

VMware Cloud Foundation on Dell Hyperconverged Infrastructure (Dell EMC vSAN)

Tech Note by

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Summary

Dell EMC vSAN Ready Nodes are preconfigured, tested and certified hyperconverged infrastructure to run VMware Cloud Foundation. Each Ready Node includes the right amount of CPU, memory, network I/O controllers, within a vSAN hyperconverged infrastructure cluster for a private cloud solution.

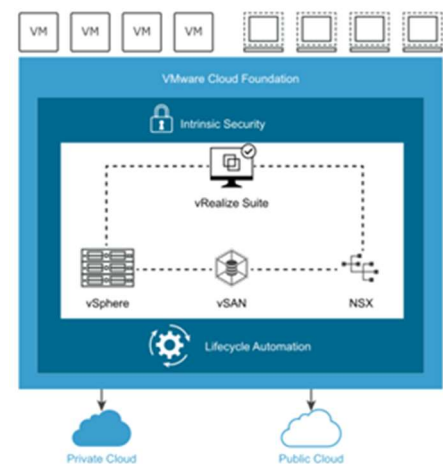
Rather than starting from the scratch of deploying varied virtualization tools for compute, network, storage, etc., vSAN Ready Nodes helps start from a preconfigured layer to deploy VMware Cloud Foundation, which helps customers provision infrastructure automatically and reliably through workload domains. These Ready Nodes help reduce human error by reducing the time taken to choose and validate the right cloud infrastructure, while greatly accelerating the time required to provision ready to use infrastructure from weeks to just few hours.

Introduction to the Technology

VMware Cloud Foundation is a unified software defined data center solution that bundles compute, storage, network virtualization and cloud monitoring and management platform. VMware Cloud Foundation on Dell EMC AMD vSAN Ready Nodes platform can be deployed either on-premises or hosted with a service provider as a private cloud or run as a service within or integrate to, a public cloud.

VMware Cloud Foundation Architecture

Cloud Foundation can be deployed as two types of architecture model - standard and consolidated. A standard architecture model includes a dedicated management domain, with dedicated infrastructure created during deployment phase, whereas a consolidated architecture is deployed on a smaller infrastructure footprint of six or fewer hosts, and both the management and workload domains run in the management domain.



VMware Cloud Foundation extends the benefits of compute, storage and network virtualization to legacy data centers and their cumbersome management of multiple siloes of infrastructure and simplifies the provisioning, orchestration, monitoring and management of infrastructure resources with an integrated software defined data center platform that is the foundation for both private and public cloud environments.

Infrastructure for hosting VMware Cloud Foundation as Standard Architecture Model

Dell EMC PowerEdge hyperconverged (VMware vSAN) infrastructure are one of the building blocks in the Dell EMC solution portfolio, wherein we can deploy the VMware Cloud Foundation solution stack. A hyperconverged infrastructure (vSAN Ready Node) improves the efficiency and management of complex data center infrastructure by leveraging the capabilities that a vSAN Ready Nodes provide as the basic building block for the Cloud.

The following are the minimum hardware required for the Standard Architecture.

For Management Domain.

The Management domain hosts the infrastructure workloads and requires a minimum of 4-hosts.

For Virtual Infrastructure Workload Domain.

The Virtual Infrastructure Workload Domains host the tenant workloads and consists of a minimum of one cluster of 4 hosts or more. Hosts within a single cluster must be homogeneous.

The below table lists the infrastructure required to host the VMware Cloud Foundation as a Standard Architecture Model.

Description	Configuration	Qty	Notes
Management Cluster (4-vSAN Ready Nodes)		4	4-Node Management Cluster
• Processors	1S 8C (for All Flash)	2	All Flash nodes within a cluster
	1S 8C (for Hybrid)	1	Nodes with a combination of flash and spindle disks within a cluster
• Memory	192 GB	1	
• Disk Space	16GB Boot Device	1	Local Media
	NVMe or SSD	1	Caching Tier
	SSDs or HDDs	2	Capacity Tier
• Network Interface	10 GbE or higher	2	(IOVP Certified)
	1 GbE (Optional)	1	
VI Workload Domain (4-Compatible vSAN Ready Nodes-cluster minimum)		4	Choose from the VCG list of validated vSAN RN for User Workload
• Processors			As per user-workload Sizing
• Memory			
• Disk Space			
• Network Interface			
• Storage			

Table-1. Hardware Configuration – For Standard Architecture

The below table lists the AMD Processor based servers validated for vSAN Ready Nodes.

PowerEdge vSAN RN	No. Of Sockets	No. Of Cores	AMD CPU Platform
• R6515	1S	32/64	AMD EPYC 7502, AMD EPYC 7742
• R6525	2S	32/64	
• R7515	1S	32/64	
• C6525	2S	32/64	
• R7525	2S	32/64	

Table-2. List of AMD platform-based PowerEdge vSAN Ready Nodes

In Conclusion

Dell PowerEdge AMD based vSAN Ready Nodes are pre-configured, validated and certified to reduce deployment challenges, reduce time and increase efficiency, and in-turn helps ease the setting up of a VMware private cloud.

The availability of a validated vSAN Ready nodes of different configurations help customers scale strategically and ensures that critical IT resources are configured as per standards for maintaining productivity and competitive cloud advantage.



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