

# Success Story



## Arvada, Colorado Boosts OPeX Hungry 1.5Mbps Leased-Lines to Gigabit Private Links



### The Challenge

Build a reliable and affordable municipal gigabit network addressing slow computer network speeds at remote offices.

### The Solution

Complete city-owned network based on Siklu's EtherHaul™ multi-gigabit radios, designed and deployed by Netunwired LCC.

### The Results

City workers immediately benefited from enhanced productivity and a more robust IT infrastructure, while the monthly recurring DS3 expense was eliminated.

## Background

Over the past year, Netunwired LCC completed construction of wireless broadband networks for the city of Arvada, Colorado. The wireless links were an effort by the city to address slow computer network speeds at the remote offices of: the Arvada Urban Renewal Authority, Majestic View Park visitor center, Lake Arbour Golf Course Club House, Arvada Police, West Woods Golf Maintenance, and Ralston House child resource center.

Slow computer network speeds at these remote offices meant that the Internet was also very slow – typically about 1Mbps. The cause of the slowness was city dependency on a legacy DS3 circuits with T1 speeds going to each office. At these sub-broadband rates, it was impossible to implement virtual servers and difficult to have uniform city IT network policies at these locations.



## Avoid Enormous Up Front Trenching Costs

Arvada was looking for a wireless solution that would perform like fiber optics but without the enormous up front trenching costs indicative of fiber deployments. They wanted full duplex gigabit service with extremely high reliability. Netunwired engineered the wireless links so that each one exceeds 99.99% reliability over the air at 1000Mbps.

## Swift Deployment

At the completion of the wireless project, not only were city workers able to benefit from the enhanced high speed network but the steep financial obligation of the monthly recurring service costs of the DS3 could be discontinued. In most cases, Netunwired was able to implement the new. Siklu links within three weeks of the formal request by the city.

## Highest Availability

Two of the longer wireless links include Siklu's proprietary [ExtendMM](#) long range protocols which enable mmWave connections to perform close to 100% reliability even at a few miles distance.

The picture on the right shows the wireless relay site at Apex Field Concession stands. The top two antennas point to the Arvada mountain top tower and the bottom antenna points across the street to the Ralston House. The middle antenna is for redundancy and so remains inactive unless the Siklu radio automatically activates it for signal fade recovery.

## In Summary

Netunwired provides solutions for the most challenging broadband system environments. From initial design and planning through to the final optimization of the network, Netunwired delivers the highest system performance at down to Earth prices. Whether it's a wireless video system or a data network for Internet access we have both the practical experience and the engineering background to deliver the solution. Our experience includes oil field operations, police surveillance systems, point-to-point communications, and data telemetry.



West Woods Golf, Majestic View Park visitor center, Lake Arbour Golf Course Club House  
Pictures courtesy – City of Arvada