SAN HeadQuarters

Release Notes

Version 2.1
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**Introduction**

SAN HeadQuarters enables you to monitor one or more PS Series groups. SAN HeadQuarters runs on Microsoft® Windows® and uses SNMP to obtain runtime data from each group, storing the data for up to a year. Multiple clients can access the same information and view the data for analysis.

SAN HeadQuarters Version 2.1 supports PS Series Firmware Version 3.3 or higher.

Visit the Dell EqualLogic Customer Support website (www.equallogic.com) to download the latest SAN HeadQuarters Release Notes.

**New and Changed Features for Version 2.1**

New features for SAN HeadQuarters Version 2.1 include:

- **Support for PS V5.0 Firmware** features, including:
  - Segregation of Replication I/O statistics
  - Thin Clone and Template volumes
  - Support for tiered storage arrays, including enhanced write cache reporting
  - Solid State Drive recognition
  - Experimental Analysis of a configuration comprising tiered storage arrays
  - I/O Load Space utilization

- **Report Enhancements**
  - Across Group reporting
  - Enhanced Configuration Report
  - New multi-group reports have been added.

- **Update notifications**
  - Host software updates (Host Integration Tools, SAN HeadQuarters, ASM/VE)
  - Firmware revisions (including conditional hotfixes and patches)
  - New articles and Tech Notes

- **Usability enhancements**
  - Group Filtering
  - Group Sorting
  - A “Favorites” feature has been added to the SANHQ GUI. New forward and back buttons have been added to provide easy navigation to recently used views.
  - Custom Home Page
  - Launching SAN HQ Client session with context
  - Increase Log File Size
  - Last communication status

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1 SAN HeadQuarters shows data for thin clones and template volumes only for groups running PS firmware Version 5.0 or higher.
- Visual representation of space utilized as a percent of the volume size has been added to grid columns where appropriate.
- Automatic timeout on Single Sign On sessions
- Queue depth calculations have been added for volumes, individual members, and disks.
- The iSCSI connection page for a volume will now display IOPs and IO rate.
- Group data can be exported when viewing archive files.
- More information regarding snapshots has been added to the group summary panel.
- Custom time ranges have been changed from a 12 hour clock to a 24 hour clock for clarity.
- Read/Write distribution and RAID Policy data has been added to the Experimental Analysis view.
- Capacity, Volumes, and Capacity and Volume Collections views have been updated to include totals.
- The capacity report has been improved to include the difference in capacity between the start and end date of the report.
- Drives that are not recognized by SANHQ are now listed as “unknown.”
- The copy and paste feature has been improved to permit multiple groups on the email settings screen to be modified simultaneously.

New and Changed Features for Version 2.0

New and changed features for SAN HeadQuarters Version 2.0 include:

- Estimated maximum IOPS and estimated IOPS workload percentage for a group, including the estimated performance impact of a degraded RAID set. This estimate is based on a workload of small, random I/O operations.
- Data for volume collections, outbound replication, iSCSI queue depth, and disk queue depth.
- Expanded performance data for thin provisioned volumes, replication space, iSCSI connections, control modules, and network ports.
- Support for log files on a network device.
- Ability to change the log file location by using a wizard.
- Monitor Service syslog server for displaying group events in the SAN HeadQuarters GUI.
- Robust search capabilities for group events.
- Custom report generation, either through the SAN HeadQuarters GUI or a command line.
- Single Sign On for automatic PS Series group login.
- Ability to archive data by using a command line.
- E-mail notification enhancements that enable you to use the settings already established in the group.
- Improved SAN HeadQuarters GUI navigation, including back and forward buttons.
- Ability to use the pointer to select a time range in a SAN HeadQuarters GUI graph and show an average of that data in the GUI tables.
- Ability to use the pointer to zoom into and out of a graph.
- Ability to use the left and right arrow keys to move back and forward in time in a graph.
- Expanded SAN HeadQuarters alerts and new Informational alert priority.
SAN HeadQuarters Known Issues

Known issues for SAN HeadQuarters include the following:

**Missing or Zero Values in Experimental IOPS Data**

A group may display zero values for experimental IOPS data even when the group is under load. This is typically caused by the group running disks that are not known to be supported by the installed version of San HeadQuarters. You can verify this situation by accessing the Disks view for the group and checking for any disk marked as “Unknown.”

**Group Monitoring Connectivity Problems**

If a status of “Failed to connect” is indicated for groups, there are connectivity problems between the SAN HeadQuarters service and the storage array members that it is monitoring. The array member status will not be updated when connectivity returns. To resolve this issue, perform these steps:

1. Verify you can successfully ping the group from the system running the SAN HeadQuarters service.
2. Launch a SAN HeadQuarters client on the system running the SAN HeadQuarters service.
3. Right-click on the group in the tree and select Stop Monitoring.
4. Wait while the group is disconnected from the service.
5. Right-click on the group in the tree and select Start Monitoring.
6. Verify that the array member status is shown as “Connected.”

**SAN HeadQuarters Unable to Store Logs on UNIX/Linux File Systems**

The SAN HeadQuarters client and service are unable to properly detect updates posted to files stored on a UNIX/Linux file system causing the client sessions to not detect updated logs. Dell recommends that a Windows-based platform is used as the file system to store logs.

**EQLXPerf Service Fails To Start Without Internet Access**

The EQLXPerf service may fail to start when the service does not have access to the Internet because .NET attempts to download the Certificate Revocation List from VeriSign to ensure that our application's validity.

The workaround is to increase the service timeout.

See the Microsoft Knowledge Base article at:
VPN Connection Connectivity

Connectivity to SAN HeadQuarters service may be interrupted when a user connects to the SAN HeadQuarters using a VPN, and then sets the machine running the SAN HeadQuarters client to sleep or hibernate mode. After a user restarts or resumes the system is from the previous state and attempting to reconnect to SAN HeadQuarters, the application reports that it has been reconnected, but issues occur.

The workaround is to disconnect the VPN after the client system restores from hibernate or sleep mode, close SAN HeadQuarters, and then re-launch the SAN HeadQuarters client.

Incorrect Values Identified in Tooltip

When you move your mouse so the pointer hovers over the right most data point, the tool tip that appears contains the data for the previous point. You can click on this data point and have the correct date and time of the last successful poll appear on the graph. Hovering over will show the point just to the left.

Clicking from Network Connectivity to iSCSI Connection Causes Overflow

In some instances of the SAN HeadQuarters client connecting to a server over VPN, when a user clicks between the Network Connectivity to ISCSI Connections view, an overflow error occurs.

Scrolling Through Capacity View of Volumes Causes an Exception

In some instances when viewing the Capacity page for volumes and switch the view from total space to percent space and then scroll through volumes, an exception occurs.

Data Timestamp Based on Monitor Service Time Zone

Data that appears in the SAN HeadQuarters GUI has a timestamp that is based on the time zone of the computer running the Monitor Service. However, some times (including Last Poll Time, Estimated Next Poll Time, and Array Last Boot Time) are based on the local time of the computer running the GUI.

Link Local IPv6 Addresses Not Supported

When adding a group to the monitoring list, you cannot use a link local IPv6 address as the group network address. Instead, use a globally-scoped address that is set statically or dynamically.

Delayed Group Data When a Member is Offline

If a member of a group is offline, the group may not provide a timely response to SNMP requests from SAN HeadQuarters. Therefore, SAN HeadQuarters might not update the group information in the GUI as quickly as usual. Dell recommends that you use the group e-mail notification mechanism to be informed of significant group events, such as an offline member.
No Data Obtained During Pool Move Operation

While a volume or member is moving to a different pool, SAN HeadQuarters cannot obtain data. Once the move operation completes, data becomes available.

Some Video Drivers Are Not Supported

Some old versions of video drivers may cause errors that force SAN HeadQuarters to unexpectedly exit, displaying the following message:

SAN HeadQuarters has encountered an unexpected error and must close.
Attempted to read or write protected memory. This is often an indication that other memory is corrupt.

If this error message occurs, check with your video chipset manufacturer and make sure that you are running the latest video driver software.

For information about updating drivers, see:

http://downloadmirror.intel.com/12531/ENG/relnotes_2k_xp_gfx.htm

IPv6 Support and DNS Names

SAN HeadQuarters locates a group on the network by using the group IP address, DNS name, or management IP address if a dedicated management network is configured in the group.

If the Monitor Service is installed on Windows XP or Windows Server 2003, and you want to use a DNS name to locate a group that uses IPv6 addresses, you must be running to Microsoft®.NET Framework 3.5.

Download .NET 3.5 from the following location:


Polling Does Not Recognize Daylight Saving Time

SAN HeadQuarters does not recognize when the time changes due to a Daylight Saving Time adjustment. In some cases, this may result in a “Poll out of sequence” alert. Subsequent polls should clear this condition.

Handling Group Address Changes

SAN HeadQuarters locates a group on the network by using the group IP address, DNS name, or management IP address if a dedicated management network is configured in the group. If the group network address changes, you can no longer monitor the group through the original network address.

To continue monitoring the group, you must re-add the group to the list of monitored groups, specifying the new network address. The group performance data will restart from that point.
If the group network address changes and you want to continue to monitor the group under the new address, follow these steps:

Create an archive of the group data. You can open the archive using the SAN HeadQuarters GUI to view the performance data. In the SAN HeadQuarters GUI, pull down the Monitor menu and click Create Archive. You can later use the GUI to open the archive and view the performance data.

Do one of the following:

- Stop monitoring the group, but retain the group log files. You can still view the group data under the obsolete group address. In the SAN HeadQuarters GUI, pull down the Group menu and click Stop Monitoring.

- Remove the group from the monitor list and delete the log files. In the SAN HeadQuarters GUI, pull down the Group menu, click Remove from Monitoring List, and select Remove the group from the list, deleting its log files.

Add the group to the list of monitored groups. In the SAN HeadQuarters GUI, click Add Group and add the group, specifying the new network address.

**Remote Clients Informed of Service Upgrades Only Upon Restart**

If you upgrade SAN HeadQuarters on the computer running the Monitor Service, remote Monitor Client computers will be notified that a new version is available only if you restart the SAN HeadQuarters GUI.

It is recommended that the Monitor Service computer and all Monitor Client computers run the same version of SAN HeadQuarters. If the versions are different, the SAN HeadQuarters GUI may not receive new performance data or may not function correctly.

**Large Fonts Are Not Supported**

Only the default font DPI size of 96 is supported.

**Important Information**

Important information about SAN HeadQuarters Version 2.1 is described next.

**Some Reported Data Depends on PS Series Firmware Version**

In some cases, the group data that SAN HeadQuarters reports is not available unless the group is running the latest PS Series firmware version and configuration. See Table 1.

**Table 1 Minimum Firmware Requirements for Displayed Data**

<table>
<thead>
<tr>
<th>Displayed Data</th>
<th>Minimum Firmware Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group, Pool, Volume Queue Depth</td>
<td>Version 4.2</td>
</tr>
<tr>
<td>Feature</td>
<td>Version</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Individual Controller Statistics</td>
<td>Version 4.0</td>
</tr>
<tr>
<td>Inbound Replication IOPS</td>
<td>Version 5.0</td>
</tr>
<tr>
<td>I/O Load Space Distribution</td>
<td>Version 5.0</td>
</tr>
<tr>
<td>Enhanced Write Cache</td>
<td>Version 5.0 and tiered storage array</td>
</tr>
</tbody>
</table>

**Some Hardware Data Depends on the PS Series Firmware Version**

SAN HeadQuarters will report “unknown” for a group member’s model, service tag, and serial number if this data is not supported by the PS Series firmware running on the member.

**Technical Support and Customer Service**

Dell's support service is available to answer your questions about PS Series SAN arrays. If you have an Express Service Code, have it ready when you call. The code helps Dell's automated-support telephone system direct your call more efficiently.

**Contacting Dell**

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services might not be available in your area.

For customers in the United States, call 800-945-3355.

**Note:** If you do not have access to an Internet connection, contact information is printed on your invoice, packing slip, bill, or Dell product catalog.

Use the following procedure to contact Dell for sales, technical support, or customer service issues:

1. Visit support.dell.com or the Dell support URL specified in information provided with the Dell product.
2. Select your locale. Use the locale menu or click on the link that specifies your country or region.
3. Select the required service. Click the "Contact Us" link, or select the Dell support service from the list of services provided.
4. Choose your preferred method of contacting Dell support, such as e-mail or telephone.

**Online Services**

You can learn about Dell products and services using the following procedure:

1. Visit www.dell.com (or the URL specified in any Dell product information).
2. Use the locale menu or click on the link that specifies your country or region.
Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services might not be available in your area.

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Use the following procedure to contact Dell for sales, technical support, or customer service issues:

1. Visit support.dell.com or the Dell support URL specified in information provided with the Dell product. Log in to your account.

2. Select your locale. Use the locale menu or click on the link that specifies your country or region.

3. Select the required service. Click the "Contact Us" link, or select the Dell support service from the list of services provided.

4. Choose your preferred method of contacting Dell support, such as e-mail or telephone.

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