

A Robust Storage Performance Monitoring Solution

- Centrally monitor storage performance at scale, in near real time, and for specific time periods.
- Analyze trends to improve capacity planning of resources, such as storage, compute and networking.
- Customize monitoring of performance metrics that are relevant to business needs.
- Create detailed analytics and graphical visualizations that are easy to understand.

DATASHEET

Hitachi Content Monitor: Enhanced Storage Monitoring for Hitachi Content Platform

Storage Performance Monitoring

With storage being such a critical component of the IT infrastructure, storage professionals must ensure that they can adequately measure storage efficiency across their entire organization. Effectively monitoring the ever-growing storage environment at scale is challenging. With multiple storage devices operating in varying locations, administrators often invest lots of time in investigating storage performance issues. Certain performance metrics might be available in the management console, while gaining insight into other metrics might require additional tools and costly support from third parties. Furthermore, the time spent trying to correlate performance events across disparate storage devices can lead to slower troubleshooting times, which can have a detrimental impact on production.

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To address these challenges, organizations need a centralized and scalable comprehensive storage performance monitoring solution that is customizable and easy to use.

Hitachi Content Monitor Delivers Enhanced Monitoring for Hitachi Content Platform

Hitachi Content Platform (HCP) is a massively scalable, multitiered, multitenant, hybrid cloud solution that spans small,

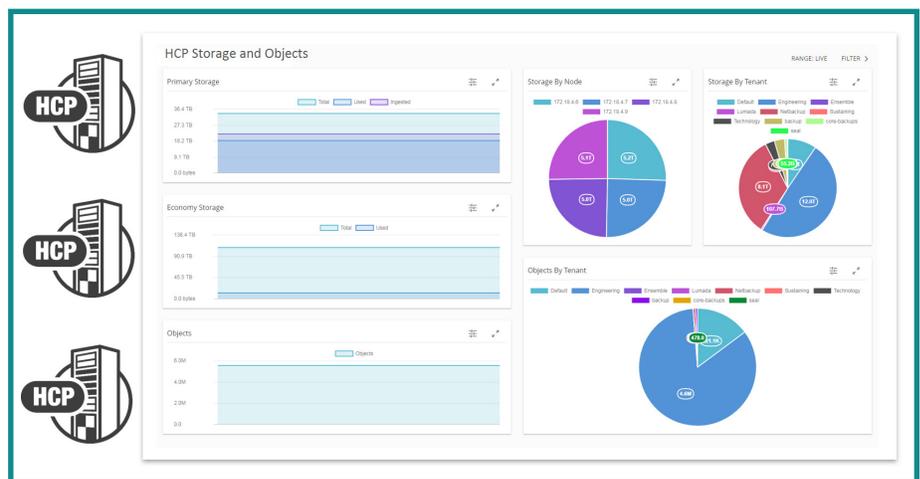


Figure 1. With Hitachi Content Monitor, you can monitor multiple Hitachi Content Platform clusters in near real time, from a single management console.

mid-sized and enterprise organizations. While HCP already provides monitoring capabilities, Hitachi Content Monitor (Content Monitor) is a tightly integrated, cost-effective add-on for enhanced monitoring and detailed performance visualizations of HCP storage nodes.

Content Monitor's tight integration with HCP enables comprehensive insights into HCP performance, to improve capacity planning and minimize troubleshooting. Content Monitor's artificial intelligence features can detect HCP performance anomalies, to proactively address issues before they occur. These features also can forecast future HCP performance based on historical behaviors. Customizable and prebuilt dashboards

provide a convenient view of critical HCP events and performance violations. Receive e-mail and syslog notifications when defined thresholds are exceeded. Aggregate and visualize multiple HCP performance metrics into a single view and correlate events with each other to enable deeper insights into HCP behavior (see Figure 1).

With Content Monitor, a feature of the Hitachi Content Intelligence product, you can monitor multiple HCP clusters in near real time from a single management console for information on capacity, I/O, utilization, throughput, latency and more (see Figure 2).

Content Monitor is quick to install, easy to configure, and simple to use.

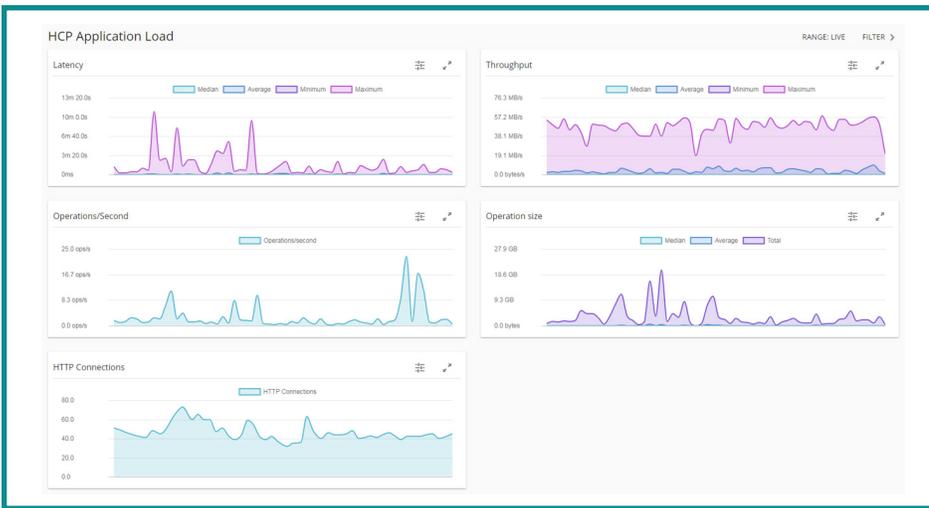


Figure 2. Monitor multiple HCP clusters in near real time from a single management console: View information on capacity, I/O, utilization, throughput, latency and more.

HITACHI CONTENT MONITOR REQUIREMENTS

Component	Requirements	
Hitachi Content Platform	<ul style="list-style-type: none"> v8.x recommended, v7.3 or later HCP G Series, HCP VM 	
Hitachi Content Intelligence	<ul style="list-style-type: none"> v1.3 or later 4-core license required per Hitachi Content Monitor instance 64-bit Linux distribution Docker version 1.13.1 or later 	
Configuration*	Requirements per Content Monitor instance	
Minimum (~1200 HCP events per second)	<ul style="list-style-type: none"> CPU: 8-cores RAM: 32 GB Disk: 600 GB 	
Recommended (~3200 HCP events per second)	<ul style="list-style-type: none"> CPU: 24-cores RAM: 64 GB Disk: 2 TB 	
Content Monitor instances	Add instances to scale overall system performance. See examples below.	
General Sizing Examples**	Monitor up to...	High Availability
1 Content Monitor instance	8 HCP nodes, 2 billion events stored 30 days	No
2 Content Monitor instances	8 HCP nodes, 4 billion events stored 30 days	No
4 Content Monitor instances	16 HCP nodes, 8 billion events stored 30 days	Yes
8 Content Monitor instances	24 HCP nodes, 16 billion events stored 30 days	Yes

*Refer to the Installation Guide for more detailed sizing requirements.

**General sizing examples are based on typical operating behavior of 75 events per second per HCP node. Varying HCP activity will determine Hitachi Content Monitor requirements.

HITACHI CONTENT MONITOR: EASY TO USE AND CUSTOMIZE

Quick To Install. Easy To Configure. Simple To Use.

- Install in minutes.
- Register source HCP clusters and select relevant signals to monitor.
- Automatically preview available visualizations that are based on selected HCP sources.
- Aggregate metrics from multiple sources to easily identify anomalies and baseline variances.
- View near-real-time performance updates of 1-minute intervals.
- Customizable and prebuilt dashboards can be exported, imported and cloned.

Customizable Visualization Chart Examples

- **Objects by Tenant:** Breakdown of objects per tenant.
- **Storage by Tenant:** Breakdown of used storage per tenant.
- **Network I/O:** Data transfer rates over the back- and front-end networks.
- **Disk I/O:** Disk I/O rate.
- **CPU I/O Wait:** CPU I/O wait-time percentage.
- **CPU Utilization:** CPU utilization percentage.
- **Disk Utilization:** Disk utilization percentage.
- **HTTP Connections:** Number of HTTP connections.
- **Objects:** Number of objects in the system.
- **Primary Storage:** Primary storage used.
- **Latency:** Average, median, minimum and maximum latencies.
- **Operations/Second:** Number of operations per second.
- **Throughput:** Average, median, minimum and maximum throughput.
- **Operation Size:** Total, average and median size of operations.

Hitachi Vantara



Corporate Headquarters
2535 Augustine Drive
Santa Clara, CA 95054 USA
hitachivantara.com | community.hitachivantara.com

Contact Information
USA: 1-800-446-0744
Global: 1-858-547-4526
hitachivantara.com/contact

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