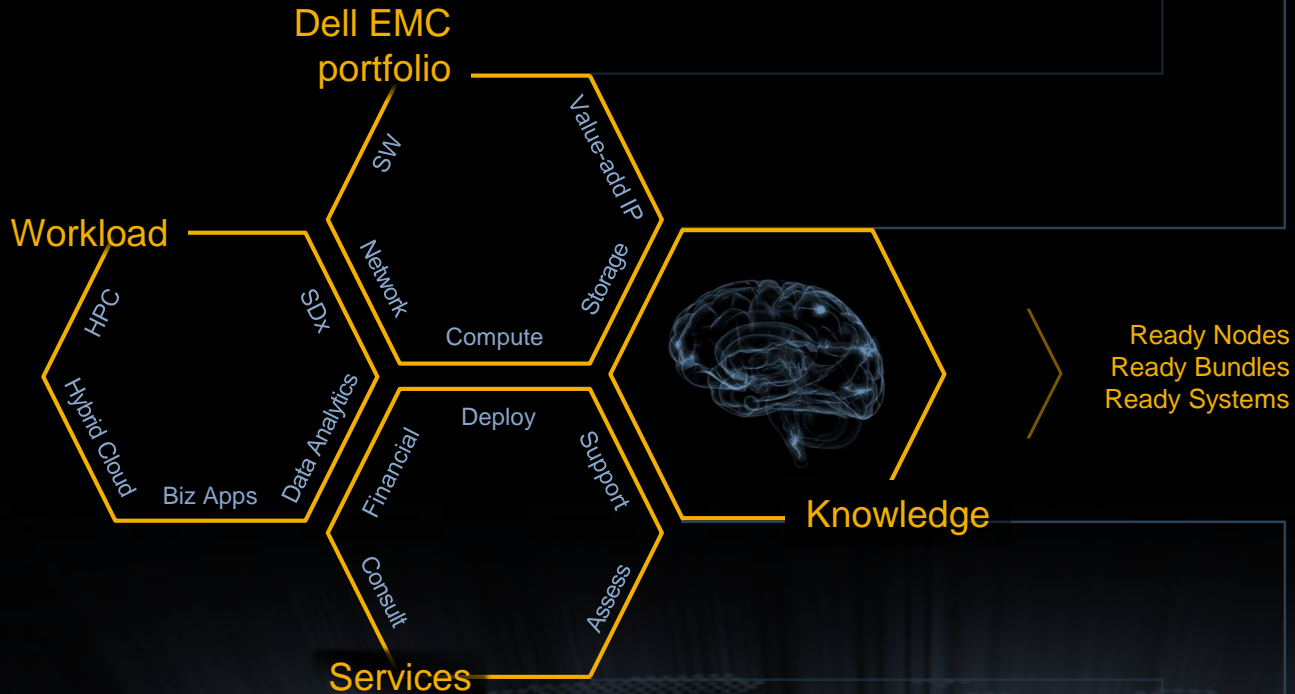


Dell EMC Ready Nodes

Software defined storage building blocks

The Ready Solutions Formula



Why Dell EMC Ready Nodes?

3 Basic Reasons Benefits of Dell EMC Ready Nodes

- Ready nodes are jointly tested and certified turnkey configurations
- Years of collaboration with software partners
- Thousands of hours of testing

- Easy deployment with factory-tested, pre-configured, and pre-tested
- Faster configuration, fewer update steps, reduced time for maintenance, troubleshooting and resolution

- Streamlined solution-level support
- Quickly and easily scale as you grow



Known good configurations

Dell EMC Ready Nodes are built on Dell EMC PowerEdge Servers -- pre-configured, tested and certified to run vSAN, ScaleIO, Microsoft Storage Spaces Direct or SAP HANA



Convenient time savings

Each Ready Node includes just the right amount of CPU, memory, network I/O controllers, HDDs and SSDs best suited for the workload, so you don't have to spend time finding and testing the optimal configuration



Unified Sales and Technical Support






Option of a single point of contact for sales and technical support for the entire solution – the server and software

Dell EMC Ready Nodes

Configurations - Building Block Value

Ready Node Building Block Value

Confidence. Convenience. Customer support.

				
vSAN Ready Nodes	NEW! Microsoft Storage Spaces Direct Ready Nodes	Now global! ScaleIO Ready Nodes	SAP HANA Scale-up Ready Nodes	SAP HANA Edge Ready Nodes
Tight integration of software and choice of hardware, reconfigurable over lifecycle	Reliably configured, easy-to-deploy building block with world-class support	Scalable, high-performance multi-hypervisor building block	Fast deployment of new instances and modular scalability without disruption	First-to-market integrated solution bringing enterprise-class SAP capabilities to mid- to small-sized budgets
Dell EMC PowerEdge 14g! R640, R740, R740xd, FX2 with FC430, FC630 All flash, hybrid	Dell EMC PowerEdge R730xd All flash, hybrid	Dell EMC PowerEdge R630, R730xd All HDD, all flash, hybrid	Dell EMC PowerEdge R930 24x 2.5" SSD plus 8x NVMe	Dell EMC PowerEdge R730 16x 2.5" drives, 8x 3.5" drives
<ul style="list-style-type: none"> • VMware-certified configurations • Multiple form factor options (1-unit, 2-unit, storage-heavy, dense) • Time to market with 14g • NEW! Standardized deployment services 	<ul style="list-style-type: none"> • Error-proof ordering—always a validated configuration • Support for both new pre-installed and BYO licensing • Single point of contact, supported as a Ready Node 	<ul style="list-style-type: none"> • NEW! Over 650 validated configurations • NEW! Auto-discovery with ESXi deployment • NEW! Single point of contact, supported as a Ready Node 	<ul style="list-style-type: none"> • SAP certified • Appliance experience • Optional VMware vSphere virtualization • Single point of contact support 	<ul style="list-style-type: none"> • SAP certified • Appliance experience • Provisioned software suite, accelerator services • Single point of contact support

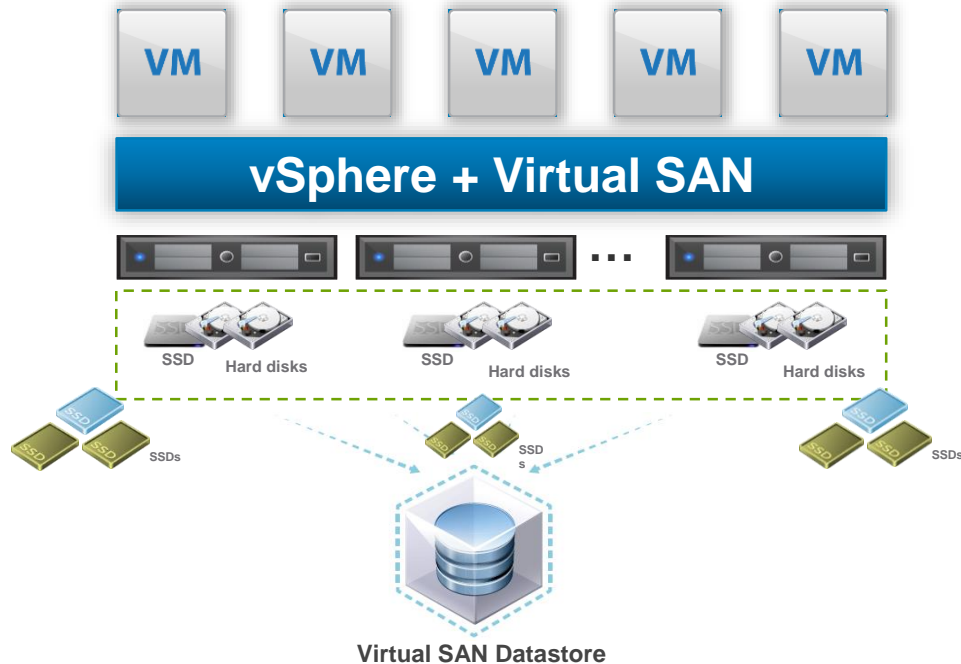
Dell EMC Ready Nodes

vSAN Ready Nodes

 **EMC** / Forum

VMware vSAN

Radically Simple Hypervisor-Converged Storage Software

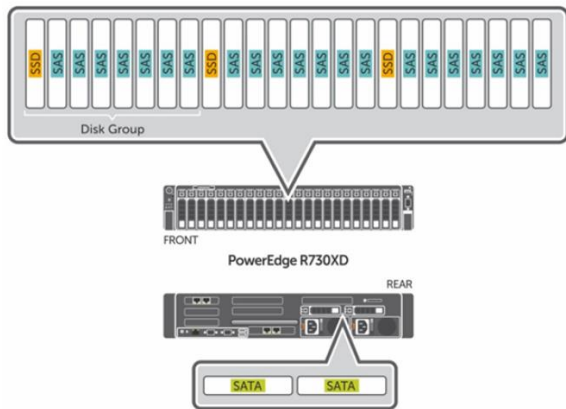


Virtual SAN

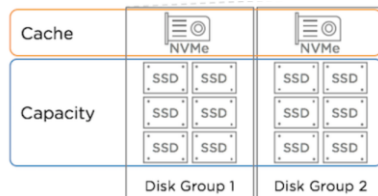
- Software-defined storage built into vSphere
- Runs on any standard x86 server
- Pools HDD/SSD into a shared datastore
- Managed through per-VM storage policies
- High performance through flash acceleration
- Highly resilient - zero data loss in the event of hardware failures
- Deeply integrated with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

vmware®

VMware vSAN



- SSD SSD drive for cache tier
- SAS SAS drive for capacity tier
- SATA SATA drives (Flex bay) for boot and scratch

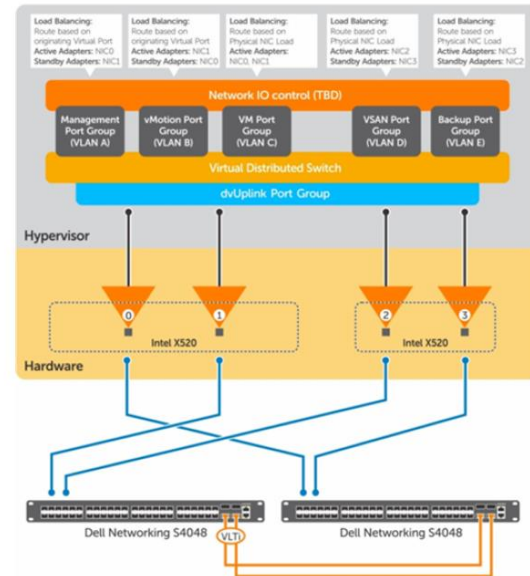
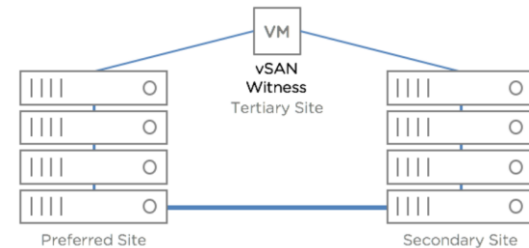


Disk Groups

Disk Group	Disks in Use	State	vSAN Health ...	Type
wdcpod06vm16.eng.vmware.com	3 of 3	Connected	Healthy	
Disk group (0200000006000c295de...)	3	Mounted	Healthy	All flash
wdcpod06vm17.eng.vmware.com	3 of 3	Connected	Healthy	
Disk group (0200000006000c29d04...)	3	Mounted	Healthy	All flash

Disk group (0200000006000c29d04c98d1ac6fe6b3e0647a9c566972747561): Disks

Name	Drive Type	Disk Tier	Capacity	vSAN Health Status
Local VMware Disk (naa.6000c29d04c98d1...)	Flash	Cache	200 GB	Healthy
Local VMware Disk (naa.6000c295b87d23...)	Flash	Capacity	400 GB	Healthy
Local VMware Disk (naa.6000c29a5eb2d34...)	Flash	Capacity	400 GB	Healthy



How we do it with vSAN Ready Nodes?

http://www.dell.com/solutions/advisors/uk/en/g_20202/Virtualization-EMEA/24/Start?s=bsd

- > Solution Templates
- ▼ VMware Solutions
 - > VDI Complete
 - ▼ VSAN Ready nodes
 - > VSAN Ready Nodes 13G - countries with Euro
 - > VSAN Ready Nodes 13G - rest of EMEA
 - > VSAN Ready Nodes 13G - UK & I - GBP
 - > VSAN Ready Nodes 14G AF
 - ▼ VSAN Ready Nodes 14G HY
 - > VSAN Ready Node 14G HY - GBP
 - ▼ VSAN Ready Node 14G HY - Euro
 - vSAN Ready Node C6420 HY2 3.6TB - Euro
 - vSAN Ready Node C6420 HY4 7.4TB - Euro
 - vSAN Ready Node R440 HY2 3.6TB - Euro
 - vSAN Ready Node R440 HY4 7.2TB - Euro
 - vSAN Ready Node R640 HY2 3.6TB - Euro
 - ▼ vSAN Ready Node R640 HY6 -14.4TB - Euro
 - vSAN Ready Node R740 HY6 14.4TB - Euro
 - vSAN Ready Node R740xd HY6 14.4TB - Euro

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

Solution Summary

Solution Options: **Dell EMC Ready Bundle for Virtualization** Documents

Solution ID# 1236648
Reference this ID# when contacting Dell about this solution

Note: Click on "View Details" link next to "Dell EMC Ready Bundle for Virtualization" to get a complete list of the Bill of Materials

Dell EMC Ready Bundle for Virtualization View Details

Note: For the purpose of illustration only. Actual system configuration and number of components may vary.

System Builder Feedback

- #### Solution Tools
- Download as PDF
 - Start over
 - Contact Dell expert

Large number of solution templates on specific workload pre-tested

Dell EMC System Builder

Dell EMC vSAN Ready Nodes

Virtualization, Virtual Desktop Infrastructure, management cluster, development platform

Solution benefits

- Unified virtualized and hardware resource management
- Scale as you need, pay as you grow
- Reconfigurable general-purpose building blocks

Differentiation

- Broad set of tested, certified, and supported configurations
- Flash-optimized hybrid or all-flash
- For all-flash, integrated compression, deduplication, and erasure coding

vmware®

Easily scale up to 64 nodes

VMware vSphere, vCenter, ESXi, and vSAN



PowerEdge R740, R740xd, R630, and FX2 servers

Dell EMC OpenManage software integration for VMware vCenter

Services: Deployment, Integration, ProSupport, ProSupport Plus

Dell EMC Ready Nodes

ScaleIO Ready Nodes

 **EMC** / Forum

ScaleIO



ALL-FLASH

- FASTEST Software-Defined block storage solution available. * *Storage Review, 2016*
- Customers deploying all-flash at true data center scale with ScaleIO
- Can achieve **Petabytes** of all-flash capacity with a highly disruptive TCO



SCALE-OUT

- Most Scalable Block storage product on the market
- Start small and scale-out to 1000+ servers
- Never a forklift upgrade!
- Never a data migration! No SAN or cluster silos
- Never a disruptive upgrade!



SOFTWARE-DEFINED

- Most Flexible SW defined storage product in the industry
- KEY: Hyperconverged &/or storage-only deployment for greatest flexibility
- HW Agnostic: Run an ANY x86 server and storage media
- OS/Hypervisor Agnostic: ESX, Hyper-V, KVM, Bare Metal – ALL at the SAME TIME sharing the SAME RESOURCES!



TRUSTED

- The MOST Enterprise Class SW Defined Solution on the Market
- Encryption
- In-flight Checksums
- LDAP
- High Infrastructure Resiliency



CAPEX



OPEX



PERFORMANCE



AGILITY



TTM

Dell EMC ScaleIO Ready Nodes

Software-defined block storage, mixed workloads, IaaS, cloud-native applications, distributed enterprise

Solution benefits

- Enterprise-grade, no-compromise resilience
- Quick and easy to deploy
- Better support experience

Differentiation

- 8 months to payback, 505% five-year ROI
- 50% lower five-year cost of operations
- 83% faster storage deployments
- 96% reduced unplanned downtime

Source: [Business Value of VxRack and ScaleIO by IDC](#)

ScaleIO

Scale from 3 to 1000+ server nodes across a cluster with no downtime

ScaleIO software

PowerEdge R630 or R730xd servers

- Storage only: all-HDD or all-flash
- Hyper-converged infrastructure: all-flash or hybrid



Optional management server for ScaleIO software versions with Advanced Management Services



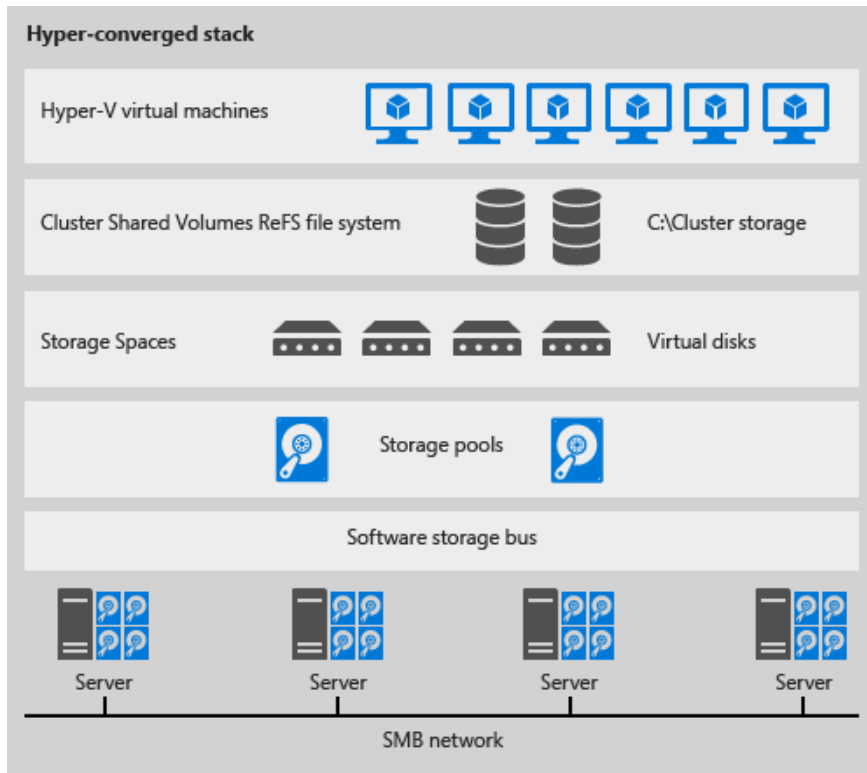
Services: Deployment, Integration, Support

Dell EMC Ready Nodes

Microsoft Storage Spaces Direct Ready Nodes

DELLEMC/Forum

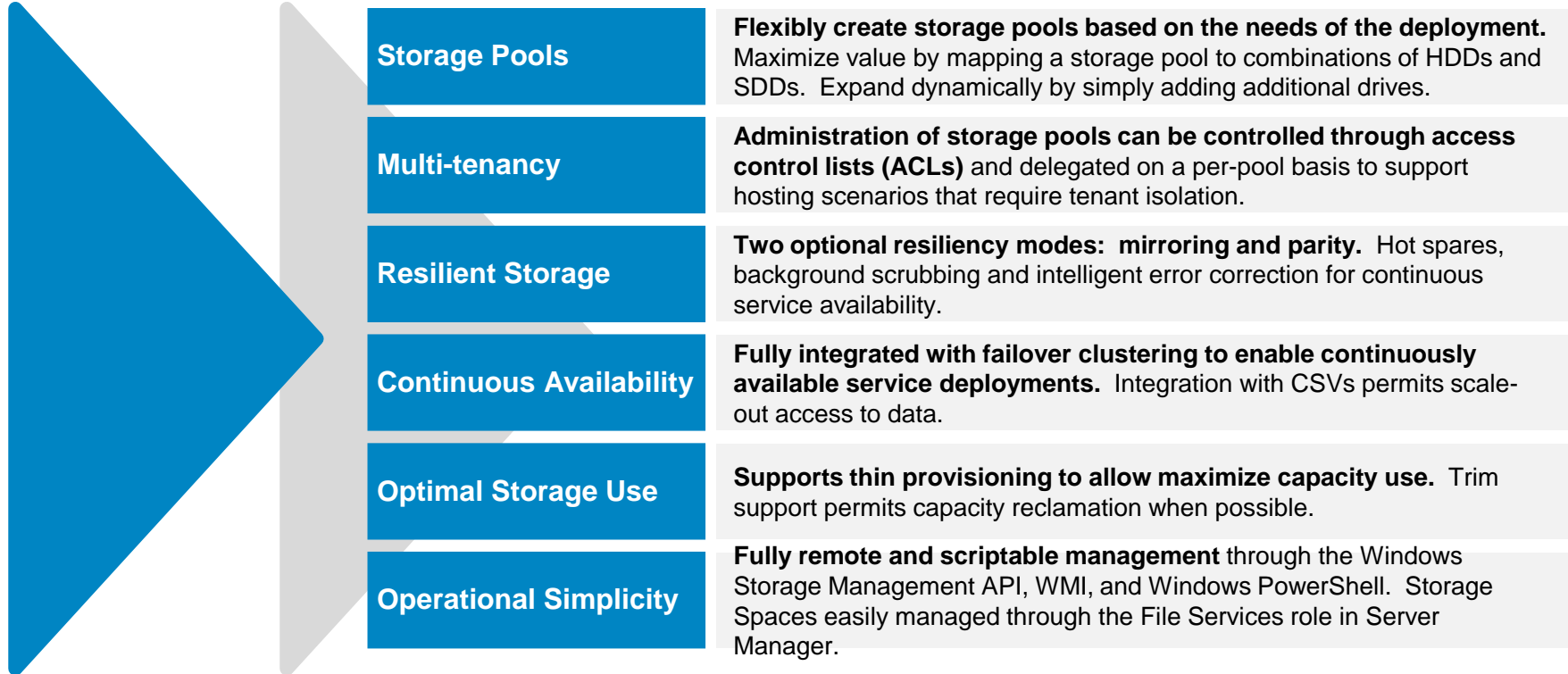
Microsoft Storage Spaces Direct Overview



- Licensing
 - Feature of Windows 2016 Datacenter
 - No additional licenses required
- Scaling
 - 2-16 Nodes in a Cluster
 - Up to 416 disks in a Cluster
 - Recommend 100TB capacity on each node
 - Pools up to 1PB

Microsoft Storage Spaces Direct

Resilience and availability with industry-standard hardware



Dell EMC Microsoft Storage Spaces Direct Ready Nodes

Advanced Hyper-V virtualization, private cloud, Microsoft SQL



Microsoft Windows Server 2016 and Storage Spaces Direct software

PowerEdge R730xd / R740xd / R640 servers

Management integration

Deployment guides and services (anticipated)

Solution benefits

- Reliable configuration, quoting, ordering
- Convenient deployment and use—fewer steps, known performance
- Better support experience

Differentiation

- Choice of deployment—self, Dell EMC Services, Microsoft-certified partner
- No SCVMM requirement
- Support for both pre-installed and bring-your-own licensing



PowerEdge R740xd

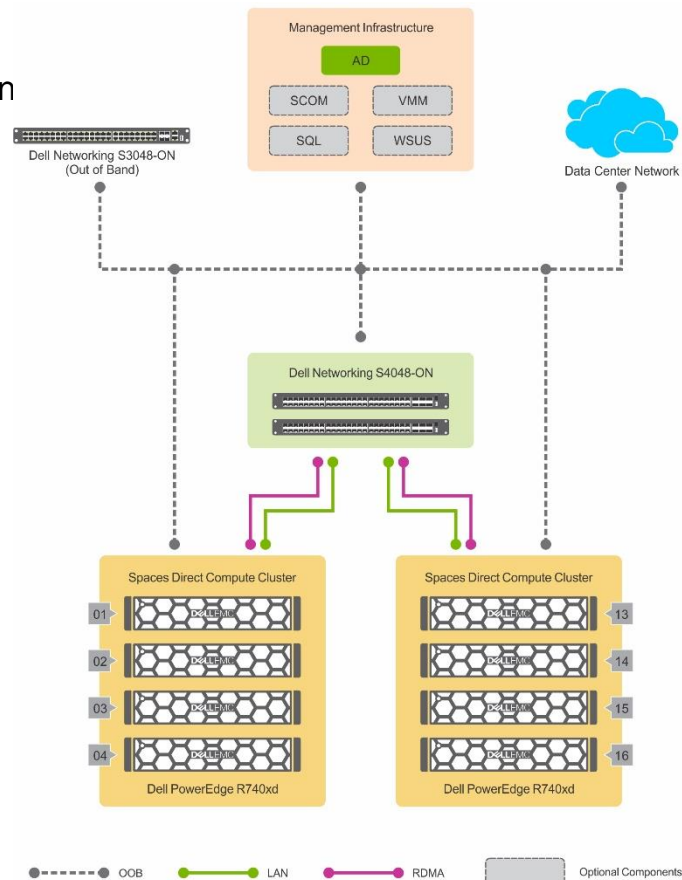


PowerEdge R640

- Hybrid Configurations
 - Hybrid Capacity (18 Drives)
 - Hybrid Balanced (12 Drives)
- Single All Flash Configuration

Offer Details

- Flexible Storage Spaces Direct Ready Node configuration option
- Templates for ordering
- Supported Deployment : Brownfield*
 - Without Microsoft System Center
 - Manual OS (Bring your own license) deployment
 - Factory OS (OEM license) deployment
 - Instructions on integration with Microsoft System Center (optional)
- Delivery Methods
 - Deployment Services (Dell, Partner)
 - Customer DIY
- Full implementation guidance in the form of a step by step [Deployment Guide](#).
- Solution-level Support
 - Warranty SKU to track S2D Node Sales
 - Manually add components to Red Envelope
- Complies with Microsoft Windows Server Software Defined (WSSD) Standard edition



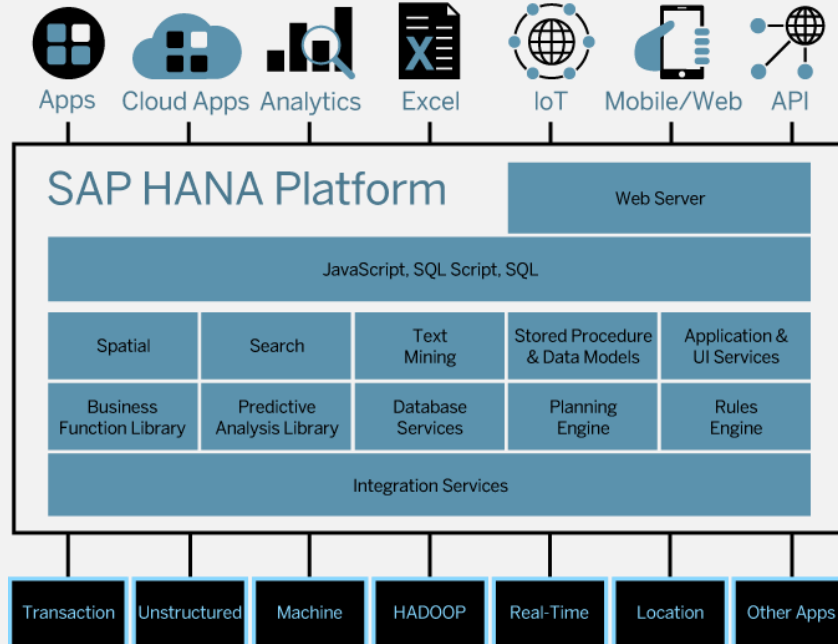
*Brownfield in the context here means that the net new S2D ready node is being integrated into customers existing AD/DNS or System Center (Optional)

Dell EMC Ready Nodes

SAP HANA Ready Nodes

DELLEMC / Forum

SAP HANA





In-memory database to accelerate business process

Processes transactions and analytics on a single data copy

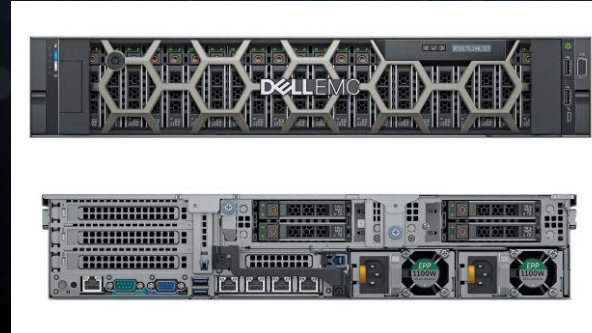
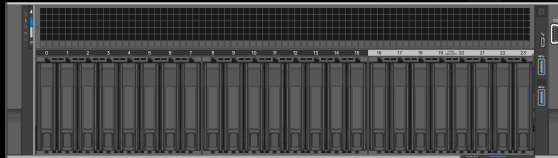
Includes predictive algorithms, some self-improving

Runs on streaming data, structured, text, spatial, and time-series data to build next-gen apps to enrich insight

SAP HANA on DellEMC 14G World Records

Partner	Platform	Segment – Benchmark	Importance
 	Dell PowerEdge* R940	Big Data Analytics: SAP BW* Edition on SAP HANA* @ 1.3 billion (1.3B) initial records	Two world records (Total Runtime of Data Load/Transformation, Total Runtime of Complex Query Phase) @ 1.3B
	DellEMC PowerEdge* R740xd	Business Processing: SAP Sales and Distribution 2-tier*	2-socket world record
	DellEMC PowerEdge* R940	Business Processing: SAP Sales and Distribution 2-tier*	4-socket world record
	DellEMC PowerEdge R940	Business Processing: SAP Sales and Distribution 2-tier*	4-socket world record Windows*

Link to Intel:
Xeon World Record



Platforms: Always based on SAP Certified Systems

Link to: SAP

SAP CERTIFIED AND SUPPORTED SAP HANA® HARDWARE DIRECTORY Feedback

Appliances

Certified Appliances | Certified Enterprise Storage | Certified IaaS Platforms | Supported Entry Level Systems | Supported POWER Systems

Search Appliance or Ke Find Certified Appliances

Narrow your Search

- ▼ Certification Status
- ▼ Vendor
- ▼ CPU Architecture
- ▼ Memory
- ▼ Appliance Type
- ▼ Certification Date
- ▼ File System
- ▼ Operating Systems
- ▼ Certification Scenarios

Search Results as of 2017-10-12

Appliance configurations for DM/BWoH/BW4H can also be used for SoH/S4H.

94 appliance models found Export as Pdf Compare

certified, Dell [clear selection](#)

Vendor	Model	CPUs min.	CPU Architecture	Appliance Type	Memory	
Dell	PowerEdge R620/T620	2	Intel Ivy Bridge EP	SAP Business One	64 GB	✓
					96 GB	✓
					128 GB	✓
					256 GB	✓
	PowerEdge R630/T630/R730	Intel Broadwell EP			64 GB	✓
					128 GB	✓
					192 GB	✓
				256 GB	✓	
				384 GB	✓	
				512 GB	✓	

Dell EMC SAP HANA Ready Nodes

Real-time business analytics and applications in a scalable appliance

Solution benefits

- Multiple configurations tuned to use case/need
- Real time response from in-memory database
- Single system analytics, performance management and operations

Differentiation

- Easy analytics and applications upgrades
- Optional virtualized environment
- End-to-end appliance for fast, reliable implementation and support

128GB of RAM, scaling up to 3TB of in-memory data analytics power, 6TB for SAP Business Suite



- SAP® HANA®, Enterprise Edition
- VMware® vSphere® optional



- Dell OpenManage™ / iDRAC / Lifecycle Controller
- Dell PowerEdge™ R930 / R940

Performance benchmarked and certified by SAP for predictable results

Dell EMC SAP HANA Edge Ready Nodes

Predictive analytics for small to mid-sized organizations

Solution benefits

- Point and click, real-time predictive analytics with powerful visualization
- Standardized, consolidated reports
- Upgradable to full SAP HANA, Enterprise Edition

Differentiation

- First and only vendor to offer this appliance
- Up to 1.5TB RAM and 10TB of storage
- Dell Accelerator Services for deployment, migration, training and adoption



- SAP® HANA®, Edge Edition
- SUSE® Linux Enterprise Server for SAP HANA
- SAP Predictive Suite, Edge Edition
- SAP Lumira advanced visualization software



- PowerEdge™ R730 server
- Dell EMC OpenManage™ / iDRAC / Lifecycle Controller
- Dell EMC Accelerator Services for SAP HANA, Edge Edition

DALLEMC