Tiefere Einblicke in virtuelle Umgebungen

VMware vSphere with Operations Management (vSOM)

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Agenda

- Today’s Reality
- Goals & Evolution
- VMware’s approach
- vSOM
  - Dashboard
  - Health, Risk & Efficiency
  - Capacity Planning
  - Projects
- VMware vSOM packages
- VOA
## Operations Management Goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Status Quo</th>
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<tbody>
<tr>
<td><strong>Quality of Service</strong></td>
<td>• Are you able to meet or exceed service level expectations?</td>
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<td>• Can you remediate issues before end users are impacted?</td>
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<td>• How many monitoring tools are you using?</td>
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<td><strong>Operational Efficiency</strong></td>
<td>• What is your average Mean Time to Incident &amp; Resolution?</td>
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<td>• Do you manage your infrastructure capacity?</td>
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<td></td>
<td>• How do you plan for future needs?</td>
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<tr>
<td><strong>Control and Compliance</strong></td>
<td>• Is your IT infrastructure compliant to regulatory standards?</td>
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<td></td>
<td>• Can you proactively enforce IT standards in your organization?</td>
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</table>
Today’s Reality in Operations Management

- Monitoring Data Overload
- Alert Storms
- Over-provisioning
- Finger Pointing
Evolution of Operations Analytics Technology

Automated

Traditional Monitoring
- Hyperic, SCOM, Nagios, ...
  - Static thresholds
  - Alerts
  - Data collection (Metrics, logs, ...)

Event Correlation
- BMC, HP, CA, IBM, ...
  - Aggregation
  - Masking & filtering
  - Rules-based alert suppression

Performance Analytics
- VR Ops 1.0-5.x, Netuitive, ...
  - Self-learning
  - Dynamic thresholds
  - Super metrics

Predictive Analytics
- vRealize Operations 6.0
  - Detect complex issues from multiple symptoms
  - Remediation and automation engine
  - Scale-out, data-agnostic platform

Manual

Reactive

Proactive

10x Alert Reduction
VMware’s Approach to Operations Analytics

- Logs & Unstructured Data
- Topology Analysis
- Configuration Health
- Performance & Availability
- Capacity Planning
vRealize Operations 6 – Overview
Dashboard: Health, Risk & Efficiency

**Definition:** The dashboard in VMware vSphere with Operations Management and vRealize Operations shows the current Health, Risk, and Efficiency status of your IT environment.

**The dashboard correlates data from applications to storage** in a unified management tool that is easy-to-use from a single UI.

**Delivers intelligent operations management from applications to storage** and across physical, virtual, and cloud infrastructures.

**Predictive analytics** drive proactive action, and policy-based automation.

**You gain control** over configuration, performance and capacity, as you drill down from the main dashboard into each badge.
Health

**Health: Immediate Issues**

- **Definition:** The Health badge is calculated from its minor badges. They are:
  - **Workload** -- how hard an object is working, so lower is better
  - **Anomalies** -- how close to normal an object is behaving, and lower is better
  - **Faults** -- the degree of problems the object is experiencing

- The Health badge shows how the object is doing at a moment in time. It identifies:
  - **Current problems** in the system,
  - **Issues** that must be resolved immediately

- The Heat Map provides a quick view of many objects at once
  - Shows the health status of all parent and child objects
  - More green than red is better

- Health is influenced by Capacity and Risk, so we advise adjusting those first

- See next slide for minor badge details
Health Detail: Workloads, Anomalies & Faults
Risk

Risk: Future Issues

- **Definition:** The Risk badge shows the Risk score of your vSphere environment over the last 7 days. The Risk score is calculated from three minor badges. They are:
  - Time Remaining
  - Capacity Remaining
  - Stress

- **The Risk badge** focuses on future risks to systems and virtual infrastructure

- **Identifies potential problems** that could eventually hurt the performance of various systems.

- See next slide for minor badge details
Risk Detail: Capacity Remaining & Time Remaining
Risk Detail: Stress

This **Stress badge** measures the long-term or chronic workload. You can now quickly find and resolve undersized objects, and population contention.

- A lower Stress score is better, and the range is 0-100
- The Stress score encompasses a 6-week period, and by default all workloads > 70% are considered stressed. Note that this threshold is configurable.
- This badge shows weekly breakdown of stress for each day and hour averaged over the last six weeks.
Efficiency: Optimization Opportunities

This badge shows the opportunities for optimization that currently exist in your virtualized environment.

To enable you to run a leaner data center, this score focuses on:

- Increasing utilization
- Improving consolidation
- Getting more out of your existing resources
- Save on capital expenditures
- Lower operating expenses

The ‘Efficiency’ score is a roll-up of two badges. They are Reclaimable Waste and Density.

A higher Efficiency score is better, and the range is 0-100.
Efficiency Detail: Reclaimable Capacity

This **Reclaimable Capacity** badge measures the amount of overprovisioning and consequent reclaimable resources – CPU, memory, disk.

- A low score for reclaimable waste is better as it means you are utilizing your resources well.
- The score is calculated as the ratio of reclaimable capacity to deployed capacity, and it depicts the maximum of the CPU, memory and disk calculation.
- The disk calculation can also include old snapshots and templates.

This badge shows your reclaimable capacity in terms of vCPUs, Disk and vMem, as well as the percent of idle, powered off and oversized VMs.
This **Density badge** contrasts actual compared with ideal density to help you identify optimal resource deployment before contention occurs.

Greater consolidation increases savings, so high density score is better.

The Density score measures the following consolidation ratios:

- Virtual machines/host ratios
- vCPU/physical CPU ratios
- vMem/physical memory ratios

- The range is 0-100
Risk Detail: Idle & Powered Off Virtual Machines
vR Ops – Capacity Planning

Technical Overview

Extending Capacity Planning

- Capacity modeling for all containers and vSphere
  - Capacity for Heterogeneous environments
  - Must be built into the adapter
- Improved defaults, first Default Policy Configuration flow
- Projects - Persistent What-If Scenarios
- Extensible Views and Reports for Capacity
- Alert definitions for Capacity
vR Ops – Projects

Persistent “What-If Scenarios”

• Projects are events that model changing Total Capacity and/or Usage

• Projects have an event timestamp which can be applied now or at some point in the future

• Projects can be applied to any containers

• Projects can be
  – Can be scheduled as repeating events
  – Can be edited, saved, combined and compared
vR Ops – Projects

• Determine Capacity shortfall
• Create a project
  • Plan or Commit
• vR Ops Adv
The Right Package for Your Needs

<table>
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<tr>
<th>Package</th>
<th>Key Component(s)</th>
<th>Capabilities</th>
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<tbody>
<tr>
<td>vSphere with Operations</td>
<td>vRealize Operations Standard</td>
<td>• vSphere health monitoring and proactive smart alerts</td>
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<tr>
<td>Management</td>
<td></td>
<td>• Root cause analysis and guided remediation</td>
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<tr>
<td>vRealize Operations Standard</td>
<td></td>
<td>• Intelligent operations groups and flexible policies</td>
</tr>
<tr>
<td>vRealize Operations Insight</td>
<td></td>
<td>• Comprehensive operations dashboards, and reporting</td>
</tr>
<tr>
<td>vRealize Suite</td>
<td></td>
<td>• Capacity metering, trending, right-sizing and optimization</td>
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For SMB and Mid-size customers:

- vRealize Operations Standard
- vRealize Operations Advanced
- vRealize Operations Enterprise

For Enterprise customers:

- vRealize Operations Standard
- vRealize Operations Advanced
- vRealize Operations Enterprise

- vRealize Suite

- vRealize Log Insight
vRealize Operations Insight (vROI) & vSphere with Operations Management (vSOM): Capability Map

<table>
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<th>Operations Management Component Included</th>
<th>vSphere with Operations Management</th>
<th>vRealize Operations Insight</th>
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<tr>
<td><strong>Operations Visibility and Management</strong></td>
<td>• Proactive smart alerts, intelligent operations groups and flexible operations policies</td>
<td>• Comprehensive operations dashboards, and reporting</td>
</tr>
<tr>
<td><strong>Performance Monitoring and Analytics</strong></td>
<td>• vSphere health monitoring, root cause analysis and recommendations</td>
<td>• OS resources monitoring (CPU, disk, memory, network) for Windows, Linux systems</td>
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<td><strong>Capacity Management</strong></td>
<td>• Capacity optimization and scenario modeling</td>
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<tr>
<td><strong>Application Dependency Mapping</strong></td>
<td>• Application discovery and dependency mapping</td>
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<tr>
<td><strong>Change, Configuration and Compliance Management</strong></td>
<td>• vSphere security hardening, change, configuration and regulatory compliance</td>
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<tr>
<td><strong>Log Management</strong></td>
<td>• Universal log collection and clustering technology for log analytics at scale</td>
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* For complete list of vCenter Operations Management packs, please visit https://solutionexchange.vmware.com/store/vcops
Vielen Dank für Ihre Aufmerksamkeit

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