Education

■ Challenging the Unknown

When talking about education, Ben Franklin used to say an investment in knowledge pays the best interest. Nurturing the new generations requires adaptability, timely response to the rapidly changing world, and being able to incorporate the latest innovations. That is why education is always trying to have access to the latest tech.

The IT industry is developing in leaps and bounds, and it's not always possible for the academic institutions to keep up. Approaches to building out infrastructures are always evolving, and it may be smart to seek solutions for keeping up with the growing needs. Protection of intellectual assets, accessing files for private and educational purposes, constant uptime of such basics applications as Exchange, SharePoint, Lync, and Office Web Apps, or extended DR capacity in a fully redundant infrastructure require having an up-to-date environment, yet both human and financial resources of educational organizations are limited. It is difficult for them to both deploy and support cutting edge technology. Therefore, eliminating the over-provisioning of resources by increasing the performance, while having an automated system backed by a large team of experienced engineers is the key to success.

≋ **StarWind**

Problems you May encounter

Similar to any organization's IT infrastructure, in the educational system, information is the most valuable asset. Data needs to be protected, updated, and quickly accessed no matter what. Hence, IT departments of any academic institution usually focus their attention on this particular aspect. That being said, they are usually responsible for much more than that. Basically, anything that runs off electricity is their responsibility. It can get quite overwhelming for small teams.

Storage systems need the highest possible resilience to remain operational at all times, not dissimilar to research facilities, where non-stop access to data is critical. A significant number of academic IT infrastructures seeking improvement of their data management also require compatibility with Microsoft products. Older hardware ages and so, fails to sustain the needed levels of performance, reliability, and high availability. However, limited IT budgets, a common scourge of the academic community, prevent from building a scalable, cost-effective, centrally managed storage infrastructure with high DR capability.

Still, while the desired IT infrastructure seems either too complicated or insanely overpriced, another, simple and budget-friendly solution to all these problems is available.

How can we Help

StarWind Virtual SAN (VSAN) removes the need for physical shared storage by mirroring local storage between hypervisor servers. Reducing your hardware footprint and cutting down on expenses while achieving higher performance sounds like a dream? Well, It is possible with StarWind Virtual SAN.

StarWind Virtual SAN can deliver scalable performance with hardware pieces that do not require additional customization. The Department of Physics at the University of Oxford faced a similar problem: the scalability of their infrastructure was satisfactory but needed numerous proprietary hardware components, thereby making it too expensive. StarWind VSAN efficiently reduced the cost of storage expansion without even requiring the involvement of the IT team. Aerosol Interaction and Dynamics in the Atmosphere (AIDA) was in desperate need of 24/7 data availability 365 days a year. With StarWind Virtual SAN, 99.9986301% uptime was achieved, so far, with total downtime, due to planned maintenance, of 1 hour per month. StarWind VSAN delivers both high performance and high availability of all your applications with minimum resources needed.

Data protection is always a valuable asset, but for academic institutions, the stakes are higher than average. Today, many schools and colleges implement video surveillance systems for various purposes, mainly for deterring crime on the premises of the institution, thereby keeping students and the faculty safe.

However, information from the surveillance systems is private, and no one except people-in-charge has access to it. With StarWind Virtual SAN, your information, whether it is private records or a faculty database, is protected from outsiders. In addition, StarWind Virtual SAN offline backup strategies safeguard your data against any disasters that may affect your infrastructure.

Admittedly, in the realm of education, data changes constantly, so IT administrators need to allocate a lot of time to data management, to maintain storages in good order. **StarWind Automated Storage Tiering feature** reminds us that it's the twenty-first century out there, and everything can be automated. A StarWind-powered system with Automated Storage, cost-effective and efficient, will provide you with all-important performance and free up your IT specialists from their routine manual data management tasks.

Assuming you are using Random-access memory (RAM) cache in your IT environment data storage, it is a pretty standard and reliable choice. Or, at least, it was until now. Given that the entire world is going virtual, the old ways of computing are becoming not as efficient as they used to be. For example, RAM cache has a hard time dealing with multiple virtualized workloads, so it markedly affects your performance. StarWind offers you **Log-structured Write-Back Cache (LSWBC)**, StarWind Virtual SAN feature, a solution designed specifically for the needs of a virtualized modern IT infrastructure. Traditional boundaries in this aspect will no longer stand in the way of your performance, for with LSWBC feature StarWind VSAN is capable of writing data to the circular buffer in RAM, enabling the sequentialization of its flow, and gradually flushing it to the log disk, a device created from a relatively small part of your storage.

The obsolete complicated hardware, multiple servers, and multiple switches are often too hard and too costly to replace efficiently, and excessive application downtime is not even a consideration. In this case, **StarWind HyperConverged Appliance (HCA)** will deliver a solution, with the existing hardware that will make your infrastructure operation more reliable and straightforward. Being completely software-defined, it means that a tight budget is not an issue anymore. High fault tolerance rate warrants that even if your system loses 1 node, the infrastructure will keep going.

Alexander City Schools used to run an overwhelming and rapidly aging system consisting of two servers, two switches, and a storage area network (SAN), thereby separating computing and storing in their IT environment. In such setup, just keeping up the performance rates is challenging, let alone increasing those. Now, with the StarWind HCA, their entire system works just on two servers, and they never looked back.

The most exciting thing is that once you start working with us, your IT team will have almost nothing to do. In most cases, **StarWind ProActive Support** will deal with your issues before they become problematic. Constant monitoring and fixing issues as they arise will ensure a smooth run for your infrastructure and you won't even know the issue was there in the first place.