Oil Company Improves Data Recovery Time by 90 Percent

Cisco Nexus helps Kuwait Petroleum Italia enhance data center resilience while improving application performance

EXECUTIVE SUMMARY

Customer Name: Kuwait Petroleum Italia

Industry: Oil and gas

Location: Italy

Number of Employees: 600

Challenge
· Reduce operational costs
· Improve efficiency

Solution
· Cisco Nexus 7000, 5000, and 3000 Series Switches
· Cisco Nexus 2000 Series Fabric Extenders

Results
· Faster and congestion-free infrastructure to support a VDI deployment to help business optimization
· Availability increased to 99 percent with 70 percent improvement in application performance via VDI
· Provisioning and recovery times accelerated by 60 and 90 percent, respectively, with savings of 30 percent on cabling

Challenge

Kuwait Petroleum Italia is an affiliate of Kuwait Petroleum International, the group responsible for refining and distribution of oil products outside Kuwait. A key part of the oil distribution network, Kuwait Petroleum Italia operates through two distribution channels: retail sales (via the Q8 Quaser brand) and wholesale. It has around 2800 retail stores in Kuwait, accounting for a 12 percent share of the the country's diesel fuel market. The company is also active in the lubricants and fuel sectors where it operates through other group subsidiaries.

Kuwait Petroleum Italia is represented in the oil-refining sector through the Milazzo Oil Refinery (RAM), which is managed as a joint venture with ENI.

"In the last two years, the market's seen a strong contraction," says Simone Rischia, IT operations manager at Kuwait Petroleum Italia. "The challenge is to be highly competitive, increasing overall efficiency and decreasing costs."

Kuwait Petroleum Italia already had a technological innovation track record, having been the first operator in the country to introduce fully-automated forecourts. In 2008, the company began looking at how its data center assets could help optimize operations, in turn reducing service delivery costs.

Solution

An obvious area of potential was to reduce infrastructure costs with server and desktop virtualization. To do this, though, Kuwait Petroleum Italia would first need to upgrade to a new 10Gbps switching platform. "Cisco Nexus switches were seen as the only devices that would meet our specifications and fit our feature-rich requirements," says Rischia. "It was a strategic decision."

Kuwait Petroleum Italia has deployed Cisco Nexus® switching platforms across its main data center in Rome and its backup facility in Naples. Modular Cisco® Nexus 7000 Series Switches deliver a comprehensive NX-OS feature set, with high-density 10, 40, and 100 Gigabit Ethernet plus application-awareness and comprehensive performance analytics for the data center.

Both data centers have Cisco Nexus 7000 Series Switches deployed in the core and physically partitioned through virtual device contexts (VDCs) for switch consolidation and secure segregation of different domains. The whole switching network uses Nexus 10Gbps connectivity from the core to the access network, where Nexus 5000 Series Switches have been deployed to provide high throughput and distributed access to servers.

> "Nexus switching has introduced a more stable and efficient data center environment. The network is no longer the bottleneck."

Simone Rischia
IT Operations Manager
Kuwait Petroleum Italia

Cisco Nexus 2000 fabric extenders meanwhile reduce capital and operational expenditure by providing connections for existing copper links and space for future expansion.

In addition, the Rome data center has Cisco Nexus 3000 Series Switches connecting its servers and storage arrays to provide business critical applications with ultra-low latency access throughout the network.

Results

Together, the data centers now support 440 virtual servers alongside 50 physical machines. That infrastructure refreshment has helped enable Kuwait Petroleum Italia to deploy virtual desktop infrastructure (VDI) to around 60 percent of employees, reducing the total cost of ownership of the workstation estate and helping to cut IT helpdesk costs. The business is hoping to deploy VDI to about 90 percent of the workforce.

The Cisco Nexus switches have allowed Kuwait Petroleum Italia to reduce management complexity and improve availability through the implementation of virtual PortChannels to take advantage of network links otherwise blocked by Spanning Tree Protocol. Using VDC, meanwhile, the company has partitioned storage and server access. In addition, VDCs have been used to maintain separate test environments for the network.

Overall, the implementation of Nexus switching has helped reduce system downtime across the business. The company is now achieving high application availability for end users, with 99 percent availability within the data center. Application performance (on applications delivered via VDI) has gone up by 70 percent. At the same time, device provisioning times and cabling requirements have fallen by about 60 percent and 30 percent respectively. Power consumption has lessened by a similar amount.

"Nexus switching has introduced a more stable and efficient data center environment," says Rischia. "The network is no longer the bottleneck."

Going forward, Kuwait Petroleum Italia plans to improve IT security by implementing Cisco Network Admission Control and to further develop its data center vision. "Consolidation and virtualization can be seen as concluded now," Rischia sums up. "The next step is to implement automation to prevent and correct faults before they become service affecting."

For More Information

To learn more about the Cisco architectures and solutions featured in this case study go to:

www.cisco.com/go/datacenter
www.cisco.com/go/nexus

Product List

Routing and Switching

- Cisco Nexus 7000 Series Switches
- Cisco Nexus 5000 Series Switches
- Cisco Nexus 3000 Series Switches
- Cisco Nexus 2000 Series Fabric Extenders

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