

IT Services Firm Deploys New Switches for Weather Forecasting Application

Diversified services company used new high-performance switches to integrate weather forecasting application with existing storage infrastructure.

EXECUTIVE SUMMARY
IT, NETWORK, AND BIOMETRIC TECHNOLOGY SERVICES Germany
BUSINESS CHALLENGE <ul style="list-style-type: none"> • Capability for simulation calculations for weather forecasting • New infrastructure with higher performance, low latency, and high reliability • Lower overall operational expenditures
NETWORK SOLUTION <ul style="list-style-type: none"> • New infrastructure built around high-performance switch technology
BUSINESS RESULTS <ul style="list-style-type: none"> • Simplified network architecture • Significant power and cooling savings

Challenge

This technology services company, operating in Germany, Benelux, Austria, and Switzerland, delivers a broad array of technology and professional services to academic and large enterprise clients, including supercomputing, high-performance cluster (HPC) solutions and fault-tolerant servers. The company also provides unique identification solutions for law enforcement agencies, access control systems, and high-performance computer solutions for their internal data centers or for special customer requirements.

A new service offering for weather forecasting required a completely new HPC infrastructure solution that would include a vector computer farm

for simulation calculations. The service requirements dictated infrastructure with higher performance, low latency, and very high levels of reliability while still lowering overall operational expenditures.

Solution

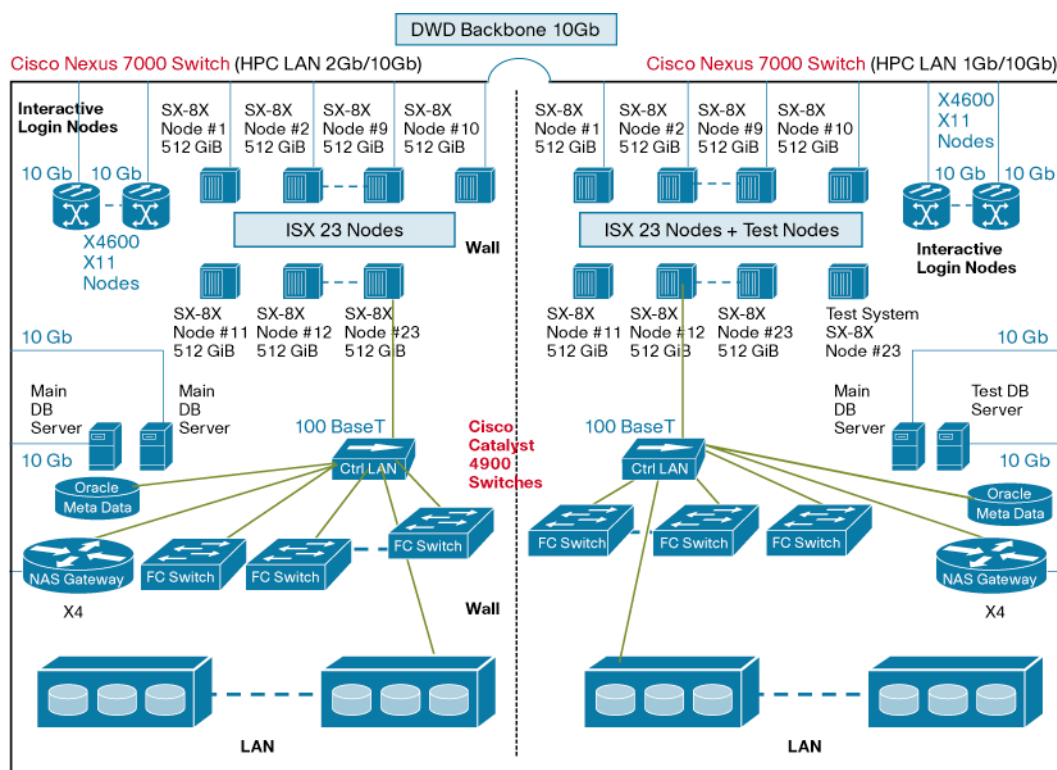
The design effort involved collaborative efforts from different technical teams located in different countries. The company's IT management finally chose the high-performance Cisco Nexus 7000 Series switch as the best match for their complex requirements. The Cisco Nexus 7000 platform is a high-performance 10Gb Ethernet that can scale up to 40 and 100 Gigabit Ethernet with the additional benefits of low latency and a lossless fabric. In the future, the Cisco Nexus 7000 can also support Fibre Channel over Ethernet, so the company can deploy a unified fabric so the customer can easily integrate the weather application with its storage network. The performance, density and availability of the Cisco Nexus 7000 also allows the customer to deploy the solution with only two chassis, which yielded a significant cost and power/cooling savings over alternative approaches. Finally, testing showed that the Cisco Nexus 7000 could support the customer's spanning tree environment, unlike some of the other solutions tested. Beyond the Cisco Nexus 7000, the customer also deployed the Cisco Catalyst® 4900 switch for the management portion of the network.

The key technology areas where the Cisco outperformed the competition included:

- The Cisco Nexus 7000 has built-in scalability from 10 to 100 Gigabit Ethernet
- Lossless fabric and the future availability of Fibre Channel over Ethernet to allow integration with the customer's existing storage infrastructure
- The Cisco Nexus 7000 "Zero Service Loss" architecture
- Cisco Nexus 7000 density and performance simplified infrastructure and lowered TCO
- Low latency and lossless fabric were significant benefits in a HPC environment

The topology for the HPC and management portions of the network is shown in Figure 1.

Figure 1. Dense Wave Division (DWD) 10 Gigabit Ethernet Backbone with Cisco Nexus 7000 Series and Cisco Catalyst 4900 Series Switches



Results

The Cisco solution with the Cisco Catalyst 4900 Series switch for the management network and the Cisco Nexus 7000 Series switch for the backbone provides a high-performance, reliable, and future-proof solution that the customer was looking for. These platforms and their associated technologies will help the customer cut future costs because the Cisco Nexus 7000 Series platform will provide future support for Fibre Channel over Ethernet to help integrate the weather forecasting application with the existing storage infrastructure that the customer had already deployed for other solutions.

For More Information

To find out more about the Cisco Nexus 7000 Series switch, please visit <http://www.cisco.com/en/US/products/ps9402/index.html>.



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