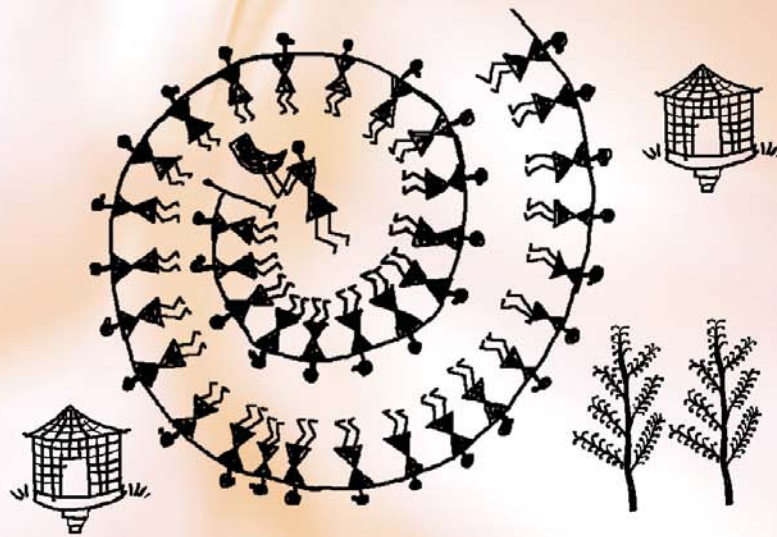


16th
ANNIVERSARY



Networking

Network convergence, broadband network transformation, and broadening of the base of private IP-VPN offerings are good news for the Indian networking equipment market in 2006

Brought to you by



Networking

Brought to you by



SMS VPN to 4545

www.sifycomm.in

16TH ANNIVERSARY SPECIAL

Networking: feature-rich and converging

The networking market has witnessed a leap because of the growing need for the convergence of voice, video and data in organisations.

Priya Jain reports



Last year saw the trend of feature-rich networking equipment. As the trend continues to rule the market in 2006, it brings with it the need for integrated networking equipment both in enterprises and SMBs in India.

Considering the convergence of voice, data and video services, and the rapid growth

in the network traffic, there is a growing requirement for routers and switches that are intelligent and dynamic with built-in resilience and security for seamless integration.

"2005-06 saw the entry of two major players, MTNL and BSNL, into the broadband market. BSNL launched its DataOne services and MTNL

launched its TriBand services...these will provide the necessary boost to broadband adoption. Though the market for other networking solutions has been growing at a steady pace, the convergence of voice, video and data on a single high-speed network is being perceived as the next big opportunity area for network-

ing solutions vendors," observes Prachi Kanekar, Senior Research Analyst, ICT Practice, Frost & Sullivan India.

Jimmy Goh, VP, Sales & Marketing, SMC Networks Asia Pacific says, "In fiscal 2004-2005 the market for enterprise and carrier networking equipment in India was a little over Rs 30,000

Brought to you by



SMS VPN to 4545

www.sifycomm.in

crore, registering a growth of above 40 percent. This is likely to continue in the year 2005-06 as well owing to greater technology adoption and a general willingness to extend the network reach.”

Meanwhile, Sanjay Jotshi, Director, Vertical Market Initiatives & Marketing, Nortel, believes that mobility, performance and security would be the key tenets in networking during 2005-06. In performance, triple-speed to desktop (10/100/1000) on wired and 54 Mbps on the wireless has become more available and standardised. He says that unprecedented security threats are forcing corporations to invest in new threat mitigation management solutions, while with widespread disasters, business continuity planning is taken more seriously than ever.

Adds Goh: “Owing to the demand for multiple services—both customised and on-demand—the latest routers and switches are able to handle all kinds of traffic besides being robust enough to tackle huge and sometimes sudden traffic growth. When it comes



In fiscal 2004-2005, the market for enterprise and carrier networking equipment in India was a little over Rs 30,000 crore, registering a growth of above 40 percent

Jimmy Goh
VP, SALES & MARKETING
SMC NETWORKS ASIA PACIFIC

munication channels and reduced tariff has resulted in increased demand for wired networks in the telecom and IT sectors. Mobility being the most important driver for the WLAN equipment market, the flexibility to access and communicate through the network in public places has



The market stood at Rs 360 crore last year. This includes both cables and cable accessories. It is expected to touch about Rs 400 crore in 2006

K K Shetty
COUNTRY MANAGER
AMP NETCONNECT TYCO ELECTRONICS

Goh agrees. “Growth in the networking solutions market primarily came from wireless networking equipment which registered an impressive rise of between 60-70 percent in 2004-05. To support their mobile workforce, corporates have been extending their networks wirelessly and deploying latest technologies like Wi-Fi as it turns out to be cost-effective and the deployment time is low. As a result, there has been a terrific growth in the number of hot-spot zones across the country, especially in the metros. This will soon be followed in category B & C class cities as well.”

He believes that a more positive capex environment is also fuelling overall growth in the router and switch market like network convergence, broadband network transformation, and broadening of the base of private IP-VPN offerings. A push for networking is also coming from verticals other than the usual BFSI and IT/BPO segment.

K Surendar, Country Manager, Dax Networks, remarks, “The telecom market is the biggest driver considering the huge infrastructure investment that is happening here. This vertical shall continue to grow thanks to the increase in FDI. Apart from telecom, the growth in education, government and BFSI have been encouraging. In 2006-07, we think the retail market shall boom, calling for huge investments in infrastructure projects. Applications such as e-governance, e-services through mobiles, e-medicine and e-learning have also contributed heavily to growth.”

Notes Ranajoy Punja, VP, Marketing, Cisco Systems India & SAARC, “The net-



The telecom market is the biggest driver considering the huge infrastructure investment that is happening here. This vertical shall continue to grow thanks to the increase in FDI

K Surendar
COUNTRY MANGER
DAX NETWORKS

working industry has been witnessing buoyant growth for the last few years with enterprises, businesses and the government moving from the why & how of networking to investing in high-end networking solutions and services. This awareness transcends size, with even small and medium businesses looking at networking and communication as a strategic business investment. Telecom, BPO, BFSI, manufacturing and education were the verticals that drove adoption.”

Trends in switching

Switches continued to maintain the edge they had in speed (over routers) while gaining features. The trend has been to have gigabyte switches both managed and unmanaged. Jotshi says, “Switching is moving to integrated solutions architecture with wire-speed firewall, IPS and identity-based networking services. Network admission control and end-point security is going to become mandatory in most of the networks.”

Punja agrees that switches are fast becoming mean machines, with gigabit switches being the buzzword. These switches, with their ability to handle high bandwidth, are selling very rapidly, and the adoption of 10 Gbps is also picking up.

Surendar comments that service providers’ plans for broadband and the creation of metro Ethernet networks will drive the growth of gigabit switches. These switches are being increasingly deployed in campus networks, on desk, and 10G is being used for the backbone. Moreover, Layer 3 switches are being more preferred in metropolitan

Considering the convergence of voice, data and video services, and the rapid growth in network traffic, there is a growing requirement for routers and switches that are intelligent and dynamic with built-in resilience and security for seamless integration

to scalability, routers and switches have enough room for capacity expansion and upgrades without new, pocket-pinching capital expenditure. Taking a cue from the security threats, buyers are going in for routers and switches with reliable attack-hacking protection solutions.”

Port density has traditionally been a key evaluating factor for platforms. However, with the wide variety of applications that are possible on today’s networks, the importance of revenue per port has also emerged as a crucial criterion. Per-port revenue is related to the range of value-added services that can be offered to enterprise customers.

Telecom biggest driver

According to Frost & Sullivan, increase in bandwidth leading to clear com-

resulted in greater adoption of WLAN.

“While the number of telephone connections continues to rise, with 50 percent of the connections being mobile, the growth of wired Internet access is still slow. The value of the Indian WLAN equipment market in 2005 was \$8.25 million, growing at approximately 20 percent. The enterprise market constituted about 83 percent of the total market, while the home segment constituted the remaining 17 percent,” analyses Kanekar.

Enhanced security features, falling prices of laptop and broadband connectivity have provided further impetus to growth. Among the various standards, the dual frequency 802.11g standard has contributed largely to revenues in the WLAN market in 2005.

Brought to you by



SMS VPN to 4545

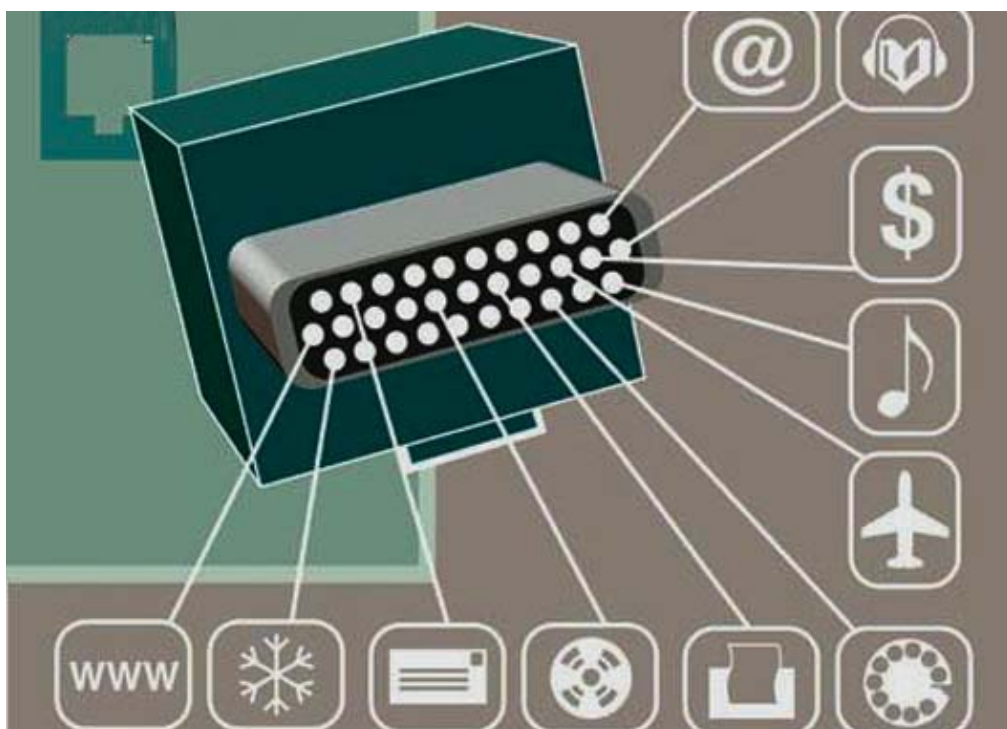
www.sifycomm.in

area networks.

Take for instance Nortel's offering in the switches segment. It has terabit switch clustering architecture for new generation multimedia LAN networks. In identity-based networking, network admission control and client's end-point security are the key tenets in Nortel's architecture. Multi-terabit firewall, IDS and identity management are integrated to the core-switching portfolio.

Trends in routing

Surendar predicts that "Specific categories like routers shall register a growth of 25-35 percent in 2006. Router technology is highly matured, so it is driving enterprise customers to take the managed services route offered by service providers. Additionally, Mission Critical Router Parameters (MCRP) is gaining importance in the router market. The four MCRPs are security, reliability, inter-operability and fail-safe." MCRP-enabled routers are emerging as the new standard for routers.



that were earlier available only in high-end routers will now be seen even in entry-level models. (E.g. features such as VPN and encryption that were available only in high-end routers are today

Integrated Service Routers (ISR) with features such as VPN, security and wireless capability. The new Cisco ISR 1800, 2800 and 3800 series is aimed at SMBs looking for routers that have the capabili-

MPLS has become popular because it caters to Indian enterprises' wish-list which includes higher speed, security, acceptable cost and being able to use their networks effectively;



Switching is moving to integrated solutions architecture with wire-speed firewall, IPS and identity-based networking services. Network admission control and end-point security are going to become mandatory

Sanjay Jotshi
DIRECTOR
VERTICAL MARKET INITIATIVES & MARKETING
NORTEL



Earlier we used to talk about the differentiators in products that would deliver 10 G on copper. Today we have the second and third generation of patch panels to eliminate alien cross-talk with zigzag placement of connectors

Nagendra D S
SALES DIRECTOR
ENTERPRISE NETWORKS
ADC KRONE INDIA & SAARC



The networking industry has been witnessing buoyant growth, with enterprises, businesses and the government moving from the why & how of networking to investing in high-end networking solutions and services

Ranajoy Punja
VP
MARKETING
CISCO SYSTEMS INDIA & SAARC



The market has seen strong growth in 2005-06, with MPLS VPN getting established as the first preference for corporates. They are now exploiting the broadband capabilities of the network and using them for voice and video apart from data

Rahul Swarup
PRESIDENT
ENTERPRISE SOLUTIONS
SIFY

He adds that border gateway protocol-enabled routers for multi-homing solutions are gaining popularity with users opting for more than one service provider for their bandwidth requirements. Moreover, VPNs, firewalls and load-balancing features

available in entry-level routers.) ISPs and telecom vendors are looking to make data services their major revenue stream. With the boom in the Indian telecom space, carrier-class routers with the capability to handle and route data in terabits are going to be piloted and deployed.

The market is also moving towards integrated devices with built-in multiple capabilities. Security is a big focus area, and this is evident from the new products being introduced by all vendors. For instance, Cisco introduced its

ty to offer security, voice and wireless in a single box.

MPLS going strong

When it comes to enterprise connectivity, MPLS (Multiprotocol Label Switching) VPN is the clear winner. Rahul Swarup, President, Enterprise Solutions, Sify, believes that the market has seen strong growth in 2005-06, with MPLS VPN getting established as the first preference for corporates. They are now exploiting the broadband capabilities of the network and using them for voice and video apart from data.

it allows for enhancement of the existing network along with added features.

The initial goal of MPLS is to bring the speed of layer 2 switching to layer 3-based switching methods by allowing routers to make forwarding decisions based on the contents of a simple label. Using an MPLS VPN, service providers can create IP tunnels throughout their network. Its ability to meet the ever-increasing need for security, bandwidth, last-mile connectivity, uptime, reliability and lower cost have made MPLS popular with India Inc. ▶

Size of the market

According to IDC's LAN Tracker Q3-CY05, the LAN market in India is valued at \$126.2 million. The router market grew at a steady pace of 10 percent (over Q2 CY05) reaching \$50.31 million; this is poised for further growth on account of the growing communications market. The enterprise switch market totalled \$75.89 million.

Brought to you by



SMS VPN to 4545

www.sifycomm.in

N E T W O R K I N G

16TH ANNIVERSARY SPECIAL

► Cabling also growing

Though wireless is the talk of the town, the cabling industry also saw robust growth; though wireless connectivity is accepted in the country, wired connectivity continues to grow.

Says K K Shetty, Country Manager, AMP Netconnect, Tyco Electronics, "The market stood at Rs 360 crore last year. This includes both cables and cable accessories. It is expected to touch about 400 crore in 2006."

Nagendra D S, Sales Director, Enterprise Networks, ADC Krone India & SAARC feels that 10G Over Copper came as an answer and solution to many IT managers' questions and problems. Cat 6 became a *de facto* standard in medium-to-large enterprises. Cat 5e was limited to SOHO and very small enterprises. Campus networks increased; here, fibre backbone was the most preferred solution with Single Mode being the media to connect various buildings across the campus. OM3 fibre was the preferred choice for the vertical fibre backbone in multi-storied buildings.

Though Category 7 cabling has advantages, it could not make any major impact in the Indian market. India being a predominant UTP territory, Category 7 cabling, which is a shielded solution, could not gain acceptance because of installation difficulties. Another problem was the backward compatibility issue. Unlike Cat 7, category 6A cabling is easy to adopt as it can support 10 G Ethernet for a full channel distance. Introduction of a UTP cabling solution that can support 10 G Ethernet will further slow down Category 7 adoption.

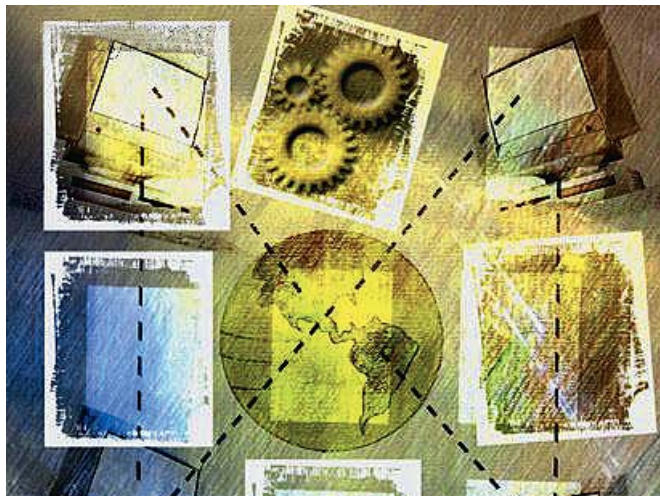
Comments Shetty, "In the structured cabling realm, the year saw transition from enhanced Cat 5 to Cat 6 systems, the emergence of intelligent cabling systems, and new products such as MPOs and MRJ21 factory terminated connectors and cassettes that expedite installations. The launch of copper cabling systems that support 10 G speeds on UTP also became part of the new trend."

According to Nagendra, the launch of Power Over

Ethernet saw several implementations in many enterprises, with IP being the platform. He says that fibre installations have also been on the rise, with defence establishments taking the lead. "Earlier we used to talk about the differentiators in products that would deliver 10 G on copper. Today we have the second and third generation of patch panels to eliminate alien cross-talk with zigzag placement of connectors. They have patch cords with boots and a latch to protect the RJ-45 plugs."

More of wireless

As predicted by IDC, the wireless market is all set to boom this year. "Over the last seven years WLANs have gained popularity in a number of verticals including health-care, retail, manufacturing, warehousing and academia. With wireless thriving, security will emerge as a topical issue. For its part, Juniper is geared to equip the customer to face the challenges that will



arise in the space," declares Giridhar Java, Juniper's Country Manager for India and SAARC.

From a technology point of view, newer frequency bands have been opened up in the 802.11 standard, says Punja. Currently, 802.11 a, b, and g are widely used by enterprises. In future, WLAN technologies will see the emergence of 802.11n that will give throughput of 108 Mbps, and 802.11e and 802.11r that offer enhanced security features.

Comments Kanekar, "The trend of integrating WLANs with wired network architecture will continue to gain

According to Frost & Sullivan, increase in bandwidth leading to clear communication channels and reduced tariff has resulted in increased demand for wired networks in the telecom and IT sectors

importance. The sale of 802.11b equipment for WLAN is decreasing. 802.11g have replaced about 80-90 percent of 802.11b. Some companies have stopped selling 802.11b equipment and are largely promoting 802.11g equipment. The market has witnessed a significant fall in the sale of NICs. Customers prefer to buy laptops with built-in NIC, and the availability of Intel's Centrino-based laptops has definitely affected the NIC market."

see greater acceptance and demand from the SOHO/home segment as the technology becomes more affordable. This will be fuelled by the proliferation of laptops and other wireless handheld devices, coupled with the drop in equipment prices. Swarup feels that wireless would expand aggressively into smaller centres due to reduced prices and acceptability among customers.

CIO concerns

With increased business activities carried over the Web and enterprises demanding more bandwidth, a network is no longer just a point-to-point connection; instead, it seeks efficiency while communicating with a wide audience through routers, switches, cables etc. Having a reliable network monitoring solution for networks built with many intermediary products is one of the concerns of many CIOs. Despite the availability of good monitoring solutions, the availability of the necessary expertise to deploy, maintain and upgrade the same is a challenge. States Goh, "One of the first and foremost concerns of any CIO should be to future-proof his network. Buying decisions should be made after due deliberations."

Java has the last word. "Enterprise CIOs are now looking for network capabilities that rival those of carriers to meet the demands of the new enterprise workforce (or carrier class networking for the enterprise). These capabilities also include the requirement for WANs to perform at speeds close to or matching LANs in a distributed manner, thus the demand growth in application and WAN acceleration. A mobile workforce also needs flexibility in choice of access method—from home or hotel-based SSL VPNs to Wi-Fi hotspots and Web cafes—without compromising on security." ■

Jotshi is of the view that "With the wireless spectrum for 2.4 GHz and 5 GHz eased, we see a quantum jump in wireless deployment. Identity management, security, multi-tier mobility, location management and QoS are key features for a wireless solution."

The increasing acceptance of wireless also arises from the need for mobility. Informs Punja, "From a market point of view, the definition of mobile workers is growing by the day to include not just sales professionals but also shop-floor supervisors and even doctors in hospitals. WLAN applications are finding acceptance as a networking technology to complement existing wireline LANs in corporate houses and education institutions, as well as for specialised deployment in retail, manufacturing, banking and government organisations."

The year ahead will also

priya@expresscomputeronline.com

Networking solutions market: key growth areas

- IP telephony
- Multi-service WAN networks for defence and service providers
- 1 G / 10 G secure LAN switching
- MPLS and Carrier Ethernet solutions