

TEAM 540

Release Notes, Version 2.1.0 for HPOV - HPUX

058R638-H210, Issue 3 - March 2001

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Section 1-HPUX

1.0 Overview

These installation and release notes provide new information relevant to this version of the TEAM 540 software product. This updates the information supplied by the **TEAM 540 Operation Manual**. For detailed product information, refer to that manual.

Team 540 is now supported on HPUX 11.0 with HPOV 6.1. For additional product information and the latest updates, check the GDC website at <http://www.gdc.com> or contact your GDC field representative.

2.0 Software Reference

Throughout this manual, short forms of the software product names will be used. The following table provides detailed reference information for all software modules relevant to TEAM 540 for HPUX installation.

Table 1: Software Reference for HPUX

Item	Part Number	Version / Release
TEAM 540 Software Product	058U705-C01A	Ver 2.1.0
TEAM 540 Operation Manual	058R694-V210	Issue 1
HPOV NNM Software Product		Rev 6.1
HPUX		Ver 11.0 / November 1999
HPUX and HPOV Patches	Ref: HP website	
HPOV Network Node Manager Installation Guide	HP J1136-9000	Latest Release

Table 2: TEAM 540 Software Packages

Package Name	Description	Version
GDCTeam	GDC TEAM Utilities	Ver 1.1 or higher
GDCTeamSA	GDC Standalone Utilities	Ver 1.0 or higher
GDCa540	GDC Standalone TEAM 540	Ver 2.1 or higher

2.1 TEAM 540 Verification

The TEAM 540 CD contains the software packages listed in the table above. After installation is completed, these packages should be present on the system at the versions indicated in the table or greater. To verify the presence of the TEAM 540 packages currently installed type the following command:

```
/usr/sbin/swlist -l fileset TEAM540 <PackageName>
```

3.0 Improvements Since Last Release

This is the initial release of TEAM 540 software. This software has been tested to be Year 2000 compliant in accordance to GDC ENG-STD-003. Check GDC's web site at <http://www.gdc.com> for the latest Year 2000 information. Note the following new information concerning this software:

- The application is approved for operation on SUN Solaris 2.7, Solaris 2.8, HP OpenView 6.1 and HPUX 11.0 upgrades.

4.0 Corrected Issues

None.

5.0 HP OpenView for HPUX

The following sections describe the current requirements and procedures concerning the HP OpenView for HPUX version of TEAM 540 software.

5.1 Hardware Requirements

The current hardware requirements for TEAM 540 software is as follows:

- HP 9000 series model 700 or greater with a minimum of 96 megabytes of RAM, 2 gigabytes of hard disk space, 350 megabytes of free space and 500 megabytes of swap space.
- Minimum disk space requirements:
/opt 60 megabytes
- CD ROM Drive

Note: *For information on hardware requirements for HP OpenView Network Node Manager products, refer to the HP OpenView Network Node Manager Products Installation Guide.*

5.2 Software Requirements

Before installing this version of TEAM 540, the following software must be installed. Refer to Table 1, Software Reference for HPUX, for detailed identification of all software products discussed below.

System Software Requirements

- HP OpenView NNM
- HPUX
- The most recent HPUX and HP OpenView patches for these versions
- TEAM 540 Software Packages

Note: ***IMPORTANT** - It is highly recommended that the customer download and install the latest HP OPENVIEW CONSOLIDATED PATCH CLUSTER from the following HP web site: <http://ovweb.external.hp.com/cpe/patches>. This will ensure that you have updated HP OpenView along with any current fixes to reported problems.*

Refer to the HPUX web site for updates to the HPUX 11.x Operating System.

Note: *It is the customer's responsibility to install the listed HP software and patches, and to ensure they are fully operational before loading the General DataComm TEAM applications.*

5.3 First Time Installation

1. Close all HP OpenView and TEAM application windows (if applicable).
2. Make sure that all users exit HP OpenView.
3. Insert the TEAM 540 Compact Disk into the CD ROM drive.
4. At a shell prompt become super-user by entering the following command:

```
su
```

5. Verify that there is a `/cdrom` directory already present. If not, create it.
6. Enter the following commands:

```
ssh
```

```
mount /dev/dsk/c0t2d0 /cdrom
```

```
cd /cdrom
```

```
./INSTALL*
```

7. The install script will automatically stop HP OpenView background processes by running `/opt/OV/bin/ovstop`. Files will then be extracted from CD to hard disk, an operation that will take a few minutes.
8. The script then automatically runs `swremove`, which displays a graphical user interface that you use to remove existing TEAM software. The window title bar will display **SD Remove - Software Selection** in its title bar. If this is a first time installation of TEAM, select **File->Exit** to dismiss the GUI. If there is existing TEAM software to remove, use the following procedure:
 - A. Select **TEAM540** from the window's scroll-down list box.
 - B. Select **Actions->Mark** for Remove.
 - C. Select **Actions -> Remove (analysis)**.
 - D. Select **OK** in the Remove Analysis dialog box to proceed.
 - E. Select **Yes** in the Confirmation popup to continue with the removal.
 - F. Select **Done** in the "Remove Window" dialog box when the process is complete. The Done field will become ungrayed.
 - G. Select **File->Edit** in the main "SD Remove" window.

9. The script then automatically runs **swinstall**, which displays a graphical user interface for installing the TEAM 540 software. The window will have “SD Install - Software Selection” in its title bar.
10. Select **TEAM540** from the window’s scroll-down list and double click on it.
11. Select **Actions->Mark for Install**.
12. Select **Actions ->Install (analysis)**.
13. Select **OK** in the “Install Analysis” dialog box to proceed.
14. Select **Yes** in the “Confirmation” popup to continue with the installation.

Note: *If the installation stops, displaying an error message, it may be that a GDCTeam utilities application package has been detected on the host that is more recent than the one being installed. To resolve the conflict, consult the first entry in the Log File (as prompted in the error message), then click the Cancel button in the Install Analysis window. From the SD Install window menu bar, select Options ->Change Options. When the Options window appears, scroll to “Enforce dependency analysis errors in agent” and click the selection box (deselects the option). Then, click **OK**. You can now install software packages selectively. Resume the installation from Step 9 - this time, not selecting GDCTeam. When a Dependency Message Dialog window appears, click **OK**.*

15. When the installation is complete, the **Done** button in the Install window is no longer grayed out. Select **Done** now.
16. At the end, select **File->Exit** in the main “SD Install” window.
The script will automatically run `/opt/OV/bin/ovstart` to start HP OpenView background processes.
17. Exit super-user (type **exit**).
18. Update each HP Open View user’s environment by changing your environment scripts (with *textedit* or your favorite editor) as follows:

C (csh) Shell users - add the following lines to `#HOME/.cshrc`:

```
source /opt/OV/bin/ov.envvars.csh
set path=( $path $OV_BIN )
xhost +HostName
```

Bourne (sh) and Korn (ksh) Shell users - add the following lines to `#HOME/.profile`:

```
. /opt/OV/bin/ov.envvars.sh
PATH=$PATH:$OV_BIN;export PATH
```

These updates do not take effect until you log out and log back in.

19. Unmount the CD ROM by typing:

```
cd /
umount /cdrom
exit
```


20. Remove the CD from the drive, then confirm HP Openview and TEAM processes are running by typing:

```
/opt/OV/bin/ovstatus
```

21. If all processes are running, log out from root by typing **exit**
22. Exit super-user (type **exit**).
23. Start HP Openview by typing:

```
ovw &
```

5.4 Installing in an HPUX Distributed Environment

A distributed environment consists of three types of workstations. Not all workstations require installation of all software, but the workstations must be set up in the following order:

- A. Collection Station
- B. Management Station
- C. Management Console

The procedures for TEAM Core and product software installation vary depending on the type of workstation. Perform the installation and set up procedures for each workstation in your distributed environment.

5.4.1 Setting Up Collection Stations

On workstations that serve as collection stations, you must install the TEAM software and then configure events so that traps are forwarded to the management station. Refer to the event data in Table 3 during this installation process.

Table 3: Event Forwarding Data

Enterprise Name (Enterprise ID)	Event Name (Enterprise Identifier)
gdc_540(.1.3.6.1.4.1.498.8.4)	snmp540ColdStart(.1.3.6.1.6.3.1.1.5.1)
gdc_540(.1.3.6.1.4.1.498.8.4)	snmp540WarmStart(.1.3.6.1.6.3.1.1.5.2)
gdc_540(.1.3.6.1.4.1.498.8.4)	snmpLinkDown(.1.3.6.1.6.3.1.1.5.3)
gdc_540(.1.3.6.1.4.1.498.8.4)	snmpLinkUp(.1.3.6.1.6.3.1.1.5.4)
gdc_540(.1.3.6.1.4.1.498.8.4)	snmp540Authentication(.1.3.6.1.6.4.1.1.5.5)

1. From the Enterprise Identification pane, select an Enterprise Name
for example: gdc_cmnAlarm
2. From the Event Identification pane, select an Event Name
for example: dmscmnAlarmTrap
3. From the Event Configuration window menu bar, select **Edit->Modify Event**. The Event Configurator/Modify Event dialog box appears.
4. Click on the Forward Event check box to expand the dialog box. The Forwarded Event Destinations pane displays.

5. Type the hostname or IP Address for destination. Click **Add**, then click **OK**. Destinations are the managements stations to which events will be forwarded.
6. Repeat steps 1 through 5 for each of the events listed in Table 3. When all events are forwarded, click **OK** in the Event Configurator/Modify Event dialog box.
7. At the Event Configuration window, click **File->Save** to save the changes.
8. To cause Openview processes to re-read the trapd.conf file, generate Event by typing:

```
$OV_BIN/xnmtrap -event
```
9. Unmount the cdrom by typing:

```
umount /cdrom
```

5.4.2 Installing TEAM Applications on the Management Station

To install TEAM 540 on the Management Station, perform the following steps:

1. Make sure all users exit HP OpenView for HPUX.
2. Close all HP OpenView and TEAM application windows (if applicable).
3. Insert the TEAM 540 CD into the CD ROM drive.
4. At a shell prompt become super user by entering the following command:

```
su
```
5. Check / to make sure there is a /**cdrom** directory already present. If not, create it.
6. Start the installation process by entering the following commands:

```
csch  
mount /dev/dsk/c0t2d0 /cdrom  
cd /cdrom  
./INSTALL*
```
7. The install script will first run **/opt/OV/bin/ovstop** to stop HP OpenView background processes. Then, the SD Install - Software Selection window appears, indicating **swinstall** has begun.
8. Highlight the TEAM 540 to be installed:

```
TEAM540
```
9. Select **Actions ->Mark for Install**.
10. Select **Actions ->Install (analysis)**.
11. In the Install Analysis dialog box, click **OK** to proceed.
12. In the Confirmation window, click **Yes** to continue with the installation.
13. The following error message will appear:

```
$HOME..sw/sessions/swinstall.last
```
14. Click **OK**. TEAM 540 software installation will now begin.
15. When the process is complete, the **Done** button in the Install Window dialog box becomes "un-grayed". Click **Done**.
16. From the main SD Install window, select **File->Exit** .

17. The install script then starts HP OpenView background processes by running
`/opt/OV/bin/ovstart`.
18. Confirm that the correct versions of software have been installed by typing:
`/usr/sbin/swlist TEAM540`
19. All GDC TEAM 540 software packages installed on the workstation will be displayed along with their version numbers.
20. Unmount the CD ROM by typing:
`cd /`
`umount /cdrom`
`exit`
21. Remove the CD from the CD ROM drive.
22. Confirm HP OpenView and TEAM 540 processes are running by typing:
`/opt/OV/bin/ovstatus`

5.4.3 Setting Up the Management Station

1. At the shell prompt, become a super user by typing:
`su`
2. Type the following commands:
`/opt/OV/bin/ovstop`
`/sbin/init.d/nfs.client stop`
`/sbin/init.d/nfs.server start`
3. To ensure the NFS server daemon process `nfsd` is running, type the following command and verify the results:
`ps -ef | grep nfsd`

Note: *If the nsf is not running, edit the `etc/rc.config.d/nfsconf` file and change `NFS_SERVER=0` to `NFS_SERVER=1`. Save the file, then repeat steps 1 through 3.*

4. To add all Management Consoles to the Management Station, edit the `/etc/hosts` file by typing each Console's specific IP address and Hostname on a separate line, as shown in the example:
`###.###.###.### Console_Hostname`
`###.###.###.### Console_Hostname`
5. Save and close the `/etc/hosts` file.

Note: *If using vi editor, use `wq!` to save and close the file.*

6. To allow a single Management Console to share the Management Station directories over NFS, edit the `/etc/exports` file as follows:

```
/etc/opt/OV/share -root=Console_Hostname  
/var/opt/OV/share -root=Console_Hostname  
/usr/tmp -root=Console_Hostname
```

Note: *If the `exports` file does not exist, create one.*

7. Save and close the `/etc/exports` file.
8. To share the Management Station directories with the Consoles over NFS, type:

```
usr/sbin/exportfs -au  
usr/sbin/exportfs -av
```

9. Edit the file `/etc/opt/OV/share/conf/ovwdb.auth` file as shown below to add an entry for the Console, as shown in the example:

```
Console_Hostname +
```

10. Edit the file `/etc/opt/OV/share/conf/ovw.auth` file as shown below to add an entry for the Console, as shown in the example:

```
Console_Hostname +
```

11. Type the following commands to restart nfs server:

```
/etc/init.d/nfs.server stop  
/etc/init.d/nfs/server start
```

12. To start HP Openview processes, type:

```
/opt/OV/bin/ovstart
```

13. Exit super user by typing `exit`.

14. Complete the setup by typing:

```
/opt/OV/bin/ovw &
```

5.4.4 Installing TEAM 540 on the Management Console

Note: *If the HPUX distributed environment has been set up, it must be disabled temporarily before loading any TEAM software to avoid sharing conflicts with the server. Additional steps for this are provided below.*

1. Make sure all users exit HP OpenView for HPUX.
2. Close all HP OpenView and TEAM application windows (if applicable).
3. On the Management Console, become super user by typing:

```
su
```

*If the HP-UX distributed environment has been set up, perform steps 4 - 9.
Otherwise, skip to step 10.*

4. Disconnect as a HP OpenView client by typing:

```
    /opt/OV/bin/ovwsetupclient -u
```
5. Open the file `/etc/fstab` and type a `#` in the beginning of each line to comment out each line with a Console hostname.
6. Save and close the file.
7. On the Management Station, become a super user and open the file `/etc/exports`. Comment out each line with a Console hostname by typing a `#` in the beginning of each line.
8. Save and close the file.
9. On the Management Console, become a super user and enter the following commands:

```
    /etc/umount Station_Hostname:/etc/opt/OV/share  
    /etc/umount Station_Hostname:/var/opt/OV/share  
    /etc/umount Station_Hostname:/usr/tmp
```

10. Insert the TEAM 540 CD into the CD ROM drive.
11. At a shell prompt become super user by entering the following command:

```
    su
```
12. Check `/` to make sure there is a `/cdrom` directory already present. If not, create it.
13. Start the installation process by entering the following commands:

```
    csh  
    mount /dev/dsk/c0t2d0 /cdrom  
    cd /cdrom  
    ./INSTALL*
```

14. The install script will first run `/opt/OV/bin/ovstop` to stop HP OpenView background processes. Then, the SD Install - Software Selection window appears, indicating `swinstall` has begun.
15. Highlight the TEAM 540 to be installed:

```
    TEAM540
```
16. Select **Actions ->Mark for Install**.
17. Select **Actions ->Install (analysis)**.
18. In the Install Analysis dialog box, click **OK** to proceed.
19. In the Confirmation window, click **Yes** to continue with the installation.
20. The following error message will appear:

```
    $HOME..sw/sessions/swinstall.last
```

21. Click **OK**. TEAM 540 software installation will now begin.
22. When the process is complete, the **Done** button in the Install Window dialog box becomes "un-grayed". Click **Done**.
23. From the main SD Install window, select **File->Exit** .

-
24. The install script then starts HP OpenView background processes by running
`/opt/OV/bin/ovstart`.
 25. Confirm that the correct versions of software have been installed by typing:
`/usr/sbin/swlist TEAM540`
 26. All GDC software packages installed on the workstation will be displayed along with their version numbers.
 27. Unmount the CD ROM by typing:
`cd /`
`umount /cdrom`
`exit`
 28. Remove the CD from the CD ROM drive.
 29. Confirm that HP OpenView and TEAM Core processes are running by typing:
`/opt/OV/bin/ovstatus`
- Perform steps 30 - 37 only if the HPUX distributed environment has been set up. Otherwise, skip to step 38.***
30. On the Management Station, become a super user by typing:
`su`
 31. Open the file `/etc/exports`. Restore the Console hostnames by removing the # from the beginning of each line containing the Console hostname.
 32. Save and close the file `/etc/exports`.
 33. Type the following commands:
`/usr/sbin/exportfs -au`
`/usr/sbin/exportfs -av`
 34. On the Management Console, become a super user by typing:
`su`
 35. Open the file `/etc/fstab` and restore each line by deleting the # in the beginning of each line.
 36. Save and close the file.
 37. Type the following commands:
`/etc/mount Station_Hostname:/etc/opt/OV/share`
`/etc/mount Station_Hostname:/var/opt/OV/share`
`/etc/mount Station_Hostname:/usr/tmp`
`/opt/OV/bin/ovwsetupclient /opt/OV/nfs/Station_Hostname`

Note: *The path may be different if automounter was used.*

38. Exit super user and become a normal user. On the Management Console, bring up the OpenView windows using the server database by typing:

```
/opt/OV/bin/ovw &
```

5.4.5 Setting Up the Management Console

1. At the shell prompt, become a super user by typing:

```
su
```

2. Type the following commands:

```
/opt/OV/bin/ovstop
/sbin/init.d/nfs.server stop
/sbin/init.d/nfs.client start
```

3. To ensure the NFS client daemon process **biod** is running, type the following command and verify the results:

```
ps -ef | grep biod
```

Note: If the *biod* is not running, edit the `/etc/rc.config.d/nfsconf` file and change `NFS_CLIENT=0` to `NFS_CLIENT=1`. Save the file, then repeat steps 2 and 3.

4. To add the Management Station to the Management Console, edit the `/etc/hosts` file by typing the specific Management Station IP address and Hostname, as shown in the example:

```
###.###.###.###    Station_Hostname
###.###.###.###    Station_Hostname
```

5. Save and close the `/etc/hosts` file.

Note: If using *vi* editor, use **wq!** to save and close the file.

6. Type the following commands:

```
mkdir -p /opt/OV/nfs/Station_Hostname/etc/opt/OV/share
mkdir -p /opt/OV/nfs/Station_Hostname/var/opt/OV/share
rmdir /usr/tmp
mkdir -p /usr/tmp
chmod 777 /usr/tmp
```

7. To mount the Management Station directories on this Console over NFS, edit the `/etc/fstab` file as shown in the example:

```
Station_Hostname:/etc/opt/OV/share /opt/OV/nfs/Station_Hostname/etc/opt/OV/share nfs rw 0 0
Station_Hostname:/var/opt/OV/share /opt/OV/nfs/Station_Hostname/var/opt/OV/share nfs rw 0 0
Station_Hostname:/usr/tmp /usr/tmp nfs rw 0 0
```

8. Save and close the `/etc/fstab` file.

Note: If using *vi* editor, use **wq!** to save and close the file.

9. To mount the Management Station directories on this Console over NFS, type the following commands:

```
/etc/mount Station_Hostname:/etc/opt/OV/share  
/etc/mount Station_Hostname:/var/opt/OV/share  
/etc/mount Station_Hostname:/usr/tmp
```

10. Type the following commands to restart nfs client:

```
/etc/init.d/nfs.client stop  
/etc/init.d/nfs.client start
```

11. Set up the Management Console by typing:

```
/opt/OV/bin/ovwsetupclient /opt/OV/nfs/Station_Hostname
```

12. Exit Super User by typing **exit**.

13. Complete the setup by typing:

```
/opt/OV/bin/ovw &
```

Note: *It is not necessary to start HP OpenView daemons using /opt/OV/bin/ovstart on the Management Console because the Console shares the same HP OpenView database present on the Management Station over NFS.*

Note: *If the Console OpenView windows does not start up properly, reboot the Management Station and wait until it is UP completely. Then, reboot the Console.*

5.4.6 Adding/Updating User Accounts in Distributed Environments

1. Type **sam**
2. Select **Users and Groups**.
3. Select **Users**.
4. Under the Actions menu, select **Add**.
5. Enter Login name and select the shell you desire (prefer cshell)
6. Enter Password if desired
7. Exit **sam**
8. Log off and log back in under a user account.

5.5 De-installation

1. Make sure that all users exit HP OpenView.
2. Insert the TEAM 540 Compact Disk into the CD ROM drive.
3. At a shell prompt, become super-user by typing

```
su
```

4. Start the removal process by entering the following commands:

```
csh
```



```
mount /dev/dsk/c0t2d0 /cdrom
cd /cdrom/hpux
./REMOVE*
```

The remove script will automatically stop HP OpenView background processes by running `/opt/OV/bin/ovstop`. The script then automatically runs `swremove`, which opens a window “SD Remove - Software Selection” for removing existing TEAM540 software.

5. Select **TEAM540** from the window’s scroll-down list and double click on it.
6. Select **Actions->Mark for Remove**.
7. Select **Actions ->Remove (analysis)**.
8. Select **OK** in the “Remove Analysis” dialog box to proceed.
9. Select **Yes** in the “Confirmation” popup to continue with the removal.
10. Select **Done** in the “Remove Window” dialog box.
11. At the end select **File->Exit** in the main “SD Remove” window.
The script will automatically run `/opt/OV/bin/ovstart` to start HP OpenView background processes.

12. Unmount the CD ROM by typing the commands

```
cd /
umount /cdrom
exit
```

13. Remove the Compact Disk from the CD drive.
14. Exit as super-user (type `exit`).
15. To start HP Openview, type:

```
/opt/OV/bin/ovw &
```

6.0 TEAM 540 De-Installation in HPUX Environments

1. In the OpenView Root map, click on the Standalone universe icon.
2. From the Edit menu of the Root map menu bar, select **Delete**, then select **From All Submaps** to remove the Standalone icon from the Root map.
3. Make sure that all users exit HP OpenView for HPUX.
4. Insert the TEAM 540 CD into the CD ROM drive.
5. At the shell prompt, become super user by typing:

```
su
```

6. Start the removal process by entering the following commands:

```
cd /
mount /dev/dsk/c0t2d0 /cdrom
cd /cdrom
./REMOVE*
```

7. The remove script will first run `/opt/OV/bin/ovstop` to stop HP OpenView background processes. Then, the SD Remove - Software Selection window appears, indicating **swremove** has begun.
8. Highlight one or both of the TEAM 540 to be removed:
TEAM540
9. Select **Actions->Mark for Remove**.
10. Select **Actions ->Remove (analysis)**.
11. In the Remove Analysis dialog box, click **OK** to proceed.
12. Click **OK**. TEAM 540 software removal will now begin.
13. When the process is complete, the **Done** button in the Remove Window dialog box becomes “un-grayed”. Click **Done**.
14. From the main SD Remove window, select **File->Exit**.
15. The remove script then starts HP OpenView background processes by typing:
`/opt/OV/bin/ovstart`
16. Unmount the CD ROM by typing:
`cd /`
`umount /cdrom`
`exit`
17. Remove the CD from the CD ROM drive.
18. Confirm HP OpenView processes are running by typing the command:
`/opt/OV/bin/ovstatus`

6.1 Distributed Environment De-Installation

De-installation of TEAM software in a distributed HPUX environment should be performed in the following order:

- A. Collection Station
- B. Management Station
- C. Management Console

Procedures vary, depending on the type of environment. Refer to the appropriate procedures below. Additional information about distributed environments is provided in Section 2.

6.1.1 De-Installing TEAM 540 from the Collection Stations

1. Become a super user by typing **su** and then supplying the super user password.
2. Setting up environment variables by typing:
`/usr/bin/sh`
`. /opt/OV/bin/ov.envvars.sh`
3. Start the Event system configurator GUI by typing:
`$OV_BIN/xnmtrap`

4. Select an event and delete it by selecting **Edit->Delete->Event**. Refer to Table 3 for a listing of all events to be deleted.
5. Delete the enterprise by selecting:
Edit->Delete->Enterprise Identifier
6. From the Event Configuration window, click **File->Save** to save the changes.

6.1.2 De-Installing TEAM 540 from the Management Station

1. In the OpenView Root map, click on the Standalone universe icon.
2. From the Edit menu of the Root map menu bar, select **Delete**, then select **From All Submaps** to remove the Standalone icon from the Root map.
3. Make sure that all users exit HP OpenView for HPUX.
4. Insert the TEAM 540 CD into the CD ROM drive.
5. At the shell prompt, become super user by typing:
su
6. Start the removal process by entering the following commands:
csch
mount /dev/dsk/c0t2d0 /cdrom
cd /cdrom
./REMOVE*
7. The remove script will first run **/opt/OV/bin/ovstop** to stop HP OpenView background processes. Then, the SD Remove - Software Selection window appears, indicating **swremove** has begun.
8. Highlight the TEAM 540 to be removed:
TEAM540
9. Select **Actions->Mark for Remove**.
10. Select **Actions ->Remove (analysis)**.
11. In the Remove Analysis dialog box, click **OK** to proceed.
12. Click **OK**. TEAM 540 software removal will now begin.
13. When the process is complete, the **Done** button in the Remove Window dialog box becomes "un-grayed". Click **Done**.
14. From the main SD Remove window, select **File->Exit**.
15. The remove script then starts HP OpenView background processes by typing
/opt/OV/bin/ovstart
16. Unmount the CD ROM by typing:
cd /
umount /cdrom
exit
17. Remove the CD from the CD ROM drive.

18. Confirm HP OpenView processes are running by typing the command:

```
/opt/OV/bin/ovstatus
```

6.1.3 De-Installing TEAM 540 from the Management Consoles

Note: *If the HPUX distributed environment has been set up, it must be disabled temporarily to avoid sharing conflicts with the server. Additional steps for this are provided below.*

1. Make sure all users exit HP OpenView for HPUX.
2. Close all HP OpenView and TEAM application windows (if applicable).
3. On the Management Console, become super user by entering:

```
su
```

If the HPUX distributed environment has been set up, perform steps 4 - 8. Otherwise, skip to step 9.

4. Disconnect as a HP OpenView client by running:

```
/opt/OV/bin/ovwsetupclient -u
```
5. Open the `/etc/fstab` file and type a `#` in the beginning of each line which contains the Console hostname. Save and close the `/etc/fstab` file.
6. On the Management Station, become a super user and open the file `/etc/exports`. Type a `#` in the beginning of each line which contains this Console hostname.
7. Save and close the `/etc/exports` file.
8. On the Management Console, become a super user and type the following commands:

```
/etc/umount Station_Hostname:/etc/opt/OV/share  
/etc/umount Station_Hostname:/var/opt/OV/share  
/etc/umount Station_Hostname:/usr/tmp
```

9. Insert the TEAM 540 CD into the CD ROM drive.
10. Start the removal process by entering the following commands:

```
ssh  
mount /dev/dsk/c0t2d0 /cdrom  
cd /cdrom  
./REMOVE*
```

11. The remove script will first run `/opt/OV/bin/ovstop` to stop HP OpenView background processes. Then, the SD Remove - Software Selection window appears, indicating `swremove` has begun.
12. Highlight the TEAM 540 to be removed:

```
TEAM540
```
13. Select **Actions ->Mark for Remove**.
14. Select **Actions ->Remove (analysis)**.
15. In the Remove Analysis dialog box, click **OK** to proceed.

16. In the Confirmation window, click **Yes** to continue with the removal.
17. When the process is complete, the **Done** button in the Remove Window dialog box becomes “un-grayed”. Click **Done**.
18. From the main SD Remove window, select **File->Exit**.
19. The remove script then starts HP OpenView background processes by running

```
    /opt/OV/bin/ovstart
```
20. Unmount the CD ROM by typing:

```
    cd /
    umount /cdrom
    exit
```
21. Remove the CD from the CD ROM drive.

Perform steps 22 -28 only if the HPUX distributed environment has been set up. Otherwise, skip to step 29.

22. On the Management Station, become a super user by typing

```
    su
```
23. Open the file `/etc/exports`. Remove the # from the beginning of each line which contains the Console hostname. The file should contain the following lines:

```
    /etc/opt/OV/share -root=First_System:Console_Hostname
    /var/opt/OV/share -root=First_System:Console_Hostname
    /usr/tmp -root=First_System:Console_Hostname
```
24. Save and close the file `/etc/exports`.
25. Run the following commands:

```
    /usr/sbin/exportfs -au
    /usr/sbin/exportfs -av
```
26. On the Management Console, become a super user by typing

```
    su
```
27. Open the file `/etc/fstab` and restore each line by deleting the # in the beginning of each line. Save and close the file.
28. Type the following commands:

```
    /etc/mount Station_Hostname:/etc/opt/OV/share
    /etc/mount Station_Hostname:/var/opt/OV/share
    /etc/mount Station_Hostname:/usr/tmp
    /opt/OV/bin/ovwsetupclient /opt/OV/nfs/Station_Hostname
```

Note: *The path may be different if automounter was used.*

29. Exit super user and become a normal user. On the Management Console, bring up the OpenView windows using the server database by typing:

```
/opt/OV/bin/ovw &
```

6.2 Re-Installation

To re-install TEAM 540 software, it is necessary to first perform all the steps in the De-installation procedure. This removes all TEAM 540 packages. You can then repeat the steps of the Installation Procedure described earlier in this chapter.

7.0 Known Issues

- The keyboard “Num Lock” or “Caps Lock” key if pressed (On) will make the mouse buttons and scroll bars inoperable.
- An out of focus problem may exist on a Configuration application when editing the System Name, System Location or System Contact fields. Usually, when changes are entered in these fields, a File->Save selection will cause the new entry to turn white, indicating a pending edit before a Save operation is initiated. If an out of focus event occurs on these fields, after a File-Save the field will not be marked for edit (white) and will not be sent to the unit as a change. Perform the Save operation to show the field marked for edit (white) and then perform a second Save operation to commit the change to the unit.
- A Window Manager problem exists when the application screens create submenus that hide the main screen from view. The main screen cannot be brought forward with a simple mouse-click in the title bar. You will need to drag the submenus out of the main screen’s area of focus to view it.
- On the Front Panel display, some LED labels may appear out of alignment over their associated LEDs. This does not affect the operation of the application.
- When TEAM 540 software is installed with HPOV Network Node manager, disregard the following message if it occurs. TEAM 540 software installs successfully despite the error message:

```
ovstart: ovspmd failed to start and no managers are running
ovw: Cannot open object database: Cannot connect to database
The ovwdb daemon is not running on the server <Hostname>.
Ask the administrator of this server to run "ovstart ovwdb".
ovstop: ovspmd is not running
```

- In some TEAM application windows, slight text misalignments may appear. These do not affect the usability or operation of the application.
- Some TEAM applications may display meaningless characters in the application window headings. This is due to a font conflict which can be resolved by typing the following on the command line *before* running **ovw**:

```
xrdb -merge /opt/OV/bin/gdc_load_resources
```

8.0 Operating Guidelines

- Read-only maps will not be automatically updated. Use Map->Refresh Map to update the maps.
- Your HPUX workstation should contain the file `etc/rc.config.d/ov500` with the following information:

```
SHLIB_PATH=/lib:/usr/lib:opt/OV/lib/teamcore
export SHLIB_PATH
```

If this information is not present, the GDC background daemons will not start after a reboot.

- Make sure that the HPUX system application font size is set to 10 pt. This is accomplished via the Font button in the Style Manager via the VUE workspace area. If the font is set larger than 10 pt, some TEAM application windows will not be able to display the entire textual information they contain.
- After installation of TEAM software or a reboot of the system, TEAM applications may take up to one minute to start due to the loading of the shared libraries.
- For the TEAM 540 software to function, you must set the values for Timeout and Retries at the SNMP Configuration screen, as shown below:

Timeouts should be set to **10s**(Default = 0.8s)

Retries should be set to **3**(Default = 3)

- After an installation of TEAM software, the user must enable **Discover New IP Nodes** from the root map Options menu in order for shelf discovery to occur.
- On the Front Panel display for all applications, the Help link text is not visible. The Help link itself is operational and can be accessed by clicking the lower right corner in the Front Panel displays.
- During installation of the TEAM software, the following error pop-up may appear: **The xterm environment has not been set.** This error will prevent any windows from launching. To correct this, add the following the following command should be added to the `$HOME/.cshrc` file:

```
xhost +HostName
```

Section 2 - TEAM Applications and HP OpenView NNM Scalable and Distributed Environments

1.0 Overview

This section briefly discusses the Scalability and Distribution features in NNM and how to integrate/install TEAM applications in a Scalable and Distributed environment. Refer to the HP OpenView Manual, "A Guide to Scalability and Distribution for NNM" for more detailed understanding and concepts.

1.1 Features and Advantages

The Scalable and Distribution features of the HP OpenView NNM provide robust performance over a wide range of network sizes and degrees of complexity.

The Scalable feature gives NNM the potential for handling networks of different sizes in both LAN and WAN environments. To make NNM scalable, the network management work load must be distributed to multiple systems. Then, the Distribution feature improves performance of NNM in large networks by reducing the amount of management traffic over network resources.

Some of the advantages of these NNM features are:

- The Scalable feature of NNM makes it easier to adapt network management for handling new networking landscapes.
- The Distribution feature minimizes the amount of network management traffic. Without this capability, it would be impractical to monitor thousands of nodes from a single workstation.
- Faster response times and better performance as work load is distributed to multiple workstations.
- Shared responsibilities reduces the risk of losing network management data in the event of an unexpected shutdown of the management station.
- One Common network management database (in most cases) for all users, so that modifications of managed nodes would be reflected across the board.

Some drawbacks/trade-offs are:

- Distribution of tasks requires an increased number of computing resources.
- Scalable and distributed environment requires added complexity in setup.

1.2 Theory of Operation

In a Stand-alone environment, all network management tasks are done on a single workstation. In a Distributed environment tasks are handled by multiple workstations: Collection Station (CS), Management Station (MS), Management Console (MC). Depending on network size, structure, geography and trends, one of four deployment models should be chosen: Fully centralized, Centralized hierarchical, Hierarchical, or Co-operative independent.

- Figure 1 demonstrates a Centralized hierarchical model. Refer to the HP OpenView manual for examples of other models and for choosing the model for your needs.
- Figure 2 demonstrates the HP OpenView and TEAM processes and applications that run on the collection station, the management station, and the management console.

1.2.1 The Collection Station

A collection station discovers nodes and forwards this information to the management station. The collection station also monitors (the netmon process) the nodes in its domain and forwards any traps it receives from the managed node (IP device) to the management station. Depending on the number of managed nodes and network structure, there could be more than one collection station. The collection and management stations periodically synchronize node and topology information. Figure 1 shows two collection stations feeding node and topology information to the management station.

1.2.2 The Management Station

The management station processes the node and topology information it receives from the collection stations and stores the information (via ovwdb) in a database. The management station also receives from collection stations the trap information for various managed nodes (ovtrapd process) and stores it. There should only be one management station in a distributed setup so that the node information can be shared by all the users on various management consoles.

1.2.3 The Management Console

The management console is where all the user processes are executed. User interface (application) processes like ovw, xnmevents, xnmsnmpconf are executed here in order to manage the nodes in the management station's database. The Management Consoles should be connected to the Management Station using an Ethernet LAN or a high speed network matching the speeds of LAN. Management Station and the Management Consoles will share the same database by mounting the database over the Network Filing System (NFS).

1.2.4 Permissions

The first network operator to run ovw and launch OpenView screens will have read/write permissions to the database. The rest of the operators will get read-only permissions. Note that read-only screens do not synchronize automatically with changes in network topology or with the addition or deletion of devices to the database. To resynchronize the entire network map, network operators on the management console must manually perform a **Map -> Refresh Map** command. All network operators will be able to perform other TEAM Network Management operations, such as Configuration, Provisioning, Diagnostics. Operators must manage a unit in the shelf from only one workstation at a time.

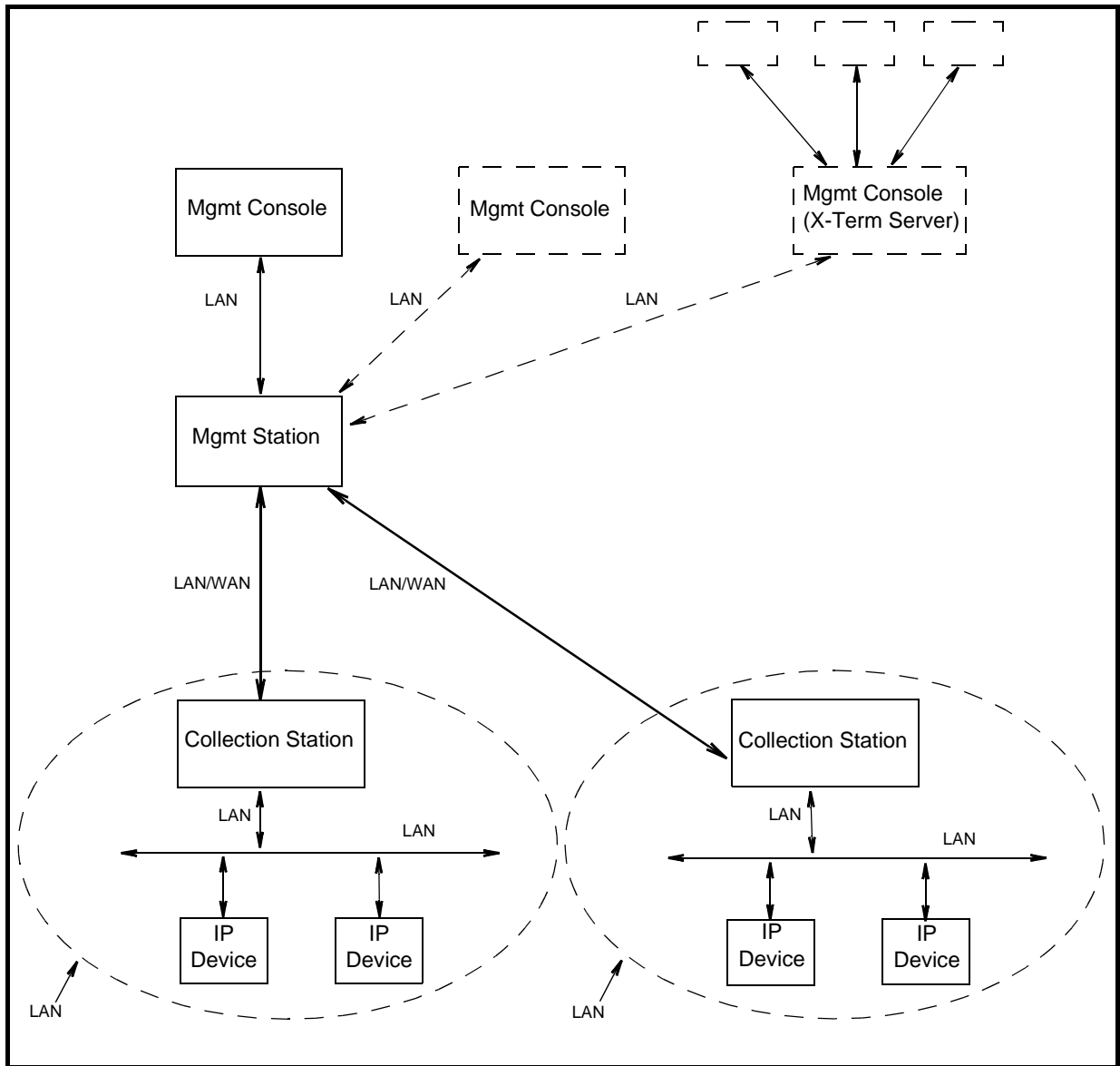


Figure 1: Example of the Centralized Hierarchical Model

1.3 The Distribution of Processes and Applications

The sequence of events that occur end-to-end from the IP node to the management console (Figures 1 and 2) is as follows:

Collection Station(s)

1. **netmon** process begins IP discovery, and populates the local topology database(**ovtopmdb**) with the help of **ovtopmd** process.
2. After the completion of discovery, the topology information is accessible by the management station.

Management Station

3. The management station requests the collection station(s) for topology information via **ovrepld** process.
4. Upon obtaining the topology information (from all collection stations), the management station merges the data into its topology database.
5. Using the data in the topology database, the processes in the management station communicate with each node to update other information necessary to manage the node.
6. Periodically, the **ovrepld** processes on the collection station(s) and management station synchronize the topology data. Once synchronization is complete, only changes in status and topology get sent to the management station.

Management Console and Management Console X Term Server

7. After the management station is ready with node information, the **ovw** process can be run.
8. Once **ovw** is up and running, network management on various nodes can be done.

Note: *When one of the management consoles is also designated as a X-Term Server, X-Terminals (such as Tektronics Graphics terminal) could be setup to display **ovw** sessions on these terminals. The **ovw** sessions are actually executed on the management console but displayed on the X-Terminals.*

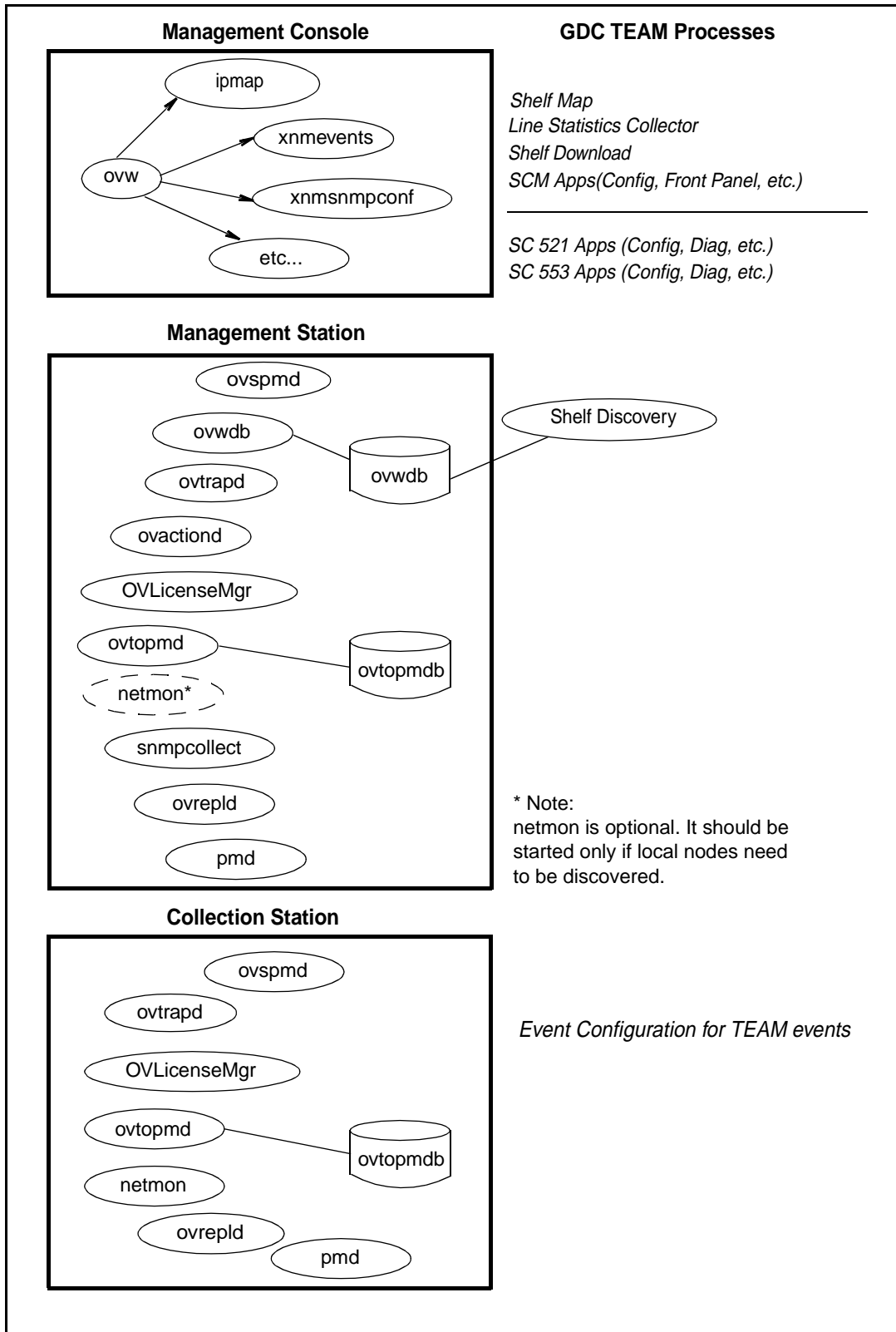


Figure 2: HP OpenView and Team Processes and Applications

2.0 Integrating the TEAM Application in a Distributed Environment

Due to distribution of tasks in a distributed environment, TEAM software products must be installed on the collection station, the management station and the management console in the precise order as described in Sections 2 and 3 of these TEAM Core Release Notes. The following sections describe the dependency tree, discovery, and event handling of GDC devices for TEAM software products.

2.1 TEAM Software Product Dependency

To manage any GDC product using TEAM software, multiple software products are required. Figure 3 shows the dependencies among various products. In the example, the SC521 and SC553 cards along with their associated packages are being managed by TEAM521 and TEAM553. Both TEAM products are dependent upon TEAM Core. Because of this product dependency, TEAM Core must be installed on the workstation *before* installing TEAMSC521, etc.

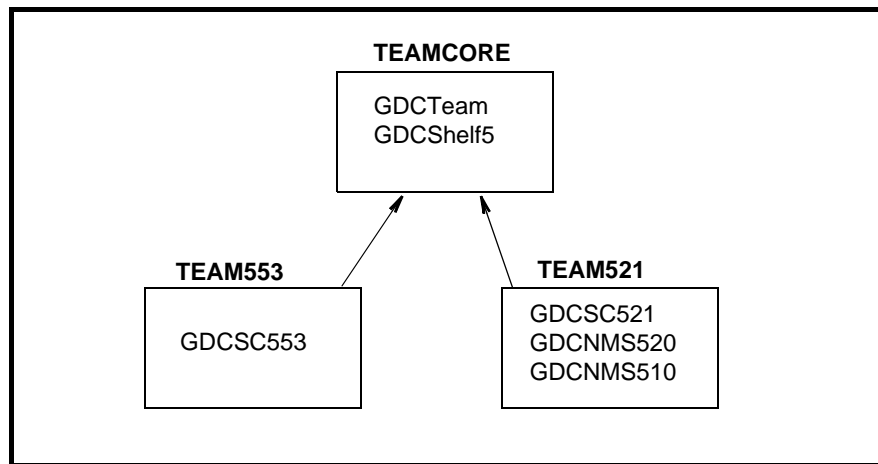


Figure 3: TEAM Software Product Dependencies

2.2 Discovery in an HP OpenView Distributed Environment

Once TEAM software is installed and configured in an HP OpenView NNM distributed environment, the system is ready for network management of GDC devices. This begins with the discovery of a GDC device on the management console where it is managed. Some of the typical applications that are executed on the management console are shown in Figure 2. The sequence of events that occur end-to-end is as follows:

1. A GDC device is discovered by a collection station and gets stored in its topology database.
2. This discovery information is requested by the management station in a synchronization cycle of **ovrepld** process.
3. The management station adds the device into its database as a new node.
4. Once a new node gets added on the management station, the **shelf_discovery** gets notified of the change.
5. The **shelf_discovery** process communicates with the SCM to get the shelf contents and other relevant information and stores the information.
6. After a GDC shelf is discovered, a new shelf gets added to the TEAM universe submap.
7. From this submap various GDC devices can be managed.

2.3 Event Handling

A trap generated from a GDC device arrives at the management console where it is updated. The sequence of events that occur end-to-end is as follows:

- A. When SCM is set up to do so, a GDC device sends a trap to the collection station.
- B. The collection station then forwards the trap to the management station, where it gets processed by **shelf_discovery** process and notifies the shelfmap process on the management console.
- C. The shelfmap process updates the status of the device associated with the event. Note that one process runs for every ovw session.



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