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CASE STUDY

MontanaPBS Shifts to Agile Broadcasting With Help from Raritan KVM Solutions

With the broadcast industry shifting away from specialized broadcast equipment and moving towards application software running on COTS (commercial off-the-shelf) hardware, TV station operations centers are looking more like data centers — with racks of standard and virtualized servers, network switches, and other IT equipment.

Broadcast editing, playout, distribution, and other functions that bring PBS television shows to the public now run on standard servers. "Usually you just connect up to a server, launch the software — and you are in business. That is where the industry is going," says Josh Winterrowd, IT Manager at MontanaPBS. "It gives us flexibility, and there's tremendous savings potential because you are standardizing your infrastructure, which helps reduce equipment costs and maintenance, and improve uptime."

To support the move to a new broadcast automation system, MontanaPBS selected Raritan Dominion® KX III switches and User Stations to provide workers access to content creation and programming distribution systems running on servers. The television station was familiar with Raritan; it has been using Raritan's Paragon® II analog switches in its operations. Based on the "rock-solid performance of the Paragon and Raritan's support team, we were confident in staying with Raritan for the new KVM-over-IP switches," says Winterrowd.

Among the advantages of the KX III KVM switch over competing broadcast systems is its ability to connect from anywhere to any computer or server. The KX III provides access no matter the operations state of a server. Whether the server is powered off or experiencing a fault, it can be accessed with the KX III. This is achieved by sending encrypted keyboard, video, and mouse signals using the KX III's out-of-band network — which is separate from a firm's production network.

The User Station further simplifies access to servers and other devices connected to the KX III switches residing in equipment racks. The User Station — which supports 1080p video sessions at 30 FPS — can simultaneously access eight or more servers.

According to Winterrowd, the User Station was one of the key selling points. "Being able to sit down at a User Station and access any of our broadcast systems, eliminates the need to work on one system and then physically move to another system. You're also not waiting on a machine if somebody else is working on it," says Winterrowd. "The User Station has boosted productivity. We have a uniform interface; after logging in, we can pull up any system. Users can, for example, control down converters, up converters, and access router control panels and video player ports."

PBS®

Customer

MontanaPBS — the Public Broadcasting Service affiliate based in Bozeman, Montana — serves the community with educational and entertainment television programming and online content.

Challenges

- To improve flexibility and workflow for preparing and delivering quality broadcast content to its viewers, MontanaPBS planned to move to a new software-defined broadcast automation system.
- To support the move the television station needed tools for users to access the new broadcast system, as well as to manage the IT infrastructure supporting both broadcast and business operations.

Solution

- Dominion® KX III KVM-over-IP Switches
- KX III User Stations

Results

- Broadcast operations, Engineering, IT personnel, and other users now have uniform access to the station's systems — from content production and distribution systems to business applications and databases.
- Uptime has improved as a result of the IT staff's ability to access equipment from anywhere to perform diagnostics and other maintenance.
- Servers and other equipment have been consolidated in the television station's NOC resulting in streamlined operations — with less cable clutter and a smaller real estate footprint.

The master control operations/traffic staff manages video feeds and provides the broadcast automation system with the actual video files to be played for PBS viewers. From any of the Raritan User Stations, the staff can access, configure, and control broadcast systems. "They are manipulating video on a tight timeline, so they need to be very precise about where they click — and they like to work fast," says Winterrowd. "The fast and accurate performance of the KX III User Station was a big selling feature. What you see on a remote User Station is exactly what you see if you were sitting at the rack in front of the connected equipment." The User Station also has a mouse synchronization feature so that users can be productive immediately.

Depending on defined permission levels, servers can be accessed from the User Station, a PC, tablet, or smartphone. Typically, MontanaPBS' operations workers access equipment using the User Stations, and engineering and IT use their PCs and laptops for access.

Josh Winterrowd, IT Manager at MontanaPBS

Programming Uptime

Keeping the television station running smoothly is a four-person engineering department.

If any server becomes unavailable, the team uses the KX III to troubleshoot and restore operations.

Since the KX III provides BIOS-level connections, servers are accessible even if a server's operating system is not working or the network interface card has failed. If an Internet connection is unavailable, the KX III switch provides a dedicated modem port for emergency dial-up access. It also has dual power and dual Gigabit Ethernet with automatic failover.

"My office is across the hall from our broadcast NOC; so I am always connecting into the KX III to pull up server windows so that I can configure something from my desktop," says Winterrowd. "It really is nice because it saves me a trip and I'm not tying up a User Station in the NOC."

For emergencies or out-of-hours work, Winterrowd connects to KVM-managed equipment from his home over a VPN.

Another selection criterion for the KVM-over-IP switch was ease of set up without interrupting daily operations. The Dominion KX III is a self-contained appliance with all key features preloaded — including internal authentication and web access — so it installs in minutes. Another big selling point is that the KX III is Java free, says Winterrowd. "It's great to not perform Java updates constantly — which can be a nightmare."

"The core benefits of Raritan's solution are uniform and reliable access to our systems and ease of use," says Winterrowd. "We have become more agile and responsive now that all our broadcast equipment is housed in racks in the NOC and are easily accessible using Raritan's KVM-over-IP solution."

Ready to find out more? Contact Raritan today.
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