

The Indian retail space, currently valued at \$270 billion according to market estimates, is an attractive proposition for both global and local retailers. This is evident from the fact that global retail majors such as Marks & Spencer and Carrefour SA, as well as domestic companies like the Gitanjali Group and Mahindra Retail have elaborate expansion plans, or intend to make a foray into this space.

According to the BMI India Retail report for the third quarter of 2011, total retail sales in the country will grow from \$395.96 billion in 2011 to \$785.12 billion by 2015.

To tap the potential business opportunities this sector offers, retail companies have been pulling out all the stops. Establishing a secure, reliable and efficient telecommunications network has been a high priority. There has been a marked emphasis on technology and IT deployments since real-time remote communication is key for most companies in this segment.

The emphasis on a robust communications infrastructure is highlighted by the data released by the Retailers Association of India (RAI). According to RAI, the organised Indian retail sector has invested close to Rs 24 billion in retail technology service solutions in the current financial year. This is expected to go up to Rs 60 billion in the next four to five years, at a compound annual growth rate of 40 per cent.

Today, several mediums of connectivity such as MPLS and VOIP are being used. An MPLS-based infrastructure enables companies to develop a highly available network by providing dual points of presence in various cities, differentiated quality of service for voice and data traffic, and bandwidth-on-demand.

For voice services, VOIP offers players a cost-effective and flexible medium of communication. The circuits on an internet protocol (IP) network can carry greater traffic than circuits on a time division multiplexing (TDM) network, and it costs significantly lesser to deliver calls over an IP network than over a TDM-based system.

Mobile handsets and personal digital assistants are also being used extensively. These mediums enhance efficiency and streamline the flow of information from the field to the head office. Also, the proliferation of the internet has made information on products and services readily available to customers and suppliers.

Most retail companies have data centres in place, which typically perform functions such as server uptime, archiving of data recovery and power back-up as well as operations and end-user support. In fact, a few players also utilise this medium to archive data on a weekly or monthly basis.

Retail chains are also increasingly using the enterprise portal tool to ensure transparency and simplify business transactions. For instance, a portal for suppliers can extend a self-service facility where the supplier can access the details of order schedules, payment status and stock position.

Several other enterprise applications like radio frequency identification (RFID) are also witnessing growing uptake. RFID allows companies to track goods efficiently throughout the supply chain. Similarly, business intelligence tools such as the geographic information system (GIS) are also being utilised. GIS helps companies improve data management, share data securely with business partners and contractors, and streamline business processes.

tele.net conducted a survey among the leading players in the retail space to assess their telecom requirements and solutions as well as the key issues and concerns.

The following questions were asked in the survey:

- What are the company's key technology requirements?
- What mix of service providers and vendors is used?

- What are the biggest concerns with respect to telecom infrastructure?
- Which mobility and enterprise applications have been implemented by the organisation?
- Which network security tools has the organisation deployed?
- What redundancy tools are being utilised by the organisation?
- Which new product or service is of relevance for the organisation?

Key technology requirements

The results of the survey suggest that a communications backbone which facilitates remote monitoring, access and control, and ensures business continuity in a cost-effective manner is of topmost priority for these segments.

To achieve this, most respondents have opted for a multi-tiered telecom infrastructure comprising a mix of wireless and wireline technologies. Multiple technologies have been used for both wide area network (WAN) and last mile connectivity.

For WAN connectivity, most of the companies are actively deploying MPLS, IP-VPNs, DLC (local loop), ISDN, DLC (NLD) and VSATs. DLC (local loop) is being used as back-up while DLC (NLD) is being deployed to connect multiple offices. For instance, coffee major Barista Lavazza makes use of leased lines to connect its three regional offices with its corporate headquarters. SSL-VPNs are also being deployed for the same purpose. Further, companies in this space are utilising MPLS, as it offers them an advanced and affordable network solution. Mumbai-based garments major Globus Stores, for example, has a 256 kbps MPLS set-up.

Spencer's Retail Limited (SRL) also has an MPLS-VPN network. This connects 250 of the retail major's locations with bandwidth ranging from 64 kbps to 2 Mbps. This backbone is provided by Bharat Sanchar Nigam Limited (BSNL).

The retail companies are also focusing on international connectivity. The most commonly used mediums for this are IP-VPNs and MPLS, primarily for international data connectivity.

For last mile connectivity, optic fibre is the most widely utilised medium, followed by DSL, wireless connectivity and metro Ethernet. Barista Lavazza has opted for multiple mediums for its last mile connection. It uses Wi-Fi at its corporate headquarters and copper at its regional offices. SRL also deploys multiple last mile connectivity technologies like DSL, optic fibre and wireless connectivity (primarily in the form of radio frequency and Wi-Fi).

Apart from the standard mediums of communication, software applications and other telecom-centric set-ups are also widely used. Software applications include enterprise resource planning (ERP), customer relationship management (CRM) and business intelligence. A case in point is Domino's Pizza, which has deployed ERP solutions. The package contains several modules that have simplified the company's production processes and made the supply chain more transparent. Moreover, ERP has helped the company optimise the procurement and dispatch of inventory to outlets spread across multiple cities. Domino's inventory is centralised region-wise, where the commissary (equivalent to a factory or warehouse) of a particular region procures and supplies all the items required by its outlets according to pre-determined dispatch plans. Outlets forward the list of items they need to the commissary, based on which the items are procured and supplied to the outlets. The inventory position is constantly monitored using ERP, and the purchase and manufacture of items are based on the data provided by ERP.

Another interesting example is Globus Stores, which has deployed a remote infrastructure management system (RIMS) with the objective of setting up a network operations centre (NOC) within the premises. The company felt that establishing an NOC would help it monitor the quality of services and relate this to critical network, system and application performance.

RIMS' scope has been extended to taking care of six different levels of management – server management, network management, desktop management, application management, data back-up management and vendor management.

SAP is also being widely deployed. Barista Lavazza has made extensive use of this with the purpose of establishing connectivity between its different outlets. This set-up has helped the coffee major collect sales and purchase data from all outlets, and analyse each outlet as a cost or profit centre based on its revenues, expenses and assets figures. In addition, the “vendor-managed inventory” feature of the SAP-based advanced planner and optimiser enables the company to automatically replenish its distributor’s stock when it reaches a predefined limit.

A few respondents have also set up data centres, which typically perform functions such as server uptime, archiving of data recovery and power back-up, operations and end-user support. In Barista Lavazza’s case, another key function is the archiving of data, which is done on a weekly or monthly basis from the outlet’s database.

Service providers and vendors

The survey shows that the services of companies such as Tulip, Bharti airtel, Reliance Communications, Sify Technologies, BSNL, Hughes Communications, Tata Communications, Tata Teleservices Limited, Hathway and Dishnet Wireless are used extensively. Some of the companies also use the services of global players like SingTel and Orange Business Services.

Issues and concerns

Increasing cost of equipment and technology, rapid technology transition, connectivity, uptime and security are the major challenges faced by companies in the retail space. For instance, the respondent from Domino’s Pizza says that increasing costs of equipment and technology are a major concern. The company also has a difficult time keeping pace with the rapid evolution and introduction of various technologies in the market.

Mobile and enterprise applications

A host of enterprise applications is being used. While email remains the most common, web hosting, audio- and videoconferencing solutions, and instant messaging are also being used by the companies surveyed. Audio- and videoconferencing offer an economical means of

communication and keep track of day-to-day activities in an easy and secure manner.

Retail majors have been deploying multiple mobility applications. These include mobile email, mobile data connectivity, push alerts, conferencing, corporate intranet, sales force automation, field force management and mobile access to CRM and supply chain management. Mobile data connectivity and email are mainly used by top company officials and key personnel in the sales, marketing and distribution departments.

Network security

The survey shows that multiple network security mediums are used by players in this space. These include firewalls, proxy servers, access logs, security audits, OS security patches, user authentication and intrusion detection.

Redundancy options

Multiple mediums are used for back-up. These include telecom infrastructure such as leased lines, ISDN lines, UPS systems, VSATs, network switches and routers, and applications such as data archiving and data recovery.

The way forward

Most of the companies surveyed have a clear road map with regard to enhancing their communications infrastructure. Barista Lavazza, for instance, is looking to implement a one-stop solution that offers voice and data connectivity on a single platform. It is also planning to deploy VPNs to further streamline connectivity between its offices. This, the company hopes, will provide support and remote access, and simplify updation of records. Web-based applications are another area of interest for the company. The retail major also wants to implement audio- and videoconferencing at its corporate office.

Wynn Telecom Limited plans to focus more on data security and on ensuring that the software used in its communications infrastructure is user friendly. Domino's Pizza plans to implement a pizza tracker service that would enable customers to place their orders through text messages or its website, as well as track the status of their order.

Clearly, retail companies have realised the benefits of a robust and scalable telecom network in furthering their business goals and in meeting market challenges and competition head-on.

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