

## Distance Learning / Resource Sharing at the BOCES in the Albany, NY area

### CASE OVERVIEW

#### Customer

- Albany NERIC, New York

#### Application

- Distance learning video conferencing system for students across 38 high schools, which provides cost-effective access to specialized classes

#### Video Conferencing System

- 38 x hai560™ MPEG-2 encoder/decoders for ATM video conferencing network
- Renovo Software's TC Reliance™ session scheduling and management software
- Verizon ATM Network

### hai500™ PRODUCT HIGHLIGHTS

- Up to 10 audio/video channels
- DVD quality video & audio
- Built-in wideband multiplexer
- Broad range of IP and ATM network interfaces including Ethernet, T1/E1-IMA, DS3/E3 and OC3
- IP Unicast, Multicast, raw UDP, RTP, RTP/RTCP support and IP over ATM capability
- Lowest end-to-end latency in its class
- Compact 1RU or 3RU design
- NEBS Level 3 certified
- Redundant AC or DC power supplies

### hai500™ APPLICATION MARKETS

- Distance Learning / Distance Education
- TelePresence
- Medical Systems

*In the Albany, NY area, the Boards of Co-operative Educational Services (BOCES) have been involved in distance learning for 10 years. The main driving force behind the project is resource sharing to allow improved access to specialized classes.*

### Video Conferencing Requirement

"Often, we'll have 4 to 5 students in a year group in one school wanting to study a niche subject like Russian", says Mike Sylofski, distance-learning coordinator for Albany NERIC. "Naturally, it's not cost-effective to have a traditional class so small. However, with distance learning we've been able to bring several of these groups together to achieve much more satisfactory class numbers of 15 to 18. Distance learning has also allowed us to bring together groups of students for many other reasons, such as very high achievers needing specialist tuition."



"Typically it takes students a few days to adapt to the cameras in our distance learning classrooms, as well the sight of other students from other schools. However, students soon adapt, and distance learning is quickly treated like a regular classroom".

However, after 10 years, Albany NERIC's video conferencing equipment was becoming too old to support effectively, and the organization sought a new, state of the art and non-proprietary standard system, which could be expanded readily across it's schools.

### The Solution

"We've had a technology partnership with Verizon Enterprise Solutions, and they suggested a new distance learning system based on HaiVision's hai560™ encoder/decoder operating with an ATM network", says Mike Sylofski.

The Albany NERIC's system uses 38 hai560™ systems connected by DS3 to Verizon's ATM network, with multipoint connections using a multicast network capability. The hai560™ MPEG-2 encoder/decoders provide DVD-like, high quality video and audio performance, with minimal delays, and robust operation.

The new system connects specially designed classrooms in participating school districts in the Capital Region (CRB BOCES); Hamilton, Fulton, and Montgomery counties (HFM BOCES); and Washington, Saratoga, Warren, Hamilton, and Essex counties (WSWHE BOCES) via a dedicated fiber optic network. Collectively, these BOCES make up the Albany NERIC.



## The Solution (cont.)

The system also includes Renovo Software's TC Reliance™ session scheduling and management software, which allows educators, administrators, and technicians to easily launch and monitor interactive sessions across the network.

A typical Albany NERIC distance learning class involves three classes learning together, with each class able to see the teacher and the students, using four video monitors per room. The class with the teacher has two transmit and three receive streams, and the other classrooms have single transmission and three receive streams.

The video conferencing network also provides a powerful data networking capability. The **hai560™**s allow the schools' data LANs to be bridged, removing the need for a separate wide area network between Albany BOCES' schools. In addition to high speed, inter-school communications, the ATM network also provides web access for the schools. Critically, the data network does not affect the video conferencing performance, and vice versa.

## Benefits

For Albany NERIC, there have been many benefits with the new distance learning system. "The new state-of-the-art interactive video network serving Albany's BOCES makes much more efficient use of the present fiber optic network's bandwidth capacity, while delivering a much wider range of services," said Brian Wilson, video product manager for Verizon. "As a result, students across New York have access to a higher quality of education, regardless of their location."

"With this upgrade to the BOCES distance learning network, students throughout the state now have access to a much broader selection of course offerings, enhanced interaction with students and instructors at other institutions, and greater exposure to new technologies," added Mike Sylofski, distance learning coordinator for Albany NERIC.

"We've been really pleased with the video and audio performance, which is distinctly better than the previous system. The new distance learning system has a very high appeal for students and teachers – we know this from our own surveys. Certainly, most students would take another distance learning course, and they would also recommend one to a friend."

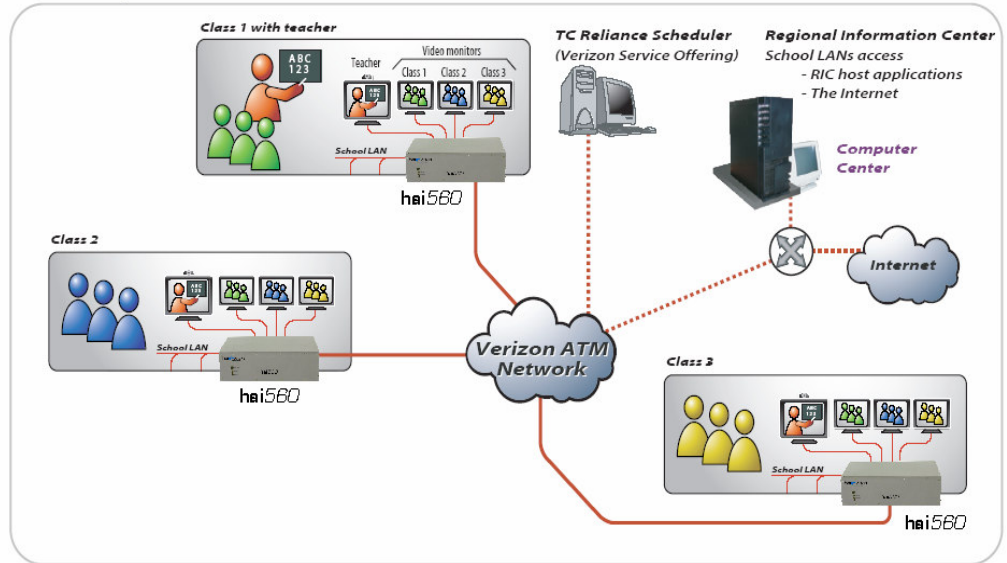
## hai500™ series

Leveraging state of the art real-time video compression technology, the award-winning **hai500™** series provides fully bi-directional, multi-stream broadband MPEG-2 encoding and decoding over IP and ATM networks for 24/7, mission critical applications where down time is not an option.

The **hai500™** series is designed to deliver sustained network performances, integrated wideband multiplexing and full motion DVD-quality video and CD-quality audio for natural face to-face broadband video communication or accurate monitoring, surveillance and tracking. Its powerful processor and flexible architecture deliver the best video performance of its class in terms of video bit rate, frame rate consistency, jitter tolerance, lip sync drift and latency.

Any model of the **hai500™** series can be configured with inter-changeable A/V compression or network interface blades in both centralized and meshed network topologies. A/V compression blades provide dual decoding or encoding/decoding capabilities while network interface blades support OC3 MM/SM, DS3/E3, T1/E1-IMA and IP Ethernet.

## Albany NERIC Configuration



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