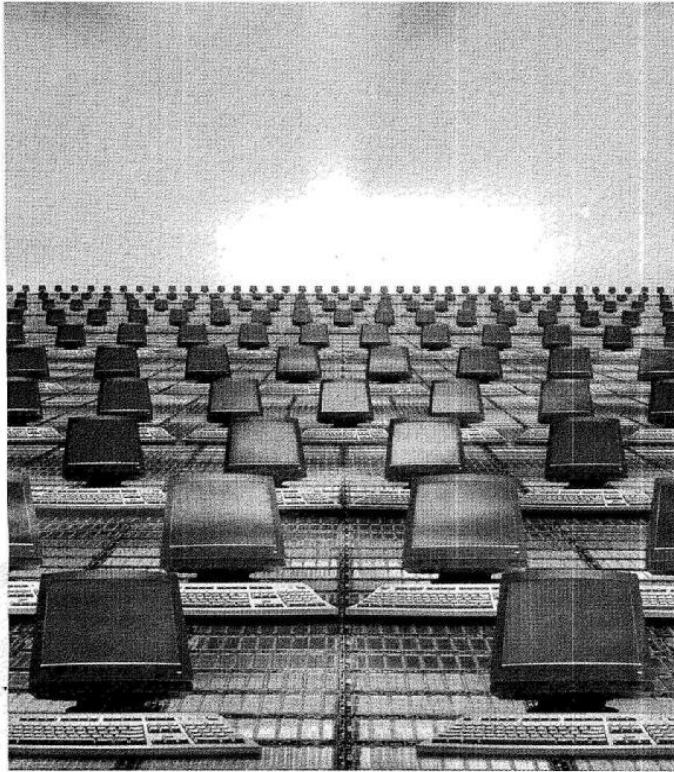


Smart intelligent networks

As convergence brings voice, data and video onto the same network, new technologies are rewriting the rules for collaboration. Adding intelligence to the network has enabled applications and services to be delivered in a more effective manner.
By Vinita Gupta



Over the years, the role of the network has evolved. Initially networks provided basic connectivity amongst users, bandwidth, and access to applications that supported business processes, and the intelligence existed outside the network. The focus was on the reduction of capital expenditure (CAPEX) and operational expenditure (OPEX). However today, networks are expected to offer increased and diverse functionality as organizations face the demand for increasing scalability of the infrastructure, the need to integrate new complex technologies and support new business applications, challenges of new and daily threats from hackers and viruses, and the escalating cost of systems integration.

As per various sources, the Indian networking market was valued to be around \$850 million in 2007. "The growth driver definitely is the economy's growth which demands better IT Infrastructure and newer applications," said Nareshchandra Singh, Principal Analyst, Enterprise Networking, Gartner Research India. Additionally, in the steadily growing

economy, businesses continue to grow and SMBs are said to become tomorrow's enterprises and hence there is a continuous creation of infrastructure and networks. There are some key networking trends that market saw in 2007 that will continue to have an impact in 2008 as well. Let us analyze some key ones.

The network connects every part of the IT infrastructure, from servers to applications, middleware as well as end points, the network has the potential to improve the performance and functionality of every element of the IT environment.

Ranajoy Punja, Business Development Manager-Data Center, Cisco India & SAARC mentioned that intelligence has been added to the network, which is becoming a platform for a Service Oriented Network Architecture.

To enable the same, routers have matured to become intelligent network devices incorporating features such as content processing, VPN, firewall and load balancing. Wireless capabilities are also becoming popular, replacing the need for separate wireless access

points for small office networks. For example, Cisco's range of Integrated Services Routers (ISR) offer secure concurrent services, including secure IEEE 802.11 wireless LAN capabilities on a single system.

Sajan Paul-Head, Technology and Consulting, Enterprise Solutions, Nortel India stated, "With the availability of massive bandwidth through various new generations, optical technologies such as 40Gig/wavelength, electronic dispersion compensation optics (EDCO), there is a dire need for wire-speed routing and switching gears. However there is a paradigm shift in the way that routers are architected. From multi-protocol to IP and Ethernet, optimized routing is the need of the hour."

"Gigabit and terabit routers will still play a role in the carrier segment. Only after the wide adoption of Metro Ethernet networks, will we see end customers opting for Gigabit and terabit routers at their central locations," added Sunil Bhatt, CTO, Allied Digital.

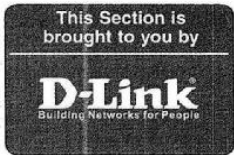
Going green

"While routing and switching still continues to be the dominant technologies, with growing concerns about security, IP based surveillance and security solutions are gathering critical mass," pointed out Jayesh H. Kotak, VP-Product Management, D-Link India. He revealed that additional workloads are added to existing networks, there has been a growth in power consumption as well as heat dissipation and the use of hazardous substances and packaging materials for manufacturing networking products. This affects the environment in terms of utilization of valuable resources; hence, there is a new initiative in the form of Green Ethernet from D-Link to introduce environment friendly products to the industry.

The converged network

As the value of information technology moves from the edge of the network into the core, the industry is seeing a corresponding transition from transactional communications such as phone calls and e-mail to continuous collaborative experiences, similar to today's social networking. Not only do corporates now expect to be able to connect to everyone from everywhere through every device.

Collaboration within and between firms worldwide is accelerating. It is enabled by technology ▶



This Section is brought to you by

D-Link
Building Networks for People

ANNIVERSARY SPECIAL

and a change in behavior. Globally, cross-functional teams create a virtual boundary-free workspace, collaborating across time zones to capture new opportunities created with customers and suppliers around the world. Investments in Unified Communications (UC) help people work together more efficiently.

Singh pointed that voice and data are coming together; as UC, IP telephony, video conferencing and multimedia become prevalent there is a need for convergence. He added, "Convergence is a big factor, as people are moving from a distributed to centralized architecture and the network needs to be more intelligent and resilient."

Today's meeting and collaboration tools provide a significant productivity boost and have moved from conference rooms to desktop-based solutions. Punja asserted that the vision of an Intelligent Information Network (IIN) facilitates the integration of the hardware and software that makes it possible for organizations to better align IT resources with business priorities. By building intelligence into an existing network infrastructure, IIN will help organizations realize benefits such as reduced complexity and cost.

"Converged cabling for voice, video, data and control networks (building management) is the trend today at growing enterprises that are setting up new facilities. Converged networks will drive the growth of



Ranajoy Punja

BUSINESS DEVELOPMENT MANAGER-DATA CENTER, CISCO INDIA & SAARC

By building intelligence into an existing network infrastructure, an Intelligent Information Network (IIN) will help organizations realize benefits such as reduced infrastructure complexity and cost



Sajan Paul

HEAD, TECHNOLOGY AND CONSULTING, ENTERPRISE SOLUTIONS, NORTel INDIA

IP VPN has been around for several years now. The only shift that we see lately is the greater acceptance of SSL based VPN technologies

10G networks in the enterprise," said Bhatt.

Paul felt that convergence is a step-by-step process where there are protocol, network and application convergence phases. An end-to-end Ethernet broadband service is required for any meaningful business advantage through convergence. He said, "The growth of wireless communications across India is driving the realization of hyperconnectivity, a new era in communication where everything that can be connected, will be connected."

Mohit Rampal, Country Manager, 3Com, India and SAARC revealed that products enabling organizations to converge data, voice, video and other content onto a single network are increasingly in demand and that the trend will not change in 2008.

Network management

A few years back enterprise/SME networks were not sufficiently complex to warrant a separate network management solution to manage them. Today the business dynamics have changed. Businesses want their networks to be optimized, predictable and yet flexible enough to accommodate changes depending upon business conditions and demands. Therefore, the network management services market is moving from pure play network uptime to integrated service delivery. Organizations are looking towards correlating different towers of the IT setup and trying to actualize application availability. Application response time is driving the game. With infrastructure becoming more robust, the trend has shifted from network and linkup time to application response time. People are also looking at services management rather than pure play network management.

Network management is treated more as a service rather than a solution. Most enterprises are opting for outsourcing network management services to competent players in IT services. This model helps them focus on their core business and have predictable SLA driven management services for service providers to look after their networks. The market also saw demand for RIM, which is being covered in a section of its own in this issue.

Alamuri Sitaramaiah, Director-Sales and Marketing, Fluke Networks, India however felt that the network management market is in its infancy in the country. The need basically arises from users who would like to monitor, troubleshoot and manage their networks. Network managers are increasingly becoming aware of the limitations of SNMP and are looking at ways and means of understanding how their IT infrastructure is being used and the response time issues facing users of the network when applications are being delivered over the network. To this end, customers are looking beyond availability management and are trying to zero in on tools that help them to understand root cause issues in service degradation.

IP telephony and VPN

IP telephony has matured significantly in the last two years, with the technology evolving into a robust and stable platform to deliver Voice over IP (VoIP). Today the IP telephony market is growing at the rate of 61% CAGR.

IP-based solutions will help companies to deploy key services such as video conferencing, collaboration and other value-added options such as directory integration, XML integration, calling party name and number, calls received, missed calls

Networking trends in 2008

- Economic growth which demands better IT infrastructure and newer applications will continue to spur the growth of networking
- Consolidation of existing networks and expansion of branch offices into semi-urban and rural markets will take place
- Intelligent networks and unified communications will gain ground as will WAN optimization
- There is a large and a growing awareness of Green IT across segments
- Switching: The adoption of 10G would increase as switching vendors, server manufacturers and storage vendors release 10G products. Metro Ethernet and IPTV deployments form a part of some recent technology trends in the service provider market
- Routing: POE, IPV6 enabled routers, access control by integrating the router with external dedicated anti-virus, IDS, IPS devices, bandwidth bundling/load balancing with multiple Internet links are some recent trends
- Wired: There is a move towards Gigabit Ethernet from Fast Ethernet and from Unmanaged Switches towards Web GUI based smart switches
- Wireless: An increasing number of devices continue to be Wi-Fi enabled like mobile phones, media players, storage devices and print servers
- Bandwidth and network reliability are routinely considered to be among the main factors affecting data communication. This paves the way for network management for effective resource utilization

This Section is brought to you by

D-Link
Building Networks for People

ANNIVERSARY SPECIAL



Jayesh H Kotak
VP-PRODUCT MANAGEMENT, D-LINK INDIA

While routing and switching continue to be the dominant technologies, with growing concerns about security, IP based surveillance and security solutions are gathering critical mass



Mohit Rampal
COUNTRY MANAGER, 3COM, INDIA AND SAARC

Products enabling organizations to converge data, voice, video and other content onto a single network are increasingly in demand. Also greater intelligence has been added to the network which is becoming a platform for Service Oriented Network Architecture (SOA)



Alamuri Sitaramaiah
DIRECTOR-SALES AND MARKETING, FLUKE NETWORKS, INDIA

The network management market is in its infancy in the country. The need basically arises from users who would like to monitor, troubleshoot and manage their networks

WiMax will be big in 2008 as there were many large projects that were deployed to deliver last mile Wireless Broadband Access (WBA) in 2007

and dialed calls, extension mobility, etc; all these developments will fuel the networking market in 2008.

The popularity of VPN is on the rise, largely because of the stability, reliability, interoperability, manageability, ease of deployment and the cost savings in using the Internet as a cost-effective transport mechanism. Tremendous growth in data VPNs is already apparent, with corporations benefiting from its public network aspect—scalability, redundancy, and load sharing—and the security that is a part of its private network component.

Paul said, "IPSec VPN has been around for several years. The only shift that we see lately is the greater acceptance of SSL based VPN. Nortel has simplified remote access simple by bringing in a concept called Secure Portable Office (SPO) that simplifies the deployment of remote access and WAN optimization."

Krishnakumar, GM (Marketing), Gemini Communication revealed that the next two years are going to see a tremendous swing in the way companies connect their networks in India; with a CAGR of over 16% the IPSec VPN is going to rule the market and will contribute significantly to the growth of network convergence. He said, "IPSec VPN has change the way connectivity happens in India, it has created a fully secure platform for enterprises to connect to their remote locations to make use of the CRM, ERP, SCM and other applications.

"VoIP has driven many technologies in the recent past. New bandwidth management, PoE, and integrated UC technologies are bringing together VoIP, alongside traditional business applications. Call centers, remote workers, and integrated video systems are now using VoIP

and its related protocols to build a new generation of applications," said James Messer, Director of Technical Marketing, NetScout.

NAC for a secure network

With today's sophisticated security challenges, perimeter defense and traditional products working independently are no longer sufficient. Therefore, traditional security products such as intrusion detection and prevention (IDS/IPS) technology, anti-virus, and firewalls, are no longer adequate.

Organizations need more comprehensive, multi-layered, pervasive, and tightly integrated information security solutions. It is here that Network Admission Control (NAC) provides a powerful policy enforcement mechanism tailored to meet the new challenges faced by the network.

Subashini Prabhakar, CTM, Dax Networks explained that there are two parts to network security. One is content control, which is provided through security devices such as Firewall, IPS and anti-virus. The other part is access security, which is provided by routers and switches. When it comes to access control, most vendors today are geared up to meet the challenge.

Harvinder Singh, Country Manager-India, F5 Networks, disagrees and states that the NAC model fails to take into consideration the fact that most, if not all, access requests from remote networks are physically attached to hardware beyond the management scope of the enterprise. The NAC model also does not specifically provide for transport security.

WiMax as last mile and backhaul

The structured cabling market

grew to Rs 426 crores in 2007 from Rs 300 crores in 2006, which shows that gigabit conversion has just picked up momentum, therefore there might not be an immediate threat to structured cabling from the growth of PoE, which is increasingly gaining momentum due to the mass deployment of IP telephony, specifically IP phones. Ad-hoc video conferencing is bringing a new dimension to bandwidth demands at the wiring closet and in the core network. Singh believed that cabling in India is still at a basic stage as customers are not willing to deploy wireless; today wireless is perceived as a supplement to existing networks.

WiMax will be big in 2008 as there were many large projects that were deployed to deliver last mile Wireless Broadband Access (WBA) in 2007. Once the spectrum issues are sorted out, this technology has the potential to penetrate all levels of broadband deployment. WiMax in India today is primarily driven by the community of service providers and is still in the pilot phase for some while others have rolled it out commercially. The ground reality, however, is that there is little implementation of the technology in the country and what is there is mostly on an experimental basis. The last mile problem for delivering broadband access has been a major hurdle and WiMax promises to bridge that gap.

WiMax is a practical commercial solution to widen the market, especially in areas with poor or no wired infrastructure. In 2008-09 we expect to see WiMax being deployed in the backhaul and in some instances it will be used for wireless exchanges supporting hotspots to provide rural connectivity. ■

vinita.gupta@expressindia.com

