

Ending the Digital Divide in the Heartland

About SRT Communications

With over a half-century of service, SRT Communications is the largest local telecom cooperative in North Dakota serving approximately 50,000 residential and business customers. SRT maintains a fiber optic, copper and wireless distribution and access network to provide essential universal lifeline service and advanced communications. Its customers enjoy a broad suite of services ranging from ultra high-speed access, dial-up Internet, wireless service and Cable TV as well as traditional telephone, leased line, frame relay, voice mail and long distance.

The Challenge

Based in Minot, North Dakota, SRT has put its extensive copper network to work to provide its customers 4 and 8 Mbps DSL service tiers using Zhone's MALC™ with 48 port ADSL2+ cards. This puts SRT's premium metro customers among the digital elite in the United States where broadband speeds average only 4.8 Mbps.

SRT Goes Future-proof with Zhone's Active Ethernet

"End-to-end system performance and superior management integration were deciding factors in SRT's selection of Zhone as the primary access vendor for our Active Ethernet build. We have a long standing relationship with Zhone and they consistently take an active partnership role in the success and performance of our network and our business."

Shawn G. Grosz,
SRT Communications, Inc.



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However SRT serves a diverse geography made up of both metro and rural customers. SRT's namesake, The Souris River runs through the heart of the city and extends into the still pristine Drift Plains where many of SRT's rural customers live. Except for the Souris

River and a sparse tributary of roads, the only thing connecting these customers to the world at large is SRT's Internet, cable and Universal Lifeline service. With many of SRT's rural customers located as far as twenty miles from a remote terminal drop, they were relegated to dial up internet access at kilobit speeds. The people of Minot faced a classic case of digital divide and SRT went to work looking for solutions.

The Selection Process

It was apparent that achieving service parity between its metro and rural customers was going to require trenching fiber. SRT used another vendor's MSAP platform for some early point-to-point Ethernet deployments, however the voice quality required them to review other options.

In an ideal world the new access system would provide an integrated management interface that offered improved network visibility and control. SRT wanted to manage all of their wireline services ranging from ADSL to Ethernet to EFM with a single management interface. They would be able to upgrade, add or change services without rolling a truck in much the same way they provisioned and managed their existing DSL services. Keeping true to their future proof philosophy, they wanted a system that was easily scaleable, and could grow with them. They were sold on the multi-service access strategy and the ability to provision multiple types of services from one integrated platform. In addition to simpler management and inventories, the net effect saved in opex, power and space.

During an evaluation of the leading MSAP platforms, SRT tested Zhone's MALC and zNID™ 4200 series multimedia FTTH gateway at five subscriber locations. Zhone's platform provided superior interoperability with SRT's existing Nortel DMS 500 switch. In the future SRT and Zhone plan to test interoperability with the Nortel Call Server 2000 for end-to-end VoIP services.

At the subscriber site, Zhone's zNID not only provides future proof functionality for high-value video services, but zNID's layer-3 intelligence supports Session Initiation Protocol (SIP) for VoIP services. This could enable SRT to integrate networked data for intelligent call processing. For instance, customers could automatically access global positioning maps or national phone registries as part of their VoIP service.

In the end, SRT was both familiar with Zhone's platform and Zhone as a company. Experience had taught SRT that they could count on both. The project was a go.

Breaking Ground- The Project

SRT maintains a five year master plan that takes into account regulatory issues, city planning and industry trends such as the projected growth and bandwidth considerations associated with HD-IPTV. With fiber and optical components less than a tenth of the cost they were just five years ago, SRT opted to future proof its network by laying four fiber drops to each subscriber location. During the winter months when trenching was impossible, SRT worked to gain right of way easements from each customer and from the owners of adjacent farmland. While SRT had free access to public use lands along highways, they opted to secure private easements whenever possible. Any future road construction or public projects could impact the network.

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SRT houses all active electronics within the CO. The SFPs in the uplink are GigE copper and the SFPs in the Active Ethernet card are single fiber 1550 nanometer. With the project underway, SRT expects to finalize the phase-I deployments by spring of this year extending voice and ultra high-speed data services to 129 subscriber sites. In July they will advance construction on phase-II deployments. SRT continues to evaluate future uses for FTTH including advanced digital video services to its customers using the MALC and Zhone's zNID.



As director of network technology, Shawn Grosz oversees network planning and operations, outside plant engineering and information technology services for SRT.

Best Practices in FTTH Provisioning

When asked about best practices and lessons learned that SRT could pass on to other providers, Shawn cited the importance of selecting platforms for interoperability and integrated management systems. He also underscored the importance of reducing install times at the subscriber site. SRT pre-loads software and technicians actively look for ways to streamline the process to lower operational expense and to reduce customer inconvenience.

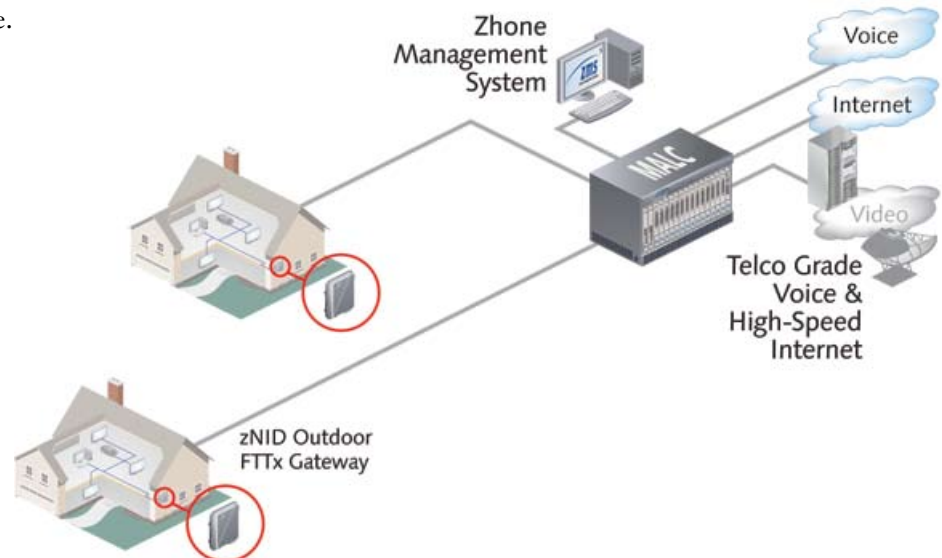


Figure 1: The MALC delivers Active Ethernet FTTH services to SRT's rural customers and ADSL2+ to metro subscribers



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