

# Problem determination and troubleshooting

Error report areas and AutoSupport configuration

The Lenovo logo is positioned in the top right corner of the slide. It consists of the word "Lenovo" in a white, sans-serif font, oriented vertically. The text is set against a rectangular background with a vertical color gradient that transitions from green at the top to blue at the bottom.

Lenovo

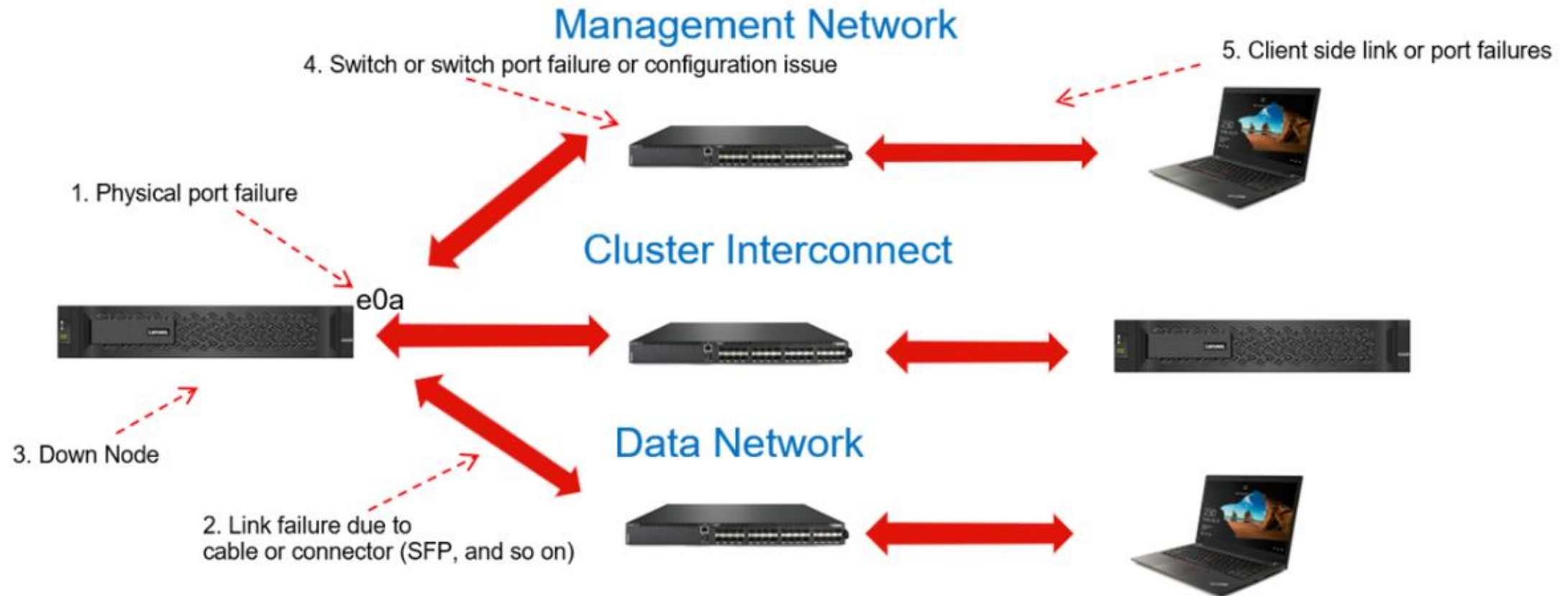
# Problem determination and troubleshooting overview

Before starting the problem determination process, identify:

- Has the system worked properly in the past? Have there been any recent hardware or software changes?
  - If possible, return the system to the condition it was in before the problem occurred.
  - If any hardware, software, or firmware was changed before the problem occurred, reverse those changes if possible.
- Confirm the supported firmware levels on the current system.
- Have there been any location changes?
  - Make sure that the cables are functional and seated correctly.
  - If possible, shut down the system and reseal the server components. These components may vibrate and shift during a relocation.

# Physical single points of failure

A physical single point of failure represents the failure of hardware components that can lead to loss of data access or potential loss of data. The following graphic shows the possible physical single points of failure that might lead to a loss of data access.



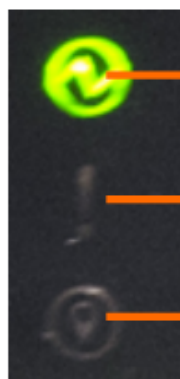
## Error report areas

Users can inspect error report areas to collect objective information for the DM Series:

- The status of external LEDs on the system chassis or components
  - Chassis
  - Controller
  - IOM
  - Power supply
  - Disk
- Event messages and system alerts from ThinkSystem Storage Manager
- Use SP to display all available information
- Use CLI commands to gather system health information
- AutoSupport log
  - AutoSupport (ASUP) is an important troubleshooting tool that can be used to service DM Series storage systems. It allows the system to directly send messages to Lenovo technical support. Messages can also be sent to specific contacts, including the customer's internal support organization and support partner.
  - By default, AutoSupport messages are directed to technical support, but you still need to set the correct options and have a valid mail host to have messages sent to your internal support organization. Only the cluster administrator can perform AutoSupport management.

## Chassis front panel LEDs

The front control panel LEDs can be used to determine the operating status of the system.



System power LED

System attention LED

Location LED

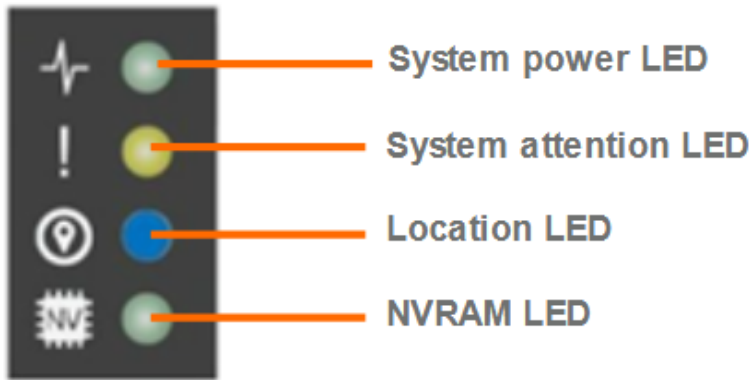
Depending on your DM Series model, the operator display panel looks different; however, the three LEDs are arranged in the same way.

LED name	State	Description
System power LED	Solid green	On: the system is on Off: the system is off
System attention LED	Solid amber	There has been key component failure with the function of one of more FRUs: the expansion enclosure, disk drives, IOM12 modules, controller, or power supplies. Check event messages to determine corrective action to take.
	Blinking amber	The enclosure ID is in a pending state. Power cycle the expansion enclosure for the enclosure ID to take effect.
Location LED	Solid blue	The system administrator activated this LED function to aid in physically locating the expansion enclosure requiring service. <b>Note:</b> The location LED on the operator display panel and both IOM12 modules illuminates when this LED function is activated. Location LEDs automatically turn off after 30 minutes.



# Controller LEDs

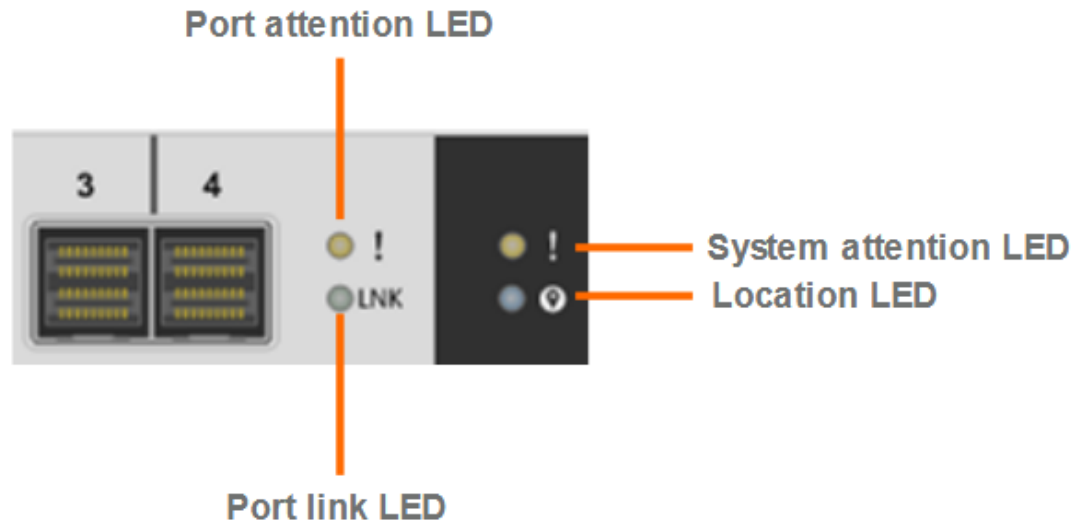
The controller has four LEDs, and they can be used to determine the operating status of the system. The system power LED, system attention LED, and location LED functions are the same as those on the front panel. The only difference is the NVRAM LED.



LED name	State	Description
NVRAM LED	Solid green	Unwritten data is stored on NVRAM. This typically occurs during an uncontrolled shutdown after ONTAP has successfully booted.
	Blinking green	If power is lost without a clean shutdown, the NVRAM LED blinks until the de-stage is complete, and then the LED turns off.
	Off	The system is running normally.

## IOM module LEDs

The LEDs on the IOM module indicate whether the module is functioning normally, whether it is ready for I/O traffic, and whether there are any problems with the hardware. The system attention LED and location LED functions are the same as those on the front panel.

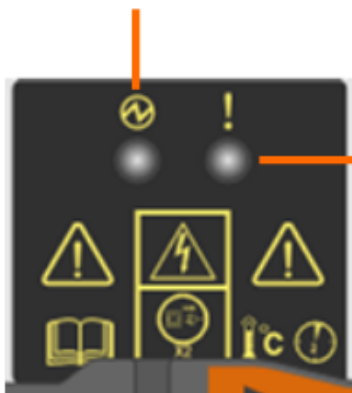


LED name	State	Description
Port link	Solid green	One or more of the four SAS lanes established a link (with either an adapter or another expansion enclosure).
Port attention	Solid amber	Less than all four SAS lanes established a link (with either an adapter or another expansion enclosure). Check event messages to determine corrective action to take.

## Power supply LEDs

The LEDs on the power supply indicate whether the power supply is functioning normally or if there are hardware problems.

Port attention LED



Attention LED

LED name	State	Description
Power	Solid green	The power supply is functioning correctly.
	Off	The power supply failed, the ac switch is turned off, the ac power cord is not properly installed, or electricity is not being properly supplied to the power supply. Check event messages to determine corrective action to take.
Attention	Solid amber	An error occurred with the function of the power supply. Check event messages to determine corrective action to take.



## Disk drive LEDs

The LEDs on the disk drive indicate whether it is functioning normally or if there are hardware problems.



LED name	State	Description
Activity	Solid green	The disk drive has power.
	Blinking green	The disk drive has power and I/O operations are in progress.
Attention	Solid amber	An error occurred with the function of the disk drive. Check event messages to determine corrective action to take.

## Events and system alerts from ThinkSystem Storage Manager

Events are notifications that are generated automatically when a predefined condition occurs or when an object crosses a threshold. These events enable you to take action to prevent issues that can lead to poor performance and system unavailability. Users can decide what kinds of severity level event message they want to receive. The severity levels are as follows:

- EMERGENCY (the cluster is unusable)
- ALERT (action must be taken immediately to prevent system failure)
- ERROR
- NOTICE (a normal but significant condition has occurred)
- INFORMATIONAL
- DEBUG

Each event message consists of the following elements:

- Message name
- Sequence Number
- Description
- Corrective action, if applicable

# Accessing event messages in ThinkSystem Storage Manager

Log in to ThinkSystem Storage Manager, and then select **Events & Jobs** → **Events**. The events are listed in chronological order.

**Events**

Refresh

Time	Node	Severity	Source	Event
Aug/28/2018 20:21:19	a300-1	alert	all	security.invalid.login: Failed to authenticate login attempt to Vserver: a300, username: admin, application: http.
Aug/27/2018 03:14:23	a300-1	alert	EMERGENCY	security.invalid.login: Failed to authenticate login attempt to Vserver: a300, username: admin, application: http.
Aug/27/2018 01:35:08	a300-1	alert	ALERT	security.invalid.login: Failed to authenticate login attempt to Vserver: a300, username: admin, application: http.
Aug/23/2018 20:43:49	a300-1	error	ERROR	sshd.loginGraceTime.expired: Timeout before password authentication for remote host 10.134.75.19.
Aug/23/2018 00:12:35	a300-1	error	NOTICE	sshd.loginGraceTime.expired: Timeout before password authentication for remote host 10.134.75.19.
Aug/23/2018 00:12:34	a300-1	alert	INFORMATIONAL	security.invalid.login: Failed to authenticate login attempt to Vserver: a300, username: admin, application: ssh.
Aug/22/2018 02:22:22	a300-1	error	DEBUG	vifmgr.bcstDomainPartition: Broadcast domain Default is partitioned into 3 groups on node a300-1. The different groups are: (e0M), (e0d), (e0f). LIFs hosted on the ports in this broadcast domain may be at the risk of ...
Aug/22/2018 02:20:10	a300-2	error	vifmgr	vifmgr.bcstDomainPartition: Broadcast domain Default is partitioned into 3 groups on node a300-2. The different groups are: (e0M), (e0d), (e0f). LIFs hosted on the ports in this broadcast domain may be at the risk of ...
Aug/22/2018 02:16:49	a300-1	error	vifmgr	vifmgr.bcstDomainPartition: Broadcast domain Default is partitioned into 2 groups on node a300-1. The different groups are: (e0M), (e0f). LIFs hosted on the ports in this broadcast domain may be at the risk of seeing...
Aug/22/2018 02:08:55	a300-2	error	vifmgr	vifmgr.bcstDomainPartition: Broadcast domain Default is partitioned into 3 groups on node a300-2. The different groups are: (e0M), (e0d), (e0f). LIFs hosted on the ports in this broadcast domain may be at the risk of ...
Aug/22/2018 02:05:44	a300-1	error	vifmgr	vifmgr.bcstDomainPartition: Broadcast domain Default is partitioned into 3 groups on node a300-1. The different groups are: (e0M), (e0d), (e0f). LIFs hosted on the ports in this broadcast domain may be at the risk of ...
Aug/22/2018 02:03:22	a300-2	error	vifmgr	vifmgr.bcstDomainPartition: Broadcast domain Default is partitioned into 2 groups on node a300-2. The different groups are: (e0M), (e0f). LIFs hosted on the ports in this broadcast domain may be at the risk of seeing...
Aug/21/2018 04:24:49	a300-2	error	vifmgr	vifmgr.port.monitor.failed: The "link_flapping" health check for port e0f (node a300-2) has failed. The port is operating in a degraded state.
Aug/21/2018 04:24:49	a300-2	alert	vifmgr	vifmgr.cluscheck.crcerrors: Port e0f on node a300-2 is reporting a high number of observed hardware errors, possibly CRC errors.
Aug/21/2018 04:24:48	a300-1	error	vifmgr	vifmgr.port.monitor.failed: The "link_flapping" health check for port e0f (node a300-1) has failed. The port is operating in a degraded state.
Aug/21/2018 04:24:48	a300-1	alert	vifmgr	vifmgr.cluscheck.crcerrors: Port e0f on node a300-1 is reporting a high number of observed hardware errors, possibly CRC errors.
Aug/21/2018 03:35:09	a300-1	error	notifd	asuo.smto.drop: AutoSupport mail (HA Group Notification from a300-1 /USER_TRIGGERED /TEST:Test for AutoSupport()) NOTICE was not sent. The system will drop the message.

**Details**

Event: vifmgr.cluscheck.crcerrors: Port e0f on node a300-2 is reporting a high number of observed hardware errors, possibly CRC errors.

Message Name: vifmgr.cluscheck.crcerrors

Sequence Number: 443308

Description: This message occurs when a network device reports a high number of observed hardware errors, such as CRC errors, length errors, alignment errors, or dropped frames.

Action: The errors could be originating from the specified port, a remote port, or a port on another component of the network. Check the statistics for both the port and the switch. Contact NetApp technical support for assistance and specific instructions.

# Accessing system alerts in ThinkSystem Storage Manager

The **System Alerts** page displays the number of unresolved alerts that are generated for each subsystem in the system. Alerts are generated based on the status of the following subsystems:

- Volumes
- LUNs
- Qtrees
- Network Interfaces
- SVMs
- Aggregates
- Disks
- Ethernet Ports





# Resolving system alerts in ThinkSystem Storage Manager

When there is a system alert, select the alert and check the **Cause Description** and **Possible Effect**.

Then, follow the **Corrective Actions** to resolve the issue.

The screenshot displays the 'sas\_connect (4 Alerts)' window. At the top, a table lists four alerts. Below the table, the 'Cause, Effect and Corrective Actions' tab is selected, showing four sections: 'Probable Cause', 'Possible Effect', 'Cause Description', and 'Corrective Actions'. Orange arrows point from the 'Cause Description' and 'Possible Effect' sections of the table to their respective detailed views.

Alert Name	Controller	Severity	Shelf ID	Timestamp
DualPathToDiskShelf...	cm8020-rtp-01	major	Shelf ID 8	04/26/2015 13:52:22
DualPathToDiskShelf...	cm8020-rtp-01	major	Shelf ID 0	04/26/2015 13:52:22
DualPathToDiskShelf...	cm8020-rtp-02	major	Shelf ID 8	04/25/2015 17:58:35
DualPathToDiskShelf...	cm8020-rtp-02	major	Shelf ID 0	04/25/2015 17:58:35

**General Details** | **Cause, Effect and Corrective Actions**

**Probable Cause:**  
connection\_establishment\_error

**Possible Effect:**  
Access to disk shelf 8 via controller cm8020-rtp-01 may be component failure (e.g. cable, HBA, or IOM failure).

**Cause Description:**  
Disk shelf 8 does not have two independent paths to controller cm8020-rtp-01. This may be because the paths to the controller are not cabled, or because the paths are incorrectly cabled to the same SAS domain, or as the result of a SAS channel being disabled.

**Corrective Actions:**  
1. Halt controller cm8020-rtp-01 and all controllers attached  
2. Connect disk shelf 8 to controller cm8020-rtp-01 via two following the rules in the Universal SAS and ACP Cabling Guide  
3. Follow the corrective actions for any other indicated SAS



## Using Service Processor to display all available information

Service Processor (SP) is a system-independent computer within the system controller module. It functions even when the system is offline as long as the chassis has power. It runs its own operating system, so it is independent of the ONTAP software. These capabilities make SP a primary system tool for servicing and troubleshooting.

Click each step in turn to see the procedure

Step






## Using Service Processor to display all available information

### Connecting to SP

You can connect to SP through a local serial console session or a network SSH session.

- Serial console:
  - To switch to SP, press **Ctrl+G** in the ONTAP CLI or at the LOADER prompt.
  - To switch back to the ONTAP CLI or the LOADER prompt, press **CTRL+D**.
- SSH session:
  - Use an SSH session to connect to the SP's IP address and use the cluster admin's login credentials.
  - `ssh admin@<SP_IP_address>, or`
  - `ssh <SP_IP_address> -l admin`

You can use the `system service-processor show` command from the local console to get the SP's IP address. [Click here to view the example.](#)

Step   

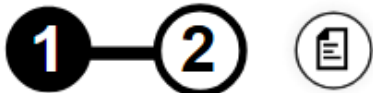
# Using Service Processor to display all available information

## Service-related SP commands

The following commands are useful for collecting data and perform troubleshooting:

- To list all system FRUs and their IDs: [Click here to view the sample output](#)
  - o `SP> system fru list`
- To display product information for a specific FRU: [Click here to view the sample output](#)
  - o `SP> system fru show fru_ID`
- To display the FRU data history log (requires advanced privileges):
  - o `SP> priv set advanced`
  - o `SP*> system fru log show`
- To display the status of environment sensors:
  - o `SP> system sensors show`
- To display the status details of a specific sensor:
  - o `SP> system sensor get sensor_name`
- To power on, power off, power cycle a system (use only when ONTAP is unavailable):
  - o `SP> system power {on|off|cycle}`

Step



## Using Service Processor to display all available information

system fru list

SP> **system fru list**

FRU ID	Name
0	Controller
1	Midplane1
2	Midplane2
3	Fan1
4	Fan2
5	Fan3
6	PSU1
7	PSU3

Step



## Using Service Processor to display all available information

```
system fru show <fru_id>
```

```
SP> system fru show 3
```

```
'Fan1' inventory data:
```

```
*** Product Info Area ***
```

Mfg name	Lenovo
Product Name	FAN
Product PartNum	441-00058
Product Version	A1
Product SerNum	031629000553

Step

1

2





## Use CLI commands to gather information

Use the following CLI commands to gather detailed information from the healthy node. These commands should be issued in the clustershell at the advanced privilege level.

```
::> set -privilege advanced (or set adv)
```

The following command prints the history of storage controller's memory errors since boot:

```
::*> system node show-memory-errors
```

Sample output

The following command displays the sensor state that is abnormal:

```
::*> system node environment sensors show -state !normal
```

Sample output

The following command displays the sensor state on the specified node:

```
::*> system node environment sensors show -node <nodename>
```

Sample output

The following command displays the storage shelf information that is in error status.

```
::*> storage shelf show -errors
```

Sample output

Use `system node show-memory-errors`



```
a300::*> system node show-memory-errors
Correctable ECC Memory Errors:
```

```
Node: a300-1
```

DIMM Name	CECC Count	Multiple Err Same Address
-----	-----	-----
DIMM-1	0	false
DIMM-2	0	false
DIMM-3	0	false
DIMM-4	0	false

```
Node: a300-2
```

DIMM Name	CECC Count	Multiple Err Same Address
-----	-----	-----
DIMM-1	0	false
DIMM-2	0	false
DIMM-3	0	false
DIMM-4	0	false

```
8 entries were displayed.
```

Use `system node environment sensors show -state !normal`



```
a300::*> system node environment sensors show -state !normal
There are no entries matching your query.
a300::*>
```



**system node environment sensors show -node <nodename>**

```
a300::*> system node environment sensors show -node a300-1
```

Node	Sensor	State	Value/Units	Crit-Low	Warn-Low	Warn-Hi	Crit-Hi
a300-1	PSU2	normal					
			GOOD				
	PSU1	normal					
			GOOD				
	Fan3	normal					
			GOOD				
	Fan2	normal					
			GOOD				
	Fan1	normal					
			GOOD				
	SP Status	normal					
			IPMI_HB_OK				
	mSATA Status	normal					
			OK				
	mSATA Pres	normal					
			PRESENT				
	CPU0 Temp Margin	normal					
			-61 C	-	-	-10	0
	In Flow Temp	normal					
			30 C	0	5	50	55
	Out Flow Temp	normal					
			37 C	0	5	65	75
a300-1	PCI Slot Temp	normal					
			36 C	0	5	60	70
	Smart Bat Temp	normal					
			33 C	0	5	60	70
	CPU0 Error	normal					
			NORMAL				
	CPU0 Therm Trip	normal					
			NORMAL				
	CPU0 Hot	normal					
			NORMAL				
	Memory0 Hot	normal					
			NORMAL				

Partial output

Use `storage enclosure show -errors`



```
a300::*>  
a300::*> storage shelf show -errors  
There are no entries matching your query.  
a300::*> storage shelf show
```

Shelf Name	Shelf ID	Serial Number	Model	Module Type	Operational Status
1.0	0	SHFGD1822000106	DS224-12	IOM12	Normal

```
a300::*>
```



## Commands to check system alerts

Use the following CLI commands to view system health alerts. These commands can be issued in the clustershell at the admin privilege level.

The following command displays the alerts that are compromising the system's health:

```
::> system health alert show
```

Sample output

Take corrective action to resolve the problem as described by the `Corrective Actions` field in the alert.

Use the following command to verify that the system health status is OK after you have taken corrective action:

```
::> system health status show
```

Sample output

## Co system health alert show



```
cluster1::> system health alert show
```

Node: node1

Resource: Shelf ID 2

Severity: Major

Tags: quality-of-service, nondisruptive-upgrade

Probable Cause: Disk shelf 2 does not have two paths to controller node1.

Possible Effect: Access to disk shelf 2 via controller node1 will be lost with a single hardware component failure (e.g. cable, HBA, or IOM failure).

Corrective Actions: 1. Halt controller node1 and all controllers attached to disk shelf 2.

2. Connect disk shelf 2 to controller node1 via two paths following the rules in the Universal SAS and ACP Cabling Guide.

3. Reboot the halted controllers.

4. Contact support personnel if the alert persists.



Co `system health status show`



```
cluster1::> system health status show
Status
-----
ok
cluster1::>
```

# Network troubleshooting commands in the clustershell

Use the following CLI commands to verify networking issue. These commands can be issued in the clustershell at the admin privilege level.

- To show all logical interfaces (LIFs) in the cluster:

```
::> network interface show
```

Sample output

- To show the failover information of all the LIFs:

```
::> network interface show -failover
```

Sample output

- To show all ports in the cluster – the command output indicates any inactive links and lists the reason for the inactive status: .

```
::> network port show
```

Sample output

- To trace the route that the IPv4 packets take to a network node:

```
::> network traceroute -node <nodename> -destination <Remote Internet address> -  
m <integer>
```

Sample output

- To test whether a node can reach hosts in the network:

```
::> network ping -node <nodename> -destination <Remote Internet address>
```

Sample output

## Network interface show



```
cluster1::> network interface show
```

Vserver	Logical Interface	Status Admin/Oper	Network Address/Mask	Current Node	Current Port	Is Home
cluster1	cluster_mgmt	up/up	192.0.2.1/192	node0	e0M	true
	node0_mgmt1	up/up	192.0.2.2/192	node0	e0M	true
	node1_mgmt1	up/up	192.0.2.3/192	node1	e0M	true
Cluster	node0_clus1	up/up	192.0.2.66/192	node0	e0a	true
	node0_clus2	up/up	192.0.2.67/192	node0	e0b	true
	node1_clus1	up/up	192.0.2.68/192	node1	e0a	true
	node1_clus2	up/up	192.0.2.69/192	node1	e0b	true



# network interface show -failover



```
cluster1::> network interface show -failover
```

Vserver	Logical Interface	Home Node:Port	Failover Policy	Failover Group
cluster1	cluster_mgmt	node0:e0M	broadcast-domain-wide	Default
		Failover Targets:	node0:e0M, node0:e0d, node0:e0e, node0:e0f, node1:e0M, node1:e0d, node1:e0e, node1:e0f	
	node0_mgmt1	node0:e0M	local-only	Default
		Failover Targets:	node0:e0M, node0:e0d, node0:e0e, node0:e0f	
	node1_mgmt1	node1:e0M	local-only	Default
		Failover Targets:	node1:e0M, node1:e0d, node1:e0e, node1:e0f	
Cluster	node0_clus1	node0:e0a	local-only	Cluster
		Failover Targets:	node0:e0a, node0:e0b	
	node0_clus2	node0:e0a	local-only	Cluster
		Failover Targets:	node0:e0b, node0:e0a	
	node1_clus1	node1:e0a	local-only	Cluster
		Failover Targets:	node1:e0a, node1:e0b	
	node1_clus2	node1:e0a	local-only	Cluster
		Failover Targets:	node1:e0b, node1:e0a	



Ne network port show



```
cluster1::> network port show
```

Node	Port	IPspace	Broadcast Domain	Link	MTU	Speed (Mbps) Admin/Oper
node0						
	e0a	cluster	clus	up	9000	1000/1000
	e0b	cluster	clus	up	9000	1000/1000
	e0c	default	data1	up	1500	1000/1000
	e0d	default	data1	up	1500	1000/1000
	e0M	default	mgmt	up	1500	1000/1000
node1						
	e0a	cluster	clus	up	9000	10/1000
	e0b	cluster	clus	up	9000	10/1000
	e0c	default	data2	up	1500	10/1000
	e0d	default	data1	up	1500	10/1000
	e0M	default	mgmt	up	1500	1000/1000
node2						
	e0a	cluster	clus	up	9000	auto/1000
	e0b	cluster	clus	up	9000	auto/1000
	e0c	default	data2	up	1500	auto/1000
	e0d	default	data1	up	1500	auto/1000
	e0M	default	mgmt	up	1500	auto/1000
node3						
	e0a	cluster	clus	up	9000	auto/1000
	e0b	cluster	clus	up	9000	auto/1000
	e0c	default	data2	up	1500	auto/1000
	e0d	default	data2	up	1500	auto/1000
	e0M	default	mgmt	up	1500	auto/1000



**Ne** `network traceroute -node <nodename> -destination  
<Remote Internet address> -m <integer>`



Use the `-m (maxttl) <integer>` parameter to specify the maximum number of hops (time-to-live) setting used by outgoing probe packets. The default is 30 hops.

```
cluster1::> traceroute -node node1 -destination 10.98.16.164 -maxttl 5
 1  10.68.208.1 <10.68.208.1> 0.307 ms 293 ms 305 ms
 2  152.164.13.205 <152.164.13.205> 3.754 ms 3.722 ms 3.981 ms
 3  68.137.122.222 <68.137.122.222> 25.603 ms 24.947 ms 24,565 ms
 4  * * *
 5  * * *

traceroute to 10.98.16.164, 5 hops max, 52 byte packets
```

**Ne** `network ping -node <nodename> -destination <Remote  
Internet address>`



```
cluster1::> network ping -node xena -destination 10.98.16.164
(network ping)
10.98.16.164 is alive
```

# AutoSupport configuration

Work through the following procedure to configure AutoSupport.

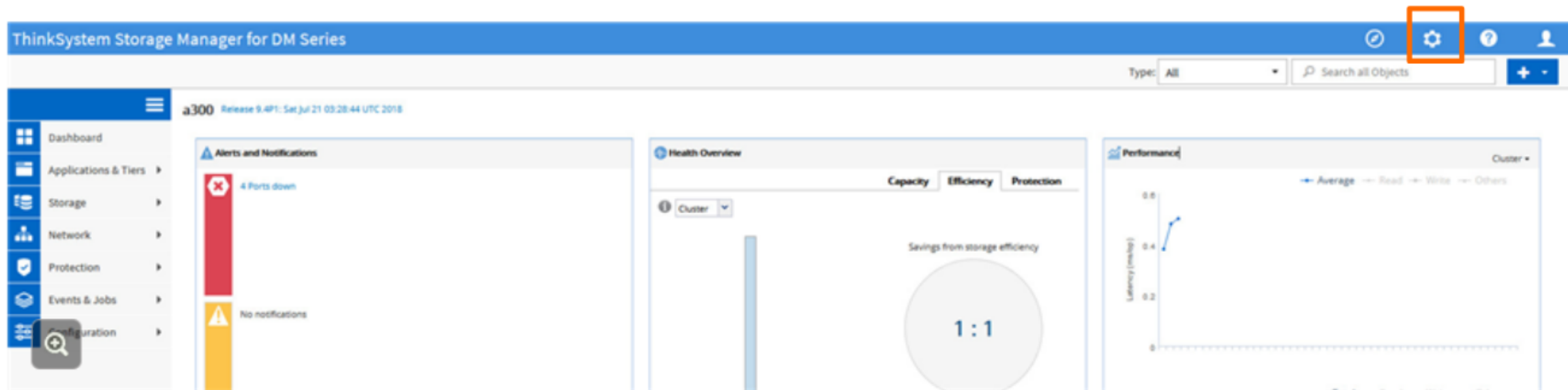
Click each step in turn to see the procedure

Step



# AutoSupport configuration

Log in to ThinkSystem Storage Manager, and then click the “gear” icon in the upper panel.



Step ①—②—③—④—⑤



# AutoSupport configuration

Select **AutoSupport** from the left panel.

ThinkSystem Storage Manager for DM Series

Type: All Search all Objects + -

Home

Management

- Users
- Roles

Setup

- General
- AutoSupport**
- Date and Time

CDAP

+ Add / Edit X Delete / Change password Lock Refresh

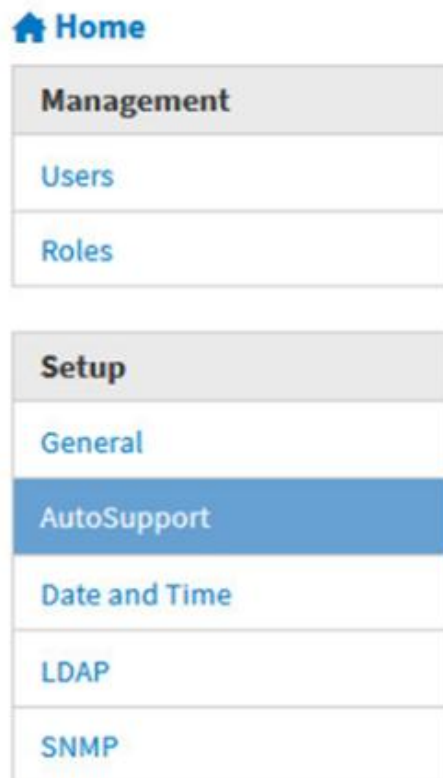
User	Account Locked
admin	No
autosupport	No

Step

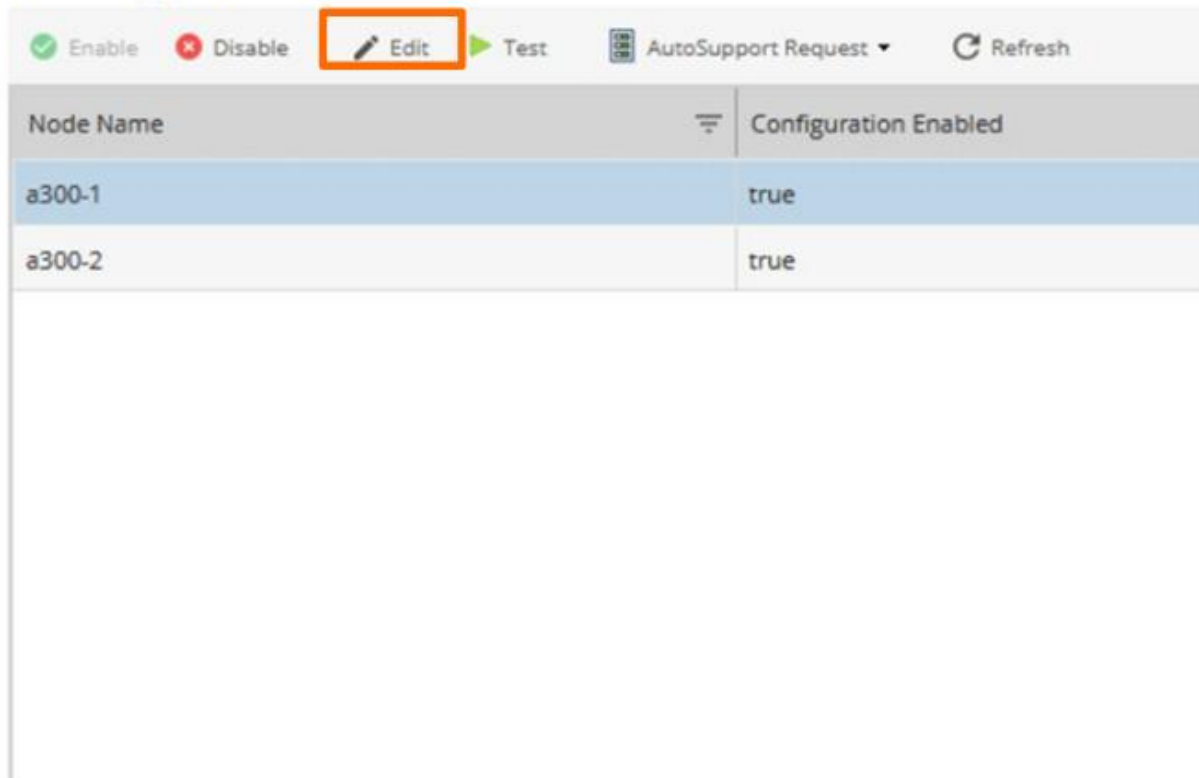


# AutoSupport configuration

Select **Edit** to open the **Edit AutoSupport Settings** window.



## AutoSupport



Step



# AutoSupport configuration

In the **Email Recipient** section:

- Postmaster is the default setting for the **From Email Address** field. The format is Postmaster@xxx, where the xxx is the name of the system.
- In the **Email Recipients** field, select **Add** to define both the list of recipients who will receive AutoSupport email notifications and the message content.
- In the **Mail Hosts** section, select **Add** to define up to five mail hosts by IP or name. The specified mail hosts will be used to send AutoSupport messages.

Edit AutoSupport Settings

Email Recipient Others

From Email Address Postmaster

Email Recipients:

Email Address	Message Content
---------------	-----------------

Add Edit Delete

Mail Hosts:

Mail Hosts	Message Content
mailhost	

Add Edit Delete

OK Cancel

Email Recipients:

Email Address	Message Content
	Partner Email Address
	Complete message
	Minimal message
	Partner Email Address

OK

Mail Hosts:

Mail Hosts

Add Edit Delete

OK Cancel

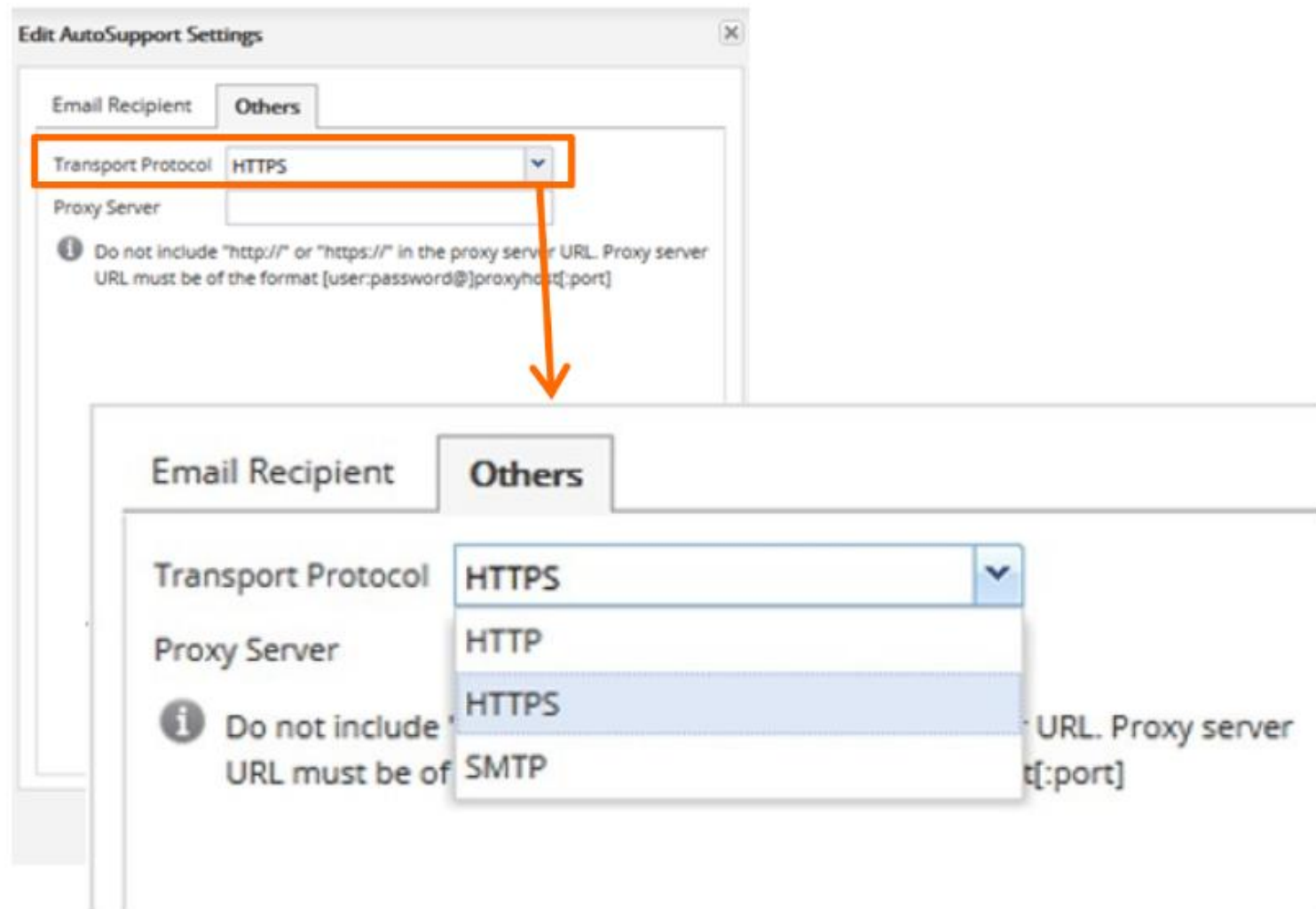
Step



# AutoSupport configuration

In the **Others** section:

- You can select HTTP, HTTPS, or SMTP in the **Transport Protocol** field.
  - AutoSupport uses SMTP (Port 25), HTTP (Port 80), or the default protocol HTTPS (Port 443) to transmit AutoSupport messages.
  - It is useful to use SMTP when troubleshooting transmission of ASUP notifications.
- To use HTTP or HTTPS to send AutoSupport messages, configure an HTTP or HTTPS proxy.









Step



# Testing AutoSupport

In the AutoSupport window, you can select **Test** to tell the AutoSupport feature to send an AutoSupport notification immediately.

## AutoSupport

 Enable  Disable  Edit  Test  AutoSupport Request  Refresh	
Node Name	Configuration Enabled
a300-1	true
a300-2	true

### AutoSupport Test

You can enter a subject line to test AutoSupport notification. If the test is successful, an AutoSupport notification with this subject will be sent out.

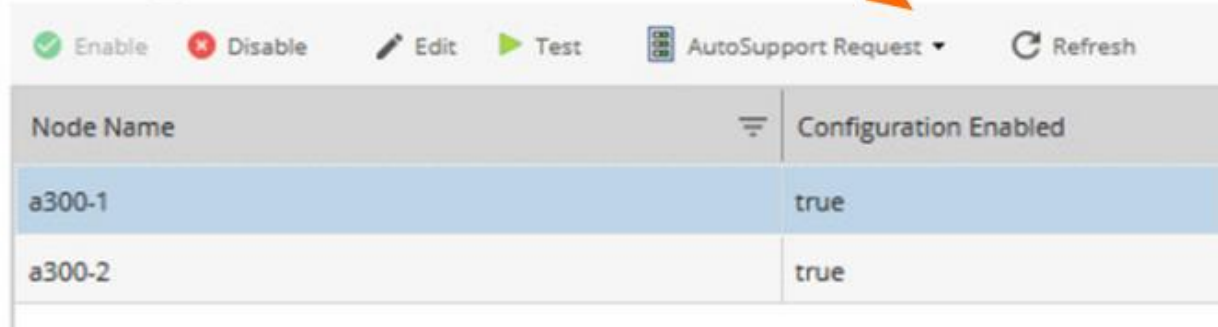
AutoSupport subject:



# Forcing AutoSupport

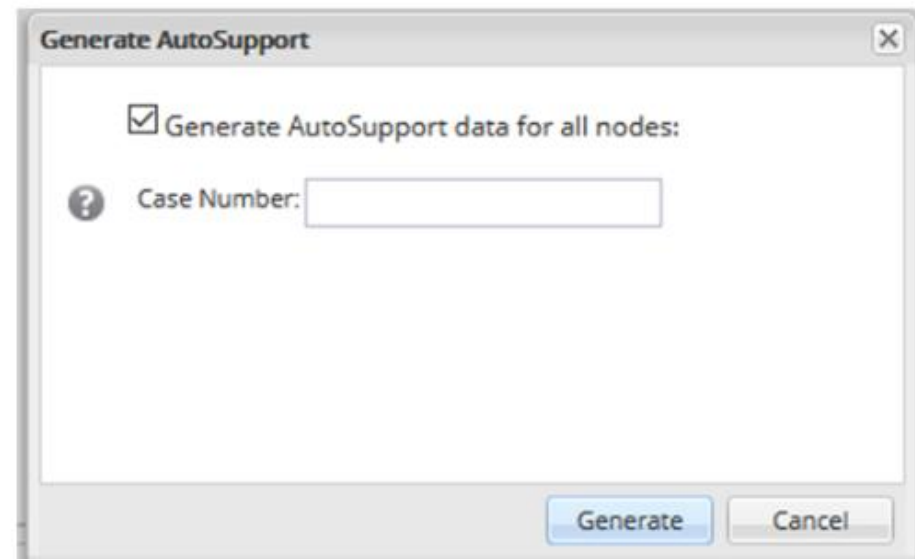
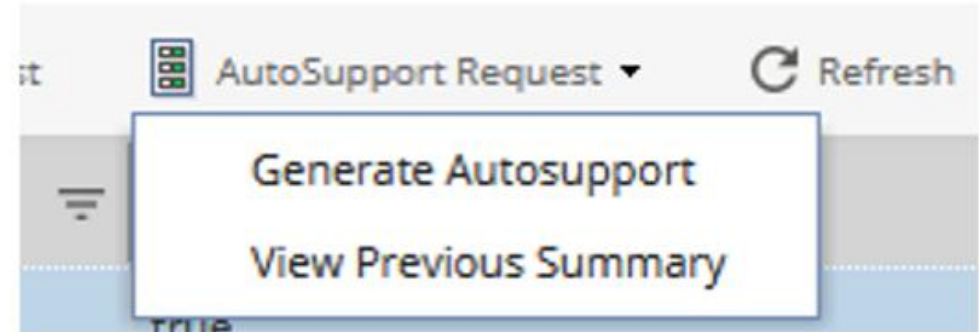
Servicers can force AutoSupport by selecting **AutoSupport Request** → **Generate AutoSupport**, filling in the case number in the **Case Number** field, and then selecting **Generate**.

## AutoSupport



The screenshot shows the AutoSupport interface. At the top, there are buttons: Enable (green checkmark), Disable (red X), Edit (pencil), Test (green play), and a dropdown menu labeled 'AutoSupport Request' with a list icon. To the right of the dropdown is a 'Refresh' button with a circular arrow icon. Below these is a table with two columns: 'Node Name' and 'Configuration Enabled'. The table has two rows: 'a300-1' and 'a300-2', both with 'true' in the 'Configuration Enabled' column. An orange arrow points to the 'AutoSupport Request' dropdown menu.

Node Name	Configuration Enabled
a300-1	true
a300-2	true



The screenshot shows the 'Generate AutoSupport' dialog box. It has a title bar with a close button (X). Inside, there is a checkbox labeled 'Generate AutoSupport data for all nodes:' which is checked. Below this is a label 'Case Number:' followed by a text input field. At the bottom right, there are two buttons: 'Generate' and 'Cancel'.



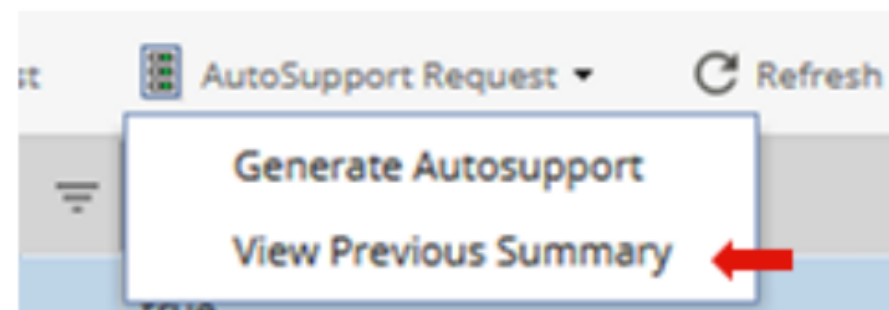
# AutoSupport summary

ThinkSystem Storage Manager enables you to check the status and details of all the previous AutoSupport data in order to review the data that has been sent to technical support. You can also check the information to understand the health and performance of your storage system. Select **AutoSupport Request** → **View Previous Summary**. The Autosupport data for all the nodes will be displayed.

## AutoSupport

Enable
 Disable
 Edit
 Test
 AutoSupport Request
 Refresh

Node Name	Configuration Enabled
a300-1	true
a300-2	true



## View Previous Summary

Node Na...	Status	Sequenc...	PerfEn	Generation Time	Size	Time Taken	Subject
a300-1	ignore	99		Aug/29/2018 00:12:04	-NA-	4 sec(s)	MANAGEMENT_LOG
a300-1	ignore	99		Aug/29/2018 00:12:04	-NA-	4 sec(s)	MANAGEMENT_LOG
a300-1	ignore	99		Aug/29/2018 00:12:04	-NA-	4 sec(s)	MANAGEMENT_LOG
a300-1	ignore	98		Aug/29/2018 00:00:00	-NA-	27 sec(s)	PERFORMANCE DATA
a300-1	ignore	98		Aug/29/2018 00:00:00	-NA-	27 sec(s)	PERFORMANCE DATA
a300-1	ignore	98		Aug/29/2018 00:00:00	-NA-	27 sec(s)	PERFORMANCE DATA

## Troubleshooting AutoSupport

The following commands can be used to verify and troubleshoot any issues related to the AutoSupport configuration and delivery.

- Use the `system node autosupport check show` command to display the overall status of the AutoSupport subsystem, such as the status of AutoSupport HTTP or HTTPS destination, AutoSupport SMTP destinations, AutoSupport OnDemand Server, and AutoSupport configuration.
- Use the `system node autosupport check show-details` command to display a detailed status of the AutoSupport subsystem, such as detailed descriptions of errors and the corrective actions.

Refer to the [Troubleshooting AutoSupport](#) Web site for more details.

Click the buttons to see sample outputs.

```
system node autosupport check show
```

```
system node autosupport check show-details
```

Tr `system node autosupport check show`



```
a300::> system node autosupport check show
```

On Demand

Node	HTTP/HTTPS	Server	SMTP	Configuration
a300-1	failed	failed	failed	failed

Warning: status not "ok" for at least one check. Use the "check show-details" command for additional information.

a300-2	failed	failed	failed	failed
--------	--------	--------	--------	--------

Warning: status not "ok" for at least one check. Use the "check show-details" command for additional information.

2 entries were displayed.



## system node autosupport check show-details

```
a300::> system node autosupport check show-details
Node: a300-1

Category: http-https
  Component: http-put-destination
  Status: failed
  Detail: Delivery of all AutoSupport messages to your vendor's
          technical support destinations is disabled.
  Corrective Action: Run "system node autosupport modify -support enable
                    -node <node name>" to enable sending AutoSupport
                    messages to your vendor's technical support destinations.

  Component: http-post-destination
  Status: failed
  Detail: Delivery of all AutoSupport messages to your vendor's
          technical support destinations is disabled.
  Corrective Action: Run "system node autosupport modify -support enable
                    -node <node name>" to enable sending AutoSupport
                    messages to your vendor's technical support destinations.

Category: smtp
  Component: mail-server
  Status: failed
  Detail: Delivery of all AutoSupport messages to your vendor's
          technical support destinations is disabled.
  Corrective Action: Run "system node autosupport modify -support enable
                    -node <node name>" to enable sending AutoSupport
                    messages to your vendor's technical support destinations.

Node: a300-1
Category: on-demand
  Component: ondemand-server
  Status: failed
  Detail: Delivery of all AutoSupport messages to your vendor's
          technical support destinations is disabled.
  Corrective Action: Run "system node autosupport modify -support enable
                    -node <node name>" to enable sending AutoSupport
                    messages to your vendor's technical support destinations.

Category: configuration
  Component: configuration
  Status: failed
  Detail: Delivery of all AutoSupport messages to your vendor's
          technical support destinations is disabled.
  Corrective Action: Run "system node autosupport modify -support enable
                    -node <node name>" to enable sending AutoSupport
                    messages to your vendor's technical support destinations.
```





# Summary

This course enabled you to:

- Describe ThinkSystem DM Series storage systems and their components
- List the features and specifications
- Describe how to cable DM Series storage systems
- Explain the power on and power off procedures
- Explain how to connect the console and use command lines
- Describe how to replace FRUs
- Describe how to update firmware using the CLI and ThinkSystem Storage Manager
- Describe the problem determination steps and explain how to troubleshoot issues with ThinkSystem DM Series storage systems