VXRACK NODE

Server SAN Made Simple

ESSENTIALS

- Pre-validated, tested and configured server nodes to provide the best performance possible

- Single vendor for software, hardware and support

- Software-defined block storage designed with enterprise-grade resiliency to deliver, scale-out, block storage using standard x86 hardware

BENEFITS

Massive Scalability:

- Scale from 3 to 1000+ server nodes across a cluster

Supreme Elasticity:

- Increase or decrease resources "on the fly" with no downtime

Extreme Performance:

- Performance that scales linearly - 10M+ IOPS with sub-millisecond latency

Unparalleled Flexibility:

- OS/hypervisor agnostic

- Choice of server node configurations

Compelling Economics:

- More efficient compared to traditional SAN infrastructures

THE CHALLENGES OF ".NOW" STORAGE

Many IT organizations are living in what can be referred to as the world of *".Now"*. IT infrastructures are siloed, inflexible and rigid. Application servers are connected via Fibre Channel and HBAs to dedicated storage arrays. Storage architectures built for .Now that have dedicated workloads, SANs and complex networks cannot always provide the scale, elasticity and flexibility needed to meet the demands of today's high performing applications, let alone the business as a whole. IT organizations are looking to move away from complex and siloed environments which are plagued by inefficient planning, high costs and longer time-to-market and move towards *".Next"*.

THE JOURNEY TO ".NEXT"

.Next is about removing your dependency on traditional SAN hardware and utilizing software and standard x86 hardware to design an infrastructure that has flexibility to respond and scale as business demands dictate.

If you are looking to address these ".Now" challenges and are ready to redesign your storage environment, then you are ready for *"SAN.Next"*. SAN.Next is about moving towards a software-defined, scale-out, SAN infrastructure using standard x86 server hardware. You can leave your applications running the way they are today, on independent servers, and transform the way you handle your block storage. You can also choose to run your applications directly on your storage server nodes, bringing compute and storage together within the architecture. We call this *"Infrastructure.Next"*.

The journey to .Next begins with EMC® ScaleIO®. EMC ScaleIO software has delivered upon the promise of software-defined, scale out, block storage on standard hardware providing extreme performance, massive scale and superior elasticity.

Now you have 3 different ways to consume ScaleIO. ScaleIO software empowers you to turn your x86 servers into a SDS infrastructure. VCE™ VxRack™ System 1000 FLEX integrates compute, software-defined storage, networking, and virtualization. It then utilizes ScaleIO software, VxRack™ Manager and VCE Vision™ Intelligent Operations software, to create a turnkey, hyper-converged infrastructure (HCI) solution. The VxRack Node bundles ScaleIO software with the standard x86 servers that it is going to run on, delivering a software-defined server SAN for block storage solution that fits within your existing infrastructure. It is perfect choice for organizations looking for ways to reduce the time needed to plan and deploy a new architecture.

These 3 consumption models make it possible for you to transform your infrastructure and move towards a SAN.Next or Infrastructure.Next architecture based upon your needs and pace.
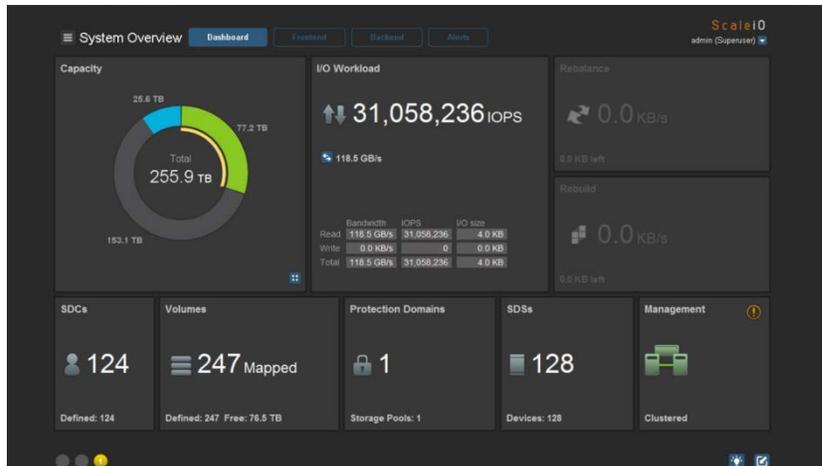
VXRACK NODE

VxRack Node consists of standard x86 servers and ScaleIO software bundled together, enabling you to quickly deploy a fully architected software-defined, scale out, server SAN. This greatly simplifies the process of procuring and deploying a server SAN, as well as, providing you confidence of knowing the solution is pre-validated, tested and configured to provide the best performance possible. The VxRack Node comes with a single support model for both hardware and software to provide world class support and makes getting support easy.

EMC SCALEIO SOFTWARE WITH THE VXRACK NODE

EMC ScaleIO is software that creates a server-based SAN from local server storage to deliver flexible and scalable performance and capacity on demand. ScaleIO combines HDDs, SSDs, and PCIe flash cards to create a virtual pool of block storage with varying performance tiers. Its design enables you to scale from 3 nodes to over a thousand nodes. In addition, it provides enterprise-grade data protection, multi-tenant capabilities, and add-on enterprise features such as QoS, thin provisioning, and snapshots. ScaleIO provides the scalability, elasticity, flexibility and performance needed to meet the demands for whatever comes next.

System wide visibility and cost effective management at scale

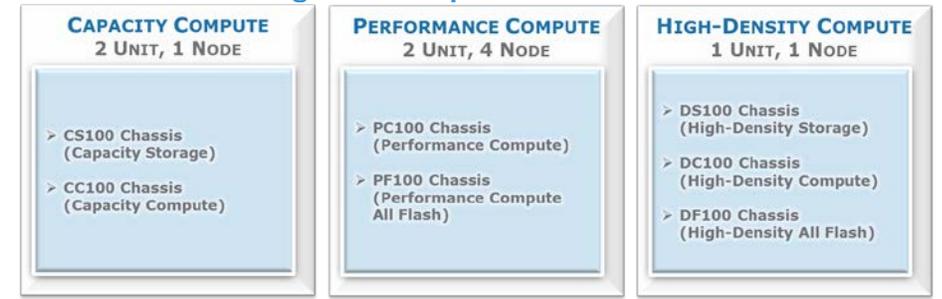## VXRACK NODE CONFIGURATIONS

The VxRack Node provides different server node configurations that are designed to be optimize capacity or performance. You can start building your infrastructure with one node type, and add to or modify the system as needs change. Different VxRack Node types can be part of the same system and is a fully supported deployment model, as long as networking and storage pools are not mixed across node types.

The capacity compute models each offer different 2 unit 1 node (2U1N) chassis configurations based upon your needs. The CS100 chassis consists of capacity storage-only server nodes. These are purposely designed to help IT organizations redesign their storage infrastructure using standard server hardware and remove their dependency on traditional SAN hardware. The CC100 chassis help organizations

deploy an Infrastructure.Next architecture. These chassis bring together compute and storage to support OpenStack deployments, Linux applications and VMware ESX.

VxRack Node Configuration Options

CAPACITY COMPUTE 2 UNIT, 1 NODE	PERFORMANCE COMPUTE 2 UNIT, 4 NODE	HIGH-DENSITY COMPUTE 1 UNIT, 1 NODE
➢ CS100 Chassis (Capacity Storage) ➢ CC100 Chassis (Capacity Compute)	➢ PC100 Chassis (Performance Compute) ➢ PF100 Chassis (Performance Compute All Flash)	➢ DS100 Chassis (High-Density Storage) ➢ DC100 Chassis (High-Density Compute) ➢ DF100 Chassis (High-Density All Flash)

The performance compute chassis provide the most CPU with storage to support applications running on the same hyper-converged server nodes. As with the capacity optimized chassis, the performance chassis offer different 2 unit 4 node (2U4N) configurations. These chassis configurations are based upon the CPU, memory and storage demands of the applications they are supporting.

The PC100 chassis is specifically designed to support high compute requirements, such as those required for high performing applications and high performance computing. For applications that require the highest levels of IOPS and core density, the PF100 chassis deliver all flash performance.

The 1U1N node configurations are designed to help you maximize your data center footprint, while also providing smaller fault domains. These 1 unit configurations provide you with another way to start your SDS deployment small but still grow scale out as your needs change. What's more is you can still select from storage, compute or flash options, never having to sacrifice performance for space.

The different configurations available not only provide you with the flexibility to adopt a software-defined architecture which best meets your needs - a SAN.Next approach to storage and/or an Infrastructure.Next approach to compute and storage architecture - but also makes capacity planning easier. You will no longer need to purchase more CPU or storage today because of what you may need 3-5 years down the line. You can now adopt a "pay as you grow" approach to capacity planning because VxRack Node makes it possible to add and/or remove server nodes and capacity as your infrastructure changes and demands require.

INTEGRATING INTO YOUR INFRASTRUCTURE

The VxRack Node provides you with the flexibility to utilize your own datacenter and/or networking infrastructure to quickly implement a Server SAN architecture. It provides the same powerful node configurations as the VxRack FLEX but can be ordered as single server nodes if a fully engineered system is not needed. This enables you to integrate your own racks and network switches with the fully supported and tested server/software combination - the VxRack Node - for a highly flexible, scalable and elastic software-defined-storage solution. Simply choose the VxRack Node configuration right for you and reduce the time needed to implement a software-defined architecture, getting to the benefits faster.

VXRACK NODE: THE NEXT EVOLUTION OF IT

We are in the middle of the next evolution of IT - the age of Software-Defined Storage and Server SAN. With VxRack Node the journey to the SAN.Next and Infrastructure.Next evolution in storage is made simple. The time has come for:

- **Massive Scalability:** Clusters can scale from 3 to 1000+ nodes across multiple racks.

- **Supreme Elasticity:** Storage and compute resources can be increased or decreased in small or large increments whenever the need arises "on the fly" with no downtime.

- **Extreme Performance:** Experience performance that scales linearly. Tested against multiple traditional SAN vendor models, customers can achieve as much as 8x better IOPS performance.

- **Unparalleled Flexibility:** Choose the OS/hypervisor running on each server node– be empowered to build the solution that best fits your application and business needs.

- **Compelling Economics**: Attain more efficiency (power/cooling/space) when compared to traditional SAN infrastructures.

CONTACT US

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