



Northeast Texas Regional Education Telecom Network Students Learning Without Boundaries

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CASE STUDY: Northeast Texas Regional Education Telecom Network



In late 1995, many rural schools in Northeast Texas were not able to provide enrichment curricula such as physics, calculus, or second and third year French and Spanish on their own. They visualized being able to do so cooperatively via distance education. Consequently, a meeting of public school superintendents was called to explore the possibility of creating a regional integrated telecommunications network. The goal of this network would be to support multiple connections among schools for the purpose of providing distance education via videoconference. Hence, the NTRETN was conceived.

The immediate outcome of this meeting was that technology personnel, from the Region VIII Education Service Center (ESC8) located in Mt. Pleasant, Texas, were tasked with exploring ways to make this vision a reality. Over the next year and a half, a network infrastructure was designed, service providers and hardware vendors were obtained, and funding was sought. Once implemented, the network was expected to support distance learning via video, Internet applications, and emerging IP telephony capabilities. Through

generous monetary grants from the Texas Infrastructure Fund (TIF) and the Texas Infrastructure in Education (TIE) the project was born and the NTRETN consortium was organized and launched. Since 1997, funds from NTRETN members, TIF, and E-Rate have been used to sustain and enhance the infrastructure and to hire ESC8 management and support personnel.

By the summer of 2003 the NTRETN network bandwidth available from leased T1 lines was hopelessly limited in the face of increasing demands of academic Internet access. In addition, budget cuts by the Texas Legislature reduced technology funding which caused great concern for the future of the NTRETN. As a result, NTRETN leadership began seeking an economical new infrastructure to replace the old, overburdened one.

In January 2004, the NTRETN contracted Trillion to construct and manage the largest high-speed wireless broadband network in Texas for 81 sites. The NTRETN received a funding commitment of over \$1 Million from the Federal E-Rate program to build and service the NTRETN wide area network (WAN).

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There are currently 46 public nonprofit education institutions that are members of the NTRETN consortium including school districts, the ESC8, Hopkins County Special Education Co-Operative and Bowie County Transportation Co-Operative. And many of the public school districts have multiple campuses that will be linked together by a district WAN designed by Trillion, as well as connect them to the NTRETN WAN. This hybrid network will provide up to 100 Mbps providing a minimum of 15 times the bandwidth NTRETN is delivering to schools today.

Trillion will also provide an integrated suite of managed services that will provide the following benefits to NTRETN members:

- 1) A managed network that will provide 24x7 network monitoring and management services -- This assures each member a highly reliable service that does not tax local personnel and equipment resources.
- 2) A sophisticated traffic routing scheme that will guarantee that data traffic generated at each member's site will be isolated to that site, eliminating traffic jams on the NTRETN WAN.
- 3) Customized website on the Trillion "WiZone" -- For instantaneous network status information, technical support, and trouble ticket reporting, which will ultimately eliminate the necessity for NTRETN support personnel, saving the consortium salary, equipment and office space expenses.
- 4) A dedicated, local support technician.
- 5) High-quality data, IP telephony and distance education video network service, thus continuing and enriching the original vision and mission of the NTRETN consortium to contribute to improved student learning and the overall educational development of the region.
- 6) A unified e-mail and content filtering system that allows for a high degree of local autonomy over filtering policies, and a robust and secure firewall to guard against intrusion from the public Internet and other member districts.

The NTRETN expects the new Trillion wireless WAN to provide unprecedented bandwidth to enable student learning without boundaries.

"The new Trillion wireless WAN will address the growing bandwidth needs of school districts in our region and provide scalability for future needs," said David Mabe, Deputy Executive Director, Region VIII Education Service Center. "And by managing our network, Trillion will make it possible for NTRETN technical resources to focus on other needed services."

The Federal E-rate grant will fund 72% of the cost of the building of the network and yearly service. It is anticipated that the network will be installed and operational by end of summer 2005.

See www.esc8.net/aboutus.htm for a brief view of the official Origins, Vision and Mission of the NTRETN Consortium.

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