Improve the efficiency and performance of your storage system
Active IQ Digital Advisor
NetApp
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Improve the efficiency and performance of your storage system

Analyze storage efficiency savings

The storage efficiency dashboard displays the storage efficiency ratio, the logical space used, the physical space used, and the total data saved for storage systems running ONTAP 9.1 and later. The efficiency ratio and savings can be seen with and without Snapshot backups for AFF systems, non-AFF systems, or both. You can view the storage efficiency information either at a cluster level or a node level.

The total savings across customer storage can be seen per efficiency feature such as volume deduplication, volume compression, compaction, FlexClone volumes, and Snapshot backups. You can also view the top 5 storage systems with the best efficiency ratio.

Steps
1. From the left pane, click Storage Efficiency.
2. View the storage efficiency and the data savings of your storage system.

Based on the condition of your storage system, you can either share your success story or contact NetApp to help improve the storage efficiency of your system.
3. If the storage efficiency ratio of your storage system is higher than the average storage efficiency ratio, click **Share Your Success Story** to let us know the best practices followed.

4. If the storage efficiency ratio of your storage system is less than the average storage efficiency ratio, click **Contact Us** to let us know the configurations of your storage system.

**Analyze performance graphs**

Performance graphs enable you to analyze performance of your storage devices. You can view detailed performance graphs for an ONTAP cluster or multiple nodes of an ONTAP cluster. It displays cluster nodes for systems running ONTAP 8.3.1 and later. These graphs provide historical performance data, which can be used for understanding performance trend and pattern analysis. You can select a date from calendar to view performance graphs for a day, week, month, and two months. You can select multiple nodes to view a particular graph at the same time.

You have an option to set preferences, for example, you can view either one graph for three nodes or two graphs for three nodes.

When the graph is first displayed, 1-week tab is preselected and it presents data for 1 week in a graphical format to make it easier to understand large quantities of data and its relationship between different series of data. If you want to reset the date range, for example, you can click 1-month tab and select dates in the calendar.

You also have an option to zoom in performance graph; the individual data points are displayed.
Steps

1. On the Dashboard, click **Performance**.

   By default, the cluster performance is displayed. You can click the **Node** tab to view the performance of a single node of an ONTAP cluster, click the **Local Tier** tab to view the performance of the local tier, or click the **Volume** tab to view the performance of the volume.

2. Select either 1 day, 1 week, 1 month, or 2 months, in the calendar, for viewing performance data in a graphical format. Confirm that you want to perform the operation.

   For example, select 2-months tab to view data for 2 months. This enables you to view specific data for a duration based on your performance requirements.

3. View performance graphs with required metrics, including:

<table>
<thead>
<tr>
<th>For Cluster</th>
<th>For Node</th>
<th>For Local Tier</th>
<th>For Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOPS</td>
<td>CPU Utilization - Peak Performance (Headroom)</td>
<td>Average Throughput</td>
<td>IOPS</td>
</tr>
<tr>
<td>Network Throughput</td>
<td>Latency</td>
<td>Average Utilization</td>
<td>Latency</td>
</tr>
<tr>
<td></td>
<td>IOPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protocol IOPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Network Throughput</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Node latency performance graphs are supported only on systems that are running ONTAP 9.2 and later.
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