



Datasheet

OnCommand Insight

An open platform for on-premises and hybrid cloud data center management

Key Benefits

Intelligent Operations

- Discover and monitors resources, their relationships and dependencies
- Proactive alerting and fast troubleshooting with advanced analytics

Business Insights

- Optimization of resources with accurate workload placements
- Cost alignment with service levels and showback
- Centralized view into historical trends and forecast performance and capacity requirements

IT Ecosystem Integration

- Enables business processes and workflows such as billing, cost, change management, and automation
- Open API provides access to discovered and monitored data

Ever-Changing Challenges in the Data Center

The growing diversity of platforms, vendors, and protocols in large data centers makes managing and monitoring the enterprise data center infrastructure increasingly difficult. At the same time, IT leaders are feeling the added pressure of delivering information technology as a service by using their own private clouds, which need to be competitive with public cloud offerings. The challenges that IT professionals face today go beyond reducing cost, increasing efficiency, and mitigating risk. IT professionals have to address a new set of demands, ones that are forcing IT teams to respond more quickly to business- and mission-critical demands.

The Solution

NetApp® OnCommand® Insight management software delivers consistent insight across your data center so you can monitor and manage your hybrid IT multivendor storage, compute, and switching infrastructures. OnCommand Insight can help you optimize your current infrastructure, allowing you to right-size operations to meet business demands. It simplifies the process of determining what and when to buy. It also takes the risk out of complex technology migrations, such as moving to a hybrid cloud, by identifying which workloads are candidates for cloud migration. With OnCommand Insight, you can manage the IT infrastructure as an end-to-end service by integrating the resources into the company's entire IT service delivery chain.

Achieve More from Your Existing Resources

With OnCommand Insight you can quickly identify misused, misaligned, or underused assets for more efficient use of your infrastructure. When integrated into your daily operations, OnCommand Insight reduces service delivery time and yields significant operational improvements. Administrators spend less time on reactive troubleshooting and routine tasks and more time on business-critical projects.

The ability of OnCommand Insight to understand a host's path to storage, combined with device performance information, results in exceptional visibility into the cost efficiency of delivering infrastructure service to an application.

Easily Determine What and When to Buy

OnCommand Insight gives you a global view of your storage infrastructure so you can track your infrastructure usage in multiple geographic locations simultaneously.

It provides trending information that shows you how much storage capacity you have at each tier, the number of used and available switch ports, Fibre Channel bandwidth, top applications, and how much time you have until your data centers are full. With this information, OnCommand Insight can also accurately predict how much capacity you are likely to need in the next period. All of this information helps you to make more informed and timely business decisions based on real-time data, vastly simplifying capacity management. You buy what you need, when you need it.

Detailed business-level reporting gives you full cost awareness. You can immediately see how much storage, compute, or switching resources each business unit or application uses in each storage tier over a given period of time. Comprehensive information allows you to work with business units to make more intelligent decisions about how storage is being used. You can quickly identify datasets that are misplaced and reduce the amount of expensive tier 1 storage you need. And you can assign a value to each tier of storage to simplify the process of charging business units for resources used.

Take the Risk Out of Your Infrastructure

OnCommand Insight detects vulnerabilities in and risks to your environment, so you avoid problems and meet key service levels for availability, performance, and usage. All important aspects of your environment are monitored so that you get the most from your infrastructure resources to maximize the return on your investment.

Whether you are consolidating, virtualizing, or deploying cloud services, OnCommand Insight helps you minimize downtime and accelerate time to completion. This not only reduces the immediate costs associated with each transition, it also lets you use new resources fully and more quickly and efficiently for faster return on investment. As a result, your IT operations become more cost effective.

Third-Party Software Integration

A standard set of REST APIs, accessible through the OnCommand Insight web user interface, simplifies integration between OnCommand Insight and third-party software offerings.

OnCommand Insight's data warehouse facilitates integration and more rapid adoption of industry best practices such as ITIL and IT service management, the integration of storage resources into configuration management databases (CMDBs), better financial management, and cost transparency. It also supports other key data center service automation initiatives.

By importing your storage, compute, and fabric domain data into a CMDB, you gain visibility into the infrastructure supporting your applications, giving you a more complete view of dependencies and analysis of business service impacts. This integration enhances service impact management by delivering more meaningful information for making decisions and speeding identification of the root causes of problems.

Intelligent operations

OnCommand Insight delivers a broad view of resource performance data that helps you improve end-to-end performance from your VM environment through your storage network, down to the disks where the data is stored. It gathers near-real-time VM, fabric, and storage performance data from your environment and maps it to applications, hosts, and service paths. It lets you proactively perform VM density planning; identify "top talkers" and "noisy neighbors"; and optimize your VMs, servers, or each storage device to avoid congestion and contention. OnCommand Insight provides the intelligence that allows you to:

- Identify greedy and degraded resources
- Set thresholds and receive alerts about events
- Identify "slow drain" network resources
- Receive rapid root-cause determination
- Monitor infrastructure response time and correlate it with individual application performance
- Validate tiering allocations and determine that all datasets are on the optimal tier
- Proactively detect abnormal behavior in the data center infrastructure

The OnCommand Insight anomaly detection feature provides application infrastructure awareness and enables you to proactively identify changes in behavior in the resources that support the application. The anomaly detection engine ingests performance metrics collected by OnCommand Insight and identifies anomalies in key performance counters, including IOPS, latency, storage node and pool usage, hypervisor CPU, and buffer-to-buffer credit zero counts, which are often responsible in slow drain device contention. Beyond typical threshold alerting, anomaly detection learns the normal operating range for the application workload and highlights when performance changes in behavior are outside of expected levels. Anomaly detection provides greater proactive visibility into the infrastructure that supports business-critical applications and informs you of performance anomalies before they can become service disruptions (Figure 1).

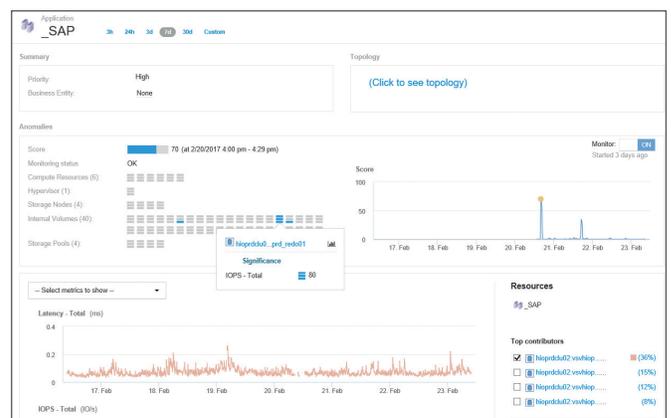


Figure 1) An application landing page with anomaly detection.

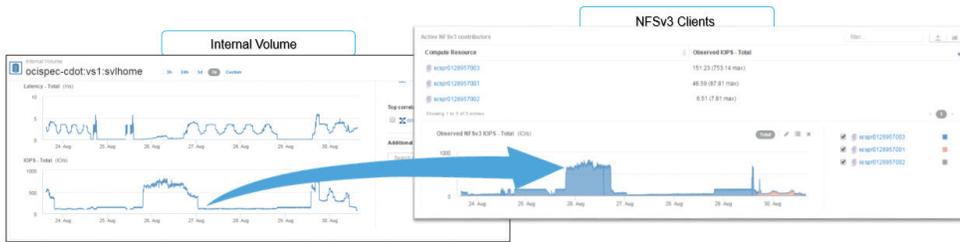


Figure 2) Ethernet Monitoring Unit captures NFS workload contributors.

In network-attached storage (NAS) environments, troubleshooting NFS performance issues can often be difficult. There can be many thousands of clients accessing shares on a volume. The storage array is blind to which of these clients is connecting to a share and how many operations these clients are contributing to the volume's performance. When performance issues arise, operational teams have difficult choices to make about how to identify the source of performance-impacting load.

OnCommand Insight Ethernet Monitoring Unit (EMU) technology helps today's agile data centers quickly understand which NFS clients are generating the most volume activity, influencing faster troubleshooting, improved operational performance, and better-informed change management decisions (Figure 2).

Business insights

OnCommand Insight offers reporting capabilities that deliver information about storage resource allocation trends and capacity consumption trends and that accurately forecast consumption trends, all of which helps you better understand your data center's ecosystem. OnCommand Insight aggregates relevant storage, compute, and switch information and stores it in a data warehouse for flexible enterprise reporting such as chargeback/showback, consumption analysis, and forecasting. OnCommand Insight includes many out-of-the-box reports and provides flexible report authoring, which allows you to create custom reports or to import one of the numerous online community report templates to support planning, purchasing, storage-tier analysis, trending and historical usage, and more (Figure 3).

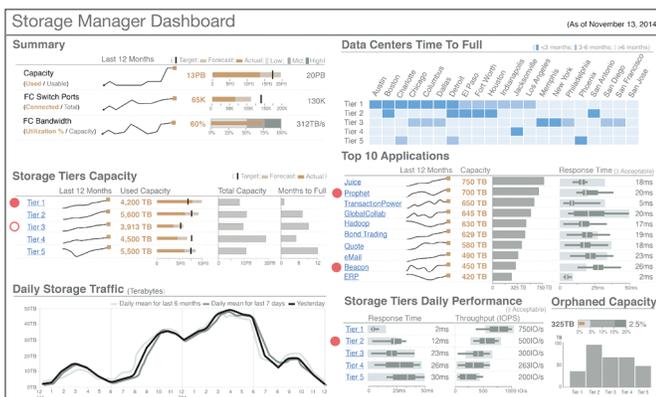


Figure 3) This out-of-the-box dashboard is designed for storage managers and business analysts to use for application capacity planning and to identify cost-saving opportunities.

The reporting capabilities of OnCommand Insight help you make better purchasing decisions and provision capacity more effectively from a global business perspective. The open, enterprise-class data warehouse lets you roll up data from multisite environments, gain global visibility across distributed infrastructures, and take advantage of detailed analysis and reporting capabilities. Relevant compute, storage system, and network switch information from multiple instances is federated into a single view, giving you a global view of your asset performance and usage.

You gain visibility into global data center resource allocations, rule-based tier and service-level management, and business-level usage of resources by tenant, business unit, project, application, and other business-related analytics.

IT ecosystem integration

OnCommand Insight is an agentless tool that uses native APIs or interfaces with vendor-specific software to gather information about your environment from end to end. It supports multivendor and multiprotocol (FC, NAS, iSCSI, FCoE) storage environments.

This open architecture simplifies the dynamic mapping, visualizing, and monitoring of complex virtualized environments. It offers full visibility into your hybrid IT environment, including host-to-storage access paths, storage availability, and change management. The multivendor, multiprotocol, multiplatform support allows you to build accurate service paths to identify risk and provide compliance auditing. It gives you the information to proactively manage your storage services to increase service quality, prevent application failures, and improve recovery time. You can reduce costs by improving usage and decreasing the time and effort required for troubleshooting.

With OnCommand Insight, you define global, application-based, or host-based policies on parameters such as security, sharing, minimum sessions, and minimum connections, and you can validate changes against the resulting service model.

With OnCommand Insight, you have the ability to monitor and manage your Fibre Channel assets with performance and error counters for switches, ports, and fabrics. You can manage redundancy and check mapping, masking, and zones.

Storage Support

NetApp	Dell EMC	Hitachi (HDS)
SolidFire®	Compellent	HCP
StorageGRID®	Atmos	HDS 95x/99x
FAS Series 7-Mode/Clustered Data ONTAP®	Celera NAS	SA800
Data ONTAP Edge	Clarion	HM700
NetApp Private Storage (NPS)	Centera	HUS1xx, HUS VM
ONTAP Cloud®	Data Domain	HNAS
E-Series	ECS	NSC
SnapVault® (7-Mode)	Isilon	USP/USPv
Huawei	Fujitsu	Pure
OceanStor	Eternus	FlashArray
HP	IBM	Infinidat
3PAR	DS, DS6000/DS8000	InfiniBox
EVA	Flash System v9000/900	
HP-XP	TotalStorage DS4000	
	N-series	
	XIV	
Amazon	Microsoft	Violin
S3, EBS, EC2	Azure	6000 Series

Storage Virtualization

V-Series and FlexArray®
 VMAX/Celerra NAS/VPLEX
 SVC/v7000
 VSP G1000/USPv
 XP P9500

Server Virtualization

VMware
 IBM PowerVM
 Microsoft Hyper-V
 Red Hat Enterprise Virtualization
 OpenStack KVM

Fibre Channel Switches/Access Gateways

Brocade
 Cisco
 QLogic

Table 1) OnCommand Insight interoperability support matrix.

OnCommand Insight provides operations, service quality, and cost management across NetApp systems as well as other major storage vendors, including Dell, EMC, Fujitsu, HDS, HP, IBM, Pure, and others. And it monitors server virtualization and Fibre Channel switches from Brocade, Cisco, and QLogic.

OnCommand Insight generic SNMP integration allows you to poll specific information from your SNMP-capable devices such as routers, switches, printers, backup devices, and server platforms. You simply download the MIBs from your device vendors, and the OnCommand Insight integration mechanism connects to those devices to “poll” the information at defined intervals. OnCommand Insight provides configuration templates that you can modify to collect various metrics from those devices. Once the metrics are collected, you can display them to visualize and trend the data in dashboard widget views.

Learn More About OnCommand Insight

To find out more about the entire OnCommand Insight product suite, go to www.netapp.com/oncommandinsight

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Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.

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