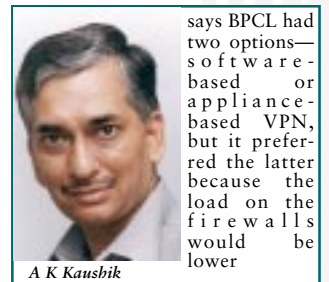


## SECURITY SPECIAL: VPN CASE STUDY CISCO'S SYSTEMS FUEL BPCL NETWORK

By installing a VPN connection from Cisco, BPCL has benefited considerably, from faster deployment, to providing its partners with a cost-effective and secure gateway for business transactions, says **Pankaj Mishra**

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Cisco Systems has implemented an array of its 'New World' networking solutions in a nation-wide enterprise network for BPCL. A key feature of this implementation is the deployment of Cisco's Virtual Private Network (VPN) solutions between 120 of BPCL's partner locations (carry & forward (C&F) agents, commission operated depots, hospitality locations, dispatch units) in 100 cities across India.

Cisco's VPN solutions have made it possible for BPCL's partner locations to access the company's SAP servers for online business functions such as order entry, invoice generation, etc—at almost zero running-cost. "Currently VPN is being used by 130 users from 110 locations across the country for carrying out SAP transactions. Most of these users are BPCL's partners. A few mobile users of BPCL are also using it," says A K Kaushik, deputy general manager, IS Infrastructure, BPCL.

The SAP platform at BPCL will offer services to its mobile teleworkers and its other operating locations as fallback connectivity. Further, these partners will get access to the BPCL Intranet for online business functions such as order entry and invoice generation as well as back up access to the Intranet. "BPCL wanted a cost-effective technology and they evaluated various options like VSAT and leased line connections. They had remote locations to be connected that didn't have the need to be connected throughout the day. Therefore a VPN solution appeared useful," says Vishwanath Iyer, principal consultant, Cisco India.

The VPN will enable any of BPCL's partners to use the Internet as a cost-effective transport mechanism to become a part of BPCL's extended secure infrastructure. The process of setting up such a connection was accomplished by installing a software VPN client on the PC or notebook. "At our central site in Mumbai, a VPN concentrator has been installed on a 2 Mbps Internet link, which is connected through a firewall. PCs at remote locations have Cisco's VPN client software installed. This software came with the central office's VPN concentrator," says Kaushik. The Cisco VPN concentrator collects all the traffic, through the Internet from different centres, at the central BPCL operating centre. The

partners using this gateway are bound by a stringent enterprise-wide security policy implemented by BPCL, that pre-defines the level of access and services available to users on BPCL's network.

Cisco's 3030 is a VPN platform designed for medium- to large-sized organisations with bandwidth requirements from full T1/E1 through fractional T3, supporting up to 1,500 simultaneous sessions. Specialised scalable encryption processing (SEP) modules perform hardware-based acceleration. The 3030 is field-upgradeable to the 3060. Redundant and non-redundant configurations are also available. "Our 3030 range comes with additional features which take care of authentication and manage all users according to their profiles/job functions," says Cisco's Iye

Kaushik attributes the following reasons for BPCL opting for a VPN over any other dedicated media, including leased lines:

- Availability of dedicated media at remote places-in most remote places telephone exchanges do not have equipment to support leased/ISDN lines.
- Longer commissioning time of any dedicated media
- Higher cost of operations of dedicated media
- Low bandwidth requirements at these remote locations
- Limited uptime
- Faster rollout of SAP was required at these VPN locations.

## Evaluation

BPCL evaluated various options before selecting Cisco's VPN solution. "We had two options-software-based VPN or appliance-based VPN. Software-based VPN is offered by Computer Associates and CheckPoint, while Nortel and Cisco are leading appliance-based VPN solution providers. We preferred an appliance-based solution because a software-based solution could have increased the load on our firewalls," explains Kaushik.

"We have gone through several stages including the initial study, pilot, final rollout and training. During the initial study we had considered both software and hardware-based VPN solutions and ultimately decided to go for a hardware-based dedicated VPN solution. After that we did a pilot at our Mumbai office with a low-end VPN concentrator. On successful testing, we bought the high-end VPN concentrator which can support a up to

## Advantage VPN

### Cost Savings:

VPNs enable organisations to utilise cost-effective third-party Internet transport to connect remote offices and remote users to the main corporate website, thus eliminating expensive dedicated WAN links and modem banks. Furthermore, the advent of cost-effective, high-bandwidth technologies like DSL, organisations can use VPNs to reduce their connectivity costs while simultaneously increasing remote connection bandwidth.

### Security:

VPNs provide the highest level of security using advanced encryption and authentication protocols that protect data from unauthorised access.

### Scalability:

VPNs enable corporations to utilise Internet infrastructure within ISPs and devices that allow for the easy addition of new users. Therefore, corporations are able to add large amounts of capacity without adding significant infrastructure.

### Compatibility:

VPNs allow mobile workers, telecommuters and day extenders to take advantage of high-speed, broadband connectivity, such as DSL and cable, when accessing the corporate network. High-speed broadband connections also provide a cost-effective solution for connection to remote offices.

Source: Cisco

1,500 concurrent tunnels and take care of our future requirements," adds Kaushik. Training was provided to BPCL's SAP rollout team to implement this as a connectivity tool at all locations that were not part of its WAN setup.

Benefits derived by BPCL from the implementation are faster deployment, low cost of operations, encrypted transmission of data on the Internet, high uptime, scalability of solution, and that it can be integrated with future security initiatives like digital signature and secure-ID cards.

### **Cisco VPN 3000 Series Concentrator**

**T**he Cisco VPN 3000 Series Concentrator is a family of remote access VPN platforms and client software that incorporates high availability, high performance and scalability with the most advanced encryption and authentication techniques available today. With this device, customers can take advantage of the latest VPN technology to reduce their communications expenditures. It also offers components called scalable encryption processing (SEP) modules that enable users to easily add capacity and throughput. The Cisco VPN 3000 Series Concentrator includes models to support a range of enterprise customers, from small businesses with 100 or fewer remote access users to large organisations with up to 10,000 simultaneous remote users. Cisco provides its VPN client with all versions of Cisco VPN 3000 Series Concentrator, including an unlimited distribution licensing.