

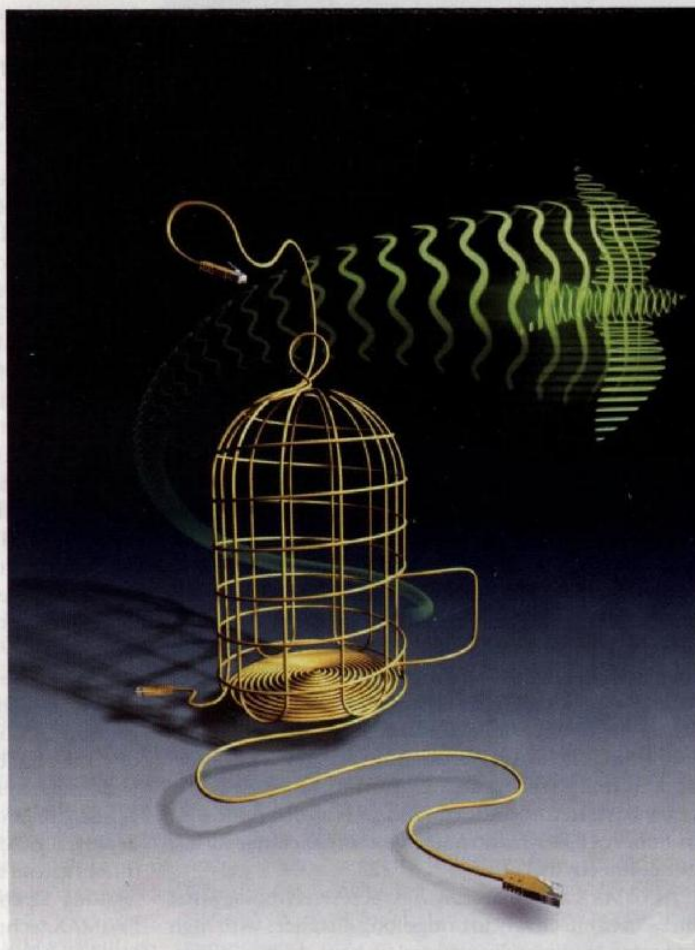
WiMAX: Searching for the right connection

Despite all the right noises made by the Government last year, WiMAX as a technology has been a relative non-starter in India. However, with the Government of India set to auction the spectrum for providing WiMAX services, and a number of private players keen to build the WiMAX ecosystem, 2009 could be the year that will decide the fate of WiMAX in India

BY SRIKANTH RP

➤ GIVEN THE ABYSMAL REACH OF THE INTERNET IN RURAL AREAS, WiMAX (Worldwide Interoperability for Microwave Access) has been seen by a host of players as the technology vehicle that can enable them to make inroads into this relatively untapped market. Another reason for WiMAX being viewed with eyes of optimism is due to the way broadband access has been provided to consumers in India. Broadband in India has been typically delivered using wires, and is fraught with challenges such as taking huge number of permissions from multiple authorities such as municipal corporations and housing societies for laying down the fiber optic network. Even in areas, where operators installed a fiber optic network, the volumes seldom justified the price of creating the network. On the other end of the spectrum is the unconnected India – which lives in villages, has no access to wired lines, and accounts for over 70 percent of the population.

Hence, though the latent demand for Internet access is high; few service providers have been able to match the demand with quality. It is common to see several users complaining about the dismal speeds or abrupt disconnections, on discussion boards on the Internet. Not surprisingly, though the broadband subscriber base has been growing at a





NEERAJ GULATI
CIENA

fast clip, it is far less than the ambitious target set by the broadband policy of 2004. The broadband subscriber base, as of December 2008, stands at 5.45 million, and falls way short of the target set by DoT, of achieving a base of 20 million broadband subscribers by 2010.

With WiMAX, telecom players see a sliver of hope to connect to the rural population, and in turn, overcome the infrastructure hurdles that are present in every city. WiMAX eliminates the need for building a fiber optic network in rough terrain, or sparsely populated areas – which make the business case for building a fiber optic network difficult. With WiMAX, all the telecom operators need is a base station, giving them the flexibility to target niche pockets or regions, which are small if targeted individually, but represent a huge customer base collectively. Says Naresh Singh, Principal research analyst, Gartner, “India needs a wireless technology to grow its broadband subscriber base. In this context, WiMAX is a good option for a number of ISPs who do not have another choice for last mile connectivity.”

As WiMAX is a scalable wireless access technology that can be used effectively to bridge long distances with high data rates, leading telecom carriers have showed intent,

with some of these players already making a start in building a WiMAX ecosystem. These include major carriers such as BSNL, Tata Communications, Reliance Communications, and Bharti Airtel.

The Government of India too realized the immense potential of this technology in bridging the digital divide – as it made a decision to allocate and auction WiMAX spectrum to the 2.3 and 2.5 GHz frequency bands. Buoyed by the government decision, the WiMAX Forum predicted that the Indian WiMAX market including devices will be worth \$13 billion by 2012. The Forum has also said that it will add an Indian certification lab to support certification of products in this region. Private players such as Intel too announced their plans to tap this promising market, by working with the WiMAX forum to bring affordable low cost devices that would help in increasing Internet access.

A SPECTRUM OF POSSIBILITIES

With WiMAX, telecom operators have the ability to roll out networks for providing broadband access quickly, and make inroads into markets where it has been commercially unviable due to the problem of last mile connectivity. Agrees Neeraj Gulati, Managing Director, Ciena India, “In India, last mile connectivity has always been a concern. In fact, due to this fact, more than 70 per cent of Indian households do not have access to fixed wired telephone services (landlines). This means providing DSL to such households is an even bigger problem. In this context, WiMAX is being examined as a means to solve the challenge of last mile connectivity.”

The last mile connectivity problem is acute in rural areas, and this is where WiMAX can play a significant role. Says Subashini Prabhakar, CTM, Dax Networks, “Most places in India, especially in the rural sector, lack the traditional telecom backbone infrastructure. WiMAX networks in these places will be preferred over traditional wired connectivity options.”

Besides speed of deployment, the initial costs of deploying a WiMAX network make the technology suitable for addressing rural markets. Says Dr Manoj Kanagal, Senior Director, Wireless & VoIP Solutions, Nortel Networks, “WiMAX is the lowest cost per Mb solution for offering high bandwidth connectivity for enterprises or customers over large geographic areas where there is no existing fiber or DSL infrastructure.” Nortel has already deployed WiMAX for providing connectivity for remote offices spread across hilly terrains in North East India.

Adds Kiran Pande, President, ECI Telecom India, “WiMAX technology enables providers to cater to underserved markets in which the initial CAPEX requirements

must be minimal, while still enabling high data throughput to the end-users. As WiMAX technology is pure Ethernet, the associated costs for backhauling and connectivity are typically much lower than for cellular or wired networks.”

WiMAX can also be considered for providing redundancy. “WiMAX can be a feasible option for providing backup for wired networks in case of disasters,” says Ketan Parekh, the CTO of Sharekhan. For example, in disasters caused by the Tsunami in Indonesia, and Hurricane Katrina in the US, WiMAX was used extensively to quickly provide communication links to areas, where the communication infrastructure was destroyed.

OPENING THE DOOR TO A WORLD OF APPLICATIONS

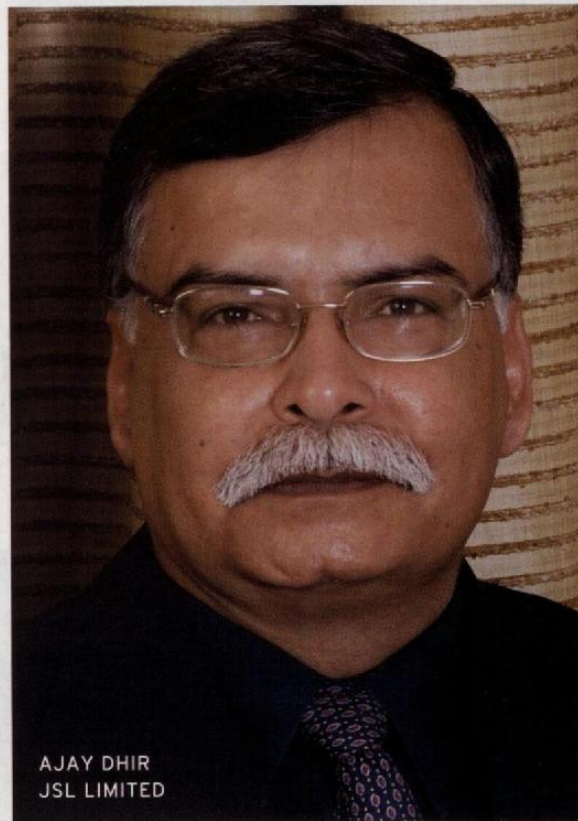
While at the basic level, WiMAX opens the door of opportunities to tap underserved markets, it also gives operators the flexibility, the speed and the bandwidth to provide voice, video, data, and mobile services on the same platform. The range of applications that can be powered using WiMAX is extensive and this includes areas such as traffic monitoring, meter reading, video surveillance, distance learning, conferencing, transportation, and logistics management.

Further, applications such as IPTV which have been languishing can now take off with the help of WiMAX. In the past, the high amount of bandwidth required for video streaming services have acted as an impediment, making DTH satellite and cables the preferred mediums. Besides the ease and quickness of deployment, WiMAX gives operators the capability to offer more services under a common infrastructure. For example, with WiMAX, the service provider has the capability to stream data speeds up to 10 Mbps, making it possible to stream videos.

BOOSTING WIMAX

For WiMAX to be a success in India, it has to position itself as a cost effective and complementary technology to other technologies such as DSL. Explains Ajay Kumar Dhir, Group CIO, JSL Limited, “Price competitiveness will be a key catalyst for WiMAX adoption; hence vendors have to ensure that the high CPE cost should not serve as the deterrent to the adoption of technology. Finally, the most powerful pricing proposition is service bundling. The more services an operator is able to layer on its network, the more valuable will be the network.” Pricing of spectrum is crucial, as high tariffs will not be conducive for growth for a fledging industry.

Like any other new technology, WiMAX will go



AJAY DHIR
JSL LIMITED

through various cycles of deployment, before it is finally accepted as a mainstream and dependable technology. Says G Radhakrishna Pillai, Chief Information Officer, Super Religare Laboratories, “To start experiencing WiMAX, the first choice will be remote locations or branch offices. Once we have confidence, the technology will move to other offices too.”

In the price sensitive Indian market, ensuring the right price will be difficult initially, especially if the volumes are small. “To make WiMAX popular, it is important that the end subscriber costs go down. This reduction in price can only happen if economies of scale are achieved. Therefore, in summary, the answer is that initially WiMAX for home users will go through its maturity cycle and take about two or three years to replace DSL or broadband connections,” says Akshay Garkel, Senior Consultant Wireless Security. To achieve economies of scale, Garkel suggests offering free or subsidized subscriptions for the first few months, and by providing WiMAX hotspots for enabling people to experience the technology.



ARUN GUPTA
SHOPPERS STOP

Global players such as Alvarion, which have been instrumental in helping cellular providers such as Bharti Airtel setup a WiMAX network in India, believe that as adoption increases, the usage plan of WiMAX will be similar to cell phone devices. Says Ashish Sharma, Vice President – Corporate Markets Development, Alvarion, “A large ecosystem of device vendors developing WiMAX devices for the global market is already present. Once a mass market is developed, we expect the devices for WiMAX to be available at price points similar to cell phone devices.”

Mobility is the strongest point for WiMAX, and will be a significant factor in influencing adoption. Says Arun O Gupta, Group Chief Technology Officer, Shoppers Stop, “At incremental investment over current technologies, we expect WiMAX mobility as one of the key drivers towards adoption, which will help our traveling and out-of-office associates to remain connected to office productivity tools and solutions in a similar way as they would be while they are in the office.”

EVALUATING WIMAX OVER OTHER OPTIONS

For companies that have branch offices within the same city, WiMAX can be cost effective over other traditional

forms of connections such as leased lines or DSL. However, within the office itself, Wi-Fi is preferred over WiMAX. Hence, CIOs must carefully evaluate the choices before taking a decision on WiMAX. Explains Dhir of JSL Limited, “In areas with existing wireline infrastructure, the cost of rolling out DSL is significantly lower than setting up a WiMAX infrastructure from scratch. This is largely due to the low cost of DSL equipment and other associated infrastructure costs. However, the cost of setting up a WiMAX base station, on the other hand, can be up to 1.5 times higher than enabling an exchange for DSL.”

Dhir says that DSL can reach customers within 6 km of the exchange, while practical WiMAX implementations are likely to have no more than 3 km reach per base station leading to higher costs per square km covered. From the customer’s perspective, if speed is of the essence, then a WiMAX solution will definitely help in achieving faster rollout, especially in areas where there is lack of infrastructure.

Research firm Gartner believes that with competing technologies such as 3G available, WiMAX could be a less preferred option. Says Naresh Singh of Gartner, “While there have been positive changes with respect to policy, the infrastructure for 3G is already available in the form of handsets, which is not present for WiMAX today.” Singh believes that WiMAX will be used primarily as an alternative to wired broadband options.

ENSURING WIMAX'S SUCCESS IN INDIA

For ensuring that WiMAX gets deployed as per plan, the Government of India has to quickly take decisions with respect to the spectrum auction. For example, the dates for the spectrum allocation process were changed recently, due to a request from the Finance ministry to double the minimum bid prices. Though the request was rejected, it again delayed the dates for the spectrum allocation, which the operators have been waiting for a long time. Resolving the spectrum allocation issue is crucial for the success of WiMAX, and one can expect the floodgates of opportunities to open, once the spectrum issue is resolved.

With WiMAX, India stands at the threshold of an exciting opportunity to make impressive strides in bridging the digital divide. WiMAX can also play a leading role in bringing the benefits of connectivity to an unconnected India that has for long suffered from policies and technologies designed for economies of scale. ■

srikanthrp@ubmindia.com