Kotak Group Builds State-of-the-Art Data Center on Cisco Nexus 7000 Switch

One of India's leading financial organizations leverages the Next-Generation Cisco's Nexus 7000 Series Switch platform to consolidate data centers across various business units.

EXECUTIVE SUMMARY
Customer and Industry: • Kotak Mahindra Group (India, Financial Services)
Challenge • Siloed data centers across five divisions resulting in duplicated resources and inefficiencies • Lack of architecture direction for consolidation efforts • Compliance management difficulty due to complex and sprawling data centers
Solution Consolidated data center network architecture comprising: • Cisco Nexus 7000 Switch • Cisco ACE 4710 Appliance • Cisco Catalyst 3750E Switch
Expected Results • Improved network performance, scalability and availability • Virtual segmentation of network and system resources with separate network zones, policy enforcement and security services • Increased network capacity and support for future Ethernet growth

Introduction

Kotak Mahindra Group, one of India's leading financial services provider, offers comprehensive financial solutions - including commercial banking, stock brokering, mutual funds, life insurance and investment banking. They cater to the financial needs of individuals and corporations.

Ranked as one of the Top 25 best employers in India (according to a 2009 Hewitt Associates Study), and controlling a market capitalization of $ 5.8 Billion. They employ approximately 20,000 people within various businesses. With a distribution network of over 1,330 branches, franchise, representative offices and satellite offices across numerous cities and towns within India. The networks also include representative offices in New York, San Francisco, London, Dubai, Mauritius and Singapore, resulting in services for approximately 7 million customer accounts.

Business Challenge

Kotak Mahindra Bank has earned the "Best Bank Award in IT Framework and Governance" for two consecutive years with an award from the IDRBT most recently in 2009. Their willingness to continuously embrace new technologies and drive group efficiencies, led them to embark on a data center consolidation initiative to unite several siloed data centers at their new building facility. With three distinct business divisions (Kotak Mahindra Bank, Kotak Securities, and Kotak Life Insurance), and each with its own data center, the Group was finding many of their network resources were becoming duplicated. In addition consolidation also took place for additional group companies like Kotak Mahindra AMC, Kotak Prime and Kotak Mahindra Capital Company. Henceforth, with a collaborative discussion across various group companies, a decision was made to go ahead with a consolidated and virtualized data center at the new building facility.

In order to achieve the comprehensive solution along with the Data Center Consolidation, Kotak wanted a partner who could deliver the following skills 1.) provide the network architecture needed to improve management of their existing group wide server farms, 2.) Enhance security compliance, 3.) Deploy wireless connectivity for end users, and 4.) Help them migrate from traditional telephony systems to newer technologies that offer converged communications.

Solution

As a leading Cisco customer for past ten years now, Kotak group companies were educated with the latest offerings from Cisco. With the launch of Nexus 7000 switch along the same timelines as the customer's initial planning activity, provided a clear platform to discuss and share the benefits that can be achieved from the Nexus 7000.

The Cisco Nexus 7000 Series Switch is designed for the core and aggregation layers of a data center. It delivers up to 15 terabits per second of switching capacity in a single chassis, supporting up to 512 ports of 10 Gbps Ethernet, and future delivery of 40 and 100 Gbps Ethernet. Building on Cisco's proven storage area network (SAN) operating system and Cisco IOS Software found in Cisco Catalyst 6500 Series Switch, the Cisco Nexus 7000 Series Switch uses the Nexus Operating System (NX-OS) which delivers real-time system upgrades with exceptional manageability and serviceability.

The Cisco Nexus 7000 Series Switch was chosen in the data center, as it supported the high-bandwidth requirements for a consolidated data center. Additional features like Virtual Device Contexts (VDC), Virtual Port Channel (VPC), 10GE density ports and the idea of unified fabric for the new data center were of key interest.

Using the Virtual Device Contexts (VDCs), each individual group company will be able to use the same Nexus 7000 series switch to segment multiple networks while maintaining operational independence between the consolidated networks.

Moreover, since the Nexus 7000 is also designed to support emerging 40 Gbps and 100 Gbps (40 GE and 100 GE) standards, this will provide enough room for scalability, allowing them to move to higher capacities without impacting the existing infrastructure setup.

"The Cisco Nexus 7000 Series Switch was chosen as it supported the high-bandwidth requirements of the consolidated data center. In addition, this switch fits with Kotak's long-term data center strategy to include virtualization and fiber channel over Ethernet. The ability to create Virtual Device Context (VDCs) to segment the data center was another key feature that influenced the decision, along with the support for Virtual Port Channels (VPCs)."

- Ramesh Lakshminarayanan, Group IT Head Infrastructure, Kotak

As of February 2009, the new data center has been equipped with a pair of fully redundant Cisco Nexus 7000 Switch chassis. The switch chassis are equipped with dual Supervisor Modules to control Layer 2 and 3 services, redundancy capabilities, configuration management, status monitoring, power and environmental management, and more. Two supervisor modules, three switch fabric modules, and two power supplies were installed in each chassis to create a fully redundant system, allowing real-time maintenance and upgrades to be made with no service disruption, allowing for exceptional high-availability.

Results

Standardizing on a Cisco Data Center solution ensures that the Kotak Group will have a scalable network now and in the future to reap the benefits of a unified infrastructure. The Nexus 7000 scalability from dense 1GbE to 10GbE support today, with plans for delivering up to 15 terabits per second of switching capacity in a single chassis, provide the customer with the ability to grow as they need and be prepared for future technology development. The density today supports the activity or the consolidation of data center's servers while providing real-time system upgrades with exceptional manageability and serviceability so that the consolidated networks can remain up while maintenance and new release upgrades.

Using Nexus 7000 Virtual Device Contexts (VDCs) capability, the Group plans to segment multiple networks using a single virtual network (VDC) for each of the Group's three business divisions. This will be on one Nexus 7000 physical switch while maintaining logical operational independence between networks. By taking advantage of network architecture built to support server virtualization, the customer will maximize existing resources sharing a physical device among several logical functions instead of dedicated (siloed) compute, network and storage resources to single functions. The customer will be able to dynamically provide additional resources to business functions that need it, when they need it without under utilizing the capacity of any one of the physical device.

The modular form factor of the Nexus 7000 will provide Kotak a means to achieve a higher return on their investment over time. They will be able to increase capacity by adding more switch fabric modules, and adding interface line modules in support of higher density requirements and future high speed Ethernet standards, including the emerging 40 Gbps and 100 Gbps Ethernet (40GE and 100GE) standards. This will provide the Group with future

scalability, allowing them to move up to higher capacities, on the chassis they installed without impacting the current infrastructure.

Next Steps

Once the Group has made the transition from an existing siloed data center infrastructure to a consolidated architecture that supports virtualization, they will pursue plans for implementing a Virtual SAN infrastructure to optimize their fabric channel storage applications.

For more information:

For more information on Cisco Data Center Solutions, visit: www.cisco.com/web/go/datacenter
For more information on the Kotak Group, visit: www.kotak.com