TME 10 NetView Release Notes

Version 5.0

October 1997

TME 10 NetView V5R0 Release Notes (October 1997)
Copyright Notice

Trademarks

Notice

TME 10 NetView
Release Notes 1

Release Notes

The following Release Notes provide important information about using TME 10 NetView V5R0 on the following UNIX platforms.

Mnemonic	Platform
aix3-r2	IBM RS/6000 series running AIX 3.2.5
aix4-r1	IBM RS/6000 series running AIX 4.x
osf-axp	DEC Alpha Generation system running Digital UNIX 4.0A, 4.0B, or 4.0C
solaris2	Sun SPARC series running Solaris 2.5 or 2.5.1

This Release Notes document provides important information about TME 10 NetView V5R0. These notes are the most current information for the product and take precedence over all other documentation.

Please read these notes thoroughly before installing or using this software.

List of Release Contents

The CD-ROMs included in this release of TME 10 NetView V5R0 contain the following types of files:

- *TME 10 NetView V5R0 Release Notes* (**RELNOTES.PS**)
- TME 10 NetView binaries
- TME 10 NetView shared libraries
- TME 10 NetView message catalogs
- TME 10 NetView DynaText books

- Tivoli Enterprise Console Patch 3.1-TEC-0001
- The latest migration scripts for NetView for AIX V3R1, TME 10 NetView V4R1, and TME 10 NetView V5R0
- TME 10 NetView Mid-Level Manager binaries
- Solstice Enterprise Agent binaries and documentation
- TME 10 Framework, Version 3.1.1

System Requirements

This release of TME 10 NetView V5R0 requires the 3.1.1 (or later) release of the TME 10 Framework. **Please read the *TME 10 Framework Enhancements and Release Notes* before attempting to use this product.**

Supported Architectures and System Requirements

This section lists any updates or additions to requirements for the TME 10 NetView application beyond those documented in the *TME 10 NetView Installation and Configuration* book and the *NetView Mid-Level Manager User's Guide.*

Please review these requirements carefully.

Software Requirements

This section contains information about the supported operating system versions and required patches (if any) for each supported hardware platform that have changed or been updated from the information available in the *TME 10 NetView Installation and Configuration* book. Tivoli does not distribute or maintain operating system patches from each hardware vendor. Contact your hardware vendor for information on how to obtain and install operating system patches.

AIX

- Prerequisite AIX 3.2 Program Temporary Fix (PTF) List

This section lists the PTFs for AIX 3.2 that are required before you can install TME 10 NetView V5R0. AIX upgrades may be ordered by calling IBM AIX support.

Prerequisite AIX software and PTFs for the installation of TME 10 NetView V5R0 are as follows:

LPP Name	PTF #
bos.obj 3.2.5	
bosnet.tcpip.obj 3.2.0	
bosnet.nfs.obj 3.2.0	
bosnet.snmpd.obj 3.2.0	U428290 (this should be installed on all RS/6000s in your network that are running AIX 3.2.5)
bsl.en_US.pc.loc 3.2.0	En_US locale
X11fnt.coreX.fng 1.2.0	
X11fnt.ibm850.pc.fnt 1.2.0	
X11rte.obj 1.2.3	U431144, U432909 (superseded by U433631), U428199. U428198
X11rte.motif1.2.obj 1.2.3	U432350 (superseded by U433640), U428196, U433184 (superseded by U433640)

AIX 3.2.5 PTF U493251 is a Preventative Maintenance Package that contains all of the above individual PTFs.

- The following information is for users of AIX 4.1.x or AIX 4.2.x.
  - Prerequisite AIX 4.1 and AIX 4.2 features list

    This section lists the prerequisite software features for AIX V4 that are required before you can install TME 10 NetView V5R0.

LPP Name	AIX 4.1	AIX 4.2
bos.compat.links	4.1.0	4.2.0
bos.loc.pc_compat.En_US	4.1.0	4.2.0 - En_US locale
bos.net.nfs.client	4.1.1	4.2.0
bos.net.tcp.client	4.1.1	4.2.0
bos.rte	4.1.2	4.2.0
bos.sysmgt.serv_aid	4.1.1	4.2.0
X11.base.rte	4.1.1	4.2.0
X11.compat.fnt.pc	4.1.0	4.2.0
X11.fnt.coreX	4.1.0	4.2.0
X11.motif.mwm	4.1.1	4.2.0

- Install the language locale as follows:
  - Use the **smit mle_add_lang fast** path to access the **Add Additional Language Environment** menu
  - Cultural convention to install English [En_US]
    Language convention to install English [En_US]

    WARNING: do not remove the following language locale: IBM-850 English United States En_US.

    Deletion of a language locale causes the removal of all dependent software, including **nv6000.base.obj** and **nv6000.features.obj**.

Digital UNIX

- Install the Distributed Computing Environment (DCE) Version 2.0 if you want to use the optional security features. Install a DCE client any place you are running TME 10 NetView clients or servers.
- If you are running Digital UNIX 4.0B, install patch **v4.0b Patch 0162.00 Patch: ar command correction**. The patch can be

obtained from the www.service.digital.com ftp site in the file duv40bas00005-19970926.tar. Without this patch you will be unable to install TME 10 NetView V5R0.

Solaris

- The SUNWbtool package must be installed. To determine if it is installed, enter the following command

  ```
  pkginfo SUNWbtool
  ```

  If it is not installed, you can use **pkgadd** to install it from your operating system installation media.

- The NetView CD-ROM contains the Solstice Enterprise Agent (SEA) Version 1.0. Refer to the Solstice Enterprise Agent (SEA) Limitations/Defects sections for a list of problems with the SEA that may affect TME 10 NetView or the TME 10 NetView Mid-Level Manager.

  The next version of the SEA (1.0.2) has fixed these problems and is much more stable, but is not yet available. It should be available on November 21, 1997 at the following URL:

  http://www.sun.com/solstice/products/ent.agents

  It is strongly recommended that you upgrade to SEA 1.0.2 when it becomes available.

  Tivoli will make the beta version of SEA 1.0.2 available as soon as possible. You will be able to find the package at the following URL:

  http://www.support.tivoli.com/netviewv5sea

  If you download the beta version of the SEA, you should upgrade to the final version as soon as it is available.

Backing up the TME 10 Database

Before and after installing each application, Tivoli recommends that you backup your TME 10 database. This will make it possible to go back to the pre-application database if, for some reason, you encounter a problem while installing a particular application. From the TME 10 desktop, select **Backup** from the **Desktop** menu to

perform a backup of the TME 10 server and clients. You can also use the **wbkupdb** command. See the documentation in the *TME 10 Framework Reference Manual* for details on this command.

Before Installing TME 10 NetView V5R0

Satisfy the following requirements before installing:

- (AIX and Digital UNIX) Deinstall any existing versions of NetView you may have installed. If you want to migrate any existing data, the latest versions of the migration scripts for NetView for AIX V3R1, TME 10 NetView V4R1, and early releases of TME 10 NetView V5R0 can be found in the MIGRATE directory on the installation media. Please see the *Installation Hints* section below for more detail.
- Install TME 10 Framework, Version 3.1.1 or greater. See the *TME 10 Framework Planning and Installation Guide* and associated Release Notes for additional information.
- Create TME 10 administrator accounts for users of the application. See the *Changes From Previous Releases* section for more information about the roles required for administrators to perform the various NetView administration and configuration tasks. Procedures for creating administrators and roles are described in the *TME 10 Framework User's Guide*.
- Create managed nodes for each UNIX system that will have a NetView server or client installed. For more information on creating Tivoli Management Region servers and managed nodes, see the *TME 10 Framework Planning and Installation Guide*.
- Back up your TME 10 database. Please refer to the *TME 10 Framework Reference Manual* for more information.

For more information on how to perform these tasks, see the *TME 10 NetView Installation and Configuration* book.

Installation Hints

The following sections outline the general installation and migration procedure. **However, it is still very important that you read the *TME 10 NetView Installation and Configuration* book -- the following information is not a substitute for the information contained in that book.**

Migration from a Previous Release

This is a procedural outline of the steps required to migrate and install NetView V5R0. This is just an outline—please refer to the *TME 10 NetView Installation and Configuration* book for complete details. Note that this outline was written with a NetView for AIX (TME 10 NetView) V4 to TME 10 NetView V5 on AIX migration in mind.

1. Make a backup of the system to be installed (for example, use the **mksysb** command on AIX).
2. Determine whether other applications will be migrated with NetView, for example Nways, CiscoWorks, or Optivity.
3. Deinstall the System Monitor CFG V2 software before creating a backup of your existing NetView installation and installing the latest version.

   Systems Monitor CFG V2 (**smcfg.eui.obj 2.3.x**) will be replaced by the NetView V5 software because the configuration tool is now included with NetView. If any customization has been done to the **smcfg** default files, it will be lost when NetView V5 is installed. You should save any files that have been customized for reference once NetView V5 is installed. On AIX, you can use the command **lslpp -f smcfg.eui.obj** to list all the files that are part of **smcfg**.
4. Deinstall any applications that will not be migrated, and verify that all deinstalled software has been deleted.
5. Verify that all NetView and third-party application daemons start without error. Remove any daemons from startup that do not start correctly, or correct the reason for the failure. All

daemons must start without error for a successful NetView migration.

a. Verify that all NetView and all third-party application end user interfaces start correctly.

b. Verify that all NetView clients are functioning and remove any that are no longer required.

c. Verify all NetView maps and remove any that are no longer required.

d. in general, verify that all NetView and associated applications are running correctly at the current installed level.

6. Exit all NetView users from the server and client systems.

7. Before beginning the backup of your current NetView installation, verify you have the latest version of **nvp.v[3|4|5]r[0|1]** (the script called by **smit nv6000**->**Maintain**->**Backup Selective Data**). Using the latest copy of the **nvp.v[3|4|5]r[0|1]** file, back up the currently installed products on the NetView server. Verify that the backup was successfully created.

   Contact your Tivoli support representative if you do not have the latest copy of **nvp.v[3|4|5]r[0|1]** script. The **nvp.v[3|4|5]r[0|1]** scripts can be found in all of the following locations:

   - PTF's: V3-U449583, V4-U449573 and U449575
   - On the CD-ROM in the MIGRATE directory. The scripts are named **NVPV3R1.SH**, **NVPV4R1.SH**, **NVPV5AIX.SH, NVPV5SUN.SH, NVPV5DIG.SH**. After you copy them from the CD-ROM, rename them to **/usr/OV/bin/nvp.v3r1**, **/usr/OV/bin/nvp.v4r1**, and **/usr/OV/bin/nvp.v5r0** respectively (where all of the scripts beginning with NVPV5 are copied to nvp.v5r0 on the appropriate operating system).

8. Back up any existing NetView clients you have for migration.

9. Stop all NetView daemons using **ovstop nvsecd**.

10. Deinstall the current level of the NetView server and client software. If there are dependent products, make sure to select the deinstall option that leaves the dependent products installed.
11. Install the TME 10 Framework, Version 3.1.1 or later (TMR server or managed node), and any required patches on the machine that is to be your NetView server.
12. Install the TME 10 NetView Framework patch on the TMR server.
13. Add NetViewServer and NetViewClient as available resources to a policy region.
    - In the policy region, choose Properties->Managed Resources. The **Set Managed Resources** dialog is displayed.
    - Make NetViewServer (or NetViewClient) a Managed Resource (move it to the left side of the dialog).
    - Press the **Set & Close** button.
14. Exit the TME 10 desktop and run the following commands:

    ```
    . /etc/Tivoli/setup_env.[sh|csh]
    odadmin reexec
    ```
15. Start the TME 10 desktop with the following command:

    ```
    tivoli
    ```
16. Verify that ports required by TME NetView are not already in use by using **netstat -a**. Close any programs that are using these ports. If these ports are in use when the install process attempts to configure NetView V5, the configuration process will abort. See the Changes from Previous Releases section for more detailed information about what ports are used.
17. Install the NetView V5 Base software, reading each panel completely. Correct space requirements and other problems before proceeding.

    In the policy region where you plan to install a NetView server or client, chose NetViewServer or NetViewClient from the **Create** menu.

The **Product Installation** dialog is displayed. Choose the feature you wish to install and follow the instructions.

18. Verify that the installation completed successfully and that all daemons and application are working correctly. Examine the log files in /tmp including update.log.
19. Install the DynaText feature on the NetView servers and/or clients where you want to be able to view NetView help or books.
20. Install the NetView V5 Database and Books components.
21. Create a managed node for each of the NetView clients within the policy region.
22. Install the NetView client software on each of NetView client machines.
23. Verify or configure the client's server and client's access to the server.
24. Verify all daemons and applications. Read the remainder of the Release Notes for additional information.

A Solaris Installation

1. Install the TME 10 Framework according to instructions. (Please have a valid License Key. If you do not, contact your Tivoli support representative.)
2. If you have installed the 3.1 version of the TME 10 Framework, install the Framework Service Pack 1.
3. Backup the TME 10 Framework database. This is done so that in the event of a failed NetView install, you can deinstall TME 10 NetView and restore the TME 10 Framework to a pre-NetView state.
4. Install the Solstice Enterprise Agent (SEA) by entering the following:

```
zcat image_name | tar xvf -

pkgadd -d . SUNWmibii

pkgadd -d . SUNWsasnm
```

```
pkgadd -d . SUNWsadmi

pkgadd -d . SUNWsacom
```

5. Source the **/etc/Tivoli/setup_env.[sh|csh]** command.
6. Install the TME 10 NetView Framework Patch.
7. Add /usr/OV/lib and /usr/dt/lib to your LD_LIBRARY_PATH environment variable.
8. Make sure that you have exported your LANG environment variable to en_US.
9. Reexec the oserv using the following command:

   ```
   odadmin reexec
   ```

10. Start the TME 10 desktop with the following command:

    ```
    tivoli
    ```

11. Double-click on the policy region where you plan to install your NetView Server.
    - In the policy region, choose Properties->Managed Resources. The **Set Managed Resources** dialog is displayed.
    - Make NetViewServer and/or NetViewClient a Managed Resource (move it to the left side of the dialog).
    - Press the **Set & Close** button.
12. Edit your /etc/system file to include the following:

    set msgsys:msginfo_msgmax = 0x8000

    set msgsys:msginfo_msgmnb = 0x8000

    set msgsys:msginfo_msgseg = 0x1000

    Note that you will have to reboot your machine to make the changes.
13. In the policy region where you plan to install a NetView server or client, chose NetViewServer or NetViewClient from the **Create** menu.

    The **Product Installation** dialog is displayed. Choose the feature you wish to install and follow the instructions.

Starting the Mid-Level Manager

To start the Mid-Level Manager (**midmand**), enter the following command:

```
/usr/etc/smmlm
```

On Solaris it is particularly important to use this command in order to ensure **snmpdx** (the Solstice Enterprise Agent) and **midmand** communicate correctly.

Implementing Security for TME 10 NetView on Digital UNIX

This section describes how to implement the security features of TME 10 NetView in the Digital Distributed Computing Environment (DCE). To use these features, you must:

- Install and configure DCE V1.3 or higher.
- Integrate the TME 10 NetView server and client nodes into this environment.

You can do this before or after you install TME 10 NetView.

DCE provides a comprehensive security environment in which users and TME 10 NetView will be integrated. Study the DCE documentation before planning the DCE configuration setup for your site.

Installing DCE

Following is an overview of installing DCE for TME 10 NetView. Refer to the DCE documentation for more detailed information.

At a minimum make sure that the following components are installed on the DCE cell in which the TME 10 NetView system is participating:

- Runtime services. Runtime services must be installed on the DCE client that you want to run TME 10 NetView server or client.
- Cell directory service

- Security server

Note: Refer to the DCE documentation for information on how to create a DCE cell and set up user accounts. Do not enable SIA (Berkley Standard Distribution Security) because this causes conflicts with the TME 10 Framework. Also note that a DCE client must be installed on every TME 10 NetView server and client machine.

Integrating TME 10 NetView into DCE

To integrate TME 10 NetView into your DCE environment, set up the NetView security server in the DCE environment by following these steps:

1. Create a DCE principal and a DCE account for nvsecd.

   This is a server and will not require interactive logins but must be a valid active account.

2. On the local node of the TME 10 NetView server, create a password for the nvsecd account in the keytab file, by using the **rgy_edit ktadd** subcommand. Please refer to the DCE documentation to do this. In general, you will need to do the following steps:

   a. Login to the sec-admin group using the cell_admin account.

   b. Run **rgy_edit**. The following is a partial example of the commands you should enter:

      - `rgy_edit => do principal`
      - `rgy_edit => add nvsecd`
      - `rgy_edit => do account`
      - `rgy_edit => add nvsecd`
      - `rgy_edit => ktadd -p nvsecd`

3. Ensure the following parameters are set appropriately:

   ```
   Password valid [y/n]? y
   Allow account to be a server principal [y/n]? y
   Allow account to be a client principal [y/n]? y
   Account valid for login [y/n]? y
   ```

4. Repeat the procedure in step 2 for nvsecltd on the TME 10 NetView client nodes.
5. Ensure DCE daemons are running. Turn NetView security on with the **/usr/OV/bin/nvsec_admin** utility.

General Information

This section contains important information that you should consider when using the product.

- Using Security

  The security daemon (**nvsecd**) must always be running whether the security feature is ON or OFF. Users may notice that **ovstop** now stops all daemons except for **nvsecd** and **ovspmd**. Stopping the security daemon logs out all users (if security is turned ON).

  To shutdown all daemons now requires the following:

  ```
  ovstop nvsecd
  ```

  We do not recommend stopping security except for workstation shutdown or problem resolution.

- Customizing Startup

  Some customers and application vendors want to set environment variables or execute scripts when the **netview** (**nv6000** is now a hard link to **netview**) command is executed. These modifications should not be made in the /**usr/OV/bin/netview** script itself, or in **/etc/netnmrc** (on AIX or Digital UNIX) or in **/etc/init.d/netnmrc** (on Solaris), because these files are subject to modification with any service update or new version of the program. User or vendor modifications to the script and the netnmrc file will not be preserved when migrating to a new version of TME 10 NetView or when applying a service update that affects those files.

  To enable customers and vendors to make modifications that will not be lost by upgrading, the **netview** startup script runs the script named **/usr/OV/bin/applsetup** (if it exists) just prior to starting the user interface. This script is run in the same process

as the **netview** command, and thus allows the setting or changing of environment variables and other custom actions to be performed just as though the code had been edited into **/usr/OV/bin/netview** itself.

You can edit **/usr/OV/bin/applsetup** to add individual commands or commands to run other shell scripts. Each such command must run its script in the current process if that script sets or changes environment variables that are to be passed to the EUI at startup time. For example, the following command runs **myscript** in the current process:

```
/usr/OV/bin/myscript
```

If you have made any modifications to the **netview** script, we strongly recommend that you move them to **/usr/OV/bin/applsetup** to avoid the possible loss of startup customization in the future.

For modifications that start processes that you want to have running independent of the NetView user interface, and that require root access, you can use the new **/usr/OV/bin/netnmrc.pre** and **/usr/OV/bin/netnmrc.aux** scripts. The **/usr/OV/bin/netnmrc.pre** script is called before the daemons are started. The **/usr/OV/bin/netnmrc.aux** script is called after the daemons are started.

If you have made any modifications to **/etc/netnmrc** (on AIX or Digital UNIX) or **/etc/init.d/netnmrc** (on Solaris), we strongly recommend that you move them to the **netnmrc.pre** and **netnmrc.aux** scripts to avoid possible loss of startup customization in the future.

Since the **applsetup**, **netnmrc.pre**, and **netnmrc.aux** scripts reside in **/usr/OV/bin**, they will automatically be backed up and migrated as long as the **/usr/OV/bin.USER** category is selected for backup.

- Other Management Information Base (MIB) Application Files

  There are some additional MIB application files from the MIB Application Builder that, by default, are not pulled into the menu bar system. These MIB application files are located under **/usr/OV/prg_samples/mibappls**. Separate directories exist for

IBM 6611, IBM 7137/3514 Disk Array Subsystem, Cisco, and Novell LANtern MIB applications. Directions are provided in **/usr/OV/prg_samples/mibappls/README** to describe how to install these MIB applications for use in your environment.

- traceroute host - trace the route IP packets follow going to "host"

  Because of customer demand for the internet traceroute command, the function is available from the web interface. For AIX and Solaris the executable is at /usr/OV/web/httpd/cgi-bin/TME10_NetView_Binaries/traceroute and for Digital UNIX it is provided by the operating system. In addition, the C source code and a registration file to add a menu item to the product for traceroute are included in the directory **/usr/OV/prg_samples/traceroute**. A makefile is also included. Please see the **traceroute README** file for complete instructions.

- The Ping Operation

  The ping operation provided under the **Test** menu item uses the Record Route feature available (**-R** option on ping) when pinging AIX 3.2 or AIX 4.1 devices.

- Deleting Objects

  It is recommended that the **Delete Object** operation available from the main menu bar NOT be used to delete all nodes in the internet view. The complete deletion of the database while the manager is running can cause unpredictable results.

  There are three options available that should be used to delete all objects in the map. From the main TME 10 desktop window, click on the TME 10 NetView icon to display the icon's pull-down menu and select one of the following options:

  - **Maintain->Clear databases->Clear topology databases (limited)**
  - **Maintain->Clear databases->Clear topology databases (completely)**
  - **Control->Restart automatic map generation**

- Node Discovery

  In the event of network congestion, the time interval between querying a node and receiving a response from the node may exceed the default timeout interval set for the discovery process. As a result, discover may not seem to work. In such cases, try increasing the discovery timeout value from .8 seconds to 2 or 3 seconds. To modify this value, choose **Options**->**SNMP Configuration**. Type the new value in the box labeled **Timeout interval in seconds**.

- Hostname Resolution

  The product uses resolver subroutines to resolve host names to network addresses. When doing network address translation, the resolve subroutines check whether the **/etc/resolv.conf** file exists. If the file exists, the subroutines assume that the local network has an operational nameserver. If the nameserver in **/etc/resolv.conf** is invalid or not operational then the response time in discovery of the network and operations on nodes in the network are delayed. Contact your network administrator to report nameserver problems. If no nameserver is used, then the resolve subroutines use the **/etc/hosts** file for network address resolution.

  An invaluable command to issue to verify proper hostname resolution is as follows:

  ```
  host `hostname`
  ```

  This executes the **hostname** command to determine the name of the manager station, and then calls the **host** command asking for name resolution and the associated IP address. This command, in all circumstances, should return immediately. If not, then response time will be affected.

Undocumented Functions

This section contains information about TME 10 NetView functions that were not documented in the TME 10 NetView library or that are found in the on-line version of the books, but not the hardcopy versions.

- If you are moving from the TME 10 NetView V5R0 Limited Availability (LA) Release to the General Availability (GA) Release you do not need to reinstall the TME 10 NetView Framework Patch (although you should remove the NetView icon as a part of the deinstall process). Instead, install the TME 10 NetView Framework Patch (LA to GA).
- For those users who have both TME 10 NetView and the TME 10 Enterprise Console (TEC), there is now additional integration between the two products.

  TEC users can display a submap based on a request from the TEC. See the **dispsub** man page for more information about this new feature. Note that the submap being displayed will be displayed on the same display where the NetView console (the ovw process) is running. Thus, if you want the submap displayed on the same display as the TEC console you need to export your NetView console (the ovw process) to that display.

  You will need to install the TEC patch (3.1-TEC-0001) on your TME server and any managed nodes where the TME 10 Enterprise Console is installed in order to take advantage of this new function. The TEC patch is located on the NetView installation media in <cdrom_mount_point>/TEC. See the README file in the TEC directory and the *TME 10 Planning and Installation Guide* for more information about installing TEC patches.

  Note: Before installing this TEC patch you should make a backup of your TroubleTicket.sh if you have done any customization. You will then need to replace the one installed with the patch with your saved version.
- By default, relational database management systems (RDBMS) are not used to store data. This was true for prior versions of NetView, as well as TME 10 NetView V5R0. If you have configured your NetView installation to use a relational database to store IP topology, SNMP collection, or trapd log data, and you want to save this information to be used by your new TME 10 NetView installation, then you will need to migrate this information.

Following are the steps required to migrate the relational database information from a prior version of NetView to TME 10 NetView V5R0:

First, create the RDBMS Interface Module (RIM) object, the TME 10 NetView database, and the desired tables by following the instructions in the *TME 10 NetView Database Guide*.

The migration scripts use the following naming convention:

```
netview_xxx_schema_iptopology_migrate_4_to_5.sql
netview_xxx_schema_snmpcollect_migrate_4_to_5.sql
netview_xxx_schema_trapdlog_migrate_4_to_5.sql
```

(where *xxx* is one of the following: *ora*=Oracle, *syb*=Sybase, *inf*=Informix, *db2*=DB/2)

They are located in the **/usr/OV/scripts** directory.

Edit the appropriate script and change the user names to represent the one used for the prior version and the new user name you specified when you created the database. The scripts insert into the new table from the old one. Therefore, the old userid will be put in the SELECT clause, and the new userid will be put in the INSERT clause.

You will need to change the scripts for each set of tables you are going to migrate. For example, if you only want to preserve the SNMP collection data, then you will only need to modify that script.

Connect to the RDBMS as an administrator who has access to both sets of tables (the old and new sets). Then, execute the SQL script.

You should make a backup copy of the old data before you attempt to migrate it. This data should not be changed because the migration process will just do SELECTs on this information, but a backup is still recommended.

If the migration fails for any reason, clear the new tables before attempting to re-try the migration.

Instructions for clearing the tables can be found in the *TME 10 NetView Database Guide*.

- RIM objects are created with the **wcrtrim** utility and the name of the object must be **netview**@*nodename* (where *nodename* is the host name of the TME 10 NetView server). After RDBMS support has been configured in NetView through the TME 10 desktop, the correct name for the RIM object will be displayed as the "server node" when you select the list relational database setup information from the Tivoli desktop.

  The recommended user id in the RDBMS for the TME 10 NetView server has not changed. It is still the hostname of the TME 10 NetView server or some variant of the hostname.

  Existing TME 10 NetView V5.0 installations will need to re-configure the RDBMS support through the TME 10 desktop.

  If the name of the RIM object is not created correctly, or the TME 10 NetView server was not configured to use relational database support through the TME 10 desktop, the following message (or a similar message) will be sent to stdout or one of the two log files, /usr/OV/log/dblog or /usr/OV/log/dbtrace:

  ERROR: Could not lookup RIM database (netview@hostname). Either the relational database was not configured in NetView or the RIM object was not created or was created with the wrong name. The RIM object should have a name in the form 'netview@hostname' (without dots in the hostname).

  Use the command 'wlookup -ar RIM' to look for the RIM object. If the object exists and is named correctly then re-configure the relational database support in NetView.

- TME 10 NetView now has support for the Hot Standby Router Protocol (HSRP) from Cisco.

  When netmon discovers an HSRP IP address, netmon creates an HSRP interface and adds the interface to the active HSRP router. When this active router becomes unavailable and a second router takes over this HSRP IP address, netmon deletes the HSRP interface in the first router and moves it to the second router, the currently active router. HSRP events IBM_NVHSRPADD and IBM_NVHSRPDEL are generated when an HSRP interface is added or deleted from an HSRP

router so the network administrator can take the appropriate action. When an HSRP IP address is no longer being used, netmon removes it when netmon does a configuration check of the router that has the HSRP interface.

To minimize network traffic, when polling the active HSRP router, netmon polls only the sysName MIB variable to determine whether an HSRP IP address has been taken over by another router. You must make sure that the sysContact MIB variable is different for each router that is monitoring the same HSRP IP address.

- A new application program interface (API) was added to the Collection Facility: nvCollectionedTestObjects. Please see the man page for additional information.
- (AIX) TME 10 NetView can be used with High Availability Cluster Multi-Processing (HACMP) servers with the following recommendations:
  - Do not use HACMP for Tivoli takeover.
  - Put /usr/OV on the fail-safe filesystem.
  - Have both IP and MAC address takeover.
  - Install TME 10 NetView on both machines with the hostname set to the one corresponding to the shared IP address.

  Even though /usr/OV will be overwritten, this is necessary for the surrounding links and modifications to the non-shared system files/directories to occur. Since /usr/OV is shared, a backup of /usr/OV should be made prior to deinstalling so that it can be restored for the deinstallation of the other machine to occur without a problem.

  Use the startup/shutdown scripts provided below:

  start_netview script

```
----------------------
# Mount shared directory
mount /usr/OV
# Source in Tivoli info for appropriate Library paths
```

```
. /etc/Tivoli/setup_env.sh
# Set hostname to shared IP addresses hostname
hostname hacmp5
# Export subdirectories needed by client
mknfsexp -d '/usr/OV/conf' -t 'ro' -r \
'hacmp77.austin.ibm.com' -N
mknfsexp -d '/usr/OV/databases/snmpCollect' -t 'ro'\
-r 'hacmp77.austin.ibm.com' -N mknfsexp -d
'/usr/OV/databases/openview/mapdb' -t 'rw' -r \
'hacmp77.austin.ibm.com' -N mknfsexp -d
'/usr/OV/databases/openview/defmap' -t 'rw' -r \
'hacmp77.austin.ibm.com' -N
# Set display and start netview
# Note: If it is to be used as a GUI-less server then
# the DISPLAY doesn't need to be set and /etc/netnmrc
# should be run. However, the web server will not be
# started.
export DISPLAY=:0.0
/usr/OV/bin/netview
# End of script
```

stop_netview script

```
-----------------------
# Stop all daemons and windows so that the /usr/OV
can be unmounted
/usr/OV/bin/nv6000_smit stopall forceall
/usr/OV/bin/nv6000_smit APPLCLEANUP ovw_binary \
nvauth nvsec_admin
/usr/OV/bin/nettl -stop >/dev/null 2>&1
/usr/OV/bin/ovstop nvsecd >/dev/null 2>&1
# Remove /usr/OV subdirectories from NFS exports list
rmnfsexp -d '/usr/OV/conf' -N
rmnfsexp -d '/usr/OV/databases/snmpCollect' -N
rmnfsexp -d '/usr/OV/databases/openview/mapdb' -N
rmnfsexp -d '/usr/OV/databases/openview/defmap' -N
```

```
# Unmount /usr/OV
cd /
umount /usr/OV
# End of script
```

NOTE:

If client/server is to be used, it is very important to set the Major Number for the shared volume group to be consistent. There are details about NFS and HACMP in the HACMP Administrator's Guide.

Also, when configuring the client, you should use the hostname of the shared IP address for the server.

Changes from Previous Releases

The following section lists differences between this version of TME 10 NetView and previous versions. This section is not a summary of new or enhanced features, but rather an explanation of functions or procedures that may have changed from previous releases.

- The TME 10 NetView Mid-Level Manager is now shipped as a part of the TME 10 NetView V5R0 product.
- TME 10 NetView was previously administered from SMIT (on AIX). In this release, administration and configuration is done from the TME 10 desktop. Administrators with **super** or **senior** roles in the global security group will have access to all of the administration and configuration functions. Please note that **root** authority, as referenced in the NetView documentation, corresponds to the **super** or **senior** roles. Administrators with lesser roles will only have access to the following functions:

  On a NetView Server:

  Configure->**Configure TME 10 NetView Clients**->**Show Active Clients...**

  Configure->**List/configure relational database**->**List relational database setup info...**

  Control->**Display TME 10 NetView status** (All actions on this menu)

Control->**Start user interface...**

Control->**Dump data collected by snmpCollect daemon**->**ASCII format...**

Diagnose->**Send SNMP trap to a node...**

Diagnose->**Send alertable error log entry for the trapgend daemon (AIX only)**

Diagnose->**Send event to trapd daemon...**

Diagnose->**Set subsystem tracing and logging options (nettl)**->**Display nettl status...**

Maintain->**Manage crontab entries**->**List crontab entries...**

Maintain->**Manage map snapshots->Display map snapshot crontab entries...**

On a NetView Client:

Configure->**Show Server...**

Control->**Start User Interface...**

Diagnose->**Send SNMP trap to a node...**

Diagnose->**Send event to trapd daemon...**

- During the installation process there are several files updated with configuration information. Specifically, the **netnmrc** script (located in **/etc** on AIX and Digital UNIX and in **/etc/init.d** on Solaris) is updated to include library path information for the Tivoli shared libraries and the oserv port number. In addition, the **/usr/lpp/nv6000/NV_deinstall.TME** file is updated with Tivoli library and executable path information.
- TME 10 NetView requires that several specific ports be available for its daemons during installation. If these ports are not available, the configuration portion of the installation process will be skipped. You will then need to run **/usr/OV/install/tools/run_customize** when the ports are free. The files /tmp/update.log and /tmp/NVPortsInUse will both indicate which ports are in use, if any. Note that ports

1661-1672 are registered to IBM with the IANA, but the others are not, so they might not be available.

If one of the ports is not available, a simple reboot will probably correct the problem. However, if the problem persists after a reboot you may want to use the **lsof** command to determine which process is bound to a port that NetView requires to start. The **lsof** command can be obtained from ftp://vic.cc.purdue.edu/pub/tools/unix in the lsof subdirectory.

The following is a list of the ports NetView requires:

- 80 NetViewWebServer (configurable—see web README)
- 162 nvtrapd-trap (trapd)
- 1661 nvtrapd-client
- 1663 security default (nvsecd)
- 1664 collection facility (nvcold)
- 1665 nvevents daemon (nvserverd)
- 1666 correlation daemon (nvcorrd)
- 1667 security (nvsecltd)
- 1668 C5
- 1669 nvlockd
- 1670 correlation daemon (actionsvr)
- 1671 pager daemon (nvpagerd)
- 1672 open topology daemon (otmd)
- 2112 gtmd
- 2113 pmd
- 3113 xxmd
- 8888 ovtopmd
- 9999 ovwdb

■ (AIX) The product ID and software name has been changed in alerts that are forwarded to NV/390. The product ID will be

displayed in alerts as 5697-NVW and the software name will be displayed as “TME 10 NetView.”

- (AIX) The ODM database will not be updated with the database or books features.
- (AIX or Digital UNIX) If you are migrating from a previous release of NetView, you may have DynaText already installed. If this is the case, you will still need to install the DynaText feature shipped with this release of NetView if you want to view NetView help or the NetView library.

  When the DynaText feature is installed, three environment variables are set:

  - **EBTRC** - the full path name of the **.ebtrc** file
  - **EBTEXECPATH** - the location of the dtext executable
  - **DATA_DIR** - the location of the DynaText data directory

  If you do not source your **setup_env.[sh|csh]** script, you may be using the old values for these locations which will lead the help system to behave incorrectly.
- When installing the NetView library, all of the books will be installed. It is not possible to select and install individual books.
- (Digital UNIX and Solaris) The NetView Host Connection is not available.
- To turn on tracing during installation or deinstallation create the file **/tmp/TME_nv6000.debug**. This file does not need to contain anything.

Version 5.0 Software Defects, Limitations, and Workarounds

This section describes known limitations or defects in TME 10 NetView V5R0 and, where applicable, suggested workarounds.

Consult the *TME 10 Framework Release Notes* for a list of known defects and workarounds for the TME 10 Framework.

General Limitations and Defects

- Before starting the TME 10 desktop, make sure that your **LANG** environment variable is set to the appropriate value (En_US on AIX, en_US on Solaris, en_US.ISO8859-1 on Digital UNIX). Please see the *TME 10 NetView Installation and Configuration* book for more details.
- Do not attempt to install a NetView client on a machine already installed with a NetView server. Likewise, do not attempt to install a NetView server on a machine already installed with a NetView client. These types of installations will eventually fail and leave your machine in an unknown state.
- If you install a TME 10 NetView server or client and do not see an icon in the appropriate policy region, one of the following may have happened:
  - NetViewServer or NetViewClient was not added as a managed resource to the appropriate policy region.
  - The installation took place after a failed installation attempt.

  To add the server icon, run the following commands:

  ```
  wln @NetViewServer:<server_label> \
  @PolicyRegion:<policy_region_label>
  ```

  ```
  wrefresh @PolicyRegion:<policy_region_label>
  ```

  If you need to install the client icon, replace NetViewServer in the first command with NetViewClient.

  Note: These commands should be executed by someone who has at least a senior TME role.
- The TME 10 NetView databases **cannot** be backed up on one operating system and then restored on a different operating system. For example, you cannot backup your databases on Solaris and restore them on AIX.
- If you are using the client/server function of TME 10 NetView you must use servers and clients of the same operating system. For example, if you are running a Solaris server you must only use Solaris clients.

- If you run **smconfig** and the interface does not come up correctly, create a symbolic link from /usr/lib/X11/app-defaults/SMconfig to /usr/OV/app-defaults/SMconfig and restart smconfig.
- Set the environment variables **XNLSPATH** and **XKEYSYMDB** if you are running Dynatext under the Common Desktop Environment (CDE). Note: we have seen problems with Dynatext more frequently on Solaris.

  Use the environment variable **XNLSPATH** to point to the nls directory because, by default, ebt looks in /usr/lib/X11. For example:

  ```
  setenv XNLSPATH /usr/dt/lib/nls
  ```

  Set the environment variable **XKEYSYMDB** to point to an XKeysymDB file. For example:

  ```
  setenv XKEYSYMDB /usr/openwin/lib/XKeysymDB
  ```

  If the above two steps do not work, add a .Xdefaults file to the system running CDE with the following entry:

  ```
  *XmTextField*FontList: 8x13
  ```

  and then issuing the following command:

  ```
  xrdb -merge .Xdefaults
  ```

  where the .Xdefaults files is the one you updated.

  If you want to avoid changes to the environment or if the environment changes do not work for you, replace the following lines in the **/usr/OV/registration/C/ovw** registration file:

  ```
  /* action for Dynatext */
  Action nv_library {
          Command “${info:-$EBTEXECPATH/dtext}”;
  }
  ```

  with the following:

  ```
  /* action for Dynatext */
  Action nv_library {
          Command “${info:-$EBTEXECPATH/dtextdde}”;
  }
  ```

This will fix all problems.

Note that the **EBTEXECPATH** environment variable is set in the **/etc/Tivoli/setup_env.[sh|csh]** file when you install the Dynatext feature.

- Please note that the current version of the TME 10 NetView web interface is not designed to replace the client interface completely. Aside from the fact that it lacks the full function of an X-based client, the current web browsers might not be reliable enough for ongoing operation, due to memory leaks and other problems. There may also be problems with the interaction between the browsers and the underlying operating systems, especially with regard to device drivers, for example, video drivers on Windows 95 and Windows NT. If you encounter a problem with the NetView web interface, check to see whether it occurs on more than one operating system. If the problem occurs in only one environment, ensure that you have the latest device drivers and software patches for the operating system, and check with the browser manufacturer for information on specific bugs.
- If you are using the web interface to NetView, there are at least two known Netscape defects that may cause problems. Please refer to the README file, accessible from the home page of the NetView web interface, for additional information. If you do not have the NetViewWebServer running, you can still use a web browser (started by root or a user in the bin group) on the NetView system to access the README file by opening the following URL:

  ```
  file://usr/OV/web/httpd/htdocs/TME10/NetView/README.html
  ```

- The NetViewWebServer does not stop when the other NetView daemons are stopped (via **ovstop**). You can stop the NetView web server from the TME 10 NetView console menu bar or from the command line with the following command:

  ```
  /usr/OV/bin/nvwebstop
  ```

  Likewise, you can start the NetViewWebServer from the TME 10 NetView console menu bar or from the command line with the following command:

```
/usr/OV/bin/nvwebstart
```

- Increasing the memory cache and disk cache for your web browser to large values will improve the stability of the NetView web interface. You may also need to increase the maximum processes allowed per user if you are expecting many people to use the web interface.
- Displaying large numbers of events from the NetView web interface can cause your web browser to hang or crash on Windows 95. You can limit the number of events being displayed by using a ruleset.
- Before migrating an existing NetView installation, ensure that it is configured correctly. Specifically, you should stop all the NetView daemons and restart them to verify that you have met all the dependencies.
- If you change the IP address or hostname of your NetView server, take the following steps:

  a. Run the **/usr/OV/service/reset_ci** script.

  b. Verify that the label of the associated managed node is correct. If it is not, enter the following:

     - **NV=‘wlookup -r NetViewServer *server*‘** where *server* is the old label of the managed node
     - **idlcall $NV _set_mannode *new_hostname*** where *new_hostname* is the new name of the host

- There can be performance implications when starting **nvcold**, the Collection Facility daemon. When first started, **nvcold** reviews all the objects in the object database to determine whether they should be placed in any defined collections. This process is completed as part of the daemon startup before the graphical user interface (GUI) is initialized.

  If you have a large object database, and especially if you have many collections defined, this process can take a long time. While **nvcold** reviews all the objects in the database, it may appear as if the GUI cannot be displayed, when in fact the command to start the GUI has not yet been issued.

If you experience delay problems at startup and you wish to use the TME 10 NetView EUI while the databases are synchronizing, consider temporarily unregistering **nvcold** and the Agent Policy Manager daemon, **C5d** if they are registered. The next time you use the **ovstart** or **netview** command, these daemons will not be started.

To unregister and stop daemon execution, issue the following commands:

- **File**->**Exit** from the menu bar to exit from the TME 10 NetView EUI
- **ovstop C5d** to stop **C5d**
- **ovstop nvcold** to stop **nvcold**
- **ovdelobj /usr/OV/lrf/nvcold.lrf** to deregister **nvcold**
- **ovdelobj /usr/OV/lrf/C5d.lrf** to deregister **C5d,** if registered

Then, after the GUI is initialized and the databases synchronized, issue the following commands to restore the **nvcold** daemon and the Agent Policy Manager:

- **ovaddobj /usr/OV/lrf/nvcold.lrf** to register **nvcold**
- **ovaddobj /usr/OV/lrf/C5d.lrf** to register **C5d**
- **ovstart nvcold** to start **nvcold**
- **ovstart C5d** to start **C5d**
- You can start the **collmap** application without having to exit and restart the EUI via the

  Administer->**Start Application**->**collmap** menu option. You can start the Agent Policy Manager the same way.

AIX Limitations/Defects

- The NetView daemons are configured to start when your machine is rebooted. For NetView to function correctly after a machine reboot has occurred, you need to add the following

lines to your **/etc/rc.nfs** file (before the **oserv.rc** is called) or at the top of the **/etc/Tivoli/oserv.rc** file:

- `ulimit -c unlimited`
- `ulimit -f unlimited`
- `ulimit -m unlimited`
- `ulimit -t unlimited`
- `ulimit -d unlimited`
- `ulimit -s unlimited`

If you do not update the **/etc/rc.nfs** file you may experience problems with **ipmap**.

- AIX 4.1 and AIX 4.2 provide functions for deinstalling products. We *strongly* recommend that you use those provided by TME 10 NetView instead. The AIX deinstall functions do not provide Tivoli with the needed control over deinstallation. This is especially important when deinstalling clients (NetView V4R1 and V5R0) that have local maps.

Solaris Limitations/Defects

- The help subsystem will not function correctly if the NetView console is started from the TME 10 desktop. As a workaround, execute the following sequence of steps:
  - Source the TME 10 setup script (**setup_env.[sh|csh]**).
  - Set your **LANG** environment variable to **en_US**.
  - Start DynaText (**dtextdde**).

  When you have started the NetView console from the TME 10 desktop, as long as you have started DynaText before you try to access the NetView help or books, you will be able to access the on-line help and manuals. Ignore any key translation errors that are displayed.

- The following message may appear in the window the TME 10 Netview console was started from or in the **$HOME/nv6000.log** file:

  ```
  XnvApplicationShell: Error writing to SERVER's XNV
  QUEUE, errno=11
  ```

On Solaris, the message limit is for the entire system and the resource can be exhausted by NetView. To recover from this problem, exit the NetView console and issue the following command:

```
ipcs -a
```

From the output of this command, note any message queues with allocated space (the CBYTES column). For each queue ID with space used, issue the following command to delete the queue:

```
ipcrm -q <n>
```

where <*n*> is the number of the queue.

- If you need to do a migration from one TME 10 NetView V5R0 on Solaris to another TME 10 NetView V5R0 on Solaris you must first replace the /usr/OV/bin/nvp.v5r0 script with the correct version from the installation CD (MIGRATE/NVPV5SUN.SH).
- The following is a list of known problems with the Solstice Enterprise Agent (SEA) 1.0:
  - Sometimes the master agent "deletes" one of the sub-agents that is registered with it. This typically happens when the sub-agent does not respond to a few SNMP packets. If this happens, snmpdx assumes that the sub-agent is not there and will stop forwarding the MIB-II requests to that sub-agent. To the user, it appears that the sub-agent is running but not responding. Run the following command on the Solaris TME 10 NetView V5 server machine to determine which sub-agents are currently registered with the master agent (note that the nvsecd daemon must be running for this command to work):

    **/usr/OV/bin/snmpwalk 127.0.0.1 **
    .1.3.6.1.4.1.42.2.15.8.1.10

    If things are configured correctly, you should see output similar to this:

    ```
    42.2.15.8.1.10.3 : OCTET STRING- (ascii):       snmpd
    42.2.15.8.1.10.2 : OCTET STRING- (ascii):     mgragentd
    ```

```
42.2.15.8.1.10.1 : OCTET STRING- (ascii):
relay-agent
```

If you do not see “snmpd” listed above, see **/var/adm/messages** for any errors. In order to make the master agent, snmpdx, restart the sub-agents that are not responding, find out the PID of the snmpdx process and issue signal SIGHUP to it by using the following command:

kill -1 *snmpdxpid*

where *snmpdxpid* is the PID of the snmpdx process.

Now run the **snmpwalk** command again.

If the mgragentd sub-agent (included with NetView) is running, you should also see mgragentd listed above. If it is not, issue the SIGHUP signal to the process snmpdx as mentioned above.

If the **snmpwalk** command times out, make sure that the master agent is running (process snmpdx). Also make sure that ovsnmp.conf is configured to use the correct community for the loopback address. Unless you have changed file **/etc/snmp/conf/snmpdx.acl**, the community name “public” will work. For details on configuring community names for the master agent, refer to the SEA documentation.

- Currently, the master agent does not enforce community names for SNMP packets that are meant for one of the sub-agents. Therefore, the mgragentd and the midmand MIBs can be accessed using any community name.
- If a counter/gauge variable supported by the master agent or a sub-agent becomes larger than 0x7FFFFFFF, the value of the variable can not be retrieved from any management station. The master agent may actually think that the sub-agent is not responding and therefore, “delete” the sub-agent from its list.

Digital UNIX Limitations/Defects

- If you are running Digital UNIX 4.0B you need to install patch **v4.0b Patch 0162.00 Patch: ar command correction**. The patch can be obtained from the **www.service.digital.com** ftp site in the file **duv40bas00005-19970926.tar**. Without this patch you will be unable to install TME 10 NetView V5R0.

  Note, however, that we have seen problems with ksh failing when the entire patch kit is installed during a TME 10 NetView migration install.

- By default Digital UNIX does not enable telnet or ftp access by the root user. You must remove this restriction for ftp to install the TME 10 NetView Mid-Level Manager on Digital UNIX. Refer to the appropriate operating system documentation for more information.

- If you have configured DCE in order to take advantage of the NetView security function, use **dcesetup** to disable the DCE SIA to run DCE and the oserv simultaneously.

- The web interface requires that you have enough processes available. Follow the steps below to increase the number of processes available, however please refer to your operating system documentation for details:

  Note: Increasing the number of user processes requires an update to the kernel.

1. Backup the current kernel: cp /vmunix /vmunix.old
2. Use the /usr/bin/X11/dxkerneltuner utility to make the appropriate changes to the kernel.
   a. Start the utility: **/usr/bin/X11/dxkerneltuner**.
   b. This opens a window with a list of subsystems. Find the **proc** subsystem in the list and double click on it.
   c. The proc dialog box is displayed with a list of Attributes and Values.
   d. Find the **max-proc-per-user value** and change it to a higher number (256 should be sufficient).

e. Press the **OK** button to close the proc dialog box.

f. From the **Kernel Tuner** menu, choose **File->Save** and then **File->Exit**.

g. Press the **Keep Changes and Exit** button.

3. After you reconfigure the kernel, you must reboot for the updates to take place.

4. Shut down the machine and restart: **shutdown -r now**.

5. Restart netview. To verify your changes, go to **dxkerneltuner** and review the values that have been updated.

- If you migrate NetView on Digital UNIX you may need to update your **/usr/OV/registration/C/ovw** file to invoke the correct Dynatext binary. Examine the ovw registration file and if you see the following text:

```
/* action for Dynatext */
Action nv_library {
        Command "${info:-/usr/ebt/bin/dtext}";
}
```

replace it with the following:

```
/* action for Dynatext */
Action nv_library {
        Command "${info:-$EBTEXECPATH/dtext}";
}
```

Note that the **EBTEXECPATH** environment variable is set in the **/etc/Tivoli/setup_env.[sh|csh]** file when you install the Dynatext feature.

Solstice Enterprise Agent (SEA) Limitations/Defects

- You should use the **/usr/init.d/init.snmpdx stop|start** command to start and stop the snmpdx agent. This insures that the dependent agents are also started and stopped appropriately.

- If you have multiple copies of the mibiisa agent running you will not be able to do an snmpwalk against MIB-II. Make sure you have only one copy running.

Things to Note

This section contains interesting things to note about TME 10 NetView.

- There is a public mailing list maintained by the University of California at Santa Barbara for the discussion of TME 10 NetView, POLYCENTER Manager on NetView, and related topics. The list is called NV-L.

  All routine administrative requests (including subscriptions and unsubscriptions) concerning this mailing list are handled by an automated LSoft LISTSERV server.

  This mailing list replaces the netview-users mailing list that was run by Stanford University. If you are subscribed to netview-users, you should follow the procedure for subscribing to NV-L.

  An archive file of all posts to netview-users mailing list is available at *ftp://networking.stanford.edu/pub/netview-users/netview-users.archive.Z*.

  Posting

  To post to the NV-L list, send a message to NV-L@UCSBVM.UCSB.EDU.

  When including a previous post in a reply to NV-L, remove extraneous header records or alter them by inserting an additional first character. Otherwise, LISTSERV may reject your post.

  Important Commands

  All commands should be sent in the body of a message to LISTSERV@UCSBVM.UCSB.EDU, not to NV-L itself.

  Subscribing

  The command to subscribe is

  SUBSCRIBE NV-L *first_name last_name*

where you substitute your name for *first_name* and *last_name*. Your userid will then be mailed a verification message to validate its reachability by the server. You will need to reply to this verification message.

Unsubscribing

The command to cancel your subscription is **SIGNOFF NV-L**.

Digest Format

The NV-L list may be obtained in Digest format in which all posts for each day are sent in a single note. The command to request NV-L in this format is **SET NV-L DIGEST**.

Archives

Posts to NV-L are automatically archived. The command to get a list of available archive files is **INDEX NV-L**. The command to request an archive file is **GET NV-L LOG***xxxx*, where *xxxx* is the archive you want. LISTSERV also has database search facilities. The command to get information on LISTSERV's database search facilities is **INFO DATABASE**.

Help

More information on LISTSERV commands can be found in the LISTSERV reference card. The command to request the reference card is **INFO REFCARD.**