Graphical interface and navigational paths

Active IQ Unified Manager

NetApp
February 21, 2022

This PDF was generated from https://docs.netapp.com/us-en/active-iq-unified-manager/performance-checker/concept_monitor_cluster_object_navigation.html on February 21, 2022. Always check docs.netapp.com for the latest.

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Graphical interface and navigational paths

Unified Manager has great flexibility and enables you to accomplish multiple tasks in various ways. There are many navigation paths you will discover as you work in Unified Manager. While not all of the possible combinations of navigations can be shown, you should be familiar with a few of the more common scenarios.

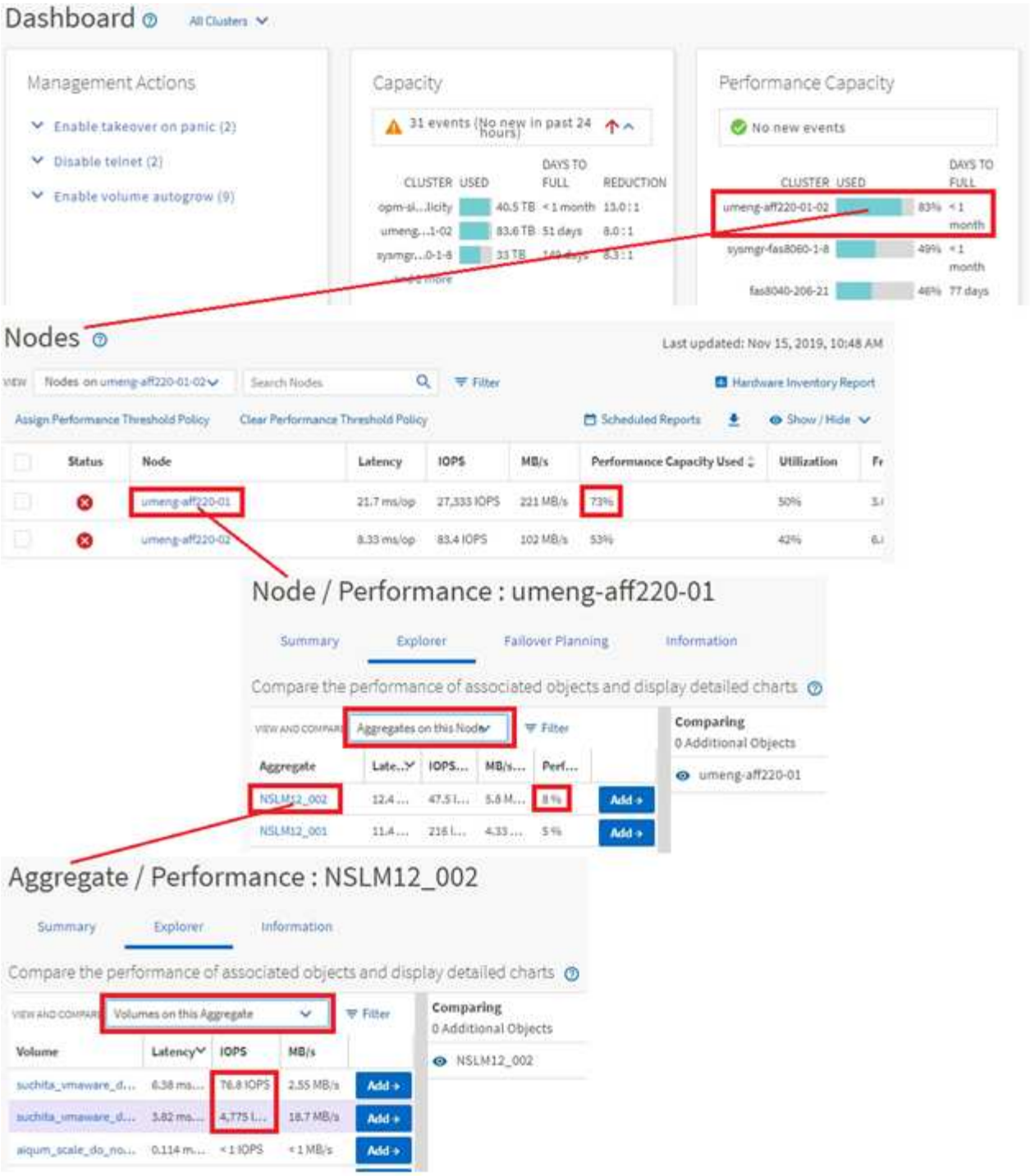
Monitor cluster object navigation

You can monitor the performance of all objects in any cluster managed by Unified Manager. Monitoring your storage objects provides you with an overview of cluster and object performance, and includes performance event monitoring. You can view performance and events at a high level, or you can further investigate any details of object performance and performance events.

This is one example of many possible cluster object navigations:

1. From the Dashboard page, review the details in the Performance Capacity panel to identify the cluster that is using the most performance capacity and click the bar chart to navigate to the list of nodes for that cluster.
2. Identify the node with the highest performance capacity used value and click that node.
3. From the Node / Performance Explorer page, click **Aggregates on this Node** from the View and Compare menu.
4. Identify the aggregate that is using the most performance capacity and click that aggregate.
5. From the Aggregate / Performance Explorer page, click **Volumes on this Aggregate** from the View and Compare menu.
6. Identify the volumes that are using the most IOPS.

You should investigate these volumes to see if you should apply a QoS policy or Performance Service Level policy, or change the policy settings, so that those volumes do not use such a large percentage of IOPS on the cluster.



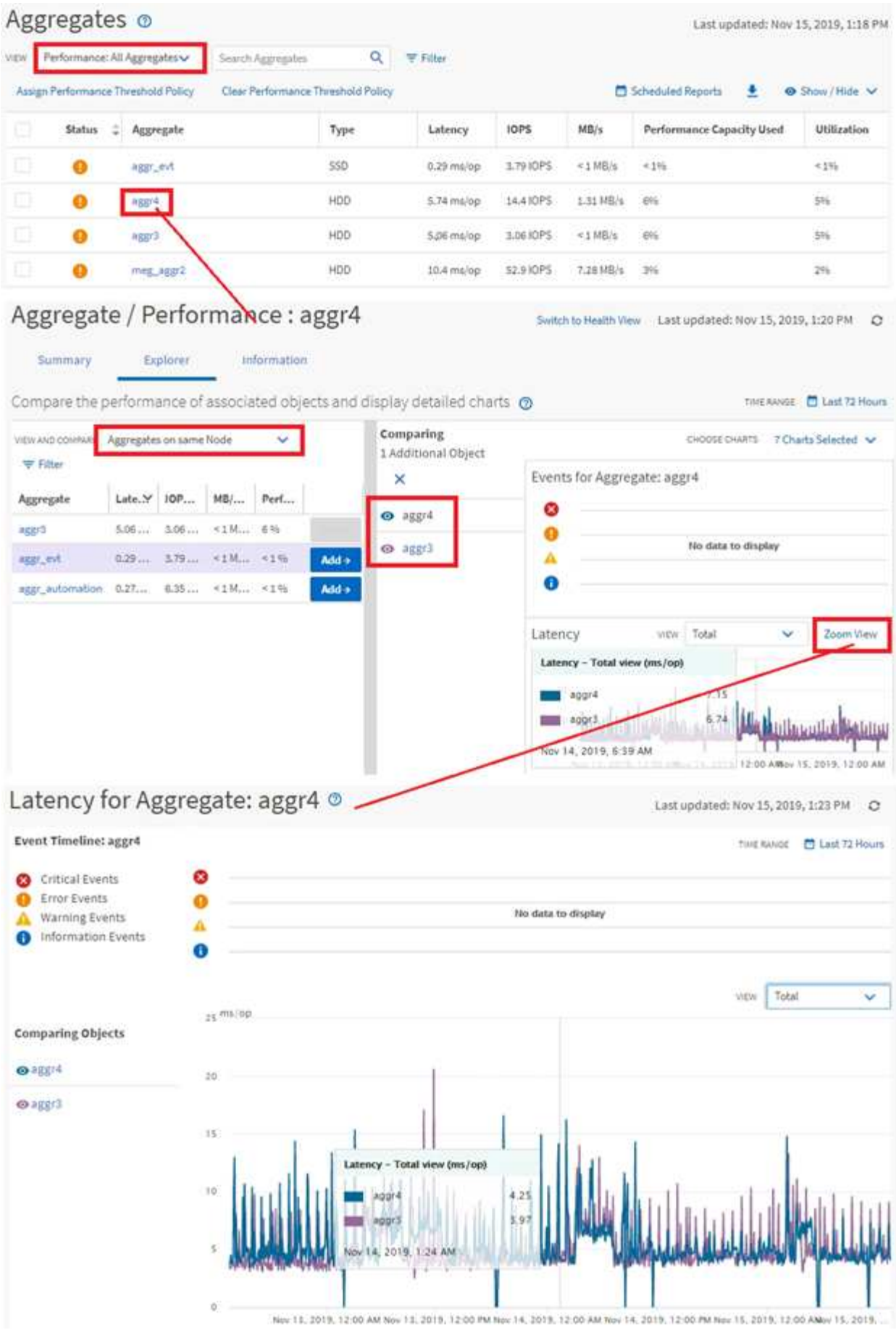
Monitor cluster performance navigation

You can monitor the performance of all clusters managed by Unified Manager. Monitoring your clusters provides you with an overview of cluster and object performance and includes performance event monitoring. You can view performance and events at a high level, or you can further investigate any details of cluster and object performance and performance events.

This is one example of many possible cluster performance navigational paths:

1. In the left navigation pane, click **Storage** > **Aggregates**.
2. To view information about the performance in those aggregates, select the Performance: All Aggregates view.
3. Identify the aggregate you want to investigate and click that aggregate name to navigate to the Aggregate / Performance Explorer page.
4. Optionally, select other objects to compare with this aggregate in the View and Compare menu, and then add one of the objects to the comparing pane.

   Statistics for both objects will appear in the counter charts for comparison.
5. In the Comparing pane at the right on the Explorer page, click **Zoom View** in one of the counter charts to view details about the performance history for that aggregate.


Aggregates
Last updated: Nov 15, 2019, 1:18 PM
VIEW
Performance: All Aggregates
Search Aggregates
Filter
Assign Performance Threshold Policy
Clear Performance Threshold Policy
Scheduled Reports
Show / Hide
Status
Aggregate
Type
Latency
IOPS
MB/s
Performance Capacity Used
Utilization
aggr_evt
SSD
0.29 ms/op
3.79 IOPS
< 1 MB/s
< 1%
aggr4
HDD
5.74 ms/op
14.4 IOPS
1.31 MB/s
6%
5%
aggr3
HDD
5.06 ms/op
3.06 IOPS
< 1 MB/s
6%
5%
meg_aggr2
HDD
10.4 ms/op
52.9 IOPS
7.28 MB/s
3%
2%
Aggregate / Performance : aggr4
Switch to Health View
Last updated: Nov 15, 2019, 1:20 PM
Summary
Explorer
Information
Compare the performance of associated objects and display detailed charts
TIME RANGE
Last 72 Hours
VIEW AND COMPARE
Aggregates on same Node
Filter
Aggregate
Late...
IOP...
MB/...
Perf...
aggr3
5.06 ...
3.06 ...
< 1 M...
6 %
aggr_evt
0.29 ...
3.79 ...
< 1 M...
< 1 %
Add
aggr_automation
0.27...
6.35 ...
< 1 M...
< 1 %
Add
Comparing
1 Additional Object
aggr4
aggr3
CHOOSE CHARTS
7 Charts Selected
Events for Aggregate: aggr4
No data to display
Latency
VIEW
Total
Zoom View
Latency – Total view (ms/op)
aggr4
7.15
aggr3
6.74
Nov 14, 2019, 6:39 AM
12:00 AM
Nov 15, 2019, 12:00 AM
Latency for Aggregate: aggr4
Last updated: Nov 15, 2019, 1:23 PM
Event Timeline: aggr4
TIME RANGE
Last 72 Hours
Critical Events
Error Events
Warning Events
Information Events
No data to display
VIEW
Total
Comparing Objects
aggr4
aggr3
25
ms/op
20
15
10
5
0
Latency – Total view (ms/op)
aggr4
4.25
aggr3
3.97
Nov 14, 2019, 1:24 AM
Nov 13, 2019, 12:00 AM
Nov 13, 2019, 12:00 PM
Nov 14, 2019, 12:00 AM
Nov 14, 2019, 12:00 PM
Nov 15, 2019, 12:00 AM
Nov 15, 2019,

Event investigation navigation

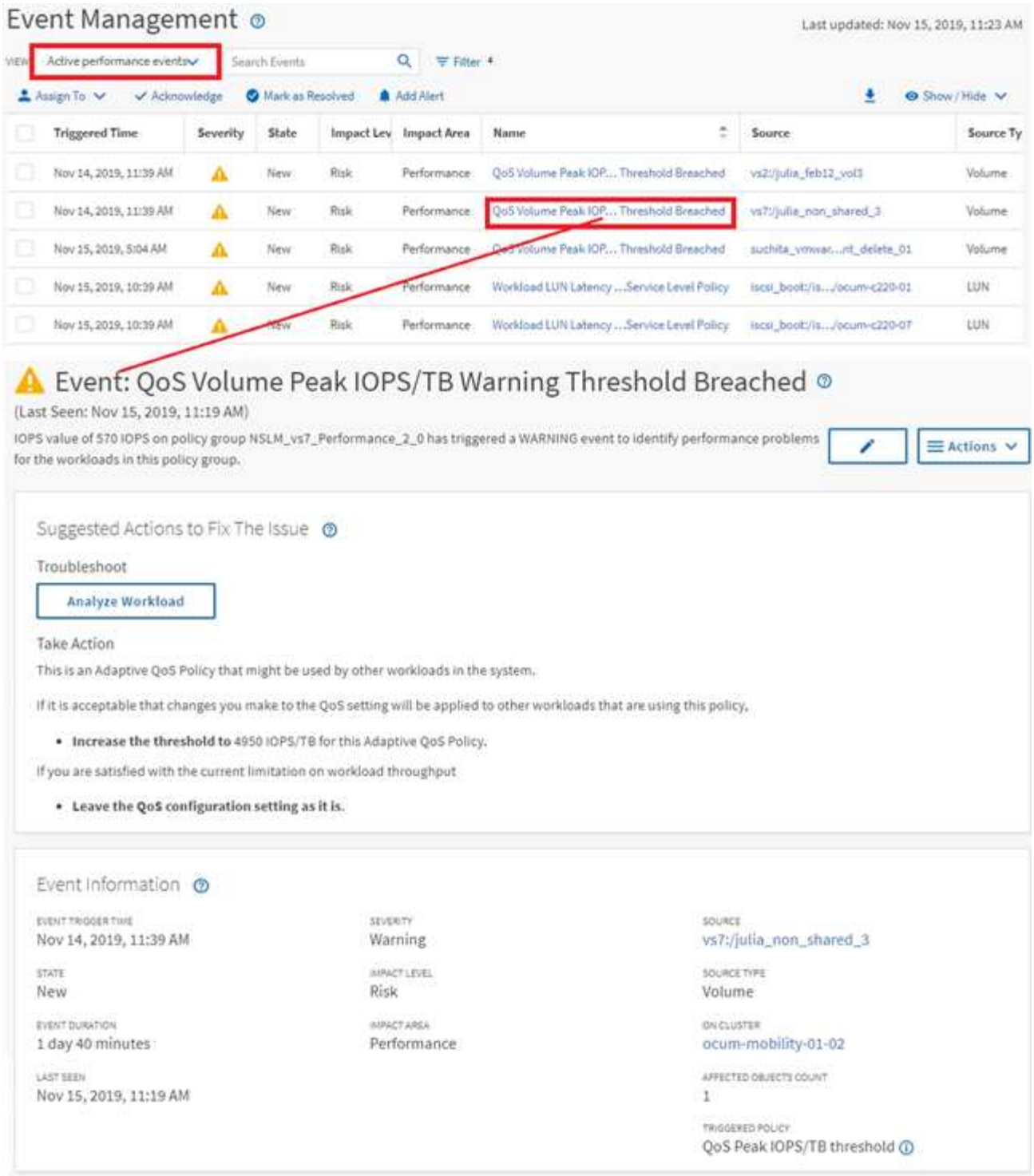
The Unified Manager event detail pages provide you with an in-depth look at any performance event. This is beneficial when investigating performance events, when troubleshooting, and when fine-tuning system performance.

Depending on the type of performance event, you might see one of two types of event detail pages:

- Event details page for user-defined and system-defined threshold policy events
- Event details page for dynamic threshold policy events

This is one example of an event investigation navigation.

1. In the left navigation pane, click **Event Management**.
2. From the View menu, click **Active performance events**.
3. Click the name of the event that you want to investigate and the Event details page is displayed.
4. View the Description of the event and review the Suggested Actions (where available) to view more details about the event that may help you resolve the issue. You can click the **Analyze Workload** button to display detailed performance charts to help further analyze the issue.


Event Management
Last updated: Nov 15, 2019, 11:23 AM
Active performance events
Search Events
Filter
Assign To
Acknowledge
Mark as Resolved
Add Alert
Show / Hide
Triggered Time
Severity
State
Impact Lev
Impact Area
Name
Source
Source Ty
Nov 14, 2019, 11:39 AM
New
Risk
Performance
QoS Volume Peak IOP... Threshold Breached
vs2:/julia_feb12_vol3
Volume
Nov 14, 2019, 11:39 AM
New
Risk
Performance
QoS Volume Peak IOP... Threshold Breached
vs7:/julia_non_shared_3
Volume
Nov 15, 2019, 5:04 AM
New
Risk
Performance
QoS Volume Peak IOP... Threshold Breached
suchita_vmwar...nt_delete_01
Volume
Nov 15, 2019, 10:39 AM
New
Risk
Performance
Workload LUN Latency ...Service Level Policy
iscsi_boot:/is.../ocum-c220-01
LUN
Nov 15, 2019, 10:39 AM
New
Risk
Performance
Workload LUN Latency ...Service Level Policy
iscsi_boot:/is.../ocum-c220-07
LUN
Event: QoS Volume Peak IOPS/TB Warning Threshold Breached
(Last Seen: Nov 15, 2019, 11:19 AM)
IOPS value of 570 IOPS on policy group NSLM_vs7_Performance_2_0 has triggered a WARNING event to identify performance problems for the workloads in this policy group.
Actions
Suggested Actions to Fix The Issue
Troubleshoot
Analyze Workload
Take Action
This is an Adaptive QoS Policy that might be used by other workloads in the system.
If it is acceptable that changes you make to the QoS setting will be applied to other workloads that are using this policy,
Increase the threshold to 4950 IOPS/TB for this Adaptive QoS Policy.
If you are satisfied with the current limitation on workload throughput
Leave the QoS configuration setting as it is.
Event Information
EVENT TRIGGER TIME
Nov 14, 2019, 11:39 AM
SEVERITY
Warning
SOURCE
vs7:/julia_non_shared_3
STATE
New
IMPACT LEVEL
Risk
SOURCE TYPE
Volume
EVENT DURATION
1 day 40 minutes
IMPACT AREA
Performance
ON CLUSTER
ocum-mobility-01-02
LAST SEEN
Nov 15, 2019, 11:19 AM
AFFECTED OBJECTS COUNT
1
TRIGGERED POLICY
QoS Peak IOPS/TB threshold

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