

More for Less: StarWind Turnkey Hyperconverged Infrastructure with Mellanox's Ethernet Storage Fabric



A Turn-Key Software-Defined Data Center Solution with High Performance and High Availability for SMBs and ROBO

More and more enterprises are embarking on the path to a software-defined data center (SDDC) and eventual integration with cloud. The software-defined data center holds the promise of utmost efficiency and scalability, with virtualized applications running on a software-defined platform such as a hyperconverged infrastructure (HCI). In practice, however, challenges remain for datacenter administrators who have to juggle uneasy choices and trade-offs between various virtualization software and compute, storage and network hardware—not to mention the inevitable lifecycle requirement changes and ever-pressing budget constraints.

The ordeal continues into operations, where managing both minimal downtime and fast recovery for business continuity always weigh on the minds of datacenter administrators. These issues are particularly challenging for small and medium businesses (SMBs), or at Remote Offices and Branch Offices (ROBO) where in-house/on-site technical resources are either scarce or very limited. More than often, such a predicament puts SMBs on hold, preventing them from enjoying the benefits SDDC offers.

Currently, many enterprises are adopting StarWind's turn-key hyperconverged infrastructure (HCI) to modernize their data centers. As a one-stop virtualization shop, StarWind provides all the building blocks required to construct a full-stack data center infrastructure. Connected by Mellanox's end-to-end Ethernet Storage Fabric (ESF), the StarWind HCI delivers fast deployment, easy management, and maximum performance and uptime, without any technical or fiscal constraints.

StarWind Hyperconverged Infrastructure (HCI)

As a pioneer in data center virtualization, StarWind offers customers a simple, flexible, and extremely affordable SDDC solution that can be tailored to their specific needs. At the same time, StarWind doesn't make a trade-off between enterprise-class features and simplicity and affordability. The StarWind's solution consists of all-flash designs that achieve top NVMe performance for business critical applications. StarWind also provides uncompromised fault tolerance and high availability.

KEY BENEFITS

- Ultra-performance powered by all-Flash design and RoCE-based Mellanox Ethernet Storage Fabric
- Flexible hypervisor and OS-specific SDS choices for tailored multi-tenant configurations
- High availability and minimized downtime ensured by StarWind ProActive Premium Support and Analytics with Mellanox's What Just Happened™ network telemetry
- Cost efficient consumption model with minimal hardware footprint

StarWind's SDDC Solution Highlights:

- Full SDDC Stack:** StarWind provides all the necessary building blocks for a SDDC undergoing requirement changes throughout its lifecycle, including the StarWind HyperConverged Appliance (HCA), the StarWind Virtual SAN (VSAN) SDS engine software, and the StarWind Virtual Tape Library (VTL) secondary storage solution. StarWind supports a variety of management tools, including its own Web-based management Console, a unified HCI management suite called StarWind Command Center, CLI with PowerShell scripts, Microsoft SCVMM, and VMware vCenter plugins.
- Flexible Configurations:** StarWind offers flexibility in choice of hypervisor and software-defined storage (SDS), including Microsoft Hyper-V and S2D, VMware vSphere and vSAN, Redhat KVM, and Citrix XenServer. StarWind Virtual SAN acts as a main or complementary SDS stack. StarWind simplifies multi-tenant configurations, supporting various hypervisors and switching between them.
- NVMe Performance:** StarWind's top-of-the-line appliances utilize all-NVMe designs for primary storage or cache. The performance is boosted by Mellanox's 100G end-to-end Ethernet Storage Fabric with RoCE. Supported RoCE protocols include iSER, NVMe-oF over RoCE, and SMB 3.0.
- "Plug-and-Play":** StarWind products are true turnkey solutions. The appliances come pre-built, pre-configured and pre-tested. All existing applications are migrated to the StarWind HCI as part of the initial service. There's no specialized requirement for customers to install and configure the appliances.
- ProActive Premium Support:** StarWind proactively monitors customers' vital infrastructure stats 24/7/365 to identify any upcoming issue, be it hardware or software. Combined with its proprietary analytics, StarWind resolves an issue before it becomes major. StarWind's ProActive Premium Support brings an unprecedented 99.9999% of uptime.

Mellanox's Ethernet Storage Fabric

With networking playing a crucial role in HCI, a RoCE-based high-performance network powered by Mellanox Ethernet Storage Fabric unlocks the maximum performance of the StarWind solution. In particular, the Mellanox SN2100 Top-of-Rack (TOR) switches, as shown in Figure 1, are purpose-built for StarWind HCI appliances:

- Smallest footprint**
 - Half-width, 1RU→2 units in 1RU for HA
 - Each switch has 16x40/100G ports, supporting up to 64x 10/25G ports or 32x 50G ports
- Predictable, high performance at any packet size**
 - Ultra-low latency with advanced RoCE support
 - Hardware VTEP for Layer-2 extension across data centers
- Easy-to-integrate network management**
 - Real-time network visibility
 - Automated network provisioning
 - REST APIs for 3rd-party software integration

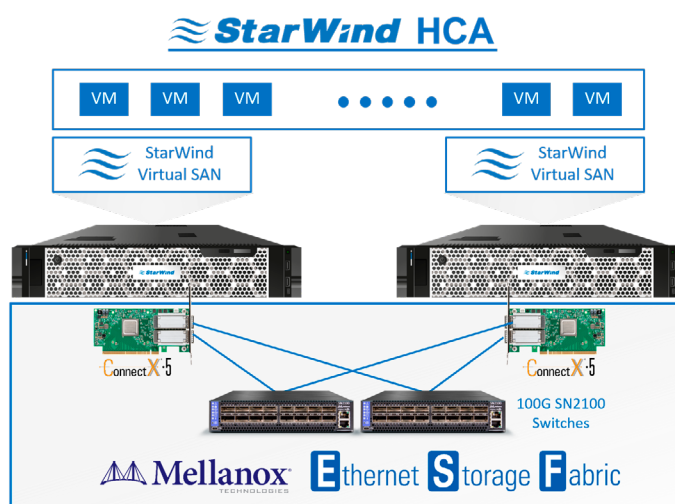


Figure 1: Mellanox Ethernet Storage Fabric (ESF) for StarWind SDDC

In addition, the Mellanox ESF includes What Just Happened™ (WJH), an event-based network telemetry tool, and Mellanox NEO®, Mellanox's network orchestration and management software. For StarWind ProActive Premium Support, the integration of WJH and NEO provides real-time network visibility and automated networking provisioning, monitoring and troubleshooting, which helps to achieve maximum uptime.

By integrating WJH, StarWind support-engineers now can receive alarms from WJH straight away. WJH surveys the StarWind network through a lens of dozens of configurable parameters and immediately reacts to any abnormal behavior, offering detailed description of what's been going on. This means it's no longer necessary to shuffle through endless logs, monitor the packets, or check the ports — WJH does it automatically. What's left is simply to adopt an informed decision, and remove the root cause and its aftermaths.

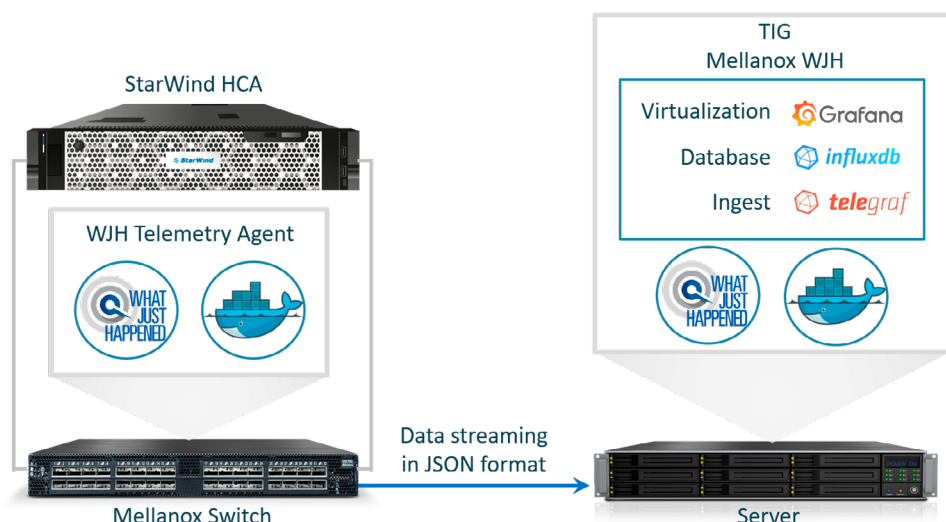


Figure 2: Mellanox WJH integration with StarWind

Conclusion

StarWind and Mellanox provide enterprise customers a turn-key solution to build their own clouds, allowing them to take advantage of the public cloud's flexibility, scalability and performance along with enterprise-class fault tolerance and support. The simplicity and affordability of the solution, combined with ProActive Premium support and real-time visibility, is particularly suitable for SMB and ROBO deployments.

About StarWind

StarWind delivers Software-Defined Storage and HyperConverged Infrastructure solutions designed to build high-performing, flexible, and resilient IT infrastructures for SMB and ROBO. Founded in 2009, StarWind has helped to build virtualization infrastructures for over 4,000 paying customers around the world. For more information, visit starwindsoftware.com

About Mellanox

Mellanox Technologies is a leading supplier of end-to-end Ethernet interconnect solutions and services for enterprise data centers, Web 2.0, cloud, storage and financial services. More information is available at www.mellanox.com



350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085
Tel: 408-970-3400 • Fax: 408-970-3403
www.mellanox.com