



## **Managing events**

### **Active IQ Unified Manager 9.9**

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# Managing events

Events help you to identify issues in the clusters that are monitored.

## What health events are

Health events are notifications that are generated automatically when a predefined condition occurs or when an object crosses a health threshold. These events enable you to take action to prevent issues that can lead to poor performance and system unavailability. Events include an impact area, severity, and impact level.

Health events are categorized by the type of impact area such as availability, capacity, configuration, or protection. Events are also assigned a severity type and impact level that assist you in determining if immediate action is required.

You can configure alerts to send notification automatically when specific events or events of a specific severity occur.

Obsolete, resolved, and informational events are automatically logged and retained for a default of 180 days.

It is important that you take immediate corrective action for events with severity level Error or Critical.

## What performance events are

Performance events are incidents related to workload performance on a cluster. They help you identify workloads with slow response times. Together with health events that occurred at the same time, you can determine the issues that might have caused, or contributed to, the slow response times.

When Unified Manager detects multiple occurrences of the same event condition for the same cluster component, it treats all occurrences as a single event, not as separate events.

## Sources of performance events

Performance events are issues related to workload performance on a cluster. They help you identify storage objects with slow response times, also known as high latency. Together with other health events that occurred at the same time, you can determine the issues that might have caused, or contributed to, the slow response times.

Unified Manager receives performance events from the following sources:

- **User-defined performance threshold policy events**

Performance issues based on custom threshold values that you have set. You configure performance threshold policies for storage objects; for example, aggregates and volumes, so that events are generated when a threshold value for a performance counter has been breached.

You must define a performance threshold policy and assign it to a storage object to receive these events.

- **System-defined performance threshold policy events**

Performance issues based on threshold values that are system-defined. These threshold policies are included with the installation of Unified Manager to cover common performance problems.

These threshold policies are enabled by default, and you might see events shortly after adding a cluster.

- **Dynamic performance threshold events**

Performance issues that are the result of failures or errors in an IT infrastructure, or from workloads overutilizing cluster resources. The cause of these events might be a simple issue that corrects itself over a period of time or that can be addressed with a repair or configuration change. A dynamic threshold event indicates that the workloads on an ONTAP system are slow due to other workloads with high usage of shared cluster components.

These thresholds are enabled by default, and you might see events after three days of collecting data from a new cluster.

## Types of system-defined performance threshold policies

Unified Manager provides some standard threshold policies that monitor cluster performance and generate events automatically. These policies are enabled by default, and they generate warning or information events when the monitored performance thresholds are breached.



System-defined performance threshold policies are not enabled on Cloud Volumes ONTAP, ONTAP Edge, or ONTAP Select systems.

If you are receiving unnecessary events from any system-defined performance threshold policies, you can disable the events for individual policies from the Event Setup page.

### Cluster threshold policies

The system-defined cluster performance threshold policies are assigned, by default, to every cluster being monitored by Unified Manager:

- **Cluster load imbalance**

Identifies situations in which one node is operating at a much higher load than other nodes in the cluster, and therefore potentially affecting workload latencies.

It does this by comparing the performance capacity used value for all nodes in the cluster to see if there is a load difference of 30% between any nodes. This is a warning event.

- **Cluster capacity imbalance**

Identifies situations in which one aggregate has a much higher used capacity than other aggregates in the cluster, and therefore potentially affecting space required for operations.

It does this by comparing the used capacity value for all aggregates in the cluster to see if there is a difference of 70% between any aggregates. This is a warning event.

## Node threshold policies

The system-defined node performance threshold policies are assigned, by default, to every node in the clusters being monitored by Unified Manager:

- **Performance Capacity Used Threshold Breached**

Identifies situations in which a single node is operating above the bounds of its operational efficiency, and therefore potentially affecting workload latencies.

It does this by looking for nodes that are using more than 100% of their performance capacity for more than 12 hours. This is a warning event.

- **Node HA pair over-utilized**

Identifies situations in which nodes in an HA pair are operating above the bounds of the HA pair operational efficiency.

It does this by looking at the performance capacity used value for the two nodes in the HA pair. If the combined performance capacity used of the two nodes exceeds 200% for more than 12 hours, then a controller failover will impact workload latencies. This is an informational event.

- **Node disk fragmentation**

Identifies situations in which a disk or disks in an aggregate are fragmented, slowing key system services and potentially affecting workload latencies on a node.

It does this by looking at certain read and write operation ratios across all aggregates on a node. This policy might also be triggered during SyncMirror resynchronization or when errors are found during disk scrub operations. This is a warning event.



The “Node disk fragmentation” policy analyzes HDD-only aggregates; Flash Pool, SSD, and FabricPool aggregates are not analyzed.

## Aggregate threshold policies

The system-defined aggregate performance threshold policy is assigned by default to every aggregate in the clusters being monitored by Unified Manager:

- **Aggregate disks over-utilized**

Identifies situations in which an aggregate is operating above the limits of its operational efficiency, thereby potentially affecting workload latencies. It identifies these situations by looking for aggregates where the disks in the aggregate are more than 95% utilized for more than 30 minutes. This multicondition policy then performs the following analysis to help determine the cause of the issue:

- Is a disk in the aggregate currently undergoing background maintenance activity?

Some of the background maintenance activities a disk could be undergoing are disk reconstruction, disk scrub, SyncMirror resynchronization, and reparity.

- Is there a communications bottleneck in the disk shelf Fibre Channel interconnect?

- Is there too little free space in the aggregate? A warning event is issued for this policy only if one (or more) of the three subordinate policies are also considered breached. A performance event is not

triggered if only the disks in the aggregate are more than 95% utilized.



The “Aggregate disks over-utilized” policy analyzes HDD-only aggregates and Flash Pool (hybrid) aggregates; SSD and FabricPool aggregates are not analyzed.

### Workload latency threshold policies

The system-defined workload latency threshold policies are assigned to any workload that has a configured Performance Service Level policy that has a defined “expected latency” value:

- **Workload Volume/LUN Latency Threshold Breached as defined by Performance Service Level**

Identifies volumes (file shares) and LUNs that have exceeded their “expected latency” limit, and that are affecting workload performance. This is a warning event.

It does this by looking for workloads that have exceeded the expected latency value for 30% of the time during the previous hour.

### QoS threshold policies

The system-defined QoS performance threshold policies are assigned to any workload that has a configured ONTAP QoS maximum throughput policy (IOPS, IOPS/TB, or MB/s). Unified Manager triggers an event when the workload throughput value is 15% less than the configured QoS value:

- **QoS Max IOPS or MB/s threshold**

Identifies volumes and LUNs that have exceeded their QoS maximum IOPS or MB/s throughput limit, and that are affecting workload latency. This is a warning event.

When a single workload is assigned to a policy group, it does this by looking for workloads that have exceeded the maximum throughput threshold defined in the assigned QoS policy group during each collection period for the previous hour.

When multiple workloads share a single QoS policy, it does this by adding the IOPS or MB/s of all workloads in the policy and checking that total against the threshold.

- **QoS Peak IOPS/TB or IOPS/TB with Block Size threshold**

Identifies volumes that have exceeded their adaptive QoS peak IOPS/TB throughput limit (or IOPS/TB with Block Size limit), and that are affecting workload latency. This is a warning event.

It does this by converting the peak IOPS/TB threshold defined in the adaptive QoS policy into a QoS maximum IOPS value based on the size of each volume, and then it looks for volumes that have exceeded the QoS max IOPS during each performance collection period for the previous hour.



This policy is applied to volumes only when the cluster is installed with ONTAP 9.3 and later software.

When the “block size” element has been defined in the adaptive QoS policy, the threshold is converted into a QoS maximum MB/s value based on the size of each volume. Then it looks for volumes that have exceeded the QoS max MB/s during each performance collection period for the previous hour.



This policy is applied to volumes only when the cluster is installed with ONTAP 9.5 and later software.

## What Active IQ platform events are

Unified Manager can display events that have been discovered by the Active IQ platform. These events are created by running a set of rules against AutoSupport messages generated from all storage systems being monitored by Unified Manager.

Unified Manager checks for a new rules file automatically and only downloads a new file when there are newer rules. In sites with no external network access, you need to upload the rules manually from **Storage Management > Event Setup > Upload Rules**.

These Active IQ events do not overlap with existing Unified Manager events, and they identify incidents or risks concerning system configuration, cabling, best practice, and availability issues.

NetApp Active IQ is a cloud based service that provides predictive analytics and proactive support to optimize storage system operations across the NetApp hybrid cloud. See [NetApp Active IQ](#) for more information.

## What Event Management System events are

The Event Management System (EMS) collects event data from different parts of the ONTAP kernel and provides event forwarding mechanisms. These ONTAP events can be reported as EMS events in Unified Manager. Centralized monitoring and management eases configuration of critical EMS events and alert notifications based on these EMS events.

The Unified Manager address is added as a notification destination to the cluster when you add the cluster to Unified Manager. An EMS event is reported as soon as the event occurs in the cluster.

There are two methods for receiving EMS events in Unified Manager:

- A certain number of important EMS events are reported automatically.
- You can subscribe to receive individual EMS events.

The EMS events that are generated by Unified Manager are reported differently depending on the method in which the event was generated:

Functionality	Automatic EMS messages	Subscribed EMS messages
Available EMS events	Subset of EMS events	All EMS events
EMS message name when triggered	Unified Manager event name (converted from EMS event name)	Non-specific in the format "Error EMS received". The detailed message provides the dot-notation format of the actual EMS event

Functionality	Automatic EMS messages	Subscribed EMS messages
Messages received	As soon as the cluster has been discovered	After adding each required EMS event to Unified Manager, and after the next 15 minute polling cycle
Event life cycle	Same as other Unified Manager events: New, Acknowledged, Resolved, and Obsolete states	The EMS event is made obsolete after the cluster is refreshed, after 15 minutes, from when the event was created
Captures events during Unified Manager downtime	Yes, when the system starts up it communicates with each cluster to acquire missing events	No
Event details	Suggested corrective actions are imported directly from ONTAP to provide consistent resolutions	Corrective actions not available in Event Details page



Some of the new automatic EMS events are Informational events that indicate that a previous event has been resolved. For example, the “FlexGroup Constituents Space Status All OK” Informational event indicates that the “FlexGroup Constituents Have Space Issues” Error event has been resolved. Informational events cannot be managed using the same event life cycle as other event severity types, however, the event is obsoleted automatically if the same volume receives another “Space Issues” Error event.

## EMS events that are added automatically to Unified Manager

The following ONTAP EMS events are added automatically to Unified Manager. These events will be generated when triggered on any cluster that Unified Manager is monitoring.

The following EMS events are available when monitoring clusters running ONTAP 9.5 or greater software:

Unified Manager Event name	EMS Event name	Affected resource	Unified Manager severity
Cloud Tier Access Denied for Aggregate Relocation	arl.netra.ca.check.failed	Aggregate	Error
Cloud Tier Access Denied for Aggregate Relocation During Storage Failover	gb.netra.ca.check.failed	Aggregate	Error
FabricPool Mirror Replication Resync Completed	waf.ca.resync.complete	Cluster	Error



<b>Unified Manager Event name</b>	<b>EMS Event name</b>	<b>Affected resource</b>	<b>Unified Manager severity</b>
FabricPool Space Nearly Full	fabricpool.nearly.full	Cluster	Error
NVMe-oF Grace Period Started	nvmf.graceperiod.start	Cluster	Warning
NVMe-oF Grace Period Active	nvmf.graceperiod.active	Cluster	Warning
NVMe-oF Grace Period Expired	nvmf.graceperiod.expired	Cluster	Warning
LUN Destroyed	lun.destroy	LUN	Information
Cloud AWS MetaDataConnFail	cloud.aws.metadataConnFail	Node	Error
Cloud AWS IAMCredsExpired	cloud.aws.iamCredsExpired	Node	Error
Cloud AWS IAMCredsInvalid	cloud.aws.iamCredsInvalid	Node	Error
Cloud AWS IAMCredsNotFound	cloud.aws.iamCredsNotFound	Node	Error
Cloud AWS IAMCredsNotInitialized	cloud.aws.iamNotInitialized	Node	Information
Cloud AWS IAMRoleInvalid	cloud.aws.iamRoleInvalid	Node	Error
Cloud AWS IAMRoleNotFound	cloud.aws.iamRoleNotFound	Node	Error
Cloud Tier Host Unresolvable	objstore.host.unresolvable	Node	Error
Cloud Tier Intercluster LIF Down	objstore.interclusterlifDown	Node	Error
Request Mismatch Cloud Tier Signature	osc.signatureMismatch	Node	Error

<b>Unified Manager Event name</b>	<b>EMS Event name</b>	<b>Affected resource</b>	<b>Unified Manager severity</b>
One of NFSv4 Pools Exhausted	Nblade.nfsV4PoolExhaust	Node	Critical
QoS Monitor Memory Maxed	qos.monitor.memory.maxed	Node	Error
QoS Monitor Memory Abated	qos.monitor.memory.abated	Node	Information
NVMeNS Destroy	NVMeNS.destroy	Namespace	Information
NVMeNS Online	NVMeNS.offline	Namespace	Information
NVMeNS Offline	NVMeNS.online	Namespace	Information
NVMeNS Out of Space	NVMeNS.out.of.space	Namespace	Warning
Synchronous Replication Out Of Sync	sms.status.out.of.sync	SnapMirror relationship	Warning
Synchronous Replication Restored	sms.status.in.sync	SnapMirror relationship	Information
Synchronous Replication Auto Resync Failed	sms.resync.attempt.failed	SnapMirror relationship	Error
Many CIFS Connections	Nblade.cifsManyAuths	SVM	Error
Max CIFS Connection Exceeded	Nblade.cifsMaxOpenSameFile	SVM	Error
Max Number of CIFS Connection Per User Exceeded	Nblade.cifsMaxSessPerUserConn	SVM	Error
CIFS NetBIOS Name Conflict	Nblade.cifsNbNameConflict	SVM	Error
Attempts to Connect Nonexistent CIFS Share	Nblade.cifsNoPrivShare	SVM	Critical
CIFS Shadow Copy Operation Failed	cifs.shadowcopy.failure	SVM	Error

<b>Unified Manager Event name</b>	<b>EMS Event name</b>	<b>Affected resource</b>	<b>Unified Manager severity</b>
Virus Found By AV Server	Nblade.vscanVirusDetected	SVM	Error
No AV Server Connection for Virus Scan	Nblade.vscanNoScannerConn	SVM	Critical
No AV Server Registered	Nblade.vscanNoRegdScanner	SVM	Error
No Responsive AV Server Connection	Nblade.vscanConnInactive	SVM	Information
AV Server too Busy to Accept New Scan Request	Nblade.vscanConnBackPressure	SVM	Error
Unauthorized User Attempt to AV Server	Nblade.vscanBadUserPrivAccess	SVM	Error
FlexGroup Constituents Have Space Issues	flexgroup.constituents.have.space.issues	Volume	Error
FlexGroup Constituents Space Status All OK	flexgroup.constituents.space.status.all.ok	Volume	Information
FlexGroup Constituents Have Inodes Issues	flexgroup.constituents.have.inodes.issues	Volume	Error
FlexGroup Constituents Inodes Status All OK	flexgroup.constituents.inodes.status.all.ok	Volume	Information
Volume Logical Space Nearly Full	monitor.vol.nearFull.inc.sav	Volume	Warning
Volume Logical Space Full	monitor.vol.full.inc.sav	Volume	Error
Volume Logical Space Normal	monitor.vol.one.ok.inc.sav	Volume	Information
WAFL Volume AutoSize Fail	wافل.vol.autoSize.fail	Volume	Error
WAFL Volume AutoSize Done	wافل.vol.autoSize.done	Volume	Information

Unified Manager Event name	EMS Event name	Affected resource	Unified Manager severity
WAFL READDIR File Operation Timeout	wافل.readdir.expired	Volume	Error

## What happens when an event is received

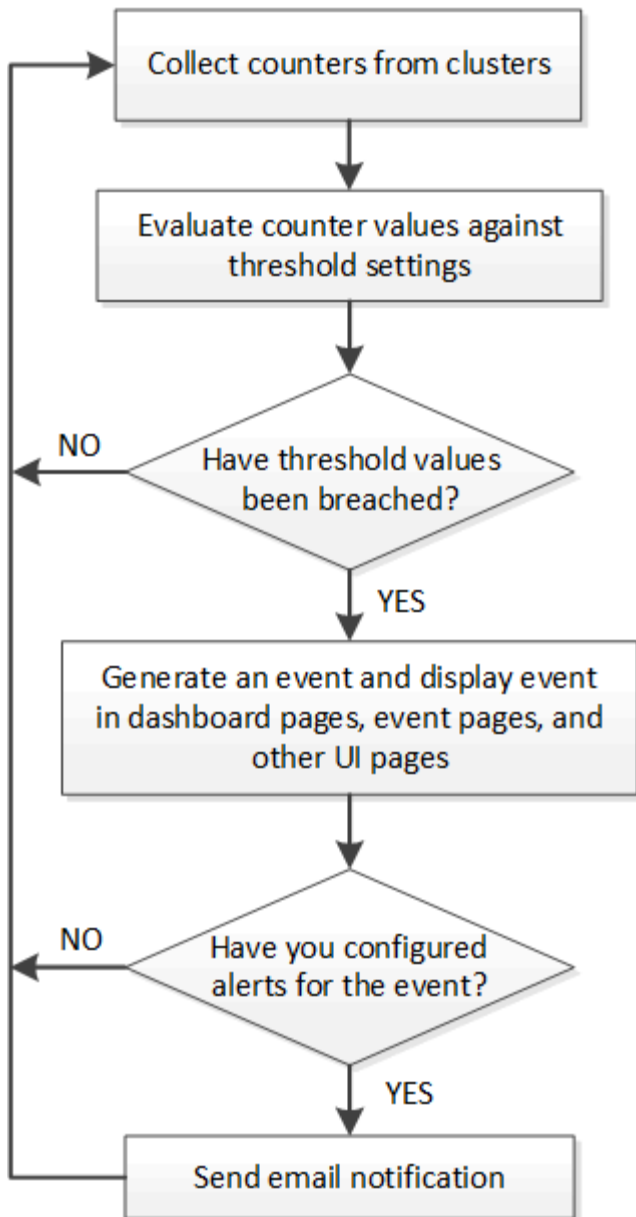
When Unified Manager receives an event, it is displayed in the Dashboard page, in the Event Management inventory page, in the Summary and Explorer tabs of the Cluster/Performance page, and in the object-specific inventory page (for example, the Volumes/Health inventory page).

When Unified Manager detects multiple continuous occurrences of the same event condition for the same cluster component, it treats all occurrences as a single event, not as separate events. The duration of the event is incremented to indicate that the event is still active.

Depending on how you configure settings in the Alert Setup page, you can notify other users about these events. The alert causes the following actions to be initiated:

- An email about the event can be sent to all Unified Manager Administrator users.
- The event can be sent to additional email recipients.
- An SNMP trap can be sent to the trap receiver.
- A custom script can be executed to perform an action.

This workflow is shown in the following diagram.



## Configuring event notification settings

You can configure Unified Manager to send alert notifications when an event is generated or when an event is assigned to a user. You can configure the SMTP server that is used to send the alert, and you can set various notification mechanisms—for example, alert notifications can be sent as emails or SNMP traps.

### Before you begin

You must have the following information:

- Email address from which the alert notification is sent

The email address appears in the “From” field in sent alert notifications. If the email cannot be delivered for any reason, this email address is also used as the recipient for undeliverable mail.

- SMTP server host name, and the user name and password to access the server
- Host name or IP address for the trap destination host that will receive the SNMP trap, along with the SNMP version, outbound trap port, community, and other required SNMP configuration values

To specify multiple trap destinations, separate each host with a comma. In this case, all other SNMP settings, such as version and outbound trap port, must be the same for all hosts in the list.

You must have the Application Administrator or Storage Administrator role.

## Steps

1. In the left navigation pane, click **General > Notifications**.
2. In the **Notifications** page, configure the appropriate settings and click **Save**.

### Notes:

- If the From Address is pre-filled with the address “[ActiveIQUnifiedManager@localhost.com](mailto:ActiveIQUnifiedManager@localhost.com)”, you should change it to a real, working email address to make sure that all email notifications are delivered successfully.
- If the host name of the SMTP server cannot be resolved, you can specify the IP address (IPv4 or IPv6) of the SMTP server instead of the host name.

## Viewing events and event details

You can view details about an event that is triggered by Unified Manager to take corrective action. For example, if there is a health event Volume Offline, you can click that event to view the details and perform corrective actions.

### Before you begin

You must have the Operator, Application Administrator, or Storage Administrator role.

### About this task

The event details include information such as the source of the event, cause of the event, and any notes related to the event.

## Steps

1. In the left navigation pane, click **Event Management**.

By default, the All active events view displays the New and Acknowledged (active) events that have been generated over the previous 7 days that have an Impact Level of Incident or Risk.

2. If you want to view a particular category of events, for example, capacity events or performance events, click **View** and select from the menu of event types.
3. Click the event name for which you want to view the details.

The event details are displayed in the Event details page.

# Viewing unassigned events

You can view unassigned events and then assign each of them to a user who can resolve them.

## Before you begin

You must have the Operator, Application Administrator, or Storage Administrator role.

## Steps

1. In the left navigation pane, click **Event Management**.

By default, New and Acknowledged events are displayed on the Event Management inventory page.

2. From the **Filters** pane, select the **Unassigned** filter option in the **Assigned To** area.

# Acknowledging and resolving events

You should acknowledge an event before you start working on the issue that generated the event so that you do not continue to receive repeat alert notifications. After you take corrective action for a particular event, you should mark the event as resolved.

## Before you begin

You must have the Operator, Application Administrator, or Storage Administrator role.

## About this task

You can acknowledge and resolve multiple events simultaneously.



You cannot acknowledge Information events.

## Steps

1. In the left navigation pane, click **Event Management**.
2. From the events list, perform the following actions to acknowledge the events:

If you want to...	Do this...
Acknowledge and mark a single event as resolved	<ol style="list-style-type: none"><li>a. Click the event name.</li><li>b. From the Event details page, determine the cause of the event.</li><li>c. Click <b>Acknowledge</b>.</li><li>d. Take appropriate corrective action.</li><li>e. Click <b>Mark As Resolved</b>.</li></ol>

If you want to...	Do this...
Acknowledge and mark multiple events as resolved	<ol style="list-style-type: none"> <li>a. Determine the cause of the events from the respective Event details page.</li> <li>b. Select the events.</li> <li>c. Click <b>Acknowledge</b>.</li> <li>d. Take appropriate corrective actions.</li> <li>e. Click <b>Mark As Resolved</b>.</li> </ol>

After the event is marked resolved, the event is moved to the resolved events list.

1. In the **Notes and Updates** area, add a note about how you addressed the event, and then click **Post**.

## Assigning events to specific users

You can assign unassigned events to yourself or to other users, including remote users. You can reassign assigned events to another user, if required. For example, when frequent issues occur on a storage object, you can assign the events for these issues to the user who manages that object.

### Before you begin


- The user's name and email ID must be configured correctly.
- You must have the Operator, Application Administrator, or Storage Administrator role.

### Steps

1. In the left navigation pane, click **Event Management**.
2. In the **Event Management** inventory page, select one or more events that you want to assign.
3. Assign the event by choosing one of the following options:

If you want to assign the event to...	Then do this...
Yourself	Click <b>Assign To &gt; Me</b> .



If you want to assign the event to...	Then do this...
Another user	<p>a. Click <b>Assign To &gt; Another user</b>.</p> <p>b. In the Assign Owner dialog box, enter the user name, or select a user from the drop-down list.</p> <p>c. Click <b>Assign</b>.</p> <p>An email notification is sent to the user.</p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;">  <p>If you do not enter a user name or select a user from the drop-down list, and click <b>Assign</b>, the event remains unassigned.</p> </div>

## Disabling unwanted events

All events are enabled by default. You can disable events globally to prevent the generation of notifications for events that are not important in your environment. You can enable events that are disabled when you want to resume receiving notifications for them.

### Before you begin

You must have the Application Administrator or Storage Administrator role.

### About this task

When you disable events, the previously generated events in the system are marked obsolete, and the alerts that are configured for these events are not triggered. When you enable events that are disabled, the notifications for these events are generated starting with the next monitoring cycle.

When you disable an event for an object (for example, the `vol offline` event), and then later you enable the event, Unified Manager does not generate new events for objects that went offline when the event was in the disabled state. Unified Manager generates a new event only when there is a change in the object state after the event was re-enabled.

### Steps

1. In the left navigation pane, click **Storage Management > Event Setup**.
2. In the **Event Setup** page, disable or enable events by choosing one of the following options:

If you want to...	Then do this...
Disable events	<ol style="list-style-type: none"> <li>a. Click <b>Disable</b>.</li> <li>b. In the Disable Events dialog box, select the event severity.</li> <li>c. In the Matching Events column, select the events that you want to disable based on the event severity, and then click the right arrow to move those events to the Disable Events column.</li> <li>d. Click <b>Save and Close</b>.</li> <li>e. Verify that the events that you disabled are displayed in the list view of the Event Setup page.</li> </ol>
Enable events	<ol style="list-style-type: none"> <li>a. Select the check box for the event, or events, that you want to enable.</li> <li>b. Click <b>Enable</b>.</li> </ol>

## Fixing issues using Unified Manager automatic remediations

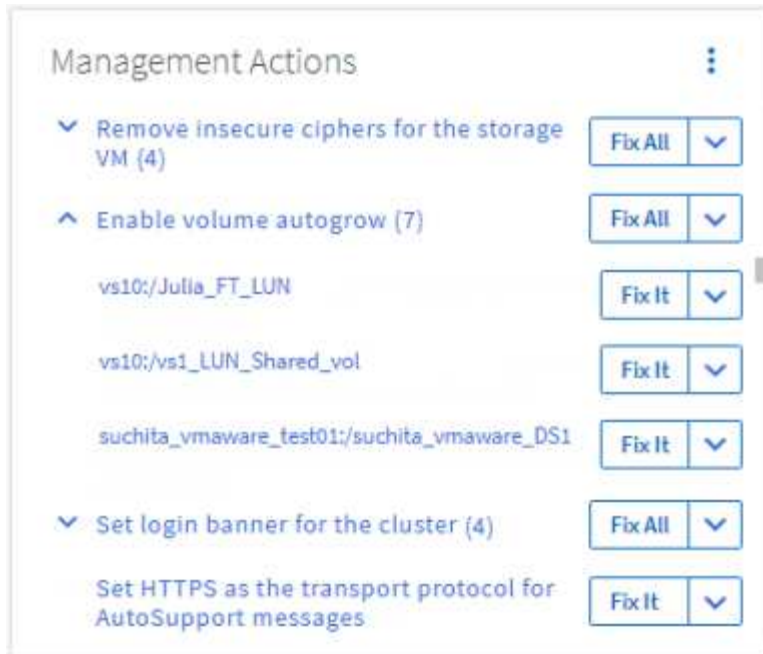
There are certain events that Unified Manager can diagnose thoroughly and provide a single resolution using the **Fix It** button. When available, those resolutions are displayed in the Dashboard, from the Event details page, and from the Workload Analysis selection on the left-navigation menu.

### About this task

Most events have a variety of possible resolutions that are displayed in the Event details page so you can implement the best solution using ONTAP System Manager or the ONTAP CLI. A **Fix It** action is available when Unified Manager has determined that there is a single resolution to fix the issue, and that it can be resolved using an ONTAP CLI command.

### Steps

1. To view events that can be fixed from the **Dashboard**, click **Dashboard**.



2. To resolve any of the issues that Unified Manager can fix, click the **Fix It** button. To fix an issue that exists on multiple objects, click the **Fix All** button.

## Enabling and disabling Active IQ event reporting

Active IQ platform events are generated and displayed in the Unified Manager user interface by default. If you find that these events are too “noisy”, or that you do not want to view these events in Unified Manager, then you can disable these events from being generated. You can enable them at a later time if you want to resume receiving these notifications.

### Before you begin

You must have the Application Administrator role.

### About this task

When you disable this feature, Unified Manager stops receiving Active IQ platform events immediately.

When you enable this feature, Unified Manager starts receiving Active IQ platform events shortly after midnight based on the timezone of the cluster. The start time is based on when Unified Manager receives AutoSupport messages from each cluster.

### Steps

1. In the left navigation pane, click **General > Feature Settings**.
2. In the **Feature Settings** page, disable or enable Active IQ platform events by choosing one of the following options:

If you want to...	Then do this...
Disable Active IQ platform events	In the <b>Active IQ Portal Events</b> panel, move the slider button to the left.
Enable Active IQ platform events	In the <b>Active IQ Portal Events</b> panel, move the slider button to the right.

## Uploading a new Active IQ rules file

Unified Manager checks for a new Active IQ rules file automatically and downloads a new file when there are newer rules. However, in sites with no external network access, you need to upload the rules file manually.

### Before you begin

- Active IQ event reporting must be enabled.
- You must download the rules file from the NetApp Support Site.

### About this task

It is recommended that you download a new rules file approximately once a month to make sure your storage systems are being protected and that they are running optimally. The rules file is located at:

[http://mysupport.netapp.com/NOW/public/unified\\_manager/bin/secure\\_rules.zip](http://mysupport.netapp.com/NOW/public/unified_manager/bin/secure_rules.zip)

### Steps

1. On a computer that has network access, navigate to the NetApp Support Site and download the current rules .zip file.
2. Transfer the rules file to some media that you can bring into the secure area and then copy it onto a system in the secure area.
3. In the left navigation pane, click **Storage Management > Event Setup**.
4. In the **Event Setup** page, click the **Upload Rules** button.
5. In the **Upload Rules** dialog box, navigate to and select the rules .zip file you downloaded and click **Upload**.

This process can take a few minutes.

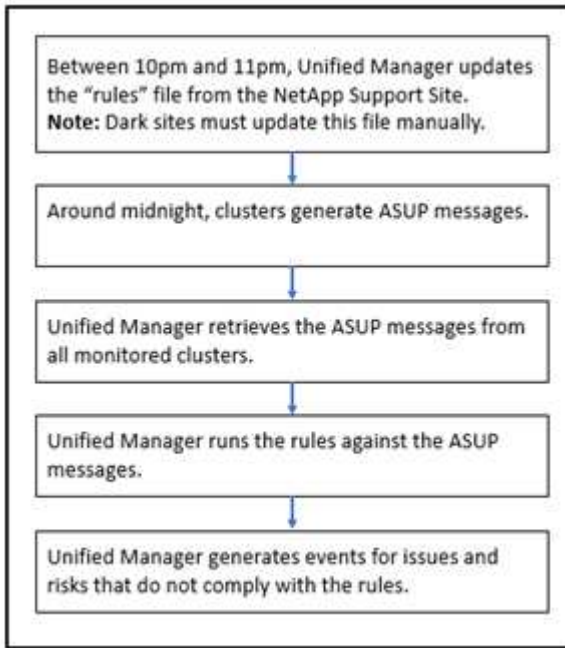
### Results

The rules file is unzipped on the Unified Manager server. After your managed clusters generate an AutoSupport file after midnight Unified Manager will check the clusters against the rules file and generate new risk and incident events if required.

## How Active IQ platform events are generated

Active IQ platform incidents and risks are converted to Unified Manager events as shown

in the following diagram.

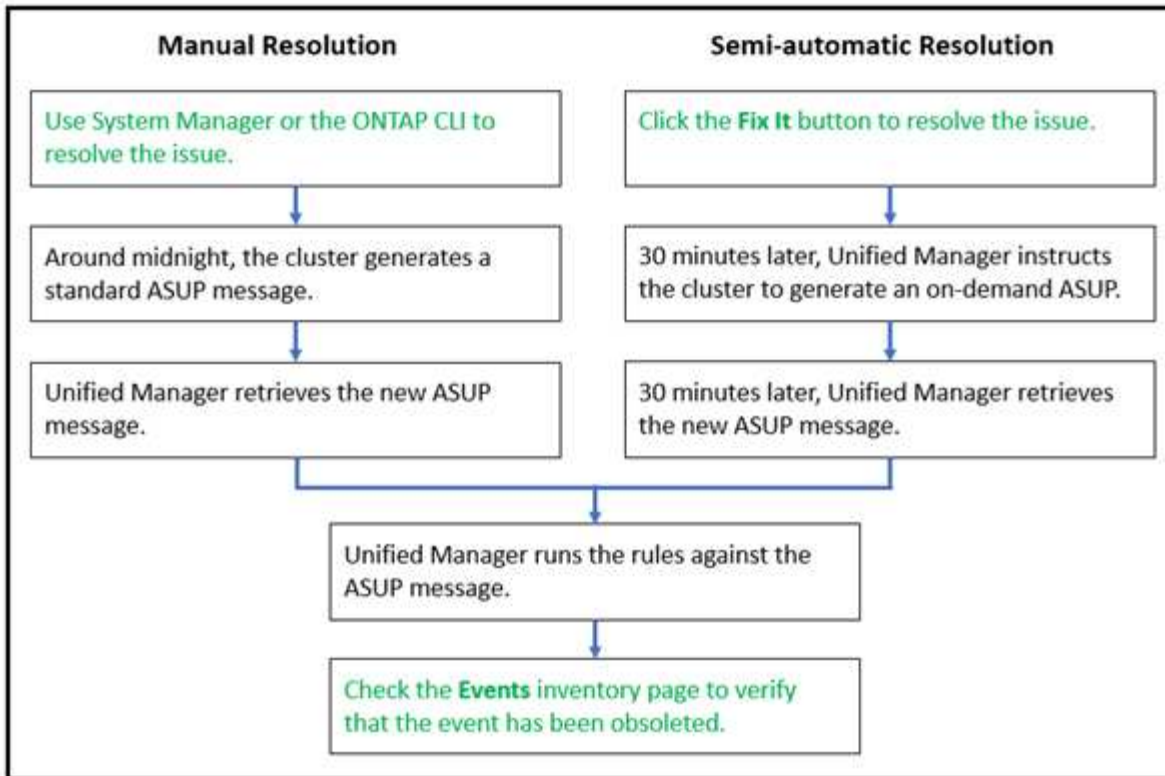


As you can see, the rules file that is compiled on the Active IQ platform is kept current, cluster AutoSupport messages are generated daily, and Unified Manager updates the list of events on a daily basis.

## Resolving Active IQ platform events

Active IQ platform incidents and risks are similar to other Unified Manager events because they can be assigned to other users for resolution and they have the same available states. However, when you resolve these types of events using the **Fix It** button you can verify the resolution within hours.

The following diagram shows the actions you must take (in green) and the action that Unified Manager takes (in black) when resolving events that were generated from the Active IQ platform.



When performing a manual resolution you must log into System Manager or the ONTAP command-line interface to fix the issue. You will be able to verify the issue only after the cluster generates a new AutoSupport message at midnight.

When performing a semi-automatic resolution using the **Fix It** button you are able to verify that the fix was successful within hours.

## Subscribing to ONTAP EMS events

You can subscribe to receive Event Management System (EMS) events that are generated by systems that are installed with ONTAP software. A subset of EMS events are reported to Unified Manager automatically, but additional EMS events are reported only if you have subscribed to these events.

### Before you begin

Do not subscribe to EMS events that are already added to Unified Manager automatically as this can cause confusion when receiving two events for the same issue.

### About this task

You can subscribe to any number of EMS events. All the events to which you subscribe are validated, and only the validated events are applied to the clusters you are monitoring in Unified Manager. The *ONTAP 9 EMS Event Catalog* provides detailed information for all of the EMS messages for the specified version of ONTAP 9 software. Locate the appropriate version of the *EMS Event Catalog* from the ONTAP 9 Product Documentation page for a list of the applicable events.

[ONTAP 9 Product Library](#)

You can configure alerts for the ONTAP EMS events to which you subscribe, and you can create custom scripts to be executed for these events.



If you do not receive the ONTAP EMS events to which you have subscribed, there might be an issue with the DNS configuration of the cluster which is preventing the cluster from reaching the Unified Manager server. To resolve this issue, the cluster administrator must correct the DNS configuration of the cluster, and then restart Unified Manager. Doing so will flush the pending EMS events to the Unified Manager server.

## Steps

1. In the left navigation pane, click **Storage Management > Event Setup**.
2. In the **Event Setup** page, click the **Subscribe to EMS events** button.
3. In the **Subscribe to EMS events** dialog box, enter the name of the ONTAP EMS event to which you want to subscribe.

To view the names of the EMS events to which you can subscribe, from the ONTAP cluster shell, you can use the `event route show` command (prior to ONTAP 9) or the `event catalog show` command (ONTAP 9 or later).

[How to configure and receive alerts from ONTAP EMS Event Subscription in Active IQ Unified Manager](#)

4. Click **Add**.

The EMS event is added to the Subscribed EMS events list, but the Applicable to Cluster column displays the status as “Unknown” for the EMS event that you added.

5. Click **Save and Close** to register the EMS event subscription with the cluster.
6. Click **Subscribe to EMS events** again.

The status “Yes” appears in the Applicable to Cluster column for the EMS event that you added.

If the status is not “Yes”, check the spelling of the ONTAP EMS event name. If the name is entered incorrectly, you must remove the incorrect event, and then add the event again.

## After you finish

When the ONTAP EMS event occurs, the event is displayed on the Events page. You can select the event to view details about the EMS event in the Event details page. You can also manage the disposition of the event or create alerts for the event.

## Configuring event retention settings

You can specify the number of months an event is retained in the Unified Manager server before it is automatically deleted.

## Before you begin

You must have the Application Administrator role.

## About this task

Retaining events for more than 6 months could affect the server performance and is not recommended.

## Steps

1. In the left navigation pane, click **General > Data Retention**.
2. In the **Data Retention** page, select the slider in the Event Retention area and move it to the number of months that events should be retained, and click **Save**.

## What a Unified Manager maintenance window is

You define a Unified Manager maintenance window to suppress events and alerts for a specific timeframe when you have scheduled cluster maintenance and you do not want to receive a flood of unwanted notifications.

When the maintenance window starts, an “Object Maintenance Window Started” event is posted to the Event Management inventory page. This event is obsoleted automatically when the maintenance window ends.

During a maintenance window the events related to all objects on that cluster are still generated, but they do not appear in any of the UI pages, and no alerts or other types of notification are sent for these events. You can, however, view the events that were generated for all storage objects during a maintenance window by selecting one of the View options on the Event Management inventory page.

You can schedule a maintenance window to be initiated in the future, you can change the start and end times for a scheduled maintenance window, and you can cancel a scheduled maintenance window.

## Scheduling a maintenance window to disable cluster event notifications

If you have a planned downtime for a cluster, for example, to upgrade the cluster or to move one of the nodes, you can suppress the events and alerts that would normally be generated during that timeframe by scheduling a Unified Manager maintenance window.

### Before you begin

You must have the Application Administrator or Storage Administrator role.

## About this task

During a maintenance window, the events related to all objects on that cluster are still generated, but they do not appear in the event page, and no alerts or other types of notification are sent for these events.

The time you enter for the maintenance window is based on the time at the Unified Manager server.

## Steps

1. In the left navigation pane, click **Storage Management > Cluster Setup**.
2. In the **Maintenance Mode** column for the cluster, select the slider button and move it to the right.

The calendar window is displayed.



3. Select the start and end date and time for the maintenance window and click **Apply**.

The message “Scheduled” appears next to the slider button.

## Results

When the start time is reached the cluster goes into maintenance mode and an “Object Maintenance Window Started” event is generated.

## Changing or canceling a scheduled maintenance window

If you have configured a Unified Manager maintenance window to occur in the future, you can change the start and end times or cancel the maintenance window from occurring.

### Before you begin

You must have the Application Administrator or Storage Administrator role.

### About this task

Canceling a currently running maintenance window is useful if you have completed cluster maintenance before the scheduled maintenance window end time and you want to start receiving events and alerts from the cluster again.

### Steps

1. In the left navigation pane, click **Storage Management > Cluster Setup**.
2. In the **Maintenance Mode** column for the cluster:

If you want to...	Perform this step...
Change the timeframe for a scheduled maintenance window	<ol style="list-style-type: none"><li>a. Click the text “Scheduled” next to the slider button.</li><li>b. Change the start and/or end date and time and click <b>Apply</b>.</li></ol>
Extend the length of an active maintenance window	<ol style="list-style-type: none"><li>a. Click the text “Active” next to the slider button.</li><li>b. Change the end date and time and click <b>Apply</b>.</li></ol>
Cancel a scheduled maintenance window	Select the slider button and move it to the left.
Cancel an active maintenance window	Select the slider button and move it to the left.

## Viewing events that occurred during a maintenance window

If necessary, you can view the events that were generated for all storage objects during a Unified Manager maintenance window. Most events will appear in the Obsolete state once the maintenance window has completed and all system resources are back up and running.

## Before you begin

At least one maintenance window must have completed before any events are available.

## About this task

Events that occurred during a maintenance window do not appear on the Event Management inventory page by default.

## Steps

1. In the left navigation pane, click **Events**.

By default, all active (New and Acknowledged) events are displayed on the Event Management inventory page.

2. From the **View** pane, select the option **All events generated during maintenance**.

The list of events triggered during the last 7 days from all maintenance window sessions and from all clusters are displayed.

3. If there have been multiple maintenance windows for a single cluster, you can click the **Triggered Time** calendar icon and select the period of time for the maintenance window events that you are interested in viewing.

# Managing host system resource events

Unified Manager includes a service that monitors resource issues on the host system on which Unified Manager is installed. Issues such as lack of available disk space or lack of memory on the host system may trigger management station events that are displayed as banner messages across the top of the UI.

## About this task

Management station events indicate an issue with the host system on which Unified Manager is installed. Examples of management station issues include disk space running low on the host system; Unified Manager missing a regular data collection cycle; and noncompletion, or late completion, of statistics analysis because the next collection poll was initiated.

Unlike all other Unified Manager event messages, these particular management station warning and critical events are displayed in banner messages.

## Steps

1. To view management station event information, perform these actions:

If you want to...	Do this...
View details of the event	Click the event banner to display the Event details page that includes suggested solutions for the issue.

If you want to...	Do this...
View all management station events	<ol style="list-style-type: none"> <li>a. In the left navigation pane, click <b>Event Management</b>.</li> <li>b. In the Filters pane on the Event Management inventory page, click the box for Management Station in the Source Type list.</li> </ol>

## Understanding more about events

Understanding the concepts about events helps you to manage your clusters and cluster objects efficiently and to define alerts appropriately.

### Event state definitions

The state of an event helps you identify whether an appropriate corrective action is required. An event can be New, Acknowledged, Resolved, or Obsolete. Note that both New and Acknowledged events are considered to be active events.

The event states are as follows:

- **New**

The state of a new event.

- **Acknowledged**

The state of an event when you have acknowledged it.

- **Resolved**

The state of an event when it is marked as resolved.

- **Obsolete**

The state of an event when it is automatically corrected or when the cause of the event is no longer valid.



You cannot acknowledge or resolve an obsolete event.

### Example of different states of an event

The following examples illustrate the manual and automatic event state changes.

When the event Cluster Not Reachable is triggered, the event state is New. When you acknowledge the event, the event state changes to Acknowledged. When you have taken an appropriate corrective action, you must mark the event as resolved. The event state then changes to Resolved.

If the Cluster Not Reachable event is generated due to a power outage, then when the power is restored the cluster starts functioning without any administrator intervention. Therefore, the Cluster Not Reachable event is no longer valid, and the event state changes to Obsolete in the next monitoring cycle.

Unified Manager sends an alert when an event is in the Obsolete or Resolved state. The email subject line and email content of an alert provides information about the event state. An SNMP trap also includes information about the event state.

## Description of event severity types

Each event is associated with a severity type to help you prioritize the events that require immediate corrective action.

- **Critical**

A problem occurred that might lead to service disruption if corrective action is not taken immediately.

Performance critical events are sent from user-defined thresholds only.

- **Error**

The event source is still performing; however, corrective action is required to avoid service disruption.

- **Warning**

The event source experienced an occurrence that you should be aware of, or a performance counter for a cluster object is out of normal range and should be monitored to make sure it does not reach the critical severity. Events of this severity do not cause service disruption, and immediate corrective action might not be required.

Performance warning events are sent from user-defined, system-defined, or dynamic thresholds.

- **Information**

The event occurs when a new object is discovered, or when a user action is performed. For example, when any storage object is deleted or when there are any configuration changes, the event with severity type Information is generated.

Information events are sent directly from ONTAP when it detects a configuration change.

## Description of event impact levels

Each event is associated with an impact level (Incident, Risk, Event, or Upgrade) to help you prioritize the events that require immediate corrective action.

- **Incident**

An incident is a set of events that can cause a cluster to stop serving data to the client and run out of space for storing data. Events with an impact level of Incident are the most severe. Immediate corrective action should be taken to avoid service disruption.

- **Risk**

A risk is a set of events that can potentially cause a cluster to stop serving data to the client and run out of space for storing data. Events with an impact level of Risk can cause service disruption. Corrective action might be required.

- **Event**

An event is a state or status change of storage objects and their attributes. Events with an impact level of Event are informational and do not require corrective action.

- **Upgrade**

Upgrade events are a specific type of event reported from the Active IQ platform. These events identify issues where the resolution requires you to upgrade ONTAP software, node firmware, or operating system software (for security advisories). You may want to perform immediate corrective action for some of these issues, whereas other issues may be able to wait until your next scheduled maintenance.

## Description of event impact areas

Events are categorized into six impact areas (availability, capacity, configuration, performance, protection, and security) to enable you to concentrate on the types of events for which you are responsible.

- **Availability**

Availability events notify you if a storage object goes offline, if a protocol service goes down, if an issue with storage failover occurs, or if an issue with hardware occurs.

- **Capacity**

Capacity events notify you if your aggregates, volumes, LUNs, or namespaces are approaching or have reached a size threshold, or if the rate of growth is unusual for your environment.

- **Configuration**

Configuration events inform you of the discovery, deletion, addition, removal, or renaming of your storage objects. Configuration events have an impact level of Event and a severity type of Information.

- **Performance**

Performance events notify you of resource, configuration, or activity conditions on your cluster that might adversely affect the speed of data storage input or retrieval on your monitored storage objects.

- **Protection**

Protection events notify you of incidents or risks involving SnapMirror relationships, issues with destination capacity, problems with SnapVault relationships, or issues with protection jobs. Any ONTAP object (especially aggregates, volumes, and SVMs) that host secondary volumes and protection relationships are categorized in the protection impact area.

- **Security**

Security events notify you of how secure your ONTAP clusters, storage virtual machines (SVMs), and volumes are based on parameters defined in the [NetApp Security Hardening Guide for ONTAP 9](#).

Additionally, this area includes upgrade events that are reported from the Active IQ platform.

## How object status is computed

Object status is determined by the most severe event that currently holds a New or

Acknowledged state. For example, if an object status is Error, then one of the object's events has a severity type of Error. When corrective action has been taken, the event state moves to Resolved.

## Dynamic performance event chart details

For dynamic performance events, the System Diagnosis section of the Event details page lists the top workloads with the highest latency or usage of the cluster component that is in contention. The performance statistics are based on the time the performance event was detected up to the last time the event was analyzed. The charts also display historical performance statistics for the cluster component that is in contention.

For example, you can identify workloads with high utilization of a component to determine which workload to move to a less-utilized component. Moving the workload would reduce the amount of work on the current component, possibly bringing the component out of contention. At the top of this section is the time and date range when an event was detected and last analyzed. For active events (new or acknowledged), the last analyzed time continues to update.

The latency and activity charts display the names of the top workloads when you hover your cursor over the chart. Clicking the Workload Type menu at the right of the chart enables you to sort the workloads based on their role in the event, including *sharks*, *bullies*, or *victims*, and displays details about their latency and their usage on the cluster component in contention. You can compare the actual value to the expected value to see when the workload was outside its expected range of latency or usage. See [Workloads monitored by Unified Manager](#).



When you sort by peak deviation in latency, system-defined workloads are not displayed in the table, because latency applies only to user-defined workloads. Workloads with very low latency values are not displayed in the table.

For more information about the dynamic performance thresholds, see [What events are](#). For information about how Unified Manager ranks the workloads and determines the sort order, see [How Unified Manager determines the performance impact for an event](#).

The data in the graphs shows 24 hours of performance statistics prior to the last time the event was analyzed. The actual values and expected values for each workload are based on the time the workload was involved in the event. For example, a workload might become involved in an event after the event was detected, so its performance statistics might not match the values at the time of event detection. By default, the workloads are sorted by peak (highest) deviation in latency.



Because Unified Manager retains a maximum of 30 days of 5-minute historical performance and event data, if the event is more than 30 days old, no performance data is displayed.

- **Workload Sort column**

- **Latency chart**

- Displays the impact of the event to the latency of the workload during the last analysis.

- **Component Usage column**

- Displays details about the workload usage of the cluster component in contention. In the graphs, the actual usage is a blue line. A red bar highlights the event duration, from the detection time to the last

analyzed time. For more information, see [Workload performance measurements](#).



For the network component, because network performance statistics come from activity off the cluster, this column is not displayed.

- **Component Usage**

Displays the history of utilization, in percent, for the network processing, data processing, and aggregate components or the history of activity, in percent, for the QoS policy group component. The chart is not displayed for the network or interconnect components. You can point to the statistics to view the usage statistics at a specific point in time.

- **Total Write MB/s History**

For the MetroCluster Resources component only, shows the total write throughput, in megabytes per second (MBps), for all volume workloads that are being mirrored to the partner cluster in a MetroCluster configuration.

- **Event History**

Displays red-shaded lines to indicate the historic events for the component in contention. For obsolete events, the chart displays events that occurred before the selected event was detected and after it was resolved.

## Configuration changes detected by Unified Manager

Unified Manager monitors your clusters for configuration changes to help you determine whether a change might have caused or contributed to a performance event. The Performance Explorer pages display a change event icon (●) to indicate the date and time when the change was detected.

You can review the performance charts in the Performance Explorer pages and in the Workload Analysis page to see whether the change event impacted the performance of the selected cluster object. If the change was detected at or around the same time as a performance event, the change might have contributed to the issue, which caused the event alert to trigger.

Unified Manager can detect the following change events, which are categorized as Informational events:

- A volume moves between aggregates.

Unified Manager can detect when the move is in progress, completed, or failed. If Unified Manager is down during a volume move, when it is back up it detects the volume move and displays a change event for it.

- The throughput (MB/s or IOPS) limit of a QoS policy group that contains one or more monitored workloads changes.

Changing a policy group limit can cause intermittent spikes in the latency (response time), which might also trigger events for the policy group. The latency gradually returns to normal and any events caused by the spikes become obsolete.

- A node in an HA pair takes over or gives back the storage of its partner node.

Unified Manager can detect when the takeover, partial takeover, or giveback operation has been

completed. If the takeover is caused by a panicked node, Unified Manager does not detect the event.

- An ONTAP upgrade or revert operation is completed successfully.

The previous version and new version are displayed.

## List of events and severity types

You can use the list of events to become more familiar with event categories, event names, and the severity type of each event that you might see in Unified Manager. Events are listed in alphabetical order by object category.

### Aggregate events

Aggregate events provide you with information about the status of aggregates so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

#### Impact area: availability

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.

Event name(Trap name)	Impact level	Source type	Severity
Aggregate Offline(ocumEvtAggregateStateOffline)	Incident	Aggregate	Critical
Aggregate Failed(ocumEvtAggregateStateFailed)	Incident	Aggregate	Critical
Aggregate Restricted(ocumEvtAggregateStateRestricted)	Risk	Aggregate	Warning
Aggregate Reconstructing(ocumEvtAggregateRaidStateReconstructing)	Risk	Aggregate	Warning
Aggregate Degraded(ocumEvtAggregateRaidStateDegraded)	Risk	Aggregate	Warning
Cloud Tier Partially Reachable(ocumEventCloudTierPartiallyReachable)	Risk	Aggregate	Warning



Event name(Trap name)	Impact level	Source type	Severity
Cloud Tier Unreachable(ocumEventCloudTierUnreachable)	Risk	Aggregate	Error
Cloud Tier Access Denied for Aggregate Relocation *(arINetraCaCheckFailed)	Risk	Aggregate	Error
Cloud Tier Access Denied for Aggregate Relocation During Storage Failover *(gbNetraCaCheckFailed)	Risk	Aggregate	Error
MetroCluster Aggregate Left Behind(ocumEvtMetroClusterAggregateLeftBehind)	Risk	Aggregate	Error
MetroCluster Aggregate Mirroring Degraded(ocumEvtMetroClusterAggregateMirrorDegraded)	Risk	Aggregate	Error

**Impact area: capacity**

Event name(Trap name)	Impact level	Source type	Severity
Aggregate Space Nearly Full(ocumEvtAggregateNearlyFull)	Risk	Aggregate	Warning
Aggregate Space Full(ocumEvtAggregateFull)	Risk	Aggregate	Error
Aggregate Days Until Full(ocumEvtAggregateDaysUntilFullSoon)	Risk	Aggregate	Error
Aggregate Overcommitted(ocumEvtAggregateOvercommitted)	Risk	Aggregate	Error

Event name(Trap name)	Impact level	Source type	Severity
Aggregate Nearly Overcommitted(ocumEvtAggregateAlmostOvercommitted)	Risk	Aggregate	Warning
Aggregate Snapshot Reserve Full(ocumEvtAggregateSnapshotReserveFull)	Risk	Aggregate	Warning
Aggregate Growth Rate Abnormal(ocumEvtAggregateGrowthRateAbnormal)	Risk	Aggregate	Warning

### Impact area: configuration

Event name(Trap name)	Impact level	Source type	Severity
Aggregate Discovered(Not applicable)	Event	Aggregate	Information
Aggregate Renamed(Not applicable)	Event	Aggregate	Information
Aggregate Deleted(Not applicable)	Event	Node	Information

### Impact area: performance

Event name(Trap name)	Impact level	Source type	Severity
Aggregate IOPS Critical Threshold Breached(ocumAggregateIopsIncident)	Incident	Aggregate	Critical
Aggregate IOPS Warning Threshold Breached(ocumAggregateIopsWarning)	Risk	Aggregate	Warning
Aggregate MB/s Critical Threshold Breached(ocumAggregateMbpsIncident)	Incident	Aggregate	Critical

<b>Event name(Trap name)</b>	<b>Impact level</b>	<b>Source type</b>	<b>Severity</b>
Aggregate MB/s Warning Threshold Breached(ocumAggregateMbpsWarning)	Risk	Aggregate	Warning
Aggregate Latency Critical Threshold Breached(ocumAggregateLatencyIncident)	Incident	Aggregate	Critical
Aggregate Latency Warning Threshold Breached(ocumAggregateLatencyWarning)	Risk	Aggregate	Warning
Aggregate Performance Capacity Used Critical Threshold Breached(ocumAggregatePerfCapacityUsedIncident)	Incident	Aggregate	Critical
Aggregate Performance Capacity Used Warning Threshold Breached(ocumAggregatePerfCapacityUsedWarning)	Risk	Aggregate	Warning
Aggregate Utilization Critical Threshold Breached(ocumAggregateUtilizationIncident)	Incident	Aggregate	Critical
Aggregate Utilization Warning Threshold Breached(ocumAggregateUtilizationWarning)	Risk	Aggregate	Warning
Aggregate Disks Over-utilized Threshold Breached(ocumAggregateDisksOverUtilizedWarning)	Risk	Aggregate	Warning

Event name(Trap name)	Impact level	Source type	Severity
Aggregate Dynamic Threshold Breached (ocumAggregateDynamicEventWarning)	Risk	Aggregate	Warning

## Cluster events

Cluster events provide information about the status of clusters, which enables you to monitor the clusters for potential problems. The events are grouped by impact area, and include the event name, trap name, impact level, source type, and severity.

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Cluster Lacks Spare Disks(ocumEvtDisksNoSpares)
Risk
Cluster
Warning
Cluster Not Reachable(ocumEvtClusterUnreachable)
Risk
Cluster
Error
Cluster Monitoring Failed(ocumEvtClusterMonitoringFailed)
Risk
Cluster
Warning
Cluster FabricPool License Capacity Limits Breached (ocumEvtExternalCapacityTierSpaceFull)

<b>Event name(Trap name)</b>
Risk
Cluster
Warning
NVMe-oF Grace Period Started *(nvmfGracePeriodStart)
Risk
Cluster
Warning
NVMe-oF Grace Period Active *(nvmfGracePeriodActive)
Risk
Cluster
Warning
NVMe-oF Grace Period Expired *(nvmfGracePeriodExpired)
Risk
Cluster
Warning
Object Maintenance Window Started(objectMaintenanceWindowStarted)
Event
Cluster
Critical
Object Maintenance Window Ended(objectMaintenanceWindowEnded)
Event
Cluster

<b>Event name(Trap name)</b>
Information
MetroCluster Spare Disks Left Behind(ocumEvtSpareDiskLeftBehind)
Risk
Cluster
Error
MetroCluster Automatic Unplanned Switchover Disabled(ocumEvtMccAutomaticUnplannedSwitchOverDisabled)
Risk
Cluster
Warning

**Impact area: capacity**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Cluster Capacity Imbalance Threshold Breached(ocumConformanceNodeImbalanceWarning)
Risk
Cluster
Warning
Cluster Cloud Tier Planning (clusterCloudTierPlanningWarning)
Risk
Cluster
Warning

<b>Event name(Trap name)</b>
FabricPool Mirror Replication Resync Completed *(wafCaResyncComplete)
Event
Cluster
Warning
FabricPool Space Nearly Full *(fabricpoolNearlyFull)
Risk
Cluster
Error

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Node Added(Not applicable)
Event
Cluster
Information
Node Removed(Not applicable)
Event
Cluster
Information
Cluster Removed(Not applicable)
Event

<b>Event name(Trap name)</b>
Cluster
Information
Cluster Add Failed(Not applicable)
Event
Cluster
Error
Cluster Name Changed(Not applicable)
Event
Cluster
Information
Emergency EMS received (Not applicable)
Event
Cluster
Critical
Critical EMS received (Not applicable)
Event
Cluster
Critical
Alert EMS received (Not applicable)
Event
Cluster
Error



<b>Event name(Trap name)</b>
Error EMS received (Not applicable)
Event
Cluster
Warning
Warning EMS received (Not applicable)
Event
Cluster
Warning
Debug EMS received (Not applicable)
Event
Cluster
Warning
Notice EMS received (Not applicable)
Event
Cluster
Warning
Informational EMS received (Not applicable)
Event
Cluster
Warning

ONTAP EMS events are categorized into three Unified Manager event severity levels.

Unified Manager event severity level	ONTAP EMS event severity level
--------------------------------------	--------------------------------

Critical	Emergency Critical
Error	Alert
Warning	Error Warning Debug Notice Informational

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Cluster Load Imbalance Threshold Breached()
Risk
Cluster
Warning
Cluster IOPS Critical Threshold Breached(ocumClusterIopsIncident)
Incident
Cluster
Critical
Cluster IOPS Warning Threshold Breached(ocumClusterIopsWarning)
Risk
Cluster

<b>Event name(Trap name)</b>
Warning
Cluster MB/s Critical Threshold Breached(ocumClusterMbpsIncident)
Incident
Cluster
Critical
Cluster MB/s Warning Threshold Breached(ocumClusterMbpsWarning)
Risk
Cluster
Warning
Cluster Dynamic Threshold Breached(ocumClusterDynamicEventWarning)
Risk
Cluster
Warning

**Impact area: security**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
AutoSupport HTTPS Transport Disabled(ocumClusterASUPHttpsConfiguredDisabled)
Risk
Cluster
Warning
Log Forwarding Not Encrypted(ocumClusterAuditLogUnencrypted)

<b>Event name(Trap name)</b>
Risk
Cluster
Warning
Default Local Admin User Enabled(ocumClusterDefaultAdminEnabled)
Risk
Cluster
Warning
FIPS Mode Disabled(ocumClusterFipsDisabled)
Risk
Cluster
Warning
Login Banner Disabled(ocumClusterLoginBannerDisabled)
Risk
Cluster
Warning
Login Banner Changed(ocumClusterLoginBannerChanged)
Risk
Cluster
Warning
Log Forwarding Destinations Changed(ocumLogForwardDestinationsChanged)
Risk
Cluster

<b>Event name(Trap name)</b>
Warning
NTP Server Names Changed(ocumNtpServerNamesChanged)
Risk
Cluster
Warning
NTP Server Count is Low(securityConfigNTPServerCountLowRisk)
Risk
Cluster
Warning
Cluster Peer Communication Not Encrypted(ocumClusterPeerEncryptionDisabled)
Risk
Cluster
Warning
SSH is Using Insecure Ciphers(ocumClusterSSHInsecure)
Risk
Cluster
Warning
Telnet Protocol Enabled(ocumClusterTelnetEnabled)
Risk
Cluster
Warning

## Disks events

Disks events provide you with information about the status of disks so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Flash Disks - Spare Blocks Almost Consumed(ocumEvtClusterFlashDiskFewerSpareBlockError)
Risk
Cluster
Error
Flash Disks - No Spare Blocks(ocumEvtClusterFlashDiskNoSpareBlockCritical)
Incident
Cluster
Critical
Some Unassigned Disks(ocumEvtClusterUnassignedDisksSome)
Risk
Cluster
Warning
Some Failed Disks(ocumEvtDisksSomeFailed)
Incident
Cluster
Critical

## Enclosures events

Enclosures events provide you with information about the status of disk shelf enclosures in your data center so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Disk Shelf Fans Failed(ocumEvtShelfFanFailed)
Incident
Storage shelf
Critical
Disk Shelf Power Supplies Failed(ocumEvtShelfPowerSupplyFailed)
Incident
Storage shelf
Critical
Disk Shelf Multipath Not Configured(ocumDiskShelfConnectivityNotInMultiPath)
This event does not apply to: <ul style="list-style-type: none"><li>• Clusters that are in a MetroCluster configuration</li><li>• The following platforms: FAS2554, FAS2552, FAS2520, and FAS2240</li></ul>
Risk
Node
Warning
Disk Shelf Path Failure(ocumDiskShelfConnectivityPathFailure)
Risk

<b>Event name(Trap name)</b>
Storage Shelf
Warning

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Disk Shelf Discovered(Not applicable)
Event
Node
Information
Disk Shelves Removed(Not applicable)
Event
Node
Information

**Fans events**

Fans events provide you with information about the status fans on nodes in your data center so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

**Impact area: availability**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
One or More Failed Fans(ocumEvtFansOneOrMoreFailed)



<b>Event name(Trap name)</b>
Incident
Node
Critical

## Flash card events

Flash card events provide you with information about the status of the flash cards installed on nodes in your data center so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Flash Cards Offline(ocumEvtFlashCardOffline)
Incident
Node
Critical

## Inodes events

Inode events provide information when the inode is full or nearly full so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: capacity

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Inodes Nearly Full(ocumEvtInodesAlmostFull)

<b>Event name(Trap name)</b>
Risk
Volume
Warning
Inodes Full(ocumEvtInodesFull)
Risk
Volume
Error

## Network interface (LIF) events

Network interface events provide information about the status of your network interface (LIFs), so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Network Interface Status Down(ocumEvtLifStatusDown)
Risk
Interface
Error
FC/FCoE Network Interface Status Down(ocumEvtFCLifStatusDown)
Risk
Interface
Error

<b>Event name(Trap name)</b>
Network Interface Failover Not Possible(ocumEvtLifFailoverNotPossible)
Risk
Interface
Warning
Network Interface Not At Home Port(ocumEvtLifNotAtHomePort)
Risk
Interface
Warning

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Network Interface Route Not Configured(Not applicable)
Event
Interface
Information

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Network Interface MB/s Critical Threshold Breached(ocumNetworkLifMbpsIncident)
Incident

<b>Event name(Trap name)</b>
Interface
Critical
Network Interface MB/s Warning Threshold Breached(ocumNetworkLifMbpsWarning)
Risk
Interface
Warning
FC Network Interface MB/s Critical Threshold Breached(ocumFcpLifMbpsIncident)
Incident
Interface
Critical
FC Network Interface MB/s Warning Threshold Breached(ocumFcpLifMbpsWarning)
Risk
Interface
Warning
NVMf FC Network Interface MB/s Critical Threshold Breached(ocumNvmfFcLifMbpsIncident)
Incident
Interface
Critical
NVMf FC Network Interface MB/s Warning Threshold Breached(ocumNvmfFcLifMbpsWarning)
Risk
Interface
Warning

## LUN events

LUN events provide you with information about the status of your LUNs, so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
LUN Offline(ocumEvtLunOffline)
Incident
LUN
Critical
LUN Destroyed *(lunDestroy)
Event
LUN
Information
LUN mapped with unsupported operating system in igroup(igroupUnsupportedOsType)
Incident
LUN
Warning
Single Active Path To Access LUN(ocumEvtLunSingleActivePath)
Risk
LUN

<b>Event name(Trap name)</b>
Warning
No Active Paths To Access LUN(ocumEvtLunNotReachable)
Incident
LUN
Critical
No Optimized Paths To Access LUN(ocumEvtLunOptimizedPathInactive)
Risk
LUN
Warning
No Paths To Access LUN From HA Partner(ocumEvtLunHaPathInactive)
Risk
LUN
Warning
No Path to Access LUN from one Node in HA-pair(ocumEvtLunNodePathStatusDown)
Risk
LUN
Error

**Impact area: capacity**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Insufficient Space For LUN Snapshot Copy(ocumEvtLunSnapshotNotPossible)

<b>Event name(Trap name)</b>
Risk
Volume
Warning

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
LUN mapped with unsupported operating system in igroup(igroupUnsupportedOsType)
Risk
LUN
Warning

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
LUN IOPS Critical Threshold Breached(ocumLunIopsIncident)
Incident
LUN
Critical
LUN IOPS Warning Threshold Breached(ocumLunIopsWarning)
Risk
LUN

<b>Event name(Trap name)</b>
Warning
LUN MB/s Critical Threshold Breached(ocumLunMbpsIncident)
Incident
LUN
Critical
LUN MB/s Warning Threshold Breached(ocumLunMbpsWarning)
Risk
LUN
Warning
LUN Latency ms/op Critical Threshold Breached(ocumLunLatencyIncident)
Incident
LUN
Critical
LUN Latency ms/op Warning Threshold Breached(ocumLunLatencyWarning)
Risk
LUN
Warning
LUN Latency and IOPS Critical Threshold Breached(ocumLunLatencyIopsIncident)
Incident
LUN
Critical
LUN Latency and IOPS Warning Threshold Breached(ocumLunLatencyIopsWarning)



<b>Event name(Trap name)</b>
Risk
LUN
Warning
LUN Latency and MB/s Critical Threshold Breached(ocumLunLatencyMbpsIncident)
Incident
LUN
Critical
LUN Latency and MB/s Warning Threshold Breached(ocumLunLatencyMbpsWarning)
Risk
LUN
Warning
LUN Latency and Aggregate Performance Capacity Used Critical Threshold Breached(ocumLunLatencyAggregatePerfCapacityUsedIncident)
Incident
LUN
Critical
LUN Latency and Aggregate Performance Capacity Used Warning Threshold Breached(ocumLunLatencyAggregatePerfCapacityUsedWarning)
Risk
LUN
Warning
LUN Latency and Aggregate Utilization Critical Threshold Breached(ocumLunLatencyAggregateUtilizationIncident)

<b>Event name(Trap name)</b>
Incident
LUN
Critical
LUN Latency and Aggregate Utilization Warning Threshold Breached(ocumLunLatencyAggregateUtilizationWarning)
Risk
LUN
Warning
LUN Latency and Node Performance Capacity Used Critical Threshold Breached(ocumLunLatencyNodePerfCapacityUsedIncident)
Incident
LUN
Critical
LUN Latency and Node Performance Capacity Used Warning Threshold Breached(ocumLunLatencyNodePerfCapacityUsedWarning)
Risk
LUN
Warning
LUN Latency and Node Performance Capacity Used - Takeover Critical Threshold Breached(ocumLunLatencyAggregatePerfCapacityUsedTakeoverIncident)
Incident
LUN
Critical
LUN Latency and Node Performance Capacity Used - Takeover Warning Threshold Breached(ocumLunLatencyAggregatePerfCapacityUsedTakeoverWarning)

<b>Event name(Trap name)</b>
Risk
LUN
Warning
LUN Latency and Node Utilization Critical Threshold Breached(ocumLunLatencyNodeUtilizationIncident)
Incident
LUN
Critical
LUN Latency and Node Utilization Warning Threshold Breached(ocumLunLatencyNodeUtilizationWarning)
Risk
LUN
Warning
QoS LUN Max IOPS Warning Threshold Breached(ocumQosLunMaxIopsWarning)
Risk
LUN
Warning
QoS LUN Max MB/s Warning Threshold Breached(ocumQosLunMaxMbpsWarning)
Risk
LUN
Warning
Workload LUN Latency Threshold Breached as defined by Performance Service Level Policy(ocumConformanceLatencyWarning)
Risk

<b>Event name(Trap name)</b>
LUN
Warning

## Management station events

Management station events provide you with information about the status of server on which Unified Manager is installed so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: configuration

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Management Server Disk Space Nearly Full(ocumEvtUnifiedManagerDiskSpaceNearlyFull)
Risk
Management station
Warning
Management Server Disk Space Full(ocumEvtUnifiedManagerDiskSpaceFull)
Incident
Management station
Critical
Management Server Low On Memory(ocumEvtUnifiedManagerMemoryLow)
Risk
Management station
Warning

<b>Event name(Trap name)</b>
Management Server Almost Out Of Memory(ocumEvtUnifiedManagerMemoryAlmostOut)
Incident
Management station
Critical
MySQL Log File Size Increased; Restart Required(ocumEvtMysqlLogFileWarning)
Incident
Management station
Warning

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Performance Data Analysis Is Impacted(ocumEvtUnifiedManagerDataMissingAnalyze)
Risk
Management station
Warning
Performance Data Collection Is Impacted(ocumEvtUnifiedManagerDataMissingCollection)
Incident
Management station
Critical



These last two performance events were available for Unified Manager 7.2 only. If either of these events exist in the New state, and then you upgrade to a newer version of Unified Manager software, the events will not be purged automatically. You will need to move the events to the Resolved state manually.

## MetroCluster Bridge events

MetroCluster Bridge events provide you with information about the status of the bridges so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Bridge Unreachable(ocumEvtBridgeUnreachable)
Incident
MetroCluster Bridge
Critical
Bridge Temperature Abnormal(ocumEvtBridgeTemperatureAbnormal)
Incident
MetroCluster Bridge
Critical

## MetroCluster Connectivity events

Connectivity events provide you with information about the connectivity between the components of a cluster and between clusters in a MetroCluster configuration so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
All Inter-Switch Links Down(ocumEvtMetroClusterAllISLBetweenSwitchesDown)

<b>Event name(Trap name)</b>
Incident
MetroCluster inter-switch connection
Critical
All Links Between MetroCluster Partners Down(ocumEvtMetroClusterAllLinksBetweenPartnersDown)
Incident
MetroCluster relationship
Critical
FC-SAS Bridge To Storage Stack Link Down(ocumEvtBridgeSasPortDown)
Incident
MetroCluster bridge stack connection
Critical
MetroCluster Configuration Switched Over(ocumEvtMetroClusterDRStatusImpacted)
Risk
MetroCluster relationship
Warning
MetroCluster Configuration Partially Switched Over(ocumEvtMetroClusterDRStatusPartiallyImpacted)
Risk
MetroCluster relationship
Error
MetroCluster Disaster Recovery Capability Impacted(ocumEvtMetroClusterDRStatusImpacted)
Risk
MetroCluster relationship

<b>Event name(Trap name)</b>
Critical
MetroCluster Partners Not Reachable Over Peering Network(ocumEvtMetroClusterPartnersNotReachableOverPeeringNetwork)
Incident
MetroCluster relationship
Critical
Node To FC Switch All FC-VI Interconnect Links Down(ocumEvtMccNodeSwitchFcviLinksDown)
Incident
MetroCluster node switch connection
Critical
Node To FC Switch One Or More FC-Initiator Links Down(ocumEvtMccNodeSwitchFcLinksOneOrMoreDown)
Risk
MetroCluster node switch connection
Warning
Node To FC Switch All FC-Initiator Links Down(ocumEvtMccNodeSwitchFcLinksDown)
Incident
MetroCluster node switch connection
Critical
Switch To FC-SAS Bridge FC Link Down (ocumEvtMccSwitchBridgeFcLinksDown)
Incident
MetroCluster switch bridge connection
Critical



<b>Event name(Trap name)</b>
Inter Node All FC VI InterConnect Links Down (ocumEvtMccInterNodeLinksDown)
Incident
Inter-node connection
Critical
Inter Node One Or More FC VI InterConnect Links Down (ocumEvtMccInterNodeLinksOneOrMoreDown)
Risk
Inter-node connection
Warning
Node To Bridge Link Down (ocumEvtMccNodeBridgeLinksDown)
Incident
Node bridge connection
Critical
Node to Storage Stack All SAS Links Down ( ocumEvtMccNodeStackLinksDown)
Incident
Node stack connection
Critical
Node to Storage Stack One Or More SAS Links Down ( ocumEvtMccNodeStackLinksOneOrMoreDown)
Risk
Node stack connection
Warning


## MetroCluster switch events

MetroCluster switch events provide you with information about the status of the

MetroCluster switches so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

**Impact area: availability**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Switch Temperature Abnormal(ocumEvtSwitchTemperatureAbnormal)
Incident
MetroCluster Switch
Critical
Switch Unreachable(ocumEvtSwitchUnreachable)
Incident
MetroCluster Switch
Critical
Switch Fans Failed(ocumEvtSwitchFansOneOrMoreFailed)
Incident
MetroCluster Switch
Critical
Switch Power Supplies Failed(ocumEvtSwitchPowerSuppliesOneOrMoreFailed)
Incident
MetroCluster Switch
Critical

<b>Event name(Trap name)</b>
Switch Temperature Sensors Failed(ocumEvtSwitchTemperatureSensorFailed)
 This event is applicable only for Cisco switches.
Incident
MetroCluster Switch
Critical

## NVMe Namespace events

NVMe Namespace events provide you with information about the status of your namespaces, so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
NVMeNS Offline *(nvmeNamespaceStatusOffline)
Event
Namespace
Information
NVMeNS Online *(nvmeNamespaceStatusOnline)
Event
Namespace
Information
NVMeNS Out of Space *(nvmeNamespaceSpaceOutOfSpace)

<b>Event name(Trap name)</b>
Risk
Namespace
Warning
NVMeNS Destroy *(nvmeNamespaceDestroy)
Event
Namespace
Information

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
NVMe Namespace IOPS Critical Threshold Breached(ocumNvmeNamespacelopsIncident)
Incident
Namespace
Critical
NVMe Namespace IOPS Warning Threshold Breached(ocumNvmeNamespacelopsWarning)
Risk
Namespace
Warning
NVMe Namespace MB/s Critical Threshold Breached(ocumNvmeNamespaceMbpsIncident)
Incident
Namespace

<b>Event name(Trap name)</b>
Critical
NVMe Namespace MB/s Warning Threshold Breached(ocumNvmeNamespaceMbpsWarning)
Risk
Namespace
Warning
NVMe Namespace Latency ms/op Critical Threshold Breached(ocumNvmeNamespaceLatencyIncident)
Incident
Namespace
Critical
NVMe Namespace Latency ms/op Warning Threshold Breached(ocumNvmeNamespaceLatencyWarning)
Risk
Namespace
Warning
NVMe Namespace Latency and IOPS Critical Threshold Breached(ocumNvmeNamespaceLatencyIopsIncident)
Incident
Namespace
Critical
NVMe Namespace Latency and IOPS Warning Threshold Breached(ocumNvmeNamespaceLatencyIopsWarning)
Risk
Namespace
Warning

<b>Event name(Trap name)</b>
NVMe Namespace Latency and MB/s Critical Threshold Breached(ocumNvmeNamespaceLatencyMbpsIncident)
Incident
Namespace
Critical
NVMe Namespace Latency and MB/s Warning Threshold Breached(ocumNvmeNamespaceLatencyMbpsWarning)
Risk
Namespace
Warning

## Node events

Node events provide you with information about node status so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Node Root Volume Space Nearly Full(ocumEvtClusterNodeRootVolumeSpaceNearlyFull)
Risk
Node
Warning
Cloud AWS MetaDataConnFail *(ocumCloudAwsMetadataConnFail)

<b>Event name(Trap name)</b>
Risk
Node
Error
Cloud AWS IAMCredsExpired *(ocumCloudAwslamCredsExpired)
Risk
Node
Error
Cloud AWS IAMCredsInvalid *(ocumCloudAwslamCredsInvalid)
Risk
Node
Error
Cloud AWS IAMCredsNotFound *(ocumCloudAwslamCredsNotFound)
Risk
Node
Error
Cloud AWS IAMCredsNotInitialized *(ocumCloudAwslamCredsNotInitialized)
Event
Node
Information
Cloud AWS IAMRoleInvalid *(ocumCloudAwslamRoleInvalid)
Risk
Node

Event name(Trap name)
Error
Cloud AWS IAMRoleNotFound *(ocumCloudAwslamRoleNotFound)
Risk
Node
Error
Cloud Tier Host Unresolvable *(ocumObjstoreHostUnresolvable)
Risk
Node
Error
Cloud Tier Intercluster LIF Down *(ocumObjstoreInterClusterLifDown)
Risk
Node
Error
One of NFSv4 Pools Exhausted *(nbladeNfsv4PoolEXhaust)
Incident
Node
Critical
Request Mismatch Cloud Tier Signature *(oscSignatureMismatch)
Risk
Node
Error



**Impact area: capacity**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
QoS Monitor Memory Maxed *(ocumQosMonitorMemoryMaxed)
Risk
Node
Error
QoS Monitor Memory Abated *(ocumQosMonitorMemoryAbated)
Event
Node
Information

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Node Renamed(Not applicable)
Event
Node
Information

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type

<b>Event name(Trap name)</b>
Severity
Node IOPS Critical Threshold Breached(ocumNodelopsIncident)
Incident
Node
Critical
Node IOPS Warning Threshold Breached(ocumNodelopsWarning)
Risk
Node
Warning
Node MB/s Critical Threshold Breached(ocumNodeMbpsIncident)
Incident
Node
Critical
Node MB/s Warning Threshold Breached(ocumNodeMbpsWarning)
Risk
Node
Warning
Node Latency ms/op Critical Threshold Breached(ocumNodeLatencyIncident)
Incident
Node
Critical
Node Latency ms/op Warning Threshold Breached(ocumNodeLatencyWarning)

<b>Event name(Trap name)</b>
Risk
Node
Warning
Node Performance Capacity Used Critical Threshold Breached(ocumNodePerfCapacityUsedIncident)
Incident
Node
Critical
Node Performance Capacity Used Warning Threshold Breached(ocumNodePerfCapacityUsedWarning)
Risk
Node
Warning
Node Performance Capacity Used - Takeover Critical Threshold Breached(ocumNodePerfCapacityUsedTakeoverIncident)
Incident
Node
Critical
Node Performance Capacity Used - Takeover Warning Threshold Breached(ocumNodePerfCapacityUsedTakeoverWarning)
Risk
Node
Warning
Node Utilization Critical Threshold Breached (ocumNodeUtilizationIncident)
Incident

<b>Event name(Trap name)</b>
Node
Critical
Node Utilization Warning Threshold Breached (ocumNodeUtilizationWarning)
Risk
Node
Warning
Node HA Pair Over-utilized Threshold Breached (ocumNodeHaPairOverUtilizedInformation)
Event
Node
Information
Node Disk Fragmentation Threshold Breached (ocumNodeDiskFragmentationWarning)
Risk
Node
Warning
Performance Capacity Used Threshold Breached (ocumNodeOverUtilizedWarning)
Risk
Node
Warning
Node Dynamic Threshold Breached (ocumNodeDynamicEventWarning)
Risk
Node
Warning

### Impact area: security

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Advisory ID: NTAP-<advisory ID>(ocumx)
Risk
Node
Critical

### NVRAM battery events

NVRAM battery events provide you with information about the status of your batteries so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
NVRAM Battery Low(ocumEvtNvramBatteryLow)
Risk
Node
Warning
NVRAM Battery Discharged(ocumEvtNvramBatteryDischarged)
Risk
Node
Error

<b>Event name(Trap name)</b>
NVRAM Battery Overly Charged(ocumEvtNvramBatteryOverCharged)
Incident
Node
Critical

## Port events

Port events provide you with status about cluster ports so that you can monitor changes or problems on the port, like whether the port is down.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Port Status Down(ocumEvtPortStatusDown)
Incident
Node
Critical

### Impact area: performance

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Network Port MB/s Critical Threshold Breached(ocumNetworkPortMbpsIncident)
Incident
Port
Critical

<b>Event name(Trap name)</b>
Network Port MB/s Warning Threshold Breached(ocumNetworkPortMbpsWarning)
Risk
Port
Warning
FCP Port MB/s Critical Threshold Breached(ocumFcpPortMbpsIncident)
Incident
Port
Critical
FCP Port MB/s Warning Threshold Breached(ocumFcpPortMbpsWarning)
Risk
Port
Warning
Network Port Utilization Critical Threshold Breached(ocumNetworkPortUtilizationIncident)
Incident
Port
Critical
Network Port Utilization Warning Threshold Breached(ocumNetworkPortUtilizationWarning)
Risk
Port
Warning
FCP Port Utilization Critical Threshold Breached(ocumFcpPortUtilizationIncident)
Incident

<b>Event name(Trap name)</b>
Port
Critical
FCP Port Utilization Warning Threshold Breached(ocumFcpPortUtilizationWarning)
Risk
Port
Warning

## Power supplies events

Power supplies events provide you with information about the status of your hardware so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
One or More Failed Power Supplies(ocumEvtPowerSupplyOneOrMoreFailed)
Incident
Node
Critical

## Protection events

Protection events tell you if a job has failed or been aborted so that you can monitor for problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: protection



<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Protection Job Failed(ocumEvtProtectionJobTaskFailed)
Incident
Volume or storage service
Critical
Protection Job Aborted(ocumEvtProtectionJobAborted)
Risk
Volume or storage service
Warning

## Qtree events

Qtree events provide you with information about the qtree capacity and the file and disk limits so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: capacity

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Qtree Space Nearly Full(ocumEvtQtreeSpaceNearlyFull)
Risk
Qtree
Warning
Qtree Space Full(ocumEvtQtreeSpaceFull)

<b>Event name(Trap name)</b>
Risk
Qtree
Error
Qtree Space Normal(ocumEvtQtreeSpaceThresholdOk)
Event
Qtree
Information
Qtree Files Hard Limit Reached(ocumEvtQtreeFilesHardLimitReached)
Incident
Qtree
Critical
Qtree Files Soft Limit Breached(ocumEvtQtreeFilesSoftLimitBreached)
Risk
Qtree
Warning
Qtree Space Hard Limit Reached(ocumEvtQtreeSpaceHardLimitReached)
Incident
Qtree
Critical
Qtree Space Soft Limit Breached(ocumEvtQtreeSpaceSoftLimitBreached)
Risk
Qtree

<b>Event name(Trap name)</b>
Warning

## Service processor events

Service processor events provide you with information about the status of your processor so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Service Processor Not Configured(ocumEvtServiceProcessorNotConfigured)
Risk
Node
Warning
Service Processor Offline(ocumEvtServiceProcessorOffline)
Risk
Node
Error

## SnapMirror relationship events

SnapMirror relationship events provide you with information about the status of your Asynchronous and Synchronous SnapMirror relationships so that you can monitor for potential problems. Asynchronous SnapMirror relationship events are generated for both Storage VMs and volumes but Synchronous SnapMirror relationship events are generated only for volume relationships. There are no events generated for constituent volumes that are part of Storage VM disaster recovery relationships. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

## Impact area: protection

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.



The SnapMirror relationships events are generated for Storage VMs that are protected by Storage VM disaster recovery but not for any constituent object relationships.

Event name(Trap name)
Impact level
Source type
Severity
Mirror Replication Unhealthy(ocumEvtSnapmirrorRelationshipUnhealthy)
Risk
SnapMirror relationship
Warning
Mirror Replication Broken-off(ocumEvtSnapmirrorRelationshipStateBrokenoff)
Risk
SnapMirror relationship
Error
Mirror Replication Initialize Failed(ocumEvtSnapmirrorRelationshipInitializeFailed)
Risk
SnapMirror relationship
Error
Mirror Replication Update Failed(ocumEvtSnapmirrorRelationshipUpdateFailed)
Risk
SnapMirror relationship
Error
Mirror Replication Lag Error(ocumEvtSnapMirrorRelationshipLagError)

<b>Event name(Trap name)</b>
Risk
SnapMirror relationship
Error
Mirror Replication Lag Warning(ocumEvtSnapMirrorRelationshipLagWarning)
Risk
SnapMirror relationship
Warning
Mirror Replication Resync Failed(ocumEvtSnapmirrorRelationshipResyncFailed)
Risk
SnapMirror relationship
Error
Synchronous Replication Out Of Sync *(syncSnapmirrorRelationshipOutofsync)
Risk
SnapMirror relationship
Warning
Synchronous Replication Restored *(syncSnapmirrorRelationshipInSync)
Event
SnapMirror relationship
Information
Synchronous Replication Auto Resync Failed *(syncSnapmirrorRelationshipAutoSyncRetryFailed)
Risk
SnapMirror relationship

<b>Event name(Trap name)</b>
Error

### Asynchronous Mirror and Vault relationship events

Asynchronous Mirror and Vault relationship events provide you with information about the status of your Asynchronous SnapMirror and Vault relationships so that you can monitor for potential problems. Asynchronous Mirror and Vault relationship events are supported for both volume and Storage VM protection relationships. But only Vault relationships are not supported for Storage VM disaster recovery. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

**Impact area: protection**



- The SnapMirror and Vault relationships events are also generated for Storage VMs that are protected by Storage VM disaster recovery but not for any constituent object relationships.

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Asynchronous Mirror and Vault Unhealthy(ocumEvtMirrorVaultRelationshipUnhealthy)
Risk
SnapMirror relationship
Warning
Asynchronous Mirror and Vault Broken-off(ocumEvtMirrorVaultRelationshipStateBrokenoff)
Risk
SnapMirror relationship
Error
Asynchronous Mirror and Vault Initialize Failed(ocumEvtMirrorVaultRelationshipInitializeFailed)
Risk
SnapMirror relationship

<b>Event name(Trap name)</b>
Error
Asynchronous Mirror and Vault Update Failed(ocumEvtMirrorVaultRelationshipUpdateFailed)
Risk
SnapMirror relationship
Error
Asynchronous Mirror and Vault Lag Error(ocumEvtMirrorVaultRelationshipLagError)
Risk
SnapMirror relationship
Error
Asynchronous Mirror and Vault Lag Warning(ocumEvtMirrorVaultRelationshipLagWarning)
Risk
SnapMirror relationship
Warning
Asynchronous Mirror and Vault Resync Failed(ocumEvtMirrorVaultRelationshipResyncFailed)
Risk
SnapMirror relationship
Error



"SnapMirror update failure" event is raised by Active IQ portal (Config Advisor).

## Snapshot events

Snapshot events provide information about the status of snapshots which enables you to monitor the snapshots for potential problems. The events are grouped by impact area, and include the event name, trap name, impact level, source type, and severity.

**Impact area: availability**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Snapshot Auto-delete Disabled(Not applicable)
Event
Volume
Information
Snapshot Auto-delete Enabled(Not applicable)
Event
Volume
Information
Snapshot Auto-delete Configuration Modified(Not applicable)
Event
Volume
Information

**SnapVault relationship events**

SnapVault relationship events provide you with information about the status of your SnapVault relationships so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

**Impact area: protection**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity



<b>Event name(Trap name)</b>
Asynchronous Vault Unhealthy(ocumEvtSnapVaultRelationshipUnhealthy)
Risk
SnapMirror relationship
Warning
Asynchronous Vault Broken-off(ocumEvtSnapVaultRelationshipStateBrokenoff)
Risk
SnapMirror relationship
Error
Asynchronous Vault Initialize Failed(ocumEvtSnapVaultRelationshipInitializeFailed)
Risk
SnapMirror relationship
Error
Asynchronous Vault Update Failed(ocumEvtSnapVaultRelationshipUpdateFailed)
Risk
SnapMirror relationship
Error
Asynchronous Vault Lag Error(ocumEvtSnapVaultRelationshipLagError)
Risk
SnapMirror relationship
Error
Asynchronous Vault Lag Warning(ocumEvtSnapVaultRelationshipLagWarning)
Risk

<b>Event name(Trap name)</b>
SnapMirror relationship
Warning
Asynchronous Vault Resync Failed(ocumEvtSnapvaultRelationshipResyncFailed)
Risk
SnapMirror relationship
Error

## Storage failover settings events

Storage failover (SFO) settings events provide you with information about whether your storage failover is disabled or not configured so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Storage Failover Interconnect One Or More Links Down(ocumEvtSfoInterconnectOneOrMoreLinksDown)
Risk
Node
Warning
Storage Failover Disabled(ocumEvtSfoSettingsDisabled)
Risk
Node
Error

<b>Event name(Trap name)</b>
Storage Failover Not Configured(ocumEvtSfoSettingsNotConfigured)
Risk
Node
Error
Storage Failover State - Takeover(ocumEvtSfoStateTakeover)
Risk
Node
Warning
Storage Failover State - Partial Giveback(ocumEvtSfoStatePartialGiveback)
Risk
Node
Error
Storage Failover Node Status Down(ocumEvtSfoNodeStatusDown)
Risk
Node
Error
Storage Failover Takeover Not Possible(ocumEvtSfoTakeoverNotPossible)
Risk
Node
Error

## Storage services events

Storage services events provide you with information about the creation and subscription

of storage services so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Storage Service Created(Not applicable)
Event
Storage service
Information
Storage Service Subscribed(Not applicable)
Event
Storage service
Information
Storage Service Unsubscribed(Not applicable)
Event
Storage service
Information

**Impact area: protection**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Unexpected Deletion of Managed SnapMirror Relationship RelationshipocumEvtStorageServiceUnsupportedRelationshipDeletion

<b>Event name(Trap name)</b>
Risk
Storage service
Warning
Unexpected Deletion of Storage Service Member Volume(ocumEvtStorageServiceUnexpectedVolumeDeletion)
Incident
Storage service
Critical

## Storage shelf events

Storage shelf events tell you if your storage shelf has abnormal so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Abnormal Voltage Range(ocumEvtShelfVoltageAbnormal)
Risk
Storage shelf
Warning
Abnormal Current Range(ocumEvtShelfCurrentAbnormal)
Risk
Storage shelf
Warning

<b>Event name(Trap name)</b>
Abnormal Temperature(ocumEvtShelfTemperatureAbnormal)
Risk
Storage shelf
Warning

## Storage VM events

Storage VM events provide you with information about the status of your storage VMs (SVMs) so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
SVM CIFS Service Down(ocumEvtVserverCifsServiceStatusDown)
Incident
SVM
Critical
SVM CIFS Service Not Configured(Not applicable)
Event
SVM
Information
Attempts to Connect Nonexistent CIFS Share *(nbladeCifsNoPrivShare)
Incident
SVM

<b>Event name(Trap name)</b>
Critical
CIFS NetBIOS Name Conflict *(nbladeCifsNbNameConflict)
Risk
SVM
Error
CIFS Shadow Copy Operation Failed *(cifsShadowCopyFailure)
Risk
SVM
Error
Many CIFS Connections *(nbladeCifsManyAuths)
Risk
SVM
Error
Max CIFS Connection Exceeded *(nbladeCifsMaxOpenSameFile)
Risk
SVM
Error
Max Number of CIFS Connection Per User Exceeded *(nbladeCifsMaxSessPerUsrConn)
Risk
SVM
Error
SVM FC/FCoE Service Down(ocumEvtVserverFcServiceStatusDown)

<b>Event name(Trap name)</b>
Incident
SVM
Critical
SVM iSCSI Service Down(ocumEvtVserverIscsiServiceStatusDown)
Incident
SVM
Critical
SVM NFS Service Down(ocumEvtVserverNfsServiceStatusDown)
Incident
SVM
Critical
SVM FC/FCoE Service Not Configured(Not applicable)
Event
SVM
Information
SVM iSCSI Service Not Configured(Not applicable)
Event
SVM
Information
SVM NFS Service Not Configured(Not applicable)
Event
SVM



<b>Event name(Trap name)</b>
Information
SVM Stopped(ocumEvtVserverDown)
Risk
SVM
Warning
AV Server too Busy to Accept New Scan Request *(nbladeVscanConnBackPressure)
Risk
SVM
Error
No AV Server Connection for Virus Scan *(nbladeVscanNoScannerConn)
Incident
SVM
Critical
No AV Server Registered *(nbladeVscanNoRegdScanner)
Risk
SVM
Error
No Responsive AV Server Connection *(nbladeVscanConnInactive)
Event
SVM
Information
Unauthorized User Attempt to AV Server *(nbladeVscanBadUserPrivAccess)

<b>Event name(Trap name)</b>
Risk
SVM
Error
Virus Found By AV Server *(nbladeVscanVirusDetected)
Risk
SVM
Error

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
SVM Discovered(Not applicable)
Event
SVM
Information
SVM Deleted(Not applicable)
Event
Cluster
Information
SVM Renamed(Not applicable)
Event
SVM

<b>Event name(Trap name)</b>
Information

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
SVM IOPS Critical Threshold Breached(ocumSvmIopsIncident)
Incident
SVM
Critical
SVM IOPS Warning Threshold Breached(ocumSvmIopsWarning)
Risk
SVM
Warning
SVM MB/s Critical Threshold Breached(ocumSvmMbpsIncident)
Incident
SVM
Critical
SVM MB/s Warning Threshold Breached(ocumSvmMbpsWarning)
Risk
SVM
Warning
SVM Latency Critical Threshold Breached(ocumSvmLatencyIncident)

<b>Event name(Trap name)</b>
Incident
SVM
Critical
SVM Latency Warning Threshold Breached(ocumSvmLatencyWarning)
Risk
SVM
Warning

**Impact area: security**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Audit Log Disabled(ocumVserverAuditLogDisabled)
Risk
SVM
Warning
Login Banner Disabled(ocumVserverLoginBannerDisabled)
Risk
SVM
Warning
SSH is Using Insecure Ciphers(ocumVserverSSHInsecure)
Risk
SVM

<b>Event name(Trap name)</b>
Warning
Login Banner Changed(ocumVserverLoginBannerChanged)
Risk
SVM
Warning

## User and group quota events

User and group quota events provide you with information about the capacity of the user and user group quota as well as the file and disk limits so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

### Impact area: capacity

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
User or Group Quota Disk Space Soft Limit Breached(ocumEvtUserOrGroupQuotaDiskSpaceSoftLimitBreached)
Risk
User or group quota
Warning
User or Group Quota Disk Space Hard Limit Reached(ocumEvtUserOrGroupQuotaDiskSpaceHardLimitReached)
Incident
User or group quota
Critical

<b>Event name(Trap name)</b>
User or Group Quota File Count Soft Limit Breached(ocumEvtUserOrGroupQuotaFileCountSoftLimitBreached)
Risk
User or group quota
Warning
User or Group Quota File Count Hard Limit Reached(ocumEvtUserOrGroupQuotaFileCountHardLimitReached)
Incident
User or group quota
Critical

## Volume events

Volume events provide information about the status of volumes which enables you to monitor for potential problems. The events are grouped by impact area, and include the event name, trap name, impact level, source type, and severity.

An asterisk (\*) identifies EMS events that have been converted to Unified Manager events.

### Impact area: availability

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Volume Restricted(ocumEvtVolumeRestricted)
Risk
Volume
Warning
Volume Offline(ocumEvtVolumeOffline)

<b>Event name(Trap name)</b>
Incident
Volume
Critical
Volume Partially Available(ocumEvtVolumePartiallyAvailable)
Risk
Volume
Error
Volume Unmounted(Not applicable)
Event
Volume
Information
Volume Mounted(Not applicable)
Event
Volume
Information
Volume Remounted(Not applicable)
Event
Volume
Information
Volume Junction Path Inactive(ocumEvtVolumeJunctionPathInactive)
Risk
Volume

<b>Event name(Trap name)</b>
Warning
Volume Autosize Enabled(Not applicable)
Event
Volume
Information
Volume Autosize-Disabled(Not applicable)
Event
Volume
Information
Volume Autosize Maximum Capacity Modified(Not applicable)
Event
Volume
Information
Volume Autosize Increment Size Modified(Not applicable)
Event
Volume
Information

**Impact area: capacity**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Thin-Provisioned Volume Space At Risk(ocumThinProvisionVolumeSpaceAtRisk)



<b>Event name(Trap name)</b>
Risk
Volume
Warning
Volume Space Full(ocumEvtVolumeFull)
Risk
Volume
Error
Volume Space Nearly Full(ocumEvtVolumeNearlyFull)
Risk
Volume
Warning
Volume Logical Space Full *(volumeLogicalSpaceFull)
Risk
Volume
Error
Volume Logical Space Nearly Full *(volumeLogicalSpaceNearlyFull)
Risk
Volume
Warning
Volume Logical Space Normal *(volumeLogicalSpaceAllOK)
Event
Volume

<b>Event name(Trap name)</b>
Information
Volume Snapshot Reserve Space Full(ocumEvtSnapshotFull)
Risk
Volume
Warning
Too Many Snapshot Copies(ocumEvtSnapshotTooMany)
Risk
Volume
Error
Volume Qtree Quota Overcommitted(ocumEvtVolumeQtreeQuotaOvercommitted)
Risk
Volume
Error
Volume Qtree Quota Nearly Overcommitted(ocumEvtVolumeQtreeQuotaAlmostOvercommitted)
Risk
Volume
Warning
Volume Growth Rate Abnormal(ocumEvtVolumeGrowthRateAbnormal)
Risk
Volume
Warning
Volume Days Until Full(ocumEvtVolumeDaysUntilFullSoon)

<b>Event name(Trap name)</b>
Risk
Volume
Error
Volume Space Guarantee Disabled(Not applicable)
Event
Volume
Information
Volume Space Guarantee Enabled(Not Applicable)
Event
Volume
Information
Volume Space Guarantee Modified(Not applicable)
Event
Volume
Information
Volume Snapshot Reserve Days Until Full(ocumEvtVolumeSnapshotReserveDaysUntilFullSoon)
Risk
Volume
Error
FlexGroup Constituents Have Space Issues *(flexGroupConstituentsHaveSpaceIssues)
Risk
Volume

<b>Event name(Trap name)</b>
Error
FlexGroup Constituents Space Status All OK *(flexGroupConstituentsSpaceStatusAllOK)
Event
Volume
Information
FlexGroup Constituents Have Inodes Issues *(flexGroupConstituentsHaveInodesIssues)
Risk
Volume
Error
FlexGroup Constituents Inodes Status All OK *(flexGroupConstituentsInodesStatusAllOK)
Event
Volume
Information
WAFL Volume AutoSize Fail *(wafVolAutoSizeFail)
Risk
Volume
Error
WAFL Volume AutoSize Done * (wafVolAutoSizeDone)
Event
Volume
Information

**Impact area: configuration**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Volume Renamed(Not applicable)
Event
Volume
Information
Volume Discovered(Not applicable)
Event
Volume
Information
Volume Deleted(Not applicable)
Event
Volume
Information

**Impact area: performance**

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
QoS Volume Max IOPS Warning Threshold Breached(ocumQoSVolumeMaxIopsWarning)
Risk
Volume

<b>Event name(Trap name)</b>
Warning
QoS Volume Max MB/s Warning Threshold Breached(ocumQoSVolumeMaxMbpsWarning)
Risk
Volume
Warning
QoS Volume Max IOPS/TB Warning Threshold Breached(ocumQoSVolumeMaxIopsPerTbWarning)
Risk
Volume
Warning
Workload Volume Latency Threshold Breached as defined by Performance Service Level Policy(ocumConformanceLatencyWarning)
Risk
Volume
Warning
Volume IOPS Critical Threshold Breached(ocumVolumelopsIncident)
Incident
Volume
Critical
Volume IOPS Warning Threshold Breached(ocumVolumelopsWarning)
Risk
Volume
Warning

<b>Event name(Trap name)</b>
Volume MB/s Critical Threshold Breached(ocumVolumeMbpsIncident)
Incident
Volume
Critical
Volume MB/s Warning Threshold Breached(ocumVolumeMbpsWarning )
Risk
Volume
Warning
Volume Latency ms/op Critical Threshold Breached(ocumVolumeLatencyIncident)
Incident
Volume
Critical
Volume Latency ms/op Warning Threshold Breached(ocumVolumeLatencyWarning)
Risk
Volume
Warning
Volume Cache Miss Ratio Critical Threshold Breached(ocumVolumeCacheMissRatioIncident)
Incident
Volume
Critical
Volume Cache Miss Ratio Warning Threshold Breached(ocumVolumeCacheMissRatioWarning)
Risk

<b>Event name(Trap name)</b>
Volume
Warning
Volume Latency and IOPS Critical Threshold Breached(ocumVolumeLatencyIopsIncident)
Incident
Volume
Critical
Volume Latency and IOPS Warning Threshold Breached(ocumVolumeLatencyIopsWarning)
Risk
Volume
Warning
Volume Latency and MB/s Critical Threshold Breached(ocumVolumeLatencyMbpsIncident)
Incident
Volume
Critical
Volume Latency and MB/s Warning Threshold Breached(ocumVolumeLatencyMbpsWarning)
Risk
Volume
Warning
Volume Latency and Aggregate Performance Capacity Used Critical Threshold Breached(ocumVolumeLatencyAggregatePerfCapacityUsedIncident)
Incident
Volume



<b>Event name(Trap name)</b>
Critical
Volume Latency and Aggregate Performance Capacity Used Warning Threshold Breached(ocumVolumeLatencyAggregatePerfCapacityUsedWarning)
Risk
Volume
Warning
Volume Latency and Aggregate Utilization Critical Threshold Breached(ocumVolumeLatencyAggregateUtilizationIncident)
Incident
Volume
Critical
Volume Latency and Aggregate Utilization Warning Threshold Breached(ocumVolumeLatencyAggregateUtilizationWarning)
Risk
Volume
Warning
Volume Latency and Node Performance Capacity Used Critical Threshold Breached(ocumVolumeLatencyNodePerfCapacityUsedIncident)
Incident
Volume
Critical
Volume Latency and Node Performance Capacity Used Warning Threshold Breached(ocumVolumeLatencyNodePerfCapacityUsedWarning)
Risk
Volume

<b>Event name(Trap name)</b>
Warning
Volume Latency and Node Performance Capacity Used - Takeover Critical Threshold Breached(ocumVolumeLatencyAggregatePerfCapacityUsedTakeoverIncident)
Incident
Volume
Critical
Volume Latency and Node Performance Capacity Used - Takeover Warning Threshold Breached(ocumVolumeLatencyAggregatePerfCapacityUsedTakeoverWarning)
Risk
Volume
Warning
Volume Latency and Node Utilization Critical Threshold Breached(ocumVolumeLatencyNodeUtilizationIncident)
Incident
Volume
Critical
Volume Latency and Node Utilization Warning Threshold Breached(ocumVolumeLatencyNodeUtilizationWarning)
Risk
Volume
Warning

## Volume move status events

Volume move status events tell you about the status of your volume move so that you can monitor for potential problems. Events are grouped by impact area and include the event and trap name, impact level, source type, and severity.

## Impact area: capacity

<b>Event name(Trap name)</b>
Impact level
Source type
Severity
Volume Move Status: In Progress(Not applicable)
Event
Volume
Information
Volume Move Status - Failed(ocumEvtVolumeMoveFailed)
Risk
Volume
Error
Volume Move Status: Completed(Not applicable)
Event
Volume
Information
Volume Move - Cutover Deferred(ocumEvtVolumeMoveCutoverDeferred)
Risk
Volume
Warning

## Description of event windows and dialog boxes

Events notify you about any issues in your environment. You can use the Event Management inventory page and Event details page to monitor all the events. You can use the Notification Setup Options dialog box to configure notification. You can use the

Event Setup page to disable or enable events.

## Notifications page

You can configure the Unified Manager server to send notifications when an event is generated or when it is assigned to a user. You can also configure the notification mechanisms. For example, notifications can be sent as emails or SNMP traps.

You must have the Application Administrator or Storage Administrator role.

### Email

This area enables you to configure the following email settings for alert notification:

- **From Address**

Specifies the email address from which the alert notification is sent. This value is also used as the from address for a report when shared. If the From Address is pre-filled with the address “ActiveIQUnifiedManager@localhost.com”, you should change it to a real, working email address to make sure that all email notifications are delivered successfully.

### SMTP Server

This area enables you to configure the following SMTP server settings:

- **Host Name or IP Address**

Specifies the host name of your SMTP host server, which is used to send the alert notification to the specified recipients.

- **User Name**

Specifies the SMTP user name. SMTP user name is required only when the SMTPAUTH is enabled in the SMTP server.

- **Password**

Specifies the SMTP password. SMTP user name is required only when the SMTPAUTH is enabled in the SMTP server.

- **Port**

Specifies the port that is used by the SMTP host server to send alert notification.

The default value is 25.

- **Use START/TLS**

Checking this box provides secure communication between the SMTP server and the management server by using the TLS/SSL protocols (also known as start\_tls and StartTLS).

- **Use SSL**

Checking this box provides secure communication between the SMTP server and the management server

by using the SSL protocol.

## SNMP

This area enables you to configure the following SNMP trap settings:

- **Version**

Specifies the SNMP version you want to use depending on the type of security you require. Options include Version 1, Version 3, Version 3 with Authentication, and Version 3 with Authentication and Encryption. The default value is Version 1.

- **Trap Destination Host**

Specifies the host name or IP address (IPv4 or IPv6) that receives the SNMP traps that are sent by the management server. To specify multiple trap destinations, separate each host with a comma.



All other SNMP settings, such as “Version” and “Outbound Port”, must be the same for all hosts in the list.

- **Outbound Trap Port**

Specifies the port through which the SNMP server receives the traps that are sent by the management server.

The default value is 162.

- **Community**

The community string to access the host.

- **Engine ID**

Specifies the unique identifier of the SNMP agent and is automatically generated by the management server. Engine ID is available with SNMP Version 3, SNMP Version 3 with Authentication, and SNMP Version 3 with Authentication and Encryption.

- **Username**

Specifies the SNMP user name. User name is available with SNMP Version 3, SNMP Version 3 with Authentication, and SNMP Version 3 with Authentication and Encryption.

- **Authentication Protocol**

Specifies the protocol used to authenticate a user. Protocol options include MD5 and SHA. MD5 is the default value. Authentication protocol is available with SNMP Version 3 with Authentication and SNMP Version 3 with Authentication and Encryption.

- **Authentication Password**

Specifies the password used when authenticating a user. Authentication password is available with SNMP Version 3 with Authentication and SNMP Version 3 with Authentication and Encryption.

- **Privacy Protocol**

Specifies the privacy protocol used to encrypt SNMP messages. Protocol options include AES 128 and DES. The default value is AES 128. Privacy protocol is available with SNMP Version 3 with Authentication and Encryption.

- **Privacy Password**

Specifies the password when using privacy protocol. Privacy password is available with SNMP Version 3 with Authentication and Encryption.

## Event Management inventory page

The Event Management inventory page enables you to view a list of current events and their properties. You can perform tasks such as acknowledging, resolving, and assigning events. You can also add an alert for specific events.

The information on this page is refreshed automatically every 5 minutes to ensure that the most current new events are displayed.

### Filter components

Enable you to customize the information that is displayed in the events list. You can refine the list of events that are displayed using the following components:

- View menu to select from a pre-defined list of filter selections.

This includes items such as all active (new and acknowledged) events, active performance events, events assigned to me (the logged in user), and all events generated during all maintenance windows.

- Search pane to refine the list of events by entering full or partial terms.
- Filter button that launches the Filters pane so you can select from every available field and field attribute to refine the list of events.

### Command buttons

The command buttons enable you to perform the following tasks:

- **Assign To**

Enables you to select the user to whom the event is assigned. When you assign an event to a user, the user name and the time when you assigned the event is added in the events list for the selected events.

- Me

Assigns the event to the currently logged in user.

- Another user

Displays the Assign Owner dialog box, which enables you to assign or reassign the event to other users. You can also unassign events by leaving the ownership field blank.

- **Acknowledge**

Acknowledges the selected events.

When you acknowledge an event, your user name and the time when you acknowledged the event are added in the events list for the selected events. When you acknowledge an event, you are responsible for managing that event.



You cannot acknowledge Information events.

- **Mark As Resolved**

Enables you to change the event state to resolved.

When you resolve an event, your user name and the time when you resolved the event are added in the events list for the selected events. After you have taken corrective action for the event, you must mark the event as resolved.

- **Add Alert**

Displays the Add Alert dialog box, which enables you to add alerts for the selected events.

- **Reports**

Enables you to export details of the current event view to a comma-separated values (.csv) file or PDF document.

- **Show/Hide Column Selector**

Enables you to choose the columns that display on the page and select the order in which they are displayed.

## Events list

Displays details of all the events ordered by triggered time.

By default the All active events view is displayed to show the New and Acknowledged events for the previous seven days that have an Impact Level of Incident or Risk.

- **Triggered Time**

The time at which the event was generated.

- **Severity**

The event severity: Critical (❌), Error (⚠️), Warning (⚠️), and Information (ℹ️).

- **State**

The event state: New, Acknowledged, Resolved, or Obsolete.

- **Impact Level**

The event impact level: Incident, Risk, Event, or Upgrade.

- **Impact Area**

The event impact area: Availability, Capacity, Performance, Protection, Configuration, or Security.

- **Name**

The event name. You can select the name to display the Event details page for that event.

- **Source**

The name of the object on which the event has occurred. You can select the name to display the health or performance details page for that object.

When a shared QoS policy breach occurs, only the workload object that is consuming the most IOPS or MB/s is shown in this field. Additional workloads that are using this policy are displayed in the Event details page.

- **Source Type**

The object type (for example, Storage VM, Volume, or Qtree) with which the event is associated.

- **Assigned To**

The name of the user to whom the event is assigned.

- **Event Origin**

Whether the event originated from the “Active IQ Portal” or directly from “Active IQ Unified Manager”.

- **Annotation Name**

The name of the annotation that is assigned to the storage object.

- **Notes**

The number of notes that are added for an event.

- **Days Outstanding**

The number of days since the event was initially generated.

- **Assigned Time**

The time that has elapsed since the event was assigned to a user. If the time elapsed exceeds a week, the timestamp when the event was assigned to a user is displayed.

- **Acknowledged By**

The name of the user who acknowledged the event. The field is blank if the event is not acknowledged.

- **Acknowledged Time**

The time that has elapsed since the event was acknowledged. If the time elapsed exceeds a week, the timestamp when the event was acknowledged is displayed.

- **Resolved By**

The name of the user who resolved the event. The field is blank if the event is not resolved.

- **Resolved Time**



The time that has elapsed since the event was resolved. If the time elapsed exceeds a week, the timestamp when the event was resolved is displayed.

- **Obsoleted Time**

The time when the state of the event became Obsolete.

## Event details page

From the Event details page, you can view the details of a selected event, such as the event severity, impact level, impact area, and event source. You can also view additional information about possible remediations to resolve the issue.

- **Event Name**

The name of the event and the time the event was last seen.

For non-performance events, while the event is in the New or Acknowledged state the last seen information is not known and is therefore hidden.

- **Event Description**

A brief description of the event.

In some cases a reason for the event being triggered is provided in the event description.

- **Component in Contention**

For dynamic performance events, this section displays icons that represent the logical and physical components of the cluster. If a component is in contention, its icon is circled and highlighted red.

See [Cluster components and why they can be in contention](#) for a description of the components that are displayed here.

The Event Information, System Diagnosis, and Suggested Actions sections are described in other topics.

## Command buttons

The command buttons enable you to perform the following tasks:

- **Notes icon**

Enables you to add or update a note about the event, and review all notes left by other users.

## Actions menu

- **Assign to Me**

Assigns the event to you.

- **Assign to Others**

Opens the Assign Owner dialog box, which enables you to assign or reassign the event to other users.

When you assign an event to a user, the user's name and the time when the event was assigned are added in the events list for the selected events.

You can also unassign events by leaving the ownership field blank.

- **Acknowledge**

Acknowledges the selected events so that you do not continue to receive repeat alert notifications.

When you acknowledge an event, your user name and the time that you acknowledged the event are added in the events list (Acknowledged By) for the selected events. When you acknowledge an event, you take responsibility for managing that event.

- **Mark As Resolved**

Enables you to change the event state to Resolved.

When you resolve an event, your user name and the time that you resolved the event are added in the events list (Resolved By) for the selected events. After you have taken corrective action for the event, you must mark the event as resolved.

- **Add Alert**

Displays the Add Alert dialog box, which enables you to add an alert for the selected event.

## **What the Event Information section displays**

You use the Event Information section on the Event details page to view the details about a selected event, such as the event severity, impact level, impact area, and event source.

Fields that are not applicable to the event type are hidden. You can view the following event details:

- **Event Trigger Time**

The time at which the event was generated.

- **State**

The event state: New, Acknowledged, Resolved, or Obsolete.

- **Obsoleted Cause**

The actions that caused the event to be obsoleted, for example, the issue was fixed.

- **Event Duration**

For active (new and acknowledged) events, this is the time between detection and the time when the event was last analyzed. For obsolete events, this is the time between detection and when the event was resolved.

This field is displayed for all performance events, and for other event types only after they have been resolved or obsoleted.

- **Last Seen**

The date and time at which the event was last seen as active.

For performance events this value may be more recent than the Event Trigger Time as this field is updated after each new collection of performance data as long as the event is active. For other types of events, when in the New or Acknowledged state, this content is not updated and the field is therefore hidden.

- **Severity**

The event severity: Critical () , Error () , Warning () , and Information () .

- **Impact Level**

The event impact level: Incident, Risk, Event, or Upgrade.

- **Impact Area**

The event impact area: Availability, Capacity, Performance, Protection, Configuration, or Security.

- **Source**

The name of the object on which the event has occurred.

When viewing the details for a shared QoS policy event, up to three of the workload objects that are consuming the most IOPS or MBps are listed in this field.

You can click the source name link to display the health or performance details page for that object.

- **Source Annotations**

Displays the annotation name and value for the object to which the event is associated.

This field is displayed only for health events on clusters, SVMs, and volumes.

- **Source Groups**

Displays the names of all the groups of which the impacted object is a member.

This field is displayed only for health events on clusters, SVMs, and volumes.

- **Source Type**

The object type (for example, SVM, Volume, or Qtree) with which the event is associated.

- **On Cluster**

The name of the cluster on which the event occurred.

You can click the cluster name link to display the health or performance details page for that cluster.

- **Affected Objects Count**

The number of objects affected by the event.

You can click the object link to display the inventory page populated with the objects that are currently affected by this event.

This field is displayed only for performance events.

- **Affected Volumes**

The number of volumes that are being affected by this event.

This field is displayed only for performance events on nodes or aggregates.

- **Triggered Policy**

The name of the threshold policy that issued the event.

You can hover your cursor over the policy name to see the details of the threshold policy. For adaptive QoS policies the defined policy, block size, and allocation type (allocated space or used space) is also displayed.

This field is displayed only for performance events.

- **Rule Id**

For Active IQ platform events, this is the number of the rule that was triggered to generate the event.

- **Acknowledged by**

The name of the person who acknowledged the event and the time that the event was acknowledged.

- **Resolved by**

The name of the person who resolved the event and the time that the event was resolved.

- **Assigned to**

The name of the person who is assigned to work on the event.

- **Alert Settings**

The following information about alerts is displayed:

- If there are no alerts associated with the selected event, an **Add alert** link is displayed.

You can open the Add Alert dialog box by clicking the link.

- If there is one alert associated with the selected event, the alert name is displayed.

You can open the Edit Alert dialog box by clicking the link.

- If there is more than one alert associated with the selected event, the number of alerts is displayed.

You can open the Alert Setup page by clicking the link to view more details about these alerts.

Alerts that are disabled are not displayed.

- **Last Notification Sent**

The date and time at which the most recent alert notification was sent.

- **Send by**

The mechanism that was used to send the alert notification: email or SNMP trap.

- **Previous Script Run**

The name of the script that was executed when the alert was generated.

### **What the Suggested Actions section displays**

The Suggested Actions section of the Event details page provides possible reasons for the event and suggests a few actions so that you can try to resolve the event on your own. The suggested actions are customized based on the type of event or type of threshold that has been breached.

This area is displayed only for some types of events.

In some cases there are **Help** links provided on the page that reference additional information for many suggested actions, including instructions for performing a specific action. Some of the actions may involve using Unified Manager, ONTAP System Manager, OnCommand Workflow Automation, ONTAP CLI commands, or a combination of these tools.

You should consider the actions suggested here as only a guidance in resolving this event. The action you take to resolve this event should be based on the context of your environment.

If you want to analyze the object and event in more detail, click the **Analyze Workload** button to display the Workload Analysis page.

There are certain events that Unified Manager can diagnose thoroughly and provide a single resolution. When available, those resolutions are displayed with a **Fix It** button. Click this button to have Unified Manager fix the issue causing the event.

For Active IQ platform events, this section may contain a link to a NetApp Knowledgebase article, when available, that describes the issue and possible resolutions. In sites with no external network access, a PDF of the Knowledgebase article is opened locally; the PDF is part of the rules file that you manually download to the Unified Manager instance.

### **What the System Diagnosis section displays**

The System Diagnosis section of the Event details page provides information that can help you diagnose issues that may have been responsible for the event.

This area is displayed only for some events.

Some performance events provide charts that are relevant to the particular event that has been triggered. Typically this includes an IOPS or MBps chart and a latency chart for the previous ten days. When arranged this way you can see which storage components are most affecting latency, or being affected by latency, when the event is active.

For dynamic performance events, the following charts are displayed:

- **Workload Latency** - Displays the history of latency for the top victim, bully, or shark workloads at the component in contention.

- Workload Activity - Displays details about the workload usage of the cluster component in contention.
- Resource Activity - Display historical performance statistics for the cluster component in contention.

Other charts are displayed when some cluster components are in contention.

Other events provide a brief description of the type of analysis the system is performing on the storage object. In some cases there will be one or more lines; one for each component that has been analyzed, for system-defined performance policies that analyze multiple performance counters. In this scenario, a green or red icon displays next to the diagnosis to indicate whether an issue was found, or not, in that particular diagnosis.

## Event Setup page

The Event Setup page displays the list of events that are disabled, and provides information such as the associated object type and severity of the event. You can also perform tasks such as disabling or enabling events globally.

You can access this page only if you have the Application Administrator or Storage Administrator role.

### Command buttons

The command buttons enable you to perform the following tasks for selected events:

- **Disable**

Launches the Disable Events dialog box, which you can use to disable events.

- **Enable**

Enables selected events that you had chosen to disable previously.

- **Upload Rules**

Launches the Upload Rules dialog box, which enables sites with no external network access to manually upload the Active IQ rules file to Unified Manager. The rules are run against cluster AutoSupport messages to generate events for system configuration, cabling, best practice, and availability as defined by the Active IQ platform.

- **Subscribe to EMS Events**

Launches the Subscribe to EMS Events dialog box, which enables you to subscribe to receive specific Event Management System (EMS) events from the clusters that you are monitoring. The EMS collects information about events that occur on the cluster. When a notification is received for a subscribed EMS event, a Unified Manager event is generated with the appropriate severity.

### List view

The List view displays (in tabular format) information about events that are disabled. You can use the column filters to customize the data that is displayed.

- **Event**

Displays the name of the event that is disabled.

- **Severity**

Displays the severity of the event. The severity can be Critical, Error, Warning, or Information.

- **Source Type**

Displays the source type for which the event is generated.

## **Disable Events dialog box**

The Disable Events dialog box displays the list of event types for which you can disable events. You can disable events for an event type based on a particular severity or for a set of events.

You must have the Application Administrator or Storage Administrator role.

### **Event Properties area**

The Event Properties area specifies the following event properties:

- **Event Severity**

Enables you to select events based on the severity type, which can be Critical, Error, Warning, or Information.

- **Event Name Contains**

Enables you to filter events whose name contains the specified characters.

- **Matching events**

Displays the list of events matching the event severity type and the text string you specify.

- **Disable events**

Displays the list of events that you have selected for disabling.

The severity of the event is also displayed along with the event name.

### **Command buttons**

The command buttons enable you to perform the following tasks for the selected events:

- **Save and close**

Disables the event type and closes the dialog box.

- **Cancel**

Discards the changes and closes the dialog box.

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