

Solution Sheet

IPSTAR ADSL Network Backhaul

Rapid Deployment of Broadband Internet for the Telecom Industry

The IPSTAR ADSL Backhaul Solution – or ‘IPSTAR mini-ADSL’ – enables Internet Service Providers (ISP) to rapidly connect remote communities to always-on broadband Internet, with cost and speeds similar to that of Asymmetric Digital Subscriber Line (ADSL).

Most rural areas have very limited access to broadband Internet. ADSL connectivity is very scarce outside of metropolitan cities; and households, businesses and government offices in rural areas still have to rely on telephone and dial-up Internet with no short-term prospect of benefiting from the rollout of broadband.

Rural communities have to overcome major challenges when it comes to availing high speed broadband Internet. Remote villages are typically far from any Internet backbone or Point of Presence (PoP). Wired infrastructure, like fiber optics, usually does not exist or is unviable to provide ADSL backhaul for far-flung areas. In addition, the

population density in rural areas is much lower compared to metropolitan areas, requiring higher capital and operational expenses in deploying an ADSL network infrastructure. The high installation cost normally involved in providing remote villages with high speed Internet means that these areas face an indefinite wait – perhaps for many years – before telecom operators and service providers can reach them.

ADSL Network with IPSTAR Backhaul

An ADSL network with IPSTAR satellite backhaul can deliver Internet to various locations by using existing telephone lines – including government offices, schools, medical centers and residential homes – with distances ranging from 200 to 2,000 meters away from the central node. A shared satellite link is capable to provide broadband Internet at a download speed of 5 Mbps and upload speed of 4 Mbps*, and can be distributed among subscribers by connecting the user terminal to a Digital Subscriber Line

Access Digital Subscriber Line Access Multiplexer (DSLAM) – a network device that can link up to 24 end users to ADSL.

Benefits

Economical

- Cost-effective backhaul solution for Internet Service Providers to connect remote communities to broadband Internet

Nationwide

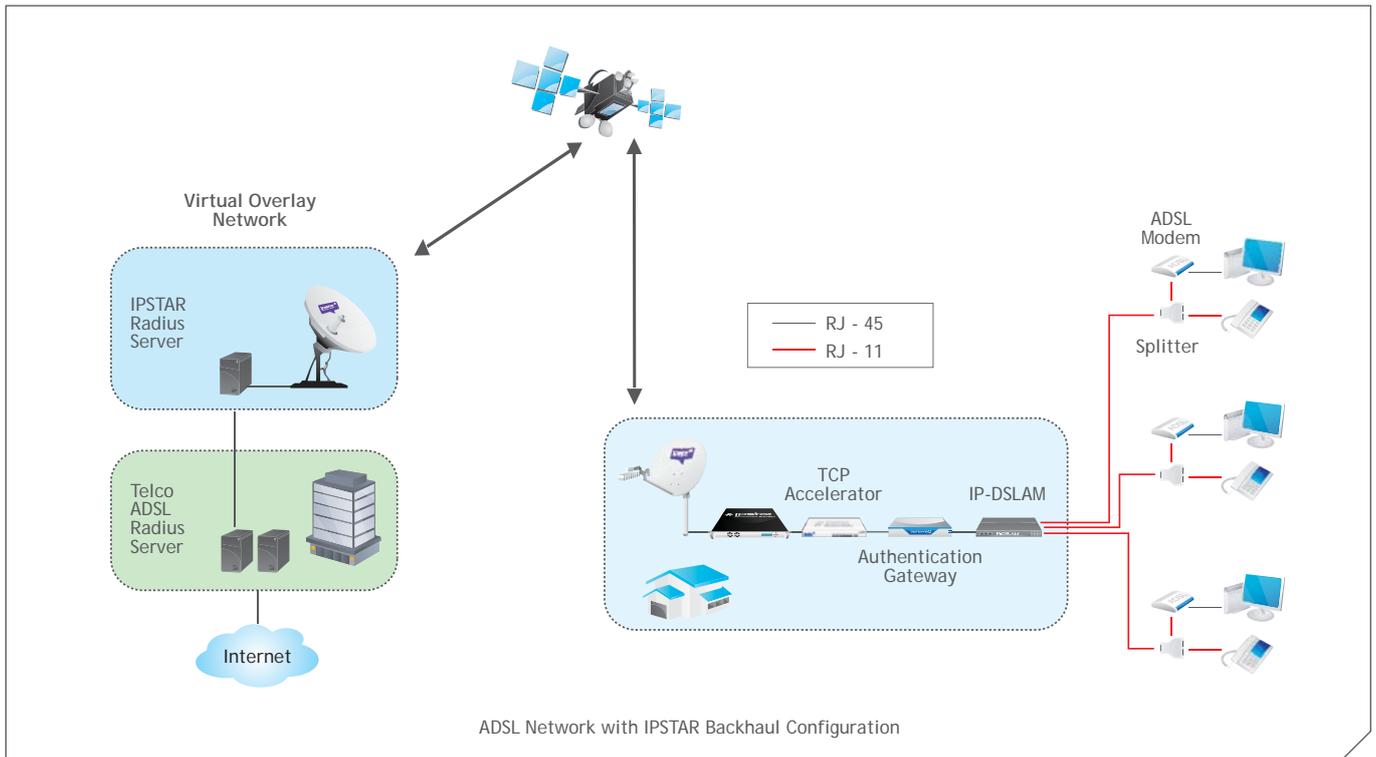
- Internet Service Providers can expand their business in blind spot and rural areas

Uniform Quality of Service (QoS)

- Guaranteed QoS, regardless of location and distance barriers

Fast Deployment

- Rapidly deployable shared access broadband Internet networks



IPSTAR vs. Fiber Optics

Although both satellite and fiber optics can be used as backhaul, the cost factor of terrestrial lines prohibits the use of fiber optic cable as backhaul for an ADSL network.

For instance, the cost of installing a 230-kilometer fiber optic cable in the rural area can reach up to USD 400,000, while connecting the same location to ADSL by using IPSTAR will only cost USD 3,500. The significant difference in capital expense is mostly due to the continued increase in the cost of deploying fiber optics, requiring telecom operators to search for other backhaul alternatives.

Case Study: DoST and VTI use IPSTAR to Connect Remote Villages to Broadband

Initiated by the Department of Science and Technology (DoST) and Vietnam Telecom International (VTI), the rural connectivity project implemented in Vietnam, called “VSAT-IP to Bring Broadband Internet to the Countryside”, is a major milestone in the deployment of ADSL network via satellite backhaul. IPSTAR plays a major role in the rapid

Capital Expenditure: IPSTAR vs. Fiber Optics		
	IPSTAR	Fiber Optics
Cost (USD)	3,500	400,000 for 230-kilometer distance
Users	24	29

installation of ADSL to far-flung areas, which would otherwise not be economically viable with fiber optic cable or other broadband backhaul.

In addition, the satellite platform helps reduce the capital expense of the project by 396,500 USD, a critical factor in the implementation of a sustainable business model.

The pilot project implemented in Cat Tien village demonstrates a valuable case study in addressing a range of issues related to providing broadband Internet service to remote, isolated areas across Vietnam. The satellite-enabled ADSL network delivers broadband Internet to thousands of village residents – most of them for the first time.



Cat Tien Village, Vietnam

About Vietnam Telecom International (VTI)

Founded in 1990, VTI is a state-owned, subsidiary company of the Vietnam Posts and Telecommunications (VNPT). VTI is the gateway operator and service provider of IPSTAR in the country. It has been deploying IPSTAR broadband Internet since 2006 under the brand name ‘VSAT-IP’.

About IPSTAR

THAICOM-4 (IPSTAR) is the world's largest and most advanced commercial satellite serving up to 10 million users in Asia-Pacific. The breadth of the satellite's geographical reach in the region – covering an area inhabited by 4 billion people or roughly 60 percent of the world's population – positions IPSTAR as the preferred gateway in 14 countries across Asia-Pacific. IPSTAR has achieved a critical milestone in its pursuit to bridge the digital divide in the region. With a combined 100,000 subscribers in Australia and New Zealand alone and still growing, IPSTAR has become the single largest VSAT network operator in both countries. Across the region, IPSTAR has sold nearly a quarter of a million user terminals.

For more information, visit www.ipstar.com.

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