

WIRELESS - THE LAST MILE SOLUTION

Hello, I am Tim Hildabrand from Hstar Technology Group in Murphys. My home and office are in the last mile. Like 30% of America, we live where cable, DSL, and fiber will never be offered. In the past, the only choice for people in my position was dial up, or barely usable satellite internet. The solution for my home and office was fixed wireless. Today, the solution for 30% of America is fixed wireless.

The advancement of technology in the wireless field, and the release of more spectrum has brought this type of internet connection to the forefront of last mile service. Living in remote rural areas no longer means being stuck on satellite or dial up. The public gets internet from one of a few ways: cable, phone lines, fiber, satellite, or fixed wireless. I am here to talk about the only method that can deliver high speeds, low latency, and local service to the public in remote areas. Fixed High Speed Wireless Broadband.

In the five years that Hstar Technology Group has been in the wireless business, we have seen the evolution of equipment in both speeds and cost. Five years ago, equipment cost tens of thousands of dollars, and would be lucky to deliver usable speeds over short distance. The customer premise equipment used large cables and a mix of radio cards, routers, and antennas. The technology was limited, and speeds delivered to the end user slow and unstable.

Today, "WISP" (Wireless Internet Service Provider) is creating a new frontier of providing internet access to rural areas, reaching approximately 3 million Americans. WISP using hybrid networks are capable of bringing infrastructure up rapidly, instead of waiting for a phone line or cable to reach a remote area. Alan Kurian, CTO at NuVisions Broadband has been providing service using WISP to his customers for several years. When Hurricane Sandy hit, he and his company were unfazed. "Our airFiber link survived Hurricane Sandy and remained operational except for a power outage. Wired operators were down for weeks."

Along with several other ISP providers at this summit, Hstar Technology Group is taking advantage of the latest technology to deliver high speed broadband to these remote areas. The current equipment is now capable of delivering up to 1.4Gbps speeds over a distance of up to 6 miles. This is for providing towers the high speed backhauls needed to service customers in the rural areas. In addition, the same company has released a unit that can deliver 1 Gbps over a range of 50 miles. The current customer premise equipment is capable of speeds of 150Mbps, and this is also changing as new technologies are developed.

The critical link to get wireless to the remote areas is a good solid backhaul, which CVIN is delivering in this area. This allows all local companies to provide high speed broadband to the

end users, and offers competition against the large cable and telephone companies. It is imperative that this fiber project be open to service providers quickly so they can deploy and deliver service to homes and business that have been waiting to get off dial up and satellite.

As I drive to remote mountain tops and look out over the vast expansion of rural Calaveras and Tuolumne County, I see many small clusters of homes that I know are without any decent internet access. After we have set up a tower in a non-served area, I see how happy the people are. I know what my company and my employees does brings happiness to these people. We free them from the constraints of using dial up so slow, internet browsing was practically impossible. We free them from spending lots of money on monthly charges for satellite service that delivers unpredictable speeds, at best. We free them from the fights over who used up the allowed data, the careful tallying of data usage to avoid punishment by the satellite companies. We free them from tokens, FAP, and education classes to help them lower their usage.

Instead, we tell them they no longer have to stay up late to update their iPhone during the "free time" on their plan. We give them the opportunity to Skype with their family for the first time, or watch a movie on Netflix. The first time we show them a high definition YouTube music video streaming (with no buffering!), the smile they give us reaffirms for me that we are in the most rewarding technology job in the world. It is my hapiness to bring this option to my customers, and their joy that confirms that WISP is the answer for the last mile, and all of rural America.

Thank you.

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