

VXRAIL STRETCHED CLUSTER

Active-Active Availability Answered

ESSENTIALS

- VxRail™ is powered by VMware vSAN, the industry leading software-defined storage solution, including all of its mission-critical data services including Stretched Cluster functionality for Active-Active availability
- vSAN Stretched Clusters are based on the Fault Domains feature of VMware vSAN
- Fault Domains enable VxRail clusters to tolerate failures of entire physical racks as well as failures of a single node, storage capacity device, power, or a network switch dedicated to a Fault Domains
- vSAN Stretched Clusters provide zero data loss and near zero downtime even if a site fails completely
- Best practices call for an equal number of VxRail Appliances or nodes in each site when configuring with Stretched Clusters
- Stretched Clusters support one mirror copy of data residing at each site thereby delivering an Active-Active data center
- VxRail has a single point of global 24x7 support for both hardware and software
- Refer to the EMC RPQ document for VxRail specific vSAN Stretched Cluster implementation



Any IT infrastructure running business critical applications needs to address availability in order to keep essential business processes functioning despite disruptive events, whether they are natural or human-induced disasters. Any downtime for such applications can involve significant loss to the business.

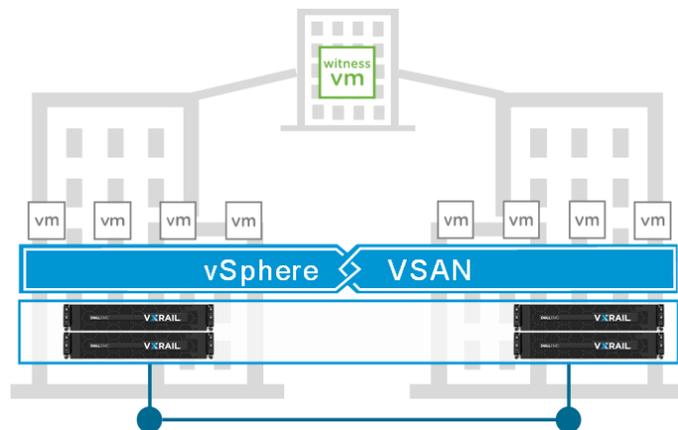
As IT adopts Hyper-Converged Infrastructure (HCI) solutions to simplify and speed up infrastructure deployments, ease day-to-day operational management and reduce costs; it is important to consider infrastructure availability as well.

VxRail Appliances built on VMware vSAN, the leading software-defined storage solution, address the issue of Active-Active availability using the “Stretched Cluster” feature.

The vSAN Stretched Cluster feature creates a stretched cluster between two geographically separate sites, synchronously replicating data between sites, and enabling enterprise-level availability. The Stretched Cluster features allow for an entire site failure to be tolerated, with no data loss and near zero downtime.

Each site is configured as a vSAN Fault Domains. Virtual machines running business critical application data is written across both sites. One copy of data will reside on primary site and second copy will reside on remote site. A witness is required on a third site. In the event either completely fails, a complete copy of data is available in the surviving site. With data being available on either site, applications are enhanced by providing Active-Active availability.

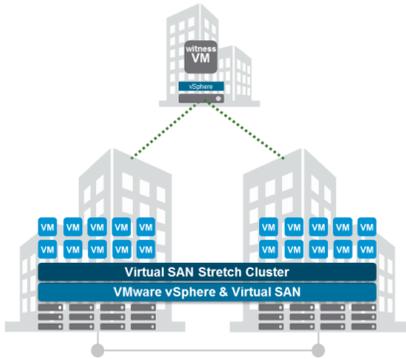
A third site, hosting the witness virtual appliance, could be in “the cloud” or other data center. The witness virtual appliance coordinates data placement between sites and assists in the failover process in the event of site failure or inaccessibility.



vSAN Stretched Cluster
(Depicted in 8+8+1 configuration)

The VMware vSAN Stretched Cluster feature brings in following advantages to VxRail hyper converged infrastructure appliances:

VIRTUAL SAN STRETCHED CLUSTER



No Data Loss

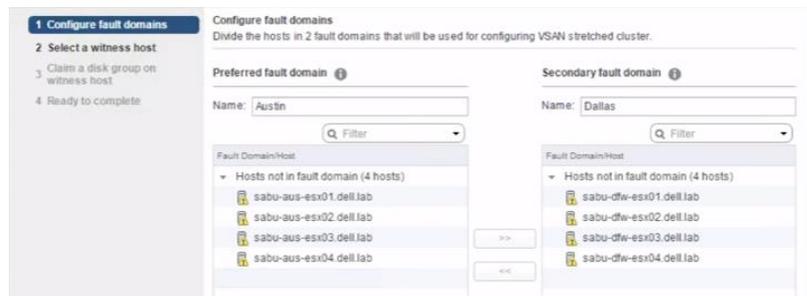
vSAN stretched clustering keeps the second copy of data in remote site ensuring that even if a site fails, users' critical data is never lost and business can still run as before. This is accomplished by stretched storage deployment and synchronously mirroring data across two sites. The failover will be initiated by witness VM that resides in a central place, accessible by both sites.

Disaster Recovery

vSAN Stretched Cluster reduces the infrastructure failure risk of business operations by configuring the sites in two separate geographic locations. If a natural or human-induced disaster occurs, business critical applications still can run from second site.

No Additional Training Required

Because vSAN stretched clustering is configured using vSphere Web Client, there is no new learning curve or separate tool involved to configure the sites. Create hosts and VMs group for each site for ease of operation and configure stretched cluster Fault Domains by putting the hosts (VxRail nodes) in appropriate sites. You can configure up to 15 nodes in each data site (15+15+1) per cluster, managed by same vSphere Web Client. VxRail 4.0 supports as few as 3 nodes per site. (3+3+1)



vSphere Web Client Stretched Cluster configuration wizard

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Ease of Management

vSAN Stretched Clusters can be configured and managed using the vSphere Web Client. There is no third party tool or plug-in needed to manage both sites. From the vSphere Web Client, you can easily manage and monitor both sites.

Extend With Other Disaster Recovery Solutions

vSAN Stretched Clusters can leverage other disaster recovery solutions such as VMware Site Recovery Manager (SRM) and vSphere Replication, or the included Dell EMC RecoverPoint for Virtual Machines (RP4VM) to extend further site-level protection to many sites.

World Class Service And Support

With a single point of global 24x7 support for both hardware and software, backed by Dell EMC Secure Remote Services (ESRS) for dial-home secure remote connection for monitoring, diagnosis, and repair, VxRail Appliance can be trusted to provide the ultimate appliance support on the market.

For more information on vSAN Stretched Cluster on VxRail, refer to the following document: <http://www.emc.com/collateral/white-papers/h15275-vce-vxrail-planning-guide-virtual-san.pdf>