



Routing Intelligence

ROUTERS

Routers today have matured to become an integrated device. Intelligence has now permeated inside the network and the router is now an intelligent device.

Current Scenario

Increasing network adoption in verticals like banking, financial services, and insurance (BFSI) and service providers have fuelled the router market in India. All these segments require extensive data traffic to be handled on a day-to-day basis. Being an indispensable component of computer networks, enterprises use routers to enable efficient data traffic management and benefit in the form of better business results.

Adapting to the new needs of an organization, routers today have matured to become an integrated device. Today, vendors are introducing routers that have the capability to integrate key features such as content processing, VPNs, firewalls, and load balancing. Wireless capabilities are also popular, replacing the need for separate wireless access

points for small office networks. For example, Cisco's range of Integrated Services Routers (ISR) offers secure concurrent services, including secure IEEE 802.11 wireless LAN capabilities services as a single resilient system. Prem Nithin, Sr. Technical Consultant, Cisco, India & SAARC says, "Historically, adding a new application, such as wireless networking, IP voice, or IP video with end-to-end security, has meant adding more devices—and more costs and complexity—to the network hence vendors are expected to come out with integrated services routers combine data, security, wireless networking, and voice and video services into a single, resilient platform that delivers secure, concurrent applications as fast as business can operate. With an integrated network system, customers can reduce costs, improve operational efficiency, safeguard in-

formation assets, and respond more rapidly to their customers".

The demand for global communications is driving the demand for enterprise routers that includes management routing and security features. End users demand products with high throughput along with features such as multicasting, multi protocol label switching (MPLS), Internet protocol version 6 (IPv6) compatibility, and access security. Manufacturers are striving towards bringing down the customers' total cost of ownership (TCO), and emphasize on providing enhanced product reliability and better their service strategies.

Market Dynamics*

The Indian router market was at Rs.

**based on independent ADI MEDIA RESEARCH*

1860 crore in 2008–09. The market is expected to cross the Rs. 2000 crore elusive barrier in 2009–10. Cisco continued to dominate the market with over 75 percent market share. Juniper seemed to offer some resistance and was in second place and was consequently followed by Dax at third place. The Huawei-3Com alliance and D-Link too made their presence felt. Other major players included Netgear, MRO-Tek, Nortel, Multitech, One Network, Maipu, and Zyxel.

Growth Drivers

Global router market is projected to reach USD15.9 billion (Rs. 79,500 crore) by 2015. The number of subscribers using broadband in their homes continues to increase and carriers are aggressively marketing services that require more bandwidth per subscriber. Factors such as increased penetration of wireless last mile providers for IP VPN at class B and class C cities and increased ERP implementation in SMB markets are driving growth in the market for routers.

Sudha Jagadish, Chief Operating Officer, Dax Networks says, "The increasing data usage in mobile networks—particularly the third-generation ones—as well as the growing acceptance of fiber to the home (FTTH) and fiber to the curb (FTTC) and other options of optical connectivity has opened new avenues for the router market". Also, many telecom service providers are building out large networks to increase their capacity to support residential triple-play services (voice, video, and data), that has necessitated the use of routers and switches to handle voice, video and data streams in massive volumes. The Indian government's initiative on e-governance is likely to drive the demand for routers, especially the IPv6 and IP4 ones.

Market and Technological Trends

Globally and in India, the market is moving toward 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. Additionally, given the boom in the Indian telecom space, carrier class routers with the capability to handle and route data in terabits will be piloted and deployed. With large telecom players attempting to differentiate themselves, gigabit and terabit routers are expected to gain popularity among Indian customers. In the last year, many telecom majors expanded their backbone network with core routers. Also with their broadband initiatives underway, vendors are offering a new category of 'broadband routers' to service providers. Wireless

Ethernet based services undoubtedly will hold up better than most other **communications services** during the **global recession** due to their performance-price advantages compared to legacy solutions.

capabilities are also popular, replacing the need for separate wireless access points for small office networks

IPv6 enabled routers, access control by integrating the router with dedicated antivirus, IDS, IPS devices, bandwidth bundling/load balancing with multiple internet links are some of the recent trends in technology.

Subashini Prabhakar, Chief Technology Manager, Dax Networks adds, "IPVPN over last mile wireless links, perimeter security routers, and increased performance on existing platforms are some of the major market trends in India".

Challenges

With new network services pushed even further out of routers and being offered over application layer

overlays between end-systems and continuing growth in traffic, mobile internet, e-commerce, content and multi media service poses significant challenges for the development of next generation networks. To fulfil future communication network requirements, predominantly driven by the growth of new and emerging services, next generation communication infrastructures rely on advances in component, module and system level complemented by innovative network architecture solutions and protocols.

Router manufacturers in Indian market need to make sure that they are growing with the technology and at the same time their products are cost effective as the India market is very cost conscious without compromising on the technology. **Anuradha S.**

Makhija, Managing Director, One Network India Pvt. Ltd. says, "The challenges currently are to the Tier 2 partners, as the Tier 1 partners or system integrators are focusing on turn-key projects and hardly keeping any scope for smaller players. Being competitive and providing best services is getting difficult day by day".

The Road Ahead

The global router market is all geared up for unprecedented growth, characterized by innovation and competition. The near future would be marked by carrier ethernet, escalating bandwidth use and growing subscriber base, besides upgrades and replacements. Service providers are likely to steer future growth, as in the past, providing huge opportunity for the global router market, as routers comprise an essential part of the next-generation networks. Ethernet based services undoubtedly will hold up better than most other communications services during the global recession due to their performance-price advantages compared to legacy solutions, but ethernet services growth rates will be more modest, and that will translate into some delayed sales of carrier ethernet platforms. ■