THE SITUATION

BPS Networks of Bernie, Montana was running a single T1 line between Bernie and Steele, which cost them about $950 per month. During low periods, the line was running at about 45 percent capacity, but peak periods drove it to 100 percent capacity. To grow its business, the company needed to dramatically expand its bandwidth – and in a cost-effective way. It also favored building its network beyond the two ends of the leased line.

ISSUES & OPTIONS

BPS's Butch Evans didn't want to pay the ongoing costs of additional T1 connections. He was already set on utilizing fixed wireless gear, particularly if it employed IF operations.

"We were set to run these links with Lynx radios," he said, "but did not have the tower to do it. We would have had to build bigger towers to handle the huge dishes required to use Lynx over these distances."

SOLUTION

Instead, Butch purchased six broadband fixed wireless systems for three links, ranging in distance from 18.5 miles to 23 miles.

The award-winning solution offers rural networking professionals an ideal solution for WAN access (voice and data). It utilizes a proven advanced orthogonal frequency division multiplexing (OFDM) technology as a foundation its non-line-of-sight capabilities, while functioning at up to 72 Mbps over the air. The system operates in the license-exempt band of 5.8 GHz and supports ranges beyond 50 miles.

RESULTS

"We have recently moved all traffic off of the T1 line and are now carrying all data over our links," said Butch.

"The main advantage of the link over the T1 is that I know have a place to build a network at both ends PLUS at ttwo locations in the middle. In other words, I now have the ability to provide access at four locations instead of just two."

As for data rates, his 18.5 mile link is set at 18 Mbps and the other two links are set at 12 Mbps, this is with the adaptive modulation feature turned off.

"It's turned off not because I ever had a problem with it," he said. "It just makes the graphs I get for RSSI easier to read, since RSSI is a function of receiver sensitivity."

With all the traffic running over his link, Butch still has 9-12 ms average ping times end to end, even at peak periods.

BENEFITS

Since BPS was running two voice T1s (for a telco) and data over this circuit, they are now saving about $2,850 per month.

"In addition to this, we are selling the two T1s to the telco, so are in fact earning $1,800 per month," he said.

> "Since our average traffic (not counting the two T1s) is now nearly 2 MB (data), we would have needed a second T1 to handle the load. I still have room for growth with the Solution, and no recurring charges."

BPS is currently working on getting an IP-to-TDM device to send two T1s over the backbone. When this is finished, they will be able to sell the two T1s to the telephone company as a redundant circuit for them. Eventually, the plan is to have all BPS's Internet traffic running over the links and T1 lines. They are also in the primary stages of experimenting with VOIP deployments.

Butch added: "I have been extremely happy with the decision to purchase the solution, I could not be more pleased.