Sun StorageTek™ Business Analytics Release Note

Release 5.0 SP1

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INTRODUCTION

The following sections provide important on information on installing, configuring, and using Sun StorageTek Business Analytics Release 5.0, Service Pack 1 (SP1). These notes refer to Sun StorageTek Business Analytics 5.0 Service Pack 1.

Note: With the acquisition of StorageTek, Sun Microsystems has re-branded and re-named Global Storage Manager (GSM) 5.0 as Sun StorageTek Analytics, a member of the Enterprise Storage Manager portfolio of software solutions. The functionality of Business Analytics is identical to GSM 5.0, only the name has changed.

INSTALLATION

The Installation documentation on the Sun StorageTek Business Analytics 5.0 SP1 Documentation CD provides step-by-step instructions to perform a first-time installation of Sun StorageTek Business Analytics 5.0 SP1. Follow these additional instructions to properly install and configure Sun StorageTek Business Analytics.

VMWARE INSTALLATION

Refer to the latest version of the *Sun StorageTek Business Analytics Infrastructure Planning* manual to obtain the minimum hardware requirements to install supported infrastructure components on a VMWare instance. Contact your Sun StorageTek Business Analytics System Engineer to obtain the latest version of this document.

The installation of the Central Manager and Management Console on a VMWare instance is performed the same as the installation on other supported servers. The configuration is also the same except for the usage of an IP address in place of "localhost" on VMware servers as explained below.

1. In the Configuration Tool, it is recommended to use the IP address of the server in all the fields consistently across all agents in place of "localhost".

2. To open the home page of the Management Console, explicitly enter the IP address of the server (i.e., http://xx.xx.xx.xx). (8789)

SMIS AGENTS

In general, the SMIS and non-SMIS agents should not collect information from the same device.

MANAGEMENT CONSOLE UNINSTALL

The Management Console Uninstall Wizard fails to clear the "vir" virtual directory from the IIS settings. (7727)

AGENT INSTALLATION ON SOLARIS 10

The Host Agent, SRM Agent, Fabric Agent, and Routing Agent may now be installed on a Solaris 10 server. There is no Solaris 10 directory on the installation media; install the respective agent package (e.g., Host Agent) located in the /Solaris/9 directory on the installation media. (9143)

UPGRADING FROM GSM VERSION 3.X TO SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

Upgrading from GSM 3.x to Sun StorageTek Business Analytics 5.0 SP1 is a two-step procedure:

1. Upgrade from GSM 3.x to GSM 4.x.
2. Upgrade from GSM 4.x to Sun StorageTek Business Analytics 5.0 SP1. (7286)

UPGRADING FROM GSM VERSION 4.X TO BUSINESS ANALYTICS 5.0 SP1

COMPONENTS TO UPGRADE

When upgrading from GSM Version 4.x SPx to Sun StorageTek Business Analytics 5.0 SP1, you must upgrade the following components:

- Central Manager databases
- Management Console

You should upgrade other software components based on:

- A problem has been fixed in the particular component as described in the Release Notes (see the following Component Notes section).
- Recommendation by Sun representative.

You may need a new software license to use Sun StorageTek Business Analytics 5.0 SP1 after the upgrade.

Note: Contact Support for the procedure to follow if you suspect a Central Manager upgrade failure has occurred. (9231)

DATABASE AUTOCLOSE PROPERTY

The AutoClose database property for both the portal database and assurent database should be and is turned off. (9073)

STOP AGGREGATOR BEFORE CENTRAL MANAGER UPGRADE OR UNINSTALL

If the Data Aggregator is running and you attempt to uninstall or upgrade the agent, Installshield does not remove the "Central Manager" folder and its contents. Therefore, stop the Data Aggregator before you uninstall or upgrade the Central Manager. (9049)

PROCEDURE SUMMARY TO UPGRADE FROM A PREVIOUS SOFTWARE RELEASE

Follow these steps:
1. Backup the assurent and portal databases, storability.ini, and config_srm.xml files.
2. Insert the Central Manager CD and select a Custom Installation. Choose Database setup and the Smart Agents to be installed. When prompted, select Upgrade Database.
3. Reconfigure the SRM agent using the Configuration Tool.
4. Manually copy any customized SRM files back into the Storability SRM Agent directory
5. On the Management Console machine, backup any files that may have been customized.
6. Uninstall Management Console.
7. Insert the Management Console CD and install the Sun StorageTek Business Analytics 5.0 version of Management Console.
8. Update device Smart Agents as required.
9. Configure/verify Extract, Transform, and Load (ETL) data loading process in Policy Alerting. Check to ensure the policy is enabled and that the email recipient is an appropriate user.

Note: If an SRM agent was installed from the Central Manager Installation CD, you should uninstall the SRM Agent and reinstall it using the Sun StorageTek Business Analytics 5.0 SP1 Central Manager installation CD.

EXTRACT, TRANSFORM AND LOAD AND DATABASE UPGRADE

Sun StorageTek Business Analytics 5.0 SP1 provides the storage wizard functionality. The storage wizard functionality is based on a series of newly designed data warehouse tables in Business Analytics. These data warehouse tables have the prefixes of "gsr_" in the assurent database and are populated through a database extraction, transformation, and loading process (ETL). The ETL process is responsible for looking up any newly inserted storage array data in the legacy array tables, normalizing and transforming the data into a format suitable for rapid query, and loading the data into the storage data warehouse tables.

By default, the ETL process is set up to run as a policy alerting item at 4:00 AM each day in Business Analytics for the default user (gsmuser) for new installations. For an upgrade installation that does not have the default gsmuser account, update the policy for a desired administrative user including the email recipient.

This policy is controlled by the policyAgent. To view the policy, log into Business Analytics as gsmuser, and go to Tools -> Policy Alerting. The name of the policy is "ETL data loading process" and should be enabled by default. To schedule the ETL process at another time, modify this policy accordingly. The ETL process will invoke a database stored procedure gsr_main_proc_etl in the assurent database. The execution result of the stored procedure is kept in the gsr_statistics table.

Important Note: Be sure to schedule the ETL process to run during off hours, when the load on the database server is light, and after the records for the array tables are newly populated by the array agents. This policy does not send an email message.

By default, the ETL process is set up to run in "incremental mode". This means that the program will only process "delta" records, those records that are changed since the last ETL process; therefore, the impact on the database resources for the daily ETL process is lessened. However, in the case of an upgrade for a very large database, the ETL process may consume a large amount of resources in order to go through the legacy records for the first time and build the data warehouse tables to be used by the storage wizard. If you need to upgrade a large database, you should plan the upgrade process accordingly by allocating enough time and database resources to allow the ETL process to complete.

Note: The problem where the policy alert for ETL was not present after an upgrade to Business Analytics 5.0 SP1 has been fixed. (9104)

GSM 4.0 UPGRADE/UNINSTALL FIXES

* The database uninstall removes the system DSN, atlantis. However, on reinstall of the database, the DSN is not recreated. This problem is fixed in SP4. (7153).
* The Central Manager uninstall may not remove all the agent files. Delete the files manually using Windows Explorer. This problem is fixed in SP4 (5730).
* The Local Manager for Windows and Central Manager upgrade installation sometimes did not replace the agent binary. This problem is fixed in SP4 (7983, 7984).

UPGRADING TOPOLOGY APPLET

There may be Java Runtime Errors generated when you run the Storage Network Topology report that require removing the Topology Applet cache. Use the following procedure:

1. Go to Settings --> Control Panel --> Java Plug-in 1.3.1_04. Double click.
2. On the Java Plug-in Control Panel window, go to the 'Cache' tab. Click on clear jar cache.
3. Open an instance of Internet Explorer. Navigate to Tools -->

Internet Options. (This step is valid for IE 6 and might be `slightly different for older versions of IE).

4. On the 'Temporary Internet files section and click on Delete Files, to completely clear your IE local cache.
5. Close all instances of IE. Restart IE and log back in to Business Analytics. The problem should not recur.

CENTRAL MANAGER GENERAL CONFIGURATION NOTES

LICENSE AGENT CONFIGURATION

- When configuring the License Agent currently, be sure to use a "|" delimiter to separate the port and IP address in the Configuration Tool. (6815).
- Setting the properties of the license file to read only can cause the Routing Agent to terminate running.
- The message in the License Agent's message log, "The following alert can appear in the License Agent message.log: "License properties table is empty for product 'GSM'|licenseAgent|CProduct.cc|10" has been fixed.

RESTART CENTRAL MANAGER AGENTS AFTER RESTARTING SQL SERVER

If you restart the database server, you must also restart the Central Manager agents. Start them in the following order:

1. Storability Routing Agent.
2. Storability License Agent.
3. Storability Scheduler Agent.
4. Storability Data Polling Agent.
5. Storability Data Aggregator.
6. Other Storability Agents (e.g., Policy Agent).

BACKUP ROUTING AGENT REGISTRATION DATABASE FILE

The ardb.dat file contains the information of agents registered with the Routing agent. Uninstallation of the Routing agent will delete this file. If the same file has to be used again, backup the old file before reinstall. (7149)

CONFIGURATION TOOL

- Effective in Sun StorageTek Business Analytics 5.0 SP1, the Configuration Tool provides a field to enter ssh options in the NetApp panel. (9107).
- Effective in Sun StorageTek Business Analytics 5.0, the Configuration Tool user interface for the NetApp Agent allows you to register multiple IP addresses in a comma separated format. (8895) A sample storability.ini entry appears below: #^NAS_NETAPP = 10.255.255.62,10.255.255.63

- Effective in GSM 4.0 Service Pack 3, the Configuration Tool now supports multiple lines for IP_INCLUDE AND IP_EXCLUDE. In previous releases of GSM, if multiple hosts were to be entered, the storability.ini file had to be edited. This has now been fixed, so that multiple IP addresses can be entered under the IP_INCLUDE and IP_EXCLUDE parameters. (6427)

ROUTING AGENT

- The Routing Agent startup was slow because of too many static SUB_AGENT settings. This was fixed in Business Analytics 5.0 SP1. (9070)
- When an active connection between a device agent and a Routing Agent is suddenly disconnected because of a network or other issue, the logged message did not indicate the IP address or the port number of the disconnected agent. This is fixed in Sun StorageTek Business Analytics 5.0 SP1. (9071).
- If host name resolution fails because the host has been removed from DNS, data collection may fail entirely even when there is a valid partial data set to return (9232).

This should rarely occur and is typically caused by an administrative error. A symptom of this bug is when the aggregator's gsa_data_collection_stats object has NULL values for the 'data_arrival' and data_insertion' fields and has text similar to the following in the last error field:

Invalid hostname or ip address "WD02GSMWB001"

- The Routing Agent can exhaust system resources when there are too many auto_net registrations from agents. This is fixed in Sun StorageTek Business Analytics 5.0 SP1. (9077).

- The Routing Agent has been enhanced to ensure sufficient resources will be available to handle agent list requests from other Central Manager agents (e.g., Data Aggregator). (9101)

- When a Business Analytics administrator deactivates an agent and the agent is currently running and is able to auto-register itself, the next freshen attempt by the agent will fail causing the agent to go into its 5 minute registration retry loop. By itself, this is not a problem. However, if there are hundreds of deactivated agents, the sheer volume of incoming registration attempts to the Routing Agent can bog down the 17146 port, which in turn can cause timeouts and other problems. This is fixed in Sun StorageTek Business Analytics 5.0 SP1. (9099).
- A new configuration parameter has been added to the Configuration Tool and Solaris package install for the Routing Agent to control the limited pool of threads that handle the incoming connections. (9083) It is described as follows:

> Parameter: GSM_MAX_INCOMING_THREADS
> Category: Advanced
> Default value: 10

GSM 4.0 Problems Collecting Data after Routing Agent was Restarted

The Routing Agent in GSM 4.0 and 4.0 Service Pack 1 had a problem where data collection was temporarily interrupted if the agent was configured to collect from a combination of more than 50 static sub-agents and auto-registered agents and the Routing Agent was restarted. This was fixed in GSM 4.0 Service Pack 2.

Management Console

Installation/Configuration

Browser Support

Effective with Sun StorageTek Business Analytics 5.0 SP1, Mozilla-based browsers can be used.

Configuring IIS

Effective with Sun StorageTek Business Analytics 5.0 SP1, the Management Console installation correctly configures IIS on a Windows 2000 server. (9102)

Running Install from Network Drive

For Sun StorageTek Business Analytics 5.0 Management Console installation, the installation has no problem if installed locally. However, if installing through a network mapped drive or through a network location for a computer not having a CD-ROM drive, the IISMgr.exe throws an exception (8937).

The manual procedure to circumvent this problem is described as follows:

1. Copy the entire contents of MC Installation CD to a local directory.
2. Install the Management Console from the local directory.
3. Manually create the virtual directory using the instructions below. **Note**: Different versions of Windows may differ slightly.

    a. Right-click My Computer, then click Manage from the shortcut menu.
       The Computer Management window appears.
    b. Expand the Services and Applications option, and then expand the
       Internet Information Services option until you see the default web site.
    c. Right-click the default web site, point to New, and then click Virtual Directory from the shortcut menu. A Virtual Directory Creation Wizard launches to direct you through the creation of the new virtual directory.
    d. Click Next. The Virtual Directory Alias panel appears. You specify the name (vir) of your virtual directory here.
    e. Click Next. The Web Site Content Directory panel appears.
    f. Click Browse and choose <drive>:\Program Files\Storability\GSM\Storability Management Console\Source\portalsource\vir and click Next.
    g. The Access Permissions panel appears. Manually configure your virtual directory permissions (enable Read and Run scripts (such as ASP).
    h. Click Next. The Confirmation that you have successfully completed the Virtual Directory Creation Wizard appears. Click Finish. The virtual directory (vir) has now been created.

CONFIGURING COM AGENT ON WINDOWS 2003 SP1

On a computer that is running Microsoft Windows Server 2003 Service Pack 1 (SP1), programs that use DCOM do not work correctly. The Sun StorageTek Business Analytics Management Console "gsmcom" uses DCOM. In this case, the COM Agent is unable to communicate to the License agent but registered with the Routing Agent.

This issue occurs because the default Component Object Model (COM) permissions are changed in Windows Server 2003 SP1. The new COM permissions restrict remote calls that are not authenticated. The COM program may work locally, but the remote calls that are not authenticated fail. By default, only members of the Administrators group have the Remote Activation permission and the Launch permissions. This change prevents user accounts that do not belong to the Administrators group from starting COM components. (8725)

To resolve the permissions issue, proceed as follows:

1. Click Start, point to Control Panel | Administrative Tools, and then click Component Services.
2. Expand the Component Services\Computers container.
3. Expand My Computer, click and expand DCOM Config.
4. In the left pane, locate the program called "gsmcom".
5. Right click the "gsmcom", and then select Properties.
6. On the Security tab in the Launch and Activation Permissions group box, select Customize and then click Edit.
7. Add the Internet Guest Account "IUSR_Server_Name", where Server_Name from IUSR_Server_Name is the name of the server.
8. To verify, right-click on my computer and select Manage. Expand Local User and Groups, then expand Users and search for a user starting IUSR_...
9. Click and highlight the "IUSR_Server_Name" account and select click Allow for the Local Launch, Remote Launch, Local Activation, and Remote Activation permissions.
10. Click OK two times to accept the changes.
11. Try to launch the Business Analytics Management Console.

This issue may not occur if SP1 is installed after the Management Console has been installed.

The following URL may be contacted for more information:

http://support.microsoft.com/default.aspx?scid=kb;en-us;892500

DEFAULT WEB SITE

During installation of the Management Console, the installation program obtains the default web site name from the system, and it installs the Management Console onto it. Therefore, if you want a particular web site name, you must configure it prior to installing the Management Console on the system. After the Management Console is installed, you cannot change the default web site name.

COM AGENT

- If COM Agent is started before Routing Agent, an error will display in the Windows Event Viewer. Be sure to configure and start the Central Manager Agents before installing Management Console.   Follow the process described in the Installation and Getting Started guides.
- On Windows 2003, be sure to restart the COM agent after the Central Manager agents have been started, particularly if messages relating to license files are displayed on Management Console login.
- Refer to the above Configuring COM Agent on Windows 2003 SP1 note for special configuration instructions on Windows 2003 SP1.

CHANGING AGENT DEFAULT TCP PORT NUMBER

The default TCP port number for an agent can be changed. Contact Support for additional information if the need arises.

MANAGEMENT CONSOLE TOOLS

AGENT STATUS

The Agent Status Report may not correctly report the status of an agent. (9201, 9283)

POLLING SCHEDULES

- Each Polling Job normally should be set up for data collection from "All Sites". Contact Support to discuss considerations to set up independent schedules for individual sites.
- The default agent data collection timeout setting is 1200 seconds. The collection timeout can be modified using the Management Console's Polling Schedules window.
- Effective with Sun StorageTek Business Analytics 5.0 SP1, weekly schedule time calculations have been fixed. (9139)
- Effective with GSM 4.0 Service Pack 4, gsa_data_collection_stats table is now populated with data by the Data Aggregator Agent (8324). You use the Polling Schedules window as summarized below to enable a polling schedule for the scheduled collection of data:

    1. Launch a Management Console session and log in as a user who has access to the Data Polling Schedule menu under Tools.
    2. Select Tools->Data Polling Schedule and the Polling Schedules window appears.
    3. Locate the entry whose Collection Type is Data Aggregator and Collection Metric is Collection Statistics. The default schedule data collection is every 1 hour.
    4. You can proceed as follows:
    a. Put a check in the check box beside its Job ID and click the Enable button to enable the default, scheduled data collection or:

b. Click the Job ID link to review/modify the default polling schedule before you enable it.

There is currently no administrative menu report that allows you to view the data loaded in the gsa_data_collection_stats table in the assurent database. However, you can use any SQL-compliant query tool, such as Query Analyzer to extract and view records in the table. The table columns are documented in the Application Developer's Guide beginning on Page 26

POLICY ALERTS

- Effective with Sun StorageTek Business Analytics 5.0 SP1, the Backup Failed Job Summary alert works correctly. (8437)
- Effective with Sun StorageTek Business Analytics 5.0 SP1, a problem causing the Policy Agent to occasionally catch an exception and fail has been fixed. (9137)
- Effective with Sun StorageTek Business Analytics 5.0, the NAS Capacity alert and the ETL data loading policy templates have been added to the Policy Alerting options.

NAS FILESYSTEM ASSET

Effective with Sun StorageTek Business Analytics 5.0, the assets for an asset view have been enhanced to include NAS Filesystem(s) on a selected NAS device at a specified site.

TSM POLICY ALERT

Effective with GSM 4.0 Service Pack 4, a policy alert can be added for monitoring the utilization of TSM disk pools.

REPORT SCHEDULER

Effective with GSM 4.0 Service Pack 4, the Report Scheduler user interface has been redesigned for enhanced usability and supports the Display Report Memo column in Scheduled Reports.

SITE/LOCAL MANAGER ADMINISTRATION

Effective with GSM 4.0 Service Pack 4, the user is returned to the Site/Local Manager Listing screen after editing a site.

TSM REPORT PARAMETERS

Effective with GSM 4.0 Service Pack 4, users can configure TSM report parameters related to Backup Window start and end times, disk pools, reclamation process, and tape drives/paths.

REPORT SCHEDULING FUNCTIONALITY FOR GSM REPORTS

Effective with GSM 4.0 Service Pack 4, the Array Performance, Configuration Change, Detailed Switch Fabric Report, Detailed Node Connection, and Tape Library reports now support scheduling reports through the use of a Schedule button.

GSM LICENSE REPORT

Effective with GSM 4.0 Service Pack 4, the GSM License Audit report has been replaced with the enhanced GSM License Report.

SRM AGENT CONFIGURATION USER INTERFACE

- After saving the config_srm.xml file through the SRM Agent Configuration user interface under Tools, follow these steps:

1. Open saved configuration file in a text editor like Wordpad, TextPad etc.

2. The first line of the file tells you about the xml version, like -

```
<?xml version="1.0"?>
```

3. Replace above tag with the following -

> <?xml version="1.0" encoding="iso-8859-1" ?>

4. Save this file as "config_srm.xml" in SRM Agent's directory.

5. (Re) start the Agent.

- Effective with GSM 4.0 Service Pack 4, the SRM Agent Configuration user interface is extended to support configuring a SRM Agent Configuration File (config_srm.xml) for UNIX servers.

Configuration Change Report Enhancements

Effective with GM 4.0 Service Pack 1, the Configuration Change reports display all changes made between the starting date and the end date.

Management Console Report Improvements

Report Improvements in Sun StorageTek Business Analytics 5.0 SP1

Backup Reports
- Media data not displaying due to a database insertion problem has been fixed. (8595)
- For the Backup Schedule report, the Schedule Graph showed incorrect window sizes if the Backup schedule was configured across days (e.g. Sunday 22:00 to Monday 10:00). This problem has been fixed. (9123)

NAS Reports

- The Hotspare Size (GB) and Number of Hotspare Disks are now displayed correctly in the Detailed NAS Configuration report (8340).

License Report

- The GSM License Report is now able to retrieve license data. (9118)

Server Reports

- The OS Type report now reports on Solaris 10 servers. (8918)

Storage Provisioning

- Inconsistent results for available storage are no longer displayed between step 4 and step 5 in the wizard. (8947)
- Provisioning raw disk storage from a Clariion FC4700 array now works correctly. (9053)
- Trying to select volumes to provision from an EMC DMX 2000S array no longer generates an ASP error. (9054)
- Selecting "Show all arrays at site regardless of connectivity status" caused a problem under some conditions. (9127) This is fixed.

NAS Filesystem Pane

- NAS filesystems assigned to a Composite View are now displayed in this dashboard pane. (9004)

Report Improvements in Sun StorageTek Business Analytics 5.0

Home Page

The NAS Filesystem Utilization pane first available in GSM 4.0 SP4 has been renamed to NAS Device Overview. Effective with Sun StorageTek Business Analytics 5.0, a new NAS Filesystem Overview pane can be added to the home page. NAS Filesystems must be added to the view in order to see data in this pane.

REFRESH BUTTON

Reports are now scheduled properly after clicking the Refresh button. (7917)

FABRIC REPORTS

Clicking on an 'Unknown' host no longer produces a "java.lang.NullPointerException" error in the java console.

NAS REPORTS

- The Filesystem Tab of the Detailed NAS Configuration report now reports qtrees for Network Appliance filers.

- A Quota tab has been added to the Detailed NAS Configuration report. (Quota reporting works for Network Appliance Devices only).

- The NAS Quotas report has been added to the Storage pull down menu.

- The NAS Logical Volume Report has been enhanced to support NetApp ONTAP Release 7.0 features (i.e., aggregates and flexible volumes).

STORAGE DISCREPANCY REPORT

The Storage Discrepancy Report has been modified to reflect the end-to-end mapping information collected by Sun StorageTek Business Analytics. The report ignores local devices and provides guidance on which volumes form the discrepancy.

PROVISIONING WIZARD

The Provisioning pull-down menu replaces the Workflow pull down menu. The Provisioning Wizard improvements include displaying the last five storage reservation requests and a report selectable by host, or group of hosts and date range, for all storage reserved for that host.

ENHANCED END-TO-END REPORTING (ETE) FUNCTIONALITY

Effective with Sun StorageTek Business Analytics 5.0, ETE support has been enhanced to support the Symmetrix DMX and Clariion CX series arrays. ETE Mapping refers to the ability of Sun StorageTek Business Analytics to collect information along the complete data path, including the following devices and software:

- Host
- Host operating system
- Multipathing software
- SAN device

STORAGE WIZARD

The Storage Wizard allows creating ad-hoc volume configuration and array configuration reports. The Policy Alerting templates have a new, previously described Extract, Transform, and Load data policy to allow the tables used by the wizard to be updated with deltas.

SCHEDULE REPORTS

Effective with Sun StorageTek Business Analytics 5.0, Report Wizards (e.g., File Level Wizard) provide a Schedule button. The Schedule function works on Saved Reports only.

ENHANCED SCHEDULE REPORTS FOR WIZARDS

Reports are now scheduled properly after clicking on the Refresh button.

BACKUP EXPOSURE REPORT

Effective with Sun StorageTek Business Analytics 5.0, the Backup Exposure report works properly if the Sun StorageTek Business Analytics database is configured as case-sensitive.

CONFIGURATION CHANGE REPORT

If the name of an asset changes, the tree control in the Configuration Change report will only list the new name of the asset.

DATA POLLING

All date and time values in Data Polling User Interface now represent Central Manager local time.

EXPORT DATA

In selected browser environments, export to ASCII and export to Excel will show the data by opening a new page.

CHARTING WIZARD

When using the Charting Wizards, a problem in which an ASP error resulted if you tried to save a chart under a name that has already been used is fixed.

STORAGE REPORTS

- The Storage Volume Configuration report (accessed from the View Volume Configuration link on the Array Configuration View report) has the ability to show either Front-End Controller Ports or Physical Disks for the displayed Volumes. The export of this report now works correctly.
- On the Detailed Array Configuration report, the label for chart on the Trending tab now correctly states that the graph shows trending.

PROVISIONING WIZARD ENHANCEMENTS/FIXES

The problem where inconsistent results for available storage are displayed between step 4 and step 5 of the Provisioning Wizard is fixed EXCEPT in the case of trying to provision free raid or unconfigured disk from a Compaq HSV110. (8947)

When you try to reserve storage from a Compaq HSV110, the Step 5 page of the provisioning wizard will display 0 GB available for the "Free Space in RAID groups" and the "Unconfigured Raw Disk" selections, regardless of how much space is available on the array. The user can only reserve volumes which are already configured. To circumvent this problem, you must configure the appropriate amount of storage into a volume(s), and then reserve those volume(s) in the provisioning wizard.

REPORT IMPROVEMENTS IN GSM 4.0 SERVICE PACK 4

HOME PAGE

- A fix has been included regarding an incorrect message displayed on the Management Console home page if there are any violation entries in the gsa_license_notification table(7613).

- A fix has been included to accurately reflect name changes associated with rebuilt servers. The old server name is replaced with the new server name on the Home Page. (7502).

SCHEDULED REPORTS

- The Microsoft VNScript Error '800a0035', File Not Found, /LM/W3SVC/1/ROOT/global.asa, line 439 occurred when user clicked on a report URL from an email sent by GSM. This problem is fixed (7970).

BACKUP/RESTORE REPORTS

- The Backup Detail Report now summarizes jobs properly (4154).

- The Back button in the Reporting wizards now works correctly (7276).

- View Security is now implemented in Backup Success reports (7325).

- The problem in which hosts did not appear in the Backup Exposure report is corrected (7393).
- Inconsistent date-range validation in Backup Exception report is fixed (7525).
- ASP Error when generating the Media Capacity Trending report is fixed (7432).
- The Backup Exposure report stored procedure now treats "0.0.0.0" as a NULL IP address (7224).
- An incorrect status code appearing in the Backup/Restore Job Details Report is fixed (7402).
- A problem seeing backup data using the default date range is fixed (7619).
- A problem creating a custom report using the Backup Jobs wizard is fixed (7626).
- The Media tab on the Detailed Library Configuration tabular report no longer lists media for all libraries (7757).
- An error generated running the Backup Schedules report is fixed (7910)
- The Backup Job Success Rate graph and the Sites table now enforce the View Security (7315).
- The Tape Library Media report always showed the remaining capacity as 100%. This problem is fixed (7924).
- An 'Overflow: 'CInt' error occurred if the 'max rows of data to return ' = 99999 in the Job Report Wizard. This problem is fixed (8004).
- The Backup/Restore Job Summary now lists "Product" in the Restore table (4400).
- The Asset tree on the Backup Restore Summary Report was limited to 500 clients. This problem is fixed (7668).
- Effective with GSM 4.0 SP4, after you upgrade the Management Console, you need to assign the Backup Administration right to your backup administrators to allow them access to backup administrative reports. By default, the Backup Administration parameter is not checked for upgraded users. The Administrator needs to assign administrative rights for those users that need them. Without this selection being checked, administrative options on the Backup/Restore pull-down menu will be suppressed.

FABRIC REPORTS
- A blank report being displayed when the Performance tab is selected in the Detailed Switch Configuration report is fixed (7974).
- In the Fabric trending report, reporting of available versus unavailable port state is fixed (7532).
- The problem where gsa_fabric_ports_perf returns erroneous data is fixed (7887).
- A question mark "?" appearing for all hosts in the topology view is fixed (7599).
- The Fabric Trending and Forecasting report navigation pane shows data for a specific period but not over a wider date range. This problem is fixed (7916).
- Zones were not properly displayed in the Fabric Configuration report. This problem is fixed (7620).

STORAGE REPORTS
- The problem exporting the Storage Volume Configuration report is fixed (5459).
- The detailed array volume report no longer reverses the mapped flag and the allocated flag (7887).

- The % allocated raw space calculation was not providing useful information and it been removed from the Storage Allocation Overview report (7890).

- The tabular array report link to the Front Controller Performance report is fixed (7559).

- An error when exporting data to Excel from the Array Configuration report is fixed (7833).

- An error where hosts are duplicated in the Storage Discrepancy Report is fixed (7868).

- In the Storage Discrepancy report, the Difference column is now calculated as (Physical Capacity – Filesystem Size). It was previously calculated as Allocated Capacity – Filesystem size) (8036).

- The volume_id column is not populated when EMC PowerPath is not installed. This problem is fixed (7601).

- The size of RAID 5 meta headers not reported correctly. This problem is fixed (7645).

HOST/SRM REPORTS

- Effective with Service Pack 4, the File-Level Wizard allows you to interactively generate and save customized file-level reports that include specific file names and paths.

- Effective with Service Pack 4, it is possible to suppress display of filesystems with 100% utilization on the Filesystem Utilization report.

- The problem displaying large numbers (6+ digits) within the Legend box in the pie chart for File Size Dist. Ranges is fixed (7795).

- An error when entering filter criteria in the File-Level wizard is fixed (7798).

NAS REPORTS

- Effective with Service Pack 4, the NAS Filesystem Utilization pane shows summary-level information on the utilization of the filesystems of NAS servers.

- Effective with Service Pack 4, a detailed NAS Configuration tabular report has been added. The NAS Configuration option on the Storage menu has been removed.

- Effective with Service Pack 4, the NAS Capacity Overview report is renamed as the NAS Filesystem Utilization report. The NAS Capacity Allocation report is renamed as the NAS Filesystem Trending report.

REPORT IMPROVEMENTS IN GSM 4.0 SERVICE PACK 3

- The Fabric Report correctly reports on the total number of ports available, based on the total number of ports that are populated in a switch (7587). Additionally, in the Fabric Trending report the application descriptions for "Available" and "Unavailable" have been clarified to remove ambiguity. (7588)

- A fix has been made to accurately show the number of volumes in a Symmetrix array. Previously, the total number of admin volumes and standard volumes was incorrectly calculated. (7635)

- The link from the Tabular Array report now consistently returns front end controller data. (7559)

- GSM 4.0 data format now reports each meta member and meta head size correctly. In addition to the HomePage, volume allocation and volume configuration reports now report correct meta member data. (7568,7645)

- The Tape Library reports and Homepage pane were incorrectly displaying a single SL8500 as 4 libraries. This problem has been fixed. (7529)

- The Topology report can now be launched using https. (7561)

- The Detailed Array Configuration report incorrectly showed large negative remaining capacity on EMC Symmetric DMX arrays configured with RAID-S volumes. This problem has been fixed. (7615)

- The Detailed Array Configuration General tab now accurately shows the number of back end controllers for EMC Symmetrix DMX arrays. (7644)

- Asset Views under the Tools tab have been modified to allow longer backup client or policy names (7606).

REPORT IMPROVEMENTS IN GSM 4.0 SERVICE PACK 2

- Effective with Service Pack 2, the Array pane on the home page correctly reports storage allocation from meta devices for EMC arrays.

REPORT IMPROVEMENTS IN GSM 4.0 SERVICE PACK 1

- Effective with Service Pack 1, the SRM Specific Files reports include Last Accessed and Created times for individual files. Collection is still based on Last Modified time. You must upgrade to the 4.0.4p7 (or higher) SRM Agent in order to collect this data. Reports impacted by this change are:
  - Largest Files
  - Largest Old Files
  - Email Archives
  - Unauthorized Files
  - Any user-defined file type report

MANAGEMENT CONSOLE REPORT LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

SCHEDULED REPORTS

- A report view generated by clicking an email link to a scheduled report and logging in, differs from the original, active view when the report was scheduled. (8214)

CHARTING WIZARD

- The Charting Wizard may generate an ASP error. (8953)

ARRAY

- In the Array Performance report for front end controllers, you may generate the "The max value must be greater than the min value." error when you click Refresh button and the min/max values entered are fractional values (e.g. min = 2.2 and max = 2.8)." (8549)
- The General tab for the SMIS Array tabular report shows an incorrect value for the remaining raw capacity field. (8749)
- The Configured Raw GB field on the Detailed Array Configuration Report, General tab includes volumes that are configured but are "Free". (9034)
- In the Capacity Allocation report left navigation tree, if you click "Site it will generate the report with list of Hosts which are receiving storage from Arrays. However if you click on the same host in the left navigation tree under "Site", it does not show data. (9038)

EXPORT

- XML Export Functionality may fail while rendering large number of records when using the NAS Quotas report. (9005)

SERVER

- Host General tab does not display array_id and volume_id of a remote device (9001)
- For the Detailed Host Configuration and Utilization report, a blank report may display for the 'Allocation' tab when the hosts and arrays span across multiple sites. (6868)

- ETE does not work in if there are physical disks that have either the volume id or the array wwpn populated. (8835)

STORAGE PROVISIONING

- The Provisioning Wizard doesn't work correctly with composite views. (9244)
- Cannot reserve free raid space from a raid group with less than 1 GB of space. (9050)
- When Provisioning Storage and Connectivity using the Storage Provisioning Wizard, if there are no hosts with connectivity found, an error appears at the bottom of the Step 2 page, and the "Next" button is disabled. However, the user has the option of manually entering a host name and selecting the site that host is at. The Next button is not enabled when the user manually enters the host. To circumvent the problem, change the view to a view which includes hosts with connectivity. Restart the provisioning wizard, and the "Next" button will be enabled. (9018)
- If a provisioning reservation is created which reserves storage from two distinct free Raid groups, both the existing reservation table on the Provisioning Wizard Step 1 page and the Provisioning Summary Report erroneously report the amount of storage reserved. The amount reported is double the actual reservation. (9020)
- If a provisioning reservation is created in one view and if a user tries to copy it while in a different view where both views don't have access to the same site, you get an ASP error. To circumvent this problem, change the view to one that has access to the site for the reservation. (9033)
- Switches don't appear on Provisioning Wizard Step 7 page unless the view assets is populated. To circumvent the problem, use the View Wizard, create a new asset view, click "next" until you get to the "Add Assets to View" page. In the dropdown list, select "View Assets", and then click the "List" button. After the list of switches is displayed, cancel the View Wizard. The Provisioning Wizard Step 7 page will now display the available switches. (9048)
- Summary: Provisioning Wizard Step 4 page, certain arrays say there is more space available for RAID level than there is available capacity when desired RAID level is LOW
- For certain arrays, the "Available Capacity for RAID Level" column displays a higher number than the total "Available Capacity" column when the desired protection level is "Low". This behavior affects only on the following arrays:
  - Compaq HSV110
  - EMC 8430
  - IBM 2105-F20
  All other arrays show the correct data in both columns. This has no effect on the provisioning process; the following wizard pages display the correct data. (9050)

HOST DETAILS

- The Host detail report sometimes does not report volume details on any volume when the host has invalid data fields populated against other volumes on the same host. (8835)

GENERAL

- Sun StorageTek Business Analytics runs properly only on servers that are configured for English US date formats (8127). In GSM 4.0 Service Pack 4 (or higher), Management Console forces all dates to be presented in this format.
- In selected browser environments, export to .ASCII and export to Excel will show the data in the current browser window instead of opening a new page. (8138)

- Time Zone Implementation in Sun StorageTek Business Analytics 5.0 - It is a fundamental assumption of Sun StorageTek Business Analytics that the application will report on assets that are located in multiple time zones. In order to "normalize" input from applications and devices around the world, reports generally present the information to the user in their equivalent GMT time. For example, parts of Australia are on GMT Time plus 10 hours. That means that data collected at 6:00AM on May 13 would be presented on as 8:00 PM on May 12 report in Sun StorageTek Business Analytics. Examples of reports presenting information in GMT time are:

- o Asset, Storage, Fabrics, Servers, and Databases menu options.
- o Tape Library reports.
- o Scheduled reports assume that the time entered is GMT time.

There are some exceptions to this rule, as defined below:

- o Data polling and policy alerting schedules are defined in Central Manager local time. For example, if you define a schedule to collect Host Configuration data at 4:00AM each morning, that data collection will be launched when the system clock on the central manager machine reads 4:00AM. The collection is launched at this time, even if a host is physically located in a different time zone.
- o Backup job reports are in the local time on the client being backed up. This includes the Job Report and Backup Success wizards, Backup/Restore Job Summary, Backup Exceptions, Backup Exposure, and Real Time Events reports.
- o Backup server reports are in the local time of the Backup Server. This includes the Media Report wizard, Media Trending, Backup Schedules, and Meta Database Capacity

HOST/SRM

- On the Detailed Host Configuration and Utilization report, the Allocation tab only shows data if the host and array are in the same site. (6868).

- Times displayed in the SRM Specific Files reports do not reflect local daylight saving time.

- The File-Level Wizard response time can become slow if a large amount of data has been collected. If this occurs, contact Support to fix the problem. (8414)

- The Host detail report sometimes does not report volume details on any volume when the host has invalid data fields populated against other volumes on same host. (8835)

BACKUP

- If a NetBackup job fails and is manually rerun successfully, the home page Backup Status Summary pane will report the client has having partial backup success. (2957).

- If a client is backed up by multiple backup servers, it will be listed multiple times in the Backup/Restore Job Summary report (6966).

- NetBackup Synthetic Backup jobs will be included in the Backup Restore Job Detail report. but Business Analytics does not report on the Duration, MB Backed Up, or MB/Sec for these jobs. When the Synthetic Backup job is successful, these fields are marked with N/A. If the job fails, or returns error code 1, the duration, MB Backup Up, and MB/Sec fields will be reported as 0.00. The original full and incremental backups that were combined together for the synthetic full backup are properly reported.

- Sun StorageTek Business Analytics does not report backup jobs incorporating in-line tape copies in the same fashion as native Veritas tools such as the NetBackup Activity Monitor. These backups appear in the NetBackup activity monitor as N+1 jobs (where N = the number of copies). Sun StorageTek Business Analytics collects the job data for "Copy 1" but NOT the other copies (the parent, copies 2 - N). All the media information is collected and reported (i.e. the Media Trending and Media Wizard report the media consumed by all copies).

STORAGE

- Summarized data on the Array Trending and Forecasting report is not exported. (7179)

- On the Detailed Array Configuration report, the label for chart on the Trending tab incorrectly states that the graph shows forecasting. (8119)

- On the Detailed Array Configuration report, the label for chart on the Trending tab incorrectly states that the graph shows forecasting. By default, this report will report on a week starting with the date on the report – data for a single day will be displayed. You must set the date back to see the previous week's data. (8119)

- The number of allocated volumes displayed in the Volume Configuration report does not match with the number of allocated volumes in exported data. (8394)

- The Auto-Populate Server Forecast option for the Allocation Forecast report does not work properly if there is no data for December of the previous year. Contact Support for a workaround to this problem. (8249)

FABRIC

- The recommended Java Runtime Engine version is 1.3.1. JRE 1.4 works, with the exception that tooltips are not displayed in the topology applet. JRE 1.5 has been known to cause problems in some installations. (7669).

- For an exported SAN Network Topology report, when the xml file is opened in Visio 2003 SP1, will generate an error. (8365)

- The Host drill down report from Storage Network Topology does not show End-to-End connection to storage arrays. Use the topology tab from the Detailed Host Configuration and Utilization report to see this (where End-to-End mapping is supported). (8389)

- An exported SAN Network Topology report's xml file generates an error when opened in Visio. (8365)

CHARGEBACK

- Effective in Sun StorageTek Business Analytics 5.0, the Chargeback report has been removed. For custom Chargeback reporting, please contact Professional Services.

MANUAL HOST TO VOLUME MAPPING

- Effective in Sun StorageTek Business Analytics 5.0, the Manual Host to Volume Mapping option is no longer provided.

STORAGE WIZARD

The current SMI-S data model does not provide full support for hot spare and free disk, neither is there any information available for meta members in EMC Symmetrix arrays. The Storage Wizard functionality in Sun StorageTek Business Analytics Version 5.0, however, relies on these information being reported correctly in order to make various calculations and derive values for various volume allocation and disk size data. As a result, the Storage Wizard does not correctly report on arrays with hot spare disk, free disk, or Meta volumes that are reported by the SMIS array agent.

DEVICE AGENTS

ARRAY AGENT NOTES

FIXES/ENHANCEMENTS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- A SMIS Array Agent disk address reporting issue for EMC arrays has been fixed. (8889)

FIXES/ENHANCEMENTS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0

- Effective with Sun StorageTek Business Analytics 5.0, the problem where an Allocated volume is reported as unknown in the gsa_physicalvolume_config table is fixed. (8244)

- Effective with Sun StorageTek Business Analytics 5.0, the HDS and Hitachi agents support auto registration.

- Sun StorageTek Business Analytics 5.0 adds a SMIS array agent that conforms to V 1.0.2 of the SMI-S specification.

- Effective with Sun StorageTek Business Analytics 5.0, HiCommand Device Manager 4.0, 4.1 and 4.2 are now supported. Please see the current release of the Business Analytics Support Matrix for supported hardware devices and pre-requisites.

LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- The EMC Agent is unable to report host assignment information when configured and running in Remote Mode. (7366)

- CLARiiON Snapshot Volumes are not picked up by agent.(8783)

- The Host Agent does not display VCM database volumes (Volume Logix) volumes correctly when it gets its end-to-end information from EMC PowerPath. Powerpath will not stop the host from seeing them as two or more devices when there are multiple paths. (8578)

- In unsupported (e.g., unsupported JNI driver) environments or misconfigured environments, the agent may not capture Symmetrix device serial numbers which will cause the agent to double or over report devices which have more then a single path.(8697)

- If the emcAgent running on Windows 2003 is terminated while it is running emcCLI processes, it does not clean up all of its processes. (7367)

- The Compaq/HP Survey Utilities (Surveyor.exe) do not support a total length of command and parameters that is greater than 255 characters. When installing agents using Terminal Service on a machine with Compaq/HP Survey Utilities, you should change the default agent install directory to one with a shorter name. For example, "C:\SomeDir\Storability" instead of "C:\Program Files\Storability".(6879)

- The following array agents do not auto register and need to be registered manually to the routing agent by entering the agent port and IP address/server name as a static subagent. Refer to the **Configure Storability Routing Agent** section of the *Getting Started* manual for additional information on how to manually create a SUB_AGENT entry in the Routing Agent section of the storability.ini file.

    o Storability Compaq (HSG80) agent
    o Storability ESS Agent
    o Storability LSI Agent
    o Storability Netapp Agent
    o Storability XP Agent

- To run EMC agent in remote mode, the following environment variables need to be set on Windows servers only:

        SYMCLI_CONNECT = "<proxy server name>"
        SYMCLI_CONNECT_TYPE="REMOTE"

    These settings do not need to be configured in the storability.ini file. (7366)

- The EMC agent spawns a process called emcCLI.exe. When the agent is stopped, this process is not automatically removed by the agent and should be manually killed (7367).
- If statistics logging is toggled while the Clariion agent is still running, it may result in negative numbers for performance data. To avoid this agent should be restarted every time status for logging the statistics is changed. (7368)

SMI-S ARRAY AGENT NOTES

For EMC, the CIM provider limitations are listed as follows:

- For arrays with metaLUNs, the CIM provider does not furnish detailed information on metaluns regarding the parity space used. This results in an inaccurate calculation of RAW configured space in the reports.
- The CIM provider does not supply information on the hyper components of a meta LUN. This results in inaccuracies in reports regarding meta LUN details. The CIM provider does not report individual meta members but does report the meta head with the capacity of the entire metavolume.
- The CIM provider does not report that a device is a metaLUN. Therefore, our agent will not distinguish between a meta and a normal volume.
- The CIM provider does not report every "type of volume. Some administrative volumes, such as, BCV, SFS, VCM, DRV, etc. are not reported by the provider. As a result, the agent does not report these volumes.
- BCV assignments are not reported and the reports will incorrectly report the total storage allocated as well as remaining free space.
- FC4700 private LUNs are not furnished by the CIM provider.
- The CIM provider does not give information on RAID-S raid groups. As a result, the agent will not populate the component_2 column in the storage_unit_config table for RAID-S devices. In addition, this limitation means the agent does not correlate RAID-S devices that are in the same raid group.
- The CIM provider does not provide detail disk information for RAID-S devices. This results in incorrect totals in our reports for RAW configured space.
- Raid-S devices report incorrect parity information in the storage_unit_config table.
- The CIM provider does not provide the agent with scsi vbus information so addr 4 of storage_unit_config table will be "-1".
- This version of the agent does not support any of the array performance tables.
- This version of the agent does not populate the gsa_local_unit_mapping and gsa_remote_unit_mapping tables.
- Cache size data is not reported by the CIM provider.
- Disk address prefixes, such as "DA & DF" for a Symmetrix, are not provided by the CIM Provider.
- The reports derived from this agent show the total of all controllers in the Front End Controllers field.

For Engenio/LSI, the array_hba_config ports are not being provided correctly due to an Engenio CIM provider anomaly.

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 5
- The Clariion Agent now supports the Clariion CX Meta Luns feature (7221).

- If a volume is multipathed, the EMC Agent no longer reports duplicate records in the gsa_host_storage_unit table (7639) and the gsa_local_unit_mapping table (7674, 8482). Duplicate data was not seen in reports.

Fixes/Enhancements in GSM 4.0 Service Pack 4

- The Clariion Agent - Array Configuration table total Physical Disks Column now matches the information within the PhyDisk table Actual total Physical Disks (7607).

- The LSI agent binary for LSI firmware version 5.40 is now the default installed version (8095). GSM 4.0 supports Engenio/LSI firmware version 6.10 with the 5.40 LSI Agent.

Database Agent Notes

Fixes/Enhancements in Business Analytics 5.0 SP1

- The Database Agent cache update problem has been fixed. (9059)

General Configuration

- If the dbAgent is installed on Solaris for DB2, there is a manual configuration setting that needs to be in place before the agent is started. If the user chooses to run the agent under gsm user, for example, the environment variable DB2INSTANCE in /opt/storability/gsm/.profile, needs to be set to the active instance. For example:

        DB2INSTANCE=<db2inst1>

        export DB2INSTANCE

    If the user chooses not to run the agent under gsm user, the dbAgent script under /etc/init.d must have the DB2INSTANCE variable set up.

    If the variable is not configured, stop dbAgent and set it up as described above and then restart dbAgent again.

- When configuring the Database Agent to report on a non-default SQL database instance, enter the following under the Logical Name field:

        IPaddress or HostName\named SQL database instance.

Limitations in Sun StorageTek Business Analytics 5.0 SP1

- To install and use the Database Agent on a Windows server, it is a pre-requisite to have msvcp71.dll and msvcr71.dll in the system. If these dynamic link libraries (dlls) do not exist in the system path, copy the dlls from "Win32 \Agents\Storability Database Agent" directory on the Local Manager for Windows CD to the Windows systems directory. (9037)
- The OCI-22053 overflow error can prevent data collection for the Database Agent when converting an OracleNumber (38 bytes precision) that is too large. (8416)

Host Agent Notes

General Configuration

The HOST_SLEEP_TIME is a redundant parameter and it has been removed from the Windows Configuration Tool. This parameter, however, still exists in all UNIX packages. (8936)

Fixes/Enhancements in Sun StorageTek Business Analytics 5.0 SP1

- A problem where the Host Agent logs 'Error' for Logical volumes that are shown as 'Alternate links' has been fixed. (8631)
- The Host Agent can be installed and uninstalled on a Windows 2003 R2 server. (9205)

- The Host Agent was failing to populate tables on a Windows 2003 R2 server. (9207)

    This problem has been corrected.

Fixes/Enhancements in Sun StorageTek Business Analytics 5.0

- Problem collecting LVM data on HP-UX with HBA change is fixed. (8202)

- The Host Agent is now supported on Solaris 10.

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 5
- The Host Agent built on AIX 5.2 is now supported in AIX 5.3 (8495).

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 4
- Various memory leaks for deployed Host Agents are fixed (7764).

- Effective with Service Pack 4, the Novell NetWare Host Agent is part of the Local Manager distribution CD. Previously, it was supplied separately.

- Effective with Service Pack 4, the Host Agent is supported on RedHat Enterprise Edition 3.0 and 4.0.

- The minimum cache age for the Host Agent is six hundred (600) seconds on Win32, Solaris and Linux servers. On IBM AIX and HP-UX servers, it is thirty (30) minutes.

- Red Hat Linux version 6.2 is not longer a supported platform for the Host Agent.

- Effective with Service Pack 4, the Host Agent and SRM Agent are supported in a Microsoft Virtual Server 2005 environment.

- A Host Agent stopping abnormally problem is fixed (7563).

- Host Agent error generated an error when collecting NFS filesystem information when NFS was not running. This problem is fixed (8042).

- The Host Agent for AIX now supports the SNIA API (3149) and supports end-to-end mapping in a single path environment.

- The standalone host agent now installs to the proper default directory (3581).

- Uninstall now deletes folders for SRM agent and Host agent (5730).

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 3
- Effective in Service Pack 3, GlobalMemoryStatus now reports the correct amount of physical memory on computers with more than 2 GB of memory. (7581)

LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1
- The Host Agent for HP-UX does not support the SNIA API and does not collect the information for end-to-end mapping. (5555)

- The Host Agent does not support clustered operating systems, including clustered file systems. (7691)

- If a server is extremely busy when the Host Agent is started, it may run but repeatedly show a message in the Message Log "Invalidating instance – constructor failed – pipe (afdPipe) failed". Restarting the Host Agent will fix the problem (7434).

- The Host Agent gsa_hba_config table/column ip_interface_name in not always reporting the "fully qualified domain name". (5001)

REMOTE HOST AGENT NOTES

GENERAL
- The RHA is not supported on a Windows clustered OS. (7490)

- The RHA on Solaris needs to be run in Administrative user's privileges for full functionality. (8818)

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 4
- Version 4.0 includes a Remote Host Agent for Windows platforms. This agent can point to a Windows or UNIX host to gather information remotely. The Remote Host Agent has WMI/WBEM as a prerequisite.

- Several problems connecting to a Windows 2003 server are fixed (8067).

LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- The Remote Host Agent does not support a Windows clustered configuration. (7490).

- Because of WMI/WBEM limitations, the Remote Host Agent does not gather all the data required for host related reports. This agent does not collect HBA, LVM, or end-to-end mapping data. (8271)

- The Remote Host Agent does not show partitions which don't have filesystem mounted. (7239)

- For the Remote Host Agent, if the Cache Refresh is not specified in the storability.ini file or is specified as less than 600 seconds, the cache does not refresh (8318).

SRM AGENT NOTES

GENERAL

The SRM agent cannot handle file names with more than 255 characters in its length (including server\share name).

FIXES/ENHANCEMENTS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0

- The SRM Agent is now supported on Solaris 10.

- While scanning remote filesystem files, the SRM Agent extracts the owner ID for each file and tries to find that ID on the local box where it is running. In many cases, that owner on the remote box may not exist on the box where agent is running. For most platforms, the owner is reported as "Unknown". On HP-UX, the owner is reported as "Not Available" in reports. This problem is fixed. (8341)

- The problem in which the agent dumps core on receiving the stop request is fixed. (7198).

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 5

- The SRM Agent built on AIX 5.2 is now supported in AIX 5.3 (8495).

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 4

- Effective with Service Pack 4, the SRM Agent is supported on HP-UX servers.

- The SRM Agent now reports directories in the gsa_srm_temporary_directories table when multiple wildcard filters are applied (5804).

- The SRM Agent dumps core while scanning directories > 256 problem is fixed. (8421)

- Various memory leaks for SRM agent have been fixed (8311).

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 3

Effective in Service Pack 3, the SRM Agent now reports nth level directories to accommodate multiple level directories. (5804)

LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- AIX SRM agent dumps core on receiving the stop request. This does not affect the agent restarting or data collection while the agent is running. (7198).
- For SRM Agent upgrade on Windows, the installation will back up a previous version of the srmAgentPubCache.xml file provided it is installed in the default SRM Agent folder/directory. On UNIX servers, the file should be manually backed up before the SRM Agent is upgraded. (7802).
- The srmAgentPubCache.xml file for a GSM 4.0 SRM Agent or earlier is not compatible with Sun StorageTek Business Analytics. Backup the SRM config_srm.xml file, the config_srm.xsd file, and the srmAgentPubCache.xml file before you upgrade the SRM Agent. The srmAgentPubCache.xml file is located where specified in the

config_srm.xml file, and older versions of the file are not compatible with the srmAgentPubCache.xml file for GSM 4.0 SP4. The uninstallation of the SRM Agent on Solaris or other UNIX systems does not delete the srmAgentPubCache.xml file (7802).

- Uninstall SRM agents that were installed from an earlier GSM 4.x Central Manager CD before you upgrade.
- If the parameter "handleCompressedData = true" is set in the config_srm.xml file, the SRM agent will report invalid file sizes of non-ASCII compressed files. This will affect values in "user_data_size" and average_file_size" in the gsa_srm_filesystem table. If the parameter is set to For "handleCompressedData = false", the actual file size will be reported. (4723)
- The SRM Agent terminates while scanning temporary directory specified using the unsupported REGEXEQ operator. (8588)
- The name of a schedule for the SRM Agent scan cannot contain a space. (8848)

BACKUP AGENT NOTES

FIXES/ENHANCEMENTS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- The NetBackup Agent now supports NetBackup 6.0. (8212)
- The Netbackup Agent failed to read the server value from the registry key during installation. (9213) This problem is fixed.
- The storability.ini file was not updated with any Netbackup Agent entries after installation on HP-UX machines. (9234). This is fixed.

FIXES/ENHANCEMENTS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0

- TSM version 5.3 is now supported by the TSM Agent.

- Solstice Backup/StorEdge Enterprise Backup is now supported by the Legato Agent.

- It is possible to simultaneously collect from both GSM Version 3.x and Version 4.x backup agents.

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 5

- NetBackup Agent now properly installs in a clustered server environment (8716, 8272).

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 4

- The Legato Agent now generates job_ids correctly (7410).

- A memory leak in the TSM Agent is fixed (7453).

- The Netbackup Agent message.log report 'Unsupported NetBackup version:unknown' with NetBackup 4.5 MP6'. This problem is fixed (7960).

- A report security issue enforcing Backup Administrative rights is fixed (8076).

- Installation of the NetBackup agent does not work properly if the agent is installed on the passive node of a NetBackup cluster. (8176)

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 3

- A fix has been made to support NetBackup 5.0 and 5.0 prior to MP1, so that backup details are collected for both NetBackup Release 5.0 and 5.1. (7556)

LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- If you are upgrading to Sun StorageTek Business Analytics 5.0 SP1, upgrade the GSM 3.8 Legato Agent to the Sun StorageTek Business Analytics 5.0 SP1 Legato Agent in order to collect and report the correct group start times for backup jobs.

- The ini file settings for the TSM agent uses pipes to delimit individual entries. Use the Configuration Tool to enter parameters for this agent.

- If you upgrade any backup agents from GSM Version 3.x, you must upgrade all backup agents. (8384).

Tape Library Agent Notes

Improvements in Sun StorageTek Business Analytics 5.0 SP1
- The problem where the ACSLS Agent core dumps on AIX 5.1 or 5.2 has been fixed. (5388)
- The ACSLS Agent did not have sufficient privileges on an AIX to log messages to the Message log. Effective with Sun StorageTek Business Analytics 5.0 SP1, this has been fixed. (9112)
- The ACSLS Agent did not stop after you issued a Stop command. This problem has been fixed. It may take up to two (2) minutes for the agent to stop. Always ensure the ssi process has stopped before you attempt to restart the ACSLS Agent. (9219)

Improvements in Sun StorageTek Business Analytics 5.0
- A new SMI-S Tape Library Agent can be used to report on libraries identified in the Sun StorageTek Business Analytics Support Matrix.

- In a Sun StorageTek Business Analytics 5.0 new installation, a problem in which the gsa_tlib_alias table was not created is fixed. (9025)

General Configuration
For all Storability Library agents, the TLIB_CONFIG_AGE and TLIB_STATUS_AGE are the only parameters that control the polling of the agent. All other timer parameters CONFIG_CACHE_REFRESH_INTERVAL, TLIB_STATUS_INTERVAL, TLIB_STATS_RETENTION are ignored. (8832)

Limitations in Sun StorageTek Business Analytics 5.0 SP1
- In some situations, when the acsls process shuts down, the ssi subprocess remains running. (9289)
- The IBM 3494 Tape Library agent installation does not detect newer ATL drivers. (8740, 8998)
- There have been some issues reported running the ACSLS Agent on AIX 5.3. (7959)
- There are two objects, gsa_tlib_statistics and gsa_tlib_alias, that the SMIS Tape Library Agent does not populate.
- The STK-L Series Agent (Windows or Solaris) and the STK ACSLS Agent (Solaris) should not be configured to report on the same tape library.
- If running with Legato NetWorker and ACSLS, the ACSLS agent must be installed on a separate server from the backup server or storage nodes, in order to work properly. (7205)
- The ACSLS server "Enable Library Volume Statistics Gathering: (ON/ OFF) [OFF] configuration parameter has no affect on the Storability ACSLS agent's data collection of statistics". (8376)
- The StorageTek ACSLS Agent prerequisites are:
    - Sun Engineering recommends only one ACSLS client per server.
    - Each ACSLS Agent must be installed on a Solaris server that is separate from the ACSLS server.
    - The ACSLS Agent cannot be installed on the Backup Master Server or any backup server running the SSI process. (7205)
    - RPC Bind must be running on the ACSLS and Smart Agent servers
    - Appropriate security must be configured

Fabric Agent Notes

FIXES/ENHANCEMENTS IN BUSINESS ANALYTICS 5.0 SP1

- Effective with Business Analytics 5.0 Service Pack 1, the Fabric Agent is supported on Solaris 10 servers.

- The Fabric Agent on Solaris 10 showed a wrong "port_state" for a switch in the 'gsa_fabric_ports-2_2' table. (9215) This problem has bee fixed.

- A problem with the CimFabricCli has been fixed. (8587)

- The cimReader now has multithreading support. (9069)

- The SWAPI interface now works when collecting data from multiple switches. (9072)

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 5

- Effective with GSM 4.0 Service Pack 5, the Fabric Agent SMIS interface has been certified by the Storage Networking Industry Association (SNIA).

FIXES/ENHANCEMENTS IN GSM 4.0 SERVICE PACK 4

- Effective with GSM 4.0 Service Pack 4, the Fabric Agent supports the Brocade Silkworm 24000 fabric switch.

- The CNT FC9000 Director is supported in GSM 4.0 Service Pack 4 using either the FA-MIB or the CIM interface supporting SMI-S 1.0.2.

LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- The Fabric Agent does not publish switch alias information.

- Performance data for the CimFabricCli interface is not supported in the Business Analytics 5.0 SP1 release.(9269)

NAS AGENT NOTES

IMPROVEMENTS WITH SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- The NetApp Agent has been qualified against Data ONTAP 7.1. (9202)

IMPROVEMENTS WITH SUN STORAGETEK BUSINESS ANALYTICS 5.0

- The NetApp Agent now reports on Data ONTAP 7.0, including aggregates, flex vols, qtrees, and quotas.

POTENTIAL ISSUE WITH NETAPP DATA ONTAP V7.0

- There may be a potential issue in NetApp Ontap v7.0 where the 'options' command will give duplicate entries for ssl and this will cause a warning message to appear in the agent message log.

FIXES/ENHANCEMENTS IN SERVICE PACK 5

- The NetApp Agent now collects data from a filer that does not have NFS enabled (8429).

- The NetApp Agent now collects data from filers running DataONTAP version 4.65. (8431)

FIXES/ENHANCEMENTS IN SERVICE PACK 4

- The NetApp Agent can now communicate with a filer when the SNMP community is entered with a capital 'P' (7348).

LIMITATIONS IN SUN STORAGETEK BUSINESS ANALYTICS 5.0 SP1

- On Windows, the Celerra agent may generate some alerts regarding terminating the CLI process. These messages do not affect the data collection.(Bug 7302)

- Effective with Sun StorageTek Business Analytics 5.0 SP1, all versions of Data ONTAP earlier than Release 6.5 are no longer supported.

HOST STATISTICS AGENT NOTES

- Effective with Sun StorageTek Business Analytics 5.0, the Local Manager for Windows Installation CD contains an empty directory for this agent as it is currently not available on Windows servers (9026).

- Effective with GSM 4.0 Service Pack 4, the Host Statistics Agent is supported on AIX 4.3, 5.1, 5.2 and HP-UX 11.00 or 11.11.

NO LONGER SUPPLIED ON MEDIA

Effective in GSM 4.0 Service Pack 4, the following agents have been removed from the distribution media:

- Solaris 2.6 for Legato NetWorker and Fabric Agent

- Brocade firmware versions 2.2 and 2.3

- LSI Agent for firmware 5.21