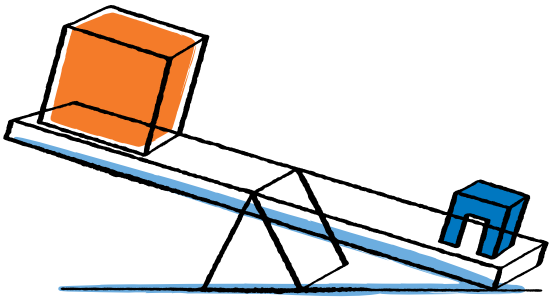

Datasheet

NetApp OnCommand Balance

Performance optimization software for NetApp Clustered Data ONTAP

KEY BENEFITS

Agentless Design
Virtual appliance installs quickly and easily

Performance Capacity Analytics
Powerful automated analysis of shared infrastructure

Key Performance Indicators
Infrastructure response time, performance index, and disk utilization information provide guidance

Automated Reporting
Flexible engine produces reports for virtual machines (VMs), physical servers, and storage

VMware® Ready™ Management Certified
Third-party validated, plus VMware vCenter™ plug-in

Shared Infrastructure Optimization

NetApp® OnCommand® Balance is the only performance and capacity management software that provides analysis across IT virtualization layers and technology silos for both virtual and physical servers and NetApp FAS series storage. OnCommand Balance helps companies troubleshoot problems within minutes, optimize utilization, and improve performance in the dynamic data center.

Unlike traditional system and element management tools that look at only one silo (physical or virtual, servers or storage), this agentless software dynamically models and analyzes the entire infrastructure. This comprehensive approach determines how application workloads, utilization levels, and resources interact, bringing much-needed infrastructure-wide intelligence to the data center.

Designed to go well beyond basic infrastructure performance monitoring tools, OnCommand Balance is a powerful operational solution that helps organizations advance virtualization and move toward the private cloud.

Performance Capacity Analytics

OnCommand Balance analyzes interdependencies between resources in separate IT domains by using performance capacity analytics. These sophisticated analytics provide intelligent alerting, actionable recommendations, and proactive service management guidance to help with remediation, optimization, and planning. OnCommand Balance helps IT operations teams to better communicate, collaborate, and manage service delivery.

Reduce Troubleshooting Time to Minutes

Effective root-cause analysis requires a comprehensive view of all elements within the IT infrastructure. OnCommand Balance dynamically maps each element and its interdependencies—from application workload, to virtual or physical server, to NetApp aggregate or cluster. Performance issues are highlighted in a color-coded interactive map and are sent as alerts so that IT users can immediately pinpoint and resolve them.

Administrators can drill down for deep analysis into the element that has the bottleneck. Application contention analysis shows which applications are competing for the same infrastructure resources at the same time, thereby reducing overall system performance. Isolating the problem, which used to take hours or days, now takes only minutes.

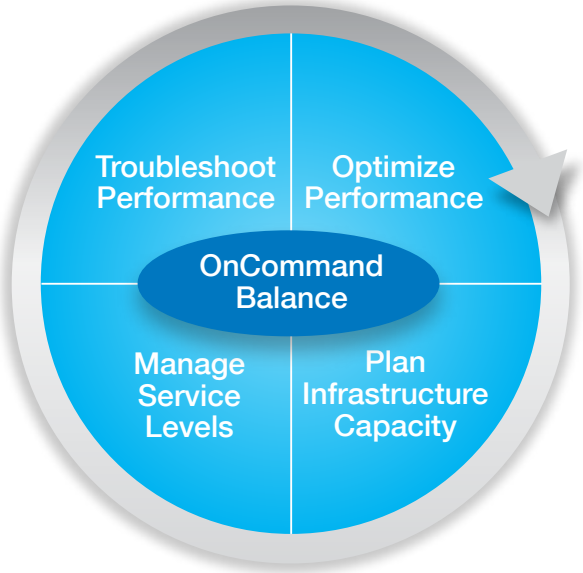

Figure 1) OnCommand Balance provides performance and capacity guidance, enabling proactive management of shared infrastructure.

Optimize Performance and Size for Shared Infrastructure

True infrastructure optimization requires insight and analysis into both utilization and performance. Virtualization makes this challenge more difficult; focusing on only utilization or performance is not enough. OnCommand Balance offers a combination, so end users can maximize infrastructure performance at the lowest possible cost. Overprovisioning wastes money; underprovisioning affects performance.

OnCommand Balance performance capacity analytics determine the optimal balance between cost and efficiency. By collecting data from each resource (VM, server, and storage) in the infrastructure and performing modeling and analysis, OnCommand Balance produces data center–level statistics that are not found in any traditional system management tool.

The performance index scores the balance between application requirements and the ability of the infrastructure to deliver. The index is produced from a VM perspective and from a virtual host perspective so that administrators can maximize VM densities and appropriately size VMs. The VM CPU efficiency, entitlement, and host resource contention of OnCommand Balance enable customers to increase performance and scalability in their virtualized environment. Administrators can provision the proper server and storage resources for the proper workload.

Accurately Forecast Capital Purchases

Virtualization enables customers to dynamically allocate resources where they are needed. When capacity is efficiently planned, applications get IT resources when they need them, without overprovisioning. OnCommand Balance provides visibility and predictability into performance and capacity growth.

Automated scorecards on VMs, servers, and storage provide a consistent set of metrics on all IT resources. OnCommand Balance reporting of overall storage system, aggregate, volume, and LUN performance and capacity gives customers greater insight and understanding than any other management application can. By using OnCommand Balance as an independent advisor, IT managers can invest in capital equipment when the company truly needs it, not when an IT vendor says it does.

Manage Service Levels and Meet Business Requirements

Business users demand service-level agreements (SLAs). The abstraction of the physical infrastructure and underlying resource contention of virtualization make this challenge more difficult. OnCommand Balance provides the predictability and confidence that IT staff members need to meet their business user demands. Infrastructure response time shows the performance delivered to an application by all the IT resources that are assigned to it. This information can be used to determine a baseline and predict future infrastructure service, and even to provide alerts about service deviations.

The abnormality index of OnCommand Balance predicts when applications might behave inconsistently, and it alerts administrators to proactively resolve issues. Chargeback reporting allows accurate tracking of virtualized application costs. Today's data center managers must both increase the use of virtualized infrastructure and deliver SLAs to their customers. Without the detailed understanding of application workloads and their impact on the underlying infrastructure that OnCommand Balance offers, managers cannot consistently meet both these objectives.

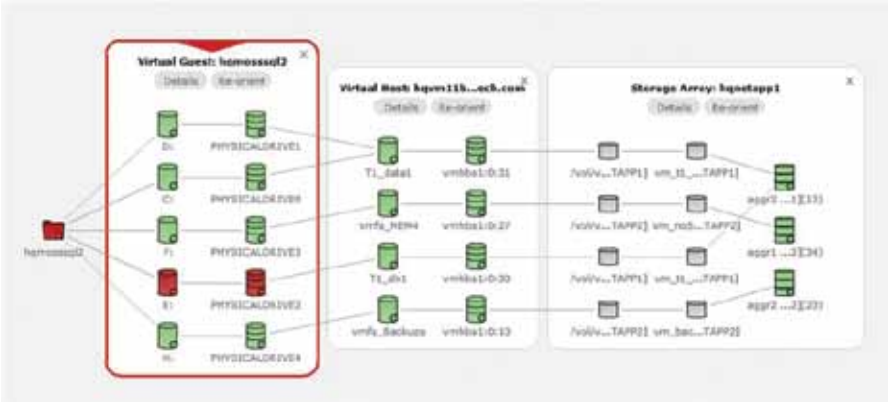

Figure 2) Dynamic visualization automatically correlates interdependencies, mapping the health of the shared infrastructure and showing where issues exist.

Specifications

Web-based GUI console

Virtual appliance: Requires VMware vSphere® 4.1 (or later) with 2 CPUs at 2.33GHz minimum and 4GB VM memory; 4 disks (RAID 5 or 10) with 200GB also required

Discovery, data collection, and analysis for resources, including:

- Servers: Microsoft® Windows®, HP-UX, IBM, Red Hat Enterprise Linux®, Oracle® Solaris, VMware
- Storage: NetApp FAS series
- Applications: RDBMS, OLTP, OLAP, file, e-mail, streaming media, and so on, with drill-down for Oracle9i and Oracle10g, and Microsoft SQL Server® 2005 and 2008

About NetApp

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Go further, faster®

PERFORMANCE CAPACITY ANALYTICS	DESCRIPTION	HOW TO USE THE INFORMATION
Troubleshoot		
Application Contention Analysis	Shows which application workloads are competing for resources	Quickly identify bottlenecks, contention, hot spots
Infrastructure Response Time	Shows performance delivered to an app by the total resources that are assigned to it	Measure and determine a baseline for an application's system performance
VM CPU Efficiency	Compares guest OS perspective with actual VM usage	Determine optimal CPU efficiency for each VM
Optimize		
Performance Index	Scores the balance between app requirements and infrastructure ability to deliver, from a physical server perspective	Confidently determine how many VMs fit on a VMware host
VM Performance Index	Scores the balance between app requirements and infrastructure ability to deliver, from a VM perspective	Determine optimal size of the VM for each app
VM Resource Entitlement Analysis	Shows actual usage versus allocation	Enable effective use of VM resource settings, avoid over- or underallocating critical resources
Virtual Resource Pool Entitlement Analysis	Shows actual usage versus allocation	Enable effective use of resource pools to manage shared infrastructure
Plan		
VM Host Resource Contention	Shows CPU and memory in one view	Show resource hogs per VM at any one point in time, identify available hosting, reclaim unused resources
Server Volume Capacity Utilization Forecast Report	Shows utilization growth rates per server volume and when rates will hit 100%	Know when server volumes will max out
VMware Cluster Capacity	Shows cluster usage by the server or resource pool	Load-balance clusters and resource pools, plan total cluster capacity versus utilization with remaining headroom
Manage		
Disk Utilization	Provides a metric that warns against dangerously increasing loads on a disk	Predict issues before they affect the business
Abnormality Analysis	Dynamically gauges performance against "normal" behavior	Predict, provide alerts about, and report on performance and capacity
Shared Infrastructure Reporting	Provides product infrastructure scorecards, capacity, and performance summaries and forecasts	Prove service-level adherence, generate chargeback information

Table 1) By using performance capacity analytics, OnCommand Balance produces key performance indicators and reports that enable IT operations to better communicate, collaborate, and manage service delivery.

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