



Success Story

NetApp Gains Visibility of its Storage Network, Aligns Services to Business Capabilities, and Plans for the Future



KEY HIGHLIGHTS

Industry

Data storage

The Challenge

Provide end-to-end visibility of the NetApp® storage network.

The Solution

Optimize the current storage infrastructure while managing storage as an end-to-end service using the NetApp OnCommand® Insight storage resource management dashboard.

Benefits

- Manage storage capacity regardless of physical or virtual, private or cloud
- Provide better tracking of storage applications to the business capabilities
- Monitor existing resources and accurately plan future investments
- Analyze risks, minimize downtime, and speed cloud deployment
- Leverage integrated IT service delivery chain

Customer Profile

NetApp creates innovative storage and data management solutions that deliver outstanding cost efficiency and accelerate business breakthroughs. The NetApp Information Technology (IT) team integrated OnCommand Insight into its daily IT operations to: help optimize its storage network across physical/virtual, private/cloud platforms; implement key performance indicators to track network health; and analyze trends to improve capacity planning.

The Challenge

The demand for data storage is growing at an astronomical rate. According to IDC, data growth rates will exceed 39% each year through 2016.¹ Along with this growth comes the challenge of proactively maintaining IT services while minimizing risk.

A missing piece of the IT services puzzle has been end-to-end visibility of the storage infrastructure. Making informed decisions about storage requirements and investments is difficult without an aerial view into the performance of a storage infrastructure, regardless of physical or virtual, private or cloud.

Integral to this analysis is understanding which applications drive which business processes.

NetApp IT was faced with this issue when its sales grew from \$3.9B to \$6.1B over four years. IT was installing Data ONTAP® and E-Series systems as quickly as it could to keep up with client demand. Application requirements were often processed as individual requests instead of part of an aggregate view. The introduction of virtual applications caused further confusion as applications were dynamically moved between machines. High-level reports analyzing performance and capacity across the infrastructure were difficult to compile and resource-intensive. Housekeeping issues were moved to the back burner.

Our storage management was operating in reactive mode, and we sought answers to the three questions most often asked by management:

- What storage do we have?
- How are we using it?
- How much does it cost?

Added on to this was one more query: What do we need for the future?

“The combination of NetApp IT best practices and a feature-rich tool like OnCommand Insight is unbeatable. We can connect the data across our network, regardless of platform or location, and optimize it to specific performance criteria.”

Matt Brown
Director of IT Customer Engagement

The Solution

To provide answers to these questions, IT integrated NetApp OnCommand Insight (OCI) into its storage network. OCI is part of the NetApp OnCommand portfolio of products, designed to help IT better control, automate, and analyze its storage infrastructure. We knew OCI would help us maximize our current storage utilization while simplifying the process of determining our future needs. OCI would also allow us to manage storage as an end-to-end service and integrate it into our entire IT service delivery chain.

Following installation, OCI gave us a holistic view and analysis of our storage infrastructure, which includes NetApp Data ONTAP systems, NetApp E-Series systems, and the cloud. (OCI can also be used to monitor other storage vendors, including EMC, HDS, HP, and IBM.) The software discovered detailed information about our installed storage devices. It quickly identified underused and orphaned assets for future reuse and made suggestions for switch consolidations.

OCI yielded other significant operational improvements in its evaluation of our infrastructure. It detected vulnerabilities in and risks to our environment. We used that information to define policies and establish best practices for redundancy and sharing across any part of the network. We closely monitored policy-level violations that could result in service quality issues and outages. By identifying and tracking key performance metrics, we were able to proactively identify problems for correction before they occurred.

“The combination of NetApp IT best practices and a feature-rich tool like OnCommand Insight is unbeatable,” says Matt Brown, director of IT customer engagement. “We can connect the data across our network, regardless of platform or location, and optimize it to specific performance criteria.”

OCI’s real-time monitoring assured us that we were getting the most from our storage resources. Our storage administrators were able to spend less time on troubleshooting and more time proactively addressing more critical issues, such as meeting service levels for availability, performance, and utilization for our internal clients.

Greater Visibility

The access to automated, business-level reporting was a key OCI benefit. Because OCI tracks storage utilization, we could review our storage inventory at any time. We evaluated usage trends to understand how much storage we had for each service level and how much we would need in the future across all platforms.

Armed with this information, we could make more informed decisions about capacity management and capital expenses. Because OCI is both location and vendor agnostic, we could compile metrics from any location or system and aggregate the information at the system, tier, cost, location, and regional level. This information was used to prioritize our tasks against goals and better manage our resources.

OCI can be tailored so that anyone can access the appropriate information for their role in the IT organization. Executive dashboards provide high-level analysis about performance and capability trends to facilitate decisions about future planning. Ad-hoc queries enable administrators to drill down into technical issues. Storage managers can sort and rank application service levels



OCI's dashboard delivers a visual analysis of storage performance and capabilities to enable better decisions about the future.

and performance. A data warehouse captures and stores data that can be used to view a Snapshot™ copy in time or historical trends.

Another major improvement has been gaining end-to-end visibility of the entire IT service delivery chain. In the past, applications were not always clearly linked to a business service. The deployment of virtual applications made this link even harder to track. With OCI we could clearly trace applications back to business needs and improve our client responsiveness.

“OCI answered some of our big IT questions by giving us visibility across the landscape,” says Brown. “We could even attach a virtual tool asset to a business capability. It’s by far the best tool in the industry for proactive network maintenance and seeing across the storage spectrum.”

Workload Rebalancing

OCI also assists in workload rebalancing. An aerial view helps us more efficiently balance storage and capacity. We are better able to make more informed decisions when evaluating our storage against our three IT capabilities management objectives: avoid purchasing new storage, avoid running out of storage, and properly anticipate demand.

One of our first initiatives was identifying the key performance indicators (KPIs) that could help us assess both capacity and performance. We narrowed it down to three: node utilization (CPU performance), aggregate utilization (how hard the disks are working), and aggregate space (how much storage space is being used).

Compiled on a weekly basis, the KPIs and thresholds provide foresight into the status of our storage network so that we can see trends before automated alarms or alerts come into play. When a KPI approaches a predefined threshold, we can drill down into historical performance data to make educated decisions about our next steps without moving into firefighter mode.

In addition, OCI has streamlined our migration process. Instead of deploying or provisioning new capabilities immediately into the operations node, we initially deploy them into a transition node for workload analysis. OCI enables us to assess performance and resource requirements after the application goes live and then we migrate the workload into the appropriate operations nodes. This two-step migration process avoids the problems that can arise when applications are deployed without fully understanding the performance impacts.

People, Process, and Technology

Following the implementation of OCI, we saw a significant change in the people and processes around IT. As we moved from firefighting mode to proactive mode, our storage administrators spent less time on troubleshooting and more on being value-added partners to our business clients. The team was able to see how its actions directly affected our clients and measure the results.

The NetApp IT organization also benefited from the open nature of OCI. In the past, IT would run reports when employees called with performance issues. Identifying the problem involved multiple steps and people. OCI offers a self-service portal that gives NetApp IT employees access to performance reports in the our configuration management database (CMDB). They can verify CPU capacity and response times for a specified time frame and analyze usage patterns without calling the IT team. Self-service reporting has given IT personnel more time to focus on other areas.

“OCI jumpstarted our move from reactive to proactive mode,” says Brown. “End-to-end visibility helps us be smarter about capacity planning and investments for the future.”

“End-to-end visibility helps us be smarter about capacity planning and investments for the future.”

Matt Brown

Director of IT Customer Engagement

With its comprehensive view of the world, OCI gave us the ability to view and analyze our storage environment, which includes Data ONTAP, E-Series, and the cloud. NetApp IT will continue to use OCI to help it consolidate, virtualize, and expand its cloud services to create a hybrid IT network.

FOUR INNOVATIVE CAPABILITIES

OnCommand Insight is composed of four distinct modules:

Insight Assure	Complete monitoring, risk detection, and compliance auditing for complex environments
Insight Perform	Highly scalable solution for a broad view of performance data and resource optimization
Insight Plan	Global visibility of asset utilization to simplify purchasing decisions
Insight Discover	A single platform that identifies your entire inventory and integrates all the OnCommand Insight modules



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.

www.netapp.com

© 2014 NetApp, Inc. All rights reserved. No portions of this document may be reproduced without prior written consent of NetApp, Inc. Specifications are subject to change without notice. NetApp, the NetApp logo, Data ONTAP, OnCommand, and Snapshot are trademarks or registered trademarks of NetApp, Inc. in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such. CSS-6749-0914

Follow us on:      