



DATAPATH | Case Study

NET TELEVISION AUTOMATES NETWORK OPERATIONS WITH MAXVIEW®

Headquartered in Lincoln, Nebraska, NET Television (NET) is an umbrella organization encompassing units of the State of Nebraska and the University of Nebraska. NET produces a wide portfolio of award-winning educational programming for preschoolers through adults, which has been distributed in all 50 states and internationally. Its services include operating Nebraska's public television and radio network, multiple synchronous and asynchronous distance-learning systems, and a statewide videoconference network. They are also an uplink facility for nationwide broadcasting of regional public television programming.

The Challenge

NET chief engineer David Stewart has no problem admitting that he's a bit of a control freak. He has to be; it's his job. From the company's principal operations center, his network operations staff keeps the state's extremely diverse networks running daily. This includes controlling satellite, cable, videoconferencing, TV, DTV and FM broadcast equipment.

Until four years ago, NET grappled with multiple management systems from different vendors to monitor and control its statewide broadcast, videoconferencing and distance-learning network. This created several obstacles to David and his staff.

At a Glance:

Challenge	NET operations staff has to keep multiple, diverse statewide networks up and running, while relying on multiple management systems from different vendors to do so.
Solution	MaxView's flexibility and automation features enabled consolidated control over all networks, including NET's satellite videoconferencing, C band, Ku band and terrestrial broadcasting networks.
Impact	Automation reduces network downtime and increases operations efficiency by allowing NET to reallocate staff to other critical areas.

For example, an FCC DTV ruling demanded NET add new equipment. With disparate monitor and control (M&C) systems, it often took days, weeks, or even months to integrate equipment components from the various software systems. Also, because the software was not intuitive and flexible, whenever NET had a problem operating one of the systems, it had to call that vendor's tech support. What made matters worse was that NET would receive an invoice for this support.

“For years, we had separate M&C systems from different vendors for our diverse network. Anytime NET had an equipment change, it was very hard to reflect that change in the previous M&C systems because they didn't operate similarly or talk to each other. Now, we've eliminated that problem with MaxView.”

David Stewart, Chief Engineer, NET

As an added pressure, NET's satellite videoconferencing network was growing exponentially, which cemented the company's desire to be autonomous. That's when NET decided to centralize its network control, managing everything from Lincoln while minimizing distributed operations.

Solution Sought

To make future changes in the control software as they saw fit, NET wanted the ability to integrate new equipment and run the entire network their way. It segmented their monitor-and-control project into four phases, the goal being to architect one system that would meet both their immediate and long-term needs. The company required that the system be flexible and adaptable, so it could grow into all phases of the project. The complete solution would ultimately control

all of NET's satellite videoconferencing, C band, Ku band and terrestrial broadcasting networks.

As a state-run broadcaster, NET followed government procedure to find a vendor. It first sought out all satellite/broadcast network-management software providers to accumulate information about current technologies, then crafted an invitation to bid based on the four-phase model. NET soon identified MaxView as the clear solution for its challenges.

The MaxView® Advantage

Total Control Over the Entire Network – Because MaxView's strength is in managing both standard and non-standard devices, it was a perfect fit for the diversity of legacy analog and new digital equipment in NET's network. With MaxView, NET can implement monitor-and-control capabilities over its entire system.

Flexibility – MaxView's flexibility is probably the most important product attribute to NET. The company now has the ability to set up macro and super-macro commands that will initiate a command sequence with a single keystroke. For example, the simplest and most-used macro changes inputs on an audio-video routing switcher to feed an uplink. Prior to MaxView, NET's staff had to choose the device, set the cross-points and then issue the command manually.

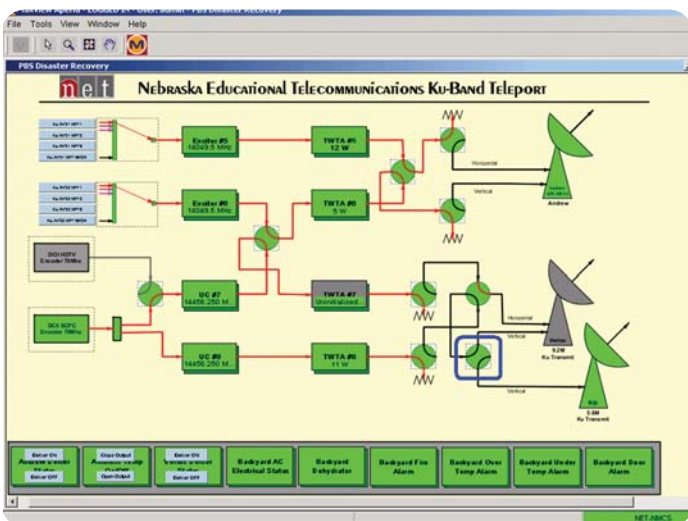
MaxView still allows NET to operate manually if it chooses; however, MaxView's automation capabilities give NET the option to set up virtual devices comprised of macros, super macros and device elements. NET now has a command button for switcher cross-point selection. By simply clicking on the command button within the graphical user interface, the switcher routes any input to any output.

Maximum Operations Efficiency – Using MaxView, NET consolidated its operations considerably. What used to require several operators now takes only one. For example, uplink operations used to be cumbersome and

unreliable. Not having a reliable control system meant that NET had to have a person at the remote uplink teleport to either assist or control the uplink. With MaxView, NET can now reliably and flexibly operate both teleports automatically from a central satellite transmission center. Secure in the knowledge that these teleports are now under control, NET was able to reallocate some of its staff to other critical areas.

Reduced Network Downtime – NET reduced network downtime through MaxView’s ability to:

- Detect network failures early
- Automate fault management to eliminate operator errors
- Solve problems automatically with super macros



For example, NET uses MaxView to automatically recover from catastrophic failure of the primary uplink. Executing a process captured in a flowchart, MaxView Maestro™ event manager automatically repositions the backup antenna, retunes the upconverters, balances power on the amplifiers and makes the appropriate waveguide switches necessary to get the signal back on the satellite. In addition, the system will also alert the chief engineer of the problem via his cell phone.

NET has more than 10,000 macros, super macros and trigger equations to handle frequency coordination and conflict resolution for its remote and local satellite videoconferencing network uplinks. This prevents double illumination of the satellite due to operator or scheduling errors, and provides quick and easily manageable frequency changes.

Reduced Operations Costs – Annual costs in the old days of driver, screen and configuration modifications were quite expensive. The many diverse systems each required unique drivers and were very limited in what they were able to do. The hidden cost and length of time to get changes or upgrades into the system was unacceptable for NET.



NET chief engineer David Stewart improves efficiencies with MaxView.

With the maintenance program offered by DataPath, all drivers, upgrades and enhancements are included with no hidden costs. The maintenance program expense is included in NET’s operating budget so that there are never any unknown expenses for maintaining and/or modifying the system.

Fast New-Equipment Integration – Before MaxView, it took several weeks and/or months to add new equipment. Now it takes an average of one week.

For more information, visit www.datapath.com or call 866-855-3800.

About DataPath

Founded in 1996, DataPath designs and delivers satellite and wireless communications networks around the world. The company is known for rapidly delivering reliable, mobile communications that operate in even the most extreme conditions to support customers that include the U.S. Army, the U.S. Marine Corps and emergency first responders. Headquartered in Duluth, Ga., DataPath maintains offices in Fort Monmouth, N.J., Nashua, N.H., San Diego, Calif., and Tampa, Fla. For more information, visit www.datapath.com or call 866-855-3800.



DataPath, Inc. • 3095 Satellite Boulevard • Suite 600 • Duluth, GA 30096-5801 • 678-597-0300 • 866-855-3800 (Toll Free) • www.datapath.com

Copyright 2007 DataPath, Inc. All rights reserved.

04/2007