



SANtricity ES Storage Manager Support Monitor for Version 4.9 User Guide

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Chapter 1: Overview of the Support Monitor Version 4.9

Support Monitor is a tool that will assist the service organization in timely resolution of issues with your storage system. Support Monitor automatically gathers support data on a scheduled basis so that it is immediately available for the service organization when an issue occurs. The support data that Support Monitor gathers includes data such as the configuration file, the Major Event Log, and device statistics.

If a problem occurs, Support Monitor provides a mechanism for you to send the selected data to a Sun Customer Care Center representative. Support Monitor retains five scheduled sets of data and one on-demand set of data. Sun Customer Care Center can receive between one and six sets of data for each storage array that is being monitored.

Support Monitor is included with LSI's SANtricity® ES Storage Manager. You install Support Monitor with SANtricity ES Storage Manager Version 10.77. Support Monitor collects data whether or not you have an opened web browser. The default settings of Support Monitor polls all storage arrays visible by SANtricity ES Storage Manager for data at 2:00 a.m. Support Monitor can be used with Internet Explorer® or Mozilla® Firefox® web browsers.

This document provides information about the Support Monitor function of LSI Profiler. You might see references to "Profiler Server" or "Profiler Agent" in the installation procedures. However, other than the installation procedures, this document describes only Support Monitor functionality.

Supported Operating Systems for Support Monitor

Review the specifications for your operating system to make sure that your system meets the minimum requirements. The following table includes information about Support Monitor installation types supported for each operating system. Some operating systems support Profiler Agent installer, while other operating systems support the Support Monitor and SANtricity ES Storage Manager bundled installation.

NOTE When your operating system does not support the Support Monitor, you will select Custom Installation during the installation process to ensure that only SANtricity ES Storage Manager will be installed on the host. Make sure that you clear the Support Monitor option before installing SANtricity ES Storage Manager. For installation instructions, see Chapter 2.

Table 1 Supported Operating Systems for Support Monitor

Operating System and Edition	OS Version for Client GUI Only	Supported Installation
Windows Server 2003 Service Pack 2	Windows XP Professional SP3*	LSI Profiler Server with SANtricity ES
Windows Server 2008 (SP2, R2)	Windows Vista* (business edition or later)	LSI Profiler Server with SANtricity ES
Solaris 10 U8 (SPARC and x86)	N/A	LSI Profiler Server with SANtricity ES
Red Hat Enterprise Linux 5 (x86, x64) – latest update	Red Hat 5 Client**	LSI Profiler Server with SANtricity ES
Red Hat Enterprise Linux 6 (x86) – latest update	Red Hat 6 Client**	
SUSE Linux Enterprise Server 10 (SP3) – latest update	SUSE Desktop 10**	LSI Profiler Agent with SANtricity ES
SUSE Linux Enterprise Server 11 (SP3) – latest update	SUSE Desktop 11**	LSI Profiler Agent with SANtricity ES
HP-UX 11.23	N/A	LSI Profiler Agent
HP-UX 11.31	N/A	LSI Profiler Agent

Operating System and Edition	OS Version for Client GUI Only	Supported Installation
AIX 6.1	N/A	LSI Profiler Server with SANtricity ES
AIX 7.1	N/A	LSI Profiler Server with SANtricity ES

* Client-only release. The consumer version can be used as a management station. No support for I/O attachment. Both 32-bit and 64-bit are supported.

** Client-only release. The consumer version can be used as a management station. No support for I/O attachment. Only 32-bit supported.

Supported Features for the Support Monitor

The Support Monitor contains the following supported features:

- Bundled with SANtricity ES Storage Manager for ease of installation.
- Allows automatic support data collection to be scheduled on daily, weekly, or monthly intervals.
- Provides the ability to send five sets of scheduled support data and one set of on-demand support data to Sun Customer Care Center to identify any troubling trends or signs of problems.
- Enables users to email the support data after the scheduled data collection is completed.
- Allows for change log analysis of SOC and RLS Counters.
- Collects and persists customer contact information through a software registration process.

Supported Firmware Versions and Supported RAID Controllers

Table 2 Supported Firmware Versions and Supported RAID Controllers

RAID Controller	Controller Firmware Versions					
	6.60	7.35	7.60	7.70	7.75	7.77
FLX240 Drive Limited	X					
SHV2510	X					
6130	X					
6130	X					
6140	X		X			
6140	X		X			
6180			X	X	X	X
FLX280	X					
6540	X		X			
6540	X		X			
6580/6780			X	X	X	X
AM1331/ST2530		X				
ST2540		X				
ST2510						
ST2500 M2				X	X	X

System Requirements

This section describes the operating system requirements needed to install and run Support Monitor.

- **Memory requirements** – When installing Support Monitor combined with other host software (HSW) components, including Client, Utilities, failover driver, and Java runtime, the memory requirement with HSW components is 1.5 GB minimum (2 GB preferred); otherwise, 1 GB minimum (1.5 GB preferred) is sufficient.
- **Hard drive space requirements** – When installing Support Monitor combined with other HSW components, including Client, Utilities, failover driver, and Java runtime, the hard drive space requirement with HSW components is 2 GB; otherwise, 1 GB minimum (1.5 GB preferred) is sufficient.
- **Installation duration** – 15 to 20 minutes, on average.
- **IP address** – Static IP address required for the SANtricity ES host.
- **SMTP IP address** – SMTP IP address required for emailing support data.
- **My SQL database** – A pre-existing MySQL database on the host must be manually uninstalled before you can install Support Monitor with SANtricity ES.
- **Server system resources** – Support Monitor does not limit the amount of devices an agent can monitor. You can set up an agent to monitor as many storage arrays as you want. However, the server system needs to provide sufficient resources for monitoring a large number of storage arrays.

Software Restrictions

This section describes some of the restrictions that you might encounter while using Support Monitor.

- **Installation restrictions** – Support Monitor installation files include the Apache Tomcat® webserver application. Support Monitor uses Apache Tomcat to provide information to the user interface. Any other pre-existing applications on the host that use Apache Tomcat must be uninstalled before you install the Support Profiler.
 - Make sure that the Support Monitor directory structure is removed from anti-virus and backup applications.
 - Any pre-existing MySQL® database on the host that was not a part of Support Monitor installation must be uninstalled before you install Support Monitor.
 - Due to library incompatibility, Support Monitor cannot be installed on Red Hat 6, x64 architecture (non Itanium).
- **IP address restrictions** – You must install Support Monitor on a host equipped with a static IP address. DHCP server IP addresses are not supported by Support Monitor.
- **File size restrictions** – If you monitor a large number of storage array systems, gathering support data takes longer, and the compressed files are larger. Support Monitor compresses the collection data file to be between 2 MB and 5 MB.
- **Data gathering restrictions** – Support Monitor typically takes five minutes to seven minutes to collect data. The data collection time can be as high as 20 minutes for a storage array with more than 100 drives. For scheduled collection, this is a background process that does not affect the performance of Support Monitor. When performing an on-demand collection, the GUI shows that collection has been completed.
- **Monitoring restrictions** – No mechanisms exist that prevent multiple Support Monitor instances from trying to find data from the same storage array; therefore, monitor each storage array from only one Support Monitor instance. Gathering data from a storage array with multiple Support Monitor instances can cause problems. You can prevent these problems if you selectively disable the support data collection when multiple Support Monitor instances have access to the same storage array. You can change the frequency of data gathering or turn off data gathering for a particular storage array from Support Monitor.
- **Polling mechanism restriction** – The data collection process of Support Monitor is multi-threaded with a polling mechanism in place to find the maximum number of storage arrays at pre-defined timing intervals.

- **Storage array restrictions** – You cannot use the Support Monitor application to add a storage array. You must use the features in SANtricity ES Storage Manager to add a storage array, or use other storage array management methods.
- **Storage array definition restrictions** – To avoid redundant monitoring and data collections, define the storage arrays only within one SANtricity ES session, where Support Monitor is installed. For example, when installing multiple client instances of SANtricity ES, select one of the following options:
 - Choose to install Support Monitor on only one of the SANtricity ES clients.
 - Do not define the same set of storage arrays within multiple SANtricity ES sessions, if all of those SANtricity ES sessions do have Support Monitor installed.
- **Storage array management restrictions** – In-band management is not supported.
- **Uninstalling restrictions** – When a profiler agent is uninstalled, all of the storage arrays that were discovered via the agent still are present within the Support Monitor GUI under Monitored Array List. Prior to uninstalling Support Monitor agent, you must manually remove the storage arrays from the SANtricity Enterprise Management Window (EMW) instance on the Support Monitor agent host so that Support Monitor no longer keeps the storage arrays under Monitored array list.

Chapter 2: Installing, Upgrading, and Uninstalling Support Monitor

This chapter describes how to install, upgrade, and uninstall Support Monitor. As previously described in first table in Chapter 1, two types of installations exist, depending on your operating system. Some operating systems support the Profiler Server installer, which automatically installs Support Monitor as it installs SANtricity ES Storage Manager. Some operating systems support the Profiler Agent installer, which installs SANtricity ES Storage Manager on the host without Profiler Server. This chapter describes both types of installations.

Installing Support Monitor or Upgrading from a Previous Version of Support Monitor

Installing Support Monitor replaces any previous versions of Support Monitor that you might have on your system, if the Support Monitor major program versions are different (for example, from version 4.8 to 4.9). The installation process for the storage management software automatically installs Support Monitor when the installation type is either Typical or Management Station. The Custom installation offers the choice of whether to install Support Monitor. Support Monitor is not available under the Host Installation option. To correctly install Support Monitor, depending on your operating system, go to either [Installing Profiler Server with SANtricity ES](#) or [Installing Profiler Agent](#) on page 6.

Installing Profiler Server with SANtricity ES

These procedures are for installing or upgrading Support Monitor with the combined SANtricity ES Storage Manager. When you select the installation type of either Typical or Management Station, this installation automatically installs Support Monitor.

1. If you have a previous version of Support Monitor that was not installed as part of a SANtricity ES bundle, installed, perform the steps in [Uninstalling the Support Monitor](#) on page 6 to completely remove that version of the Support Monitor.

NOTE You must manually remove any MySQL database that was *not* part of a previous Support Monitor installation.

2. For the Windows operating system, double-click the installation executable icon, and follow the wizard installation steps provided on the screen.

NOTE When you install Support Monitor with SANtricity ES Storage Manager, you are not able to specify an installation directory. The installation defaults to the SANtricity ES Storage Manager directory structure.

- After the installation completes, an icon appears on the desktop. To start Support Monitor, double-click the icon to start a browser-based application that is independent of SANtricity ES Storage Manager.
3. For all UNIX operating systems, perform the following steps.
 - a. Login as `root`.
 - b. Assign execution permissions to the installation library.

```
# chmod +x SMIA-<OSTYPE>-<XX.XX.XX.XX>.bin
```

In this command, `<OSTYPE>` is the operating system name and `<XX.XX.XX.XX>` is the version number.

- c. Run the SANtricity ES Storage Manager installation script. Follow the directions provided on the screen. Retain the UNIX installation files because they are also used to uninstall the software. You can delete the original archive file.

```
# ./SMIA-<OSTYPE>-<XX.XX.XX.XX>.bin
```

In this command, <OSTYPE> is the operating system name and <XX.XX.XX.XX> is the version number.

To start Support Monitor, open a browser window and enter the URL for Support Monitor. The URL for the Support Monitor is `http://localhost:9000/`. You also can access Support Monitor remotely.

Support Monitor generates a log after installation. Refer to the log for information about the installation outcome and any error codes that might have occurred. The installation log for Windows is located at `/Program Files/StorageManager/Profiler_install.log`. The installation log for UNIX is located at `/opt/StorageManager/Profiler_install.log`.

Installing Profiler Agent

This installation process is for installing Profiler Agent, without Profiler Server. The Agent is needed only when monitoring a storage array from a version of SANtricity ES that does not have a Server version. The Agent reports information back to an instance of Support Monitor that is running on a supported Server with SANtricity ES. In many cases, this instance of SANtricity ES can be used to monitor the storage array.

Before you install Profiler Agent, you must install SANtricity ES. During this installation, keep the following points in mind:

- Support Monitor must be installed first within the environment on a supported operating system platform.
- For the operating system platform where Support Monitor is not supported, install only the SANtricity ES client (by selecting Custom install and choosing to opt-out Support Monitor during the component selection sequence of the installation). This option ensures that only SANtricity ES, without Support Monitor, is installed on the host.
- Install Profiler Agent, available as a stand-alone installer, under the SANtricity ES directory location on the host (referenced in the previous bullet item) when prompted during the Profiler Agent installation.
- During the Profiler Agent installation, you must provide the remote support monitor's (profiler server) IP address so that Profiler Agent can self register to the remote Profiler Server to complete agent-server self-discovery.
- After Profiler Agent self registers to the remote Profiler Server, all storage arrays managed by Profiler Agent's local SANtricity ES Enterprise Management Window will be discovered and added to the storage array list under remote Profiler Server's support monitor.

Uninstalling the Support Monitor

These instructions show you how to remove the combined SANtricity ES Storage Manager and Support Monitor.

NOTE Prior to uninstalling the Support Monitor agent, you must manually remove the storage arrays from the SANtricity ES Enterprise Management Window instance on the Support Monitor agent host so that Support Monitor no longer keeps the storage arrays under Monitored storage array list.

1. For the Windows operating system, select Add/Remove Programs in the Control Panel to remove SANtricity ES Storage Manager. This procedure removes both SANtricity ES Storage Manager and Support Monitor. The uninstallation procedure might leave files that were created by SANtricity ES Storage Manager and Support Monitor after the installation was complete. These files might include trace files, repository files, and other administrative files. Manually delete these files to completely remove SANtricity ES Storage Manager and Support Monitor.

-
2. For the UNIX operating system, go to the `/opt/StorageManager/Uninstall SANtricity ES/` directory that contains the uninstall binary. Run the uninstall script using the `# ./Uninstall_SANtricity_ES` command. This procedure removes both SANtricity ES Storage Manager and Support Monitor. The uninstallation process might leave files that were not part of the original installation. Manually delete these files to completely remove SANtricity ES Storage Manager and Support Monitor.

NOTE The UNIX uninstallation procedure uses the `.bin` file. The `.bin` files must be saved on the host so that the combined SANtricity ES Storage Manager and Support Monitor uninstallation can occur. The `.bin` files are approximately 150 MB in size.

Chapter 3: Describing Support Monitor

This chapter describes the following tasks:

- Registering Support Monitor
- Rescanning devices
- Collecting and saving support data
- Emailing support information to pre-defined email addresses

The Support Monitor screen lists all of the devices discovered by Support Monitor. This screen contains other necessary information for each storage array, such as the storage array name, the host that is managing the storage array, the collection status, the last collection time, the next collection time, and the emailing and scheduling actions. For information about the features of Support Monitor, refer to the online help topics in Support Monitor.

Registering Support Monitor

Registration information includes the name, address, and telephone number of the customer company. Registration information also includes the name, telephone number, and email address of the contact and the partner company.

The registration sequence stores the customer contact information within the Support Monitor database. You can modify the contact information stored in the Support Monitor database through the Support Monitor application. For detailed information about registering Support Monitor, refer to the online help topics in Support Monitor.

Rescanning Devices

The Rescan Devices feature is available for re-discovering the configuration. Both the automated polling option and the manual rescan option extract the change in configuration information from the `.bin` file. Click **Rescan Devices** to update the configuration information. For more information about the Rescan Devices option, refer to the online help topics of Support Monitor.

Collecting and Saving Support Data

Support Monitor lets you collect and save support data from your storage arrays. Collected information includes data, such as the collection time, the collection frequency, the disabled collections, the starting day for collection, and the file-naming conventions. Scheduled (also referred to as Periodic) and on-demand data collection includes information such as the following types of data:

- Support data collection
- SOC file
- RLS file
- Configuration file

Profiler Server maintains five scheduled data collection sets. The newest scheduled data collection set overrides the oldest data sets. The sixth data collection set is collected manually with a different filename. Only the latest on-demand data collection set is preserved so be certain that the last on-demand data collection is not needed before you initiate a new on-demand collection.

For more information about how to perform support data or SOC and RLS change log collections, refer to the online help in Support Monitor.

Support Data File-Naming Conventions

Support data file names are different, depending on whether the data is being collected on-demand or as a scheduled data collection. On-demand data collection does not override scheduled data collection.

All of the collected support files are compressed in a file named `arrayname_timestamp.zip`. The zip file name also contains a `_p` or `_d`. For example, `arrayname_ptimestamp.zip` for a periodic (scheduled) data capture or `arrayname_dtimestamp.zip` for an on-demand data capture.

SOC and RLS File-Naming Conventions

SOC and RLS change log files share the same file-naming convention.

The files are compressed in a file named `arrayname_Change_timestamp.zip`. The zip file name also contains a `_p` or `_d`. For example, `arrayname_Change_ptimestamp.zip` for periodic (scheduled) data capture or `arrayname_Change_dtimestamp.zip` for an on-demand data capture.

Emailing Support Information

You can send collected support data and the SOC/RLS change log files to a designated email address list. You can edit the email address and some of the other fields from one of the following screens.

On the Send Support Data screen, you can do the following:

- Edit the email address in the **Send to:** field. If you change this email address, this change is not persistent. The next time you open the Send Support Data screen, the pre-defined support email address appears.
- Add additional email addresses to the **CC:** field, but the email containing the support data and SOC/RLS change log files still goes to the email address shown in the **Send to:** field.
- Send the SOC/RLS change log files to a pre-defined email address by selecting the **Send change log files to a repository address** check box. You cannot edit the repository email address field. Only change log files can be sent to the repository email address. You can add additional email addresses to the **CC:** field.
- Edit the **Subject:** field, if you prefer a subject different than the initial default subject, which is <Storage Array> Support Data. If you change this field, the text you enter is retained and does not return to the initial default subject.

On the Schedule Support Data Collection screen, you can do the following:

- Edit the email address in the **Send to:** field. The **Email the scheduled collection data files to a repository address** check box is selected by default. You can change the **Send to:** field by unselecting the check box, then entering a new email address in the **Send to:** field. This new email address is retained until you change it again.

For information about emailing support data and SOC/RLS change log files, refer to the online help topics in Support Monitor.

Chapter 4: Frequently Asked Questions

Table 3 Support Monitor Issues and Resolutions

Issue	Resolution
Installation, Registration, and Licensing	
Do I have to install Support Monitor on a separate management station?	No. Support Monitor is installed with SANtricity ES Storage Manager. Use the same host for both storage array management functions of the SANtricity ES Storage Manager and Support Monitor functions.
What actions does the SANtricity ES installer take if a previous Support Monitor installation exists?	If the Support Monitor major program versions are different (for example, from version 4.8 to 4.9), installing Support Monitor replaces any previous versions of Support Monitor on your system.
Do I need to install the SMI-S Provider for Support Monitor to work?	No. For the Support Monitor Version 4.9 application, you do not need the SMI-S Provider.
Can I customize the installation and opt out of installing Support Monitor?	Yes. You can choose to opt out of the Support Monitor installation. Select the SANtricity ES custom installation option and make sure that the Support Monitor option is not selected.
Can I choose whether Support Monitor services start automatically?	No. Support Monitor 4.9 is considered a persisting support application on the host to aid service, field, and customer personnel. Therefore, opting out from starting the profiler services is not available.
When I register Support Monitor, where is the registration data stored and how is the registration retrieved or viewed?	The registration data is stored in Support Monitor. You can view the registration information by selecting Registration Information in Support Monitor.
Does a pop-up reminder appear when I select the "register later" option?	No. You can access registration through the left navigation menu at any time.
How are licenses handled?	Support Monitor Version 4.9 uses an internal license that does not have an expiration date. You can obtain additional licenses by contacting your sales representative.
How can I fix registration failures?	If you receive an error during the registration process, make sure that the email server IP and the email address are set correctly on the Server Setup page.
Data Collection	
What are the performance impacts on storage for scheduled data gathering?	For a medium configuration, defined as four to five drive modules connected to either a 6540 controller or a 6580/6780 controller, the collection overhead is about 15 to 20 minutes when the storage array is in an Optimal state. Because the Support Monitor collection process uses out-of-band management, there are no performance impacts on the I/O path started by the profiler.
Can I configure the data that is being collected?	No. The type of commands used for data collection are hard-coded within the Support Monitor application, and you cannot change or configure the data that is being collected.
Does the standard "collect all support data" function in SANtricity ES behave any differently when Support Monitor is installed?	No. Support Monitor does not affect existing SANtricity ES features.
Can I send support data to an email address other than the pre-defined location?	Yes. You can change the Send to: field on the Send Support Data screen, and you can add additional email addresses in the CC: field, if needed. Also, you can change the body and subject line of the support email.
Can I modify the schedule for data collection?	Yes. Click the Calendar icon to schedule the data collection frequencies or the time for each storage array that you are monitoring.
How can I tell whether the support capture was successful in Support Monitor?	When you are unable to collect support data with either a scheduled data collection or an on-demand collection process, an icon next to the storage array shows the support data collection status. A successful data collection shows a green icon. A failed data collection shows a red icon.

Issue	Resolution
How can I determine what data might have failed during the data collection procedure?	View the collection log to debug the failed collection. Also, the collection status icon on the Support Monitor shows a "red-failed" status when collection failures are encountered. Log files are found at <drive>\LSI Corporation\Profiler Server\webapps\ROOT\logs.
Do I get notified when a failure occurs?	No explicit notification is provided when data collection fails. However, the collection status icon changes to a "red-failed" status.
How can I configure Support Monitor so that only one instance is performing data collection out of many SANtricity ES Storage Manager instances?	Install only instance of the server on one of the SANtricity ES Storage Manager instances. All of the other SANtricity ES Storage Manager instances only require the agent.
How can I configure Support Monitor so that no more than one storage array is performing scheduled data collection at any one time?	In Support Monitor, view the next data collection time, and adjust the schedules so that no two storage arrays have the same next data collection time.
What is the optimum frequency for scheduled support data collection?	To avoid latency in completing the scheduled collection task, schedule the support data collection so that a collection is not tried from multiple storage arrays at the same time.
What can I do if a scheduled data collection fails?	If a scheduled data collection fails, Support Monitor retries the data collection a single time. If the retry fails, the data collection falls back to the normal schedule. Verify the support log. Address the problem being reported and start a manual data collection. If the manual collection fails, contact a Sun Customer Care Center representative to assist in resolving the problem.
What can I do if an on-demand collection fails?	Verify the support log. Address the problem reported, and start a new data collection.
What can I do if no support bundles are available for emailing?	Start a manual data collection or schedule a collection by the most recent time and try again.
What can I do if the support data email was never delivered to the recipient?	Support Monitor can only send an email to a pre-defined, user-configured email address. Make sure that the values for the email server and the email address are correct in the Server Setup page and try again. Support Monitor will <i>not</i> be able to detect email delivery failures due to: <ul style="list-style-type: none"> ■ Blocked emails at the recipient's email server ■ The recipient's inbox is full ■ An email attachment-size limit is imposed by the recipient's email server Support Monitor <i>will</i> be able to detect configuration errors due to: <ul style="list-style-type: none"> ■ Incorrect email server (SMTP) name/IP address within the server configuration ■ Incorrect forwarding email address Support Monitor will be able to detect incorrect recipient's email addresses associated with: <ul style="list-style-type: none"> ■ The recipient's email address: user name portion ■ The recipient's email address: domain name portion The logs associated with email-related errors are in webserver.log at the following location: \.\ProfilerServer\webapps\ROOT\logs.
Storage Array Management	
Does Support Monitor provide any analysis to what might be wrong with the storage array?	Yes, you can select two available files to compute a SOC change log file, which can help with an analysis of channel failures. See the Compute Change Log Files screen in Support Monitor.
How can I tell when a storage array is removed in Support Monitor?	When a storage array that was previously managed by Support Monitor is removed from SANtricity ES Storage Manager, the storage array is relocated to the Unmanaged Arrays area, which is visible only if there are any unmanaged storage arrays. However, you still can access previously collected support data for that storage array for emailing purposes.

Issue	Resolution
Why do some storage arrays appear in the Unmonitored Storage Array table?	Storage arrays appear in the Unmonitored Storage Array table for different reasons. For example, because the storage array was removed from SANtricity ES Storage Manager or because the storage array does not meet the minimum controller firmware requirements to be managed by Support Monitor.
What happens when I remove a storage array from Support Monitor?	If you use the Remove icon, support data is not deleted from the host or SANtricity ES Storage Manager. The support data is deleted only from the Support Monitor view. The previously collected support data files from the removed storage arrays are still available via file/folder access.
What can I do if no storage arrays are found by Support Monitor?	Be sure that the storage array is being monitored by SANtricity ES and that the Collection Agent is running. Verify the status of the storage array. Restart Support Monitor services, and initiate manual discovery of the storage arrays.
How can I see if the storage array discovery process was successful?	View the Support Monitor module log file for the corresponding agent by selecting the agent from the list and clicking the View Log File button. Make sure that the storage array is being monitored by SANtricity ES Storage Manager.
Which logs are supplied when reporting a support monitor issue?	The log files supplied are: <ul style="list-style-type: none"> ■ mod.sys.support.Support.log ■ Kernel.log Log files are found at <drive>\LSI Corporation\Profiler Server\webapps\ROOT\logs.

Table 4 Support Monitor Module Log Messages

Type of Message	Message Text
Module online	initializing <num> DeviceClients This message shows the number of storage arrays being monitored plus one more for Support Monitor. DeviceClient created: <i>deviceType--><type></i> <i>deviceIdent--><id></i> <i>status--><status></i> -After the client is created, this variable logs information about each storage array.
	attempting to start <num> DeviceClients This message shows that each device client was started and initialized using the initializing DeviceClients command.
	not starting DeviceClient (<deviceClient name>) since status is set to <status> This message shows that when the status is anything other than online, the client does not start.
	registration This message appears when a storage array monitor registration key is created for Support Monitor. The module's status is set to online, and the registration key is created for the Support Monitor device to register with the server.
Module offline	stopping <num> DeviceClients This message appears when the configuration file updates with new storage array information, and the module is temporarily placed offline. The module then returns to online status to refresh the information.
	<id> supportinfo - stopping ClientProxy This message shows that a specific client is stopped.
Discovery	
Discovery	Discovery <id> This message appears when the device id is assigned from Profiler Server.

Type of Message	Message Text
General discovery messages	<p>discovery(<id>): discovering arrays/smtp on <time> sec intervals This message shows that the discovery data is established on a scheduled frequency.</p>
	<p>discovery(<id>): discovering arrays/smtp from on-demand request This message shows that the discovery data is established through a user-initiated action.</p>
	<p>discovery(<id>): discovery process completed in <time> secs This message indicates that the discovery process is complete.</p>
Storage array discovery	<p>discovery(<id>): new array discovered-->Name: <arrayName>, IP 1: <ip of controller 1>, IP 2: <ip of controller 2> This message shows that the storage array is added to SANtricity ES Storage Manager.</p>
	<p>discovery(<id>): no new arrays discovered This message appears when the discovery is initiated but no new storage arrays are found.</p>
	<p>discovery(<id>): unmanaged array detected-->Name: <arrayName>, IP 1: <ip of controller 1>, IP 2: <ip of controller 2> This message shows that the storage array is removed from SANtricity ES Storage Manager.</p>
	<p>discovery(<id>): no unmanaged arrays detected This message appears when the discovery is initiated, but no storage arrays are removed from SANtricity ES Storage Manager.</p>
SMTP discovery	<p>discovery(<id>): discovered smtp server info (<smtp server>) and email from info (<email from>) This message shows that the SMTP server information and the email address are parsed from SANtricity ES Storage Manager.</p>
Support Data Capture	
Retry related messages	<p><array name> stopping periodic support capture, since previous <num> attempts have failed This message shows that a scheduled capture fails and one retry is attempted. If that retry fails, this message is seen.</p>
	<p><array name> retrying support capture since last attempt failed. Retry attempt <num> of <num> This message appears when a scheduled capture fails, and one retry is attempted.</p>
Scheduled message	<p><array name> started periodic support data capture This message appears when a scheduled data collection is started.</p>
On-demand message	<p><array name> started on-demand support data capture This message appears when a user-initiated data collection is started.</p>

Type of Message	Message Text
Messages when a support data collection is in progress	<p><array name> checking array firmware This message shows that the firmware is being checked.</p>
	<p><array name> valid array firmware (<firmware version>) detected This message appears when the firmware on the storage array is valid.</p>
	<p><array name> invalid firmware (<firmware version>), not capturing support data. Firmware must be 6.19.x.x, 6.23.x.x, 7.10.x.x, 7.15.x.x, 7.30.x.x, 7.36.x.x, 7.37.x.x, 7.50.x.x. This message appears when the firmware on the storage array is invalid.</p>
	<p><array name> capturing configuration file This message indicates that the configuration file capture is currently in progress.</p>
	<p><array name> capturing support bundle data This message indicates that the support bundle capture is currently in progress. This process could take several minutes.</p>
	<p><array name> capturing SOC counts This message shows that the SOC counts capture is currently in progress.</p>
	<p><array name> capturing RLS counts This message shows that the RLS counts capture is currently in progress.</p>
	<p><array name> support data capture completed successfully. Duration of support data capture: <time> secs This message shows that the data is successfully captured.</p>
	<p><array name> support data capture failed, no support file generated This message appears when any error occurs during the support capture, and no support file is generated. An error message from the SANtricity ES Storage Manager command line interface (CLI) appears.</p>
Message when a support data collection has failed.	<p>When examining collection logs for an array, you might see an interrupted support data capture sequence. The collection status for the array will be "failed" on Support Monitor temporarily until you attempt a retry. The log entries might look similar to the following:</p> <pre>23 Jan 2009 13:36:48 [WARN]- imp52 started on-demand support data capture 23 Jan 2009 13:36:48 [WARN]- imp52 checking array firmware 23 Jan 2009 13:37:02 [WARN]- imp52 valid array firmware (7.36) detected 23 Jan 2009 13:37:06 [WARN]- imp52 capturing configuration file 23 Jan 2009 13:37:09 [WARN]- imp52 capturing array state 23 Jan 2009 13:37:52 [WARN]- imp52 capturing esm state 23 Jan 2009 13:38:09 [ERROR]- CpSupport.run(): caught InterruptedException sleeping java.lang.InterruptedException: sleep interrupted.</pre> <p>After some period of time, the support data capture will resume on the array. The log entries pertaining to support data capture resumption might look similar to the following:</p> <pre>23 Jan 2009 13:38:18 [WARN]- CpSupportCapture(5).preStart(): support data capture that started on Fri Jan 23 13:36:48 CST 2009 (1232739408381) was interrupted 23 Jan 2009 13:38:18 [WARN]- imp52 restarting support capture that was interrupted 2 mins ago 23 Jan 2009 13:38:18 [WARN]- imp52 started on-demand support data capture</pre> <p>Whenever the xml file is updated, the module has to reload. The xml is updated whenever new arrays are discovered, are found to be unmanaged, or when the schedule is updated. If in the middle of a support capture, that support capture must be restarted when the module comes back online.</p>

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