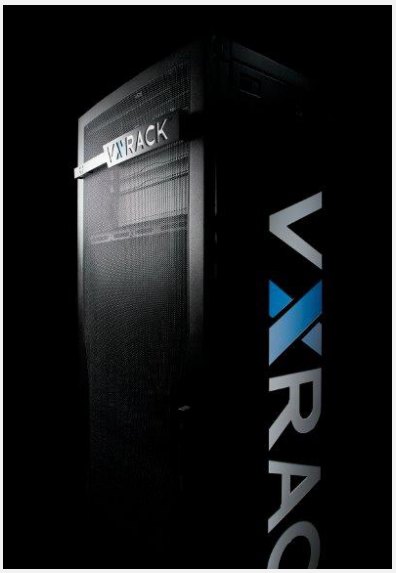
EMC Converged Platforms

DATA SHEET

VCE VXRACK™ SYSTEM 1000 WITH NEUTRINO NODES



Essentials

- **Part of the VCE VxRack System 1000 Family**
- **Easy to deploy.** Preconfigured system arrives fully racked and ready to connect to enterprise.
- **Grow-as-you-need.** Start small with a single rack and grow as needed.
- **No more silos with automation.** Accommodate the change in roles from traditional to cloud.
- **Architected with cloud native development in mind.** Same hardware will support multiple cloud native envirnoments.
- **Simplified operations through management UI.** Complete service lifecycle management with robust reporting.

CHALLENGES

Businesses everywhere are embracing the promise of Digital Transformation. IT organizations looking to accelerate their digital transformation are facing a need to drive continuous growth and innovation with cloud native applications, forcing a modernization in technology, processes, skills and roles.

The transition from traditional P2 apps to cloud-native P3 apps isn't an easy one. With different characteristics, such as infrastructure and resiliency requirements, the DIY approach to building a cloud native environment isn't a simple undertaking. Some of the challenges organizations face with cloud-native are:

- Lacking/finding/retaining the right talent that are experts in open source
- Architecting, deploying and maintaining a cloud native infrastructure
- Understanding OpenStack complexities
- Managing updates/upgrades/patches of community supported code
- Determining accurate time to market; can take months to design and deploy cloud native infrastructure
- Uncertainty of success, with a small percentage of successful deployments reported to date

These challenges have increased the demand for purpose-built cloud native solutions that provide a quick to deploy, easy to manage on-premise cloud that can support a variety of public cloud-like services.

Value

- **Elasticity.** Add or remove capacity with no service disruption
- **Scalability.** Scale to 180 nodes
- **Multi-tenancy**. Multiple accounts with administrative isolation
- **Reliability.** Software defined HA solutions and live updates
- **Deployment.** EMC installs the complete solution
- **Simplicity.** Management functions accessible via intuitive user interface
- **Maintenance.** Upgrade base and service software with minimal disruption
- **Serviceability.** Single vendor support for the entire stack

INTRODUCING VXRACK WITH NEUTRINO NODES

Turnkey cloud-native Infrastructure-as-a-Service (IaaS)

VxRack with Neutrino Nodes was architected with cloud native in mind: pairing the benefits of the VCE VxRack System 1000 hyper-converged, industry standard hardware with purpose-built management, provisioning and reporting software.

VxRack with Neutrino Nodes is for Enterprises that need a predicable business outcome and have been asked by the Line of Business (LOB) to deliver an OpenStack environment, but don't have the time or expertise needed to build their own infrastructure from the ground up. With the hardware components arriving pre-configured and racked and automated provisioning of OpenStack, a Cloud Compute Service can be up and running and delivered to the LOB in a single day…with just a few clicks. Any OpenStack based application built with VxRack with Neutrino Nodes can be ported to another project, at any time, with no vendor lock-in.

Thanks to its unique architecture, VxRack with Neutrino Nodes will be able to support other cloud-native environments in the future, such as VMware Photon. This allows organizations an unprecedented level of flexibility in terms of supporting varied business needs in a turnkey fashion.

Manage the Service Lifecycle

Organizations who are transitioning traditional-based roles/skills to cloud-based roles/skills can accommodate this transition easily with VxRack with Neutrino Nodes fully automated processes. In just a few clicks cloud administrators can:

- Select nodes and provision a fully operational OpenStack environment
- Add/remove nodes to dynamically respond to business needs
- Monitor and report on the infrastructure and services
- Replace nodes for maintenance, etc.
- Upgrade the service

Proactively Manage the Infrastructure and Services

Ongoing monitoring of the environment is crucial for any organization and VxRack with Neutrino Nodes makes it easy for you to evaluate performance and analyze trends, estimate resource requirements to meet future growth and troubleshoot when needed.

- **Health monitoring and reporting** shows the overall health of the infrastructure, Platform and Cloud Compute Service components. Tree maps at the top of the dashboards show real-time status while the tables give some more details.
- **Performance monitoring and reporting** simplifies OpenStack performance visualization that a multi-service Cloud Administrator requires. With centralized reporting of the complete solution broken down into infrastructure, service and account, Cloud Administrators have the detailed information they need, when they need it.

Designed for:

- **Enterprises.** Who want an on-premise private cloud to host cloud-native 3rd platform applications, but lack deep OpenStack expertise.
- **ISV's.** Who need to deliver hosted private cloud/applications or on-premise.
- **Mid-Sized Service Providers.** Who are developing public cloud environments for use by multiple tenants.

- **Alerting** Predefined alerts for bricks, nodes, disks, services, licensing, software components, storage, and switches are available. The Cloud Administrator can configure which alerts they want enabled or disabled and set thresholds for alert severity.
- **Capacity planning** is important for Cloud Administrators to be able to predict when additional hardware is required. To achieve this, VxRack Neutrino not only shows you the current resource usage but also usage trends, providing Cloud Administrators with 6 month projections. The Cloud Compute Service also has advanced planning tools that simulate potential new workload scenarios.

Native Hybrid Cloud

For organizations that have been asked by the LOB to quickly deploy and support a Pivotal Cloud Foundry implementation, VxRack with Neutrino Nodes is key for a quick deployment of the new Native Hybrid Cloud engineered solution from EMC. Native Hybrid Cloud is a best of class-engineered solution for cloud-native application development that allows the business to rapidly innovate and deliver differentiated value to market. The Native Hybrid Cloud combines PaaS with VxRack with Neutrino Nodes, professional services and single vendor support to create a modern developer platform that can be delivered in days rather than months to years.

CHOOSE THE RIGHT CONFIGURATION FOR YOUR BUSINES

Table 1. Technical Specifications for Individual 'P' Bricks

	P412/P812	P416/P816	P420/P820
NODES	4	4	4
PROCESSOR PER NODE	Dual E5-2620V3	Dual E5-2640V3	Dual E5-2660V3
MEMORY PER NODE	128GB	256GB	512GB
DRIVE CONTROLLER PER NODE	12G/s SAS	12G/s SAS	12G/s SAS
STORAGE PER NODE	P412: 4x400 GB SSD P812: 4x800 GB SSD	P416: 4x400 GB SSD P816: 4x800 GB SSD	P420: 4x400 GB SSD P820: 4x800 GB SSD
NETWORKING PER NODE	2x 10GbE+ 2x 1GbE	2x 10GbE+ 2x 1GbE	2x 10GbE+ 2x 1GbE

Table 2. Technical Specifications for Individual "I" Bricks

	I1812	I1816	I1820
NODES	1	1	1
PROCESSOR PER NODE	Dual E5-2620V3	Dual E5-2640V3	Dual E5-2660V3
MEMORY PER NODE	128GB	256GB	512GB
DRIVE CONTROLLER PER NODE	12G/s SAS	12G/s SAS	12G/s SAS
STORAGE PER NODE	1x400 GB SSD 1X800 GB SSD 22X1.8TB HDD	1x400 GB SSD 1X800 GB SSD 22X1.8TB HDD	1x400 GB SSD 1X800 GB SSD 22X1.8TB HDD
NETWORKING PER NODE	2x 10GbE+ 2x 1GbE	2x 10GbE+ 2x 1GbE	2x 10GbE+ 2x 1GbE

Table 3. Technical Specifications for Racks

	RACK CONFIGURATION
MAX # OF PHYSICAL RACKS	4 (first plus expansions)
MAX # OF BRICKS	45
MAX # OF NODES	180
MAX # OF CORES	2160
MAX MEMORY	54TB
MAX RAW STORAGE	297.6 TB SSD 158.4 TB SSD 950.4 TB HDD 1425.6 TB HDD
NETWORK CONNECTIVITY	Up to 8x40 GbE, redundant[1]
POWER OPTIONS	Single phase, Three phase WYE, Three phase Delta, redundant
TYPICAL POWER CONSUMPTION	First rack up to 15.5kW Expansion racks up to 18.5kW[2]
TYPICAL THERMAL RATING	First rack up to 50,000 BTU/h Expansion rack up to 63,000 BTU/h[3]

1, 2, 3 Depending on Configuration

Table 4. Environmental specifications

OPERATING ENVIRONMENT	50**°F to 95°F (10°C to 35°C), 5% to 95% relative humidity, non-condensing**
DIMENSIONS	Height: 80 in. (203cm), Width: 28 in. (70 cm), Depth: 48 in. (121 cm)
WEIGHT	First Rack: Fully Loaded Max weight 1446 lbs. Expansion Rack: Fully Loaded Max weight 1664 lbs.
MINIMUM SERVICE CLEARANCES	Front 42 in. (107 cm), read 36 in. (91 cm)

CONTACT US

ABOUT EMC

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller, visit www.emc.com, or explore and compare products in the EMC Store.

ABOUT VCE

VCE, an EMC Federation Company, is the world market leader in converged infrastructure and converged solutions. VCE accelerates the adoption of converged infrastructure and cloud-based computing models that reduce IT costs while improving time to market. VCE delivers the industry's only fully integrated and virtualized cloud infrastructure systems, allowing customers to focus on business innovation instead of integrating, validating, and managing IT infrastructure. VCE solutions are available through an extensive partner network, and cover horizontal applications, vertical industry offerings, and application development environments, allowing customers to focus on business innovation instead of integrating, validating, and managing IT infrastructure.

For more information, go to www.vce.com .

02292016