Welcome!

The webinar will start shortly

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Simplifying Enterprise IT.

Simplify Virtual Storage and Management with VMware

Virtual SAN and vSphere w/ Operations Management

Live Webinar Series • November 5, 2014

Welcome

Agenda

- **VMware Virtual SAN 5.5**
- vSAN Demonstration
- Q & A
- **VMware vSphere with Operations Management**
- vSOM Demonstration
- Q & A

Today's Speaker

Vincent Riccio, VMware Systems Engineer

12+ years experience with Virtualization solutions including VMware Architect and Systems Engineer. Accredited as a VCP- 4&5 and VCP-Cloud specializing in Software-Defined Data Center solutions and End-User Computing products at VMware.

VMware Virtual SAN 5.5

Radically Simple Hypervisor-Converged Storage

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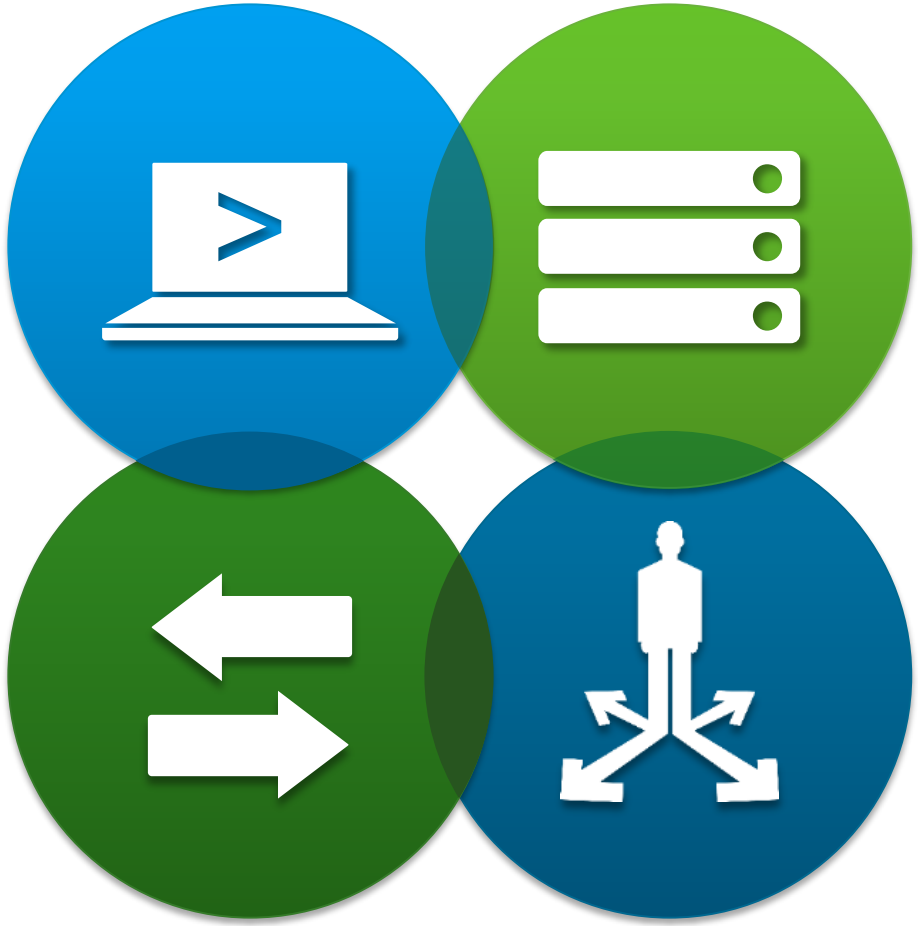
The Software-Defined Data Center

Expand virtual **compute** to all applications

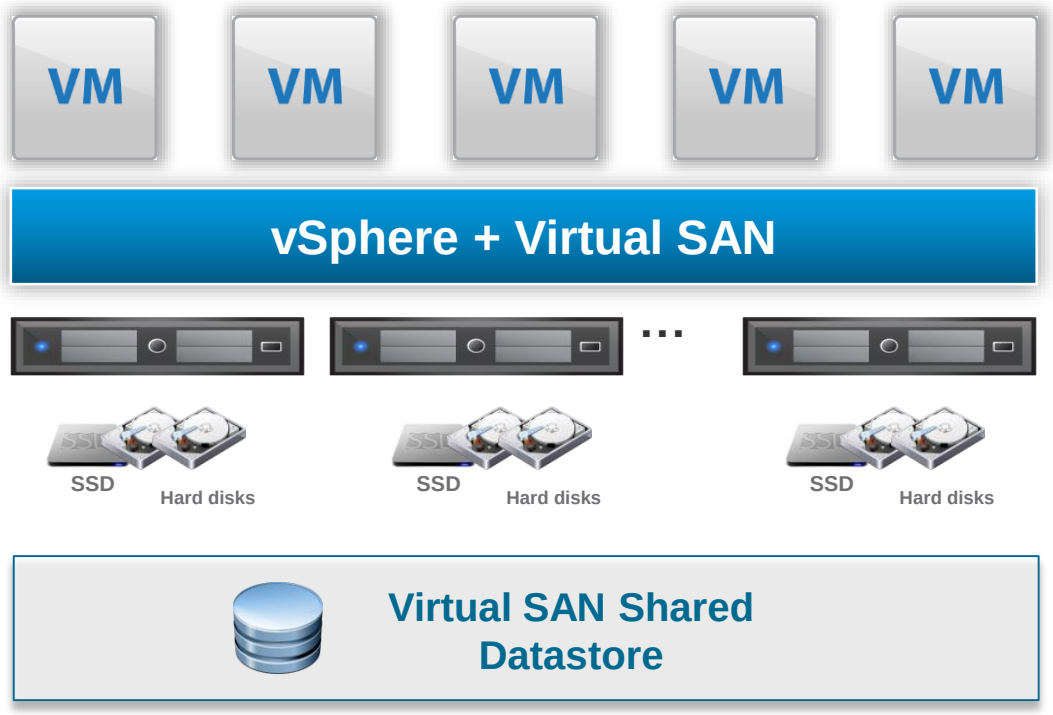
Virtualize the **network** for speed and efficiency



Transform **storage** by aligning it with app demands

Management tools give way to **automation**

Virtual SAN: Simple Hypervisor-Converged Storage



The Basics

- Software-defined storage embedded in vSphere
- Runs on any standard x86 server
- Pools HDD/flash into a shared datastore
- Managed through storage policy-based management framework
- High performance through flash acceleration
- Highly resilient - zero data loss in the event of hardware failures
- Deeply integrated with the VMware stack

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Virtual SAN: Unprecedented Customer Interest

"Best of Interop and Audience Choice Award"

"Best of TechEd Virtualization Winner"

300+

Customers in the first three months

"Virtual SAN takes VMware a big step closer to the software-defined datacenter..."

—Charles Babcock

InformationWeek

"It's really a no-brainer when the hypervisor you want to use also includes this virtualized storage."

—Ryan Hoenle

IT Director of The Doe Fund

NETWORKWORLD

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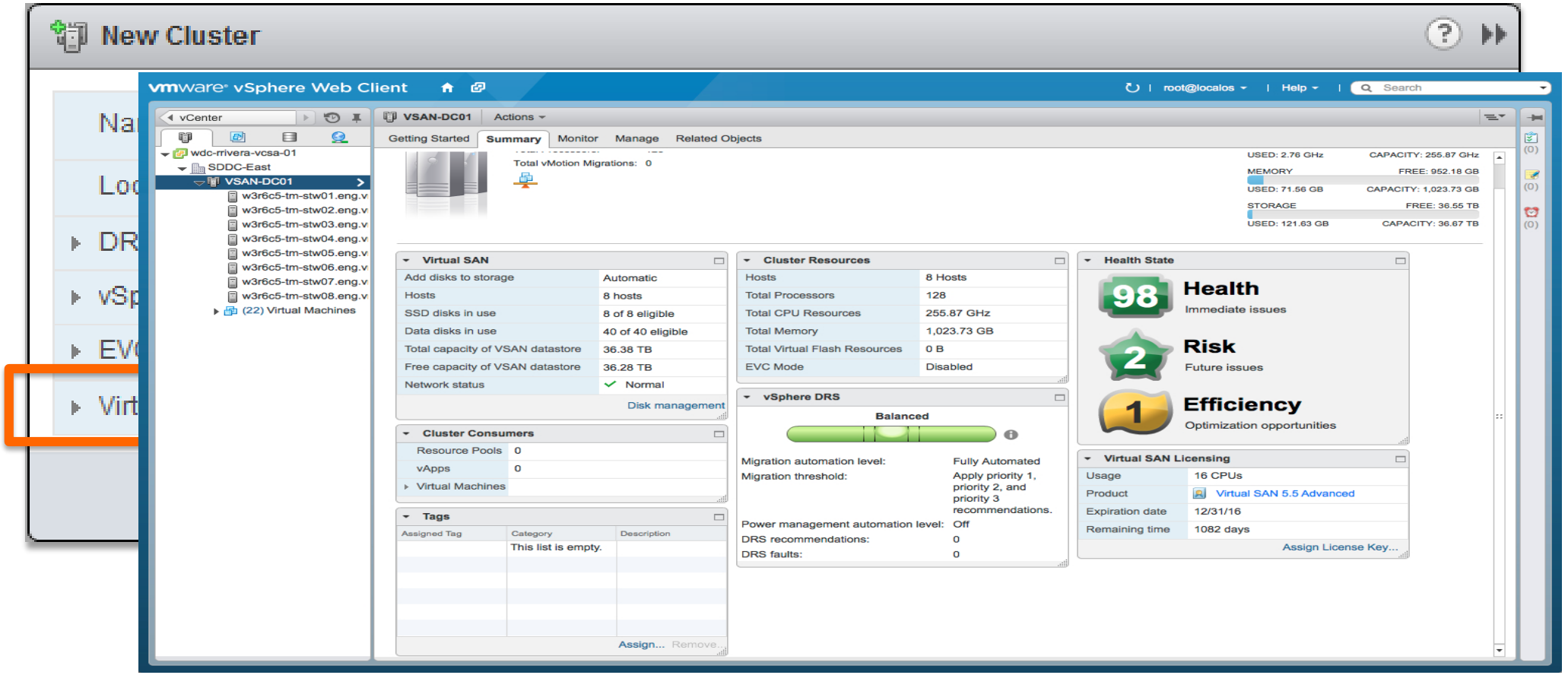
Virtual SAN Simplifies Storage

If You Know vSphere, You Know Virtual SAN



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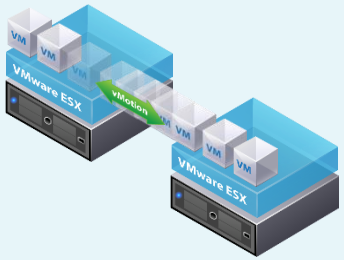
Virtual SAN is Deeply Integrated with VMware Stack

Ideal for VMware Environments

vSphere

vMotion
vSphere HA

DRS
Storage vMotion



Data Protection

Snapshots
Linked Clones

VDP Advanced
vSphere Replication

Virtual Desktop

VMware View

Cloud Ops and Automation

vCenter Operations Manager
vCloud Automation Center

Disaster Recovery

Site Recovery Manager

Storage Policy-Based Management

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Virtual SAN Simplifies + Automates Storage Management

Per VM Storage Service Levels From a Single Self-tuning Datastore

Per VM Storage Policies

THOMSON REUTERS

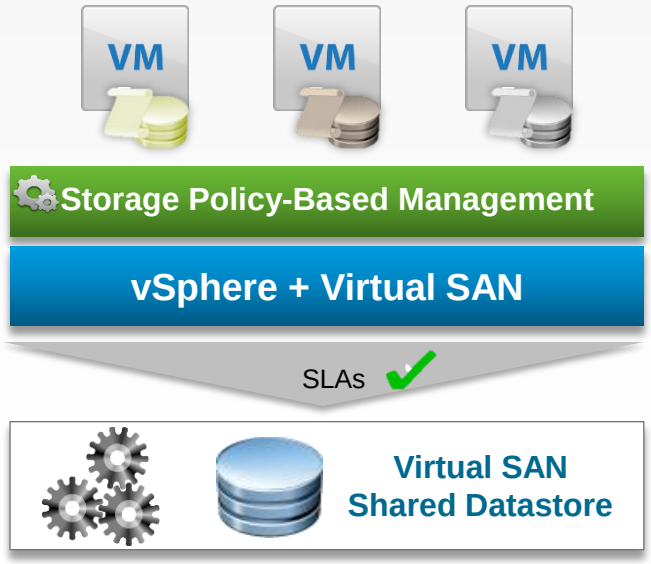
*"Virtual SAN is **easy to deploy**, just a few check boxes. **No need to configure RAID**."*

— Jim Streit
IT Architect, Thomson Reuters

Policies Set Based on Application Needs

- Capacity
- Performance
- Availability

Software Automates Control of Service Levels



No more LUNs/Volumes!

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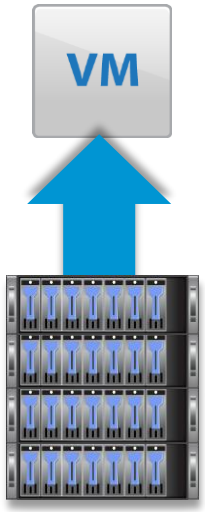
Virtual SAN Puts The App In Charge

Simpler and Automated Storage Management Through Application-centric Approach

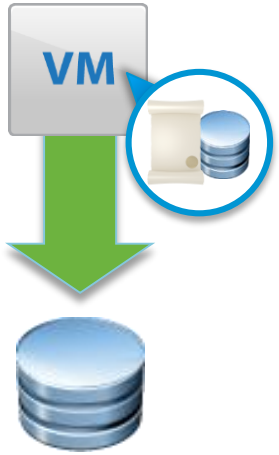
Today



1. Pre-define storage configurations
2. Pre-allocate static bins
3. Expose pre-allocated bins
4. Select appropriate bin
5. Consume from pre-allocated bin

- ✕ Slow to provision, wasted time
- ✕ Data services not aligned with VM requirements
- ✕ Frequent data migrations

Virtual SAN



Virtual SAN
Shared Datastore

1. Define storage policy
2. Apply policy at VM creation

Resource and data service are automatically provisioned and maintained.

- ✓ Dynamic provisioning, fast
- ✓ Data services dynamically composed for VM requirements
- ✓ Easy to change without data migration

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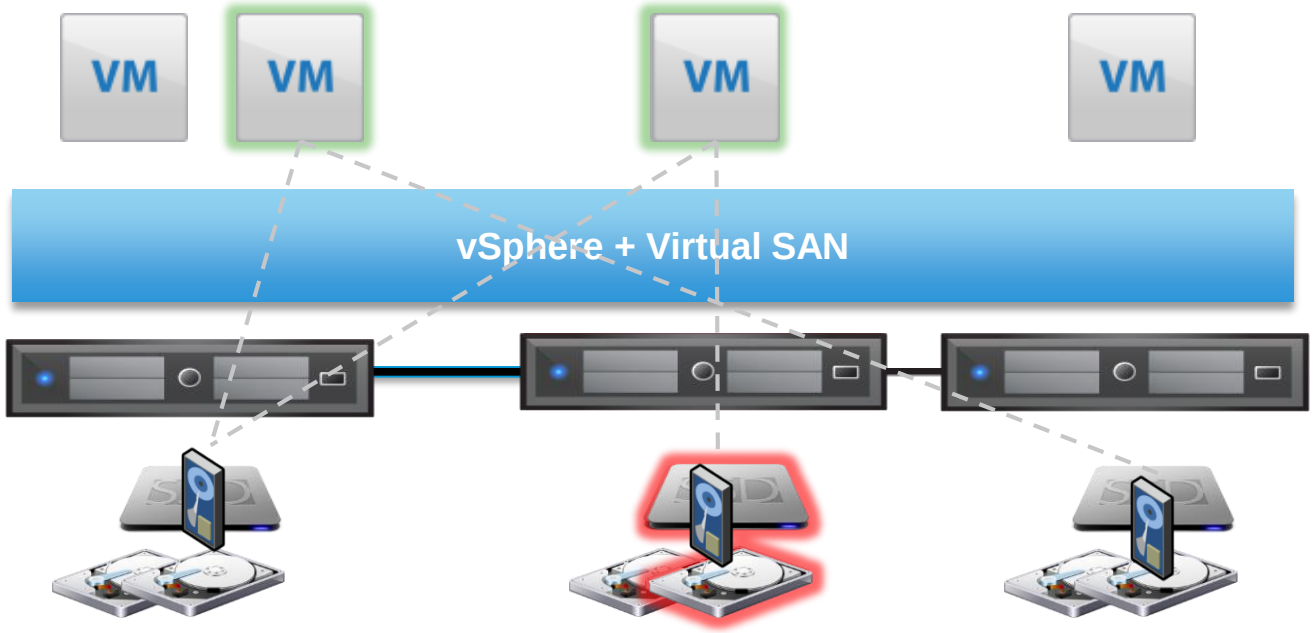
Virtual SAN Is Highly Resilient Against Hardware Failure

Virtual SAN is Designed to Ensure Data is Never Lost in Case of Failures



- ✓ **Simple** to set up via policy
- ✓ Delivered on **per VM** basis
- ✓ **Zero data loss** in case of disk, network or host failures
- ✓ Ensures **zero downtime** from disk or network failures
- ✓ Interoperable with vSphere HA and Maintenance Mode

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Virtual SAN Delivers Enterprise-Grade Scale

Virtual SAN scales to vSphere cluster scale

32
Hosts

100
VMs per host

60k
IOPS per host

70
Terabytes per host useable

Cincinnati Bell℠

*"Virtual SAN allows us to build out **scalable heterogeneous storage** infrastructure like the Facebooks and Googles of the world. Virtual SAN allows us to **add scale, add resources, while being able to service high performance workloads**."*

— Dave Burns
VP of Tech Ops, Cincinnati Bell

How To Deploy A Virtual SAN Cluster

Software + Hardware

Component Based

Choose individual components …

Any Server on vSphere Hardware Compatibility List

SSD or PCIe

SAS/NL-SAS/ SATA HDDs

HBA/RAID Controller

…using the VMware Virtual SAN Compatibility Guide (VCG) (1)

Virtual SAN Ready Node

40 OEM validated server configurations ready for Virtual SAN deployment (2)

CISCO, DELL, FUJITSU, hp, HITACHI Inspire the Next, HUAWEI, IBM, SUPERMICRO

VMware EVO:RAIL

Hyper-Converged Infrastructure

vmware EVO RAIL

A Hyper-Converged Infrastructure Appliance (HCIA) for the SDDC

Each EVO:RAIL HCIA is pre-built on a qualified and optimized 2U/4 Node server platform.

Sold via a single SKU by qualified EVO:RAIL partners (3)

Maximum Flexibility ⟷ ***Maximum Ease of Use***

Note: 1) Components must be chosen from Virtual SAN HCL, using any other components is unsupported – see Virtual SAN VMware Compatibility Guide Page
2) VMware continues to update/add list of the available Ready Nodes, please refer to Virtual SAN VMware Compatibility Guide Page for latest list
3) EVO:RAIL availability in 2H 2014. Exact dates vary based on EVO:RAIL partner

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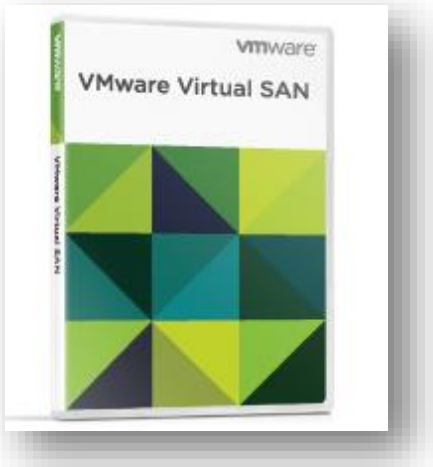

DEMONSTRATION

Q & A

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VMware vSOM

VMware vSphere® with Operations Management™

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What Is vSOM?

- vSOM : **vSphere with Operations Management**

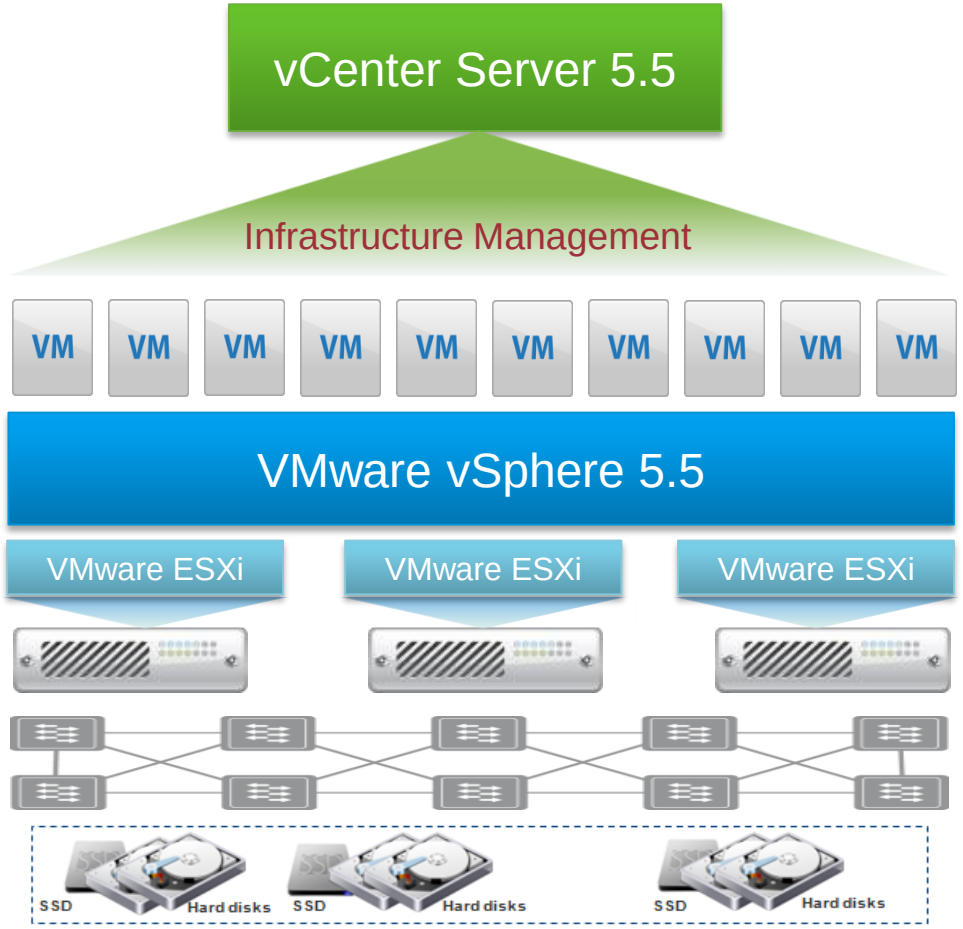
- vSOM is a “Software Bundle” that includes 2 solution components:
  - VMware **vS**phere
  - VMware vCenter **O**perations **M**anager
  - Both solutions are combined into a ***Single Licensing Offering***, on a “Per CPU Basis”

Why vSOM and not “just vSphere” ?

VMware vSphere 5.5

World's Leading Virtualization Platform

Best Virtualization
"Platform"



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VMware History: The Evolution of Virtualization

TODAY: vSphere with Operations Management

VMware vSOM

What is vSphere with Operations Management?

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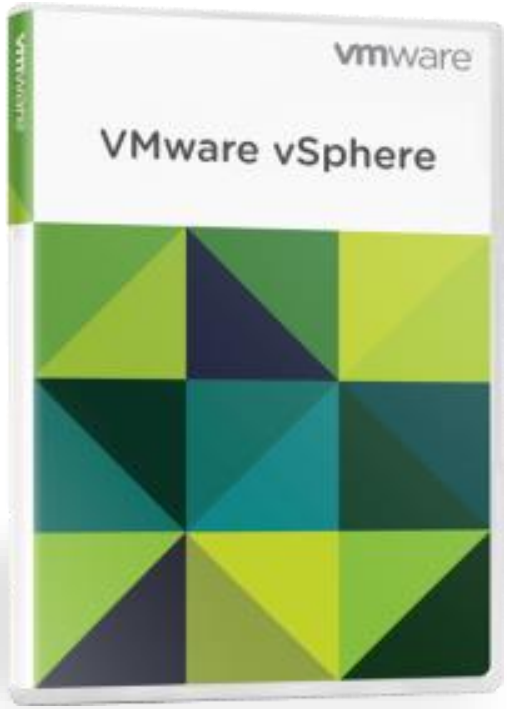
vSphere Transformed How Companies Deploy and Use IT



Agility. Efficiency. Resiliency.

…but new customer challenges arise

- How much time before my current capacity runs out?
- Which virtual machines are over-provisioned?
- How can I identify emerging performance issues before they impact the business?

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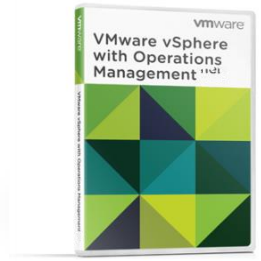
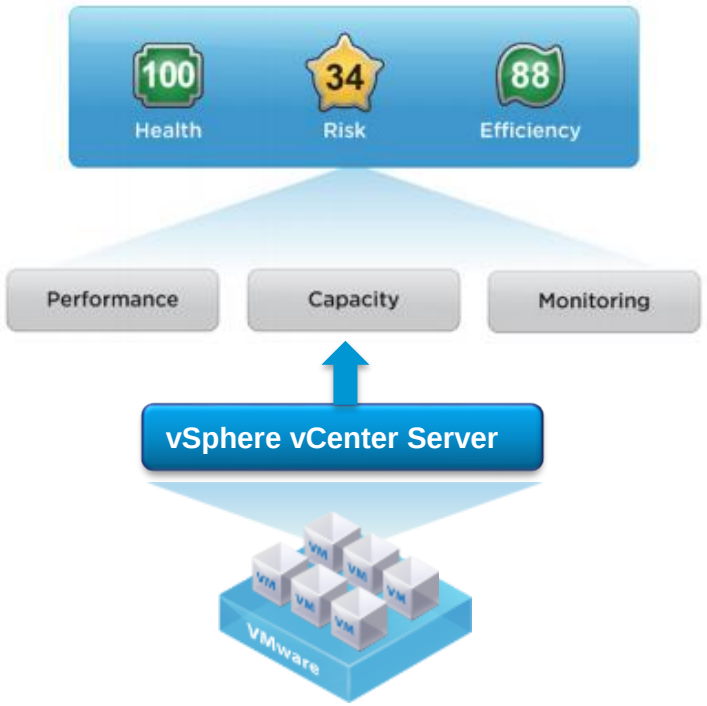
Virtualize Smarter with Insight to Workload Capacity + Health



vSphere with Operations Management

- World's leading virtualization platform
- Insight to workload capacity and health



- **Capacity planning** – know how many days before capacity runs out so IT can continue to be responsive
- **Optimize efficiency** – know on which virtual machines might be overprovisioned
- **Improve performance** - faster root cause identification of emerging issues
- **Proven virtualization platform** – provide availability for your business applications

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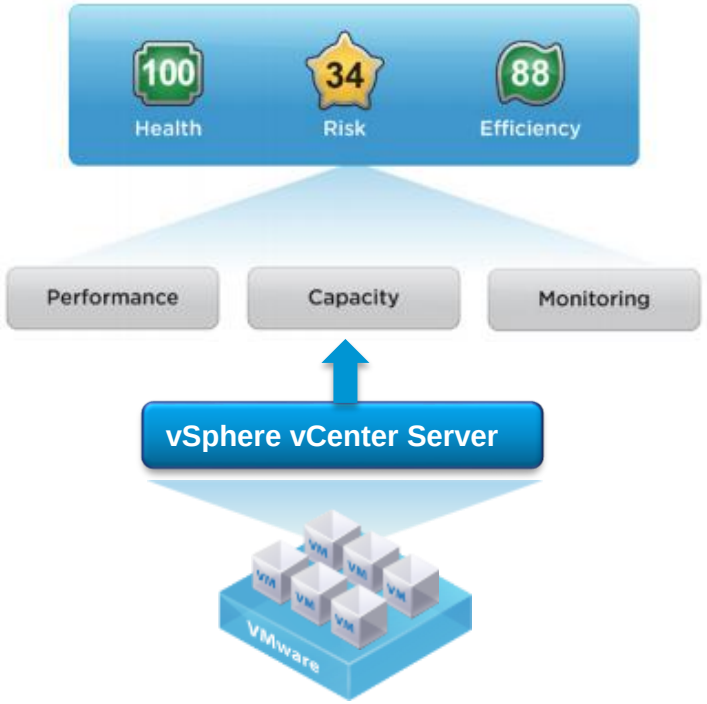
vSphere with Operations Management vs. vCenter Server



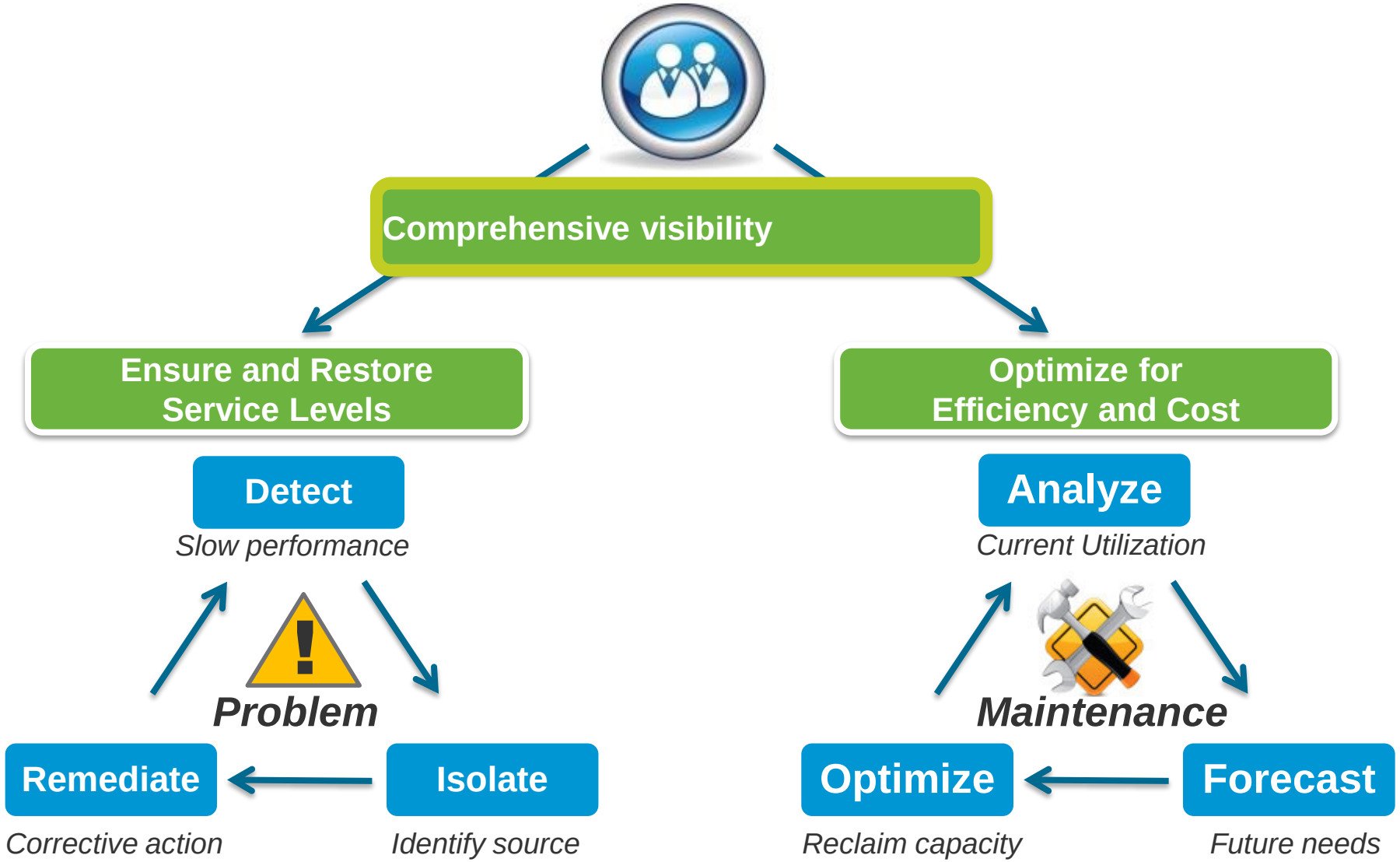
vSphere with Operations Management

- Collects the metrics from vCenter Server and provides a holistic view and deep insights into the health, risk and efficiency of IT infrastructure

vCenter Server

- vCenter Server collects real time performance data from virtualized hosts
- vCenter Server stores the data in vCenter database and also keeps a historical roll up of data

Gaining Visibility into Your Workload Capacity + Health



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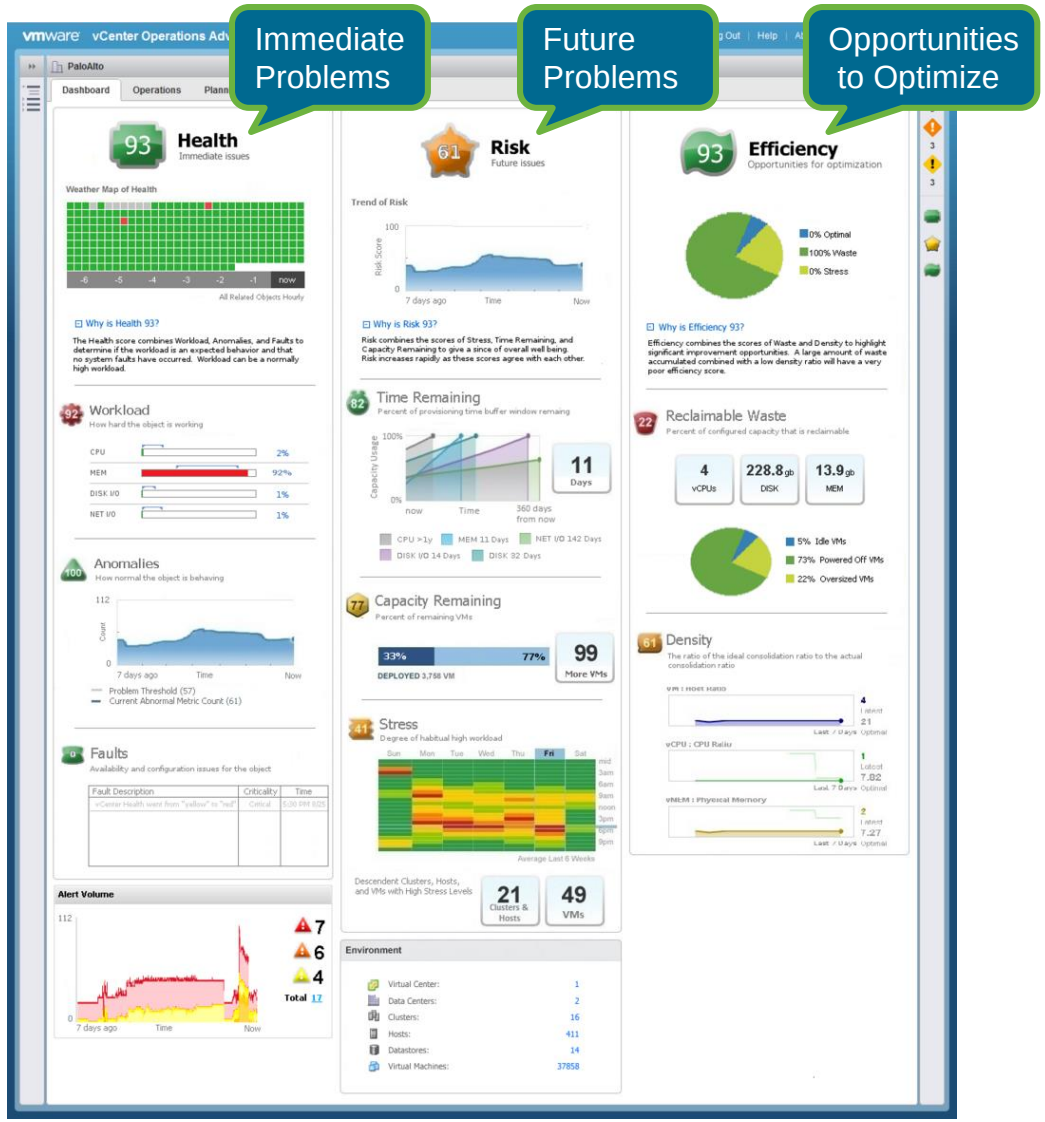
Complete Visibility for Diagnosing + Preventing Future Problems



Overview

- Comprehensive visibility for virtual infrastructure with health, risk and efficiency scores
- Single pane of glass for capacity and performance management

Benefits

- End-to-end visibility into virtual infrastructure health
- Ensure service levels for IT services
- Optimize for efficiency and cost

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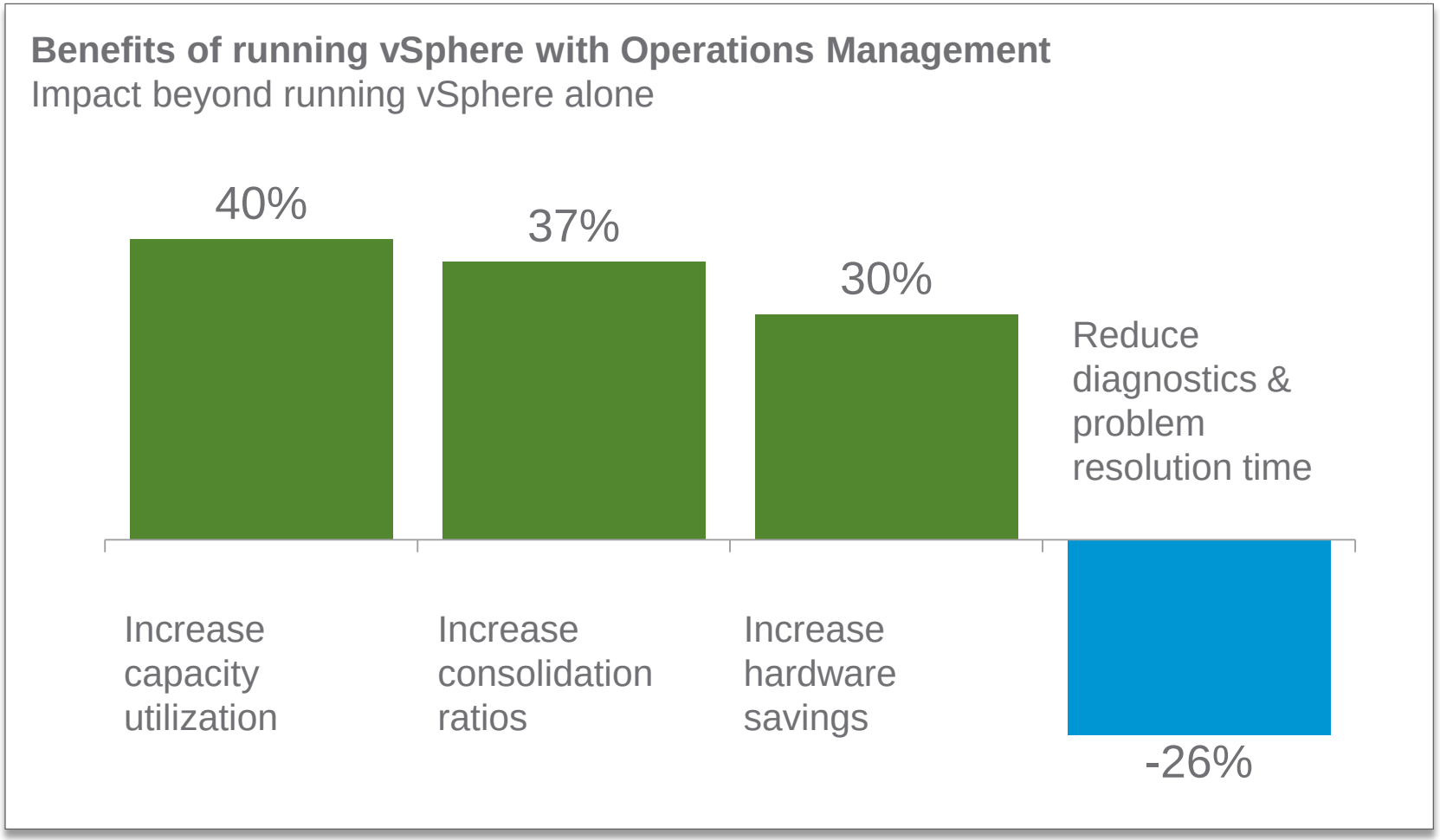
Virtualizing with Capacity Optimization Increases Your ROI



Source: Sept 2012 Management Insights Study

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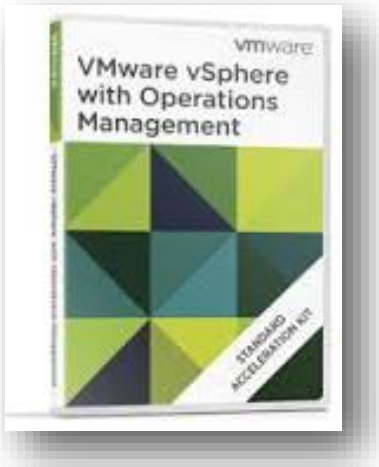
VMware vSphere with Operations Management



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Q & A

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Simplifying Enterprise IT.

About Data Networks

- Simplifying enterprise IT for our customers since 1983
- Complete solutions include:
  - End User Computing
  - Data Center Optimization
  - Infrastructure and Security
- Full-time staff of 60+ with flexible staffing model that scales to customer needs
- Strong vendor relationships with industry-leading manufacturers for single-source simplicity

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