



IMPLEMENTATION OF CISCO NETWORKING SOLUTIONS AT EXEL INDIA



Brief background of Exel India

Exel is a global leader in supply chain management, providing customer focused solutions to a wide range of manufacturing and retail industries. Exel's comprehensive range of innovative logistics solutions encompasses the complete supply chain from design and consulting through freight forwarding, warehousing & distribution services, integrated information management and e-commerce support.

Exel, a UK listed company, has a turnover of over £4.3 billion (US\$6.6 billion) and employs more than 60,000 people in 1,300 locations in over 120 countries worldwide. Exel's customers include over two-thirds of the world's largest non-financial companies. More information is available at www.exel.com.

Exel, in India have their head office in Mumbai. In India, Exel has 22 offices and 8 warehouses and has a total employee strength of around 650 employees.

Details of the Networking Implementation

The company opted to upgrade its IT setup to further enhance the timely solutions & support to its customers in India. The company's India Head Office in Mumbai spans 3 floors of hi-tech network - and is the operating centre for the network.

All of Exel India's 22 offices and warehouses across India have been internally connected through a NT LAN. As for Wide Area Network (WAN) links, all of the company's key offices in India have been connected. WAN connectivity infrastructure is a combination of Lease Lines, ISDNs and Wireless. The Exel network is being used to drive critical business applications such as local, day-to-day freight related applications as well as for e-mail communication.

Exel's network hardware equipment is standardized on Dell servers and laptops. Across India, the company has about 40 servers and about 550 of Accel's Mastermind brand P3 & P4 PC's. Windows NT is the standard O/S for all the above but the company also has Windows 2000 and Windows XP based servers and clients now.

Core networking infrastructure is standardized on Cisco. The Cisco 3640 router is the main router at the Operating Centre in Mumbai. The other offices on the WAN use the Cisco 2621 and Cisco 1751 2V. Further, the Cisco 2621 - with the required Flash and DRAM - is also used for offices having ISP connectivity.

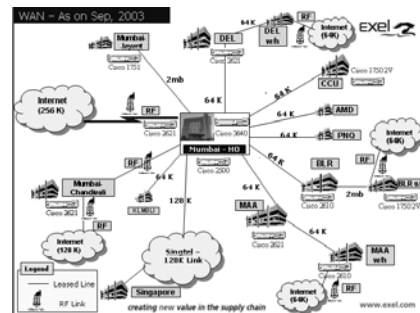
For its main office in Mumbai, Exel is using a mixture of Cisco's Catalyst 3550, 3548 & 2900 switches, with Gigaspeed cards. The company uses a fibre optic backbone between the three floors of its Head Office in Mumbai. Almost all of the offices have Cisco switches at the core of their LAN's. Intel 10/100 cards are standardized for all PCs - and the internal LAN cabling uses CAT6 for data and CAT5 for voice.

Exel has invested in a 256 Leased Line to its Singapore office, which houses the servers with all their global applications. The Singapore office centrally manages and stores all the customer applications. This link allows for these applications to be offered to Exel's India customers effectively and efficiently.

The Exel India network has a star topology currently. However, the company may consider moving to a partially mesh kind of topology in the near future to ensure redundancies.

Exel has also implemented value-added networking solutions such as Cisco's IP Telephony and Cisco's VPN Concentrator solutions for its network. "Basically, these solutions provide for point to point and point to multi-point links between Exel's various offices within Mumbai," **says Suresh Subramaniam, Asst. General Manager - IT, Exel India Private Limited.**

The network integration has been done by Tulip IT Services. **Suresh Subramaniam says,** "Tulip has recommended, designed and implemented an end to end network. Infact, Tulip suggested the Wireless solution, conducted the Line of Sight survey, studied our requirements and recommended the Cisco Wireless solution. Tulip has now implemented the Links and will also be responsible for managing it. We are happy with their service and so far they have never let us down on any of our projects. Their dedication and professional team approach is very commendable."



Wireless Solution Implementation

Exel opted for a Wireless solution as they were looking for a fast and reliable implementation of a medium for connecting its two offices within Mumbai. Exel opted for Wireless connectivity between their offices in Mumbai as Leased Lines were found to be unreliable. Given the business critical nature of Exel's network, even a 5-minute down time resulted in delays and loss of business to the company.

Exel has a service commitment with their customers for clearance of all consignments within 2 days. As the central office server for Mumbai and Operations from other offices within Mumbai had to have very high-uptime to ensure this, the company opted for RF-based Wireless as the primary link and kept a 2MB Leased Line as a backup link with ISDN to back up that link as well.

"Since Leased Line implementation is very time consuming, has unreliable connectivity and erratic customer service - we opted for a wireless solution. Importantly, the cost difference between the two justifies the investment. Another key advantage of this solution was that we did not have to reconfigure any of our existing links to implement wireless," **says Suresh Subramaniam.**

Moreover, Wireless was found to provide easier upgradability. For a Leased Line, there were found to be additional complications of cost of the modem while upgrading from a 64K leased line to a 2MB line - due to the modems being different, costly and non-upgradeable. Talking about the post implementation scenario, **Suresh says,** "The solution has proven to be very reliable. Once installed and configured correctly, it very rarely goes down - rather, it never goes down! Just like the advertisement "Fill it - Forget it"."

"On a more serious note - we believe that the biggest advantage of the wireless network was the fact that it helps achieve very high and quality Uptimes along with delivering good bandwidth. Moreover, Re-deployment is also very easy when compared to lease lines."

Applications on Exel's Wireless Network

Exel uses its Wireless Network to provide all its mobile users connectivity to the central office server. Exel has opted for a Cisco VPN Solution to allow all its mobile users to access the central Notes server in the Mumbai office. Says **Suresh Subramaniam,** "Cisco's VPN Solutions are remarkable easy to install and use. Now, all that any of our mobile users need to do, is to dial into the ISP and execute the VPN client - and they get right on to the Exel network."

The Wireless platform supports a range of applications including Exel's Freight Forwarding, Financial Accounting, Billing, MIS Systems, which is developed in PowerBuilder with a Sybase back-end, - as well as the critical Import Clearance system, which works on VB/SQL server combination. The platform also supports regular e-mail connectivity. The wireless network delivers high uptime & reliability - which is not possible with the terrestrial leased line network. Further, the network was deployed in just one week!!

"Exel is extremely happy with our decision to opt for a wireless setup. We are now considering linking all our warehouses to our key offices using the wireless technology. As for areas of improvement, I would think that providing more interface options (viz., V.35 or G.703) along with RJ 45 as well as providing In-built routing capabilities on the Wireless platform would deliver great advantages to a corporate - and would be a compelling addition to the Cisco solution. Having said that - even as it is today - the Cisco Wireless solution is something I would recommend for all corporates." **adds Suresh Subramaniam**

Interestingly, Exel faced no major bottlenecks during the IT implementation. Only when IP-Telephony was sought to be deployed across the wireless networks, there was some jitter and delay. This was easily resolved using Cisco's QoS solutions. Importantly - no equipment upgradation was required anywhere in the network.

Business Benefits for Exel India

"We were able to give our clients more effective services as our inter-branch communications became more effective. We have managed to totally elude STD costs - using a CUG IP-Telephony solution from Cisco. Further, after we opted for Cisco's Wireless Networking solutions, we hardly have any down time whatsoever. The VPN solution has provided for secure and reliable data communication between offices. All in all, the network has delivered tremendous cost-benefits to the company, has provided more productive and efficient working environment for employees - and most critically, has helped us delight our customers with enhanced service quality." **says Suresh Subramaniam, Asst. General Manager - IT, Exel India Private Limited,**

Exel has today internetworked almost all of its key offices in India - in all key cities across India - to the central office in Mumbai. This includes offices in Pune, Ahmedabad, Hyderabad and Goa - in the near future. Further, warehouses in these respective cities will be connected to the city office over wireless.

Very clearly, the company has understood that "the more we connect, the greater the efficiencies for our business."