

HP Insight Remote Support Advanced HP StorageWorks P4000 Storage System Migration Guide

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1 P4000 Storage Systems Migration Procedure

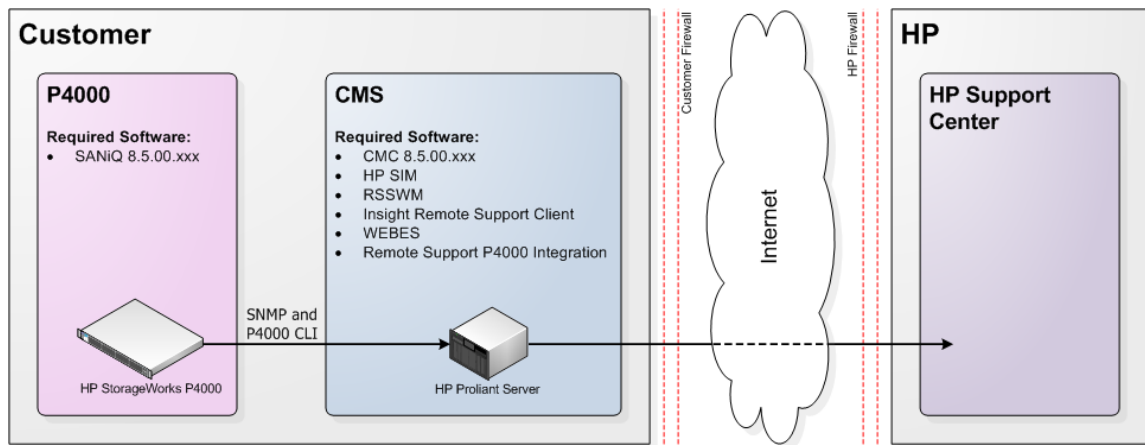
In the first half of 2011, the HP Support Center will discontinue support for Service Console (Health Check) as the remote support solution for all P4000 Storage Systems or LeftHand Networks SANs. The HP Insight Remote Support solution will replace the Service Console application. Use this document to migrate to Insight Remote Support, HP's long term remote support solution.

HP Insight Remote Support migration is recommended to be completed as soon as possible for all P4000 Storage Systems or LeftHand Networks SANs that support SAN/iQ 8.5 or higher.

HP Insight Remote Support Advanced software delivers secure remote support for your HP servers, storage, network, and SAN environments, which now includes the P4000 SAN.

For more information on the features and benefits of Insight Remote Support go to <http://www.hp.com/go/insightremotesupport>.

Figure 1-1 Architecture



To migrate to HP Insight Remote Support Advanced, complete the following steps in order:

1. Verify that your CMS meets the minimum system requirements (see "Central Management Server (CMS) Requirements").
2. Verify that your P4000 Storage Systems meet the minimum system requirements (see "P4000 Storage Systems Requirements").
3. Upgrade or Install CMC on the CMS (see "Installing/Upgrading CMC on the CMS").
4. Upgrade SAN/iQ to version 8.5 on the P4000 Storage Systems using CMC (see "Upgrading the SAN/iQ Software on the P4000 Storage Systems").
5. Install HP SIM and Insight Remote Support Advanced on the CMS (see "Installing and Configuring Insight Remote Support Advanced").

1.1 Requirements

1.1.1 Central Management Server (CMS) Requirements

1.1.1.1 Hardware Requirements

- Any HP ProLiant x86 system with Insight Management Agent or WBEM Provider support
- Any HP ProLiant x64 system with Insight Management Agent or WBEM Provider support

The Central Management Server (CMS) has the following requirements:

- For small environments managing less than 100 devices:
 - 3 GB memory, 4 GB recommended
 - 2 GB disk space for initial installation of Insight Remote Support components, and 500 MB disk space for normal operation
- For medium environments managing up to 500 devices:
 - 6 GB memory
 - 146 GB disk space
- For large environments managing up to 2000 devices:
 - 12 GB memory
 - 300 GB disk space

Centralized Management Console (CMC) 8.5, Windows version has the following requirements:

- 35 MB disk space for complete install
- 50 MB RAM during run-time

1.1.1.2 Operating System Requirements

The following operating systems are supported on the CMS:

- Microsoft Windows Server 2003 Standard or Enterprise Edition for x86 with SP1 or higher (running on x86 or x64/AMD64 platforms)
- Microsoft Windows Server 2003 R2 Standard or Enterprise Edition for x86 (running on x86 or x64/AMD64 platforms)
- Microsoft Windows Server 2003 for x64
- Microsoft Windows 2003 SMB, with SP1 or higher
- Microsoft Windows 2003 Server with installed Multilingual User Interface Pack (MUI)
- Microsoft Windows 2003 with English, French, Italian, German, Spanish, Dutch, Traditional Chinese, Simplified Chinese, Korean and Japanese International Server
- Microsoft Windows Server 2008 Standard for x64
- Microsoft Windows Server 2008 Enterprise for x64
- Microsoft Windows Server 2008 Datacenter for x64
- Microsoft Windows Server 2008 Standard 32-Bit
- Microsoft Windows Server 2008 Enterprise 32-Bit
- Microsoft Windows Server 2008 Datacenter 32-Bit
- Microsoft Windows Small Business Server 2008
- Microsoft Windows Web Server 2008
- Microsoft Windows Server 2008 R2
- Microsoft Windows Storage Server 2008 Standard edition
- Microsoft Windows Storage Server 2008 Advanced edition

1.1.1.3 Software Requirements

- CMC 8.5
 - *Software available at:* www.hp.com/go/P4000downloads
CMC is included in the SAN/iQ Management SW DVD package.
 - *Documentation available at:* <http://www.hp.com/support/manuals>
In the **Storage** section, click **Disk Storage Systems** and then select **P4000 SAN Solutions**.
 - *Installation Time:* 10 minutes
- HP Systems Insight Manager (HP SIM) 6.0 or higher
 - *Software available at:* <http://h18013.www1.hp.com/products/servers/management/hpsim/download.html>
 - *Documentation available at:* <http://h18013.www1.hp.com/products/servers/management/hpsim/infolibrary.html#b2>
 - *Installation Time:* Approximately 1 hour *
- Insight Remote Support Advanced
 - *Software available at:* <http://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=RSADVANCED>
 - *Documentation available at:* www.hp.com/go/insightremoteadvanced-docs
 - *Installation Time:* Approximately 1 hour *

* Download and installation times will vary for a default install depending on the speed of your network, the size of your network, and how many devices you want to manage.



NOTE: For a complete list of CMS prerequisites, please refer to the *HP Insight Remote Support Advanced CMS Configuration and Usage Guide*.

1.1.2 P4000 Storage Systems Requirements

1.1.2.1 Software

Each P4000 Storage System requires SAN/iQ 8.5.

See Section 1.3.1 for details on upgrading SAN/iQ to version 8.5.

1.1.3 Communication Requirements

Usernames, passwords and SNMP must be configured properly so that the CMS and the P4000 Storage Systems can communicate. See the following sections for communication requirements and procedures.

For more information about communication requirements, see the *HP Insight Remote Support Advanced and Remote Device Access Security Overview* at www.hp.com/go/insightremoteadvanced-docs.

1.1.3.1 Password Management

HP SIM, RSSWM, and Insight Remote Support should all be installed by the same user with administrator privileges. P4000 Storage Systems that are not in a Management Group can use any valid 3 character P4000 CLI username and any valid 5 character P4000 CLI password can be used as credentials for P4000 Storage Systems in the available pool to collect Remote Support daily logs and real time events logs. If the password expires or changes, this will cause events to fail to be processed.

1.1.3.2 SNMP Configuration

SNMP on the CMS ProLiant Windows device must be enabled to communicate with the P4000 Storage Systems. Add each P4000 Storage System's IP address to the CMS trap receiver list or allow the CMS to receive traps from all IPs. If you do not modify the SNMP defaults that CMC uses, then communication between the P4000 Storage System and the CMS should work without modification.

1. On the CMS click **Start** → **Administrative Tools** → **Services**.



NOTE: If **Administrative Tools** does not display in the options, try **Start** → **Control Panel** → **Administrative Tools** → **Services**.

2. Double click on **SNMP service** to open the Properties window.
3. On the **Traps** tab, make sure a community string is listed, and make sure localhost and 127.0.0.1 exists as a trap destination.
4. On the **Security** tab, choose either:
Accept SNMP packets from any host.
or
Accept SNMP packets from these hosts and use the **Add** feature to add your Managed Systems to the list.
5. Click **OK** to accept your changes and leave the SNMP properties configuration screen.

1.1.4 CMS Access Requirements

You must have *administrative rights* to Microsoft Windows on the Central Management Server (CMS). HP requires using the same Windows account on the CMS to install *and* configure both HP SIM and Insight Remote Support Advanced components.



IMPORTANT: Due to enhanced security features in Windows 2008 HP recommends that you run the installation as user administrator or as a user in the Administrators Group using the **Run as Administrator** option.

When accessing the CMS remotely using the Windows Remote Desktop Connection client, use the following switches:

- When connecting from a Windows XP, Windows 2000, or Windows 2003 system, use the `/console` switch:
`c:\windows\system32\mstsc.exe /console`
- When connecting from a Vista, Windows 2008, or Windows 7 system, use the `/admin` switch:
`c:\windows\system32\mstsc.exe /admin`

1.2 Installing/Upgrading CMC on the CMS

You will need to do the complete install of CMC to install the SNMP MIBs. If you do not modify the SNMP defaults that CMC uses, then SNMP should work with Insight Remote Support Advanced without modification.

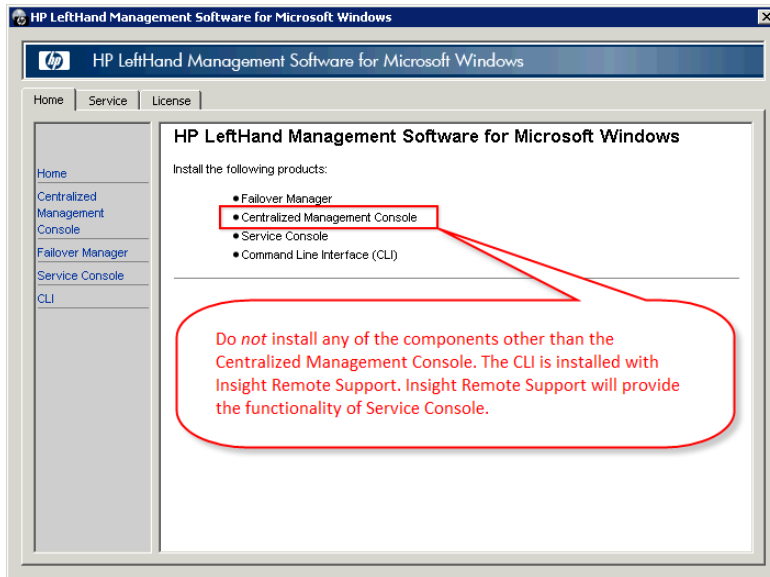


NOTE: If you have CMC 8.5 already installed on a separate system you do not need to reinstall it on the CMS. CMC does not need to be co-located on the CMS for Insight Remote Support Advanced to work.

1.2.1 Installing and Configuring CMC

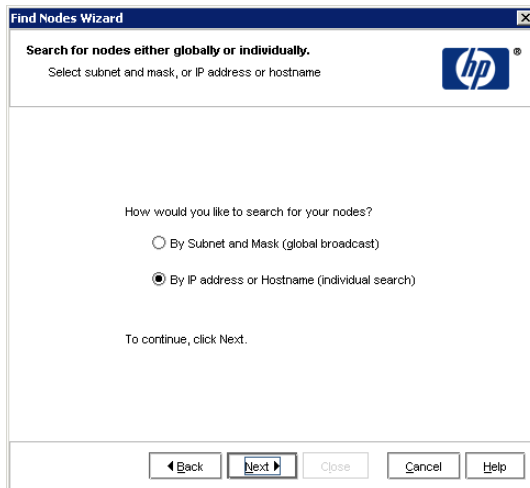
Install the centralized management console (CMC) on the computer that you will use to administer the SAN. You need administrative privileges while installing the CMC.

1. Insert the HP StorageWorks Management DVD in the DVD drive. The installer should launch automatically. Or, navigate to the executable (`:\GUI\Windows\Disk1\InstData\VM\CMC_Installer.exe`) Or download CMC at the following URL: www.hp.com/go/P4000downloads.
Select the Complete install option, which is recommended for users that use SNMP.

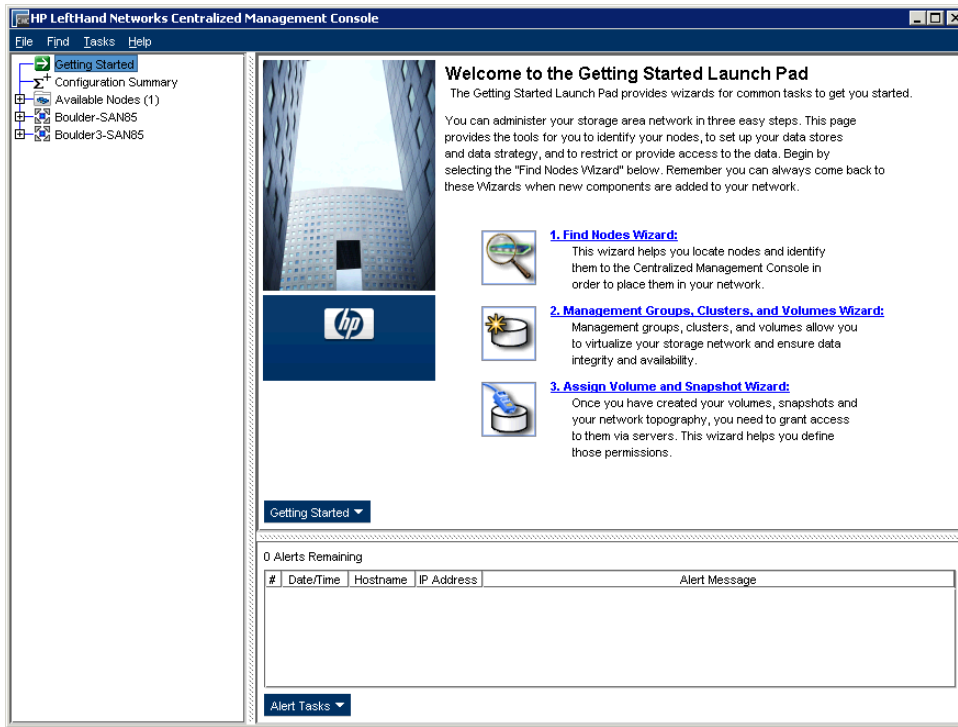


NOTE: If you already have Service Console installed, you don't need to disable it. Insight Remote Support can co-exist with Service Console without conflict.

2. Use the Find Nodes wizard to discover the storage systems on the network, using either IP addresses or host names, or by using the subnet and gateway mask of the storage network.



The found storage systems appear in the available category in the CMC.



1.3 Configuring the P4000 Storage Systems

1.3.1 Upgrading the SAN/iQ Software on the P4000 Storage Systems

You will use CMC to upgrade to SAN/iQ 8.5 on the P4000 Storage Systems. If your P4000 Storage Systems already has SAN/iQ 8.5 installed, you do *not* need to perform this procedure.

When you upgrade the SAN/iQ software on a storage node, the version number changes. Check the current software version by selecting a storage node in the navigation window and viewing the Details tab window. See [Appendix A](#) for flowcharts that describe how to upgrade from different versions of SAN/iQ.

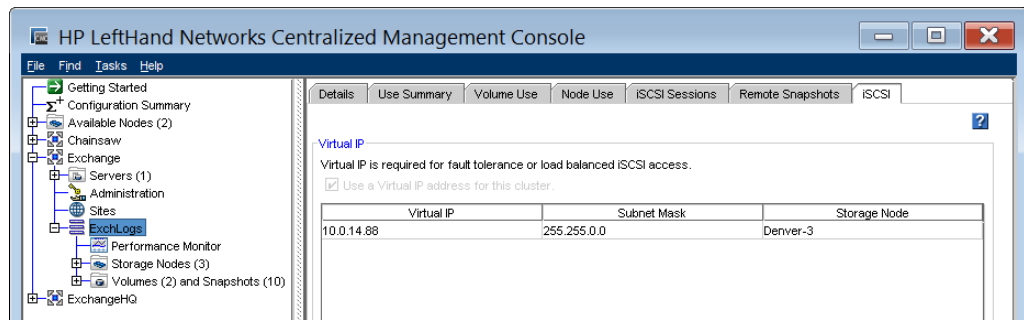


NOTE: When installing/upgrading SAN/iQ 8.5, do not modify the default SNMP settings. The default settings are used by Insight Remote Support, and communication between the P4000 Storage System and the CMS will not function properly if the SNMP settings are modified.

1.3.1.1 Best Practices

- **LSMD upgrade** – LSMD upgrade is required for upgrading from 7.x to 8.5.
- **Virtual IP addresses** – If a Virtual IP (VIP) address is assigned to a storage node in a cluster, the VIP storage node needs to be upgraded last. The VIP storage node is shown on the cluster iSCSI tab, shown in [Figure 1-2 “Find the Storage Node Running the VIP”](#).
 1. First upgrade the non-VIP storage nodes that are running managers, one at a time.
 2. Then upgrade the non-VIP non-manager storage nodes.
 3. Lastly, upgrade the VIP storage node.

Figure 1-2 Find the Storage Node Running the VIP



- **Remote Copy** – If you are upgrading management groups with Remote Copy associations, you should upgrade the remote management groups first. If you upgrade the primary group first, Remote Copy may stop working temporarily, until both the primary management group and the remote group have finished upgrading. Upgrade the primary site to 8.5 immediately after upgrading the remote site to 8.5. Refer to How to verify management group version.

1.3.1.1.1 Selecting the Type of Upgrade

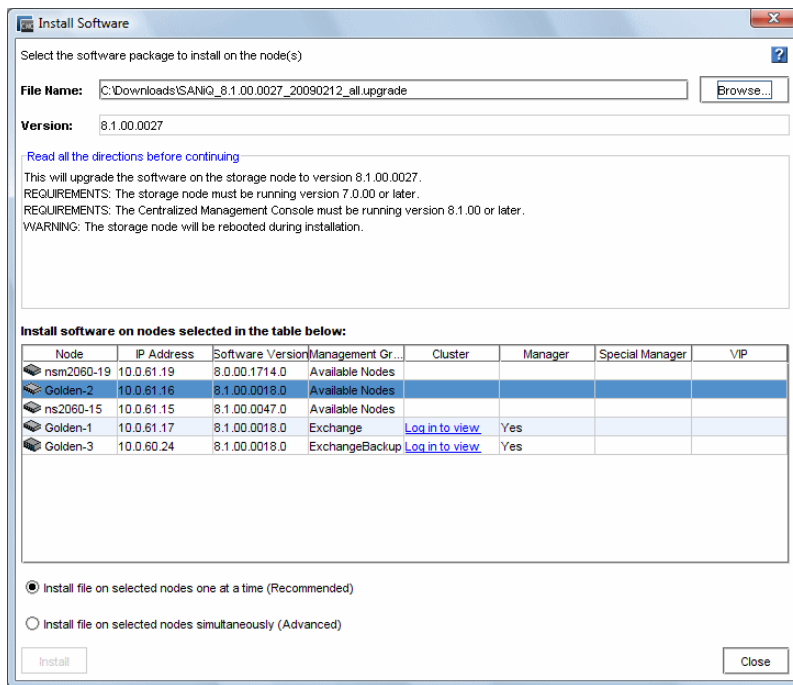
The release 8.5 CMC supports two methods of upgrades, as shown in Figure 1-3 “Viewing the CMC Upgrade/Installation Window”.

- One-at-a-time (recommended) - this is the **default and only method that should be used if the storage nodes exist in a management group**.
- Simultaneous (advanced) - this allows you to upgrade multiple storage nodes at the same time if they are not in a management group. Use this only for storage nodes in the Available pool.



CAUTION: Do not select “Simultaneous (advanced)” if your storage nodes are in a production cluster.

Figure 1-3 Viewing the CMC Upgrade/Installation Window



1.3.1.2 Increase the Size of the OS Disk on the VSAs

Due to changes in the size of the VMware tools that get installed during this software upgrade, you must increase the size of the OS disk before upgrading the VSA. Additional space requirements are necessary for future software releases, as well. Therefore, we recommend increasing the size of the OS disk to accommodate both requirements at this time.



NOTE: These instructions apply to VMware ESX Server. Other VMware products have similar instructions for extending a virtual disk. Please consult the appropriate VMware documentation for the product you are using.

To increase the OS disk size on the VSA:

1. Using the CMC, power off the VSA.
2. Open the VI Client and select **VSA** → **Edit Settings** → **Hardware**.
3. Select **Hard disk 1** (verify that the Virtual Device Node is SCSI (0:0)).
4. Under Disk provisioning, changed the provisioned size to 8 GB.
5. Click **OK**.
6. Repeat these steps for Hard disk 2 (verify the Virtual Device Node is SCSI (0:1))
7. Using the VI Client, power on the VSA.
8. Find the VSA in the CMC and apply the 8.5 upgrade.

1.3.1.3 Upgrade Software on Storage Nodes

1. Right-click the first storage node to upgrade and select **Install Software**. The Install Software window opens.
2. Select from the list which storage nodes to upgrade.
3. Select the upgrade.
4. Click **Install**.

1.3.1.4 Verify Management Group Version

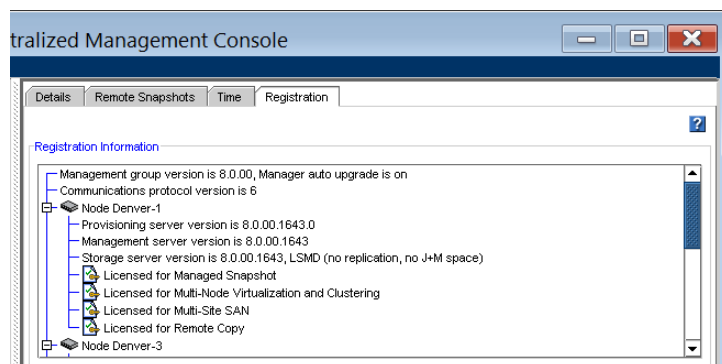
- When upgrading from version 7.x to release 8.5, the management group version will not move to release 8.5 until all storage nodes in the management group (and in the remote management group if a Remote Copy relationship exists) are upgraded to release 8.5 SAN/iQ.
- When upgrading from version 7.x to release 8.5, the upgrade process validates the hardware identity of all of the storage nodes in the management group. If this validation fails for any reason, the management group version will not be upgraded to 8.5. For example, if a management group has a mix of platforms, some of which are unsupported by a software release; then only the supported platforms get upgraded successfully, the management group version will not be upgraded if the unsupported platforms remain in that management group.

1.3.1.4.1 How to Verify Management Group Version

In the CMC navigation window, select the management group, and then select the Registration tab.

The management group version number is at the top of the Registration Information section, as shown in Figure 1-4 “Verifying the Management Group Version Number”.

Figure 1-4 Verifying the Management Group Version Number



1.3.1.5 Check for Patches

After you have upgraded to release 8.5, go to www.hp.com/support and check for applicable patches required for your storage node.

1.3.2 Configuring the P4000 Storage Systems Communications

Use the following procedure to verify your SNMP settings. If you did not modify the SAN/iQ SNMP settings when you installed/upgraded SAN/iQ 8.5 then you should not need to make any updates during the following procedure.

Perform the following steps to verify and/or update your SNMP settings:

1. Open the CMC application.
2. Verify that SNMP is enabled for each storage system:

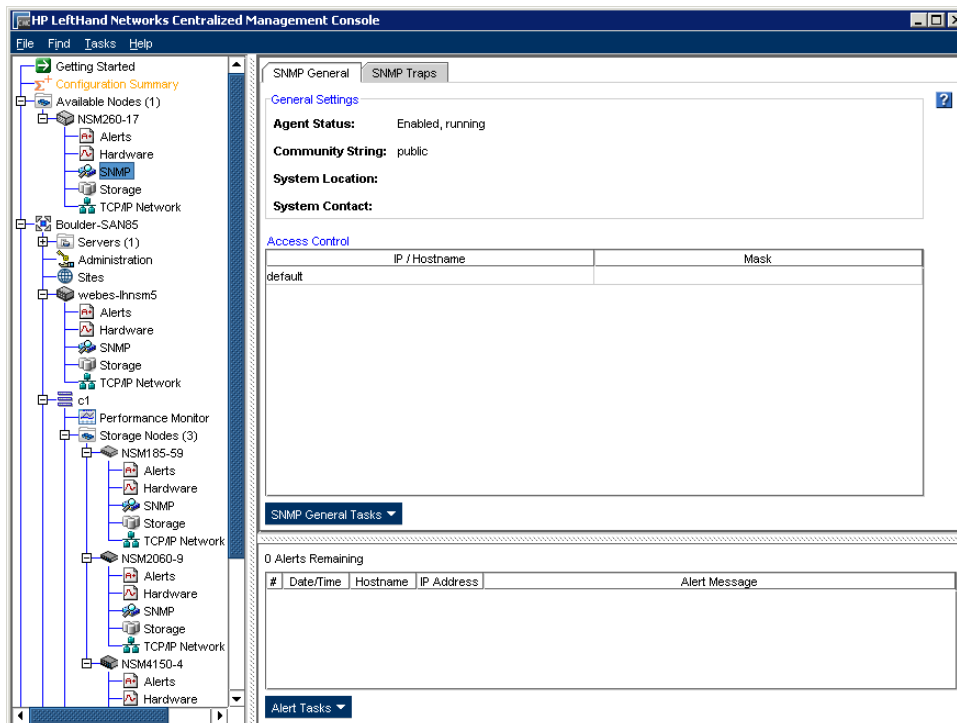


NOTE: SAN/iQ 8.5 ships by default with SNMP enabled for all storage systems and configured with the "Default" Access Control list.

- a. Select **SNMP** in the left menu tree and open the **SNMP General** tab.
- b. Verify that the Agent Status is enabled.
- c. In the Access Control field, verify that either `Default` is listed or the CMS host IP address is listed. The `Default` option configures SNMP to be accessed by the `public` community string for all IP addresses.



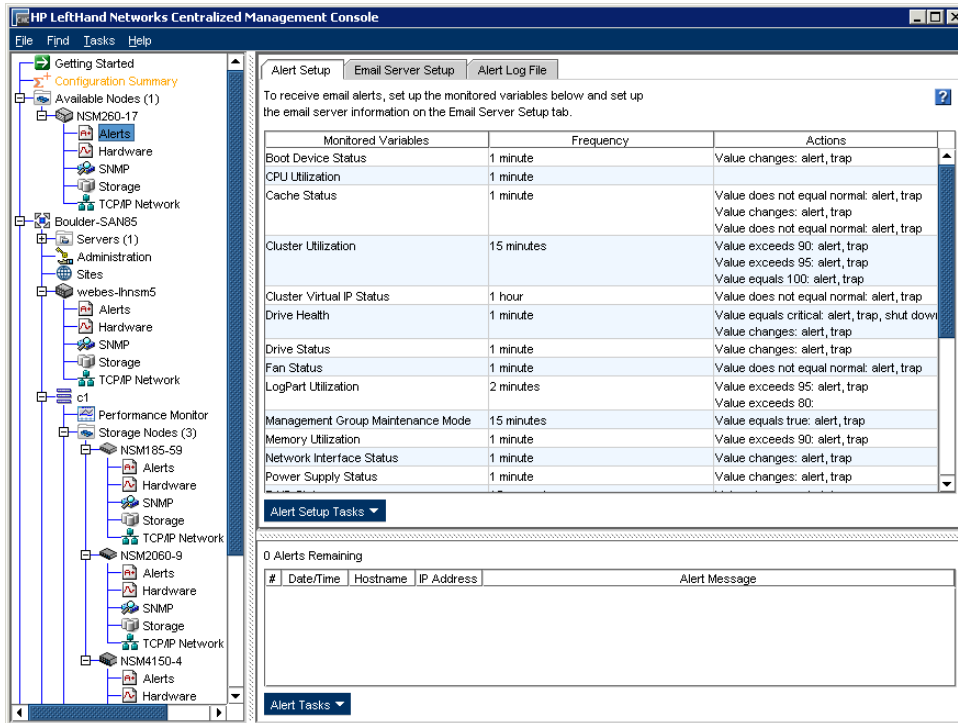
NOTE: The SNMP settings on the P4000 Storage Systems need to match the SNMP settings on the CMS.



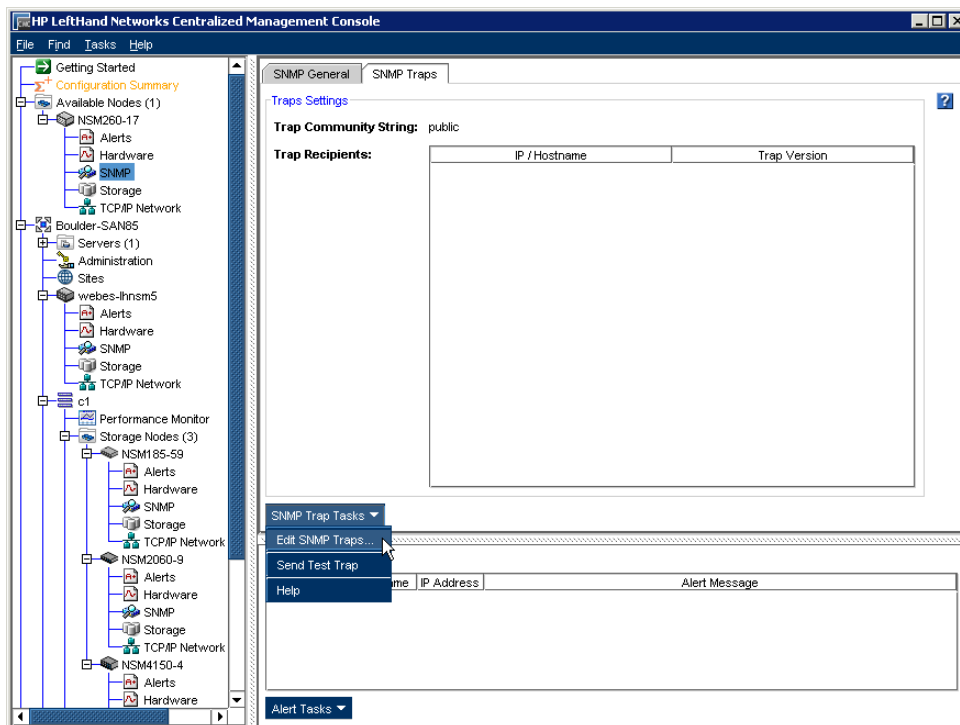
3. Select **Alerts** in the left menu tree, and verify that alerts are configured with the "trap" option for each storage system.



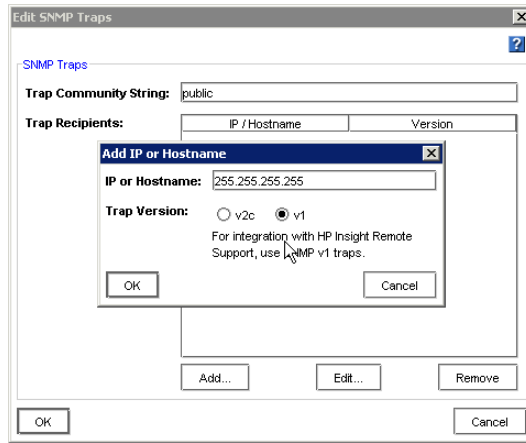
NOTE: SAN/iQ 8.5 ships by default with traps set for all alert cases.



4. Add the CMS IP address to the P4000 Storage System's SNMP trap send list. The CMS IP address is needed to configure SNMP traps on each storage system.
 - a. Select **SNMP** in the left menu tree and open the **SNMP Traps** tab.
 - b. Open the Edit SNMP Traps dialog by browsing to **SNMP Trap Tasks** → **Edit SNMP Traps**.

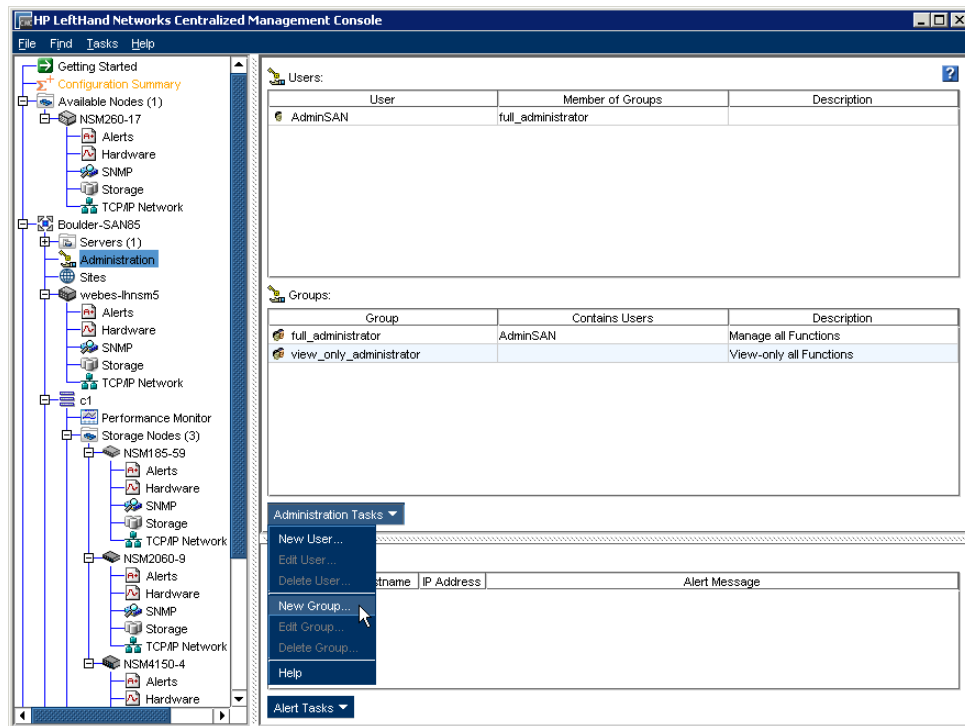


- c. In the Edit SNMP Traps dialog, click **Add**.
 - d. In the Add IP or Hostname dialog, enter the IP address or hostname into the **IP or Hostname** field. Verify that the **Trap Version** is v1, and click **OK**.



Repeat steps 3 to 4 for each P4000 Storage System. Alternatively, you could also configure one node using steps 3 to 4, then use the CMC copy node configuration option to copy the configuration to all other nodes.

5. Add an additional CMC user with read-only credentials. This is recommended if you don't want to have the CMS system administrator to have create/delete control of the storage systems.
 - a. Select **Administration** in the left menu tree.



- b. Create a user group with read only access, if one does not already exist. Browse to **Administrative Tasks** → **New Group**.

- c. Create a new user. First select the group you created in the previous step, then go to **Administrative Tasks** → **New User**. Enter the User Name, Password, and click the **Add** button to add this user to the read only user group you created.

1.4 Installing and Configuring Insight Remote Support Advanced

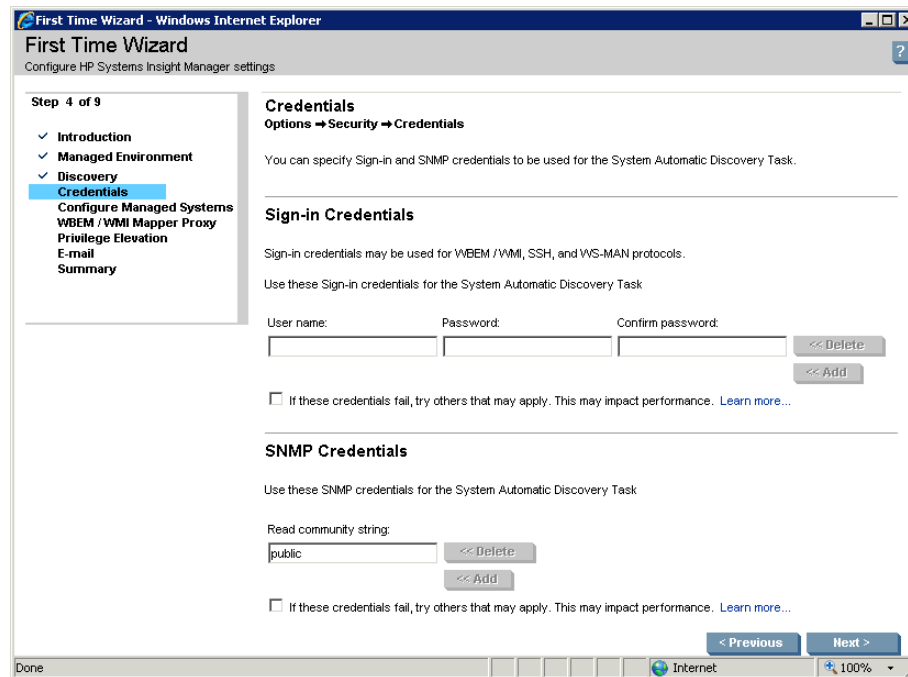


NOTE: Please note that the following procedure does not detail every step in the installation procedure. It only highlights the steps necessary to successfully manage P4000 Storage Systems with Insight Remote Support Advanced. For the complete installation procedure please refer to the *HP Insight Remote Support Advanced CMS Configuration and Usage Guide*.

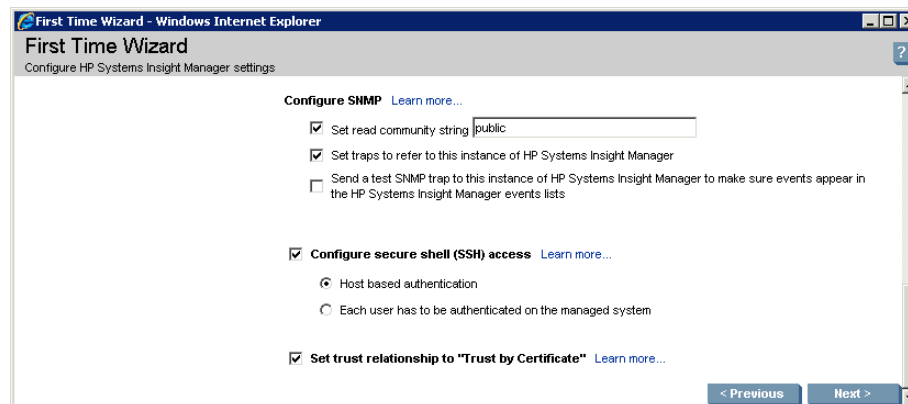
1. Install HP SIM. Accept all defaults.
2. Once the HP SIM installation completes, run the HP SIM First Time Wizard.
 - a. On the Credentials page, add `public` as the **Read community string** in the **SNMP Credentials** section.



NOTE: Do not add HP SIM sign-in credentials during discovery for P4000 Storage Systems/Management group at this point because they can't be used by Insight Remote Support to capture P4000 Storage System data.



- b. On the Configure Managed Systems page, in the **Configure SNMP** section, select the **Set read community string** box and add `public` to the text area if it is not already listed.



3. Discover the CMS and add warranty information for the CMS. This will entitle the CMS so that it can be monitored.
 - a. Select **Options** → **Discovery**.
 - b. Click the **New** button to add a new discovery task.
 - c. Select the **Discover a single system** radio button and enter the IP address for the CMS.

Tools ▾ Deploy ▾ Configure ▾ Diagnose ▾ Optimize ▾ Reports ▾ Tasks & Logs ▾ Options ▾ Help ▾

Discovery

Sign-in System Credentials
Go back to [Microsoft Windows Vista](#)

Configure and run automatic system discovery. Be sure to configure the settings prior to executing automatic discovery for the most accurate information.

Note: To discover systems properly, HP SIM must have credentials with which to access the systems. These can be configured here on this page by clicking the "Credentials" button on a new or edited discovery task. Or they can be added later for each specific system using Options → Security → Credentials → System Credentials. [Learn more...](#)

Note: Discovery works best if systems are discovered in a specific order [Learn more...](#)

For all automatic discoveries:
[Configure general settings](#)
[Manage hosts files](#)
[Configure global protocol settings](#)

Name	Last Run	Schedule	Comments
System Automatic Discovery	4/12/10 7:08 AM	Task is Disabled - Periodic	

New... Edit... Enable Delete... View Task Results... Run Now

New Discovery

Discover a group of systems
 Discover a single system

Required field *

Name: *

Schedule:
 Automatically execute discovery every:
 days at

Enter the system's name or IP address:

Comments:

Credentials... Configure/Repair... System Types... Save Cancel

- d. Click the **Credentials** button, add the **Sign In** and **SNMP** credentials, and click **OK**, then the **Save** button.

Sign In **SNMP** [Show advanced protocol credentials](#)

Sign-in System Credentials:

Sign-in credentials may be used for WBEM / VMI, SSH, and VWS-MAN protocols.

Use these credentials

User name: Password: Confirm Password:

If these system credentials fail, try other credentials that may apply. This may impact performance. [Learn more...](#)

OK

- e. Select the discovery task created above and click the **Run Now** button.
- f. After discovery, if the contract and warranty status is unknown, select the system and browse to **Options** → **System Properties** → **Set System Properties** and fill out the information in the Contract and Warranty Information section.
4. Install Insight Remote Support Advanced. Follow the installation wizard and use the default settings.
5. Discover P4000 Storage System(s) by using **Options** → **Discovery**. Add IP ranges or add each node individually. If this doesn't work, verify that HP SIM global credential for SNMP matches SNMP General Settings of each P4000 Storage System(s) as shown in CMC.

When discovering new P4000 devices, do not include any P4000 Management Group Virtual IP (VIP) addresses. VIP addresses are created when you create and configure P4000 clusters. Instead, discover P4000 devices using individual IP addresses, or create IP discovery ranges excluding all P4000 VIP addresses.

If you do discover a P4000 VIP address, you should delete the managed entity for the VIP address from Insight Remote Support Advanced before running any collections or capturing any test traps. After deleting the VIP address entity, re-discover the node using the actual IP address for the P4000 device.

6. From HP SIM, select each P4000 Storage System(s) and browse to **Options** → **System Properties** → **Set System Properties** to add site, contact and entitlement information to each device.

Contract and Warranty Information

Entitlement Information

Customer-Entered serial number:

Customer-Entered product number:

System Country code:

Entitlement type:

Entitlement ID:

Obligation ID:

Custom Delivery ID:

System Site Information

Site name: *

Customer Contact

Primary customer contact: *

Secondary customer contact:

Primary service contact:

Once you add these three items to a node, the node should be listed in the HP SIM left panel under **Insight Remote Support Services** and **System is Remote Support Eligible**. This list can take a few minutes to update.

7. From HP SIM, check entitlement for P4000 Storage System(s) as follows:
 - a. **Options** → **Remote Support Configuration and Services**.
 - b. Select the **Entitlement** tab.
 - c. Select each new P4000 Storage System(s) with check box on left of Remote Support System List screen.
 - d. Select **Entitle Checked** from the **Action List** dropdown menu at the bottom of the screen. Select the **Run Action** button, and once the progress shows as complete, select the **Refresh** button. The node selected should show all green checks in the left size status fields.

Tools ▾ Deploy ▾ Configure ▾ Diagnose ▾ Optimize ▾ Reports ▾ Tasks & Logs ▾ Options ▾ Help ▾

Remote Support Configuration and Services

Go back to

Service Health Settings **Entitlement** Service Providers Data Services SAN Services Server Services Components Storage Services

Remote Support System List

Action Status Message: Progress:

<input type="checkbox"/>	TE	RS	ENT	CP	System Name	Serial #	Product #	CC	Ent Type	Ent ID	OID
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Not-Available	system-name	serialnumber	productnumber				

Page 1 displaying systems 1-1 of 1

Search By System Name:

Action List:

- Select an Action ---
- Re-Entitlement**
- Entitle Checked
- Entitle All
- Transport Enablement**
- Enable Checked
- Disable Checked
- Enable All
- Disable All



IMPORTANT: You will need to fix any status items that are not green before going to the next steps.

Once you complete these tasks, each the node should be listed in the HP SIM left panel under **Insight Remote Support Services**, **System is Remote Support Eligible** and **System is Remote Support Enabled**. This list can take a few minutes to update.

Repeat steps 6 and 7 for each new P4000 Storage System added to the Remote Support eligible systems list.

8. From HP SIM, add the P4000 Storage System collection credentials to Remote Support as follows:
 - a. **Options** → **Remote Support Configuration and Services**.
 - b. Select the **Storage Services** tab and then select the **P4000 Family Configuration Collections** tab.
 - c. Select **New Credential Group** button.



NOTE: HP recommends that users create one or more credential groups for devices:

- One for each management group, and associate it with the proper devices.
- One for devices not in a management group, and associate it with the proper devices.

- d. Enter the **Description**, **UserName** and **Password**. These credentials are the Username and Password when the Management Group was created in CMC.



NOTE: The **SU User**, **SU Pass**, **SNMP Read**, and **SNMP Write** fields are not required for P4000 Family Configuration Collections or real time event logging.

- e. In the device list, edit each P4000 Storage System so that the **Cred Group** uses the credential group created in the previous step. Note that the **Connection** type should be *SAN/Q* for each P4000 Storage System, and **Type** should be shown as *P4000*.
- f. Test the connection to each P4000 Storage System by selecting the **Test** button on the right side. The text of this button will change to "running" while it checks the credentials. Once the test completes, the **Test** button's text color will change to green if the connection succeeded and red text if the connection failed.

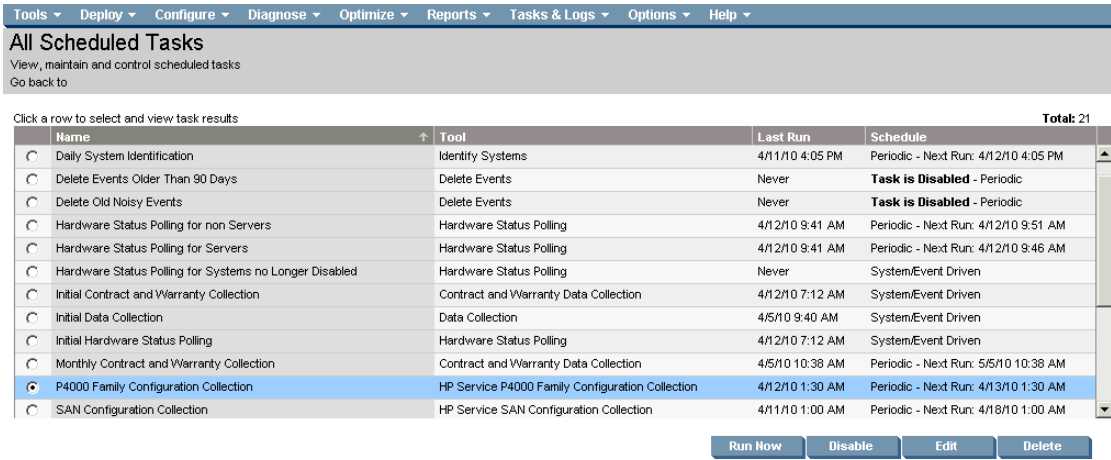


NOTE: P4000 Storage Systems that are not in a Management Group can use any valid 3 character P4000 CLI username and any valid 5 character P4000 CLI password can be used as credentials for P4000 Storage Systems in the available pool to collect Remote Support daily logs and real time events logs.

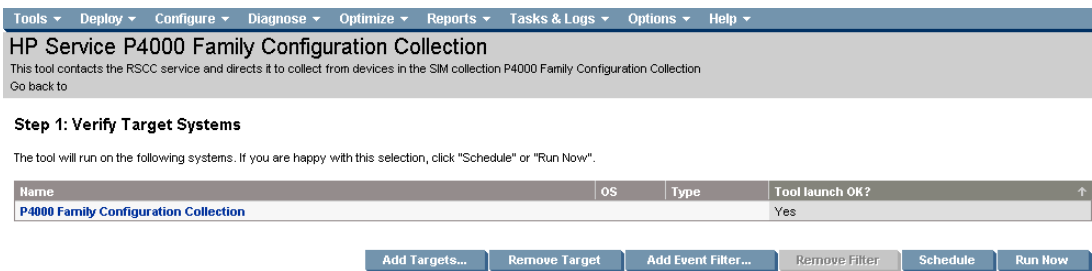
- g. Click **Save All Changes**.

There is no need to repeat this step for each P4000 Storage System if the new P4000 Storage System(s) have the same Management Group credentials already added to Insight Remote Support.

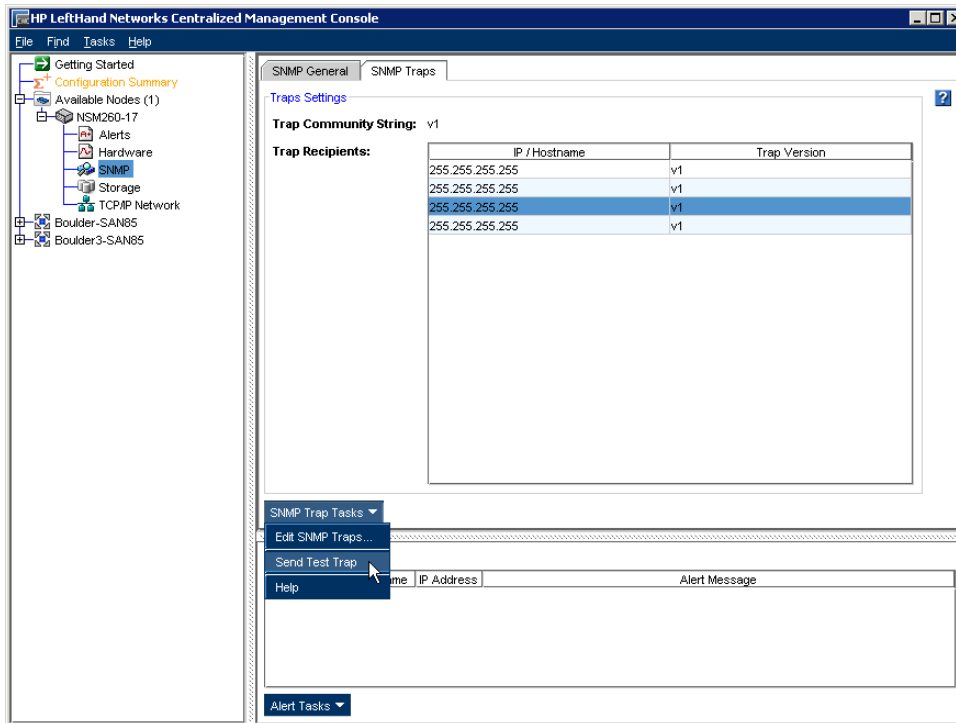
9. Add each device to the daily Collection Schedule. Select **Tasks & Logs** → **View All Scheduled Tasks**. Select the **P4000 Family Configuration Collection** radio button and click the **Edit** button. Select the **Add Targets** button, select your systems, and then click the **Run Now** button.



- Run the configuration collection by selecting **Options** → **Status Polling** → **HP Service P4000 Family Configuration Collection**. Click **Add Targets** to select your systems, and then click the **Run Now** button.



- To verify that the P4000 Storage System(s) are communicating with the CMS, open CMC and select at least one storage node and send a test trap to the CMS. Select **SNMP** in the left menu tree and open the **SNMP Traps** tab. In the **SNMP Trap Tasks** dropdown menu, select **Send Test Trap**.



Go to CMS configurations to verify that the test event was posted to the CMS logs. The CMC read-only credentials were verified during device discovery when each SAN/iQ device was added to CMS monitored listed.

A SAN/iQ Upgrade Flowcharts

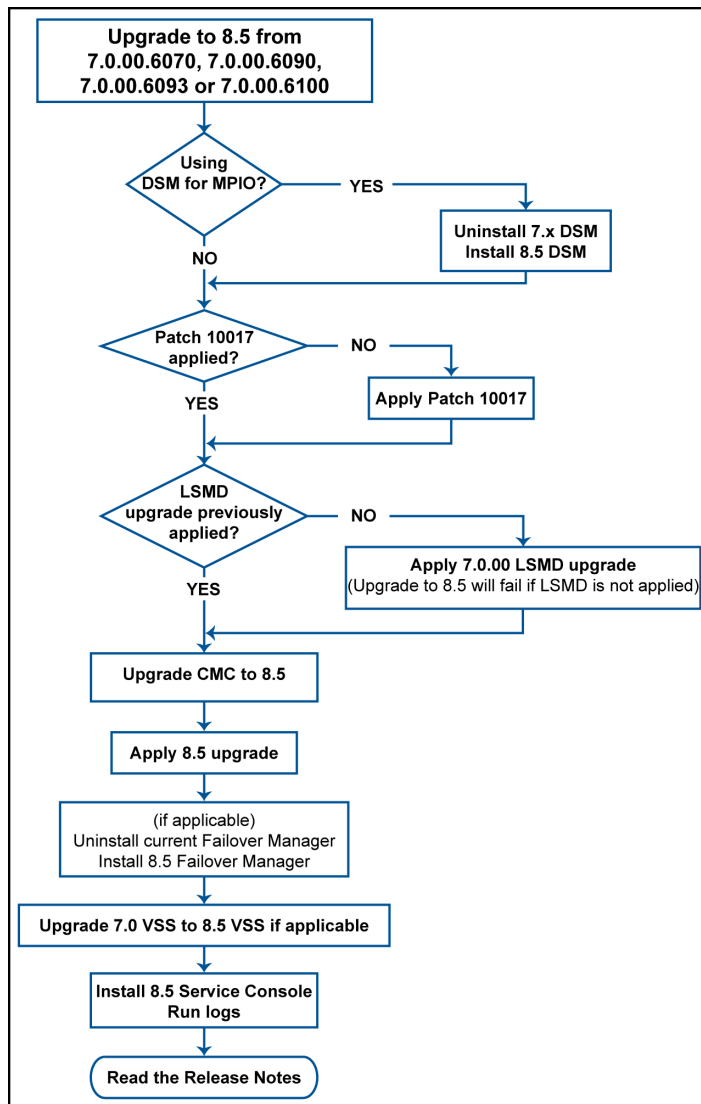
This appendix contains flowcharts that show the necessary steps to upgrade SAN/iQ to version 8.5 from previous versions of SAN/iQ.

A.1 Upgrade Flowcharts

A.1.1 Upgrade from 7.0.00

If you are upgrading to SAN/iQ 8.5 from version 7.0.00, Figure A-1 shows the steps you need to perform.

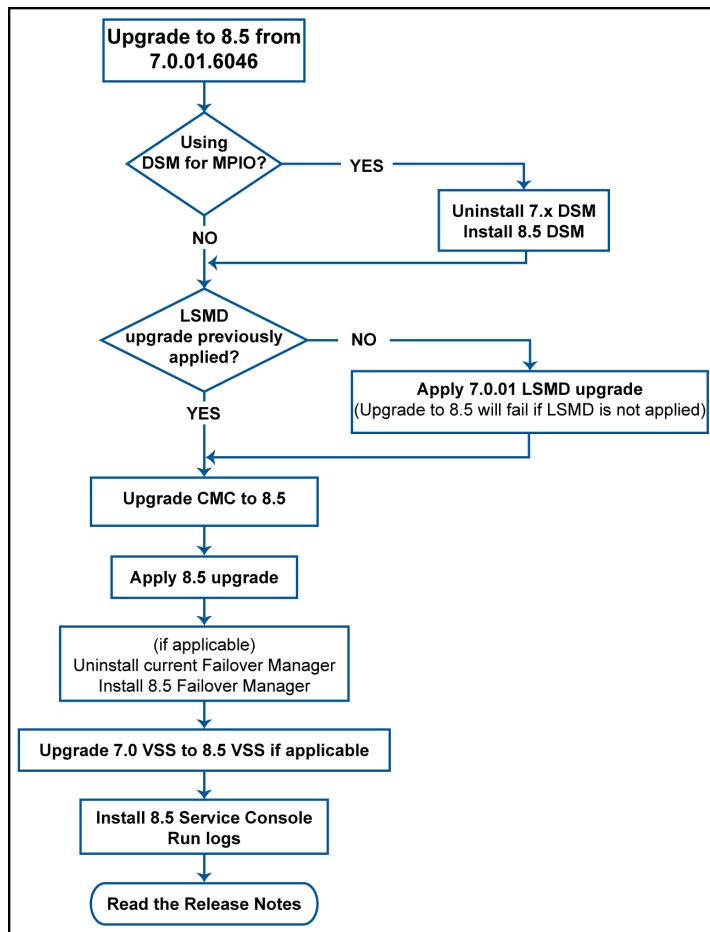
Figure A-1 Upgrade from 7.0.00



A.1.2 Upgrade from 7.0.01

If you are upgrading to SAN/iQ 8.5 from version 7.0.01, Figure A-2 shows the steps you need to perform.

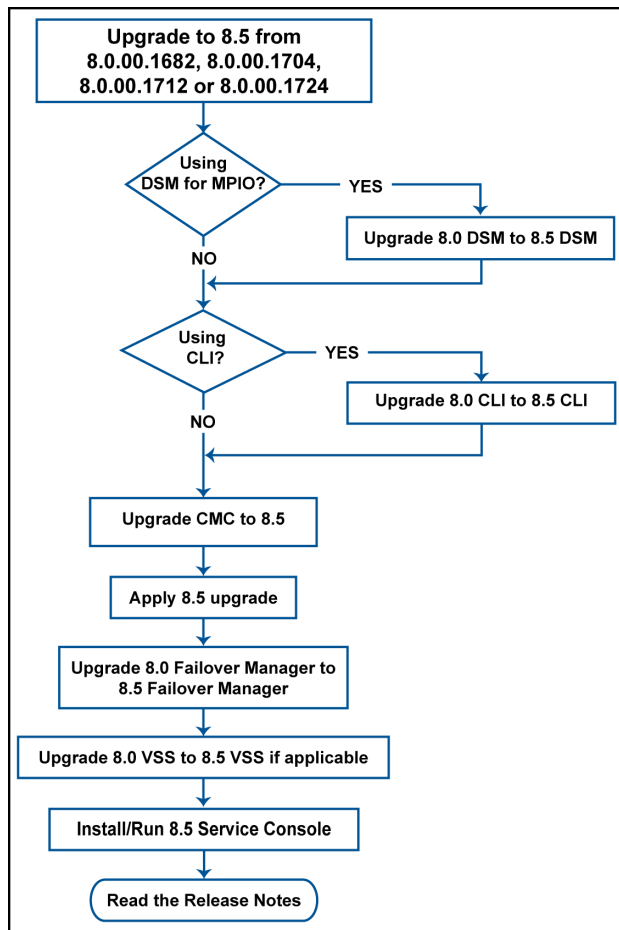
Figure A-2 Upgrade from 7.0.01



A.1.3 Upgrade from 8.0.00

If you are upgrading to SAN/iQ 8.5 from version 7.0.01, Figure A-3 shows the steps you need to perform.

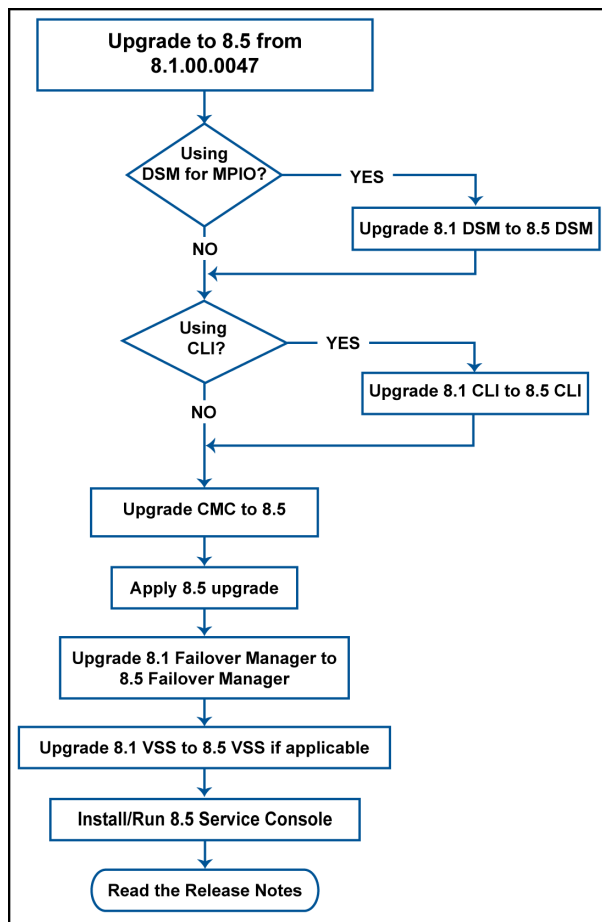
Figure A-3 Upgrade from 8.0.00



A.1.4 Upgrade from 8.1.00

If you are upgrading to SAN/iQ 8.5 from version 7.0.01, Figure A-4 shows the steps you need to perform.

Figure A-4 Upgrade from 8.1.00



Glossary

Central Management Server (CMS)	A system in the management domain that executes the HP Systems Insight Manager (HP SIM) software. All central operations within HP SIM are initiated from this system.
Centralized Management Console (CMC)	The CMC is used to configure and manage the P4000 Storage Systems.
CLIQ	Legacy term for the SAN/iQ command line interface. See P4000 CLI .
Cluster	A cluster is a grouping of storage nodes that create the storage pool from which you create volumes.
Health Check	The LeftHand Networks Health Check Utility is used to send monitoring log file information from customer sites to LeftHand Networks for troubleshooting and proactive health monitoring. See Service Console .
HP Systems Insight Manager (HP SIM)	HP SIM is a unified server and storage management platform. From a single management console, administrators can manage their complete HP server and storage environment with a secure management tool set.
Login Credentials	Login and password parameters passed to the command line interface (P4000 Integration Module) to authenticate the Centralised Management System with the P4000 Storage System Management Group.
Managed System	Any system managed by Insight Remote Support, such as servers, desktops, storage systems, and Remote Insight Boards (RIBs).
Management Group	A collection of one or more storage nodes which serves as the container within which you cluster storage nodes and create volumes for storage.
Node	A P4000 SAN is a cluster of Storage Nodes that create the storage pool from which virtualized volumes are created.
P4000 CLI	The P4000 CLI is the command line interface that is used to interface with the P4000 Storage Systems from the CMS . The P4000 CLI is installed with Insight Remote Support Advanced. Note that the P4000 CLI is sometimes referred to as <code>cliq</code> , which is the name of the command used within the P4000 CLI.
Service Console	The Service Console is the legacy software that enabled remote hardware and software support for P4000 Storage Systems. This functionality is now provided by Insight Remote Support. See Health Check .
Virtual Node	The P4000 Virtual SAN Appliance uses captive server disk drives to build a virtual iSCSI SAN consisting of Virtual Nodes that create the storage pool from which virtualized volumes are created. Virtual Nodes can be discovered and managed in the same manner as physical Storage Nodes.
Volume	A logical entity that is made up of storage on one or more storage nodes. It can be used as raw data storage or it can be formatted with a file system and used by a host or file server.

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