LightChange Achieves True High Availability for Its Geographically Disparate ISP Storage Infrastructure Thanks to StarWind VSAN

About the Company

LightChange has been in business since 2004, offering assistance to businesses anywhere from small offices with five employees up to Internet service providers. LightChange provides a wide range of services in multiple areas including networking, systems, security and cloud solutions.

Company Profile

Technology Services Provider

Contact Person

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Problem

The company needed to ensure HA for its geographically disparate back-end storage infrastructure..

Solution

The company was able to repurpose the existing infrastructure into a fault-tolerant HA storage pool both for front-end and back-end.

Problem

In this case, **LightChange** was looking for a distinct solution for one of its customers, an Internet Service Provider (ISP). ISP's infrastructure consisted of two Hyper-V failover clusters with three virtual hosts each, both clusters connected with iSCSI to a single Dell EqualLogic SAN. The SAN replicated all volumes to another SAN that was off-site every five minutes. The issue was that if a DR scenario happened, data loss up to five minutes was possible. The process of mapping existing VMs to replicated iSCSI would also have been very tedious. While searching for a real-time true high availability (HA) provider for geographically disparate back-end storage VMs, LightChange discovered there weren't really any efficient options... Until StarWind!.

Solution

LightChange chose **StarWind Virtual SAN** as its all-round HA provider, while also converting the ISP's front-end to VMware vSphere with a single vCenter standard server. Before StarWind, ISP's SAN infrastructure was under-utilized: the second SAN simply served no production purposes and was for failover only. Now, both of the SANs are actively used to provide storage for production VMs, basically turning two SANs into a RAID1. The resulting infrastructure has two 1U servers, hosting StarWind, at both of the SAN's locations, where StarWind uses each SAN to store data as directly connected storage. Both sites are connected completely redundantly with stacked switches at both ends and two separate fibers taking two geographical paths between sites. Every VMware host has two iSCSI IPs each connecting to both StarWind VSAN servers via iSCSI, resulting in HA between them and their data stores. During failure scenario tests, the infrastructure was able to sustain a VMware host failure, a StarWind server failure, and a SAN failure either individually or simultaneously, all with ZERO DOWNTIME. Thanks to **StarWind**, LightChange was able to build a unified 100% HA environment, allowing to repurpose existing physical storage and eliminate the need to spend on expensive proprietary components in the future.

> During testing, the StarWind-based environment sustained a host / server / and SAN failure individually and then simultaneously with ZERO DOWNTIME. Once brought back up, Starwind VSAN resynchronized everything like a champ!
>
> **AJ Watson, Technical Solutions Engineer**

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