VMware EVO:RAIL, 
Built with Intel Architecture
A radically simple building block for your software-defined data center

AT A GLANCE
VMware EVO:RAIL is the industry’s first 100% VMware-powered hyper-converged infrastructure appliance for the Software-Defined Data Center. It combines compute, management, networking, and storage resources into a hyper-converged infrastructure appliance, creating a simple, easy-to-manage, all-in-one solution, powered by Intel architecture and offered through Qualified EVO:RAIL Partners.

KEY BENEFITS
• Scalable, modular, and resilient architecture housed in a small form factor makes an ideal platform for private/hybrid cloud, virtual desktop infrastructure (VDI), and remote/branch office deployments
• Simplified operation, management, and maintenance result in lower CapEx and OpEx
• Single support call reduces complexity, support costs and time to recovery
• Resilient appliance design ensures near-zero application downtime during planned maintenance or disk, network or host failures

The Software-Defined Data Center is the Future of IT
In the mobile/cloud era, your competitiveness hinges on the ability of IT to keep up with user demands, while keeping in line with your budget. Server virtualization has yielded impressive benefits, but to keep pace with a rapidly changing business environment, IT needs to take the next step in the EVOlution of the data center.

This means moving beyond server virtualization to a Software-Defined Data Center (SDDC) that extends the benefits of virtualization to all data center resources—compute, networking, storage and management—for new levels of agility, resiliency and cost-effectiveness. In the SDDC, hyper-converged infrastructure takes center stage, with modular data center building blocks providing the ability to scale on-demand, much more easily and cost-effectively than with traditional infrastructure.

Together, VMware and Intel make embracing the benefits of a hyper-converged SDDC easier than ever for organizations of all sizes.

The Future is Now: EVO:RAIL
VMware EVO:RAIL™, the industry’s first hyper-converged infrastructure appliance for the SDDC, is powered by VMware software and Intel architecture. It combines optimized compute based on the Intel® Xeon® processor E5 family, and management, networking and storage resources into a hyper-converged infrastructure appliance to create a simple, easy-to-deploy, all-in-one solution. All of the hardware and software components are pre-validated and optimized for smooth interoperation, in collaboration with a global community of Qualified EVO:RAIL Partners (QEPs).

EVO:RAIL is the simplest entry point to a VMware-powered SDDC, with a unique architecture that ensures business continuity, simple deployment and a lower total cost of ownership (TCO). To put it simply, EVO:RAIL is the next EVOlution in your data center infrastructure.

Features and Benefits
Radically Simple
EVO:RAIL allows you to provide users with IT resources using a simple consumption model. Getting started is easy, too; you can deploy your first virtual machine within minutes from power up, and, using a single pane-of-glass, manage a cluster of up to eight appliances. When it’s time to grow, add appliances and enjoy linear and automated simplified scale-out.

Highly Resilient by Design
Software and hardware resiliency ensure near-zero application downtime, while four VMware ESXi™ hosts in a single appliance enable resiliency for hardware failures or maintenance. Each appliance also includes two fully redundant power supplies, two redundant 10 GbE NIC ports per node, and a fault-tolerant VMware Virtual SAN™ datastore.
Lower TCO
EVO:RAIL delivers cloud economics for the data center, with easy provisioning and management that doesn’t require specialized skill sets. Validated and certified hardware configurations eliminate the need to piece a solution together, resulting in faster deployments and time to value. CapEx costs are reduced with predictable requisition and operating models that allow you to scale with your business needs. And OpEx costs are reduced with faster deployments, simpler management, automatic scaling, and one-click, non-disruptive patches and upgrades.

EVO:RAIL Optimizes Compute, Storage, Network and Management
EVO:RAIL is comprised of four independent nodes featuring dedicated compute, network and storage resources. Intel architecture adds material value to the EVO:RAIL solution with a balanced platform based on Intel Xeon Processors, I/O and storage built to work together, and co-engineered to optimize VMware software for the hardware. Though not all EVO:RAIL units contain Intel solid-state drives (SSDs) and network interface controllers (NICs), those with matched Intel processors, SSDs and NICs can help to maximize performance and reliability.

Compute
VMware expands virtual compute to all applications. Each EVO:RAIL appliance is sized to run approximately 100 average-sized, general-purpose data center virtual machines. 1 For the ultimate in flexibility, EVO:RAIL supports any application you would run on the VMware vSphere® platform, with no restrictions on application type. What’s more, EVO:RAIL is optimized for VMware Horizon® View™ with configuration options that allow up to 250 View virtual machines on a single EVO:RAIL appliance. 2

Intel Xeon Processors optimize EVO:RAIL compute with faster intelligence from demanding workloads, reduced CapEx and OpEx through enhanced virtualization, and reliability and security to protect your organization.

Storage
EVO:RAIL transforms storage by aligning it to application demands. EVO:RAIL begins by creating a single VMware Virtual SAN™ datastore from all local hard disk drives (HDDs) on each ESXi host in an EVO:RAIL cluster. Virtual SAN read caching and write buffering uses SSD capacity.

The total storage capacity of an EVO:RAIL appliance is 16 TB, and includes:

- 14.4 TB HDD capacity (approximately 13 TB usable) per appliance, allocated to the Virtual SAN datastore for virtual machines
- 1.6 TB SSD capacity per appliance for read/write cache

Note: Also includes 30 GB of pre-provisioned management.

EVO:RAIL storage can be optimized with Intel SSDs that provide accelerated analytics, improved scalability and responsiveness.

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1 Actual capacity varies by virtual machine size and workload.
2 Actual capacity varies by desktop size and workload.
Network
Virtualizing network resources with EVO:RAIL leads to speed and efficiency. Each node in EVO:RAIL has two 10 GbE network ports. In addition, remote/lights-out management is available on each node via a 1 GbE IPMI port that can connect to a management network.

For flexibility, EVO:RAIL supports four types of traffic: management, vSphere vMotion®, Virtual SAN, and virtual machine. EVO:RAIL VLANs are highly recommended when customizing an EVO:RAIL configuration, but are not required.

Most QEP appliances use the Intel® Ethernet Controller X540, which can optimize EVO:RAIL networking with flexibility for evolving data centers, acceleration for high throughput, and platform-wide benefits.

Management
Centralized management of all resources from the VMware vCenter console provides a dashboard view with health monitors for CPU, memory, storage and virtual machine usage for entire clusters, individual appliances and individual nodes. The interface is so simple, the entire virtual infrastructure can be managed by an IT generalist without any specialized expertise.

VMware and Intel are a Powerful Combination
With optimized compute, networking, storage and management components based on Intel architecture, EVO:RAIL provides a simple, resilient and cost-effective building block that puts you on the fast track to the SDDC. Don’t wait to start your journey to a more agile infrastructure that can support your top-line business goals with ease.

Choose Your Preferred Platform for Your EVO:RAIL Solution
EVO:RAIL delivers a complete all-in-one appliance solution with hardware, software and support through a single SKU offered by QEPs, allowing you to choose your preferred brand from a partner you trust. You will get a single point of contact during the buying cycle, and a single point of contact for support. QEPs will provide value-added services, software and capabilities over time, so you can choose the best solution for your needs.

For detailed product specifications and system requirements, refer to EVO:RAIL documentation or consult a QEP for more information.

Learn More
• Call 877-4-VMWARE (outside North America call +1-650-427-5000)
• Visit http://www.vmware.com/products/evorail and try a free demo
• Follow us @vmwevorail