will be establishing a session with. Again once the session has been established the application name will appear in the device description remote location name definition. This name is used in conjunction with **13** for the AS/400 to have the fully qualified CP name of the application it wishes to establish a session with.

#### **10** APPN Definition

This was defined as \*YES for the session to be established with only the controller and configuration list defined on the AS/400. The device description was created automatically when the session with the NetView Distribution Manager/MVS application was established. This has been described in 4.4.2, "Varying the Communications Online" on page 96.

#### **11** Node Name on NetView Distribution Manager/MVS Definitions

This name can be defined as any name that will help you identify the node in the network. It does not have to be the LU name.

#### **12** Local Address (LOCADDR)

As this is an independent LU 6.2 the LOCADDR is defined for the LU in the switched major node as 00. The LOCADDR value will appear on the AS/400 device description when the device is created.

#### **13** Remote Network Identifier (RMTNETID)

This name is the network identifier name of the application. It is used in conjunction with the remote location name to identify the fully qualified CP name of the application.

#### **14** Single Session

The NetView Distribution Manager/MVS application needs this value to be coded. The single session capability of the application is coded in the application major node with the DSESSLIM parameter.

---

## Chapter 5. NetView Distribution Manager/MVS with Managed System Services/400

This chapter will describe how the Managed System Services/400 node is used by NetView Distribution Manager/MVS requests. We then describe some remote change management scenarios that we tested. These were chosen to represent a range of the functions that are available to the Managed System Services/400 nodes. The scenarios are documented so that the user should be able to perform these scenarios in their own environment. Lastly we included some problem determination hints which will assist in finding a solution to any problems that might occur.

---

### 5.1 Remote Change Management Terms

When using NetView Distribution Manager/MVS with Managed System Services/400 the NetView Distribution Manager/MVS system sends activities to the AS/400 system which is using Managed System Services/400. These activities are run by Managed System Services/400 and reporting is done back to the NetView Distribution Manager/MVS application on the central site system.

A single NetView Distribution Manager/MVS user can manage software change management for an entire network of AS/400 systems using one NetView Distribution Manager/MVS application.

In our scenarios we used two AS/400 systems and a single NetView Distribution Manager/MVS application to manage them.

There are some NetView Distribution Manager/MVS terms which might not be known which we will explain initially as we will be using them in the scenarios we tested.

- Send

The NetView Distribution Manager/MVS system sends objects to the managed system, the managed system in this case is an AS/400 with Managed System Services/400 installed.

- Retrieve

The NetView Distribution Manager/MVS system retrieves an object from the managed system.

- Delete

An object is deleted from the managed system by the NetView Distribution Manager/MVS application.

- Initiate

A program is started on the managed system by the NetView Distribution Manager/MVS application. There are many program types supported, for example CL, REXX, RPG, C, COBOL, BASIC and other languages.

- Install

PTFs are loaded and applied, temporarily or permanently, on the managed system by the NetView Distribution Manager/MVS application. On the AS/400 the resource type software is PTF.

- Remove  
A PTF is removed from the managed system by the NetView Distribution Manager/MVS application.
- Accept  
A PTF that was previously applied either by service or the remote system is permanently applied on the managed system by the NetView Distribution Manager/MVS application.
- Activate Node  
The NetView Distribution Manager/MVS application will make the managed system perform an IPL.

The NetView Distribution Manager/MVS resource types that are supported by the AS/400 for the functions listed above are the:

- Flat Data
- Software
- Procedure
- AS/400 Container
- AS/400 Object

Between the NetView Distribution Manager/MVS application and Managed System Services/400, different terms are used to describe the same function or action.

<b>NetView Distribution Manager/MVS Term</b>	<b>AS/400 Term</b>
Function	One activity
Plan	Group of activities
<b>Resource Types:</b>	<b>Resource Types:</b>
Flat Data	File Member (*FILEDATA)
Software	PTF Program Temporary Fix
Procedure	Program, REXX procedure or Batch input stream
AS/400 Container	AS/400 Save File
AS/400 Object	Program, Library, File, Document, Folder and other AS/400 object types.

Figure 121. NetView Distribution Manager/MVS and AS/400 Terms

A complete list of supported AS/400 object types is documented in Figure 174 on page 187.



---

## 5.2 Scenarios for Remote Change Management

The following scenarios of change management functions are documented in this section:

- IPL of the AS/400
- Installation of a PTF on a AS/400
- Initiate a CL program on the AS/400
- Initiate a REXX program on the AS/400
- Send a container (SAVF) to the AS/400
- Send an object (file) to the AS/400

In the first scenario the NetView Distribution Manager/MVS plan is created using the GIX interface. In all other scenarios the plans were created in the batch environment and the JCL is described in the various sections.

### 5.2.1 Perform a Remote IPL of the AS/400

This section will show how a plan is created using the NetView Distribution Manager/MVS function.

The plan that will be created will perform an IPL of the managed system. The initial program load is done at the request of the NetView Distribution Manager/MVS system. The managed node performs the PWRDWN SYS command. In our scenario the managed system that performed the IPL is the RALYAS4B (DEVAS4B) system. This node was defined to NetView Distribution Manager/MVS the same as PRODAS4A was in 4.6.1, “Configuring NetView Distribution Manager/MVS” on page 131.

#### 5.2.1.1 Creating the Plan

On the Main Menu of the NetView Distribution Manager/MVS system select option 4 and press Enter. This option will allow you to prepare plans for submission to the NetView Distribution Manager/MVS Transmission Control File (TCF).

```

                                NETVIEW DISTRIBUTION MANAGER - MAIN MENU
Selection ==> 4
                                                                14:50
1 CONFIGURE NETWORK          Define nodes and resources, assign resources
2 BROWSE NETWORK             View list of nodes and related resources
3 MANAGE RESOURCES           Work on resources in the repository
4 PREPARE PLANS              Define and submit transmission plans
5 MANAGE SUBMITTED PLANS     Work on plans and track their status
6 HANDLE MESSAGES            View and prepare messages
7 MANAGE GROUPS              Work on groups of nodes and resources
8 SET PROFILES               Define authorizations and defaults
F GO TO ISPF                 Access ISPF without ending GIX session

PF 1=HELP      2=SPLIT      3=END      4=RETURN
F1=HELP        F2=SPLIT      F3=END      F4=RETURN      F5=PF05/17  F6=PF06/18
F7=UP          F8=DOWN       F9=SWAP     F10=PRINT     F11=PF11/23 F12=CURSOR

```

Figure 122. NetView Distribution Manager/MVS Main Menu

All functions that are performed by NetView Distribution Manager/MVS are done so using a plan. Once plans are created they are stored in the plan library. When a plan is submitted for execution it goes to the Transmission Control File (TCF). These plans are stored in the TCF until you erase them. An audit of the plan is kept and information regarding the phases and functions performed is available. Once a plan has been submitted to the TCF, the same plan in the plan library can be submitted again only if it has another name.

After selecting option 4 on the Main Menu and pressing Enter, the Prepare Plans panel will be displayed as shown in Figure 123 on page 143.

Pressing Enter on the Prepare Plans panel will display all plans currently in the plan library.

If you know the plan name you can enter it at the correct position and then enter the required selection to perform an action against the plan.

We do not have a plan so select option 1 to create a plan and press Enter. The PLMODEL will automatically be inserted at the plan model position.

```

                                PREPARE PLANS
Selection ==> 1
                                                                14:51
Enter:
Plan name activate      Blank or partial name followed by * for full-list
Plan model PLMODEL_    Required for the CREATE option only

Select one of the following:

1 CREATE                Make a new plan
2 CHANGE               Change one of your plans
3 DELETE              Delete one of your plans from the plan library
4 VALIDATE            Check plan consistency, authorizations, and item
                    availability
5 SUBMIT              Send a plan to the TCF for transmission
6 RENAME              Change the name of one of your plans
7 PRINT/BROWSE        Obtain a printout of or browse a plan

PF 1=HELP      2=SPLIT      3=END      4=RETURN
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=PF05/17      F6=PF06/18
F7=UP        F8=DOWN      F9=SWAP     F10=PRINT     F11=PF11/23    F12=CURSOR

```

Figure 123. Prepare Plan Panel

When you create a plan using PLMODEL as the plan model, you will get a sample plan with many phases and functions. You can delete all the actions on the plan except for the first three by entering D (DELETE) next to each line and pressing Enter. You can also enter D99 (Delete 99 lines) and press Enter. Once all extra entries are deleted, the panel should look like Figure 124.

Select the plan description by entering an S (Select) and pressing Enter.

```

                                CREATE OR CHANGE A PLAN
Command ==>
                                                                ROW 1 TO 3 OF 3
                                                                Scroll PAGE
                                                                14:52
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
                D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
                FT(Change Function Termination values) - G(Get Plan)
                FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD  ACTIVITY (CREATE)

s__ .PLAN(ACTIVATE) DEF(BROGERS 93/12/02) LAST MOD(          )
___ . PHASE(PHRPS  ) NODE(RPSNODE -RPS ) SCHED(          )
___ . SEND  DATASET          RPSDS
***** BOTTOM OF DATA *****

F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=PF05/17      F6=PF06/18
F7=UP        F8=DOWN      F9=SWAP     F10=PRINT     F11=PF11/23    F12=CURSOR

```

Figure 124. Create or Change a Plan Panel

The following panel is displayed. This is where the attributes of the plan are determined. If the plan was to be run every day it would be recursive and we would have entered 1 for yes and then the time delay, within the 24 hour period when the plan would be run.

We do not want the plan to be recursive. You can enter some notes if you want to and press Enter.

```
                SPECIFY ATTRIBUTES OF PLAN: ACTIVATE
Command ==>                                         14:52

Enter desired values or accept the ones shown:

1 Recursive . . . 2    1 = Yes  2 = No
2 Start time delay __ Any integer from 1 to 24
                        (Ignored for not recursive plans)
3 Plan notes   ==> Plan to activate DEVAS4B
                                                    <==

F1=HELP    F2=SPLIT    F3=END    F4=RETURN    F5=PF05/17    F6=PF06/18
F7=UP      F8=DOWN     F9=SWAP   F10=PRINT   F11=PF11/23  F12=CURSOR
```

Figure 125. Specify Attributes of Plan (ACTIVATE) Panel

The plan description has been updated.

The following panel is displayed. This is where we specify the phase characteristics. Select option S to select the phase and press Enter.

```

                                CREATE OR CHANGE A PLAN                                ROW 1 TO 3 OF 3
Command ==>                                                                Scroll PAGE
                                                                14:52

Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD  ACTIVITY (CREATE)

___ .PLAN(ACTIVATE) DEF(BROGERS 93/12/02) LAST MOD(      )
s__ . PHASE(PHRPS  ) NODE(RPSNODE -RPS ) SCHED(      )
___ . SEND DATASET RPSDS
***** BOTTOM OF DATA *****

F1=HELP   F2=SPLIT   F3=END     F4=RETURN   F5=PF05/17  F6=PF06/18
F7=UP     F8=DOWN    F9=SWAP    F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 126. Create or Change a Plan

Enter the phase name. The phase name can be called anything; it is a name and the only restriction is that it cannot be repeated in the same plan.

The node name must also be entered. This is the name of the node that you will perform the actions on that you specify in the phase. The name we give here is the name of the node as defined in the NetView Distribution Manager/MVS node definitions. Here the name is resolved to find the logical unit name and the network ID of the node. So although we will activate the AS/400 node DEVAS4B the node with a name of "MERLIN.RALYAS4B" will be activated. DEVAS4B is the name of the AS/400 node defined to NetView Distribution Manager/MVS.

Press Enter. The following panel will be displayed.

```

                                SPECIFY PHASE ATTRIBUTES OF PLAN: ACTIVATE
Command ==>

Enter desired values or accept the ones shown:

 1 Phase name . . . . . ACTIVATE Required (must be unique in the plan)
 2 Node name . . . . . DEVAS4B_ Required if field 3 is not specified
 3 Group of nodes . . . . . _____ Required if field 2 is not specified
 4 Scheduling . . . . . _____ Date and time (YY/MM/DD HH:MM)
 5 Cut off . . . . . _____ Time or interval (HH:MM)
 6 Hold option . . . . . 2 _____ 1 = Yes 2 = No
 7 Conditioning phase. . . . . _____ Fields 7, 8 and 9 are a logical entity
 8 Conditioning criteria . . . . . _ _____ 1 = Greater or equal to value in field 9
                                           2 = Less or equal to value in field 9
 9 Conditioning value . . . . . _ _____ Any integer from 1 to 99
10 Conditioning mode . . . . . _ _____ 1 = All 2 = Single
11 Termination value . . . . . 00 _____ Any integer from 0 to 99
12 Batch job name. . . . . _____ Fields 11 and 12 are a logical entity
13 Batch job submission
    conditioning value. . . . . _ _____ Any integer from 0 to 99
14 PHASE NOTES . . . ==>

F1=HELP    F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
F7=UP      F8=DOWN      F9=SWAP    F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 127. Specify Phase Attributes of Plan (ACTIVATE)

Fill in the fields shown above, press Enter, and the following panel will be displayed. Select the track option by entering a 1 and pressing Enter.

```

                                PHASE PARAMETERS
Command ==>
14:52

Enter desired value or accept the one shown:

14 Track option 1          1 = Yes 2 = No

Tracking information:
Plan: ACTIVATE           Phase: ACTIVATE

PF 1=HELP    2=SPLIT    3=END      4=RETURN
F1=HELP     F2=SPLIT   F3=END     F4=RETURN  F5=PF05/17 F6=PF06/18
F7=UP       F8=DOWN    F9=SWAP    F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 128. Phase Parameter Panel

The following panel is shown.

We now have a plan description which has been defined.

We have also specified a name of the phase that will be performed and we have specified which node is to perform the function. There can be many functions contained in one phase. The functions in that phase will only be performed for one node that is specified in the phase.

Select the I (Insert) option to insert a function and press Enter.

```

                                CREATE OR CHANGE A PLAN                                ROW 1 TO 3 OF 3
Command ==>                                                                Scroll PAGE
                                                                14:52
Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
              D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
              FT(Change Function Termination values) - G(Get Plan)
              FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD  ACTIVITY (CREATE)

___ .PLAN(ACTIVATE) DEF(BROGERS 93/12/02) LAST MOD(      )
___ . PHASE(ACTIVATE) NODE(DEVAS4B -AS62) SCHED(      )
i__ . SEND  DATASET      RPSDS
***** BOTTOM OF DATA *****

F1=HELP    F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
F7=UP      F8=DOWN     F9=SWAP   F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 129. Create or Change a Plan Panel

The following panel is displayed.

This is the list of all the function types and resources supported by the NetView Distribution Manager/MVS application. Not all of them are supported by the AS/400.

Select option 9 to activate the node at the selected function and press Enter.

```

          FUNCTION RESOURCE SELECTION (NODE AS62,PLAN ACTIV  ROW 1 TO 11 OF 11
Selected function ==> 9

Selected resource ==>
                                                                    SCROLL==> PAGE
                                                                    14:52

Select the following:

Functions Types          Resources Types
1  SEND                  1  MICROCODE
2  RETRIEVE              2  SOFTWARE
3  DELETE                3  PROCEDURE
4  INITIATE              4  FLAT DATA
5  INSTALL               5  RELATIONAL DATA
6  REMOVE                6  AS/400 OBJECT
7  UNINSTALL             7  AS/400 CTN
8  ACCEPT                8  CONFIGURATION FILE
9  ACTIVATE NODE         9  MSDUMP
                          10 TRACE INFO
                          11 MSERRLOG
***** BOTTOM OF DATA *****

F1=HELP   F2=SPLIT   F3=END   F4=RETURN   F5=PF05/17   F6=PF06/18
F7=UP     F8=DOWN    F9=SWAP  F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 130. Function Resource Selection Panel

The following panel is shown.

This is where we specify the characteristics of the activate function.

```

          ACTIVATE NODE PARAMETERS (PLAN: ACTIVATE)
Command ==>
                                                                    14:52

Enter desired values or accept the ones shown:

1 Force option . . . . 1   1 1 = Yes      2 = No
2 Activation date . . . ____ 2 (MM/DD/YY)
3 Activation time . . . ____ 2 (HH:MM)
4 Timeind . . . . . ____ 1 = Local  2 = GMT
5 Cmactuse . . . . . 2 3 1 = Trial & Production  2 = Production only

PF 1=HELP      2=SPLIT      3=END      4=RETURN
                9=SWAP      10=PRINT   12=CURSOR

F1=HELP   F2=SPLIT   F3=END   F4=RETURN   F5=PF05/17   F6=PF06/18
F7=UP     F8=DOWN    F9=SWAP  F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 131. Activate Node Parameters (Plan ACTIVATE) Panel

On the AS/400 there are some rules regarding this function.

- **1** Force Option



The force option is used by the AS/400 to determine if the IPL of the system should be done with the immediate (\*IMMED) or the controlled (\*CNTRLD) option. Yes will result in a immediate ending and No in a controlled ending.

- **2** Activation Time

The date and time parameter are used to determine the delay on the (PWRDWN SYS) command. This is the time the AS/400 will wait before performing the activate. The default is 10 minutes if a date and time are not specified.

- **3** Cmactuse

This parameter must have a value of 2 for production. Any other value will result in the function being rejected as the AS/400 does not support the service area.

Enter the values and press Enter.

The following screen is displayed.

```

                                CREATE OR CHANGE A PLAN                                ROW 1 TO 3 OF 3
Command ==> save                                                                Scroll PAGE
                                                                                                                                14:52

Primary command : SAVE
Line commands: S(Select) - R(Repeat) - M(Move) - C(Copy) - A(After) - B(Before)
               D(Delete) - I(Insert) - BS(Begin Sequence) - ES(End Sequence)
               FT(Change Function Termination values) - G(Get Plan)
               FI(Fast Insertion from DRD) - FR(Fast Insertion from Repository)
CMD  ACTIVITY (CREATE)

___ .PLAN(ACTIVATE) DEF(BROGERS 93/12/02) LAST MOD(          )
___ . PHASE(ACTIVATE) NODE(DEVAS4B -AS62) SCHED(          )
___ .  ACTIVATE NODE
***** BOTTOM OF DATA *****

F1=HELP    F2=SPLIT    F3=END      F4=RETURN   F5=PF05/17  F6=PF06/18
F7=UP      F8=DOWN     F9=SWAP    F10=PRINT  F11=PF11/23 F12=CURSOR

```

Figure 132. Create or Change a Plan Panel

The plan has been created. At the command line enter SAVE to save the plan and press Enter.

The following panel is displayed.

It is recommended to validate plans before submitting them to the TCF. The validation will check for any errors in the plan and whether the nodes in the phases have been defined.

Select option 4 and press Enter. The plan will be validated. We can now submit the plan for execution.

```

                                PREPARE PLANS
Selection ==> 5
PLAN HAS BEEN VALIDATED.
Enter:
Plan name  ACTIVATE      Blank or partial name followed by * for full-list
Plan model PLMODEL_     Required for the CREATE option only

Select one of the following:

1 CREATE           Make a new plan
2 CHANGE          Change one of your plans
3 DELETE          Delete one of your plans from the plan library
4 VALIDATE        Check plan consistency, authorizations, and item
                  availability
5 SUBMIT          Send a plan to the TCF for transmission
6 RENAME          Change the name of one of your plans
7 PRINT/BROWSE    Obtain a printout of or browse a plan

PF 1=HELP      2=SPLIT      3=END      4=RETURN
F1=HELP        F2=SPLIT      F3=END      F4=RETURN    F5=PF05/17  F6=PF06/18
F7=UP          F8=DOWN       F9=SWAP     F10=PRINT   F11=PF11/23 F12=CURSOR

```

Figure 133. Prepare Plan Panel (SUBMIT)

Select option 5 to submit the plan.

The plan will be submitted to the NetView Distribution Manager/MVS Transmission Control File (TCF). A session will be established with the AS/400, and the action to IPL the system will be validated by the Managed System Services/400 program. On the AS/400 a message will be displayed informing the users that the system will be performing an IPL in 10 minutes. This is what the message will look like.

```

                                Display Messages
                                System:  RALYAS4B
Queue . . . . . : QSECOFR          Program . . . . . : *DSPMSG
  Library . . . . : QSYS            Library . . . . . :
Severity . . . . : 00              Delivery . . . . . : *NOTIFY

Type reply (if required), press Enter.
From . . . . . : PTFUSER          12/09/93  15:50:32
System scheduled to power down in 10 minutes.

                                Bottom

F3=Exit      F10=Display all   F11=Remove a message
F12=Cancel   F13=Remove all   F16=Remove all except unanswered

```

Figure 134. Display Messages Panel

If you go to the WRKRCVCRQA panel you will see the change request in a status of scheduled. You are able to hold or end the change request by entering the required option.

```

                                Work with Received CRQ Activities
                                RALYAS4B
                                12/09/93  18:23:18
Type options, press Enter.
  3=Hold  4=End  5=Display details  6=Release

Control  Network  Current
Opt Point  ID      Status      Activity
_  RAIADT5D  USIBMRA   Scheduled   IPL system

                                Bottom

F3=Exit  F5=Refresh  F9=Command  F11=Display dates and times  F12=Cancel
F17=Top  F18=Bottom
(C) COPYRIGHT IBM CORP. 1993, 1993.

```

Figure 135. Work with CRQ Activities Panel

The system will always restart as the restart parameter on the "PWRDWNSYS" command always has a value of yes.

After the system has performed the IPL the Managed System Services/400 application is started automatically, and the return code is sent to the NetView Distribution Manager/MVS application.

The Managed System Services/400 application always starts automatically, but it needs the QSNADS subsystem to be started for the application to work. We will show how the AS/400 was customized to start QSNADS automatically in 5.2.1.4, “Customizing the AS/400 Startup Parameters” on page 155.

**Please Note!**

Make sure that the QSNADS subsystem has been customized to restart automatically after an IPL. If QSNADS does not start you will not get any responses back at the NetView Distribution Manager/MVS system.

### 5.2.1.2 Reporting on IOF Panel

In NetView Distribution Manager/MVS all messages are reported to the Interactive Operator Facility (IOF).

In the following panel we show what the messages should look like on the Interactive Operator Facility (IOF) panel.

```

NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME      MSG NO.  MESSAGE TEXT
0168 15:48 1 NDM0402S PLAN ACTIVO HAS BEEN SUBMITTED.
0169 15:48 2 NDM0034I PHASE ACTIVO ACTIVATE STARTED FOR NODE DEVAS4B.
0170 15:48   NDM0106I FUNCTION ACTIVATE ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
          ACTIVO ACTIVATE, NODE DEVAS4B, RETURN CODE 0, TRANSMISSIO
          N BYTES 0, FUNCTION STATUS PENDING.
0171 15:49   NDM0034I PHASE ACTIVO ACTIVATE STARTED FOR NODE DEVAS4B.
0172 15:49   NDM0106I FUNCTION ACTIVATE ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
          ACTIVO ACTIVATE, NODE DEVAS4B, RETURN CODE N/A, TRANSMISS
          ION BYTES 0, FUNCTION STATUS PENDING.
0173 15:59 3 NDM0830I THE TIME SCHEDULED FOR THE LOGICAL UNIT RALYAS4B, LOGMODE
          LU62 TO SEND DATA TO NETVIEW DM HAS EXPIRED.
0174 16:02 4 NDM0816E CONNECTION LOST WITH LOGICAL UNIT RALYAS4B, LOGMODE LU62
          VTAM RPL RETURN CODE 0, RPL FEEDBACK CODE 11, RPL6 PRIMA
          RY RETURN CODE 76, RPL6 SECONDARY RETURN CODE 0.

Command ==>

PF=  _  1/13=HELP  3/15=END  4/16=RETURN  7/19=BACK
      8/20=FORW  9/21=PRINT 10/22=TOP  11/23=LAST_VIEWED 12/24=BOT

M=  0          STATUS=WAITING  TRANSM=  0  PRINTER=UNAVAIL

```

Figure 136. Handle IOF Messages Panel Activate 1 of 2

The following notes describe the actions that will take place when the activate is performed on the AS/400.

**Notes:**

**1** Plan Submitted

A message tells you that your plan has been submitted. We see that the plan submitted has a different name than the one defined in Figure 123

on page 143. That is because the name we gave the plan when submitting it to the TCF was ACTIV0.

## 2 Phase Started

The phase activate from the plan ACTIV0 has been started and the node it is meant for is RALYAS4B.

## 3 Time Expired

When the message shown in Figure 134 on page 151 is displayed on the AS/400 no further attempt is made to contact the AS/400 by the NetView Distribution Manager/MVS host. NetView Distribution Manager/MVS expects that a response should have been received by this time from the RALYAS4B (DEVAS4B) system. These responses are not received in the allotted time and so the node times out. On **7**, **8**, and **9** we can see the responses appear as the AS/400 sends them after performing the activate function.

## 4 Connection Lost

The connection NetView Distribution Manager/MVS has with the RALYAS4B (DEVAS4B) node is suddenly terminated when the AS/400 performs the IPL.

```
NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME  MSG NO.  MESSAGE TEXT
0175 16:02 5 NDM0801I NODE DEVAS4B FOR LOGICAL UNIT RALYAS4B IS HELD BY THE TCP
          .
0176 16:26 6 NDM0804I NODE DEVAS4B FOR LOGICAL UNIT RALYAS4B IS RELEASED BY THE
          TCP.
0177 16:26 7 NDM0034I PHASE ACTIVO ACTIVATE STARTED FOR NODE DEVAS4B.
0178 16:26 8 NDM0106I FUNCTION ACTIVATE ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
          ACTIVO ACTIVATE, NODE DEVAS4B, RETURN CODE 0, TRANSMISSIO
          N BYTES 0, FUNCTION STATUS COMPLETED.
0179 16:26 9 NDM0035I PHASE ACTIVO ACTIVATE ENDED FOR NODE DEVAS4B.

Command ==>

PF=  _  1/13=HELP  3/15=END  4/16=RETURN  7/19=BACK
      8/20=FORW  9/21=PRINT 10/22=TOP  11/23=LAST_VIEWED 12/24=BOT

M=  0          STATUS=WAITING  TRANSM=  0  PRINTER=UNAVAIL
```

Figure 137. Handle IOF Messages Panel Activate 2 of 2

### Notes:

#### 5 Node Held

NetView Distribution Manager/MVS realizes that the connection is interrupted and the TCP holds the RALYAS4B (DEVAS4B) node.

## 6 Node Released

When the RALYAS4B (DEVAS4B) system restarts, the connection is established once again and the TCP releases the DEVAS4B node.

## 7 Phase Started

The responses start coming from the RALYAS4B (DEVAS4B) system and the phase is started once again.

## 8 Function Ended

A response is received from the DEVAS4B node informing NetView Distribution Manager/MVS that the function activate ended successfully with a return code of 0.

## 9 Phase Ended

The phase is now ended because all functions specified in the phase are complete.

We have shown how to create the ACTIVATE plan with the panels.

### 5.2.1.3 Plan Definition with Batch Utility

The following plan was created using the ISPF editor, in one of the data sets on the host. An example of the batch plan we used is shown in the following figure.

```
//BROGERS JOB (0-224410),'BROGERS',
// TIME=1440,REGION=3072K,
// CLASS=I,MSGCLASS=0,MSGLEVEL=1
//*ROUTE PRINT WTSCPOK.BROGERS
//JOB LIB DD DSN=NDM.NDM15D.LOADLIB,DISP=SHR
//*****
//* INVOKE SUBMIT *
//*****
//STEP2 EXEC PGM=DSXPREP,REGION=800K,
// PARM='FUNCTION=SUBMIT,USERID=BROGERS'
//*SYSLIB .. ADD HERE TO USE COPY FUNCTION *****
//SNAP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//DSXPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//DSXLIB DD DISP=SHR,DSN=NDM.NDM15D.NDMLIB
//DSXGIX DD DISP=SHR,DSN=NDM.NDM15D.NDMGIX
//DSXGIXD DD DISP=SHR,DSN=NDM.NDM15D.NDMGIXD
//NDMRQFDA DD DISP=SHR,DSN=NDM.NDM15D.NDMRQFD
//NDMRQF DD DISP=SHR,DSN=NDM.NDM15D.NDMRQF
//DSXLIBT DD DISP=SHR,DSN=NDM.NDM15D.NDMLIBT
//DSXTCF DD DISP=SHR,DSN=NDM.NDM15D.NDMTCF
//DSXHFDI DD DISP=SHR,DSN=NDM.NDM15D.NDMHFDI
//DSXHFDA DD DISP=SHR,DSN=NDM.NDM15D.NDMHFDA
//DSXDRD DD DISP=SHR,DSN=NDM.NDM15D.NDMDRD
//BATCHPW DD *
PASSWORD
//SYSIN DD *
```

Figure 138 (Part 1 of 2). NetView Distribution Manager/MVS Plan for Activate Node

```

*****
* STEP TO DELETE PREVIOUS PLAN ACTIVATE          *
* IN PLAN LIBRARY                               *
*****
  DEL PLAN  NAME=ACTIVATE
*****
* DEFINE PLAN WITH NAME ACTIVATE NO AUTO SUBMIT *
*****
  DEF PLAN  NAME=ACTIVATE
*****
* DEFINE PHASE WITH A NAME ACTIVATE             *
* THE NODE TO PERFORM FUNCTION IS DEVAS4B      *
*****
  DEF PHASE NAME=ACTIVATE,                        X
            NODE=DEVAS4B,                        X
            TRACK=YES
*****
* DEFINE FUNCTIONS TO BE PERFORMED             *
* ACTIVATE WITH REQUIRED OPERANDS               *
* FORCE=YES FOR *IMMED IPL. NO=*CNTRLD        *
* CMACTUSE=P MUST BE SPECIFIED FOR AS/400     *
*****
  ACT NODE  FORCE=YES,                            X
            CMACTUSE=P
*****
  SUB PLAN  NAME=ACTIVATE,NEWNAME=ACTIVO
  END
/*

```

Figure 138 (Part 2 of 2). NetView Distribution Manager/MVS Plan for Activate Node

The SUB PLAN is the step that submits the plan to the TCF. The name of the plan in the plan library is ACTIVATE; when submitted to the TCF the NEWNAME that is given is ACTIVO.

#### 5.2.1.4 Customizing the AS/400 Startup Parameters

This section can be used to customize the AS/400 to start QSNADS automatically once the IPL has been performed.

IPL startup program of the AS/400 has to be changed to cater for all the subsystems that you want to start automatically after a startup. The auto-start job in the controlling subsystem transfers control to this startup program specified in the system value QSTRUPPGM.

We will use the shipped program QSTRUP in QSYS as a base to create our own startup program.

Retrieve the source of the shipped program using the RTVCLSRC command. Type the command RTVCLSRC PGM(QSYS/QSTRUP) SRCFILE(QGPL/QCLSRC) and press Enter. This will create a file in the QGPL library with the name of QCLSRC.

The member in the QCLSRC file we want to edit is QSTRUP. Enter the command STRSEU SRCFILE(QGPL/QCLSRC) SRCMBR(QSTRUP) which will enable us to edit the QSTRUP member in file QCLSRC.

The following panel will be displayed.

```

Columns . . . : 1 71          Edit          QGPL/QCLSRC
SEU==> _____ QSTRUP
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
0036.00  QSYS/STRPRTWTR DEV(*ALL)
0037.00  MONMSG MSGID(CPF0000)
0038.00  NOWTRS:
0039.00  QSYS/RTVSYSVAL SYSVAL(QCTLSBSD) RTNVAR(&CTLSBSD)
0040.00  IF COND((&CTLSBSD = 'QCTL QSYS ') *AND (&CTLSBSD = -
0041.00  'QCTL QGPL ')) THEN(GOTO CMDLBL(DONE))
0042.00  QSYS/STRSBS SBSDB(QINTER)
0043.00  MONMSG MSGID(CPF0000)          left 10
0044.00  QSYS/STRSBS SBSDB(QBATCH)
0045.00  MONMSG MSGID(CPF0000)
0046.00  QSYS/STRSBS SBSDB(QCMN)
0047.00  MONMSG MSGID(CPF0000)
0048.00  DONE:
0049.00  QSYS/STRSBS SBSDB(QSNADS)
0050.00  RETURN
0051.00  CHGVAR VAR(&CPYR) VALUE(&CPYR)
0052.00  ENDPGM

F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F10=Cursor
F16=Repeat find   F17=Repeat change   F24=More keys

```

Figure 139. STRSEU Panel

We edited the STRSEU by putting the cursor in statement 0048.00, typing an "I" to insert a line after the DONE label, then typing the following in the new line: QSYS/STRSBS SBSDB(QSNADS).

Pressing Enter causes another line to be inserted and you can add more commands if necessary.

To complete the process, press Enter in a blank inserted line, then press PF3. Make sure that in the Exit panel you have "Y" in the "Change/Create Member" field, then press Enter. If the member was saved correctly you will get the message, Member QSTRUP in file QGPL/QCLSRC changed with XX records, at the bottom of your display.

The CL program has to be created now. Enter this command on the command line CRTCLPGM PGM(QGPL/QSTRUP) SRCFILE(QGPL/QCLSRC). This command will create the CL program using the source you have just edited, and insert it in your QGPL library. You will get the message, Program QSTRUP created in library QGPL, at the bottom of your display if the CL program was created correctly.

To test the program to ensure it works you can end the QSNADS subsystem by entering the command ENDSBS QSNADS \*IMMED. This will end the QSNADS subsystem immediately. Once the subsystem has ended you can enter the command, CALL QGPL/QSTRUP, which will call your updated program. The QSNADS subsystem will start again.

The system value in QSTRUPPGM has to be changed to the program name and library we have just created so that our program will be called. Enter this command, CHGSYSVAL SYSVAL(QSTRUPPGM) VALUE('QSTRUP QGPL') to update the system value with the updated program name and library.



The command, `DSPSYSVAL SYSVAL(QSTRUPPGM)`, can be used to display the system values and verify that they are now pointing to the updated program QSTRUP in library QGPL.

## 5.2.2 Retrieve, Send and Install an AS/400 PTF

The ability to send and apply PTFs is a function that Managed System Services/400 is able to perform that the Distributed Systems Node Executive (DSNX) function was not.

The PTF is applied through a request from the host system. It could have been sent by the host system or it could be present on the system by other means, for instance Service.

The following scenario shows what we will demonstrate in this section.

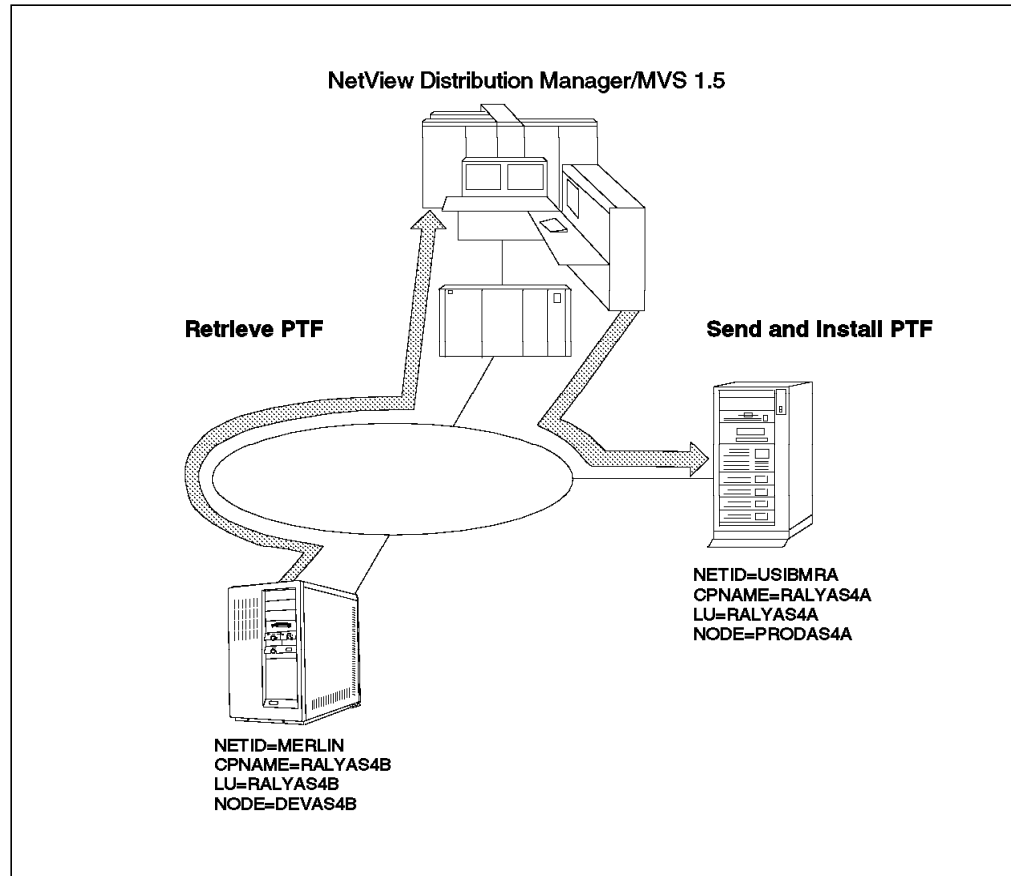


Figure 140. Retrieve, Send and Install AS/400 PTF

We will retrieve the PTF from the development system RALYAS4B (DEVAS4B) and send and install the PTF on the RALYAS4A (PRODAS4A) system. The PTF to be installed is a PTF for the Managed System Services/400 system and the PTF identifier is SF14916 for the 5738MG1 product. On the RALYAS4B (DEVAS4B) system enter the following command to display the PTF you want to retrieve: DSPPTF LICPGM(5738MG1) SELECT(SF14916). The following screen will appear.

```

                                Display PTF Details

Product ID/PTF ID . . . . . : 5738MG1 SF14916
Release . . . . . : V2R3M0

Select one of the following:

    1. General information

    6. PTF Objects
    7. Symptom strings

    9. APARs fixed

   20. All of the above

Selection
    20

F3=Exit  F12=Cancel

```

Figure 141. Display PTF Details Panel

We do this to display whether the PTF has a save file or not. In order to retrieve the PTF it has to have a save file.

Enter option 20 and press Enter. The following panel is displayed.

```

                                General information

Product ID/PTF ID . . . . . : 5738MG1 SF14916
Release . . . . . : V2R3M0

On order . . . . . : No
PTF save file . . . . . : Yes
PTF status . . . . . : Temporarily applied
Status date/time . . . . . : 12/10/93 18:06:18
Type . . . . . : Immediate
Unattended IPL action . . . . . : None
Optional part . . . . . : *BASE
PTF library . . . . . : QSMVSS
Cover letter . . . . . : No
Mandatory instructions . . . . . : No
Test Fix . . . . . : No

                                                    Bottom

Press Enter to continue

F3=Exit  F12=Cancel

```

Figure 142. Display PTF Details General Information Panel

From this panel we can see that the PTF save file status is yes. We can also see the release of the product 5738MG1.

If there was no save file associated with the PTF its save file status would have been no. The following procedure can be used to create a save file to associate with the PTF.

- Copy the save file that was used to receive the PTF to a tape.

```
The command to do this is CPYPTF LICPGM(5738MG1) FROMDEV(*SAVF)
TODEV(TAP01) SELECT(SF14916) RLS(V2R3M0) FROMSAVF(QGPL/PSF14916).
```

This will copy the PTF SF14916 from the save file PSF14916 in library QGPL to the tape. After this is done successfully perform the following step.

- Copy the PTF from the tape to a save file.

```
Use the command CPYPTFSAVF FROMDEV(TAP01) LICPGM(5738MG1)
SELECT(SF14916). This command will copy the PTF from the tape just
created, to a save file. The system will assign this save file to the PTF. If
the PTF is displayed it should show that there is a save file associated with
it.
```

#### **Important**

The NetView Distribution Manager/MVS system will be unable to retrieve a PTF that does not have a save file associated with it. The error message received indicated that the system was unable to find the PTF.

The following plan was created to retrieve the PTF and install it on the RALYAS4A (PRODAS4A) system. The JCL portion has been shown in Figure 138 on page 154, and has been deleted from Figure 143 on page 161 as it is identical.

```

*****
* DELETE PLAN INSTPTF *
*****
DEL PLAN NAME=INSTPTF
*****
* DEFINE PLAN WITH A NAME OF INSTPTF *
*****
DEF PLAN NAME=INSTPTF
*****
*DEFINE PHASE RETRIEVE IN PLAN INSTPTF *
* TO PERFORM ACTION ON NODE PRODAS4A *
*****
DEF PHASE NAME=RETRIEVE, X
          NODE=DEVAS4B,
*****
* RETRIEVE RESOURCE FIX NO SF14916 OF PRODUCT *
* 5738MG1 *
*****
RET RESO NAME=I3IBM1.AS400.5738MG1.V2R3M0.FIX.001.SF14916, X
          RESTYPE=0070 1
*****
*DEFINE PHASE IN PLAN INSTPTF WITH NAME INSTALL *
* TO PERFORM ACTION ON NODE PRODAS4A *
*****
DEF PHASE NAME=INSTALL, 2 X
          COND=(RETRIEVE,LE,0), X
          NODE=PRODAS4A
*****
* INSTALL RESOURCE FIX NO SF14916 OF PRODUCT *
* 5738MG1 NOTE FLATDATA NOT SUPPORTED ON AS/400 *
*****
INS RESO NAME=I3IBM1.AS400.5738MG1.V2R3M0.FIX.001.SF14916, 3 X
          RESTYPE=0070, 4 X
          ACTUSE=P, X
          POSTTEST=N, 5 X
          PRETEST=N, 6 X
          REMOVABILITY=YES, 7 X
          DISPOSITION=KEEP, X
          DESTRUCTION=A, X
          SEND=YES, 8 X
          ALTERACTIVE=A 9
*****
* SUBMIT THE PLAN NAME INSTPTF WITH A NEWNAME *
*****
SUB PLAN NAME=INSTPTF,NEWNAME=INSTPTFB
END
/*

```

Figure 143. NetView Distribution Manager/MVS Plan for Installation of a PTF

**Notes:**

**1** RET RESO

The PTF is retrieved from the RALYAS4B (DEVAS4B) node. In NetView Distribution Manager/MVS the resource type for software is 0070. The PTF is known to NetView Distribution Manager/MVS as software. It is not necessary for PTFs to be cataloged on the Managed System Services/400

system. They are known on the Managed System Services/400 system by their global name. We will describe the naming in more detail at **3**.

## **2** DEF PHASE

This phase is defined with a name of INSTALL. If the previous phase RETRIEVE returned a code of less than or equal to 0 this phase will execute on the PRODAS4A node.

## **3** NAME

Managed System Services/400 recognizes a special global name format for the PTF. The format for the PTF is:

- Token1=I3IBM1 (Standard).
- Token2=AS400 (Standard).
- Token3=Product name. In our case this was the Managed System Services/400 product 5738MG1.
- Token4=Product Release Level. As we saw in Figure 141 on page 159 this was V2R3M0.
- Token5=FIX. The PTF is always a FIX type.
- Token6=Fix Level of Release. This token is not used by the AS/400 and it is suggested that the value 001 be used here.
- Token7=PTF Identifier. The \*ALL value can be used here if you are installing, removing or deleting more than one PTF. The value of our PTF was SF14916.

## **4** RESTYPE

The resource type is 0070.

## **5** POSTTEST

If the posttest value is yes, the activity is rejected. No must be the value here as Managed System Services/400 does not support the POSTTEST parameter.

## **6** PRETEST

The value we used here was no as the Managed System Services/400 will not use the PRETEST parameter.

## **7** REMOVABILITY

The removability parameter is used to determine if the PTF is applied permanently or temporarily. We specified removable as yes as we wanted the PTF to be installed temporarily.

## **8** SEND

The send option was specified as yes as the PTF was to be sent to the PRODAS4A system. The PTF could have been installed on the system if the PTF was already present on the RALYAS4A (PRODAS4A) system in a not applied status.

## 9 ALTERACTIVE

The alteractive value is used to determine the delay for the install. With a value of allowed there is no delay specified. If a delay is specified the date and time parameters are used to determine the delay.

When the JCL is submitted the plan with the name INSTFB is submitted to the NetView Distribution Manager/MVS TCP.

The connection with the RALYAS4B (DEVAS4B) node is started and the PTF is retrieved because there is a save file associated with the PTF. The PTF is stored in the NetView Distribution Manager/MVS repository and then sent to the RALYAS4A (PRODAS4A) node.

The PTF is installed on the RALYAS4A (PRODAS4A) node in a temporary state. If a display of the PTF is done you will see that the PTF has been installed with the save file associated with it.

The following messages appear on the IOF panel.

```
NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME  MSG NO.  MESSAGE TEXT
0162 18:03  NDM0402S PLAN INSTPTFB HAS BEEN SUBMITTED.
0163 18:03  NDM0034I PHASE INSTPTFB RETRIEVE STARTED FOR NODE DEVAS4B.
0164 18:03  NDM0106I FUNCTION RET SYSW ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
          INSTPTFB RETRIEVE, NODE DEVAS4B, RETURN CODE 0, TRANSMISS
          ION BYTES 0, FUNCTION STATUS PENDING.
0165 18:03  NDM0034I PHASE INSTPTFB RETRIEVE STARTED FOR NODE DEVAS4B.
0166 18:03  NDM0106I FUNCTION RET SYSW ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
          INSTPTFB RETRIEVE, NODE DEVAS4B, RETURN CODE 0, TRANSMISS
          ION BYTES 91344, FUNCTION STATUS COMPLETED.
0167 18:03  NDM0035I PHASE INSTPTFB RETRIEVE ENDED FOR NODE DEVAS4B.
0168 18:03  NDM0034I PHASE INSTPTFB INSTALL STARTED FOR NODE PRODAS4A.
0169 18:03  NDM0106I FUNCTION INS SYSW ENDED FOR LOGICAL UNIT RALYAS4A. PHASE
          INSTPTFB INSTALL, NODE PRODAS4A, RETURN CODE 0, TRANSMISS
          ION BYTES 91344, FUNCTION STATUS PENDING.

Command ==>

PF=  _  1/13=HELP  3/15=END  4/16=RETURN  7/19=BACK
      8/20=FORW  9/21=PRINT 10/22=TOP  11/23=LAST_VIEWED 12/24=BOT

M=  0          STATUS=WAITING  TRANSM=  0  PRINTER=UNAVAIL
```

Figure 144. Handle IOF Messages Panel Install PTF 1 of 2

On this panel we can see that the plan was submitted as well as the number of bytes that were retrieved from the DEVAS4B node. The return code is shown before the next phase starts to send the resource to the PRODAS4A node.

```
NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME      MSG NO.  MESSAGE TEXT
0170 18:04     NDM0034I  PHASE INSTPTFB INSTALL STARTED FOR NODE PRODAS4A.
0171 18:04     NDM0106I  FUNCTION INS SYSW ENDED FOR LOGICAL UNIT RALYAS4A. PHASE
                                INSTPTFB INSTALL, NODE PRODAS4A, RETURN CODE 0, TRANSMISS
                                ION BYTES 91344, FUNCTION STATUS COMPLETED.
0172 18:04     NDM0035I  PHASE INSTPTFB INSTALL ENDED FOR NODE PRODAS4A.

Command ==>

PF=  _  1/13=HELP   3/15=END   4/16=RETURN  7/19=BACK
      8/20=FORW   9/21=PRINT 10/22=TOP   11/23=LAST_VIEWED 12/24=BOT

M=  0          STATUS=WAITING   TRANSM=  0  PRINTER=UNAVAIL
```

Figure 145. Handle IOF Messages Panel Install PTF 2 of 2

The install process is completed with a return code of 0.



### 5.2.3 Retrieve, Send and Initiate a CL Program

This scenario will describe how an AS/400 CL program is created on the RALYAS4B (DEVAS4B) and then retrieved to the NetView Distribution Manager/MVS repository. The CL program was initiated on the RALYAS4A (PRODAS4A) node with a send option. This means that the CL program is sent to the node and then initiated. After it is initiated the CL program remains in the Managed System Services/400 repository on the RALYAS4A (PRODAS4A) node.

The following picture illustrates the scenario.

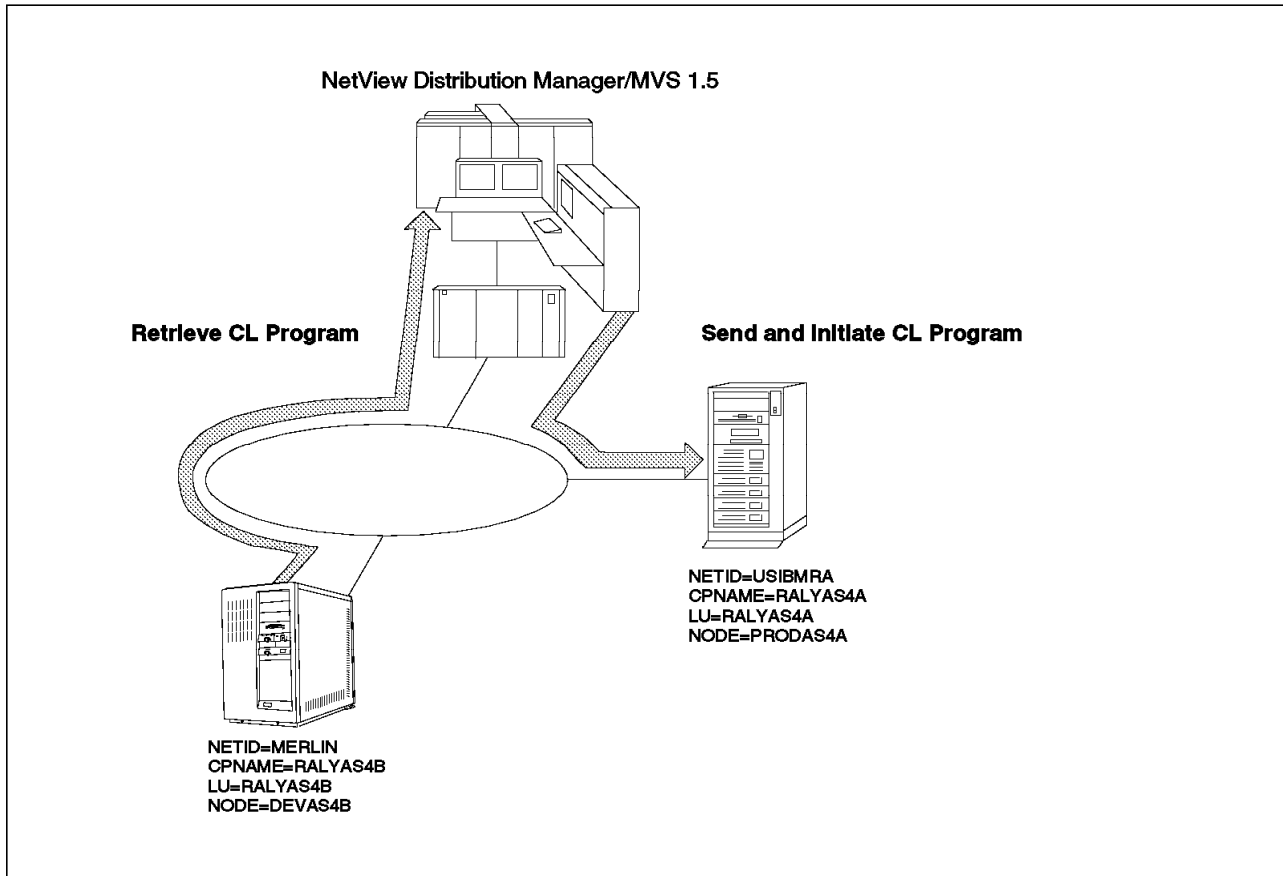


Figure 146. Retrieve, Send and Initiate CL Program

We will show how to create a physical file that we can store our programs in which we will create for the scenario.

At the command line enter the following command as shown on the following panel:

```
CRTPF FILE(MSSTESTB/SRCFILE) RCDLEN(92) FILETYPE(*SRC) MBR(*NONE)  
TEXT('CLPROGRAM') MAXMBRS(*NOMAX).
```

```

SVMSS                SystemView Managed System Services/400
                                                              System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> CRTPF FILE(MSSTESTB/SRCFILE) RCDLEN(92) FILETYPE(*SRC) MBR(*NONE) TEXT(' CL
PROGRAM') MAXMBRS(*NOMAX)
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
File SRCFILE created in library MSSTESTB.

```

Figure 147. Create Source File Panel

This command will create a physical file called SRCFILE in library MSSTESTB that we will use to store our CL program in. The following panel will be displayed.

```

SVMSS                SystemView Managed System Services/400
                                                              System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> STRSEU SRCFILE(MSSTESTB/SRCFILE) SRCMBR(DSPMSGCLP) TYPE(CL) TEXT(' CL PROGR
AM')
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu

```

Figure 148. Start SEU Panel

Enter the following command on the command line and press Enter:

```
STRSEU SRCFILE(MSSTESTB/SRCFILE) SRCMBR(DSPMSGCLP) TYPE(CL) TEXT(' CL
PROGRAM').
```

This command will start an SEU panel which will enable us to edit the CL program.

The following panel is an example of the SEU panel. Enter your CL program. Our program is a simple one that will send a message to a user on the system.

```

Columns . . . :   1 71           Edit           MSSTESTB/SRCFILE
SEU==> _____ DSPMSGCLP
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
***** Beginning of data *****
//////// //BCHJOB  JOB(TSTCLLST1) JOB(*LIBL/QBATCH)
//////// /* THIS IS THE START OF THE FIRST BATCH JOB                */
//////// /* THIS IS A COMMENT, YOU CAN PUT AS MUCH AS YOU WANT.    */
//////// /* EACH NON-COMMENT LINE BETWEEN THE BCHJOB AND ENDBCHJOB */
//////// /* WILL BE EXECUTED SEQUENTIALLY.                          */
//////// /* IF ONE LINE IS NOT ENOUGH, YOU CAN USE '+' TO INDICATE */
//////// /* THAT THE STATEMENT WILL CONTINUE ON THE NEXT LINE.     */
//////// SNDMSG   MSG('1ST MSG FROM THE FIRST BATCH JOB') TOUSR(QSECFR)
//////// SNDMSG   MSG('2ND MSG FROM THE FIRST BATCH JOB') +
////////          TOUSR(QSECFR)
//////// //ENDBCHJOB
////////
//////// //BCHJOB  JOB(TSTCLLST2) JOB(*LIBL/QBATCH)
//////// /* THIS IS THE START OF THE SECOND BATCH JOB                */
//////// SNDMSG   MSG('MSG FROM THE SECOND BATCH JOB') TOUSR(QSECFR)
//////// //ENDBCHJOB
//////// ***** End of data *****

F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F10=Cursor
F16=Repeat find  F17=Repeat change  F24=More keys
Member DSPMSGCLP added to file MSSTESTB/SRCFILE.

```

Figure 149. Edit CL Program Panel

In this CL program there are two batch jobs. One will send two messages to the user and the other will only send one.

When you press PF3 the following panel will be displayed.

```

                                Exit

Type choices, press Enter.

Change/create member . . . . . Y           Y=Yes, N=No
Member . . . . . DSPMSGCLP_ Name, F4 for list
File . . . . . SRCFILE_ Name, F4 for list
Library . . . . . MSSTESTB_ Name
Text . . . . . CL_PROGRAM
-----
Resequence member . . . . . Y           Y=Yes, N=No
Start . . . . . 0001.00 0000.01-9999.99
Increment . . . . . 01.00 00.01-99.99

Print member . . . . . N           Y=Yes, N=No

Return to editing . . . . . N           Y=Yes, N=No

Go to member list . . . . . N           Y=Yes, N=No

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Figure 150. Save CL Program Panel

This panel will create the member DSPMSGCLP in the SRCFILE file which is stored in the MSSTESTB library.

A command line will be displayed when you press Enter. The panel will also display a message which tells you that the member has been added to the file.

```

SVMSS                      SystemView Managed System Services/400
                                System:  RALYAS4B

Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
==> SBMDBJOB FILE(MSSTESTB/SRCFILE) MBR(DSPMSGCLP)_____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
Member DSPMSGCLP added to file MSSTESTB/SRCFILE.

```

Figure 151. Submit CL Program for Testing Panel

It is recommended to test your CL program first to make sure it is working before you distribute it to another system for initiation.

Enter the following command to submit the CL program for execution. Enter SBMDBJOB FILE(MSSTESTB/SRCFILE) MBR(DSPMSGCLP).

The following panel will show that the job has been submitted.

```
SVMSS                SystemView Managed System Services/400
                                                                System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
====> DSPMSG_____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
Job 045154/QPGMR/TSTCLLST1 submitted to job queue QBATCH in library QGPL.  +
```

Figure 152. Display Messages Command Panel

Enter the DSPMSG command to go to the following panel so that we can see if the message has been logged.

```

                                Display Messages
                                System:  RALYAS4B
Queue . . . . . : QSECOFR          Program . . . . . : *DSPMSG
Library . . . . : QUSRSYS          Library . . . . . :
Severity . . . . : 00              Delivery . . . . . : *NOTIFY

Type reply (if required), press Enter.
1ST MESSAGE FROM THE FIRST BATCH JOB
From . . . . . : QPGMR            12/09/93  12:36:08
2ND MESSAGE FROM THE FIRST BATCH JOB
From . . . . . : QPGMR            12/09/93  12:36:08
MSG FROM THE SECOND BATCH JOB
From . . . . . : QPGMR            12/09/93  12:36:09

                                Bottom
F3=Exit          F11=Remove a message      F12=Cancel
F13=Remove all   F16=Remove all except unansw     F24=More keys

```

Figure 153. Display Messages Panel

We can see that our CL program has worked and that all the messages are displayed. Press PF3 to exit the Display Messages panel and the following panel will be displayed.

```

SVMSS                      SystemView Managed System Services/400
                                System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> ADDDSTCLGE GLBNAME(AS400 CL PROGRAM TEST) OBJTYPE(*FILEDATA) OBJ(MSSTESTB/
SRCFILE) MBR(DSPMSGCLP) DATATYPE(*CL) TEXT(' CATALOGUED TEST CL')
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu

```

Figure 154. Add Distribution Catalog Panel

Enter the following command on the command line to catalog the CL program that we have created and tested:

```
ADDSTCLGE GLBNAME(AS400 CL PROGRAM TEST) OBJTYPE(*FILEDATA)
OBJ(MSSTESTB/SRCFILE) MBR(DSPMSGCLP) DATATYPE(*CL)
TEXT(' CATALOGUED TEST CL')
```

and press Enter.

The following panel will be displayed.

```
Work with DST Catalog Entries                               System:  RALYAS4B
Type options, press Enter.
  1=Add  3=Copy DST repository object  4=Remove  5=Display detail
  6=Print detail  8=Display token attributes
Opt      Global Name
-----
  5      AS400 CL PROGRAM TEST
  -      AS400 CONTAINER TEST
  -      AS400 OBJECT TEST

                                                                 Bottom
Parameters for option 1 and 3 or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Print list  F9=Retrieve  F12=Cancel
F14=Print detailed list  F17=Position to
(C) COPYRIGHT IBM CORP. 1993, 1993.
```

Figure 155. Work with Catalog Entries Panel

If you enter the WRKDSTCLGE command or enter option 5 for the entry you have just created the following panel is shown. This panel displays the entry's characteristics.

```

                                Display DST Catalog Entry - Detail
                                System:  RALYAS4B
Global name . . . . . :  AS400 CL PROGRAM TEST

Local storage location . . . . . :  *DSTRPS
Repository file name . . . . . :  Q52106D3CE
  Library . . . . . :  Q52106D3CE
Member . . . . . :  Q52106D3CE
Object type . . . . . :  *FILEDATA
Data object class . . . . . :  Application procedure

Data type . . . . . :  *CL
CCSID . . . . . :  65535
Object description language ID . . . . . :  ENU
Compressed . . . . . :  No
Record format . . . . . :  Fixed
Maximum record size . . . . . :  80

                                More...

Press Enter to continue.

F3=Exit  F12=Cancel

```

Figure 156. Display Distribution Catalog Entry Panel

We will now create a plan to retrieve the CL program from the RALYAS4B (DEVAS4B) node with the global name of AS400.CL.PROGRAM.TEST.



```

//BROGERS JOB (0-224410),'BROGERS',
// TIME=1440,REGION=3072K,
// CLASS=I,MSGCLASS=0,MSGLEVEL=1
//*ROUTE PRINT WTSCPOK.BROGERS
//JOB LIB DD DSN=NDM.NDM15D.LOADLIB,DISP=SHR
//*****
//* INVOKE SUBMIT *
//*****
//STEP2 EXEC PGM=DSXPREP,REGION=800K,
// PARM='FUNCTION=SUBMIT,USERID=BROGERS' 1
//*SYSLIB .. ADD HERE TO USE COPY FUNCTION *****
//SNAP DD SYSOUT=*
//SYS PRINT DD SYSOUT=*
//DSX PRINT DD SYSOUT=*
//SYS SUDUMP DD SYSOUT=*
//DSX LIB DD DISP=SHR,DSN=NDM.NDM15D.NDMLIB
//DSX GIX DD DISP=SHR,DSN=NDM.NDM15D.NDMGIX
//DSX GIXD DD DISP=SHR,DSN=NDM.NDM15D.NDMGIXD
//NDMRQ FDA DD DISP=SHR,DSN=NDM.NDM15D.NDMRQFD
//NDMRQ F DD DISP=SHR,DSN=NDM.NDM15D.NDMRQF
//DSX LIBT DD DISP=SHR,DSN=NDM.NDM15D.NDMLIBT
//DSX TCF DD DISP=SHR,DSN=NDM.NDM15D.NDMTCF
//DSX HFDA DD DISP=SHR,DSN=NDM.NDM15D.NDMHFDA
//DSX FDA DD DISP=SHR,DSN=NDM.NDM15D.NDMHFDA
//DSX DRD DD DISP=SHR,DSN=NDM.NDM15D.NDMDRD
//BATCH PW DD * 2
PASSWORD
//SYS IN DD *

```

Figure 157 (Part 1 of 2). NetView Distribution Manager/MVS Plan for Retrieving the CL Program

```

*****
* DELETE PLAN INCLPROC *
*****
DEL PLAN NAME=INCLPROC 3
*****
* DEFINE PLAN WITH A NAME OF INCLPROC *
*****
DEF PLAN NAME=INCLPROC 4
*****
*DEFINE PHASE IN PLAN INCLPROC NAME RETRIEVE *
* TO PERFORM ACTION ON NODE DEVAS4B *
*****
DEF PHASE NAME=RETRIEVE, 5 X
          NODE=DEVAS4B, X
          STATUS=RELEASE
*****
* RETRIEVE RESTYPE 0080 AS/400 CL PROGRAM *
* *
*****
RET RESO NAME=AS400.CL.PROGRAM.TEST, 6 X
          RESTYPE=0080
*****
*DEFINE PHASE IN PLAN INCLPROC NAME IS INITIATE *
* TO PERFORM ACTION ON NODE PRODAS4 *
*****
DEF PHASE NAME=INITIATE, 7 X
          NODE=PRODAS4, X
          STATUS=RELEASE, X
          COND=(RETRIEVE,LE,0)
*****
* INITIATE CL PROGRAM RESTYPE 0080 ON PRODAS4 *
* WITH SEND=YES *
*****
INI PROC NAME=AS400.CL.PROGRAM.TEST, 8 X
          SEND=YES
*****
SUB PLAN NAME=INCLPROC,NEWNAME=INIPROC1 9
END
/*

```

Figure 157 (Part 2 of 2). NetView Distribution Manager/MVS Plan for Retrieving the CL Program

**Notes:**

**1** Function

FUNCTION=SUBMIT is the function that is used for the submitting of plans to the TCF. There are other functions which are used for other tasks. For instance the MAINTDAT and TCFMAINT functions. These are described in the *NetView Distribution Manager/MVS Users Guide* in Part 2, Using the Batch Facility.

**2** Batch Password

This is the password for the TCP to submit batch jobs.

**3** DEL PLAN

Delete previous plan with a name of INCLPROC.

#### **4** DEF PLAN

Define a plan with a name of INCLPROC.

#### **5** DEF PHASE

Define a phase for the node DEVAS4B.

#### **6** RET RESO

Define a function to retrieve the resource type 0080 with a global name of AS400.CL.PROGRAM.TEST.

#### **7** DEF PHASE

Define a phase for PRODAS4A node.

#### **8** INI PROC

The function will initiate the procedure we created and tested on the DEVAS4B node and retrieved in the previous phase to the NetView Distribution Manager/MVS repository. The send is specified as yes which will send the procedure to be initiated. If the procedure global name exists on the node it will be overwritten. If the send was specified as no NetView Distribution Manager/MVS would expect the global name to exist on the node.

#### **9**

We submit the plan with a new name.

When the JCL is submitted the plan with a name of INIPROC1 is submitted to the TCF for execution. The session is established with the RALYAS4B (DEVAS4B) node and the procedure is retrieved.

On the DEVAS4B node if the command WRKRCVCRQA is entered you will see the retrieve procedure activity being executed.

The following panel displays this.

```

Work with Received CRQ Activities
RALLYAS4B
12/09/93 11:59:46
Type options, press Enter.
 3=Hold  4=End  5=Display details  6=Release

Control Network Current
Opt Point ID Status Activity
_ RAIADT5D USIBMRA Running Retrieve procedure

Bottom

F3=Exit F5=Refresh F9=Command F11=Display dates and times F12=Cancel
F17=Top F18=Bottom

```

Figure 158. Work with Received CRQ Activities Panel

When the procedure is being executed on the RALLYAS4A (PRODAS4A) node the WRKRCVCRQA command will display the following panel and we can see that the job has been submitted and is busy running.

```

Work with Received CRQ Activities
RALLYAS4A
12/09/93 12:07:20
Type options, press Enter.
 3=Hold  4=End  5=Display details  6=Release

Control Network Current
Opt Point ID Status Activity
_ RAIADT5D USIBMRA Running Submit job

Bottom

F3=Exit F5=Refresh F9=Command F11=Display dates and times F12=Cancel
F17=Top F18=Bottom

```

Figure 159. Work with Received CRQ Activities Panel

The messages are displayed on the Display Messages panel when the DSPMSG command is entered.

## 5.2.4 Retrieve, Send and Initiate a REXX Program

The other procedure that NetView Distribution Manager/MVS can initiate on the AS/400 node is the REXX procedures. We will create a REXX procedure and initiate it on the RALYAS4A (PRODAS4A) node to demonstrate this capability.

On the command line enter the following command to start a SEU panel to create the REXX procedure we will initiate on another node.

```
SVMSS                SystemView Managed System Services/400
                                                              System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> STRSEU SRCFILE(MSSTESTB/SRCFILE) SRCMBR(DSPMSGREXX) TYPE(REXX) TEXT(' TEST
REXX PROCEDURE')
-----
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
```

Figure 160. Start SEU Panel

Enter the command:

```
STRSEU SRCFILE(MSSTESTB/SRCFILE) SRCMBR(DSPMSGREXX) TYPE(REXX) TEXT(' TEST
REXX PROCEDURE').
```

The following SEU panel will display from which we can edit our procedure.

```

Columns . . . : 1 71          Edit          MSSTESTB/SRCFILE
SEU==> _____ DSPMSGREXX
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
***** Beginning of data *****
0001.00 /*          TEST REXX PROCEDURE TO DISPLAY A MESSAGE          */
0002.00 /* This program will display a message on your terminal and also */
0003.00 /* send another message to your message queue .                */
0004.00 /* A string passed as parameter 1 is used in the message sent   */
0005.00 /* to the terminal.                                             */
0006.00 PARSE ARG parm1
0007.00
0008.00 SAY' '
0009.00 SAY'Today is a very, very' parm1 'day.'
0010.00 SAY' '
0011.00
0012.00 'SNDMSG MSG('MESSAGE FROM THE REXX PROCEDURE') TOUSR(QSECOFR)'
0013.00
0014.00 EXIT
***** End of data *****

F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F10=Cursor
F16=Repeat find  F17=Repeat change  F24=More keys

```

Figure 161. Edit REXX Program Panel

This procedure will display a message on the screen as well as send a message to the message queue. The procedure will pull a parameter and use it in the message display.

Press PF3 to exit, the following panel is displayed.

```

                                Exit

Type choices, press Enter.

Change/create member . . . . . Y          Y=Yes, N=No
Member . . . . . DSPMSGREXX Name, F4 for list
File . . . . . SRCFILE__ Name, F4 for list
Library . . . . . MSSTESTB__ Name
Text . . . . . TEST_REXX_PROCEDURE_____

-----
Resequence member . . . . . Y          Y=Yes, N=No
Start . . . . . 0001.00 0000.01-9999.99
Increment . . . . . 01.00 00.01-99.99

Print member . . . . . N          Y=Yes, N=No

Return to editing . . . . . N          Y=Yes, N=No

Go to member list . . . . . N          Y=Yes, N=No

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Figure 162. Save REXX Program Panel

When you press Enter the DSPMSGREXX member will be saved in the SRCFILE file in the MSSTESTB library. This file was created in Figure 147 on page 166. The following panel is displayed.

```
SVMSS                SystemView Managed System Services/400
                                                    System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> STRREXPRC SRCMBR(DSPMSGREXX) SRCFILE(MSSTESTB/SRCFILE) PARM(COLD)_____
-----
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
Member DSPMSGREXX added to file MSSTESTB/SRCFILE.                                     +
```

Figure 163. Start REXX Procedure Panel

We test the procedure by entering the command:  
STRREXPRC SRCMBR(DSPMSGREXX) SRCFILE(MSSTESTB/SRCFILE) PARM(COLD).  
This will start the REXX interpreter. The following display will show on the terminal.

```
Start of terminal session.

Today is a very, very COLD day.

Press ENTER to end terminal session.

-----
F3=End of File  F9=Retrieve  F21=Extend line
```

Figure 164. REXX Procedure Test Panel

You will note that the PARM(COLD) was passed to the REXX procedure and displayed.

Press Enter and the following panel will appear.

```
SVMSS                SystemView Managed System Services/400                System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> DSPMSG

-----
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu
```

Figure 165. Display Message Command Panel

The DSPMSG command will show the following panel. Here we see that the message was passed to the message queue.

```
Display Messages
System:  RALYAS4B
Queue . . . . . : QSECOFR                Program . . . . . : *DSPMSG
Library . . . . . : QUSRSYS                Library . . . . . :
Severity . . . . . : 00                    Delivery . . . . . : *NOTIFY

Type reply (if required), press Enter.
From . . . . . : QSECOFR                12/09/93  15:02:56
MESSAGE FROM THE REXX PROCEDURE

Bottom

F3=Exit      F11=Remove a message      F12=Cancel
F13=Remove all  F16=Remove all except unanswered  F24=More keys
```

Figure 166. Display Messages Panel

We have tested the procedure and it is now ready to be cataloged. Press Enter and the following panel is shown.



```

SVMSS                      SystemView Managed System Services/400
                                System:  RALYAS4B
Select one of the following:

    1. Configure Managed System Services/400
    2. Start Managed System Services/400
    3. End Managed System Services/400
    4. Work with distribution catalog entries
    5. Work with received CRQ activities
    6. Work with distribution queues

    20. InfoSeeker for Managed System Services/400

Selection or command
===> ADDDSTCLGE GLBNAME(AS400 REXX PROGRAM TEST) OBJTYPE(*FILEDATA) OBJ(MSSTEST
B/SRCFILE) MBR(DSPMSGREXX) DATATYPE(*REXX) TEXT(' CATALOGUED TEST REXX PROGRAM')
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=AS/400 Main menu

```

Figure 167. Add Distribution Catalog Entry Panel

Enter the command:

```

ADDDSTCLGE GLBNAME(AS400 REXX PROGRAM TEST) OBJTYPE(*FILEDATA) OBJ(MSSTEST
B/SRCFILE) MBR(DSPMSGREXX) DATATYPE(*REXX) TEXT(' CATALOGUED TEST REXX PROGRAM')

```

which will add the catalog entry into the Managed System Services/400 distribution repository. Note that this time the DATATYPE(\*REXX) is specified for the REXX program. At this time it is possible for the procedure to be initiated from the remote NetView Distribution Manager/MVS system.

The following figure shows an example of the plan that was used to retrieve the the procedure from the RALYAS4B (DEVAS4B) node and initiate it on the RALYAS4A (PRODAS4A) node. The JCL portion is identical to the other plans, one of which is shown in Figure 157 on page 173, and has therefore been deleted from the following figure.

```

*****
* DELETE PLAN INREXPRC *
*****
  DEL PLAN    NAME=INREXPRC
*****
* DEFINE PLAN WITH A NAME OF INREXPRC *
*****
  DEF PLAN    NAME=INREXPRC
*****
*DEFINE PHASE IN PLAN INREXPRC NAME RETRIEVE *
* TO PERFORM ACTION ON NODE DEVAS4B *
*****
  DEF PHASE  NAME=RETRIEVE,           X
              NODE=DEVAS4B,          X
              STATUS=RELEASE
*****
* RETRIEVE RESTYPE 0080 AS/400 REXX PROGRAM *
* * *
*****
  RET  RESO  NAME=AS400.REXX.PROGRAM.TEST,   X
              RESTYPE=0080
*****
*DEFINE PHASE IN PLAN INREXPRC NAME IS INITIATE *
* TO PERFORM ACTION ON NODE PRODAS4A *
*****
  DEF PHASE  NAME=INITIATE,           X
              NODE=PRODAS4A,          X
              STATUS=RELEASE,         X
              COND=(RETRIEVE,LE,0)
*****
* INITIATE REXX PROGRAM RESTYPE 0080 ON PRODAS4A*
*   WITH SEND=YES *
*****
  INI  PROC  NAME=AS400.REXX.PROGRAM.TEST,   X
              PROCDATA=' COLD',           1 X
              SEND=YES
*****
  SUB  PLAN  NAME=INREXPRC,NEWNAME=INIREPR1
  END
/*

```

Figure 168. NetView Distribution Manager/MVS Plan for Retrieve REXX Program

**Notes:**

**1** Procdata

This is a value which determines the values that are to be passed on to the procedure that is to be initiated.

The procedure is initiated on the RALYAS4A (PRODAS4A) node in an interactive manner when we test it by submitting the job on the command line. When the procedure is initiated by the NetView Distribution Manager/MVS application it will run in batch mode. This means that you will not see the same results that we saw when the procedure was tested by submitting the job on the AS/400.

The first part of the procedure was to take data sent with the procedure and display this message. This message will be kept in a job log of the batch job where the activity was processed. All the Managed System Services/400 jobs are processed in jobs named QCQSRVSRV/XXXXXXXX/YYYYY where XXXXXXXX is the user profile defined in the security program, or the default user profile. YYYYY is the job number and is a sequential number.

To see the message that was the result of the procedure being initiated enter this command on the command line, WRKJOB JOB(QCQSVSRV). A list of jobs will be displayed. Select the job and a panel will be displayed which gives the list of options for the job. Select option 10 to display the job log and a panel will be shown which displays the job. If you press PF10 to display the detailed message the following panel will display your message. We can see that the "COLD" parameter was passed to the procedure when it was initiated.

```

                                     Display All Messages
                                     System:  RALYAS4A
Job . . . : QCQSVSRV      User . . . : PTFUSR      Number . . . : 045302

>> CALL PGM(QSMSS/QCQJMSRV)
    Today is a very, very COLD day.

                                     Bottom

Press Enter to continue.

F3=Exit  F5=Refresh  F12=Cancel  F17=Top  F18=Bottom
```

Figure 169. Display QCQSVSRV Job Log Messages Panel

The message is placed on the queue in the same way as when the procedure was done interactively.

The second part of the procedure sent a message to the message queue. After the procedure is initiated on the RALYAS4A (PRODAS4A) node, enter the DSPMSG command to see the following display.

```

                                Display Messages
                                System:  RALYAS4A
Queue . . . . . : QSECOFR          Program . . . . . : *DSPMSG
Library . . . . : QUSRSYS          Library . . . . . :
Severity . . . . : 00              Delivery . . . . . : *NOTIFY

Type reply (if required), press Enter.
From . . . . . : PTFUSR           12/15/93  17:19:21
MESSAGE FROM THE REXX PROCEDURE

                                Bottom
F3=Exit          F11=Remove a message      F12=Cancel
F13=Remove all   F16=Remove all except unanswered  F24=More keys

```

Figure 170. Display Messages Panel REXX Procedure

The following screen is a portion of the IOF panel which shows the messages that are passed to the NetView Distribution Manager/MVS application from the Managed System Services/400 nodes.

```

NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME      MSG NO.  MESSAGE TEXT
0138 15:10     NDM0034I  PHASE INIREPRI RETRIEVE STARTED FOR NODE DEVAS4B.
0139 15:10     NDM0106I  FUNCTION RET PROC ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
                                INIREPRI RETRIEVE, NODE DEVAS4B, RETURN CODE 0, TRANSMISS
                                ION BYTES 1120, FUNCTION STATUS COMPLETED.
0140 15:10     NDM0035I  PHASE INIREPRI RETRIEVE ENDED FOR NODE DEVAS4B.
0141 15:10     NDM0034I  PHASE INIREPRI INITIATE STARTED FOR NODE PRODAS4A.
0142 15:10     NDM0106I  FUNCTION INI PROC ENDED FOR LOGICAL UNIT RALYAS4A. PHASE
                                INIREPRI INITIATE, NODE PRODAS4A, RETURN CODE 0, TRANSMIS
                                SION BYTES 1120, FUNCTION STATUS PENDING.
0143 15:11     NDM0034I  PHASE INIREPRI INITIATE STARTED FOR NODE PRODAS4A.
0144 15:11     NDM0106I  FUNCTION INI PROC ENDED FOR LOGICAL UNIT RALYAS4A. PHASE
                                INIREPRI INITIATE, NODE PRODAS4A, RETURN CODE 0, TRANSMIS
                                SION BYTES 1120, FUNCTION STATUS COMPLETED.
0145 15:11     NDM0035I  PHASE INIREPRI INITIATE ENDED FOR NODE PRODAS4A.

Command ==> _

PF=  _   1/13=HELP   3/15=END   4/16=RETURN   7/19=BACK
        8/20=FORW   9/21=PRINT 10/22=TOP   11/23=LAST_VIEWED 12/24=BOT

M=  0           STATUS=WAITING   TRANSM=  0  PRINTER=UNAVAIL

```

Figure 171. Handle IOF Messages Panel Initiate REXX Procedure

## 5.2.5 Retrieve and Send an AS/400 Container

In this scenario we will show how a save file is cataloged and retrieved from the RALYAS4B (DEVAS4B) system and then stored in the NetView Distribution Manager/MVS repository. Once it has been stored in the central site system the resource (container) will be distributed to the RALYAS4A (PRODAS4A) system.

The following picture shows what the scenario looks like.

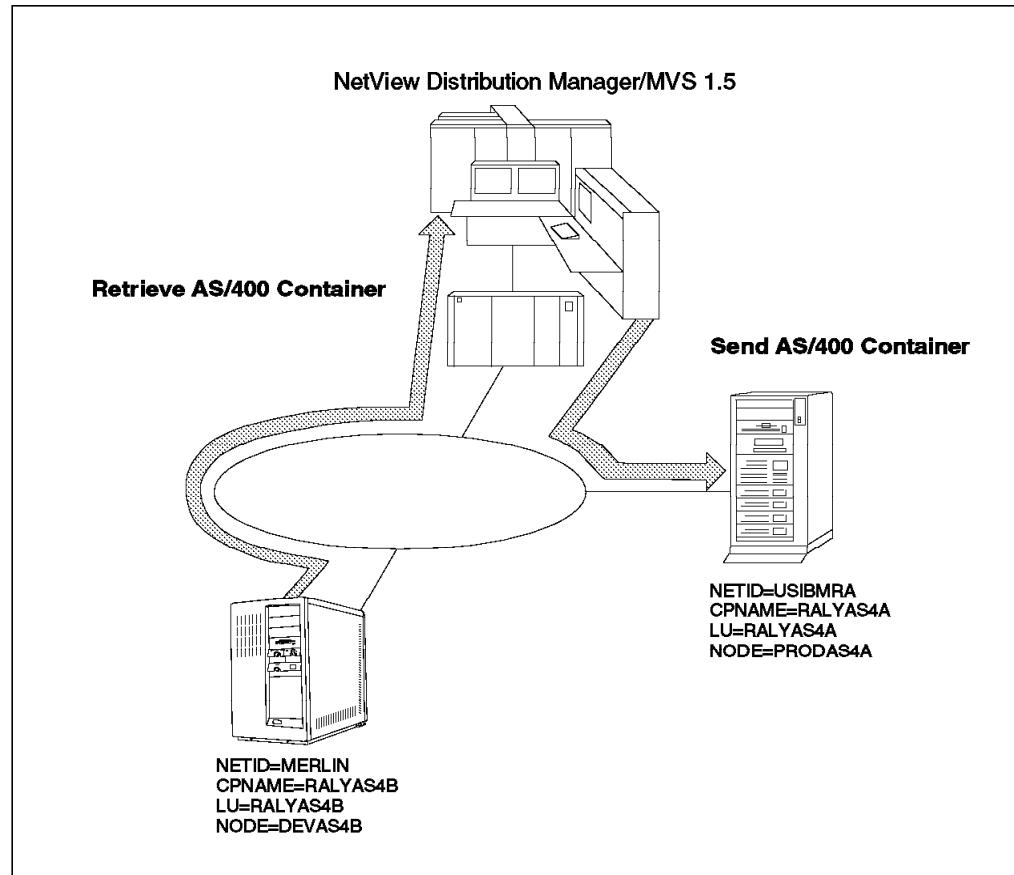


Figure 172. Retrieve and Send AS/400 Container

On the RALYAS4B (DEVAS4B) system we catalog an entry into the Managed System Services/400 distribution catalog.

The Add Distribution Catalog Entry ADDDSTCLGE command is used to add an entry to the distribution catalog. The data object can also be loaded into the distribution repository from an AS/400 library or folder.

The distribution catalog contains a list of objects that you are able to distribute. Each catalog entry is identified by a network-wide unique name called a global name. Each catalog entry describes where the object is located for retrieval or where the object has to be stored when it is received.

The catalog entry consists of the global name of the object, the name of the object's storage location (if the object exists), and the attributes of the object. The data object associated with the global name can be stored as a standard AS/400 object in a library or folder or in a distribution repository. We entered the ADDDSTCLGE command and pressed PF4 to be prompted through the panels.

The following panel is shown.

```

                                Add DST Catalog Entry (ADDDSTCLGE)

Type choices, press Enter.

Global name:
Global name token 1 . . . . . > AS400_____
Global name token 2 . . . . . > CONTAINER_____
Global name token 3 . . . . . > TEST_____
Global name token 4 . . . . . > _____
Global name token 5 . . . . . > _____
Global name token 6 . . . . . > _____
Global name token 7 . . . . . > _____
Global name token 8 . . . . . > _____
Global name token 9 . . . . . > _____
Global name token 10 . . . . . > _____
Object type . . . . . > *FILE_____ *ALRTBL, *BNDDIR, *CLD...
Object . . . . . BEFRE_____ Name, *NONE
Library . . . . . MSSTESTB__ Name, *LIBL, *CURLIB
Member . . . . . *ALL_____ Name, *ALL, *FIRST
Local storage location . . . . . *DSTRPS *STD, *DSTRPS

                                                                More...
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

Figure 173. Add DST Catalog Entry (ADDDSTCLGE) Panel

The following values are to be completed, and we describe them in the following list:

- Global name (GLBNAME)

This name is the name by which the object is known in a SNA network. The global name can be a maximum of 64 characters in length. A maximum of 10 tokens can be specified and each token can only be up to 16 characters in length.

We entered a simple name of AS400.CONTAINER.TEST.

Some of the possible values are:

- \*NETID

The network identifier for the system will be inserted here. An example of \*NETID is USIBMRA.

- \*CPNAME

The control point name will be inserted here. The \*NETID token must always precede the \*CPNAME token if this token is used. For example \*CPNAME or RALYAS4B.

- \*DATE

The current date will be substituted for \*DATE. The date format is Y1992M04D10.

- \*TIME

The current time will be put in the global name. Its format is H13M30S20.

- Global-name-token

You specify any name for the token in your global name.

- Object type (OBJTYPE)

This is where you specify what AS/400 type of object the global name is to represent.

We entered our object type as (\*FILE).

The following are a list of valid AS/400 object types.

*ALRTBL	*FLR
*BNDDIR	*FNTRSC
*CLD	*FORMDF
*CLS	*FTR
*CMD	*GSS
*CSI	*JOBBD
*CSPMAP	*JOBQ
*CSPTBL	*LIB
*DOC	*MENU
*DTAARA	*MODULE
*FCT	*MSGF
*FILE	*MSGQ
*OUTQ	*SSND
*OVL	*TBL
*PAGDFN	*USRIDX
*PAGSEG	*USRSPC
*PDG	*WSCST
*PGM	*QRYDFN
*PNLGRP	*SBSD
*NODL	*SCHIDX
*QMFORM	*SRVPGM
*QMQR	
<b>*FILEDATA</b>	

Figure 174. List of All AS/400 Objects Supported

The (\*FILEDATA) type is known as NetView Distribution Manager/MVS type flatdata and is a single member. It is a special Managed System Services/400 type that is used to handle the distribution of data within a single member without any additional file information, for example file description.

- Object (OBJ)

This is the qualified name of the object on the AS/400.

We were using the file 'BEFRE' on library 'MSSTESTB'.

- Library

A qualifier name for the object which will identify the library that the object will be found in.

- Member (MBR)

When the OBJTYPE (\*FILEDATA) is used you have to give a member name. This could be the name of the member or (\*FIRST) option, which will mean that the first member is to be cataloged or stored in the repository.

When (\*ALL) is used it means that the entire file is to be loaded into the repository or to be pointed to by the catalog entry. The (\*ALL) option is only valid for the OBJTYPE(\*FILE).

We wanted the whole save file to be cataloged so we specified (\*ALL).

- Local storage location (STGLOC)

This value specifies the location of the object that is being cataloged.

- \*STD

The location is to be on the AS/400 file system and not in the catalog. The global name will only use the values specified to point to the location.

- \*DSTRPS

The AS/400 object referred to in the values specified will be copied into the repository.

This is the value we used as the object was to be copied into the repository.

There are more values shown when the scroll down key is pressed. The following screen will be displayed.

```

                                Add DST Catalog Entry (ADDDSTCLGE)

Type choices, press Enter.

Authorization list . . . . . QCQRPSAUTL   Name
Catalog entry description . . . TEST CONTAINER FOR DISTRIBUTION_____

_____

                                                                 Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Figure 175. Add DST Catalog Entry (ADDDSTCLGE) Panel

The values of this panel are described here:

- Data compression (DTACPR)

Whether there is to be compression performed or not.

- Authorization list (AUTL)

The authorization list to be used when the object is loaded into the repository. If no value is given the 'QCQRPSAUTL' default authorization list is used.

We used the default authorization list.

- Catalog entry description (TEXT)

The description of the catalog entry.



When you press Enter the AS/400 object specified in the values will be copied into the repository. The following screen is displayed.

```

Work with DST Catalog Entries
System: RALYAS4B
Type options, press Enter.
  1=Add  3=Copy DST repository object  4=Remove  5=Display detail
  6=Print detail  8=Display token attributes
Opt      Global Name
-----
_        AS400 CONTAINER TEST
_

Parameters for option 1 and 3 or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Print list  F9=Retrieve  F12=Cancel
F14=Print detailed list  F17=Position to
Bottom

```

Figure 176. Add DST Catalog Entry (ADDDSTCLGE) Panel

There is a catalog entry on the RALYAS4B (DEVAS4B) system and we want to retrieve this object into the NetView Distribution Manager/MVS repository.

If we had used the standard AS/400 naming we would not have needed to catalog the object in the repository. For instance, had we named the object "PFXTKN1.PFXTKN2.OBJ.MSSTESTB.BEFRE.FILE" the container would have been retrieved from the standard AS/400 library. The PFXTKN1 and PFXTKN2 values would have to be defined in the Change Managed System Attributes panel as shown on Figure 114 on page 119. The OBJ indicates that the global name is for an object. MSSTESTB is the library, BEFRE is the object name, and FILE is the object type.

**Note**

Remember that the PFXTKN1 and PFXTKN2 values have to be coded on the Change Managed System Attributes panel on both of the AS/400 systems.

NetView Distribution Manager/MVS can only distribute objects once they have been loaded into the NetView Distribution Manager/MVS repository successfully.

The following plan was created using the ISPF editor in one of the data sets on the host. The JCL portion is identical to the other plans, one of which is shown in Figure 157 on page 173, and has been deleted from the figure.

```

*****
* DELETE PLAN RETCON *
*****
DEL PLAN NAME=RETCON 1
*****
* DEFINE PLAN WITH A NAME OF RETCON *
*****
DEF PLAN NAME=RETCON 2
*****
*DEFINE PHASE IN PLAN RETCON WITH NAME RETRIEVE *
* TO PERFORM ACTION ON NODE DEVAS4B *
*****
DEF PHASE NAME=RETRIEVE, 3 X
          NODE=DEVAS4B, X
          STATUS=RELEASE
*****
* RETRIEVE RESTYPE 0158 AS/400 CONTAINER *
* *
*****
RET RESO NAME=AS400.CONTAINER.TEST, 4 X
          RESTYPE=0158
*****
*DEFINE PHASE IN PLAN RETCON WITH NAME SEND *
* TO PERFORM ACTION ON NODE PRODAS4A *
*****
DEF PHASE NAME=SEND, 5 X
          NODE=PRODAS4A, X
          STATUS=RELEASE, X
          COND=(RETRIEVE,LE,0)
*****
* SEND RESTYPE 0158 AS/400 OBJECT *
* *
*****
SEN RESO NAME=AS400.CONTAINER.TEST, 6 X
          RESTYPE=0158
*****
SUB PLAN NAME=RETCON,NEWNAME=RETCON1 7
END
/*

```

Figure 177. NetView Distribution Manager/MVS Plan for Retrieve Container

**Notes:**

**1** DEL PLAN

This step was inserted to delete any previous RETCON plans in the NetView Distribution Manager/MVS plan library.

**1** DEF PLAN

We define our plan with a name of RETCON.

**2** DEF PHASE

Each plan has to have at least one phase and a function. The phase is defined with a name to identify it. Our phase was called RETRIEVE, but it can be called anything. In the phases you define which nodes, that are

defined to NetView Distribution Manager/MVS, will perform the functions you specify.

### **3** RET RESO

This function belongs to the RETRIEVE phase of the plan. It will retrieve the object with the name specified from the node that was defined in the phase. The object we are to retrieve is AS400.CONTAINER.TEST and it has a resource type of 0158 associated with it. This resource type is determined by the NetView Distribution Manager/MVS code. For further information refer to the *NetView Distribution Manager/MVS User's Guide*.

### **4** DEF PHASE

The next phase we define will control the send operation to the PRODAS4A system. It has additional information defined to it. This phase is to run only if the previous phase is successful. This phase is conditioned on the previous phase with the parameters of COND=(RETRIEVE,LE,0). If the RETRIEVE phase ends with a return code that is equal to or less than 0 the phase will run.

### **5** SEN RESO

This function will send the object, in this case the container, to the PRODAS4A system.

### **6** SUB PLAN

We added this step to submit the plan which was defined in the plan library with the name of RETCON. The plan will be submitted with a new name of RETCON1.

Once this JCL has been submitted for execution the following will happen.

The plan with a name of RETCON will be created in the plan library. The plan will be submitted to the NetView Distribution Manager/MVS TCF with a name of RETCON1.

On the RALYAS4B (DEVAS4B) system an object with the name AS400.CONTAINER.TEST will be retrieved to the NetView Distribution Manager/MVS repository. Once it has been completely retrieved, return code 0 will be passed to the NetView Distribution Manager/MVS TCF and the next phase will be executed.

A resource (container) will be sent to the RALYAS4A (PRODAS4A) system, and cataloged in the repository.

The following panels will show what the IOF messages look like.

```

NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME  MSG NO.  MESSAGE TEXT
0053 10:36 1 NDM0402S PLAN RETCON1 HAS BEEN SUBMITTED.
0054 10:36 2 NDM0034I PHASE RETCON1 RETRIEVE STARTED FOR NODE DEVAS4B.
0055 10:36 3 NDM0106I FUNCTION RET ASCT ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
      RETCON1 RETRIEVE, NODE DEVAS4B, RETURN CODE 0, TRANSMISSI
      ON BYTES 0, FUNCTION STATUS PENDING.
0056 10:37 4 NDM0034I PHASE RETCON1 RETRIEVE STARTED FOR NODE DEVAS4B.
0057 10:42 5 NDM0106I FUNCTION RET ASCT ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
      RETCON1 RETRIEVE, NODE DEVAS4B, RETURN CODE 0, TRANSMISSI
      ON BYTES 8002368, FUNCTION STATUS COMPLETED.
0058 10:42 6 NDM0035I PHASE RETCON1 RETRIEVE ENDED FOR NODE DEVAS4B.
0059 10:42 7 NDM0853I THE SNA SESSION IS ACTIVATED FOR LOGICAL UNIT RALYAS4A AN
      D LOGMODE LU62.
0060 10:42 8 NDM0034I PHASE RETCON1 SEND STARTED FOR NODE PRODAS4A.

Command ==>

PF=  _  1/13=HELP  3/15=END  4/16=RETURN  7/19=BACK
      8/20=FORW  9/21=PRINT 10/22=TOP  11/23=LAST_VIEWED 12/24=BOT

M=  0          STATUS=WAITING  TRANSM=  0  PRINTER=UNAVAIL

```

Figure 178. Handle IOF Messages Panel Retrieve Container 1 of 2

**Notes:**

**1** Plan Submitted

The plan RETCON1 is submitted.

**2** Phase Started

Phase RETRIEVE is started for the plan for node DEVAS4B.

**3** Function Ended

The function RETRIEVE ended with a return code of 0. The amount of data that was transmitted is specified in bytes.

**4** Link Activated

The previous phase RETRIEVE ended with a RC=0 so the next phase is started. The link with RALYAS4A (PRODAS4A) is first started and a session is established.

**5** Phase Started

The phase SEND to the PRODAS4A node is started.

```

NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME      MSG NO.  MESSAGE TEXT
0061 10:44    NDM0106I  FUNCTION SEN ASCT ENDED FOR LOGICAL UNIT RALYAS4A. PHASE
                                RETCON1 SEND, NODE PRODAS4A, RETURN CODE 0, TRANSMISSION
                                BYTES 8002368, FUNCTION STATUS PENDING.
0062 10:45    NDM0034I  PHASE RETCON1 SEND STARTED FOR NODE PRODAS4A.
0063 10:45 6 NDM0106I  FUNCTION SEN ASCT ENDED FOR LOGICAL UNIT RALYAS4A. PHASE
                                RETCON1 SEND, NODE PRODAS4A, RETURN CODE 0, TRANSMISSION
                                BYTES 8002368, FUNCTION STATUS COMPLETED.
0064 10:45    NDM0035I  PHASE RETCON1 SEND ENDED FOR NODE PRODAS4A.
0065 10:45 7 NDM0836I  THE SNA SESSION IS DEACTIVATED FOR LOGICAL UNIT RALYAS4A
                                AND LOGMODE LU62.

Command ==>

PF=  _  1/13=HELP    3/15=END    4/16=RETURN  7/19=BACK
      8/20=FORW    9/21=PRINT 10/22=TOP   11/23=LAST_VIEWED 12/24=BOT

M=  0          STATUS=WAITING    TRANSM=  0  PRINTER=UNAVAIL

```

Figure 179. Handle IOF Messages Panel Retrieve Container 2 of 2

**Notes:**

**6** Function Ended

The function send AS/400 container (SEN ASCT) ended successfully and the amount of data transmitted is given.

**7** Session Deactivated

The session can now be deactivated.

## 5.2.6 Retrieve and Send an AS/400 Object

In this scenario we will catalog a set of files on the RALYAS4B (DEVAS4B) system. We then create a plan on NetView Distribution Manager/MVS using the batch facility to retrieve the object to the NetView Distribution Manager/MVS repository. If this phase is successful the plan automatically sends the object to the RALYAS4A (PRODAS4A) system. The following figure shows the scenario we will be explaining.

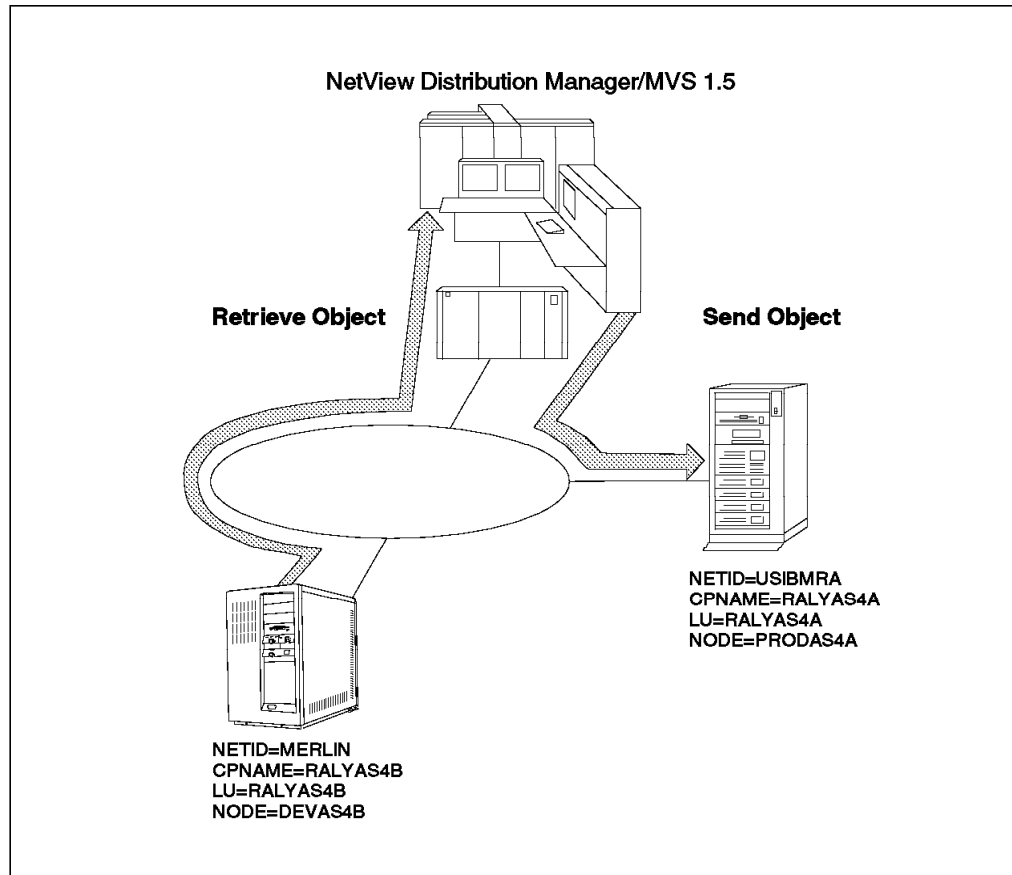


Figure 180. Retrieve and Send AS/400 Object

On the RALYAS4B (DEVAS4B) AS/400 we add a catalog entry. This can be done by entering the command ADDDSTCLGE on the command line with the appropriate values. We entered the command and pressed PF4 so that the panels would lead us through the process.

Enter the command ADDDSTCLGE and press PF4. The following display will appear.

```

Add DST Catalog Entry (ADDDSTCLGE)

Type choices, press Enter.

Global name:
Global name token 1 . . . . . > AS400_____
Global name token 2 . . . . . > OBJECT_____
Global name token 3 . . . . . > TEST_____
Global name token 4 . . . . . > _____
Global name token 5 . . . . . > _____
Global name token 6 . . . . . > _____
Global name token 7 . . . . . > _____
Global name token 8 . . . . . > _____
Global name token 9 . . . . . > _____
Global name token 10 . . . . . > _____
Object type . . . . . > *FILE_____ *ALRTBL, *BNDDIR, *CLD...
Object . . . . . > TEST_____ Name, *NONE
Library . . . . . > MSSTESTB__ Name, *LIBL, *CURLIB
Member . . . . . > QCLSRC_____ Name, *ALL, *FIRST
Data type . . . . . > *UNSPEC _____ *UNSPEC, *CL, *REXX
More...

F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

```

Figure 181. Add DST Catalog Entry (ADDDSTCLGE) Panel

The global name that you give the object is made up of tokens that are to be 16 characters long and the total name must not be more than 64 characters. It is the name that the SNADS network will know the object by.

The object type can be many options that are described by the InfoSeeker. We show the object types that are available in Figure 174 on page 187. The difference between \*FILE and \*FILEDATA is that the \*FILEDATA option is used when you want to catalog a single member. The \*FILE option is used to catalog one or many members. The \*FILEDATA type is a Managed System Services/400 special type of object and the data within the member is transmitted with no additional file information.

The member we wanted to catalog is in the test file in the MSSTESTB library and is called QCLSRC.

The data type we chose as \*UNSPEC (unspecified).

There are more values to complete when you press the scroll down key and the following panel is displayed.

```

                                Add DST Catalog Entry (ADDDSTCLGE)

Type choices, press Enter.

Local storage location . . . . . > *DSTRPS      *STD, *DSTRPS
Data compression . . . . .      *NONE        *NONE, *SNA
Authorization list . . . . .    QCQRPSAUTL   Name
Catalog entry description . . . > 'TEST OBJECT FOR DISTRIBUTION' _____

_____

                                                                 Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display      F24=More keys

```

Figure 182. Add DST Catalog Entry (ADDDSTCLGE) Panel

The local storage location is set at \*STD when you do not want to copy the file into the repository but only want the catalog entry to point to the local file name. The \*DSTRPS option will copy the file to the repository.

The authorization list entry is the default authorization list that will be used when this entry is cataloged.

When you press Enter the following panel will show with the entry in the catalog.

```

                                Work with DST Catalog Entries
                                                                 System:  RALYAS4B

Type options, press Enter.
  1=Add  3=Copy DST repository object  4=Remove  5=Display detail
  6=Print detail  8=Display token attributes
Opt      Global Name
-----
-        AS400 CONTAINER TEST
-
-        AS400 OBJECT TEST
-

                                                                 Bottom

Parameters for option 1 and 3 or command
===> _____
F3=Exit  F4=Prompt  F5=Refresh  F6=Print list  F9=Retrieve  F12=Cancel
F14=Print detailed list  F17=Position to
(C) COPYRIGHT IBM CORP. 1993, 1993.

```

Figure 183. Add DST Catalog Entry (ADDDSTCLGE) Panel



We now have an object with a global name that we would like to distribute to the PRODAS4A system.

If we had used the standard AS/400 naming we would not have needed to catalog the object in the repository. For instance, had we named the object "PFXTKN1.PFXTKN2.MEM.MSSTESTB.TEST.QCLSRC" the object would have been retrieved from the standard AS/400 library. The PFXTKN1 and PFXTKN2 values would have to be defined in the Change Managed System Attributes panel as shown in Figure 114 on page 119. The MEM indicates that the global name is for a member. The MSSTESTB is the library, TEST is the file and QCLSRC is the member.

**Note**

Note though that the PFXTKN1 and PFXTKN2 values would have to be coded on the Change Managed System Attributes panel on both of the AS/400 systems.

The following plan was created on a data set to retrieve the object from one system and send it to the other. The JCL portion is identical to the other plans, one of which is shown in Figure 157 on page 173, and has been deleted from the figure.

```

*****
* DELETE PLAN RETOBJ *
*****
DEL PLAN NAME=RETOBJ 1
*****
* DEFINE PLAN WITH A NAME OF RETOBJ *
*****
DEF PLAN NAME=RETOBJ 2
*****
*DEFINE PHASE IN PLAN RETOBJ WITH NAME RETRIEVE *
* TO PERFORM ACTION ON NODE DEVAS4B *
*****
DEF PHASE NAME=RETRIEVE, 3 X
          NODE=DEVAS4B, X
          STATUS=RELEASE
*****
* RETRIEVE RESTYPE 0156 AS/400 OBJECT *
* *
*****
RET RESO NAME=AS400.OBJECT.TEST, 4 X
          RESTYPE=0156
*****
* DEFINE PHASE IN PLAN RETCON WITH NAME SEND *
* TO PERFORM ACTION ON NODE PRODAS4A *
*****
DEF PHASE NAME=SEND, 5 X
          NODE=PRODAS4A, X
          STATUS=RELEASE, X
          COND=(RETRIEVE,LE,0)
*****
* SEND RESTYPE 0156 AS/400 OBJECT *
* *
*****
SEN RESO NAME=AS400.OBJECT.TEST, 6 X
          RESTYPE=0156
*****
SUB PLAN NAME=RETOBJ,NEWNAME=RETOBJ1 7
END
/*

```

Figure 184. NetView Distribution Manager/MVS Plan for Retrieve Object

**Notes:**

**1** DEL PLAN

This step is put in so that the previous plan with the same name as the one being submitted will be deleted before a new one is created.

**2** DEF PLAN

We define a plan with the name of RETOBJ, but this name can be anything.

**3** REF PHASE RETRIEVE

In the phases we define the node names that will perform the functions. The name of the phase can be anything.

#### **4** RET RESO

This function will be performed by the DEVAS4B node named in the phase that has just been defined. The resource to be retrieved is the type 0156, which is determined by the NetView Distribution Manager/MVS application code. The global name of the resource to be retrieved is the name that was given to the object we cataloged in Figure 181 on page 195.

#### **5** DEF PHASE SEND

This phase is to be sent to the PRODAS4A system as named. It also has some additional parameters which describe when this phase will run. These are the 'COND=(RETRIEVE,LE,0)' parameters. They are conditioning steps which will condition this phase to run only if the 'RETRIEVE' phase completes with a condition code of less than (LE) or equal to 0.

#### **6** SEN RESO

The send resource will send the object to the PRODAS4A.

#### **7** SUB PLAN

This last step is to submit the plan that would have been created in the NetView Distribution Manager/MVS plan library by the preceding steps. The plan will be created as 'RETOBJ' in the plan library and will be submitted to the NetView Distribution Manager/MVS TCF with the name of RETOBJ1.

When this plan is submitted the object is retrieved from the RALYAS4B (DEVAS4B) system and stored in the NetView Distribution Manager/MVS repository. Once it is successfully stored and a return code of 0 is passed the second phase will start and the object will be sent to the RALYAS4A (PRODAS4A) repository where it will be cataloged.

If there is a need to get this object into a local file the file needs to be copied from the repository to the local file/library. This is done with the CPYRPSDSTO command. We will show an example in the following panels. When the distribution catalog is displayed, select option 3 to copy the distribution repository object.

```

                                Work with DST Catalog Entries
                                System:  RALYAS4A

Type options, press Enter.
  1=Add  3=Copy DST repository object  4=Remove  5=Display detail
  6=Print detail  8=Display token attributes
Opt      Global Name
-----
-        AS400 CL PROGRAM TEST
-        AS400 CONTAINER TEST
 3       AS400 OBJECT TEST
-        AS400 REXX PROGRAM TEST

                                                                Bottom

Parameters for option 1 and 3 or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Print list  F9=Retrieve  F12=Cancel
F14=Print detailed list  F17=Position to
(C) COPYRIGHT IBM CORP. 1993, 1993.

```

Figure 185. Add DST Catalog Entry Panel

The following panel is displayed. The values for the global name are supplied, but you have to complete the values which specify the library you want to copy the object to and the name of the object.

```

                                Copy DST Repository Object (CPYDSTRPSO)

Type choices, press Enter.

Global name:
Global name token 1 . . . . . > AS400_____
Global name token 2 . . . . . > OBJECT_____
Global name token 3 . . . . . > TEST_____
Global name token 4 . . . . . _____
Global name token 5 . . . . . _____
Global name token 6 . . . . . _____
Global name token 7 . . . . . _____
Global name token 8 . . . . . _____
Global name token 9 . . . . . _____
Global name token 10 . . . . . _____
Object . . . . . OBJECTTEST      Name
Library . . . . . MSSTESTA__   Name, *LIBL, *CURLIB
Member . . . . . *ALL_____   Name, *ALL, *FIRST
Document library object . . . . . _____ Character value

                                                                More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 186. Copy DST Repository Object (CPYDSTRPSO) Panel

The object name we want the repository object copied to is OBJECTTEST and the library, MSSTESTA. If you scroll down there are more values you can

complete. When you press Enter a message will appear at the bottom of your display informing you that the distribution repository object has been copied.

---

## 5.3 Problem Determination with Managed System Services/400

When setting up and using the Managed System Services/400 and NetView Distribution Manager/MVS products for the change management process problems can occur. These problems can occur in the following areas:

- During the configuring of the managed and central site systems
- When a change management request is sent to the managed system

When these problems occur during the configuring or distribution it is necessary to know where to look to find them quickly. There are a few different types of problems.

- Problems that are caused by user errors or communications failures

These problems are reported to the NetView Distribution Manager/MVS. They can be viewed by the Interactive Operator Facility (IOF). The SNA condition report is sent whenever a problem occurs. This SNA condition report will contain some information such as the SNA report code. The SNA codes used are documented in *SNA Formats (GA27-3136)* with explanations for the codes.

- Problems that are determined by the AS/400 to be defects

These problems are reported in a system problem log on the AS/400 if the \*QSFWERRLOG system value is set to \*LOG. The command WRKPRB can be used to view them.

For problems that are not defects there are a number of functions that one can use to find them. We will describe the functions available and how to use them in the following section.

### 5.3.1 Problems with the Configuration

When problems are detected by the distribution services the SNADS logs can be displayed for the time the distribution was sent. The distribution log will help you determine whether you have a problem with the SNADS configuration, that is, the *"\*SVDS"* queue type.

Enter the command `DSPDSTLOG` and press Enter. The following panel will appear. Look for the entry type \*ERR.

Display Distribution Services Log								
Type options, press Enter.								
5=Display details								
Opt	Function	Entry	-----Logged-----			----Originator----		Seq
Type	Type	Date	Time	Job Name	User ID	Address	Nbr	
-	*RCV	*NRM	12/23/93	15:00:21	RAIADT5D	*SVDS		0009
-	*RTR	*NRM	12/23/93	15:00:21	QROUTER	*SVDS		0009
-	*ARV	*NRM	12/23/93	15:00:29	QCQSVSRV	*SVDS		0009
-	*ORG	*NRM	12/23/93	15:00:37	QCQSVSRV	*SVDS		0009
-	*RTR	*NRM	12/23/93	15:00:37	QROUTER	*SVDS		0009
-	*SND	*NRM	12/23/93	15:00:39	RAIADT5D	*SVDS		0009
-	*CFG	*RTG	12/23/93	15:02:38	QSECOFR			
-	*RCV	*NRM	12/23/93	15:03:31	RAIADT5D	*SVDS		0010
-	*RTR	*NRM	12/23/93	15:03:32	QROUTER	*SVDS		0010
-	*ARV	*NRM	12/23/93	15:03:38	QCQSVSRV	*SVDS		0010
-	*ORG	*NRM	12/23/93	15:03:46	QCQSVSRV	*SVDS		0010
5	*RTR	*ERR	12/23/93	15:03:46	QROUTER	*SVDS		0010

More...

F3=Exit      F12=Cancel

Figure 187. Display Distribution Services Log Panel

This is a list of all the entries that are logged for the \*SVDS user. Select option 5 to display the details and press Enter. The following panel will appear.

Display Error Log Entry	
Function . . . . .	Routing distribution
Job . . . . .	044781/QSNADS/QROUTER
Date/Time . . . . .	12/23/93 15:03:46
Originator:	
User ID/Address . . . . .	*SVDS
System name/Group . . . . .	RALYAS4A USIBMRA
Sequence number . . . . .	0010
Origin date/Time . . . . .	12/23/93 15:03:45
Destination agent . . . . .	SNA/MS Change Management
SNADS status code . . . . .	0001 Routing error
Error recipient:	
User ID/Address . . . . .	
System name/Group . . . . .	RAIADT5D USIBMRA
Press Enter to continue.	
F3=Exit	F12=Cancel      F14=Display correlation IDs

Figure 188. Display Error Log Entry Panel

This panel shows the function and time it was received from which system and the destination. It also shows the number of bytes transmitted and the message unit ID. From this panel we can see that we had a routing error. We added the routing table to the AS/400 and the distribution was successful.

### 5.3.2 The NetView Distribution Manager/MVS IOF Panel

When a distribution takes place the errors that take place are reported to NetView Distribution Manager/MVS on the IOF panel. We will show in this example how the error information that is received can be used to identify the problem area, to assist in the problem resolution.

The IOF panel shows the information that is forwarded to the NetView Distribution Manager/MVS system. The following panel will show an example of an error that occurred during the distribution of a change management request to the AS/400.

```
NDMOC050          HANDLE UNSOLICITED MESSAGES

SEQN TIME  MSG NO.  MESSAGE TEXT
0162 15:45  NDM0034I PHASE ACTIV1 ACTIVATE STARTED FOR NODE DEVAS4B.
0163 15:45  NDM0106I FUNCTION ACTIVATE ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
          ACTIV1 ACTIVATE, NODE DEVAS4B, RETURN CODE 0, TRANSMISSI
          N BYTES 0, FUNCTION STATUS PENDING.
0164 15:45  NDM0034I PHASE ACTIV1 ACTIVATE STARTED FOR NODE DEVAS4B.
0165 15:45  NDM0856E AN AGENT EXCEPTION WAS DETECTED WHILE PROCESSING RESOURC
          N/A, PLAN ACTIV1, PHASE ACTIVATE, FUNCTION ACTIVATE, NO
          E DEVAS4B, LOGICAL UNIT RALYAS4B, LOGMODE LU62, SNA REPO
          T CODE 080F0983.
0166 15:45  NDM0106I FUNCTION ACTIVATE ENDED FOR LOGICAL UNIT RALYAS4B. PHASE
          ACTIV1 ACTIVATE, NODE DEVAS4B, RETURN CODE 8, TRANSMISSI
          N BYTES 0, FUNCTION STATUS COMPLETED.
0167 15:45  NDM0035I PHASE ACTIV1 ACTIVATE ENDED FOR NODE DEVAS4B.

Command ==>

PF=  _  1/13=HELP  3/15=END  4/16=RETURN  7/19=BACK
      8/20=FORW  9/21=PRINT 10/22=TOP  11/23=LAST_VIEWED 12/24=BOT

M=  1          STATUS=WAITING  TRANSM=  0  PRINTER=UNAVAIL
```

Figure 189. Handle IOF Messages Panel Error Message

The node returned a code of 080F 0983 to NetView Distribution Manager/MVS while trying to perform an activate on the node.

We first have to determine what the NetView Distribution Manager/MVS message NDM0856E means. In the *NetView Distribution Manager/MVS Messages and Codes* document we read that this message has the following meaning. "A agent exception for the named SNA report code, was received while processing the named plan, phase, function, resource for the named node." We are advised to use the SNA formats documentation to find the explanation of the SNA report code.

In the SNA formats documentation the report code 080F 0983 has the following explanation: "The end user is not authorized".

On the AS/400 we look at the message queue. We type the command DSPMSG and press Enter. The following panel is shown on the AS/400.

```

                                Display Messages
                                System:  RALYAS4B
Queue . . . . . : QSYSOPR          Program . . . . . : *DSPMSG
  Library . . . . : QSYS            Library . . . . . :
Severity . . . . : 60              Delivery . . . . . : *HOLD

Type reply (if required), press Enter.

Function not performed for security reasons.

                                Bottom
F3=Exit      F11=Remove a message    F12=Cancel
F13=Remove all  F16=Remove all except unanswered  F24=More keys

```

Figure 190. System Operator Display Messages Panel

If PF1 is pressed with the cursor on the message the following panel is shown. The panel is a full description of the error message with additional message information.

```

                                Additional Message Information
Message ID . . . . . : MSS001F      Severity . . . . . : 40
Message type . . . . . : Information
Date sent . . . . . : 12/09/93     Time sent . . . . . : 18:48:17

Message . . . . . : Function not performed for security reasons.
Cause . . . . . : The security program SECPGMCL in library MSSTESTB ended
                  with reason code 1. The reason codes are:
                  1 -- Distribution rejected by the security program.
                  2 -- Security program sent an exception message.
                  3 -- Security program returned data that is not correct.
Recovery . . . . . : For reason code 2, use the Display Job Log (DSPJOBLOG)
                  command for job QCQRCVDS in subsystem QSYSWRK to review any detailed
                  messages. For reason codes 2 and 3, correct the security program. If you
                  want to use a different security program, use the Change Managed System
                  Attributes (CHGMGDSYSA) command to specify a new program or library name.

                                Bottom

Press Enter to continue.

F3=Exit  F6=Print  F11=Display message details  F12=Cancel
F21=Select assistance level

```

Figure 191. Additional Error Information Panel

This panel is used to get the message information. The reason codes describe the cause of the problem being that the distribution was rejected by the security program.



### 5.3.3 Monitoring the Change Request Activities

When a change request is running you can monitor the activity by the WRKRCVCRQA command. The activities are displayed by the date and time. The entries are stored with the oldest activity being stored on top.

```
Work with Received CRQ Activities                                RALYAS4A
                                                                12/09/93 18:23:18
Type options, press Enter.
 3=Hold  4=End  5=Display details  6=Release

   Control   Network   Current
Opt Point   ID       Status      Activity
 4  RAIADT5D USIBMRA  Ended      IPL system

                                                                Bottom

F3=Exit  F5=Refresh      F9=Command  F10=Receive Additional Activities
F11=Display dates and times  F12=Cancel  F17=Top    F18=Bottom
```

Figure 192. Work with Received CRQ Activities Panel

On this panel if the Managed System Services/400 has not been started then PF10 is active for selection. If PF10 is pressed the activities that are not yet processed are shown and you can end the activities before they are processed.

### 5.3.4 The AS/400 Journal

A journal is provided on the AS/400 system which will record events during the system management functions. The journal is the QCQJMJRN in the QUSRSYS library. This journal is used to determine the cause of problems by logging the sequence of events up to and including the error information.

Managed System Services/400 does not need the journaling function to be active and it can be deleted if it is not required. Problem determination is made easier with the journaling function active.

The following panel is shown when the command DSPJRN is displayed.

```

Display Journal (DSPJRN)

Type choices, press Enter.

Journal . . . . . QCQJMJRN_ Name
Library . . . . . QUSRSYS__ Name, *LIBL, *CURLIB
Journalled physical file:
File . . . . . *ALLFILE__ Name, *ALLFILE, *ALL
Library . . . . . _____ Name, *LIBL, *CURLIB
Member . . . . . _____ Name, *FIRST, *ALL
+ for more values _
Range of journal receivers:
Starting journal receiver . . *CURRENT__ Name, *CURRENT
Library . . . . . _____ Name, *LIBL, *CURLIB
Ending journal receiver . . . _____ Name, *CURRENT
Library . . . . . _____ Name, *LIBL, *CURLIB
Starting sequence number . . . *FIRST_____ Number, *FIRST
Starting date and time:
Starting date . . . . . _____ Date
Starting time . . . . . _____ Time
More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

Figure 193. Display Journal Panel

Enter the journal name and the library as shown and press Enter. The panel shown is an extract from the list of entries that are displayed.

```

Display Journal Entries

Journal . . . . . : QCQJMJRN      Library . . . . . : QUSRSYS

Type options, press Enter.
5=Display entire entry

Opt   Sequence  Code  Type  Object      Library      Job          Time
-      746      U     CS      _____  _____  QCQRCVDS    18:48:15
-      747      U     EP      _____  _____  QCQRCVDS    18:48:17
-      748      U     CS      _____  _____  QCQRCVDS    18:48:20
-      749      U     CS      _____  _____  QCQRCVDS    18:48:22
-      750      U     CO      _____  _____  QSECOFR     18:51:08

F3=Exit  F12=Cancel

```

Figure 194. Display Journal Entries Panel

The journal entries identify a particular job that was performed. We select option 5 on one of the selections to show the information that is present. Select option 5 and press Enter.

```

                                Display Journal Entry

Object . . . . . :                               Library . . . . . :
Member . . . . . :                               Sequence . . . . . : 747
Code . . . . . : U - User generated entry
Type . . . . . : EP

                                Entry specific data
Column  *...+....1....+....2....+....3....+....4....+....5
00001   'QCQAPRCV QSVMS  *ERROR
00051   /
00101   /
00151   2'07  *REJECT                               *NONE  SECP' 1
00201   'GMCL  MSSTESTB
00251   /
00301   /
00351   /
00401   /

                                                                More...

Press Enter to continue.

F3=Exit  F6=Display only entry specific data
F10=Display only entry details  F12=Cancel  F24=More keys

```

Figure 195. Display Journal Entry Panel

The InfoSeeker has detailed information about these entries. We will show an extract of the help provided and describe how it is used.

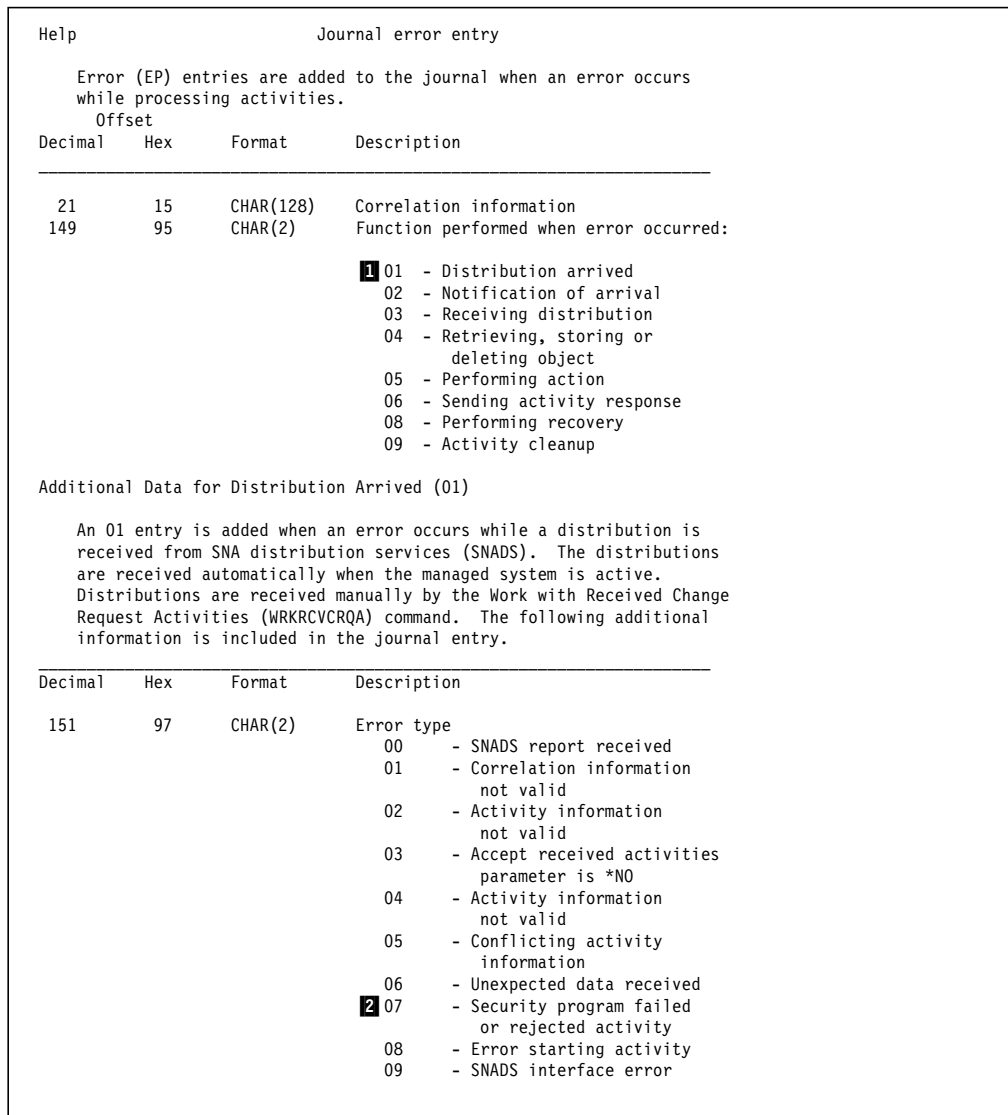


Figure 196. InfoSeeker Extract Showing Help for Journal Error Entry (EP)

From the journal entry display we can determine there was no security program used for the distribution. The user ID QSVMS was used in the Change Managed System Attributes panel, CHMMGDSYSA. The two codes that have been marked give us the following information:

**Notes:**

**1** Function Code Decimal 149 = 01. The code tells us that a distribution arrived at the Managed System Services/400 node.

**2** Error Type Decimal 151 = 07. This code tells us that the security program failed or rejected the activity.

All the entries are able to be decoded in a similar way providing you with a detailed series of events leading up to the error as well as a description of the error.

---

## Chapter 6. NVDM/MVS: Multiple TCP Environments

This chapter is intended for any user of NetView Distribution Manager for MVS (NetView DM/MVS) who wants to know how to implement more than one Transmission Control Program (TCP) setup. It is intended for experienced users, but it will likely be of equal interest to those who are planning to install NVDM/MVS for the first time.

---

### 6.1 Some Reasons for Having Multiple NVDM/MVS Setups

There are several possible reasons why you might want to have more than a single NetView DM host setup:

- You might want to have a completely separate TCP, and completely different NetView DM data sets for testing purposes.
- You might want to have separate setups for different types of end node.
- You might want to provide different *service levels* for different “applications” of NetView DM, such as SystemView Managed System Services/400, NetView DM/2, or NetView DM/6000, or you might want to be able to provide services for different time zones or geographies independently of each other.

For example, you might want to provide a fast file transfer service around the clock for a manufacturing department using a network of AS/400s, whereas you might only need to provide a change control service for remote RS/6000s overnight.

In such situations, you probably have quite separate groups of users, and for reasons of operational or administrative convenience, it may be advantageous for you to provide completely separate *services* by means of multiple NetView DM setups.

- You might have several host systems sharing the same DASD pool, but serving different client networks.

Note that there is normally no additional charge for running multiple copies of the NetView DM software on a single processor.

#### 6.1.1 What NVDM/MVS Allows You to Do

Chapter 3 “Generating Multiple TCP Environments” in *NetView DM Installation and Customization*, SH19-6794, shows you how to generate multiple Transmission Control Program (TCP) environments. To summarize, there are two possible approaches to doing this:

- Multiple TCPs sharing some common data sets
- Multiple TCP setups each having completely separate data sets

The only data sets that can be shared between multiple TCPs are:

- The Resource Repository (RR)
- The Distributed Resource Directory (DRD)
- The Plan Library (PL)

None of the other data sets that NetView DM uses can be shared between multiple TCPs. Also, note that the resource repository consists of holding file

data sets, and library data sets, but that node types using NVDM/MVS's LU 6.2 Change Management Entry Point (CMEP) support do not use the library data sets. This includes NetView DM/2, Managed System Services/400, NetView DM/6000, and the 3174 Controller.

### 6.1.2 What You Have to Do

If you want to have completely separate TCP setups you must create:

- Multiple copies of all NetView DM data sets.
- Multiple load libraries to contain TCP, Batch Utility, and GIX parameters. These parameters are assembled and link-edited into load modules by the stage 2 job.
- Multiple GIX environments (procedures for allocation of ISPF data sets).
- Multiple JCL libraries (to hold JCL for plan definition jobs, etc.).

To do this you must repeat the steps contained in the stage 1 and stage 2 jobs *multiple times*. Basically there are a number of possible approaches to doing this:

1. You prepare a single stage 1 job, then make multiple copies of the stage 2 job, each having changes to:
  - Data set names
  - TCP VTAM application names
  - Optionally, GIX user name and password
2. You prepare multiple stage 1 jobs, each with different parameters.  
Each setup can be different in many detailed respects, but this is the most time consuming way to perform the task.
3. You prepare a single stage 1 job, and copy the stage 2 multiple times in order to allocate multiple copies of data sets.  
You also prepare additional stage 1s with GENTYPE=PROFILE, and use these to customize TCP parameters for each setup as required.

In our test environment we wanted to set up several separate TCPs using similar execution parameters as quickly as possible. Because it was the most efficient way to get started, we decided to adopt the first approach. However, by the end of the project we had begun to use the third approach in order to customize individual TCP parameters, for example for SPMF.

One final *operational* consideration is that your NetView DM plan names should be unique across the installation. We say this because in the past, using NetView DM Release 4 for MVS, we found that shared plan names sometimes caused enqueueing problems.

### 6.1.3 Our Test Network

We used the following test network for all our work on this project:

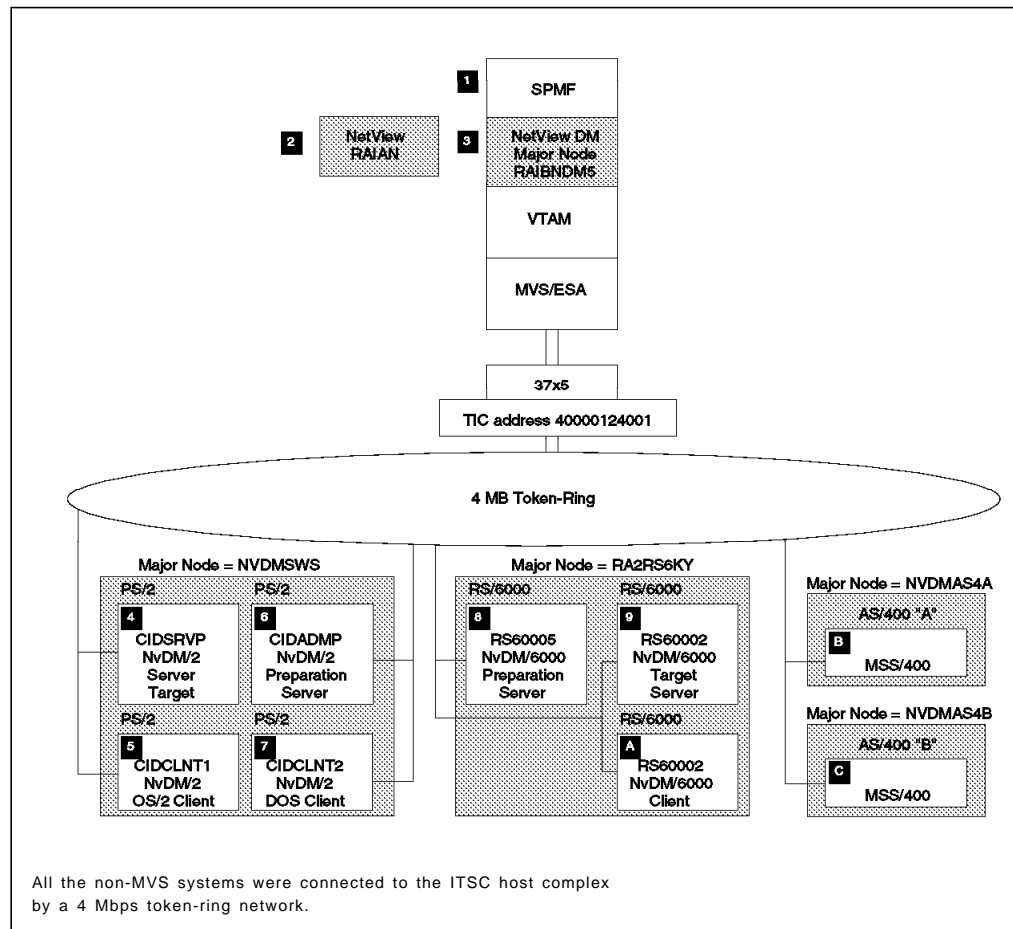


Figure 197. The Test Network Used for This Project

### Explanation

- 1** Software Profile Management Facility.
- 2** The VTAM application name for NetView on subarea 18 was RAIAN.
- 3** NetView DM/MVS Release 5. The VTAM major node name for NetView DM/MVS was RAIBNDM5 (see Figure 199 on page 215).
- 4** OS/2 running NetView DM/2 configured as the first change control server, having Independent LU (ILU) name CIDSRV1.
- 5** OS/2 running NetView DM/2 configured as the first change control client (OS/2), using NetBIOS name CIDCLT2.
- 6** OS/2 running NetView DM/2 configured as the second change control server having Independent LU (ILU) name CIDADM.
- 7** OS/2 running NetView DM/2 configured as the second change control client (DOS), using NetBIOS name CIDCLT1.
- 8** RS/6000 running NetView DM/6000 configured as the first NVDM/6000 server (RS60005), a "preparation site", having Independent LU (ILU) name RA62223B.

**9** RS/6000 running NetView DM/6000 configured as the second NVDM/6000 server (RS60002), a target site, using Independent LU (ILU) name RA62224B.

**A** RS/6000 running NetView DM/6000 configured as an agent.

**B** AS/400 running SystemView Managed System Services/400, (1 of 2), having Independent LU (ILU) name RALYAS4A.

**C** AS/400 running SystemView Managed System Services/400, (2 of 2), having Independent LU (ILU) name RALYAS4B.

Note that the VTAM major node definitions for the PS/2s, RS/600s, and AS/400s are also contained in Appendix A, "VTAM Major Node Definitions" on page 223.

## 6.1.4 NetView DM Host Setups

To start with we had the following NetView DM host setups:

Application	TCP APPL name	IOF APPL name	Owning TSO ID
NetView DM Rel4	RAIADT14	RAIADI14	CANTELL
NetView DM Rel5	RAIADT15	RAIADI15	MANFRED

In order to better facilitate our testing we decided to create several separate host NetView DM setups, so that the testing for each part of our residency could be done in isolation, and so that we could run multiple IOF operator sessions.

Therefore we decided we would create the following stand-alone NetView DM host setups, each having a dedicated pair of VTAM application names for a separate TCP and IOF:

Application	TCP APPL name	IOF APPL name	Owning TSO ID
NVDM/2 OS/2	RAIADT5A	RAIADI5A	MCOOK
NVDM/2 DOS	RAIADT5B	RAIADI5B	ANDREUS
RS/6000s	RAIADT5C	RAIADI5C	MCKECHNI
AS/400s	RAIADT5D	RAIADI5D	BROGERS
SPMF No. 1	RAIADT5E	RAIADI5E	MCOOK

The last byte of each VTAM APPL name ("A", "B", etc.) was used to derive the unique data set names used when creating each setup. For example, the data set name prefix "NDM.NDM15B" was used for the second of these setups.

### Please notice

The only reason we split our system up in this matter was to accommodate the large number of residents working on this project. We found it was more efficient for each resident to have one or more host environments. In a real production environment, you would most likely consolidate some of the above, like NVDM/2 OS/2 and NVDM/2 DOS, into the same environment.

The diagram in Figure 198 on page 214 illustrates our test environment.

Table 3 on page 213, and Table 4 on page 213 summarize the interrelationship of the control variables for our multiple TCP setup.



Target system type	NVDM host setup used	High level data set name qualifier for NVDM	NVDM Administrator ID	TSO allocation procedure name	TCP start procedure name	Stage 1 sample member used
NVDM/2	"A"	NDM.NDM15A	MCOOK	NVDMPR5A	NVDMTC5A	STAGE1A, then STAGE1NA with SVP
DOS	"B"	NDM.NDM15B	ANDREUS	NVDMPR5B	NVDMTC5B	STAGE1A
RS/6000	"C"	NDM.NDM15C	MCKECHNI	NVDMPR5C	NVDMTC5C	STAGE1A
AS/400	"D"	NDM.NDM15D	BROGERS	NVDMPR5D	NVDMTC5D	STAGE1A
SPMF	"E"	NDM.NDM15E	GEIGER	NVDMPR5E	NVDMTC5E	STAGE2NE

Target system type	NVDM host setup used	VTAM LU name for TCP	VTAM LU name for IOF	Default logon mode table name	Default mode entry name	NVDM node type name used	Default NVDM logon mode name
NVDM/2	"A"	RAIADT5A	RAIADI5A	NDMLU62Q	LU62	CMEP	LU62
DOS	"B"	RAIADT5B	RAIADI5B	NDMLU62Q	LU62	CMEP	LU62
RS/6000	"C"	RAIADT5C	RAIADI5C	NDMLU62Q	LU62	AS62	LU62
AS/400	"D"	RAIADT5D	RAIADI5D	NDMLU62Q	LU62	CMEP	LU62
SPMF	"E"	RAIADT5E	RAIADI5E	NDMLU62Q	LU62	CMEP	LU62

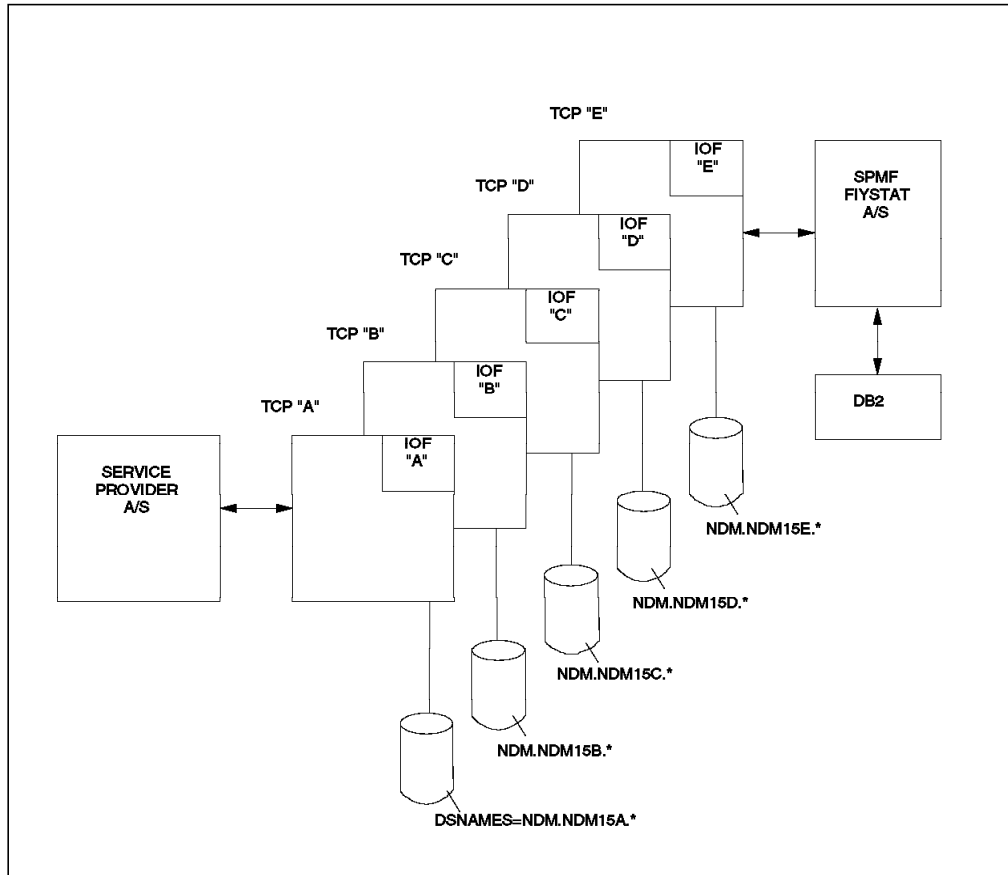


Figure 198. Multiple TCP Test Environment. This diagram illustrates multiple TCP setups used for the project. It shows multiple IOF and TCP application pairs, each having their own separate data sets.

**Notes:**

1. Setup "A" was used in testing the NVDM/MVS Release 5 Service Provider, as well as NVDM/2 with OS/2 Client.
2. Setups "B" through "D" were used in testing NVDM/2 DOS Client, NVDM/6000, and Managed System Services/400 respectively.
3. Setup "E" was used in testing SPMF Release 2.

### 6.1.5 VTAM Major Node Definition for Multiple TCPs

We defined the major node definition in "RISC.VTAMLST(RAIBNDM5)" as listed in Figure 199 on page 215.

```

RAIBNDM5 VBUILD TYPE=APPL
*****
* MAJ NODE DEF FOR NETVIEW DM R5 SETUPS *
*****
*
* MODETAB AND DLOGMOD FOR RAIADT15 CHANGED 93/11/3 FOR RS/6 - MCOOK
* ADDED SETUPS "A" THROUGH "E" AS INDICATED 93/11/3 - MCOOK
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 BASE SETUP - W.GEIGER
*
RAIADT15 APPL AUTH=ACQ,ACBNAME=RAIADT15,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=AMODEAPP,DLOGMOD=NVDMNORM
*
RAIADI15 APPL AUTH=ACQ,ACBNAME=RAIADI15,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "A" - OS/2
*
RAIADT5A APPL AUTH=ACQ,ACBNAME=RAIADT5A,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=NDMLU62Q,DLOGMOD=LU62
RAIADI5A APPL AUTH=ACQ,ACBNAME=RAIADI5A,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "B" - DOS
*
RAIADT5B APPL AUTH=ACQ,ACBNAME=RAIADT5B,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=NDMLU62Q,DLOGMOD=LU62
*
RAIADI5B APPL AUTH=ACQ,ACBNAME=RAIADI5B,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "C" - RS/6000
*
RAIADT5C APPL AUTH=ACQ,ACBNAME=RAIADT5C,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=AMODEAPP,DLOGMOD=NVDMNORM
*
RAIADI5C APPL AUTH=ACQ,ACBNAME=RAIADI5C,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "D" - AS/400
*
RAIADT5D APPL AUTH=ACQ,ACBNAME=RAIADT5D,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=MTGS3X,DLOGMOD=MODS361
*
RAIADI5D APPL AUTH=ACQ,ACBNAME=RAIADI5D,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "E" - SPMF V2
*
RAIADT5E APPL AUTH=ACQ,ACBNAME=RAIADT5E,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=NDMLU62Q,DLOGMOD=LU62
*
RAIADI5E APPL AUTH=ACQ,ACBNAME=RAIADI5E,EAS=1

```

Figure 199. VTAM Major Node Definition for NetView DM/MVS.

This figure shows the complete definition of the VTAM major node for the multiple TCPs listed above.

### 6.1.6 Other Major Node Definitions Used in the Test Network

The various VTAM major node definitions for the non-MVS systems referred to in Figure 197 on page 211 are listed in Appendix A, "VTAM Major Node Definitions" on page 223.

- See A.1, "VTAM Major Node Definitions for the AS/400s" on page 223 for the major node definition used for the AS/400 and SystemView MSS/400.
- See A.3, "VTAM Major Node Definitions for the PS/2s" on page 225 for the major node definition used for OS/2 and NetView DM/2.

## 6.1.7 Mode Table Definitions Used in the Test Network

We used a number of different VTAM mode tables at different stages of the project.

We also made a point of collecting all of the individual mode entries together and putting them into a single table in order to simplify the situation.

We would recommend having a single mode table in your installation for all the entries relating to a single NetView DM TCP setup.

Please refer to the appropriate product publications to find samples of the proper mode table to use for your environment.

---

## 6.2 How to Generate Multiple NetView DM Host Setups

This section describes the detailed steps required to generate multiple NetView DM host setups. This is just one way of doing this. As you read through our procedure you may decide, for example, that you do not want to keep multiple copies of the NetView DM load library. You may want to create a separate library that contains the stage 2 output of the installation macros for each environment and a unique load library for the NetView DM product. This could be more practical in terms of applying maintenance to the product.

### 6.2.1 Overview of the Procedure

In summary, the procedure consists of the following steps. See also 6.1.2, "What You Have to Do" on page 210.

1. You review your existing stage 2 job and GIX setups, and manually create any new data sets that will be required.

In our case we created the following new data sets for each setup:

- A copy of our NetView DM load library
  - A copy of our working JCL data set
  - A copy of our GIX print data set (empty)
  - A copy of our NDMCLST data set (empty)
  - A copy of our NDMSKLS dataset (empty)
2. You make multiple additional copies of a working stage 2 job, and edit them in order to make the outputs unique. In order to do this:
    - You may have to change the values of some jobcard fields if you did not create the original stage 2 job yourself.
    - You must perform a repeat change command to alter all the data set names, unless you will share the DRD, RR, and PL data sets between TCPs.
    - You must change the VTAM application names.
    - You may need to change the TSO ID of the GIX administrator.
  3. You run the new stage 2 job(s).
  4. You add new APPL statements to your VTAM major node definition for NetView DM.
  5. You deactivate and reactivate the major node.

6. You provide separate procedures for ISPF data set allocation, each one referencing the unique data sets belonging to a particular TCP.
7. You provide separate start JCL for the TCPs and any NetView DM batch jobs that you will run.

## 6.2.2 Procedure Used to "Clone" a Host NetView DM Setup

This section describes the procedure we used at the lowest level of detail. What follows is not necessarily the only possible method for building multiple TCP setups.

We started with a single working NetView DM host setup. The stage 1 job that was used to create our original stage 2 job is shown in Figure 206 on page 230. We had already run the stage 2 job successfully to create the "NDM.NDM15.\*" series of data sets that were input to this procedure:

1. Data set copies and setups:

We created the following new data sets by copying the whole "NDM.NDM15" data set or else just by copying the data set attributes.

We used PDF option 3.2 to list the attributes for each data set, and we then repeated this action specifying the "A" (ALLOCATE) command in order to allocate the new data set with attributes identical to the first.

Here are the steps we took:

- a. We used PDF options 3.2 and 3.3 to create "NDM.NDM15B.LOADLIB" as a copy of "NDM.NDM15.LOADLIB".
  - b. We used PDF options 3.2 and 3.3 to create "NDM.NDM15B.JCL" as a copy of "NDM.NDM15.JCL".
  - c. We used PDF option 3.2 to allocate "NDM.NDM15B.NDMCLST" like "NDM.NDM15.NDMCLST".
  - d. We used PDF option 3.2 to allocate "NDM.NDM15B.NDMSKLS" like "NDM.NDM15.NDMSKLS".
2. The original stage 2 job "NDM.NDM15.JCL(STAGE2A)" was copied in order to create a new member (for example having the name STAGE2B).

The following data items had to be changed (using the PDF Editor) before the new stage 2 job could be run:

- The TSO ID name had to be changed to the new ID (for example, from "MANFRED" to "ANDREUS" for setup "B").
  - The VTAM APPL name for IOF had to be changed (for example, from RAIADI15 to RAIADI5B for setup "B").
  - The VTAM APPL name for TCP had to be changed (for example, from RAIADT15 to RAIADT5B for setup "B").
  - The VSAM cluster names for any shared data sets had to be removed.
3. The new stage 2 job (for example STAGE2B) was submitted and run:
    - a. The TSO command SUBMIT was used to submit the job and the job name was noted.
    - b. On our JES2 system the TSO command SDSF was used to check the output for this job. On a JES3 system, the OUTPUT command could be used.

4. We logged back on to TSO using LOGON procedure \$RISC.
5. We prepared a TSO command list to execute the necessary FREE and ALLOCATE statements, in this case for the "NDM.NDM15B.\*" data sets for setup "B".

For a listing of this CLIST see Figure 200 on page 219.

```

PROC 0 PANEL()
/*****
/* THIS IS A COPY OF 'NDM.PROCLIB(NVDMPR15)' (MANFRED'S) CREATED FOR */
/* USE WITH TSO LOGON PROC (N/A) AND TCP LU=RAIADT5B AND IOF LU= */
/* RAIADI5B. - MCOOK 93/11/3 */
/* THE FOLLOWING CHANGES HAVE BEEN MADE: */
/* C "NDM.NDM15." "NDM.NDM15B." ALL FOR .NDMTABLE, .NDMCLST, */
/* .NDMCLST, .NDMMSG, .NDMSKLS. */
/* ADDED ISPLLIB ALLOC STMT (FIRST ALLOC STMT) FOR LOADLIB. */
*****/
CONTROL NOFLUSH NOMSG MAIN
PROFILE MODE WTPMSG MSGID
FREE FILE(ISPLLIB,ISPPLIB,ISPLIB,ISPTLIB,ISPSLIB,ISPPROF,ISPTABL)
FREE FI(SYSPROC,DSXTABL)
ALLOC FI(ISPLLIB) SHR DA('NDM.NDM15B.LOADLIB')
ALLOC FI(SYSPROC) SHR DA('ITSC.DSNCLIST' +
' DSN220.DSNCLIST' +
' NDM.NDM15B.NDMCLST' /* NDM CLISTS */ +
' ISR.V3R3MO.ISRCLIB' /* ISPF/PDF*/ +
' ITSC.ISPF.SA18' +
' ITSC.ISPF.CLISTS' +
' RISC.SPF.CLISTS' /* USER */ +
' SYS1.HRFCLST' )
SET &DSNAME = &SYSUID..ISPFNDM.ISPFPF
ALLOC FI(ISPFPF) SHR DA('&DSNAME.')
IF &LASTCC = 0 THEN +
DO
FREE FI(ISPCRTE)
CONTROL MSG
ATTRIB ISPCRTE DSOrg(P0) RECFM(F B) LRECL(80) BLKSIZE(3120)
ALLOC DA('&DSNAME.') SP(2,1) TRACKS DIR(2) USING(ISPCRTE) +
FI(ISPFPF) VOLUME(WTLSTG)
IF &LASTCC = 0 THEN +
WRITE *** ISPF PROFILE DATA SET '&DSNAME.' HAS BEEN CREATED
ELSE +
DO
WRITE *** UNABLE TO ALLOCATE ISPF PROFILE DATA SET '&DSNAME.'
FREE FI(ISPCRTE)
EXIT CODE(12)
END
FREE FI(ISPCRTE)
END
CONTROL MSG
ERROR EXIT
IF &PANEL = &STR() THEN +
SET &PNL = PANEL(ISR@MST5)
ELSE +
SET &PNL = PANEL(&PANEL)
ALLOC FI(ISPTABL) SHR DA('&DSNAME.')
ALLOC FI(DSXTABL) SHR DA('NDM.NDM15B.NDMTABLE') /* NDM */ +
ALLOC FI(ISPPLIB) SHR DA('DSN220.DSNPFP' /* DB2 */ +
' NDM.ISPPLIB' /* SDSF */ +
' ISF.V1R3M3.ISFPLIB' /* SDSF */ +
' ITSC.ISPF.SA18' +
' NDM.NDM15.PANLIB' /* NDM */ +
' ISR.V3R3MO.ISRPENU' /* ISPF/PDF*/ +
' ISP.V3R3MO.ISPPENU' +
' SYS1.HRFANL') /* RACF */ +
ALLOC FI(ISPMLIB) SHR DA('DSN220.DSNPFM' /* DB2 */ +
' SYS1.HRFMSG' /* RACF */ +
' ISR.V3R3MO.ISRMENU' /* ISPF/PDF*/ +
' ISP.V3R3MO.ISPMENU' +
' NDM.NDM15B.NDMMSG') /* NDM */ +
ALLOC FI(ISPTLIB) SHR DA('&DSNAME.' +
' ISF.V1R3M3.ISFTLIB' /* SDSF */ +
' ISR.V3R3MO.ISRTLIB' /* ISPF/PDF*/ +
' ISP.V3R3MO.ISPTENU' /* ISPF */ +
' NDM.NDM15B.NDMTABLE') /* NDM */ +
ALLOC FI(ISPSLIB) SHR DA('SYS1.HRFKEL' /* RACF */ +
' ISR.V3R3MO.ISRSENU' /* ISPF/PDF*/ +
' ISP.V3R3MO.ISPSLIB' /* ISPF */ +
' NDM.NDM15B.NDMSKLS') /* NDM */ +
ERROR RETURN
PDF &PNL

```

Figure 200. TSO Command List Used to Allocate GIX Data Sets. This figure shows the TSO Command List used to allocate the data sets for GIX setup "B". The highlighted items are explained in the notes that follow.

### Notes

- 1** Data set 'NDM.NDM15B.LOADLIB' is both a copy of the SMP target load library from the SMP installation of NetView DM Release 5, *and* a copy of the load library output from the stage 2 job for TCP setup "B".
- 2** Data set 'NDM.NDM15B.NDMCLST' was created by the SMP installation, and contains TSO command procedures used by GIX.
- 3** Data set 'NDM.NDM15B.NDMTABLE', created by the stage 2 job for TCP setup "B", is a new data set made for the TSO ID using TCP setup "B". Under Data Definition (DD) name DSXTABL it is the output ISPF/PDF table data set for the TSO ID ANDREUS, the GIX Administrator for TCP setup "B".
- 4** Data set 'NDM.NDM15.PANLIB' is the SMP target panel library from the installation of NetView DM Release 5.
- 5** Data set 'NDM.NDM15B.NDMMSGs' is the NetView DM Release 5 GIX message data set created by the stage 2 job for TCP setup "B".
- 6** Data set 'NDM.NDM15B.NDMTABLE' on DD name ISPTABL is the input ISPF/PDF table data set used by GIX for TCP setup "B".
- 7** Data set 'NDM.NDM15B.NDMSKLS' was created by the stage 2 job for TCP setup "B" and contains ISPF/PDF file tailoring skeletons.

6. At the READY prompt type we ran the following TSO EXECUTE command (the example shown is for the suffix "B" setup):

```
EX 'NDM.PROCLIB(NVDMPR5B)' LIST
```

7. In some cases we wanted a specific TCP to default to using a different mode table or mode entry. In these cases we edited the VTAM major node definition and altered the MODETAB and DLOGMOD specifications on the APPL statement for that TCP.

When this was necessary we:

- a. Used the PDF editor to change the VTAM major node definition.
- b. Remembered to use comments and to save a copy of the original.
- c. Logged back on to NetView.
- d. Deactivated the right pair of ACBs using the following commands from within NetView, for example:

```
NCCF INACT RAIANDI5B  
NCCF INACT RAIADT5B
```

- e. Reactivated these ACBs in order to pick up the change, for example:

```
NCCF ACT RAIADI5B  
NCCF ACT RAIADT5B
```

8. We prepared unique JCL for the new NetView DM TCP job by copying and editing the JCL for the original one. For example, see Figure 201 on page 221, for TCP setup "B". We placed this new JCL in data set name "RISC.PROCLIB(NVDMTC5B)".



```

//NVDMT5B PROC
//*****
//* START-UP WITHOUT SPMF
//* START-UP OF NETVIEW DISTRIBUTION MANAGER R5 TCP PROFILE 01
//* FOR TCP SETUP "B".
//*****
//RAIADT5B EXEC PGM=DSXTMM00,REGION=3072K,TIME=1440,
// PARM=(' START=COLD,OPCTL=IOF,AUTOSTR=N,AUTOEND=N,MSGINFO=2',
// 'PROFILE=01,NDCCAPI=NO')
//STEPLIB DD DSN=NDM.NDM15B.LOADLIB,DISP=SHR
//* DD DSN=NDM.V1R2.USERLIB,DISP=SHR
//DSXPRINT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSABEND DD DUMMY
//SYSUDUMP DD DUMMY
//SNAP DD DUMMY
//*NAPTRAC DD DUMMY
//DSXLIB DD DISP=SHR,DSN=NDM.NDM15B.NDMLIB
//DSXLIBT DD DISP=SHR,DSN=NDM.NDM15B.NDMLIBT
//DSXGIX DD DISP=SHR,DSN=NDM.NDM15B.NDMGIX
//DSXGIXD DD DISP=SHR,DSN=NDM.NDM15B.NDMGIXD
//DSXHFDI DD DISP=SHR,DSN=NDM.NDM15B.NDMHFDI
//DSXHFDA DD DISP=SHR,DSN=NDM.NDM15B.NDMHFDA
//DSXDRD DD DISP=SHR,DSN=NDM.NDM15B.NDMDRD
//DSXTCF DD DISP=SHR,DSN=NDM.NDM15B.NDMTCF
//NDMEIF DD DISP=SHR,DSN=NDM.NDM15B.NDMEIF
//NDMRQF DD DISP=SHR,DSN=NDM.NDM15B.NDMRQF
//NDMRQFDA DD DISP=SHR,DSN=NDM.NDM15B.NDMRQFD
//DSXDDSUB DD SYSOUT=(A,INTRDR)
//DSXJOBS DD DISP=SHR,DSN=NDM.NDM15B.JCL
//DSXCWK DD DISP=SHR,DSN=NDM.NDM15B.NDMCWK
//DSXUN01 DD DISP=SHR,DSN=NDM.NDM15B.NDMUN01
//DSXWF01 DD DISP=SHR,DSN=NDM.NDM15B.NDMWF01

```

Figure 201. JCL Procedure Used to Start the TCP for NetView DM Setup "B"

9. We started the new NetView DM TCP job (for setup "B") by issuing the following command from NetView:

```
MVS S NVDMT5B
```

10. We ensured that the new TCP job started correctly:

- We used the command TSO SDSF PREFIX NVDM\* to set up the display.
- We used the SDSF command DA to display the system activity.
- We used the following NetView command in order to ensure the ACB was active waiting for logon:

```
DIS NVDMT5B
```

11. To log on to IOF we:

- Switched to the NetView session.
- Typed the following NetView command:

```
V NET,ACT,ID=RAIT420,LOGON=RAIADI5B
```
- Logged on to IOF with USERID the same as the TSO user ID specified in the stage 2 job for that setup (for example, "ANDREUS" for setup "B").



# Appendix A. VTAM Major Node Definitions

## A.1 VTAM Major Node Definitions for the AS/400s

```

*****
*
*           AS/400 IN A TOKEN-RING NETWORK
*
*****
NDMAS4A  VBUILD MAXGRP=5,          REQUIRED          X00010480
          MAXNO=12,                REQUIRED          X00010490
          TYPE=SWNET               REQUIRED          00010500
**
*-----PU AND LU'S DEFINITION FOR AS/400 SYSTEM   9406  ----
**
T13P9406 PU  ADDR=01,              COULD BE ANYTHING (NOT USED) X00010540
          MAXDATA=265,             AS/400 SYSTEM          X00010550
          IDBLK=056,               AS/400  ID BLOCK NUMBER X00010550
          IDNUM=15078,             IDNUM OF AS/400 9406   X00010560
          DISCNT=NO,              X00010570
          MAXOUT=7,               X00010580
          MAXPATH=2,              X00010590
          CPNAME=RALYAS4A,        X00010610
          PACING=(7,1),           X00010610
          VPACING=8,              X00010610
          PUTYPE=2,               X00010620
          PASSLIM=7,              X
          ISTATUS=ACTIVE
*
*          NGFTXT=' AS/400/A'
**
TR13A40A PATH DIALNO=0004400010020001, TO AS/400 9406      00010640
          GRPNM=EG13L01,          FROM TIC 2            X00010830
          GID=1,                  X00010840
          PID=2,                  X00010850
          USE=YES                  INITIALY ACTIVE          X00010860
**
*-----NETVIEW DM TO MSS400
RALYAS4A LU  LOCADDR=0,MODETAB=NDMLU62Q,DLOGMOD=LU62          00010650
*-----NETVIEW TO AS400 BRIDGE PRPQ DEVICE-----
TR1340A1 LU  LOCADDR=1
          3270 EMULATION-----
TR1340A2 LU  LOCADDR=2,MODETAB=MTGS3X,USSTAB=US327X,          X00010650
          DLOGMOD=EM3278, ISTATUS=ACTIVE
TR1340A3 LU  LOCADDR=3,MODETAB=MTGS3X,USSTAB=US327X,          X00010650
          DLOGMOD=EM3278, ISTATUS=ACTIVE
*-----APPC LUS WITH CICS11-----
TR1340A4 LU  LOCADDR=4,MODETAB=MTGS3X,DLOGMOD=MODS361,      X
          LOGAPPL=CICS11, ISTATUS=ACTIVE
*-----LUO WITH CICS11-----
TR1340A5 LU  LOCADDR=5,MODETAB=MTGS3X,DLOGMOD=SNUF36,      X
          ISTATUS=ACTIVE
*-----DSNX S36A-----
TR1340A6 LU  LOCADDR=6,MODETAB=MTGS3X, ISTATUS=ACTIVE
*-----MSRJE S36A-----
TR1340A7 LU  LOCADDR=7,MODETAB=MTGS3X,DLOGMOD=RJES36, ISTATUS=ACTIVE
*-----DHCF S36A-----
TR1340A8 LU  LOCADDR=8, ISTATUS=ACTIVE
*
**
*****
*
*           AS/400 IN A TOKEN-RING NETWORK
*
*****
NDMAS4B  VBUILD MAXGRP=5,          REQUIRED          X00010480
          MAXNO=12,                REQUIRED          X00010490
          TYPE=SWNET               REQUIRED          00010500
**
*-----PU AND LU'S DEFINITION FOR AS/400 SYSTEM   9406  ----
**

```

Figure 202 (Part 1 of 2). VTAM Major Node Definitions for the AS/400s

```

T13P9404 PU  ADDR=01,          COULD BE ANYTHING (NOT USED)  X00010540
              MAXDATA=265,      AS/400 SYSTEM                    X00010550
              DISCNT=NO,         X00010570
              MAXOUT=7,         X00010580
              MAXPATH=2,       X00010590
              CPNAME=RALYAS4B,  X00010610
              PACING=(7,1),     X00010610
              VPACING=8,       X00010610
              PUTYPE=2,        X00010620
              PASSLIM=7,      X
              ISTATUS=ACTIVE
*              NGFTXT=' AS/400/B'
**
TR13A40B PATH DIALNO=0004400010020002, TO AS/400 9406 00010640
              GID=1,          X00010830
              PID=2,          X00010850
              USE=YES          X00010860
              INITIALY ACTIVE
**
*-----NETVIEW DM TO MSS400 -----
RALYAS4B LU  LOCADDR=0,MODETAB=NDMLU62Q,DLOGMOD=LU62 00010650
**

```

Figure 202 (Part 2 of 2). VTAM Major Node Definitions for the AS/400s. This figure lists the two VTAM major node definitions for the AS/400s shown in Figure 197 on page 211.

## A.2 Example of the AS/400 CL Program Configuration Lists

This is the list that can be used to configure the communications between NetView Distribution Manager/MVS and the AS/400.

```

CRTLINTRN LIND(L41TR) RSRNAME(LIN041) ONLINE(*YES) +
    VRYWAIT(*NOWAIT) MAXCTL(256) LINESPEED(4M) MAXFRAME(1994) +
    TRNLOGLVL(*OFF) TRNMGRMODE(*OBSERVING) LOGCFGCHG(*LOG) +
    TRNINFCN(*YES) ADPTADR(400010020001) EXCHID(05615078) +
    SSAP((04 *MAXFRAME *SNA)(06 *MAXFRAME *NONSNA)(AA +
    *MAXFRAME *NONSNA)) THRESHOLD(*OFF) LINKSPEED(4M) +
    COSTCNN(0) COSTBYTE(0) SECURITY(*NONSECURE) PRPDLY(*LAN) +
    USRDFN1(128) USRDFN2(128) USRDFN3(128) AUTOCRTCTL(*YES) +
    AUTODLTCTL(1440) CMNRCYLMT(2 5) +
    TEXT('4M Token ring line LIN041')
CRTCTHST CTLD(NVDMHOST) LINKTYPE(*LAN) ONLINE(*YES) APPN(*YES) +
    CODE(*EBCDIC) MAXFRAME(16393) RMTNETID(USIBMRA) +
    RMTCPNAME(RAI) LCLEXCHID(*LIND) INLCNN(*DIAL) +
    DIALINIT(*LINKTYPE) SWTDC(*NO) ADPTADR(400001240001) +
    DSAP(04) SSAP(04) LANFRMRTY(*CALC) LANCNRTY(*CALC) +
    LANRSPMT(*CALC) LANCNMTMR(*CALC) LANACKTMR(*CALC) +
    LANINACTMR(*CALC) LANACKFRQ(*CALC) LANMAXOUT(*CALC) +
    LANACPTY(*CALC) LANWDWSTP(*NONE) CPSSN(*YES) +
    NODETYPE(*ENDNODE) TMSGPNBR(1) MINSWTSTS(*VRYONPND) +
    AUTOCRTDEV(*ALL) AUTODLTDEV(1440) USRDFN1(*LIND) +
    USRDFN2(*LIND) USRDFN3(*LIND) CMNRCYLMT(2 5) +
    TEXT('NVDM 15 ON SA 18')
CRTDEVAPP DEVD(RAIADT5D) LOCADR(00) RMTLOCNAME(RAIADT5D) +
    ONLINE(*NO) LCLLOCNAME(RALYAS4A) RMTNETID(*NETATR) +
    CTL(NVDMHOST) MODE(*NETATR) MSGQ(*LIBL/QSYSOPR) +
    LANACPTY(*CALC) LANWDWSTP(*NONE) CPSSN(*YES) +
    NODETYPE(*ENDNODE) TMSGPNBR(1) MINSWTSTS(*VRYONPND) +
    AUTOCRTDEV(*ALL) AUTODLTDEV(1440) USRDFN1(*LIND) +
    USRDFN2(*LIND) USRDFN3(*LIND) CMNRCYLMT(2 5) +
    TEXT('NVDM 15 ON SA 18')
ADDSTQ DSTQ(RAIADT5D) RMTLOCNAME(RAIADT5D) +
    DSTQTYPE(*SVDS) MODE(LU62) RMTNETID(USIBMRA) +
    LCLLOCNAME(RALYAS4A)
CRTMODD MODD(LU62) COS(#CONNECT) MAXSSN(8) MAXCNV(8) LCLCTLSSN(4) +
    PREESTSSN(0) INPACING(7) OUTPACING(7) MAXLENRU(*CALC) +
    DTACPR(*NETATR) INDTACPR(*RLE) OUTDTACPR(*RLE) +
    TEXT('LU62 MODE FOR NVDMHOST')

```

Figure 203. AS/400 CL Program Configuration Lists

### A.3 VTAM Major Node Definitions for the PS/2s

```

*****
*
*          VTAM SWITCHED MAJOR NODE FOR NVDM RESIDENCY 01-13
*
*****
NVDM5  VBUILD TYPE=SWNET,          REQUIRED          * X
        MAXNO=100,                REQUIRED          * X
        MAXGRP=5
**
**
PCIDSRV1 PU  ADDR=13,              COULD BE ANYTHING (NOT USED) * X
              DISCNT=NO,
              CPNAME=CIDSRVP,      * X
              IRETRY=NO,           NOT USED        X
              ISTATUS=ACTIVE,      X
              MAXPATH=4,           X
              PUTYPE=2
*
**
CIDSRV1P PATH GRPNM=EG24P01,          * X
              DIALNO=000440000032299, * X
              GID=1,               * X
              PID=1,               X
              USE=YES
**
CIDSRV1 LU   LOCADDR=0,              FOR THE PS/2 NVDM/2 SERVER X
              DLOGMOD=LU62,MODETAB=NDMLU62Q
**
CIDSRV12 LU  LOCADDR=2,              FOR THE CIDSRV1 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
**
CIDSRV13 LU  LOCADDR=3,              FOR THE CIDSRV1 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
**
CIDSRV14 LU  LOCADDR=4,              FOR THE CIDSRV1 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
**
CIDSRV15 LU  LOCADDR=5,              FOR THE CIDSRV1 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
**
**
PCIDADM PU   ADDR=13,              COULD BE ANYTHING (NOT USED) * X
              DISCNT=NO,           * X
              CPNAME=CIDADM,       * X
              IRETRY=NO,           NOT USED        X
              ISTATUS=ACTIVE,      X
              MAXPATH=4,           X
              PUTYPE=2
*
**
CIDADM PATH  GRPNM=EG24P01,          * X
              DIALNO=000440000033317, * X
              GID=1,               * X
              PID=1,               X
              USE=YES
**
CIDADM LU   LOCADDR=0,              FOR THE PS/2 NVDM/2 SERVER X
              DLOGMOD=LU62,MODETAB=NDMLU62Q
**
CIDADM2 LU  LOCADDR=2,              FOR THE CIDADM 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
**
CIDADM3 LU  LOCADDR=3,              FOR THE CIDADM 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
**
CIDADM4 LU  LOCADDR=4,              FOR THE CIDADM 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
**
CIDADM5 LU  LOCADDR=5,              FOR THE CIDADM 3270      X
              DLOGMOD=D4C32XX3,MODETAB=ISTINCLM,USSTAB=US327X
*****

```

Figure 204 (Part 1 of 2). VTAM Major Node Definitions for the PS/2s

*			
RA39P210	PU	ADDR=13, IDBLK=05D, IDNUM=CC210, ISTATUS=ACTIVE,DISCNT=NO, MAXDATA=4105,MAXPATH=4, PACING=0,PUTYPE=2,VPACING=0, MODETAB=AMODETAB, DLOGMOD=M3SDLCQ, USSTAB=US327X	X X X X X X X X
*			
RA39Z210	PATH	DIALNO=0004400000CC210, GRPNM=EG24L00, GID=1,PID=2,USE=YES	X00010830 X00010840 00010850
**			
RA39L210	LU	LOCADDR=0, MODETAB=NDMLU62Q, DLOGMOD=LU62	X X
RA39E210	LU	LOCADDR=2	
RA39E211	LU	LOCADDR=3	
**			
RA39P220	PU	ADDR=13, IDBLK=05D, IDNUM=CC220, ISTATUS=ACTIVE,DISCNT=NO, MAXDATA=4105,MAXPATH=4, PACING=0,PUTYPE=2,VPACING=0, MODETAB=AMODETAB, DLOGMOD=M3SDLCQ, USSTAB=US327X	X X X X X X X X
*			
RA39Z220	PATH	DIALNO=0004400000CC220, GRPNM=EG24L00, GID=1,PID=2,USE=YES	X00010830 X00010840 00010850
**			
RA39L220	LU	LOCADDR=0, MODETAB=NDMLU62Q, DLOGMOD=LU62	X X
RA39E220	LU	LOCADDR=2	
RA39E221	LU	LOCADDR=3	
**			
RA39P230	PU	ADDR=13, IDBLK=05D, IDNUM=CC230, ISTATUS=ACTIVE,DISCNT=NO, MAXDATA=4105,MAXPATH=4, PACING=0,PUTYPE=2,VPACING=0, MODETAB=AMODETAB, DLOGMOD=M3SDLCQ, USSTAB=US327X	X X X X X X X X
*			
RA39Z230	PATH	DIALNO=0004400000CC230, GRPNM=EG24L00, GID=1,PID=2,USE=YES	X00010830 X00010840 00010850
**			
RA39L230	LU	LOCADDR=0, MODETAB=NDMLU62Q, DLOGMOD=LU62	X X
RA39E230	LU	LOCADDR=2	
RA39E231	LU	LOCADDR=3	

Figure 204 (Part 2 of 2). VTAM Major Node Definitions for the PS/2s. This figure lists the VTAM major node definitions for the PS/2s shown in Figure 197 on page 211.

## A.4 VTAM Major Node Definition for NetView DM/MVS

```

RAIBNDM5 VBUILD TYPE=APPL
*****
* MAJ NODE DEF FOR NETVIEW DM R5 SETUPS *
*****
*
* MODETAB AND DLOGMOD FOR RAIADT15 CHANGED 93/11/3 FOR RS/6 - MCOOK
* ADDED SETUPS "A" THROUGH "E" AS INDICATED 93/11/3 - MCOOK
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 BASE SETUP - W.GEIGER
*
RAIADT15 APPL AUTH=ACQ,ACBNAME=RAIADT15,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=AMODEAPP,DLOGMOD=NVDMNORM
*
RAIADI15 APPL AUTH=ACQ,ACBNAME=RAIADI15,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "A" - OS/2
*
RAIADT5A APPL AUTH=ACQ,ACBNAME=RAIADT5A,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=NDMLU62Q,DLOGMOD=LU62
RAIADI5A APPL AUTH=ACQ,ACBNAME=RAIADI5A,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "B" - DOS
*
RAIADT5B APPL AUTH=ACQ,ACBNAME=RAIADT5B,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=NDMLU62Q,DLOGMOD=LU62
*
RAIADI5B APPL AUTH=ACQ,ACBNAME=RAIADI5B,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "C" - RS/6000
*
RAIADT5C APPL AUTH=ACQ,ACBNAME=RAIADT5C,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=AMODEAPP,DLOGMOD=NVDMNORM
*
RAIADI5C APPL AUTH=ACQ,ACBNAME=RAIADI5C,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "D" - AS/400
*
RAIADT5D APPL AUTH=ACQ,ACBNAME=RAIADT5D,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=MTGS3X,DLOGMOD=MODS361
*
RAIADI5D APPL AUTH=ACQ,ACBNAME=RAIADI5D,EAS=1
*
* FOLLOWING 2 APPL STMTS FOR NVDM R5 SETUP "E" - SPMF V2
*
RAIADT5E APPL AUTH=ACQ,ACBNAME=RAIADT5E,EAS=1,APPC=YES, X
AUTOSSES=1,DSESLIM=1,DMINWNL=0,DMINWNR=1,PARSESS=YES, X
MODETAB=NDMLU62Q,DLOGMOD=LU62
*
RAIADI5E APPL AUTH=ACQ,ACBNAME=RAIADI5E,EAS=1

```

Figure 205. VTAM Major Node Definition for NetView DM/MVS. This figure shows the complete definition of the VTAM major node for the multiple TCPs listed above.



---

## Appendix B. Sample NetView DM Stage 1 Jobs

---

### B.1 Sample Stage 1 Job for Setups B, C, and D

The stage 1 job shown Figure 206 on page 230 was the basis for setups "B", "C", and "D", on the test network.

The stage 1 job shown Figure 207 on page 233 was the basis for setup "E".

The stage 1 job used for setup "A" was similar to that used for setup "E", with the following exceptions:

1. The data set names were different ("NDM.NDM15A.\*" instead of "NDM.NDM15E.\*").
2. The VTAM LU names were different ("RAIADT5A" and "RAIADI5A" instead of "RAIADT5E" and "RAIADI5E").
3. The NDMCOM macro was specified as shown in Figure 5 on page 10, in order to enable the Service Provider.
4. The NDMTCP parameters used when enabling the TCP Event Exit for SPMF (the EVNEXIT and EVNOPT parameters, as shown in Figure 12 on page 21) were not specified.

```

//MANFRED1 JOB (0-224410),MANFRED,MSGCLASS=0,          00001002
//          CLASS=A,MSGLEVEL=(1,1),                  00002002
//          NOTIFY=MANFRED                          00002002
/*ROUTE PRINT WTSCPOK.MANFRED
//*****
//* ARE DS NDMCLST AND NDMSKLS ALREADY ALLOCATED??? MM 00030000
//* IS DS PRINT (SEE $NVDMMX) ALREADY ALLOCATED??? MM
//***** 00030000
//* 00030000
//***** 00030000
//* NETVIEW DM GENERATION STAGE 1
//***** 00030000
//ASM EXEC PGM=IEV90,PARM=' DECK,NOOBJ',REGION=1024K 00070000
//SYSLIB DD DSN=NDM.NVDM15B.GENLIB,DISP=SHR          00080000
// DD DSN=SYS1.MACLIB,DISP=SHR                     00080000
//SYSUT1 DD DSN=&&SYSUT1,UNIT=SYSDA,SPACE=(1700,(400,50)) 00100000
//SYSUT2 DD DSN=&&SYSUT2,UNIT=SYSDA,SPACE=(1700,(400,50)) 00110000
//SYSUT3 DD DSN=&&SYSUT3,UNIT=SYSDA,SPACE=(1700,(400,50)) 00120000
//SYSPRINT DD SYSOUT=*,DCB=BLKSIZE=1089
//SYSPUNCH DD DSN=NDM.NDM15.JCL(NDM5STG2),          00150000
// DISP=(SHR)                                       00160000
//SYSIN DD *
NDMGEN GENTYPE=INSTALL, (INSTALL,PROFILE,SKEL,CLIST) X
ADMID=GEIGER, (1ST GIX USERID) X
ADMPW=RA07LEIG, (PASSWORD FOR GIX ID) X
ACCTG='0-224410', X
ASMH=Y, X
SUBSYS=JES2, (JES2 IS THE DEFAULT) X
LOAD=NDM.NDM15.LOADLIB, X
CLASS=(I,0,1), X
JOBPRF=NDM, X
PGMR=GEIGER, X
TYPRUN=RELEASE, (RELEASE IS THE DEFAULT) X
PRNT=*, (DEFAULT IS A) X
CLISTLB=NDM.NDM15.NDMCLST, X
PFX=NDM15, (NDM15 IS THE DEFAULT) X
SKELLIB=NDM.NDM15.NDMSKLS, X
SKELPW=F, (INSERTS PASSWORD IN-STREAM AS BATCHPW) X
VOL=(WTL857,WTL857), X
UNIT=3380, X
UNIQUE=(YES,YES)
*
* NDMAPPL PGMNAME=C'DUMMYACC', (DUMMY ENTRY FOR DCC APPL) X
* TCPID=RAIADT15
*
NDMTCP APPLID=(RAIADT15,*), X
IAPPLID=(RAIADI15,*), X
IPLUNAM=NONE, (LU NAME OF DEFAULT IOF PRINTER) X
OPCTL=NETV, (SELECTED MESSAGES ARE ROUTED TO NV) X
NETVML=YES, (MVS WTO MULTI-LINE FACILITY) X
ROUTCD1=2, X
ROUTCD2=2, X
DSCD1=6, X
DSCD2=6, X
MAXWAIT=30, (MIN FOR WAITING PHASE W/ AUTOEND) X
STALINE=1, (DEFAULT IS 10) X
AUTOSTR=YES, (DEFAULT IS NO) X
AUTOEND=NO, (NO IS THE DEFAULT) X
EVNEXT=FIYXEX01, (SPMF INTERFACE EXIT) X
RESWAIT=600, (SECONDS NDM WAITS FOR LU62 RESPONSE) X
RETINT=1, (TIME WAITED BY TCP BEFORE A RETRY) X
RETRY=3, (RETRY COUNT FOR INTERRUPTED SESSION) X
APPC=YES, (YES IF NDM IS TO HAVE LU6.2 SESSION) X
MAXTASK=(9,1), (CONCURRENT SESSION TOTAL,SWITCHED SESS)X
SWDLY=5, (SECS. WAITED BEFORE VTAM SESSION RETRY)X
SWRTRY=3, (NUMBER OF VTAM SESSION RETRIES) X
DDPREQ=YES, (DEFAULTS TO YES IF APPC=YES) X
RESYNCH=4, (4098K BYTE BLOCKS BETWEEN CHECKPOINTS) X
MSGINFO=2, (ALL MSGS GO TO SYSPRINT/IOF/CONSOLE) X
HOPCNT=5, (NO. OF NODES AN LU6.2 MSG. CAN HOP) X
NDCCAPI=NO, (API FEATURE INSTALLED) X
QMSURPT=NO, (DEFAULT. YES IF U HAVE USER APPLS) X
SUFFIX=01

```

Figure 206 (Part 1 of 3). Sample NetView DM Stage 1 Job

```

*
*      NDMCOM HCCSID=0025
*
*      NDMCP  CPNAME=POLLNO,                X
*             POLLING=NO
*      NDMCP  CPNAME=POLI6R2,                X
*             POLLING=YES,                   X
*             POLLINT=06,                    X
*             RESWAIT=120
*      NDMCP  CPNAME=POLI2R3,                X
*             POLLING=YES,                   X
*             POLLINT=02,                    X
*             RESWAIT=180
*      NDMCP  CPNAME=POLI3R6,                X
*             POLLING=YES,                   X
*             POLLINT=03,                    X
*             RESWAIT=360
*
*      RISC/6000 LU0
*
*      NDMNODE TYPE=RPS,                     X
*             LOGM=SERLGM
*
*      RISC/6000 LU6.2
*
*      NDMNODE TYPE=RS62,                    X
*             LOGM=LU62, FUNC=CMEP
*
*      AS/400   LU6.2
*
*      NDMNODE TYPE=AS62,                    X
*             LOGM=LU62, FUNC=CMEP
*
*      3174
*
*      NDMNODE TYPE=CSCM,                    X
*             LOGM=M3174A, FUNC=CMEP
*      NDMNODE TYPE=T174, FUNC=CMEP,         X
*             SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,ACTI), X
*             SENDRES=0060,RETRRES=0060,DELERES=0060,INSTRES=0060, X
*             REMORES=0060,ACCERES=0060
*
*      NVDM/MVS
*
*      NDMNODE TYPE=CMFP,                    X
*             LOGM=NDMTONDM, FUNC=CMFP
*
*      NDMNODE TYPE=NDMT,                    X
*             FUNC=NDMT
*
*      NVDM/2
*
*      NDMNODE TYPE=CMEP, FUNC=CMEP, RESTYPE=(0060,0070,0080,0100,0120, X
*             0220,0240,0250), XMFUNC=(SEND,RETR,DELE), X
*             CLASS=(A0,A1,B0)
*      NDMNODE TYPE=CDM,                     X
*             LOGM=LU62, FUNC=CMEP, X
*             XMFUNC=(SEND), (RETR,DELE NOT IMPLMENTED BY NVDM/2) X
*             SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,ACTI), X
*             RESTYPE=(0060,0070,0080,0100,0120,0220,0230,0240,0250)
*
*      NVDM/2   SPMF DEFINED
*
*      NDMNODE TYPE=DCCS,                    X
*             LOGM=LU62, FUNC=CMEP
*      NDMNODE TYPE=Q3,                      X
*             LOGM=LU62, FUNC=CMEP
*      NDMNODE TYPE=SERV,                    X
*             LOGM=LU62, FUNC=CMEP
*      NDMNODE TYPE=CLNT, FUNC=CMEP, X
*             SFUNC=(INST,REMO,ACCE,INIT,ACTI)

```

Figure 206 (Part 2 of 3). Sample NetView DM Stage 1 Job

```

*
*
*
*
*
NDMRES TYPE=0060,TRACK=Y,DEFINE=C,ASSIGN=C,           X
      RMASK1=MCODE.Y.Y.N.N.N.N.N.N.N.N,             X
      RMASK2=MCUST.Y.Y.N.N.N.N.N.N.N.N,             X
      GENMASK=Y.N.N.N.N.N.N.N.N.N.N.N.N.N.N
NDMRES TYPE=0070,TRACK=Y,DEFINE=C,ASSIGN=C
NDMRES TYPE=0080,TRACK=Y,DEFINE=C,ASSIGN=C
NDMRES TYPE=0100,TRACK=Y,DEFINE=C,ASSIGN=C
NDMRES TYPE=0120,TRACK=Y,DEFINE=C,ASSIGN=C
NDMRES TYPE=0220,TRACK=Y,DEFINE=C,ASSIGN=C
NDMRES TYPE=0230,TRACK=Y,DEFINE=C,ASSIGN=C
NDMRES TYPE=0240,TRACK=Y,DEFINE=C,ASSIGN=C
NDMRES TYPE=0250,TRACK=Y,DEFINE=C,ASSIGN=C
*
NDMGIX TEMUNIT=SYSDA, (UNIT TYPE OF DISKS FOR TEMPVOL) X
      LPRINT=N, (OUTPUT TO NDMPRINT IN TSO CLIST) X
      SUFFIX=01 (MUST MATCH SUFFIX ON NDMBATCH MACRO)
*
NDMBATCH SUFFIX=01
NDMDEF
*
NDMDATA TYPE=EIF,DSN=NDM.NDM15.NDMEIF
NDMDATA TYPE=LIBD,DSN=NDM.NDM15.NDMLIB, X
      DSPC=3,ISPC=1,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=LIB,DSN=NDM.NDM15.NDMLIBT, X
      CSPC=20,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=HFD,DSN=NDM.NDM15.NDMHFDI, X
      DSPC=50,ISPC=3,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=HF,DSN=NDM.NDM15.NDMHFDA, X
      CSPC=180,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=DRD,DSN=NDM.NDM15.NDMDRD, X
      DSPC=10,ISPC=4,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=TCF,DSN=NDM.NDM15.NDMTFC, X
      DSPC=10,ISPC=4,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=GIX,DSN=NDM.NDM15.NDMGIX, X
      DSPC=1,ISPC=1,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=GIXD,DSN=NDM.NDM15.NDMGIXD, X
      CSPC=6,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=RQF,DSN=NDM.NDM15.NDMRQF, X
      CSPC=1,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=RQFD,DSN=NDM.NDM15.NDMRQFD, X
      CSPC=1,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=CWK,DSN=NDM.NDM15.NDMCWK, X
      DSPC=1,ISPC=1,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=UNO1,DSN=NDM.NDM15.NDMUNO1, X
      CSPC=1,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=WFO1,DSN=NDM.NDM15.NDMWFO1, X
      CSPC=1,DELETE=YES,ALLOCT=CYL
NDMDATA TYPE=MSG,DSN=NDM.NDM15.NDMMSG,DELETE=YES
NDMDATA TYPE=TBL,DSN=NDM.NDM15.NDMTABLE,DELETE=YES
NDMDATA TYPE=END
*
END
/*

```

Figure 206 (Part 3 of 3). Sample NetView DM Stage 1 Job. This figure lists the job stream used to create the original stage 2 job that was used in Chapter 6, "NVDM/MVS: Multiple TCP Environments" on page 209.

## B.2 Sample Stage 1 Job for Setups A and E (SVP and SPMF)

The stage 1 job shown in Figure 207 on page 233 was the basis for setups "A" and "E" on the test network. (The stage 1 job shown Figure 206 on page 230 was the basis for setups "B", "C", and "D".)

```

//GEIGER1 JOB (0-224410),GEIGER,MSGCLASS=0,                00000100
//          CLASS=A,MSGLEVEL=(2,1),                        00000200
//          NOTIFY=GEIGER                                  00000300
// *ROUTE PRINT WTSCPOK.GEIGER                             00000400
//*****                                                    00000500
// * nvdms r5 stage 1 for setup "E" using SPMF R2 and no SVP. 00000600
//*****                                                    00001400
//ASM      EXEC PGM=IEV90,PARM='DECK,NOOBJ', REGION=1024K   00001500
//SYSLIB   DD DSN=NDM.NVDM15B.GENLIB,DISP=SHR                00001600
//          DD DSN=SYS1.MACLIB,DISP=SHR                     00001700
//SYSUT1   DD DSN=&&SYSUT1,UNIT=SYSDA,SPACE=(1700,(400,50)) 00001800
//SYSUT2   DD DSN=&&SYSUT2,UNIT=SYSDA,SPACE=(1700,(400,50)) 00001900
//SYSUT3   DD DSN=&&SYSUT3,UNIT=SYSDA,SPACE=(1700,(400,50)) 00002000
//SYSPRINT DD SYSOUT=*,DCB=BLKSIZE=1089                    00002100
//SYSPUNCH DD DSN=NDM.NDM15.JCL(STAGE2NA),                  00002200
//          DISP=(SHR)                                      00002300
//SYSIN    DD *                                             00002400
          NDMGEN GENTYPE=INSTALL, ALL|INSTALL|PROFILE|SKEL|CLIST|SAMPLE X00002500
          ACCTG='0-224410',                                     X00002600
          ADMID=GEIGER, (1ST GIX USERID)                     X00002700
          ADMPW=PASSWORD, (PASSWORD FOR GIX ID)               X00002800
          ASMH=Y,                                             X00002900
          CLASS=(1,0,(2,1)),                                  X00003000
          CLISTLB=NDM.NDM15E.NDMCLST,                          X00003100
          JOBPRF=NDM,                                         X00003200
          LOAD=NDM.NDM15E.LOADLIB,                             X00003300
          PFX=NDM15, (NDM15 IS THE DEFAULT)                   X00003400
          PGMR=GEIGERX2322,                                    X00003500
          PRNT=*, (DEFAULT IS A)                               X00003600
          SKELLIB=NDM.NDM15E.NDMSKLS,                          X00003700
          SKELPW=F, (INSERTS PASSWORD IN-STREAM AS BATCHPW)   X00003800
          SUBSYS=JES2, (JES2 IS THE DEFAULT)                  X00003900
          TYPRUN=RELEASE, (RELEASE IS THE DEFAULT)            X00004000
          UNIQUE=(YES,YES),                                    X00004100
          UNIT=3380,                                          X00004200
          VOL=(WTL321,WTL323)                                  00004300
*                                                                 00004400
* NDMAPPL PGMNAME=C'DUMMYACC', (DUMMY ENTRY FOR DCC APPL) X 00004500
* TCPID=RAIADT5E                                             00004600
*                                                                 00004700
          NDMTCP APPC=YES, (ENABLE LU6.2 SUPPORT)              X00004800
          APPLID=(RAIADT5E,*), (TCP APPL NAME, USE GIX PASSWORD) X00004900
          AUTOEND=NO, (NO IS THE DEFAULT)                     X00005000
          AUTOSTR=YES, (DEFAULT IS NO)                         X00005100
          DDPREQ=YES, (NODES CAN ISSUE REMOTE RELEASE REQS.) X00005200
          DSCD1=6, (DESCRIPTOR CODE FOR SYSTEM CONSOLE)       X00005300
          DSCD2=6, (DESCRIPTOR CODE FOR NETVIEW CONSOLE)      X00005400
          EVNEXIT=FIYXEX01, (TCP EVENT EXIT FOR SPMFR2 INSTANCE1) X
          EVNOPT=(INTRM,PLANT), (CALL FOR ALL EVENT TYPES).  X
          HOPCNT=5, (NO. OF NODES AN LU6.2 MSG. CAN HOP)     X00005500
          IAPPLID=(RAIADT5E,*), (APPL NAME FOR IOF)           X00005600
          IPLUNAM=NONE, (LU NAME OF DEFAULT IOF PRINTER)      X00005700
          MAXTASK=(8,2), (CONCURRENT SESSION TOTAL,SWITCHED SESS)X00005800
          MAXWAIT=30, (MIN FOR WAITING PHASE W/ AUTOEND)      X00005900
          MSGINFO=2, (ALL MSGS GO TO SYSPRINT/IOF/CONSOLE)    X00006000
          NDCCAPI=NO, (API FEATURE NOT INSTALLED)             X00006100
          NETCHNG=IMMEDIATE, (IMMEDIATE CONFIG UPDATES)      X00006200
          NETVML=YES, (MVS WTO MULTI-LINE FACILITY)           X00006300
          OPCTL=NETV, (SELECTED MESSAGES ARE ROUTED TO NV)    X00006400
          QMSURPT=NO, (DEFAULT. YES IF U HAVE USER APPLS)    X00006500
          RESWAIT=5, (SECONDS TO WAIT FOR LU62 RESPONSE)     X00006600
          RESYNCH=4, (4098K BYTE BLOCKS BETWEEN CHECKPOINTS) X00006700
          RETINT=1, (MINS TCP WAITS BEFORE A RETRY)           X00006800
          RETRY=3, (RETRY COUNT FOR INTERRUPTED SESSIONS)    X00006900
          ROUTCD1=2, (ROUTCODE FOR SYSTEM CONSOLE)            X00007000
          ROUTCD2=2, (ROUTCODE FOR NETVIEW CONSOLE)           X00007100
          SWDLY=5, (SWITCHED SESSION RETRY SECONDS).         X00007200
          SWRTRY=3, (SWITCHED SESSION NO. OF RETRIES).        X00007300
          SUFFIX=01                                           00007400

```

Figure 207 (Part 1 of 4). Stage 1 Job for NVDM/MVS Setup Used with SPMF

```

00004700
*
* AUTEXIT=NONE, (NO AUTH EXIT FOR IOF.) X 00007500
* CURTASK=(8,2), (CURTASK=MAXTASK IS THE DEFAULT) X 00007600
* EVNEXIT=FIYXEX01, (TCP EVENT EXIT FOR SPMFR2 INSTANCE1)X 00007700
* EVNOPT=(INTRM,PLANT), (CALL FOR ALL EVENT TYPES). X 00007800
* RETINT=30, (N.B. THIS IS THE DEFAULT ) X 00007900
* RESTAPF=YES, (RESET APF AUTH -DEFAULT FOR API) X 00008000
* STALINE=1, (UPDATE IOF SESSION COUNTER) X 00008100
*
* 00008200
* 00008300
* 00008400
* NDMCOM WITH NO SERVICE PROVIDER:- 00008500
* 00008600
* NDMCOM HCCSID=0025 (GETS CODE PAGE 37 FOR US, CANADA, ETC.) 00008700
* 00008800
* NDMCOM WITH SERVICE PROVIDER:- 00008900
* 00009000
* 00009100
* NDMCOM HCCSID=0025, (GETS CODE PAGE 37 FOR US, CANADA, ETC.)X 00009200
* MAXFILE=30, (MAX. NO. FILES SVP CAN HAVE OPEN). X 00009300
* MAXREQ=500, (MAX. NO. FILES SVP CAN HAVE OPEN). X 00009400
* SERVER=YES, (IF SERVICE PROVIDER REQUIRED). X 00009500
* SRVNAME=FZDSRVA 00009600
* 00009700
* 00009800
* POLLING GROUPS. 00009900
* 00010000
* 00010100
* NDMCP CPNAME=POLLNO, X00010200
* POLLING=NO 00010300
* NDMCP CPNAME=POLI6R2, X00010400
* POLLING=YES, X00010500
* POLLINT=06, X00010600
* RESWAIT=120 00010700
* NDMCP CPNAME=POLI2R3, X00010800
* POLLING=YES, X00010900
* POLLINT=02, X00011000
* RESWAIT=180 00011100
* NDMCP CPNAME=POLI3R6, X00011200
* POLLING=YES, X00011300
* POLLINT=03, X00011400
* RESWAIT=360 00011500
* 00011600
* 00011700
* 00011800
* GENERIC CMEP INCLUDING ALL FUNCTIONS SUPPORTED BY NVDM R5. 00011900
* 00012000
* NDMNODE TYPE=CMEP, X00012100
* LOGM=LU62,FUNC=CMEP, X00012200
* RESTYPE=(0060,0070,0080,0100,0120,0156,0158, X00012300
* 0220,0230,0240,0250), X00012400
* SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,INIT,ACTI,UNIN), X00012500
* XMFUNC=(SEND,RETR,DELE) 00012600
* 00012700
* NVDM/2 PREPARATION WORKSTATION 00012800
* 00012900
* SUPPORTS ALL CMEP FUNCTIONS EXCEPT RESOURCES 0156 AND 0158 AND 00013000
* SFUNC=(UNIN). ALSO: XFUNC=(RETR,DELE) ARE NOT SUPPORTED. 00013100
* 00013200
* NDMNODE TYPE=DM2, X00013300
* LOGM=LU62,FUNC=CMEP, X00013400
* XMFUNC=(SEND), X00013500
* SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,INIT,ACTI), X00013600
* RESTYPE=(0060,0070,0080,0100,0120,0220,0230,0240,0250) 00013700
* 00013800
* PRODUCTION NVDM/2 TARGET (SERVER OR CLIENT) 00013900
* 00014000
* SUPPORTS LIMITED SUBSET OF SFUNC. 00014100
* RESOURCES 0156 AND 0158, SFUNC=(UNIN,SEND) AND ALL XMFUNCS ARE 00014200
* DISABLED. 00014300
* 00014400
* NDMNODE TYPE=DM2P, X00014500
* LOGM=LU62,FUNC=CMEP, X00014600
* SFUNC=(RETR,DELE,INST,REMO,ACCE,INIT,ACTI), X00014700
* RESTYPE=(0060,0070,0080,0100,0120,0220,0230,0240,0250) 00014800

```

Figure 207 (Part 2 of 4). Stage 1 Job for NVDM/MVS Setup Used with SPMF

```

*
* RISC/6000 LU6.2 SERVERS AND CLIENTS (ALL).
*
* XMFUNC=(DELE) IS NOT SUPPORTED, NOR ARE RESOURCES 0156 AND 0158,
* BUT SFUNC=(UNIN) IS SUPPORTED.
*
* NDMNODE TYPE=RS62,
* LOGM=NVDMNORM,FUNC=CMEP,
* XMFUNC=(SEND,RETR),
* SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,INIT,ACTI,UNIN),
* RESTYPE=(0060,0070,0080,0100,0120,0220,0230,0240,0250)
*
* AS/400 LU6.2 - INCLUDES RESOURCES 0156 AND 0158, BUT NOT THE
* UNINSTALL FUNCTION.
*
* NDMNODE TYPE=AS62,
* LOGM=LU62,FUNC=CMEP,
* RESTYPE=(0060,0070,0080,0100,0120,0156,0158,
* 0220,0230,0240,0250),
* SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,INIT,ACTI),
* XMFUNC=(SEND,RETR,DELE)
*
* 3174 CONTROLLERS: CSCM HAS DEFAULTS, T174 CAN ONLY USE 0060.
*
* NDMNODE TYPE=CSCM,
* LOGM=M3174A,FUNC=CMEP
* NDMNODE TYPE=T174,
* LOGM=M3174A,FUNC=CMEP,
* SFUNC=(SEND,RETR,DELE,INST,REMO,ACCE,ACTI),
* SENDRES=0060,RETRRES=0060,DELERES=0060,INSTRES=0060,
* REMORES=0060,ACCERES=0060
*
* NVDM/MVS NODE TYPES
*
* NDMNODE TYPE=CMFP,
* LOGM=NDMTONDM,FUNC=CMFP
* NDMNODE TYPE=NDMT,
* FUNC=NDMT
*
* NVDM/2 NODES DEFINED FOR SPMF
*
* NDMNODE TYPE=DCCS,
* LOGM=LU62,FUNC=CMEP
* NDMNODE TYPE=Q3,
* LOGM=LU62,FUNC=CMEP
* NDMNODE TYPE=CLNT,FUNC=CMEP,
* SFUNC=(INST,REMO,ACCE,INIT,ACTI)
*
* HAPPY VALUES FOR RESOURCE MASKS: ALWAYS TRACK AND PERMIT DEFINITION
* AND ASSIGNMENT OF RESOURCES, AND PROVIDE A BASIC GENERAL MASK AS
* WELL AS 1 EXAMPLE OF A FORMAL ONE FOR EACH RESOURCE TYPE, EXCEPT
* FOR 3174 RESTYPE 0060.
*
* NDMRES TYPE=0060,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=MCODE.Y.Y.N.N.N.N.N.N.N.N,
* RMASK2=MCUST.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N
* NDMRES TYPE=0070,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=SOFTW.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N
* NDMRES TYPE=0080,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=PROC.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N
* NDMRES TYPE=0100,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=FLATD.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N
* NDMRES TYPE=0120,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=RELDDB.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N
* NDMRES TYPE=0156,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=OBJECT.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N
* NDMRES TYPE=0158,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=DATAACS.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N
* NDMRES TYPE=0220,TRACK=Y,DEFINE=C,ASSIGN=C,
* RMASK1=CONF.Y.Y.N.N.N.N.N.N.N.N,
* GENMASK=Y.N.N.N.N.N.N.N.N.N.N

```

Figure 207 (Part 3 of 4). Stage 1 Job for NVDM/MVS Setup Used with SPMF

```

NDMRES TYPE=0230,TRACK=Y,DEFINE=C,ASSIGN=C,          X00022700
RMASK1=DUMP.Y.Y.N.N.N.N.N.N.N,                     X00022800
GENMASK=Y.N.N.N.N.N.N.N.N.N,                       00022900
NDMRES TYPE=0240,TRACK=Y,DEFINE=C,ASSIGN=C,          X00023000
RMASK1=TRACE.Y.Y.N.N.N.N.N.N.N,                   X00023100
GENMASK=Y.N.N.N.N.N.N.N.N.N,                       00023200
NDMRES TYPE=0250,TRACK=Y,DEFINE=C,ASSIGN=C,          X00023300
RMASK1=ERRLOG.Y.N.N.N.N.N.N.N.N,                   X00023400
GENMASK=Y.N.N.N.N.N.N.N.N.N,                       00023500
*                                                     00023600
NDMGIX TEMUNIT=SYSDA, (UNIT TYPE OF DISKS FOR TEMPVOL) X00023700
NETCHNG=IMMEDIATE, (UPDATE TCP CONFIG IMMEDIATELY)   X00023800
LPRINT=N, (OUTPUT TO NDMPRINT IN TSO CLIST)          X00023900
SUFFIX=01 (MUST MATCH SUFFIX ON NDMBATCH MACRO)      00024000
*                                                     00024100
NDMBATCH SUFFIX=01                                  00024200
NDMDEF                                              00024300
*                                                     00024400
* DEFAULT ALL DATA SET SIZES FOR A TEST SYSTEM.     00024500
* REMOVE NDMDATA FOR GENTYPE=PROFILE.                00024600
* EDIT THE STAGE 2 DSNAMES IF NDMDATA ALLOWED TO DEFAULT. 00024700
*                                                     00024800
NDMDATA TYPE=END                                    00024900
*                                                     00025000
*                                                     00025100
* NDMDATA TYPE=EIF,DSN=NDM.NDM15.NDMEIF              00025200
* NDMDATA TYPE=LIBD,DSN=NDM.NDM15.NDMLIB,            X 00025300
* DSPC=3,ISPC=1,DELETE=YES,ALLOCT=CYL              00025400
* NDMDATA TYPE=LIB,DSN=NDM.NDM15.NDMLIB,            X 00025500
* CSPC=20,DELETE=YES,ALLOCT=CYL                    00025600
* NDMDATA TYPE=HFD,DSN=NDM.NDM15.NDMHFDI,           X 00025700
* DSPC=50,ISPC=3,DELETE=YES,ALLOCT=CYL            00025800
* NDMDATA TYPE=HF,DSN=NDM.NDM15.NDMHFDA,            X 00025900
* CSPC=180,DELETE=YES,ALLOCT=CYL                   00026000
* NDMDATA TYPE=DRD,DSN=NDM.NDM15.NDMDRD,            X 00026100
* DSPC=10,ISPC=4,DELETE=YES,ALLOCT=CYL            00026200
* NDMDATA TYPE=TCF,DSN=NDM.NDM15.NDMTCF,            X 00026300
* DSPC=10,ISPC=4,DELETE=YES,ALLOCT=CYL            00026400
* NDMDATA TYPE=GIX,DSN=NDM.NDM15.NDMGIX,            X 00026500
* DSPC=1,ISPC=1,DELETE=YES,ALLOCT=CYL            00026600
* NDMDATA TYPE=GIXD,DSN=NDM.NDM15.NDMGIXD,          X 00026700
* CSPC=6,DELETE=YES,ALLOCT=CYL                    00026800
* NDMDATA TYPE=RQF,DSN=NDM.NDM15.NDMRQF,            X 00026900
* CSPC=1,DELETE=YES,ALLOCT=CYL                    00027000
* NDMDATA TYPE=RQFD,DSN=NDM.NDM15.NDMRQFDA,         X 00027100
* CSPC=1,DELETE=YES,ALLOCT=CYL                    00027200
* NDMDATA TYPE=CWK,DSN=NDM.NDM15.NDMCWK,            X 00027300
* DSPC=1,ISPC=1,DELETE=YES,ALLOCT=CYL            00027400
* NDMDATA TYPE=UNO1,DSN=NDM.NDM15.NDMUNO1,          X 00027500
* CSPC=1,DELETE=YES,ALLOCT=CYL                    00027600
* NDMDATA TYPE=WFO1,DSN=NDM.NDM15.NDMWFO1,          X 00027700
* CSPC=1,DELETE=YES,ALLOCT=CYL                    00027800
* NDMDATA TYPE=MSG,DSN=NDM.NDM15.NDMMSGS,DELETE=YES 00027900
* NDMDATA TYPE=TBL,DSN=NDM.NDM15.NDMTABLE,DELETE=YES 00028000
* NDMDATA TYPE=END                                  00028100
*                                                     00028200
* NDMPROB IS VALID ONLY IF GENTYPE SAMPLE OR ALL    00028300
*                                                     00028400
* NDMPROB TYPE=CMEP                                 00028500
* END                                               00028600
/*                                                  00028700

```

Figure 207 (Part 4 of 4). Stage 1 Job for NVDM/MVS Setup Used with SPMF



---

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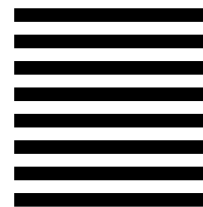
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