Hitachi Protection Platform
S-Series V8.1.0.1 Software Release Notes

RN-S-Series-8.1.0.1-00

V8.1.0.1 includes OST reclamation in the S-Series platform. The software utility improves the efficiency of reclaiming some of the deleted OST images. These OST images were not fully reclaimed previously due to internal software dependency constraints. These constraints have been relaxed or eliminated. The utility must be run during a maintenance window.

Enhancements

The OST reclamation tool must be run by HDS Customer support personnel and requires a maintenance window. The tool supports the following operational modes:

Report mode

HDS Customer Support can run report mode on an operational S-Series system to produce a list of candidates for reclamation.

Reclamation mode

HDS Customer Support can run the command line interface to reclaim space. This might not be successful in reclaiming all of the remaining data due to conflicts or operational constraints.
**Issues Fixed in V8.1.0.1**

V8.1.0.1 contains the new tool and also all of the fixes and features that were included in V8.1. The V8.1.0.1 release notes append the V8.1 release notes in this document for the details of features, enhancements, and fixes.

**Best Practice**

**Retention-Based Storage Organization**

HPP S-Series systems are based on a virtual tape library model. OST images are stored in containers of fixed size. The storage space each container consumes is only reclaimed when all resident images have expired. Storing images with multiple retention periods in one container causes it to persist longer than necessary and wastes storage space.

**Update paths**

Following are the supported update paths to S-Series platform software version 8.1.0.1.

<table>
<thead>
<tr>
<th>Update From...</th>
<th>Update to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>V7.3.x (software update using re-image.zip file)</td>
<td>V8.1.0.1</td>
</tr>
<tr>
<td>V8.0 (software update using re-image.zip file)</td>
<td></td>
</tr>
<tr>
<td>V8.1 (standard software update)</td>
<td></td>
</tr>
</tbody>
</table>
V8.1 uses the Hitachi Protection Platform S-Series system with the base HP ProLiant Gen8p hardware platform or the S1500 server, the S-Series software, and the newly introduced Hitachi Data Systems Virtual Storage Platform (VSP) series arrays and shelves, including G200/G400/G600/G800.

This S2700 system does not require the backend DeltaView Manager storage node that earlier S-Series systems used because the arrays are now being monitored by the VSP node. Customers with earlier HPP deployments will continue to use DVM nodes. Updates to Hi-Track and SNM2 are performed by HDS customer support with the user documentation that comes with those applications.

These customer software release notes cite enhancements, issues fixed, known issues and vendor-specific considerations.

**Enhancements**

**Tape Image Replication Technology**
Significant improvements have been made to the S-Series tape image replication technology.

- The replication transport layer was enhanced and improved, which also improves automigration scheduling.
- Console manager configuration support for non-eth0 interfaces of 1-GbE, 10-GbE, and bonded interfaces as replication ports.
- Both source and target system software versions must be the same for proper operation.

**Asynchronous Replication Improvements**
Asynchronous replications are now multithreaded for performance optimization. One observation was that Asynchronous Replication jobs were being replicated wholesale on average twice as fast as the previous release. Seps-19381, 19435, 19439, 19446, 19452, 19467

**New NetBackup OST Plug-ins and Appliance**
Updated NetBackup OST plug-ins to support SUSE Linux Enterprise Server (SLES) and the Symantec Appliance.

**Improvements To Reduce OST Buffer Size Fragmentation**
An increase in the OST buffer size has eliminated fragmentation in some backup sets. Sep-19559
**Improved Available Capacity and OST Runtime**
A software fix was put in place that reduces instances of low available storage capacity and the OST agent running a long time but logging limited activity against the agent ID. Sep-19894

**Bonding Mode Selection Added to the Console Manager Support**
The Ethernet Bonding configuration screen now allows you to select bonding modes in the console manager. (SEP-19717)

**Upgraded the Appliance Platform**
This release upgrades the appliance operating system to CentOS 6.6 with kernel package version 3.18.18.

**Linux ext4 File System**
This release uses Linux ext4 file system to host the appliance platform.

**Support for Storage Capacity-Based Licensing Implementation**
S-Series systems now support storage capacity-based licensing implementation. Current legacy systems will continue to use LUN-based licensing. (SEP-19751)

**Updated Windows Plug-in**
This Windows 2008 R2 plug-in supports a newer version of Visual C++ 2010. Sep-19484

**Rapid7 Vulnerability Scan Compliance Updates**
The Rapid7 vulnerability scan identified packages that have been updated for compliance. Sep-19705
Issues Fixed in V8.1

This release includes issues fixed ranging from performance optimization, OST-over-Fibre Channel connection management improvements, and runtime delta differencing deduplication database maintenance to optimize database query access.

TSM Backup Sets On Multiple Cartridges Are Now Being Handled Properly and Have a New Identifier

In situations where a TSM backupset spans cartridges, the aggregate name and ID were not being continued across cartridges because the context was not being preserved. This caused the backup set to fail. Now the software preserves the name, and sets the ID sequence number accordingly. This fix also improves deduplication ratios. Seps-19738, 19743

Barcode Mismatch after Media Server Failure

OST FC device volumes failed to get a close event notification after a media server failure that resulted in a barcode mismatch. The close event notification is now in place. Sep-19700

Deleting a Source or Target Disk Volume or Disk Volume Pair Now also Deletes its Corresponding Dependency

In an OST A.I.R. configuration, deleting the source disk volume of a replication pair left the destination disk volume pair on the target system. The same problem occurred if the OST storage server was deleted on the source system. The storage server and replication pair were removed at the source, but the destination disk volume pair did not get removed at the target. Now the proper corresponding dependencies are also deleted. Sep-19686

Backup Deletion Process Improvements

Deleting a large number of backups had impacted system performance and this has now been improved. Seps-19632, 19604

Data Deletion Had Been Delayed

This release fixes an issue where a type of data deletion was delayed. Sep-19763
Known Issues and Considerations

Setting the Appropriate OST Storage Server Plug-In Name Type
As part of the HDS branding, the S-Series supports a new device name “HPP-S”. This is a first step toward getting the S-Series name to be recognized by backup application vendors. While configuring new OST storage servers, existing deployments must continue to specify the previously identified device string “SEPATON”. You cannot use a mix of SEPATON and HPP-S. Customers who want to use the new device name “HPP-S” must first consult with customer support for compatibility with the existing deployment. SEP-19655

Shredded Filenames Are Not Being Removed
If you find that you are doing a significant amount of shredding and subsequent rebooting, you should contact HDS customer support as there is a manual workaround for the underlying causes. Sep-19903

VSP G-Series Storage Arrays Active-Active Reporting
The new Hitachi VSP G-Series storage arrays display configuration paths differently than the HUS and AMS storage. The VSP G-Series storage arrays report the configuration as Active-Active whereby the HUS and AMS storage arrays report the configuration as Active-Passive. Each is properly reported. Sep-19826

Contact HDS Customer Support for Large Bulk Deletion of Backups
If you need to delete 5000 or more deduplicated cartridges at one time, contact HDS customer support for the most efficient method to do so. Sep-19935

Browser Certificate Considerations with the S-Series

X.509 Certificate Subject Common Name (CN) Does Not Match the Entity Name
A known S-Series security vulnerability is that its X.509 Certificate Subject Common Name (CN) does not match the Entity Name rendering a certificate-common-name-mismatch.

Self-Signed TLS/SSL Certificate Generates Browser Security Warnings
Your S-Series appliances come by default with a self-signed Transport Layer Security and Secure Sockets Layer (TLS/SSL) protocol certificate. Self-signed certificates cannot be trusted by default, especially because TLS/SSL man-in-the-middle attacks typically use self-signed certificates to eavesdrop on TLS/SSL connections. If you want to install your own certificate, contact Customer Support for assistance.

Manually Disabling SSLv3 in the Tomcat Configuration File
SSLv3 is enabled by default. Contact Customer Support to disable this service. Sep-19595
**V8.1 Compatibility Matrices**

These tables list the backup applications, and the backup server and client operating systems that are supported by V8.1. Data Protector is not yet qualified and a bulletin will provide the known information when available.

The maximum number of supported virtual devices is 192.

### Table 2: TSM Compatibility Matrix

<table>
<thead>
<tr>
<th>Backup Applications</th>
<th>Tivoli Storage Manager 5.3, 5.4, 5.5, 6.1, 6.1.1, 6.1.2, 6.1.3, 6.2, 6.2.1, 6.2.2, 6.3, 7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backup Server</td>
<td>Windows Server 2003 SP2&lt;br&gt;Windows Server 2008 SP1&lt;br&gt;Windows Server 2008 R2 (AMD64)&lt;br&gt;Windows 2012 R2 (AMD64)&lt;br&gt;Red Hat Enterprise and CentOS Linux 6.4, 6, 5, 4&lt;br&gt;Solaris 9 and 10&lt;br&gt;AIX 5.3, 6.1</td>
</tr>
<tr>
<td>Host Operating Systems</td>
<td>Windows Server 2003 SP2&lt;br&gt;Windows Server 2008 SP1&lt;br&gt;Windows Server 2008 R2 (AMD64)&lt;br&gt;Windows 2012 R2 (AMD64)&lt;br&gt;Red Hat Enterprise Linux 5 and 4 and CentOS Linux 6, 5&lt;br&gt;SUSE Linux 10&lt;br&gt;Solaris 9 and 10&lt;br&gt;AIX 5.3, 6.1</td>
</tr>
<tr>
<td>Client Operating Systems</td>
<td>Windows Server 2003 SP2&lt;br&gt;Windows Server 2008 SP1&lt;br&gt;Windows Server 2008 R2 (AMD64)&lt;br&gt;Windows 2012 R2 (AMD64)&lt;br&gt;Red Hat Enterprise Linux 5 and 4 and CentOS Linux 6, 5&lt;br&gt;SUSE Linux 10&lt;br&gt;Solaris 9 and 10&lt;br&gt;AIX 5.3, 6.1</td>
</tr>
</tbody>
</table>

### Table 3: NetBackup Compatibility Matrix

<table>
<thead>
<tr>
<th>Backup Applications</th>
<th>NetBackup 5.5, 6.0, 6.5.1, 6.5.3, 6.5.4, 6.5.5, 7.0, 7.1, 7.5, 7.6, 7.6.1, 7.6.1.1, 7.6.1.2, 7.7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backup Server</td>
<td>Windows Server 2003 SP2&lt;br&gt;Windows Server 2008 SP1&lt;br&gt;Windows Server 2008 R2 (AMD64)&lt;br&gt;Windows 2012 R2 (AMD64)&lt;br&gt;HP-UX 11&lt;br&gt;Red Hat Enterprise and CentOS Linux 6.4, 6, 5, and 4&lt;br&gt;AIX 5.3, 6.1&lt;br&gt;Solaris 9 and 10</td>
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<td>Host Operating Systems</td>
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</tr>
</tbody>
</table>
There are two known issues pertaining to NetWorker.

- A restore fails after having processed a number of cartridges. Sep-19880
- The S-Series console manager and backup reports incorrectly cite the backup data type as Windows Files instead of an Exchange Server backup. Sep-19912

### Supported OST Media Servers and Operating Systems

<table>
<thead>
<tr>
<th>Supported OST Media Servers and OS Versions</th>
<th>Windows 2012 R2 (AMD64)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Windows Server 2008 R2 (AMD64)</td>
</tr>
<tr>
<td></td>
<td>RHEL5 and RHEL6, CentOS 5 and CentOS 6x (x86_64)</td>
</tr>
<tr>
<td></td>
<td>Solaris 10 and 11 (SPARC64)</td>
</tr>
<tr>
<td></td>
<td>AIX 6.1 and 7.1 (PPC)</td>
</tr>
<tr>
<td></td>
<td>SUSE ES10 and ES11 (x86_64)</td>
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<tr>
<td></td>
<td>Symantec 5xxx appliance</td>
</tr>
</tbody>
</table>

### Supported OST Features

- Auto Image Replication (A.I.R.)
- Accelerator
- Accelerator VMware*
- Instant Recovery VMware
- Optimized Duplication (OptDup)
- Optimized Synthetic (OptSyn)

*Requires the NetBackup Data Protection Optimization Option license.

### Virtual Machine Deduplication Support

<table>
<thead>
<tr>
<th>VMware esx4 NetBackup 6.5 agent on the VMware Service Console</th>
<th>VMDKs as a flat file</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed and dynamic disks</td>
<td></td>
</tr>
<tr>
<td>VMSS</td>
<td></td>
</tr>
<tr>
<td>Configuration Logs</td>
<td></td>
</tr>
</tbody>
</table>
Accessing Product Documentation

This section lists documents related to installation, hardware, software, configuration, monitoring, troubleshooting, best practices, and updates for the S-Series Hitachi Protection Platform. You can access the Hitachi Protection platform documentation from the HPP service console, [https://deltaview.sepaton.com](https://deltaview.sepaton.com) or [http://www.HDS.com](http://www.HDS.com).

Related Documents

- *Hitachi Protection Platform S-Series Software Installation Instructions* (FE-95HPP002-01)
- *Hitachi Protection Platform S-Series V8.1 Software Update Instructions* (MK-95HPP003-01)

Contact Information

Technical Support

If your unit does not offer a function described in this document, please open a Customer Support case by visiting the HPP support portal at [https://deltaview.sepaton.com](https://deltaview.sepaton.com), or call the Global Services Customer Support line at +1.800-446-0744. Be prepared to provide your company name, serial number, contact information, and a detailed description of your issue.

Web Site

For more information about Hitachi Data Systems and its products, visit: [http://www.hds.com](http://www.hds.com)
Comments

Our goal is to provide accurate, useful, and easy-to-understand documentation. If you have any comments about this manual or have noticed any errors, we would appreciate your feedback. You may provide your comments by opening a Customer Support case by visiting the HPP support portal located at https://deltaview.sepaton.com. You may also contact us directly at the following locations.

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