



Monitor cluster performance with System Manager

ONTAP 9

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Monitor cluster performance with System Manager

Monitor cluster performance using System Manager

The topics in this section show you how to manage cluster health and performance with System Manager in ONTAP 9.7 and later releases.

You can monitor cluster performance by viewing information about your system on the System Manager Dashboard. The Dashboard displays information about important alerts and notifications, the efficiency and capacity of storage tiers and volumes, the nodes that are available in a cluster, the status of the nodes in an HA pair, the most active applications and objects, and the performance metrics of a cluster or a node.

The Dashboard lets you determine the following information:

- **Health:** How healthy is the cluster?
- **Capacity:** What capacity is available on the cluster?
- **Performance:** How well is the cluster performing, based on latency, IOPS, and throughput?
- **Network:** How is the network configured with hosts and storage objects, such as ports, interfaces, and storage VMs?

In the Health and Capacity overviews, you can click [→](#) to view additional information and perform tasks.

In the Performance overview, you can view metrics based on the hour, the day, the week, the month, or the year.

In the Network overview, the number of each object in the network is displayed (for example, "8 NVMe/FC ports"). You can click on the numbers to view details about each network object.

View performance on cluster dashboard

Use the dashboard to make informed decisions about workloads you might want to add or move. You can also look at peak usage times to plan for potential changes.

The performance values refresh every 3 seconds and the performance graph refreshes every 15 seconds.

Steps

1. Click **Dashboard**.
2. Under **Performance**, select the interval.

Identify hot volumes and other objects

Accelerate your cluster performance by identifying the frequently accessed volumes (hot volumes) and data (hot objects).



Beginning in ONTAP 9.10.1, you can use the Activity Tracking feature in File System Analytics to monitor hot objects in a volume.


Steps

1. Click **Storage > Volumes**.
2. Filter the IOPS, latency, and throughput columns to view the frequently accessed volumes and data.

Modify QoS

Beginning with ONTAP 9.8, when you provision storage, [Quality of Service \(QoS\)](#) is enabled by default. You can disable QoS or choose a custom QoS policy during the provisioning process. You can also modify QoS after your storage has been provisioned.

Steps

1. In System Manager, select **Storage** then **Volumes**.
2. Next to the volume for which you want to modify QoS, select  then **Edit**.

Monitor risks

Beginning with ONTAP 9.10.0, you can use System Manager to monitor the risks reported by Active IQ Digital Advisor. Beginning with ONTAP 9.10.1, you can use System Manager to also acknowledge the risks.

NetApp Active IQ Digital Advisor reports opportunities to reduce risk and improve the performance and efficiency of your storage environment. With System Manager, you can learn about risks reported by Active IQ and receive actionable intelligence that helps you administer storage and achieve higher availability, improved security, and better storage performance.

Link to your Active IQ account

To receive information about risks from Active IQ, you should first link to your Active IQ account from System Manager.

Steps

1. In System Manager, click **Cluster > Settings**.
2. Under **Active IQ Registration**, click **Register**.
3. Enter your credentials for Active IQ.
4. After your credentials are authenticated, click **Confirm to link Active IQ with System Manager**.

View the number of risks

Beginning with ONTAP 9.10.0, you can view from the dashboard in System Manager the number of risks reported by Active IQ.

Before you begin

You must establish a connection from System Manager to your Active IQ account. Refer to [Link to your Active IQ account](#).

Steps

1. In System Manager, click **Dashboard**.

2. In the **Health** section, view the number of reported risks.



You can view more detailed information about each risk by clicking the message showing the number of risks. See [View details of risks](#).

View details of risks

Beginning with ONTAP 9.10.0, you can view from System Manager how the risks reported by Active IQ are categorized by impact areas. You can also view detailed information about each reported risk, its potential impact on your system, and corrective actions you can take.

Before you begin

You must establish a connection from System Manager to your Active IQ account. Refer to [Link to your Active IQ account](#).

Steps

1. Click **Events > All Events**.
2. In the **Overview** section, under **Active IQ Suggestions**, view the number of risks in each impact area category. The risk categories include:
 - Performance & efficiency
 - Availability & protection
 - Capacity
 - Configuration
 - Security
3. Click on the **Active IQ Suggestions** tab to view information about each risk, including the following:
 - Level of impact to your System
 - Category of the risk
 - Nodes that are affected
 - Type of mitigation needed
 - Corrective actions you can take

Acknowledge risks

Beginning with ONTAP 9.10.1, you can use System Manager to acknowledge any of the open risks.

Steps

1. In System Manager, display the list of risks by performing the procedure in [View details of risks](#).
2. Click on the risk name of an open risk that you want to acknowledge.
3. Enter information into the following fields:
 - Reminder (date)
 - Justification
 - Comments
4. Click **Acknowledge**.



After you acknowledge a risk, it takes a few minutes for the change to be reflected in the list of Active IQ suggestions.

Unacknowledge risks

Beginning with ONTAP 9.10.1, you can use System Manager to unacknowledge any risk that was previously acknowledged.

Steps

1. In System Manager, display the list of risks by performing the procedure in [View details of risks](#).
2. Click on the risk name of an acknowledged risk that you want to unacknowledge.
3. Enter information into the following fields:
 - Justification
 - Comments
4. Click **Unacknowledge**.



After you unacknowledge a risk, it takes a few minutes for the change to be reflected in the list of Active IQ suggestions.

Gain insights to help optimize your system

With System Manager, you can view insights that help you optimize your system.

About this task

Beginning with ONTAP 9.11.0, you can view insights in System Manager that help you optimize the capacity and security compliance of your system.

Beginning with ONTAP 9.11.1, you can view additional insights that help you optimize the capacity, security compliance, and configuration of your system.

Based on best practices, these insights are displayed on one page from which you can initiate immediate actions to optimize your system. For more detail about each insight, see [System Manager insights](#).





View optimization insights

Steps

1. In System Manager, click **Insights** in the left-hand navigation column.

The **Insights** page shows groups of insights. Each group of insights might contain one or more insights. The following groups are displayed:

- Needs your attention
 - Remediate risks
 - Optimize your storage
2. (Optional) Filter the insights that are displayed by clicking these buttons in the upper-right corner of the page:

-  Displays the security-related insights.
-  Displays the capacity-related insights.
-  Displays the configuration-related insights.
-  Displays all of the insights.

Respond to insights to optimize your system

In System Manager, you can respond to insights by either dismissing them, exploring different ways to remediate the problems, or initiating the process to fix the problems.

Steps

1. In System Manager, click **Insights** in the left-hand navigation column.
2. Hover over an insight to reveal the buttons to perform the following actions:
 - **Dismiss**: Remove the insight from the view. To “undismiss” the insight, refer to [Customize the settings for insights](#).
 - **Explore**: Find out various ways to remediate the problem mentioned in the insight. This button appears only if there is more than one method of remediation.
 - **Fix**: Initiate the process of remediating the problem mentioned in the insight. You will be asked to confirm whether you want to take the action needed to apply the fix.




Some of these actions can be initiated from other pages in System Manager, but the **Insights** page helps you streamline your day-to-day tasks by allowing you to initiate these action from this one page.

Customize the settings for insights

You can customize which insights you will be notified about in System Manager.


Steps

1. In System Manager, click **Insights** in the left-hand navigation column.
2. In the upper-right corner of the page, click , then select **Settings**.
3. On the **Settings** page, ensure there is a check in the check boxes next to the insights you want to be notified about. If you previously dismissed an insight, you can “undismiss” it by ensuring a check is in its check box.
4. Click **Save**.

Export the insights as a PDF file

You can export all applicable insights as a PDF file.

Steps

1. In System Manager, click **Insights** in the left-hand navigation column.
2. In the upper-right corner of the page, click , then select **Export**.

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