

WiMAX with IPSTAR Backhaul Links Remote Community in Vietnam to the World



Photo courtesy of Intel Corporation

The project uses latest generation satellite and WiMAX technology to deliver broadband connectivity to remote, underserved communities, allowing them to benefit from VoIP telephony and low bandwidth Internet services such as email, instant messaging and general web browsing.

Intel and several of its partners recently announced a project that combines WiMAX and satellite to provide a remote community in Vietnam with broadband Internet access.

Located in the highland area of Ta Van village, the WiMAX via IPSTAR satellite enabled network has been deployed in cooperation and support with service provider Vietnam Data Communication Company (VDC), the United States Agency for International Development (USAID), and IPSTAR's WiMAX backhaul solution.

The project is part of Intel's "World Ahead" program and will likely be replicated in other parts of Vietnam as well as other underserved regions in the Asia-Pacific and beyond.

Ta Van village, near the town of Sapa, is situated in the highlands some 300 km north-west of Hanoi, bordering China's Yunnan province. Its main business is farming and tourism, and per capita income is low. The area's mountainous terrain means it is cut-off from most communications access.

In its favor is that it is nearby Lao Cai city, where Intel, USAID and VDC had earlier established their first trial WiMAX project in Vietnam. Ta Van is the second phase of the project and IPSTAR has been used to provide WiMAX backhaul.

"The deployment took about six months to complete from conception of the project to deployment in Ta Van's small community. The project uses latest generation satellite and WiMAX technology to deliver broadband connectivity to remote, underserved communities, allowing them to benefit from VoIP telephony and low bandwidth Internet services such as email, instant messaging and general web browsing", says project coordinator Dr. Bernd Nordhausen, Solutions Architect with Intel Corporation. "Logistics provided one of the challenges due to the remote location of the village, while the actual on-the-ground deployment was completed within only one week."

Making Broadband work for the Community



"The IPSTAR platform is very effective for backhaul of WiMAX networks and can provide broadband connectivity anywhere at reasonable cost, thus bringing Internet access and VoIP to rural communities with educational and economic benefits." Dr. Bernd Nordhausen, Solutions Architect, Intel

The Ta Van solution works by way of distributing one satellite connection to multiple end users via WiMAX. IPSTAR is the satellite platform of choice because of its availability across the Asia-Pacific region and its cost advantage.

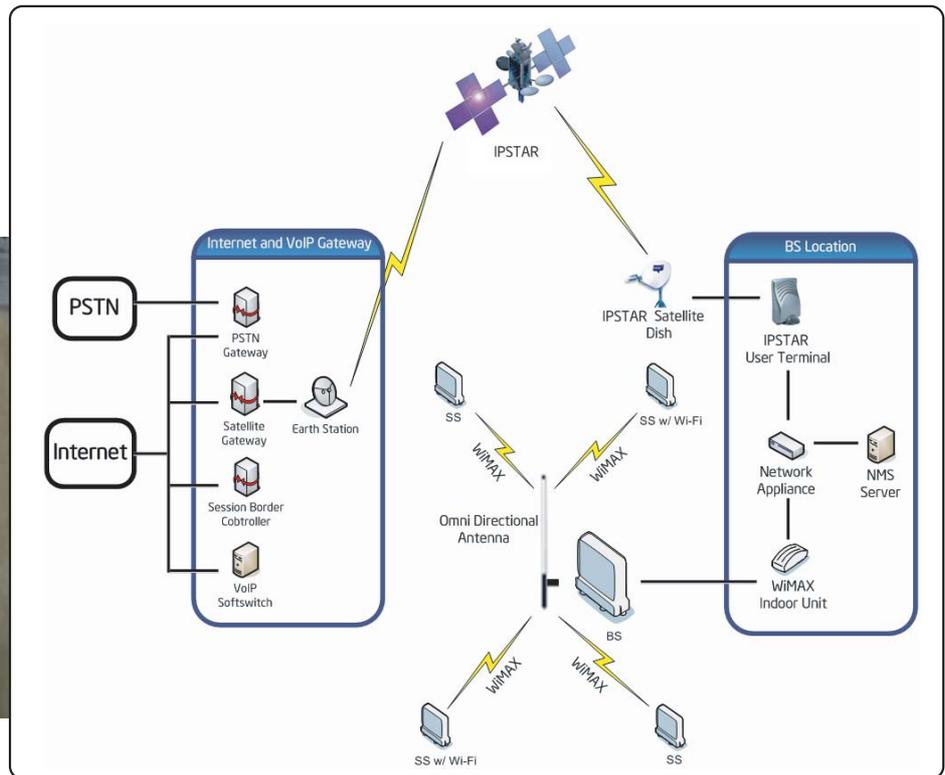
The satellite signal is received via an IPSTAR satellite dish, which, in turn, is distributed throughout the community via a WiMAX micro base station. WiMAX subscriber stations located around the village then route Internet connectivity to PCs and VoIP phones in numerous locations, including the Ta Van medical clinic, school, guesthouses as well as farm houses.

"The project addresses one of the main challenges in many Asian markets, namely a lack of backhaul", says Patompob Suwansiri, head of IPSTAR marketing. "In addition, it marks a satellite industry milestone, as it is the first time in Asia that satellite provides link up service in combination with a WiMAX network for both voice and data."

The WiMAX backhaul solution via IPSTAR proved to be economically viable and more cost efficient than a satellite-only solution in the case of Ta Van. "The IPSTAR platform is very effective for backhaul of WiMAX networks and can provide broadband connectivity anywhere at reasonable cost, thus bringing Internet access and VoIP to rural communities with educational and economic benefits", according to Dr. Nordhausen.

"The scalability and adaptability of the solution was critical, as it would mean that it could be adopted in other regions of Vietnam as well as in neighboring countries."

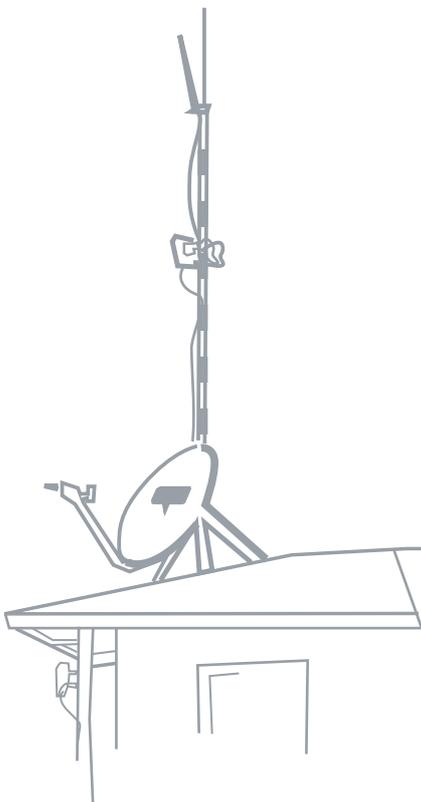
Due to the remote location of Ta Van Village and the adoption of the IPSTAR satellite network by the Vietnam Posts and Telecommunications Group (VNPT) through its subsidiary Vietnam Telecommunications International (VTI), the project looked for backbone solutions that had potential for adoption throughout Vietnam in support of their universal service program. Today, besides the school and medical clinic staff, other Ta Van village residents also use Internet access to catch up with the latest news and entertainment as well as for instant messaging.



The Ta Van project is a major milestone in the deployment of WiMAX via satellite backhaul to remote areas. In addition, Ta Van provided a rich opportunity for a visible demonstration that not only can be used across Vietnam, but also by other countries facing similar challenges.

According to Intel, for remote communities around the world, the combination of broadband satellite Internet access and WiMAX technology helps roll out a sustainable business model that uses a shared access community model and IP technology without the need for wired infrastructure - "leap-frogging" wired technologies so that a large number of users can be connected quickly and affordably.

The focus in Ta Van was to find solutions that would have direct value for those communities eligible to receive universal access funding by delivering broadband Internet and voice services over a single wireless network to remote locations. Shin Satellite with IPSTAR is also involved in other projects within the region that combine WiMAX and satellite, including a joint project with the Institute for Research and Development of Professional Education in Hanoi, Vietnam.



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For more information, visit www.intel.com/intel/worldahead

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