Network Computing
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Structured Cabling Market Rides on Data Center Wave

As the data center jungle grows in India, structured cabling continues to be a vital link connecting the components of IT infrastructure

By Harshal Kallyanpur **More from this author**

IT infrastructure connectivity has come a long way from wired copper lines and fiber lines to wireless technologies such as Wi-Fi, WiMax etc. However, despite the advent of these wireless technologies, cabling, especially structured cabling, continues to be the backbone of IT infrastructure.

THE RISE OF STRUCTURED CABLING

Structured cabling in India was initially aimed at bringing order to the chaos of connecting the various components of an organization's network of IT. However, the past few years have seen a substantial increase in the data demands in organizations across India. As the country became a hub of services for global organizations, it became imperative to have the required infrastructure in place, to support these services.

Debraj Dam, Business Head, DIGILINK Structured Cabling System, says that the Indian Structured Cabling market accounts for 20 percent of Indian IT spending. The rise in demand for structured cabling systems can be attributed to the need for networks to match the number-crunching capacities offered by current processors.

Additionally, the increase in data has seen organizations go beyond traditional server storage technologies to adopt dedicated storage, as a part of the network, with Network Attached Storage (NAS) and Storage Area Networks (SANs). With the real-time need to store data and access stored data, the connectivity has to be fast and efficient.

"IT managers have started taking cabling infrastructure a lot more seriously. They have recognized that the speed and performance of the network is as much an element of the passive infrastructure as it is the active," says Dileep Kumar, Director – Product Management, ADC KRONE.

MONEY MATTERS

The current economic situation has been forcing organizations to cut down costs on all fronts including IT spends. Organizations are now shifting to intelligent cabling solutions to reduce costs while ensuring that performance is not affected.

Dam of DIGILINK explains the need for intelligent cabling solutions. “Today, organizations are focusing on Intelligent Cabling solutions from both the software and hardware point of view to reduce the Capital Expenditure (CAPEX), Operational Expenditure (OPEX) and Total Cost of Operation (TCO). These solutions can help companies to efficiently plan, manage, provision and maintain their network and its components. It can also provide asset management and faster troubleshooting to reduce downtime.”

However, the cost of a structured cabling solution in itself is not very high. Subashini Prabhakar, Chief Technology Manager, Dax Networks, informs that the fluctuating global copper prices have not had a significant effect on the pricing structure. Since cabling is a part of the entire IT infrastructure spend, such price differences do not have any major impact on the adoption of structured cabling solutions.

Dam also mirrors this point of view. He says, “For a given pie, out of Rs 100 spent on the network, the maximum amount spent on a Structured Cabling System (SCS) component is Rs 8 and Rs 5 on good quality installation and certification. If one spends this Rs 13 correctly, he may not need any maintenance over the life of cabling plant.”

“However, Rs 3 per annum can still be a good estimation for preventive maintenance and upgrades. Coming to the relative costs of various media available, essentially it is driven purely by the speed/bandwidth requirements. The variance is not as considerable as compared to total networking budgets.”

STRUCTURED CABLING: GO GREEN

Organizations have become increasingly aware of the ill-effects of excessive energy consumption and resource wastage. To avoid this, they are looking at technologies which promise to optimize resource utilization while reducing costs and energy consumption.

With virtualization, they have managed to reduce the number of resources required at the server and client end. The obvious next step is to make their networks efficient. This has been achieved to some extent with intelligent switches, routers and gateways. Deploying faster but energy-efficient cabling systems is the solution.

“While the initial spend on SCS solutions is lower, it must be kept in mind that re-installation costs are very high and at times difficult. While the active components of the network and network software go obsolete in typically 15 to 18 months, the product life-cycle for any SCS product or technology is always six years and above. Hence, going green, deploying RoHS compliant products and energy efficient technologies such as POE are the right choices,” informs Dam.

NEXT GENERATION CABLING

Prabhakar of Dax has a different take on the adoption of virtualization and green technologies. She says, “With emerging trends such as server virtualization, Go Green, data center consolidation and WAN optimization, the demand for high bandwidth applications increases, though the cabling infrastructure may be minimized. As a result, the need for fiber and 10G cabling has gained momentum.”

Though initially 10G was targeted only for backbone connectivity, it is slowly finding acceptance among data centers and for enterprise-wide connectivity needs. Vendors state that 10G is increasingly becoming a major requirement across enterprises, disaster recovery centers, R&D institutes, server farms and in data centers. The current CAT 6 cables are not equipped to provide or handle these speeds and they see a major shift from these cabling solutions to the next-generation CAT 6A and fiber channel cabling solutions.

While the current cabling market is shifting to CAT 6A with copper on both UTP and STP versions, the 10G cabling market, driven by fiber channel adoption, is moving towards single mode fiber with 'Zero Water Peak' to support 10G and WDM. However, Dam of DIGILINK, says, "Though network appliances which support 10G systems are demanding 10G ready infrastructure, due to actual usage, 10G infrastructure will be a distant dream for at least the cost-conscious customer."

WIRED OR UNWIRED

Another technology which can affect the structured cabling market is wireless technology, since it can easily provision or de-provision network resources depending upon requirements. Since this eliminates the use of cables, it means lesser CAPEX spend and lesser cables to throw away at the end of life. However, vendors believe that such technologies can only reduce, but not replace cable use completely.

"Within a campus, there will be certain regions where wireless technologies are present, like Wi-Fi hotspots in conference rooms. For horizontal and backbone cabling, copper will remain dominant, though in recent times, optical fiber has been used for backbone cabling since fiber prices have been dropping. Optical fiber is thinner and provides better cable management, besides other benefits," informs Kumar of ADC KRONE.

Prabhakar also believes that wired technologies will continue to be a part of networks across organizations. She says, "The impact of wireless technologies is less in the structured cabling market. Customers are very cautious about data and network security, and prefer wired networks with structured cabling connectivity. Also, the bandwidth and the performances are not stable in wireless networks."

Dam says that structured cabling and wireless connectivity are complementary technologies. Though there will be locations and situations where wireless is preferred over wired cables and vice-versa, connecting a wireless router still requires a copper cable.

ROAD AHEAD

While wireless technologies may be replacing cables in some areas, they cannot phase out the former completely. With data centers and high bandwidth applications on the rise, there will be a need for high-performance cables and for structured cabling to manage the cable clutter. Copper will continue to find acceptance with CAT6 and CAT 6A, while fiber channel will see steady adoption.