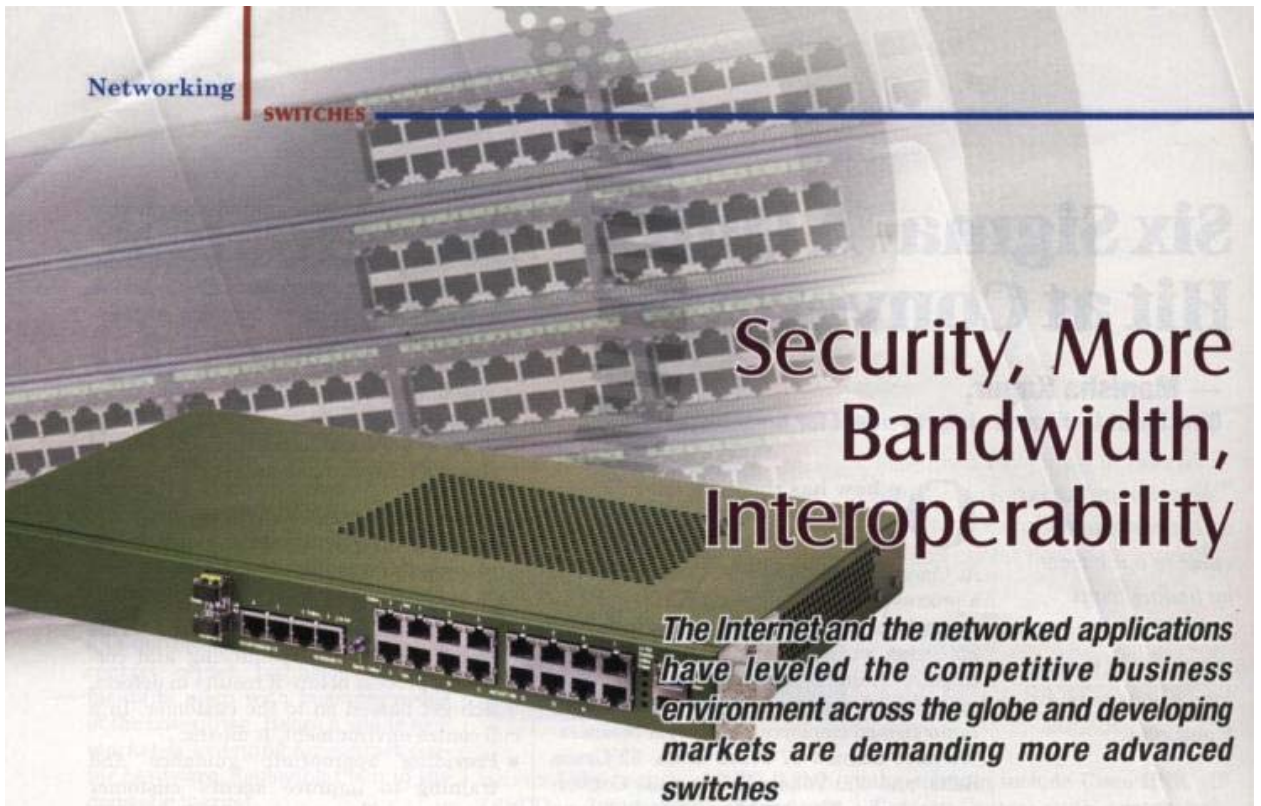


Networking

SWITCHES



Security, More Bandwidth, Interoperability

The Internet and the networked applications have leveled the competitive business environment across the globe and developing markets are demanding more advanced switches

The estimated size of the Indian switches market was Rs 2,280 crore during 2007-08. The market grew at a CAGR of 20 percent from Rs 1,900 crore during 2006-07.

Switches have allowed telecommunications to meet the demands of both residential and business customers. The world of business needs to be able to transmit and receive information in order to keep itself competitive in today's world. The networking within companies continues to change and advance technologically, as the demands are going to continue on the telecommunications world. With this in mind, a company would want to have a switch in place that can grow and change, both easily and inexpensively, with the demands of the market.

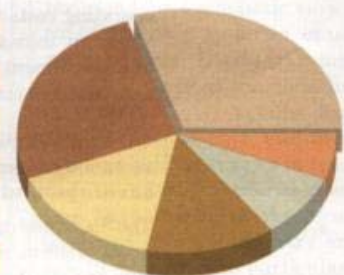
CURRENT SCENARIO

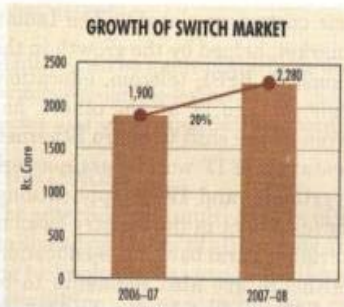
The Indian switches market is growing

due to the IT demand from businesses and as the businesses adopt more advanced IT networks, the market is maturing along with the change in the structure and efficiency of networks. The technology has developed into integrated solutions architecture with major concerns on wire-speed firewall, IPS, and identity-based networking services. The demand for high performance networks increases with the convergence of voice, video, and applications, which is drawing huge investments. The high PC penetration across sectors such as infrastructure, manufacturing, and BFSI among others is adding fuel to the switches market. The management of energy of equipment in the industrial sector

SEGMENTS' CONTRIBUTION TO OVERALL MARKET
Total Rs. 2,280 crore

Verticals	Revenue (Rs. Cr.)	Share (%)
Education	684.00	30
Government	592.80	26
SMB / Corporate	364.80	16
Telcom	296.40	13
BFSI	205.2	9
Others	136.8	6





would leverage growth in the market. With network convergence, increased bandwidth, and increased knowledge of security, the market has grown with LANs becoming more intelligent. Gigabit Ethernet and Layer 3 switches will also be the future of the switch market.

MARKET DYNAMICS

The estimated size of the Indian switches market was Rs 2,280 crore during 2007-08. The market grew at a CAGR of 20 percent from Rs 1,900 crore during 2006-07.

Cisco was clearly a leader with more than 70 percent of the market share. The other major players in the market included D-Link, Nortel, 3Com, Dax Networks, HP ProCurve, LinkQuest, and MRO-Tek among others.

When the market's demand was segmented, the contribution of government was 26 percent with Rs 6.86 crore, SMB/Corporate added 16 percent with Rs 4.22 crore, telecom added 3.43 percent with Rs 13 crore, education contributed 30 percent with Rs 7.92 crore, BFSI added 9 percent with Rs 2.38 crore and the remaining sectors consisted of 6 percent with Rs 1.58 crore.

NEW TRENDS

The new trends that have been catching up in this segment are IPV6-enabled switches, 'Green' networks, adoption of 10Gig in the network, datacenter consolidation, collaboration of certain applications, video, network intelligence and optimization for Web 2.0 and Layer 3 switches. Another aspect of the segment like Power over Ethernet will also get a boost as increasing number of companies try to reduce their carbon emission. The

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Subhodeep Bhattacharya

Country Manager, India & South Asia, HP ProCurve

On current market scenario

The Indian market is very vibrant and we see a lot of growth coming from both the enterprise and mid markets. The government, manufacturing, education, media, hospitality, and IT are verticals where we have a strong focus. The SMBs, or specifically the mid markets, are also a target area for us.

On key growth drivers

The Indian switch market has become a de-

veloped market with wide adoption of world-class IT networks across verticals. Adoption of metro Ethernet has played a crucial role in the growth. Switch makers have also made strong entry into sectors like manufacturing, while the government is emerging as one of the biggest spenders as is the banking sector, which has seen huge intake of switches. And a huge share of revenue has started coming from the SME segment.

On new technological trends

New technologies are entering into the switch market and also dominating the market trends. The key technology additions have been blades, which now form a part of the switching technology on security, IPS, IDS, wide area application systems, and on application oriented networking. Some latest additions are metro Ethernet switches, 10G, more security related features, quad gigabit switch, that enables the carrier Ethernet to connect over a WAN, Giga to desk, unified switches, unified communications, and IP.

On challenges faced

Basically, it's the SMB group that drives the market. They are sensitive to the price factor rather than the technological aspects of the product. The silver lining is that SMB wants quality products at an affordable price. Being the leading player in the market and being-considered as the network of choice, we do not compromise on quality. Since the SMB market doesn't want to have high cost of ownership, we provide lifetime warranty to our customers. In this way, the customers always get lowest cost of ownership. ●

The progressive trend in the networks of the companies has also been fueled by the increased adoption of collaborative technology, unified communications, data centers, and security solutions in India.

additions to the industry have been blades, forming a part of the technology on security, IDS, IPS, and on application-oriented networking. The industry's trend has also started moving toward virtualization. More security related features, quad gigabit switch that enable the carrier Ethernet are being used to connect over the WAN, Giga to desk, unified switches, unified communications, and lastly the IP.

GROWTH DRIVERS

The Internet and the networked applications have leveled the competitive business environment across the globe and developing markets are demanding more advanced technologies. The companies on their way to attain global standards use their networks to expand their reach and communicate

with their customers globally. The Indian switch market, helped by the growth in the sectors such as BFSI, telecom, education, retail, defense, and IT among others, has been driven by the shift to metro Ethernet, implementation of IT world class network across verticals, and IPTV applications. As the development in the country looks to the hinterlands, rural banking, e-education, and healthcare are also segments to be mentioned. The progressive trend in the networks of the companies has also been fueled by the increased adoption of collaborative technology, unified communications, data centers, and security solutions in India. The ever-evolving networks have intensified the shift to advanced platforms like the Web 2.0, which could bring about innovations with the strengthening of triple play namely data,



“Energy Management of Equipment”

— S Narayanan

Chairman and Managing Director,
MRO-TEK

There has been a steady growth of this market in India in the first-half of the financial year, across sectors like infrastructure, manufacturing, BFSI, and telecom. High PC penetration across all segments and convergence applications are making customers go in for high-performance networks.

On key growth drivers

On the enterprise front, the market is booming with the expansion of IT, ITeS and BPO segments. Customers are expecting high-performance and more secure networks.

On the carrier front, metro Ethernet and IPTV deployments are fueling the growth of switches market. New data centers and increase in demand for bandwidth-intensive applications are leveraging the growth of this market.

Due to falling bandwidth costs, application service providers enable enterprise and end users to access business and critical resources through the internet. Diverse expertise of application services calls for and promotes

strategic alliances, fuelling data center market size. As a result, India is witnessing highest growth in the data center segment.

On new technological trends

The new technological trends are –

- Green' networks, adoption of 10Gig in the network
- IPv6 enabled switches, and
- Server consolidation and virtualization

On 2008-09 projects

Projects to be executed are in sectors like, animation studios, infrastructure, BFSI and telecom.

On challenges faced

Some of the challenges are:

- Adoption of PBB/TE or MPLS.
- Capacity growth at the edges, forcing vendors to switch/route faster and better.
- Adoption of equipment for IPv6 and interoperability with existing products.
- Quality of experience for IMS applications (with transport model or packet switched model or both for IPTV).
- Lack of performance in delivering multi-megabit streams for data, voice, and video (interactive video to follow).
- Non-standard compliance and lesser number of application service providers, and multi-media content providers. ●

On market size and your company's share

The estimated size of Indian switches market is around Rs 4,000 crore. Our market share is less than 1 percent.

On current market scenario

The global market size for Ethernet products is around USD 3 billion (Rs. 13500 crore). Economic trends and environmental factors are influencing the new breed of networking equipment. Energy management of equipment in the industrial sector will fuel additional growth in 2008. 10G

Ethernet is currently seen as an alternative to infiniband and fiber channel in data centers and this new demand for bandwidth piping is expected to surpass one million or more ports by 2009.

voice, and video.

Mention can be made of the huge demand of switches from the government, the banking sector and lastly the SMB segment

CHALLENGES

The search for the multi-system of switches for the adaptability of all the new and existing technologies has expanded the space for networking. As new technology develops, there have to be enough infrastructure and standardized system to sustain the new trends and applications. PSUs, SMBs, educational institutions, and big companies have to optimize their network switching in order to reduce their expenditure. Capacity growth in the traffic of signals, quality of experience for IMS applications, shift to PBB/TE or MPLS, delivering multi-megabit streams for data, voice, and video, and non-standard compliance and scarce application service providers and multi-media content providers, adopting equipments for IPv6, and interoperability with existing products are some of the technological constraints, which the market has to face. The industry is constantly on the lookout for more manageable solutions as IT administrators seek to reduce cost and complexity of network switches and also more network switch capacity to support bandwidth-hungry applications.

MAJOR CONTRACTS

Some of the deals awarded during 2007-08 included MRO-Tek's contracts from L&T for a SEZ project, from Elecon for LAN upgradation project, and lastly from T A Pai Institute of Management for a new college campus. Dax Networks had also many contracts during 2007-08 namely a contract in Mumbai from the University of Mumbai, a project in Kolkata from Eastern Railways, a Gujarat Electricity Board's project in Ahmedabad, a deal from Punjab School Education Board and another LAN contract from Punjab Police in Chandigarh, a campus LAN project from Bannari Amman Institute of Technology in Erode, Campus LAN for Kerala University, LAN connectivity of 4,300 kiosks from SREI Infrastructure Finance Ltd In Kolkata, LAN for 120 branches of Central Bank of India in Kolkata, and lastly branch networking for Vijaya Bank

in Karnataka. The networking company also had a contract for a major chassis switches order for the BSNL and STM1 Project.

NEW ADDITIONS

As the technology advanced, 2007-08 saw new trends in the switches market. Dax Networks' new SMB offering of NI solutions included core NI solutions, structured cabling NI solutions, voice NI solutions, convergence NI solutions, and data acquisition & device management solutions. These new models promise to help ADSPs to proactively address potential SMB customers to overcome challenges. Juniper Networks has also launched its EX 3200, 4200 and 8200 series which offer all the features expected from carrier switches and all of these run on the company's JUNOS operating system software, which makes the switches easier to manage. Another significant addition can be said of Cisco Nexus series. The Cisco Nexus 7000 series is a highly scalable modular platform delivering up to 15 terabits per second in capacity in a single chassis, which can support up to 512 10-gigabits-per-second Ethernet and future delivery of 40- and 100-Gbps Ethernet. Data centers would have improved airflow, integrated cable management, and resilient platform architecture from the use of Nexus 7000 series.

FUTURE

The networks in our country are moving on to a paradigm shift to address the increase in desktop computing power, introduction of bandwidth-intensive applications, growth of sensitive data, and lastly presence of equipment that have been invented with the convergence of voice, data, and video. As increasing number of companies make efforts to expand and increase their customer base, there will be significant effort on the part of the companies to ensure high availability, security, scalability, and control of the network. Switches will have to implement intelligent services into their networks. The networks have to address the need of time-critical issues, security, and capability to manage traffic flows. These are some of the critical and innovative ways in which the industry should move to bank on efficient network operations.

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