NIL HYPERCENTER PROVIDES BEST PRICE/PERFORMANCE RATIO

datalab

**80 %
less time needed
for server
maintenance**

**400%
faster I/O
performance of
SQL environment**

**40 %
faster deployment
of backup copies**

Complete IT infrastructure upgrade

Datalab Tehnologije d.d. (Datalab) develops ERP business information software and provides consulting and training services. Datalab's core product, the ERP system PANTHEON, is in use by more than 30,000 users in Slovenia and surrounding regions.

To keep up with clients' expectations, Datalab needed a high-performance IT infrastructure that exceeded its existing environment's capabilities, with more powerful RAID controllers, better write-cache functionality, improved data security and increased storage capacity. All available space was already in use, and ad-hoc storage solutions were not meeting Datalab's needs. Upgrades were costly, difficult and time-consuming. The servers also had only local storage. Datalab needed to upgrade to a central disk system, and decided in favor of modernizing the complete IT infrastructure: network, server and storage environment.

"Both solutions we tested were in the same price range. We have chosen NIL HyperCenter because it significantly outperformed the competitive solution."

Matija Kešpret, Head of Informatics, Datalab

Datalab choose NIL's solution based on tests performed in its product environment. Test results as well as price/performance ratio led Datalab to select NIL HyperCenter.

The project didn't even need to include all the available phases of the NIL HyperCenter methodology, because Datalab didn't install new servers. (This additional capability proves the flexibility of NIL's approach.)

The upgrade consisted of three steps: NIL refined the network, installed the new storage system, and finally optimized the virtual servers.

Network upgrade

The network infrastructure upgrade included the replacement of existing elements with new hardware, network segmentation, and the implementation of new security policies.

First we removed the existing hardware from the production network and replaced it with new equipment. The new Cisco router took over network traffic routing and communication with two service providers via the Border Gateway Protocol (BGP), and the new Cisco ASA firewall handled VPN connections for remote users and locations, separating virtual private networks as well as providing network traffic supervision and filtration.

On the central switch, we conducted network segmentation through VLANs. All crucial equipment (firewall, switches, servers etc.) is now directly linked to the central switch.

New storage deployment

In Datalab's previous environment, ESX servers used local storage capacities; thus, the configuration didn't take advantage of the complete functionality of virtualization (redundancy in case of physical server failure, virtual server migration etc.). To overcome these drawbacks, NIL deployed the central disk system EMC VNX with FILE and BLOCK parts.

This design significantly improved data security; if part of the hardware fails, that failure doesn't cause service downtime. Another improvement was made in input/output performance, as the speed of the SQL environment increased more than threefold – from 70 Mbps to 240 Mbps. Putting that number into perspective, Datalab now spends 40% less server time on making weekly security copies.

Optimization of virtual servers

The foundation of Datalab's virtual infrastructure was five ESX servers in a vSphere cluster. One server provided resources for 15 virtual machines (VMs).

NIL optimized the server environment in three steps. First, we installed Host Bus Adapter (HBA) cards on the physical servers, which enabled the ESX servers to gain access to capacities in VNX storage via the Fibre Channel (FC) protocol. Afterward, with the use of VMware storage migration technology, we migrated the VMs from local storage to the new virtual storage. In the second step, we upgraded the ESX servers and deployed the VMware vCenter on the VMs. The vCenter server enabled the deployment of high-performance clusters combined from three ESX servers.

SOLUTION CHARACTERISTICS:

EMC VNX central storage system

Cisco router

Cisco ASA firewall

Cisco Catalyst central switch

VMware cluster

The project concluded with the upgrade of virtual hardware and VMware tools, a process that NIL conducted with Datalab's expert, who finished the upgrades alone at an appropriate time (the process required server shutdown).

Datalab's new environment provides significantly better performance and improved security and reliability. Administration is easier, upgrades are faster, and the speeds of building clones and test or development configuration processes improved from a couple of hours to a couple of minutes.
In addition to these performance benefits, the upgrade gave Datalab an environment with the potential to provide resources for the company's most crucial applications and processes.

NIL is a leading global ICT solutions provider, with more than 20 years of experience in IT and the communications industry. Our expertise is in advanced and emerging technologies. NIL's core offer includes professional services, managed services and learning services. NIL is headquartered in Slovenia, with regional offices in Croatia, Serbia, Morocco, USA, Turkey and South Africa.

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