To WiMax or Not?

The WiMax opportunity is one, which no solution provider can ignore. The question here is how to make an entry into this niche segment and sustain profitably? *DQ Channels* **gives you an insight on how to go about WiMaxing**

It is beyond suspicion that WiMax is the most wanted technology waiting to be deployed across India. Tipped as the last mile solution, vendors as well as service providers are conducting pilot trials across the country. Finally, WiMax is ready to arrive with BSNL, India's largest telecom service provider, deploying what it claims to be India's first certified WiMax network in the next few weeks. WiMax equipment vendor Aperto will be deploying its base stations at the same time in Kolkata, Bangalore, Chennai, Ahmedabad, Hyderabad, Pune and four rural districts in Haryana.

While the world talks about the potential that WiMax offers to a country like India, not many have talked about the potential that it offers to solution providers. Through this article, *DQ Channel* gives an insight on how channel partners or the solution provider community can leverage on this big opportunity.

Opportunity or not?

While every new technology carries along it with tremendous potential, on the same line it also has it pitfalls. We asked network integrators one simple question whether WiMax presents an opportunity for this community or not? The answer was yes. But the answer was also followed by many questions. Yes it true. Most solutions providers are aware of this opportunity but are not sure about how to go ahead with it.

Solution providers are currently facing a situation in which revenue from traditional sources are either declining or reaching a saturation point. Therefore for ensuring their success, a quick return on investment and the ability to drive profitable service across a diverse customer base are critical. "The solution providers have no other choice but to embrace this new technology, thereby giving them more reason to be in this business and be profitable," said Harsh Vij, CEO, SD Computers, who has already

CHECKLIST FOR SPs

Here is a small checklist of the know-how a solution provider should have before getting into WiMax deployment

- Basic understanding of wireless data communication
- Wireless
- Field testing, including the full network and all the equipments
- Installing radio access networks (RANs)
- Connecting the RANs to the service provider's backend infrastructure

mastered the art of deploying WiMax technology.

According to Vij, WiMax is an emerging technology, a technology which promises to profitably deliver high-throughput, broadband-based services like VoIP, high-speed Internet access and video, to business and residential users who previously could not be economically served. "So there is no option, nor is there an intent, of remaining aloof from such a promising and potentially viable technology. We have already started deploying this technology and hope to enhance its usage day-by-day," said Vij reasoning his presence in this segment.

WiMax has the potential to provide India with widespread broadband access to Internet services which can usher in economic growth, better education and healthcare and improved affordable entertainment services. A recent report

from Motorola stated that, there are only about two million broadband subscribers in India, which is less than two percent penetration, as against the Indian broadband target of about nine million broadband subscribers by 2009 and 20 million broadband subscribers by end of 2010.

This target seems achievable only if the operators invest on the wireless broadband access. Wireless will be the main medium of delivery given that we have very limited copper assets that are actually in good condition and hence capable of being upgraded to deliver WiMax type broadband services. Moreover, such assets are confined to top cities thus proving no option but to use cost effective wireless technologies such as IEE 802.16e WiMax for rapid and widespread reach of such broadband services.

The above opportunity is significant and so are the associated challenges, given the

low penetration levels of broadband in our country today. Motorola, as a WiMax equipment vendor, believes there is a definitive and important role that each stakeholder of this industry, ie policy makers, regulators, operators, channel partners, vendors and application developers, need to play to make the broadband vision a reality.

WiMax vendors generally are MNCs. Their focus is more on the technology side. So naturally they would like to spend more time on developing technology rather than in deploying the technology. Thus, the role of channel partners becomes very important. Raj Yadav, Regional Sales Director—South Asia, Aperto Networks, listed out three possible categories of channel partners in WiMax business:
- For services (operations, installation commissioning, maintenance)
- For distribution and reselling
- Value-added partners, who will add solutions to existing solutions like VoIP partners, BSS and OSS partners and partners for RF planning and optimization services.

Apps that drive WiMax

For solution providers to take up WiMax the first thing that needs to be taken care of is an understanding of the applications that will drive WiMax. Until recently, the 2G networks delivered fantastic performance to the voice user. What is expected in the next generation mobile networks is the ability to deliver on-demand pervasive broadband, ie hyper connectivity.

"We believe video is going to be the next big wave and it will change the way networks are deployed, 3G networks get exhausted if only six percent of subscribers view video, so you need a technology which meets on-demand pervasive broadband requirements," stated Mallikarjun Rao, Director—WiMax, Nortel. "We see WiMax as the first 4G mobile broadband access technology to go commercial, transforming the network landscape. WiMax with its inherent technology advantages of OFDM (orthogonal frequency division multiplexing) and MIMO (multiple input multiple output) and its strong ecosystem has potential to meet the hyper connectivity challenges," he added.

Main applications driving WiMax, as of now, are all sorts of 'corporate connectivity'. These include corporate VPN connections, Internet lease lines, and international lease circuits among others. There is a huge requirement for corporate data connectivity. These applications will continue to drive the market by mid 2008. From 2009 onwards, residential usage will start driving the market.

Dr Lil Mohan, MD— Emerging Markets, WiMax Program Office, Intel summed applications driving WiMax in three points: Internet connectivity (web browsing, e-mail, etc), voice over IP and media and entertainment (audio, video clips, etc.)

"The first two are targeted equally at both corporations and consumers, while the third is targeted more towards the consumer," he added.

...and its beneficiary?

According to Yadav of Aperto Networks, everyone in the chain will benefit from this very promising opportunity. "Vendors like us will benefit in terms of more business. System integrators, network integrators and resellers in turn will generate more business and get good margins. Operators can expect to get a loyal base of customers because of reliable technology."

For example, Aperto, as a WiMax vendor, is exploring the opportunity of tying-up with contract manufacturers, new distributors, resellers, and large SIs who have the capability of doing pan-India business.

Currently, the biggest market is of 3.4-3.6GHz which is known as 3.5GHz band, with 400 allocations across the globe. The second biggest market, with 120 odd allocations, is of the 2.5-2.7GHz band. And third biggest market is of 5.8GHz band. This band is soon going to be made free like the 2.4GHz band. To be precise, there are a lot of opportunities in the 5.8GHz band for the distributor and reseller community. In India, these categories of bands will be deployed depending upon the requirement.

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Regional Sales Director—South Asia, Aperto Networks

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Tips to join the revolution

The government has clear guidelines on the type of companies that can build networks and deliver broadband wireless access (BWA) services with the associated criteria they need to fulfill. Such operators would partner with vendors and system integrators for rolling out these networks and undertaking network deployment and integration activities on a turnkey basis or as per the requirements of the specific operator.

WiMax-based wireless broadband network rollouts have many commonalities with those associated with building cellular networks or microwave-based point to multi-point networks. Solution providers and system integrators with prior experience in delivering life-cycle services involved with these wireless networks (like RF planning, network deployment, integration and optimization) would be the natural choice for the service providers to deploy their WiMax networks.

Most WiMax networks are likely to be initially deployed in urban cities across the country and then quickly spread in rural districts and villages, leveraging existing cellular network assets and investments to the

maximum extent possible. Service providers would evaluate the quality of resources, past experience and presence of the solution provider across the country (through service and project offices) as important criteria during the selection process.

802.16e networks require huge R&D investments by equipment providers so as to ensure that the product provides performance and conformance to the WiMax 802.16e standards. These investments are required to be made on a continuous basis to evolve the solution roadmap and provide enhanced features and services. Vendors with the ability to offer the complete solution including core equipment, customer premise equipments (CPEs) and handsets as well as content and applications all under the same roof would enjoy a differentiated market position as compared to others. Additionally, operators would consider long-term commitments to WiMax standards and their evolution, past financial health and track record, global and local presence and wins of the vendor as important criteria during the selection process.

Practically every WiMax network that will be deployed by

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MD, Epitom Networks

"Indian service providers and consumers have shown in the past that they are fast to adopt new technologies and applications, there have been many such examples from the past starting from SMS success story to GPRS/EDGE/mobile Internet technology and applications"

PRASHANT AGNIHOTRI
Director—Product Management, Radio Networks, Nokia India

service providers will need solution providers to do the actual installation and basic access provisioning. In addition, depending on the service provider—or even the customer (eg a state government), solution providers will need to help

deploy the various value-added services that the customer wants to enable.

According to Yadav of Aperto, the basic minimum requirement for a partner to become a WiMax integrator includes: one RF engineer, one network engineer,

a sales team with an understanding of connectivity and the various aspects of technology.

"The more the team, the better addressability of the market is possible. Sometimes partners do have a good sales team but they are not well versed with the technology, so in such cases we conduct the training sessions on our own," he added.

Kolkata-based Epitom Networks is one of the few solution providers to have explored the WiMax opportunity at an early stage. Taking about his experience with WiMax, Rajarshi Ghosh, MD, Epitom said, "The convenience and the mobility which a WiMax solution can offer will have a large fan following in days to come. I feel it's a matter of two years when WiMax will be at the center of any business communication."

Epitom has deployed one WiMax solution (both data and voice) in Chennai where it has established point-to-point connectivity between a Ferro-alloy plant and four of its offices at different locations. "We have our own dedicated technical teams for WiMax who are constantly undergoing studies and trainings on the subject. This is a comparatively new domain and broader one. Being a new

technology it is constantly evolving and we are trying our best to keep the team updated about the latest developments in the subject," he added.

Maturity level of Indian SPs

There are different views on the level of maturity solution providers have for getting into WiMax business. WiMax deployment is similar to deploying a cellular network (albeit a lot simpler). Service providers need to plan the network deployment carefully—so that the service has both adequate coverage and adequate capacity. Existing cellular providers have an advantage since they can re-use a good part of their back-haul. Once the basic access network is deployed, various value-added services can be layered on top, and this provides huge opportunities for various solution providers.

According to Yadav, solution providers are not really matured enough to understand WiMax technology, because they don't try to understand business requirements. "In the name of growth they just want more and more business. There have been cases where partners with just three to five engineers have shown interest in doing business across India, which is not good.