

Nutanix Hyperconverged Systems and Mellanox Ethernet Switches Simplify IT Infrastructure, Decrease Footprint, and Increase Performance at Mellanox Manufacturing Site



Connect. Accelerate. Outperform.®

Mellanox Technologies and Nutanix — The Perfect Partnership

CHALLENGE

Operational efficiency and continuous availability are essential requirements for smoothly operating mission-critical business applications. When it comes to the production line, downtime can result in loss of productivity and delays in order fulfillment, severely impacting business revenue for the organization. In order to remain competitive, IT infrastructure must be easy to deploy, tolerate system failures, and enable auto-recovery for all systems placed into production. This is exactly what Mellanox was looking for last year when upgrading its manufacturing IT infrastructure.

Mellanox had been relying on multiple servers for its on-site engineering services, testing and development environments, and database tools. Both remote and onsite clients were connected to the servers for testing, operations monitoring, troubleshooting, data analysis, and reporting. To prevent server downtime and ensure optimal system operation, each primary server was paired with an active-standby server, continuously in sync with the primary server. All servers shared a centralized storage system throughout the network.

The biggest challenge for the Mellanox IT team was ensuring peak operational inefficiency for all key manufacturing services. This challenge was exacerbated by the company's rapidly growing production volumes. The existing infrastructure required considerable ongoing resources for planning and maintenance, it took a very long time to deploy new systems, and the legacy systems did not enable centralized management. In the event of server failure, service migration and configuration to the backup unit had to be handled manually, which not only required more resources, it also prolonged downtime.

SOLUTION

The Mellanox IT team evaluated several infrastructure solutions for the manufacturing site upgrade. After a thorough review, Mellanox made the decision to purchase a Nutanix NX-1065 hyperconverged system, and deployed it using two Mellanox SX1012 TOR switches.

In addition to being a Nutanix customer, Mellanox is also a Nutanix Elevate Technology Alliance Partner. Mellanox's Ethernet switch solutions simplify the deployment and management of high-speed networking in the datacenter. Optimized for hyperconverged solutions, including Nutanix, Mellanox Ethernet switches stand apart from other suppliers with unique port count/form factors, ultra-low latency, and exceptional power efficiency. Verified as Nutanix Ready for Networking, Mellanox Ethernet switches make the network transparent for the Nutanix enterprise cloud platform.

“Nutanix customers can get the 10GbE switch they always needed, with 12 x 10GbE ports, 40GbE ready, in half the space and 25% of the power, with extremely low latency—all at a lower cost than legacy 3-tier approaches.”

— Amit Katz,
VP of WW Ethernet Sales at Mellanox

NUTANIX
Your Enterprise Cloud Platform

Based on a distributed scale-out architecture, Nutanix solutions natively converge compute, storage, and virtualization into a single appliance for all enterprise workloads at any scale. When deployed with Mellanox Ethernet switch solutions, the two solutions combine to greatly reduce networking complexity, especially when the IT infrastructure scales and enterprise-class reliability is required. “Nutanix customers can get the 10GbE switch they always needed, with 12 x 10GbE ports, 40GbE ready, in less than half the space and 25% of the power, with extremely low latency—all at a lower cost than legacy 3-tier approaches,” added Amit Katz, VP of WW Ethernet Sales at Mellanox.

RESULTS

Mellanox’s manufacturing IT infrastructure was consolidated onto one Nutanix NX-1065 system. The deployment took only two hours, compared to several days with the previous 3-tier solution. The Nutanix systems and Mellanox switches fit in just 2U of rack space, dramatically reduced from the 6U (2U for storage and 4x1U servers) required for the legacy setup.

With the simple-to-use Nutanix Prism management software, the Mellanox IT team has been able to fully automate operations. Prism provides centralized VM management and backups, along with automated server hypervisor upgrades. Storage and server management is much simpler with Nutanix than the previous environment, which required separate management and backup solutions for each of the IT components.

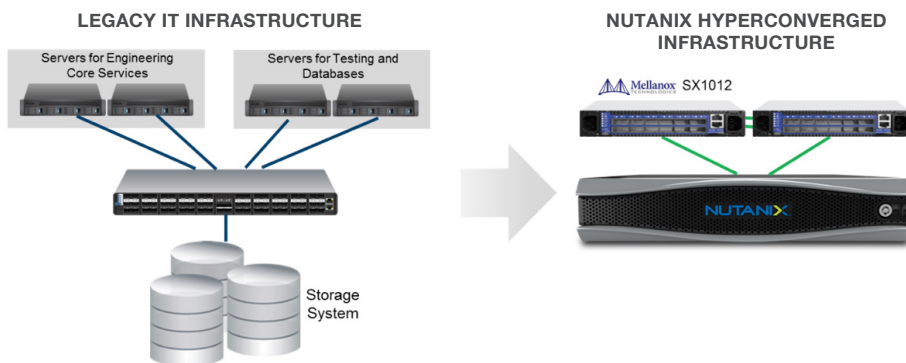


Figure 1. A comparison of the previous legacy infrastructure at Mellanox’s manufacturing site with the new deployment using the Nutanix enterprise cloud platform and Mellanox TOR switches.

NEXT STEPS

“The Nutanix NX-1065 system, combined with our own half-width Top of Rack (TOR) switches, delivers on the promise of fast deployment and full automation,” noted Udi Weinstein, VP of information technology at Mellanox. “With the entire IT infrastructure filling just 2U of rack space, we are getting ready to further consolidate our data centers to achieve even greater IT efficiencies. None of this would have been possible without the space-efficient, high performance Nutanix hyperconverged systems.”



T. 855.NUTANIX (855.688.2649) | F. 408.916.4039
info@nutanix.com | www.nutanix.com | [@nutanix](https://twitter.com/nutanix)

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Company Specifics

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.

Industry

Electronics, Manufacturing

Business Needs

Wanted to improve operational inefficiency, simplify IT planning and maintenance, speed deployments, and minimize downtime.

Solution

- › Nutanix NX-1065-G4 system
- › Mellanox SX1012 TOR switches

Benefits

- › Reduced rack space by 3x
- › Enabled faster deployments (< 2 hours vs days)
- › Simplified IT management using a single GUI with a fully automated HA solution

Mellanox Technologies is a leading supplier of end-to-end InfiniBand and Ethernet interconnect solutions, as well as services for servers and storage. Mellanox interconnect solutions increase data center efficiency by providing the highest throughput and lowest latency, delivering data faster to applications and unlocking system performance capability. Mellanox offers a choice of fast interconnect products: adapters, switches, software, cables and silicon. These products accelerate application runtime and maximize business results for a wide range of markets, including high-performance computing, enterprise data centers, Web 2.0, cloud, storage and financial services. More information is available at: www.mellanox.com

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization, and storage into a resilient, software-defined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at www.nutanix.com or follow us on [Twitter@nutanix](https://twitter.com/nutanix).