Ascend

Midwest Rural Telemedicine Consortium

User Profile

It was a harsh winter in Iowa. The only thing heating up the state was the collective excitement over the popular state wrestling championship. In Algona, high school students were competing in a meet when, in the middle of the match, one of the star wrestlers badly separated his shoulder. The roads were a sheet of ice and there was no way to rush the young athlete to a specialist in Mason for a consultation. But there was a way for the specialist to see the student, because the Kossuth Regional Hospital in Algona is part of a statewide telemedicine videoconferencing network powered by products from Ascend Communications.

Kossuth Regional Hospital is one of over 38 remote healthcare facilities that have signed up for the network, a program created and run by the Midwest Rural Telemedicine Consortium (MRTC). The conferencing network is open to a broad range of specialties, such as interactive consultations, continuing education and administrative communications.

Dr. Harrison Pratt and Tina Collins confer on a patient's X-ray with Dr. Dale Anres over the MRTC telemedicine network

Ken Hatch, network services coordinator for the Project Office that sets up and manages the network, believes that the key to its success has been making the network very accessible to physicians — by going where the action is.

The Doctor is In

"We wanted to make it easy for clinicians to access the video conferencing network," Hatch explains, "Which meant putting drops in several locations in a hospital, like the Emergency Department, an examination room and a Training or Conference Room." So he searched for an inverse multiplexer that would give him the flexibility to set up the network this way. He finally found the one system that would give him this flexibility — the Ascend Multiband™ family of inverse multiplexers.

"MRTC terminates a T1 cable in the Ascend box. Out of one of the V.35 ports runs a V.35/RS-366 cable to an Ascend Remote Port Module. Wiring is connected to an RJ-45 patch panel. This gives us the ability to support up to 11 videoconferencing drops in a hospital. Larger facilities, like Kossuth, have requested as many as eight locations already, while remote clinics may need only one."

Of course, there was no way to know exactly how many facilities would join the network or how many drops each hospital would want. So it was important to have an upgrade path to rely on.

The MRTC is designed to study and promote telemedicine in rural Iowa. In fact, the MRTC is the fastest growing telemedicine network in the country. There are currently over 38 participants, including rural hospitals, regional educational centers, clinics and even long-term care facilities. More facilities are continuing to sign up to be on the network.

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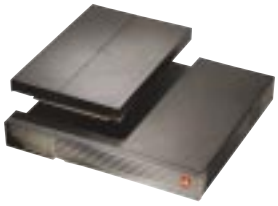
The Ascend Solution

Ascend Multiband Plus

The Multiband Plus is designed for users who need high-speed bandwidth on demand to support multiple applications such as video-conferencing, electronic imaging, disaster recovery, private network backup and overflow. Use it to allocate the bandwidth of two T1s to a single application such as a video bridge, or divide the bandwidth between four separate applications, without wasting bandwidth.



Ascend Multiband VSX BRI

The Multiband VSX BRI is a low-cost, scalable inverse multiplexer that lets companies extend their videoconferencing networks to branch offices over ISDN BRI lines. Use the Multiband VSX BRI to set up videoconferences over a single BRI line at 128 Kbps. As your videoconferencing needs grow, add an expansion module that provides up to 512 Kbps bandwidth over four BRI lines.

"The Ascend product line gives us the flexibility to offer each facility exactly what it needs today but with room to grow," says Hatch. "That level of investment protection is extremely important in a project like this where you really can't predict the level of participation and things change very rapidly. Ascend's products were the only ones we found with a proven migration path."

Medicine a la Cart

The other key to accessibility was the videoconferencing equipment itself. The hospital needed a small, mobile cart that could move easily in and out of tight spaces. But the project team could not find exactly what it needed, so it built its own unit, which it dubbed "Dr. Smith" (Simple, Mobile, Integrated, Telemedicine Hardware).

"We wanted a multi-purpose medical videoconferencing cart because we wanted to support as many types of examinations and consultations as we could," Hatch says. Which is why he also decided that it was important to support both interactive video and teleradiology on the same system. "No one else was doing this, as far as we could tell but we thought it was important to be able to do teleradiology over the network. Most of the rural hospitals and clinics don't have dedicated radiologists — a specialist may only come around to read X-rays once a week in some areas."

In order to be able to transmit X-rays over the network and support interactive videoconferencing at the same time using the same equipment, Hatch had to be able to separate out the channels on the inverse multiplexer and dedicate them to the two applications. "We had that flexibility with the Ascend equipment," Hatch says. "We use one of the V.35 ports to dedicate 18 channels of ISDN PRI multirate service to support interactive videoconferencing and we use the second V.35 port to dedicate five channels to teleradiology."

Hatch and the other members of the MRTC Project Office have gone to great lengths to ensure that Iowa's first telemedicine project is a big success, by making the program flexible, accessible and multi-functional. But most of all, it had to be dependable.

"Once physicians begin to use the videoconferencing or teleradiology facilities, they come to rely on them. So above all, the network has to be dependable," Hatch says, "and the Ascend equipment has performed reliably from the day it was installed."

Healthy network, healthy patients. That's the goal of the nation's fastest growing telemedicine program.

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