

# Starwind Virtual SAN Frees Semel Institute from Failures and Downtime, Saving its Budget

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**Jason Liu**, System Administrator at Semel Institute



## About the Company

Semel Institute for Neuroscience and Human Behavior.

The Jane and Terry Semel Institute for Neuroscience and Human Behavior is an interdisciplinary research and education institute devoted to the understanding of complex human behavior, including the genetic, biological, behavioral, and sociocultural underpinnings of normal behavior, and the causes and consequences of neuropsychiatric disorders.

The Institute conducts fundamental research to develop effective strategies for the prevention and treatment of neurological, psychiatric, and behavioral disorders.

[www.semel.ucla.edu](http://www.semel.ucla.edu)

## Industry

Education & Science

## Environment

VMware and Hyper-V infrastructures

## Challenge

To reduce storage costs and create an active-active failover configuration

## Solution

StarWind Virtual SAN

## Results

- Creation of highly available storage cluster
- Considerable money savings
- Freedom to use industry-standard hardware
- Creation of a SAN that can be scaled and extended on demand

## CHALLENGE

As one of the leaders in education, Semel Institute highly depends on a reliable, safe, scalable, and easy-to-use IT infrastructure. When the Institute's IT department started to deploy Microsoft Server Cluster, they were using the traditional Fibre Channel SAN.

However, their satisfaction with the FC solution was diminishing as time passed and their data exploded, thereby demanding increasingly more physical machines. Traditionally, such a situation inevitably leads to the physical server sprawl, which became apparent pretty soon when the number of physical servers exceeded 50. Eventually, the institute faced the necessity to expand their storage, so that it could cover the demand of about 3000 employees. This promised to be a pretty costly initiative with Fibre Channel. In addition, the yearly maintenance charge of FC storage was overwhelming.

Burdensome IT management, power and cooling expenses, poor efficiency, and the growing data center footprint led the IT management to search for an alternative storage solution that would support both Hyper-V and VMware virtualization.

*“We started to look for an inexpensive way to expand our storage and get all the benefits of virtualization at the same time,”* says Jason Liu, System Administrator at Semel Institute. The IT team focused its attention on cutting down storage management costs and complexity. The StarWind Solution Jason and his team were considering products from different storage vendors. *“Finally, we picked **StarWind Virtual SAN**. It was an easy choice because the solution was truly cost-effective, provided the easy-to-use interface, and was strongly supported by the StarWind technical engineers.”* The IT staff was especially impressed by the advanced technologies integrated into **StarWind Virtual SAN** software, its high performance, and absolute reliability.

On the one hand, StarWind was selected as an alternative to the Institution's existing FC SAN as it promised simplified storage management and the reduction of the overall storage cost. On the other hand, it was a perfect fit for the organization because of its deep integration with VMware and Hyper-V that were both applied as virtualization platforms at Semel Institute. Today, the cutting-edge technologies of StarWind Virtual SAN help to effectively manage heavy I/O loads and ensure the complete safety of stored data.

Asynchronous Replication guards the data by saving the copy to the distantly located disaster recovery site. CDP & Snapshots technologies ensure the uninterrupted protection of data locally by the creation of incremental copies of the stored data assets. Snapshots are caught every few hours creating an unlimited number of roll back points that could be used for disaster recovery, if required. The StarWind powerful Deduplication engine has reduced disk space requirements by 80% so far. High Speed Caching prioritizes workloads and thereby drives a considerable increase of the overall system performance and reduction of the storage costs.

## RESULTS

### Creation of highly available storage cluster

*"In order to achieve complete disaster recovery, we deployed the StarWind's High Availability technology. We built an Active-Active failover cluster that provided us with the redundant mirroring configuration. Not only our SAN is now safe and secure, but it also provides for constant synchronization between the two storage nodes. In the event of failure at one side, I always know that my service won't be interrupted and my data is safe. StarWind eliminates a single point of failure and provides a highly available and resilient SAN environment,"* comments Jaison Liu.

**StarWind Virtual SAN** provides substantial functionality that enabled the creation of a robust disaster recovery plan. Now, the Semel IT team is sure: should any natural or human-made disaster occur, their data will be intact and safe.

### Money savings

With StarWind, the cost savings evolve in various forms, including hardware, space, energy, and administration efficiency. By using this software, the Semel's IT staff created a SAN based on their existing servers. *"Thus, we managed to save money on the purchase of additional boxes, which is a sheer advantage for organizations with limited budgets."* Jason Liu continues: *"Properly done server consolidation reduced the hardware footprint, freed up a lot of physical space in our server room, and decreased power consumption. Intuitive interface of StarWind made the storage management easy and trivial, if not enjoyable."*

### Freedom to use the Industry-standard hardware

With StarWind, Semel Institute avoided the hardware lock-in that is traditionally imposed by most of the competing solutions. Jason Liu says, *"StarWind turned out to be a hardware-agnostic solution that can be installed on any server available at the local store. With a traditional SAN, the hardware is maintained by the vendor company. But with StarWind, I have the freedom to design my own storage and maintain my own hardware. I know my system inside out, which highly simplifies administration and maintenance"*.

### A Virtual SAN with a Promising Perspective

*"When you deploy a SAN, you intend to keep it for years. Therefore, the solution should be scalable and flexible as well as have a potential to evolve with your individual needs and technological requirements."* **StarWind Virtual SAN** perfectly fits to the concept as it is ultimately a scalable storage that gives us the establishment and flexibility to add more disks of our choice in the future," says Jason Liu.

Today, Semel Institute uses StarWind for their Hyper-V and VMware environments. They have virtualized 60% of their current servers into StarWind shared storage, including PHP, MYSQL, IIS webserver, Windows steaming server, helpdesk software, and patch server.