

# VMware EVO:RAIL

Hyper-Converged Infrastructure Appliance

## AT A GLANCE

VMware EVO:RAIL™ combines compute, networking, and storage resources into a hyper-converged infrastructure appliance to create a simple, easy to deploy, all-in-one solution offered by Qualified EVO:RAIL Partners.

## USE CASES

- Private Cloud Infrastructure
- Remote/Branch Office Locations
- Limited IT Staff
- R&D and Test Environments
- Virtual Desktop Solution
- Geographic Data Locality



### EVO:RAIL Software Bundle

- EVO:RAIL rapid deployment, configuration and management engine
- Compute, network and storage virtualization enabled with vSphere and Virtual SAN



### 2U 4-node hardware platform optimized for EVO:RAIL

- Four independent nodes for compute, network and storage
- Each node has dual processors and 192GB memory
- Total of 16TB of SSD and HDD storage via Virtual SAN
- Phone and in-field hardware and software Support & Services (SnS)

## Introducing EVO:RAIL

### *Simplicity Transformed*

EVO:RAIL enables power-on to Virtual Machine creation in minutes, radically easy VM deployment, easy non-disruptive patch and upgrades, simplified management...you get the idea.

### *Software-Defined Building Block*

EVO:RAIL is a scalable Software-Defined Data Center (SDDC) building block that delivers compute, networking, storage, and management to empower private and hybrid cloud, end-user computing, test/dev, and branch office environments.

### *Trusted Foundation*

Building on the proven technology of VMware vSphere®, vCenter Server™, and VMware Virtual SAN™, EVO:RAIL delivers the first hyper-converged infrastructure appliance 100 percent powered by VMware software.

### *Highly Resilient by Design*

Resilient appliance design starting with four independent hosts and a distributed Virtual SAN datastore ensures zero application downtime during planned maintenance or during disk, network, or host failures.

### *Infrastructure at the Speed of Innovation*

Meet accelerating business demands by simplifying infrastructure design with predictable sizing and scaling, by streamlining purchase and deployment with a single appliance SKU, and by reducing CapEx and OpEx.

### *Freedom of Choice*

EVO:RAIL is delivered as a complete appliance solution with hardware, software, and support through Qualified EVO:RAIL Partners; customers choose their preferred brand.

### **Key Benefits**

Customers can reduce operating costs with efficiency and ease: Time-To-Value (TTV) to first VM in minutes, zero-downtime updates of all VMware software, automatic scale-out, global settings, and VM lifecycle management.

VMware, with qualified partners, delivers the EVO:RAIL hyper-converged infrastructure appliance via a new business model. Customers have choices for hardware and support provided by Qualified EVO:RAIL Partners. EVO:RAIL is ordered via a single SKU and backed by a single point of contact for hardware and software support.

For more information visit the VMware EVO:RAIL web page at: <http://www.vmware.com/products/evorail>.

## The EVO:RAIL Engine

With EVO:RAIL, customers experience a radically new, end-to-end user experience that drives simplicity. Deployment, configuration, and management are enabled through a new, intuitive HTML5-based user interface.

EVO:RAIL streamlines initial configuration with simple input for IP addresses, VLANs, hostnames, and passwords. Then EVO:RAIL creates the new ESXi™ hosts, implements data services, and configures vCenter Server. Within minutes EVO:RAIL is configured and ready to create VMs!

Users create VMs with only a few clicks to select the guest OS, VM size, VLAN, and security options. EVO:RAIL simplifies virtual machine sizing by offering single-click small, medium, and large configurations, as well as single-click security policies.

EVO:RAIL provides a dashboard to view VMs. Compute and storage management is revolutionized with health monitors for CPU, memory, storage, and VM usage for entire clusters, individual appliances, and individual nodes. EVO:RAIL streamlines log collection, licensing, and offers language choice for globalization.

With a minimum of four independent ESXi hosts in an EVO:RAIL cluster, patching and upgrading are non-disruptive and require zero downtime.

EVO:RAIL is optimized for the new VMware user as well as for experienced administrators. Minimal IT experience is required to deploy, configure, and manage EVO:RAIL, allowing it to be used where there is limited or no IT staff on-site. As EVO:RAIL utilizes VMware's core products, administrators can apply existing VMware knowledge, best practices, and processes.

### Automatic Scale-Out

EVO:RAIL radically simplifies scale-out. Increasing compute, networking, and storage resources is as easy as powering up a new appliance to join an existing EVO:RAIL cluster. EVO:RAIL automatically discovers the new appliance and then distributes the configuration to seamlessly add new appliances with only a password and a few mouse clicks.

EVO:RAIL can scale out to four appliances—for a total of 16 ESXi hosts and one Virtual SAN datastore, backed by a single vCenter Server and EVO:RAIL instance.

### Software Bundle

The EVO:RAIL software bundle is fully loaded onto the Qualified EVO:RAIL Partner's hardware. It is comprised of:

- EVO:RAIL Deployment, Configuration, and Management
- vSphere Enterprise Plus, including ESXi for compute
- VMware Virtual SAN for storage
- vCenter Server
- vCenter Log Insight™

### Fault Tolerance and Reliability

The EVO:RAIL appliance has four independent nodes with dedicated compute, network, and storage resources:

- Four ESXi hosts in a single appliance enables resiliency for hardware failures or maintenance
- Two fully redundant power supplies
- Two redundant 10GbE NIC ports per node for all communication
- ESXi boot device, HDDs and SSDs are all enterprise-grade
- Fault-tolerant Virtual SAN datastore

### Compute and Storage

EVO:RAIL is sized to run approximately 100 average-sized, general-purpose, data center VMs. There are no restrictions on application type. EVO:RAIL supports any application that a customer would run on vSphere.

EVO:RAIL creates a single Virtual SAN datastore from all local HDDs on each ESXi host in an EVO:RAIL cluster. Virtual SAN read caching and write buffering uses SSD capacity. Total storage capacity is 14.4 TB raw HDD and 1.6 TB SSD for read/write cache per EVO:RAIL appliance.

	PER APPLIANCE	4 APPLIANCES SCALED-OUT
Server VMs	~ 100	~ 400
VMware Horizon® View VMs	~ 250	~ 1000
Virtual SAN datastore	13.1 TB	52.4 TB

*General-purpose Server VM profile:* 2 vCPU, 4GB vMEM, 60GB vDisk, with redundancy. Actual capacity varies by VM size and workload.

*Horizon View virtual desktop profile:* 2vCPU, 2GB vMEM, 32GB vDisk linked clones. Actual capacity varies by desktop size and workload.

*Virtual SAN datastore:* Usable space will vary, based on fault tolerance settings.

### Networking

Each node in EVO:RAIL has two 10GbE network ports (either SFP+ or RJ45). Each port must be connected to a 10GbE top-of-rack switch that has IPv4 and IPv6 multicast enabled.

Remote / lights out management is available on each node through a 1GbE IPMI port that can connect to a management network.

EVO:RAIL supports four types of traffic: Management, vSphere vMotion®, Virtual SAN, and Virtual Machine. Traffic isolation on separate VLANs is recommended for vSphere vMotion, Virtual SAN, and VMs.

