

TEAM Version 1.2.0

Release Notes, Version 1.2.0 for HPOV - HPUX

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Section 1 - HP Open View on HPUX 11.0

1.0 Overview

These installation and release notes provide new information relevant to the T1/E1 (TEAM) V1.2.0 software product. This updates the information supplied by the *T1/E1 Operating and Installation Manual*. If you require additional details please refer to that manual.

TEAM V1.2.0 is now supported on HPUX 11.0 with HPOV 6.1. For the latest product information, 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 reference information for all software modules relevant to TEAM V1.2.0 for HPUX installation.

Table 1: Software Reference for HPUX

Item	Part Number	Version / Release
T1/E1 (TEAM) Software Product	058U707-C01A	Ver 1.2.0
T1/E1 Operation/Installation Manual	058R693-V111	Latest Issue
HPOV NNM Software Product		Release 6.1
HPUX Operating System	Ref: HP website	Ver 11.0 /November 1999
HPUX and HPOV Patches	Ref: HP website	
HPOV Network Node Manager Performance and Configuration Guide	HP J1170-99002	Latest Release

3.0 Improvements Since Last Release

This is the initial release of TEAM V1.2.0 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 HP OpenView 6.1 and HP-UX 11.0 upgrades.

TEAM V1.1.1-PATCH

- The TEAM map application now checks to see if the TEAM alarm generator application is running. A pop-up is displayed if the TEAM alarm generator is not running.

TEAM V1.2.0 RELEASE

- In TEAM Functions->Configure Network, Configure Network now supports up to 40 nodes.

Note: *Firmware revision "F" or greater must be installed in the DMA-200 if you require more than 20 nodes.*

- In TEAM Functions->Configure Network, some window field labels have been changed as follows:

OLD LABEL	NEW LABEL
Node	Ckt/Node
Telephone Number	Identifier/Phone

- In TEAM Functions->Network Access, the Status Bar displays proper Terminal Synchronization (TSY) status. When synchronized, the status LED is dark green.

4.0 HP OpenView for HP-UX

The following sections describe the current requirements and procedures concerning the HP OpenView for HP-UX version of TEAM V1.2.0 software.

4.1 Hardware Requirements

The current hardware requirements for TEAM V1.2.0 software is as follows:

- HP 9000 series model 700 or 800
- Minimum requirements of 96 megabytes of RAM, 2 gigabytes of hard disk space, 350 megabytes of free space and 500 megabytes of swap space.
- The graphics card should support a resolution of 1152x900
- 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.*

4.2 Software Requirements

Before installing this version of TEAM V1.2.0, 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 V1.2.0 Software Package

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 11.0 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.*

5.0 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 V1.2.0 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 TEAM from the window 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.
9. The script now automatically runs **swinstall**, which displays a graphical user interface for installing the TEAM V1.2.0 software. The window will display **SD Install - Software Selection** in its title bar.
10. Select **TEAM** 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. Unmount the CD ROM by typing:

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

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

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

19. If all processes are running, exit super-user (type **exit**).

20. Edit the `$HOME/.dtprofile` file to remove the leading pound signs(s) in the line that contains

```
###DTSOURCEPROFILE=true
```

21. 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)
source $OV_CONF/cshrc.TEAM
xhost +HostName
```

22. Create a symbolic link to `/opt/OV/lib/team/libOI.sl` by typing the following command:

```
ln -s /opt/OV/lib/team/libOI.sl /opt/OV/lib/libOI.sl
```

23. 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)
. $OV_CONF/profile.TEAM
SHLIB_PATH=/lib:/usr/lib:/opt/OV/lib/team
export SHLIB_PATH
```

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

24. Start HP Openview by typing:

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

5.1 Symbolic Links for Dynamic Libraries

The TEAM application requires the HPUX dynamic libraries listed in the table below. Perform the following procedures to ensure the integrity of the symbolic links to these libraries.

1. Create the following directory:
`/HP-PA/ParcPlace/lib/`
2. Copy the file `libOI.sl`
from `/opt/OV/lib/team`
directory to `/HP-PA/ParcPlace/lib`

Table 2: Dynamic Libraries

Library	Directory	TEAM Library
libc.sl	/lib	/opt/OV/lib/team/libc.sl
libcl.sl	/usr/lib	/opt/OV/lib/team/libcl.sl
libndbm.sl	/usr/lib	/opt/OV/lib/team/libdbm.sl
libX11.sl	/usr/lib/X11R5	/opt/OV/lib/team/libX11.sl
libC.sl	/usr/lib	/opt/OV/lib/team/libC.sl
libOI.sl	/usr/lib	/opt/OV/lib/team/libOI.sl

3. Although the TEAM Application script creates a symbolic link of `libOI.sl` if needed, the user must create symbolic links to reference any other dynamic libraries which are not already present on your system.

If `libOI.sl` is not already present, type the following:

```
ln -s /opt/OV/lib/team/libOI.sl /opt/OV/lib/libOI.sl
```

5.2 File Permissions

Be sure to use an **umask** setting of 022 when editing TEAM V1.2.0 for HPUX11.0/HPOV 6.1 application configuration files. This will allow normal users to read application license files, configuration files, etc., while using TEAM.

5.3 Licensing TEAM

1. Before using the TEAM V1.2.0 you must obtain a software license key from General DataComm. The following information must be provided to obtain a license key:

Host ID:	an 8-character hexadecimal value
Product:	TEAM
Version:	1
Release:	2
Revision:	0
Expiration:	none

2. You will need to supply a host identifier (Host ID) to obtain a license key. At the shell prompt, type the following command to display the workstation Host ID:

```
/opt/OV/bin/GDC_hostid
```

3. Once you have obtained the software license key, you must install the key. Become super-user, then type the following commands at a shell prompt to install the key:

```
/opt/OV/bin/GDC_setkey -s <HostID> TEAM 1 2 0 <Expiration> <License Key>
```

Examples:

```
/opt/OV/bin/GDC_setkey -s 02bb3fa8 TEAM 1 2 0 none ZFAUVQML
```

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 (N/A for TEAM V.1.2.0 product)
- B. Management Station
- C. Management Console

The procedures for TEAM V1.2.0 vary depending on the type of workstation. Perform the installation and set up procedures for each workstation in your distributed environment.

5.4.1 Installing TEAM Applications on the Management Station

To install TEAM V1.2.0 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 V1.2.0 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:

```
    csh
    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 TEAM from the window 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.
9. The script now automatically runs `swinstall`, which displays a graphical user interface for installing the TEAM V1.2.0 software. The window will display **SD Install - Software Selection** in its title bar.
10. Highlight the TEAM package to be installed:

```
    TEAM
```
11. Select **Actions ->Mark for Install**.
12. Select **Actions ->Install (analysis)**.
13. In the Install Analysis dialog box, click **OK** to proceed.
14. In the Confirmation window, click **Yes** to continue with the installation.
15. Click **OK**. TEAM V1.2.0 software installation will now begin.
16. When the process is complete, the **Done** button in the Install Window dialog box becomes “un-grayed”. Click **Done**.
17. From the main SD Install window, select **File->Exit**.
18. The install script then starts HP OpenView background processes by running `/opt/OV/bin/ovstart`.
19. Confirm that the correct versions of software have been installed by typing:

```
    /usr/sbin/swlist
```
20. All GDC software packages installed on the workstation will be displayed along with their version numbers.
21. Unmount the CD ROM by typing:

```
    cd /
    umount /cdrom
```

```
exit
```

22. Remove the CD from the CD ROM drive.
23. Confirm HP OpenView and TEAM V1.2.0 processes are running by typing:

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

5.4.2 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 &
```

5.4.3 Installing TEAM Applications 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 HPUX 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 V1.2.0 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:  

```
csch
mount /dev/dsk/c0t2d0 /cdrom
cd /cdrom
./INSTALL*
```
14. 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.
15. 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 TEAM from the window 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.
16. The script now automatically runs **swinstall**, which displays a graphical user interface for installing the TEAM V1.2.0 software. The window will display **SD Install - Software Selection** in its title bar.
17. Highlight TEAM package to be installed:  

```
TEAM
```
18. Select **Actions ->Mark for Install**.
19. Select **Actions ->Install (analysis)**.
20. In the Install Analysis dialog box, click **OK** to proceed.
21. In the Confirmation window, click **Yes** to continue with the installation.
22. Click **OK**. TEAM V1.2.0 software installation will now begin.
23. When the process is complete, the **Done** button in the Install Window dialog box becomes "un-grayed". Click **Done**.
24. From the main SD Install window, select **File->Exit**.
25. The install script then starts HP OpenView background processes by running **/opt/OV/bin/ovstart**.
26. Confirm that the correct versions of software have been installed by typing:  

```
/usr/sbin/swlist
```

27. All GDC software packages installed on the workstation will be displayed along with their version numbers.
28. Unmount the CD ROM by typing:

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

29. Remove the CD from the CD ROM drive.
30. Confirm that HP OpenView and TEAM V1.2.0 processes are running by typing:

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

***Perform steps 31 - 38 only if the HPUX distributed environment has been set up. Otherwise, skip to step 39.***

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

```
su
```

32. Open the file `/etc/exports`. Restore the Console hostnames by removing the # from the beginning of each line containing the Console hostname.
33. Save and close the file `/etc/exports`.

34. Type the following commands:

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

35. On the Management Console, become a super user by typing:

```
su
```

36. Open the file `/etc/fstab` and restore each line by deleting the # in the beginning of each line.
37. Save and close the file.
38. 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.*

---

39. 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 &
```

#### **5.4.4 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.*

---

### 5.4.5 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 V1.2.0 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:

```
cd
mount /dev/dsk/c0t2d0 /cdrom
cd /cdrom
./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 TEAM V1.2.0 software.

5. Select **TEAMV1.2.0** 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 &
```

## 5.6 Distributed Environment De-Installation

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

- A. Collection Station (N/A)
- 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.

### 5.6.1 De-Installing TEAM Applications 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 V1.2.0 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/HPUX
./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 TEAM package to be removed:  

```
TEAM
```
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 V1.2.0 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
```

## 5.6.2 De-Installing TEAM V1.2.0 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 V1.2.0 CD into the CD ROM drive.
10. Start the removal process by entering the following commands:  

```
csch
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 TEAM package to be removed:  

```
TEAM
```
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. Click **OK**. TEAM V1.2.0 software removal will now begin.
18. When the process is complete, the **Done** button in the Remove Window dialog box becomes "un-grayed". Click **Done**.
19. From the main SD Remove window, select **File->Exit**.
20. The remove script then starts HP OpenView background processes by running  

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

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

*Perform steps 234 - 29 only if the HPUX distributed environment has been set up. Otherwise, skip to step 30.*

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

```
su
```

24. 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
```

25. Save and close the file `/etc/exports`.

26. Run the following commands:

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

27. On the Management Console, become a super user by typing:

```
su
```

28. Open the file `/etc/fstab` and restore each line by deleting the `#` in the beginning of each line. Save and close the file.

29. 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.*

---

30. 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 &
```

## 5.7 Re-Installation

To re-install TEAM V1.2.0 software, it is necessary to first perform all the steps in the De-installation procedure. This removes all TEAM V1.2.0 packages. You can then repeat the steps of the Installation Procedure described earlier in this chapter.

## 5.8 Errata and Document Changes

This section describes differences between this software release and the Operating and Installation Instructions for T1/E1 Access Manager (TEAM) Manual - GDC Publication No. 058R693-V111.

- Point-to-Point Protocol (PPP) Functions described in Section 9 are not present in the HP OpenView on HP-UX version 10.x and higher.

- Some descriptions of TEAM on HP OpenView are relevant to the OpenView for SunOS version only and not to the HP OpenView on version 10.x and higher.

## 6.0 Known Issues

- **TEAM Functions->Network Access->Performance->1&24 Hour Reports**  
Remote Network Reports are not supported.
- **TEAM Functions->Network Access->Performance->DS0 Diagnostics**  
Thirty second time-out parameter is too short for diagnostic test. The current system has application timers for all of the diagnostic tests. The default timers are too short causing the application to retry the command prior to the DMAs first response. These parameters can be modified in the `/opt/OV/app-defaults/team/team.ini` or `/opt/OV/app-defaults/C/team/team.ini` file. (1000080)
- **TEAM Functions->Network Access->Performance->DS1/T1 Diagnostics**  
Test Pattern options for **User Defined** and **User Pattern** are not supported.
- **TEAM Functions->Network Access->Performance->Channel Diagnostics**  
Although Self Test may be selected while in a Digital Loopback test, this operation is not recommended and the results are indeterminate.
- **TEAM Functions->Network Access->Performance DS0/DS1/Channel Diagnostics**  
On the pop up message for a “No response”, clicking on the **Help** button functions the same as clicking on the **OK** button. In either case, the command is retried.
- A Communications Error may occur when changing from alternate DS0's to consecutive DS0's. To avoid this, set the new channel rate by selecting consecutive DS0's and saving to unit. Then select the desired bandwidth and download to the unit.
- **TEAM Functions: Restore Node**  
Attempting to dial with a blank telephone number causes the screen to stay in a “working” mode until a time out occurs.

The displayed phone number may not match the selected phone number in the scroll list. When the window is first opened the first node in the list is highlighted, however, the phone number displayed at the bottom is the last phone number dialed, not the phone number of the highlighted node.

If the dial backup attempt fails when restoring a node, the user will not be warned of the failure.

- **TEAM Functions: Master DMAs Configure->Modem Configuration:**  
Intermittently, the Master DMAs Configure window may disappear when the user exits an AT Modem Configuration sub-window in “edit” mode.
- **PPP Functions->Restore Network**  
If the user has a PPP session established and wants to dial another PPP session, the system drops the first PPP session off-line then dials both of the PPP sessions.
- **TEAM Icon**

In order to manage TEAM functions, the LAN segment map must display the TEAM icon. However, when a node is discovered for the first time at a management station, a generic symbol is displayed instead of the TEAM icon and TEAM functions appear grayed-out at the Administer menu. To remedy this, perform the following steps:

- A. Click on the generic icon to highlight it.
- B. Right-click on the highlighted icon to open the symbol menu, then click on the **Change Symbol Type** option.
- C. At the Change Symbol Type window, select the TEAM icon for the symbol subclass.
- D. Click **OK**.

- **Miscellaneous**

DMA alarms are not passed from TEAM to Megaview or Data Set Manager after a reboot. In order for alarms to be passed from TEAM to Megaview or Data Set Manager, it is necessary to stop and restart ENmacs via the Network Management Utilities.

TEAM error messages are not logged to the console window on a stand-alone system. Error messages will appear in the window from which HP Openview was started.

Disabling the Supervisory terminal from the control software is not supported.

Help windows do not exit upon termination of the application. Explicitly exit all help window prior to exiting any TEAM application.

During installation “Duplicate value in database for Agent” is reported. This is normal warning message on system upgrading or reinstallation the TEAM product.

- 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.
- 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
```

## 7.0 Operating Guidelines

- Read Only Maps will not be automatically updated. Use Map->Refresh Map to update the map.
- Make sure that the HPUX system application is set to 10PT. This is done through the Font button within the Style manager in the VUE workspace area. If set larger than 10 PT, some TEAM application windows will not display all of the textual information they contain.
- TEAM applications may take up to one minute to start up after an install of TEAM software or a reboot of the system. This is due to the loading of shared libraries.



- For the TEAM V1.2.0 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 **20s**(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 shelf map Options menu in order for IP discovery to occur.
- In some TEAM applications, the text label associated with the Help link does not display. This does not affect the operation of the Help link.
- 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

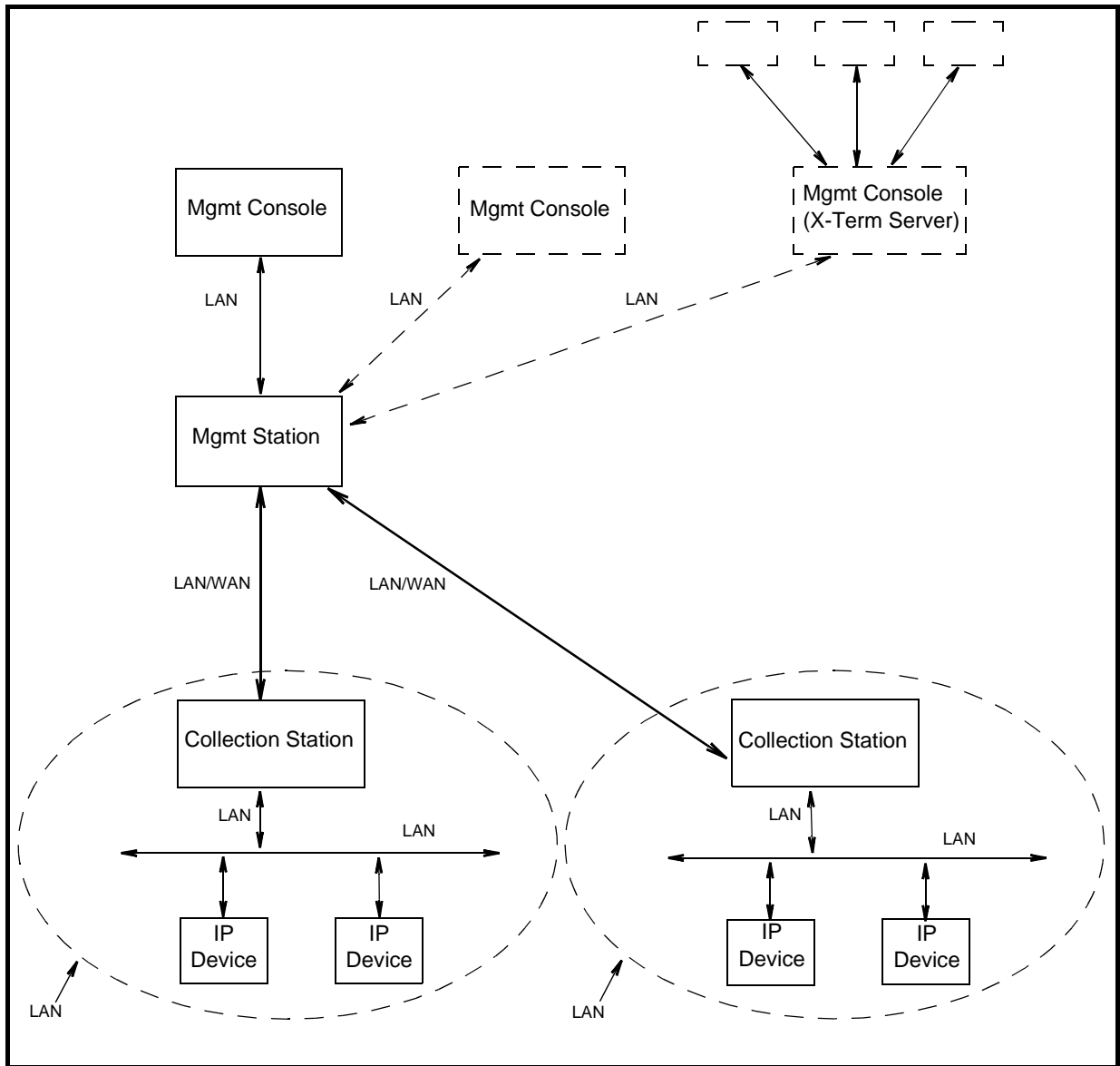
The management station processes the node and topology information it receives from the collection stations and stores the information (via ovwdb) in a database. The management station also receives from collection stations the trap information for various managed nodes (ovtrapd process) and stores it. 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.

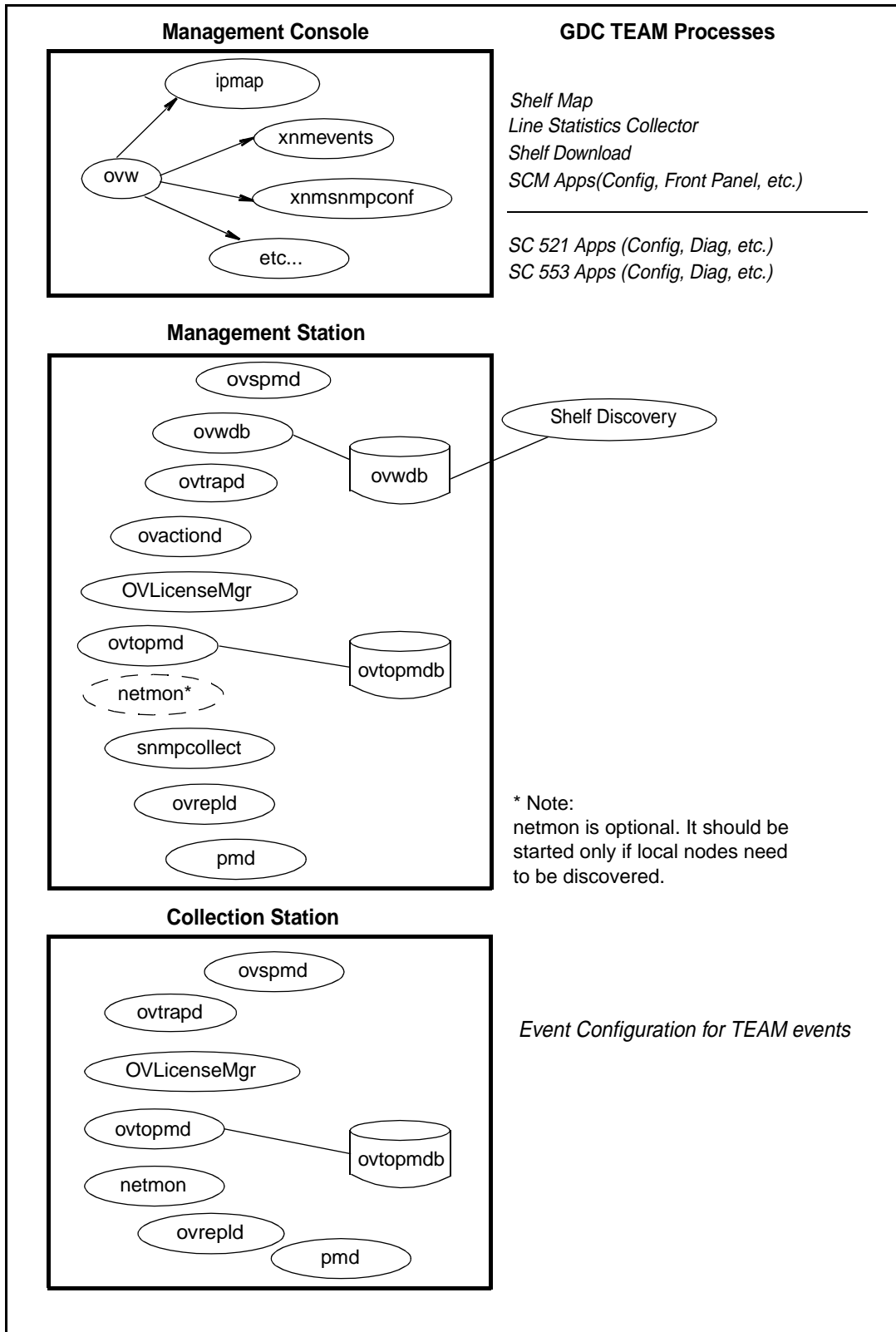
### Management Console and Management Console X Term Server

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 the 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.

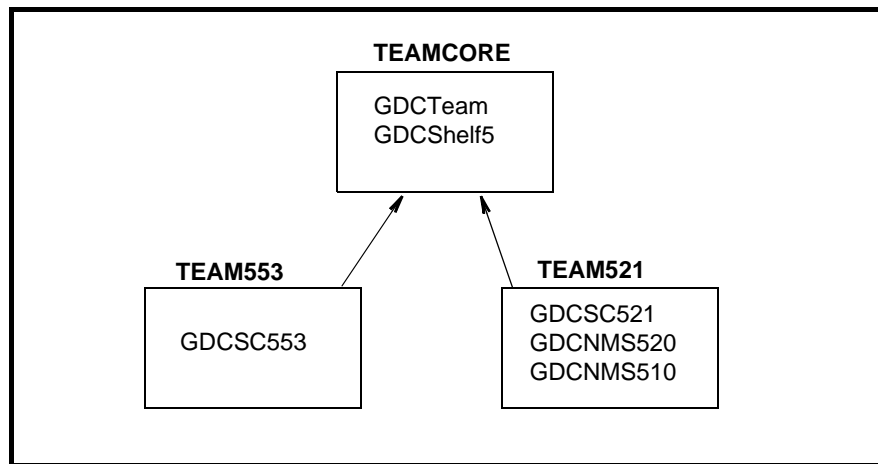


Figure 3: TEAM Software Product Dependencies



---

## 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.







**General DataComm**  
Network Access Division