



KVM Over IP Brings Ultimate in Flexibility to German Broadcaster Operations

- **Industry:** Broadcast
- **Client:** MCS GmbH Sachsen
- **Region:** Germany
- **Solution:** KVM-over-IP
- **Products:** Emerald® KVM-over-IP, Boxilla KVM Manager



BACKGROUND

As technical service provider for a German public radio and television broadcaster with sites across the country, MCS GmbH Sachsen oversees a comprehensive array of day-to-day technical operations, including device/technology procurement, project planning for broadcast technology, system administration, replacing and upgrading systems, and training operators and employees.

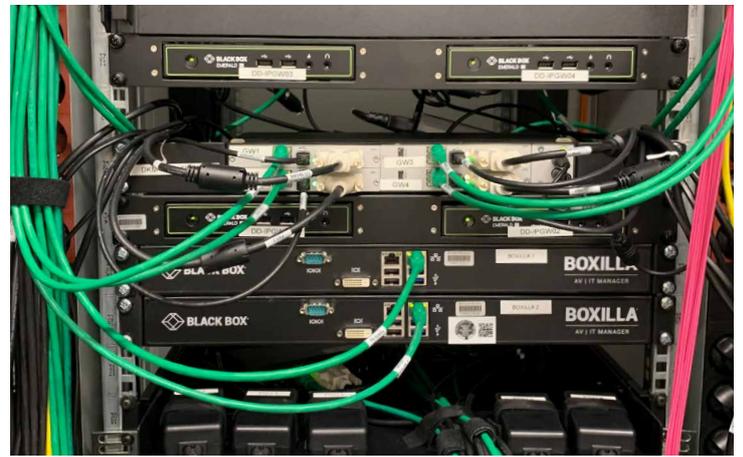
MCS successfully implemented Black Box KVM solutions to support radio and television broadcast operations for its client in the past. The challenge back then was to connect all control room operators with devices located remotely in central equipment rooms. The installation, which up until recently exceeded 200 endpoints, met this requirement while enabling acoustic decoupling and reducing clutter in the radio broadcast control room.

THE CHALLENGE

Because the client's KVM system was implemented over years through a series of projects, the system grew into a patchwork of "island solutions" with seven different KVM matrices all running on multiple KVM grids. At the same time, distance limitations of the proprietary KVM network installed to support television broadcast operations made it impractical or impossible not only to connect all operator workspaces to all equipment rooms, but also to connect radio and television control rooms to one another across the broadcaster's extensive campus and different sites. Growth had become difficult for the broadcaster, requiring complex and costly workarounds, and the separation of resources prevented both the radio and television divisions from operating efficiently.

Thus, the challenge presented to MCS was to implement a flexible IP-based KVM system that would simplify management, support scalability, enable cross-functional access to content, and take advantage of existing IP infrastructure to extend connectivity campus wide and between different sites. And, eventually, the system should allow to consolidate both radio and television broadcast divisions on a single KVM system that enables the broadcaster to achieve trimediality and leverage all of its resources to create and deliver content across its radio, television, and online/mobile services. To ensure uninterrupted broadcast operations, MCS needed to deploy the new KVM system in an incremental migration, allowing a soft migration by bridging the existing proprietary KVM matrix solution and the new IP-based system.





THE SOLUTION

Based largely on its positive experience working with Black Box DKM systems, MCS chose a Black Box Emerald® KVM-over-IP system with an Emerald Remote App license and the Boxilla® KVM system management platform. The company is building out a system that so far includes 47 Emerald endpoints on the general IP network that also runs any server, user computers, and other equipment. Because all switches are interconnected at 40 Gbit/s, bandwidth will not be an issue. The KVM system will support workstations across radio and television broadcasting — 360 days of live programming each year — and multiple operators working at different times will be able to share connected workstations to access remote computers and perform their jobs.

“Black Box KVM systems had performed reliably over the years for live broadcasting operations, and we’ve always appreciated the amazing support we get from the company,” said Andreas Haupt, technical engineer and system administrator at MCS GmbH Sachsen. “In making a move to KVM over IP for both radio and broadcasting, we’re able to take advantage of the company’s expertise and the proven performance of the Black Box Emerald KVM platform.”

THE RESULTS

Using the Black Box Emerald KVM platform, MCS is gradually deploying a single, flexible, and future-proof IP-based solution that is also connected to the legacy proprietary KVM matrix switching system and will connect all broadcast control rooms, controllers, and directors. Thanks to the Boxilla platform, the Black Box solution is easier to set up, maintain, and scale than the broadcaster’s legacy networks. The KVM system also offers more reliable and intuitive operation while enabling cross-functional access to resources. Because there is no learning curve and no performance loss with the shift to IP, operators will be able to continue working as usual through the migration.

“It’s exciting to see MCS taking this KVM system to a new level, with much more extensive connectivity and greater access to resources across various broadcast divisions and departments,” said Daniel Berkemer, KVM business development manager for Black Box EMEA. “Cross-functional agility is critical for broadcasters serving audiences on multiple platforms, and this migration to a comprehensive IP-based KVM system will deliver valuable new efficiencies and much greater flexibility.”

Emerald uses network switches over the facility’s standard IP infrastructure, so new workstations or rooms can be brought online quickly and simply via the Boxilla interface, regardless of their location. With multiple IP switches connected via fiber, MCS technicians can add a new workstation simply by connecting the Emerald device to one of the switches. Distance is no longer a limiting factor, and scalability is ensured with a virtually unlimited number of ports. The current deployment supports HD, but Emerald’s support for 4K will enable the incremental addition of 4K workstations in the future.

Connected sources can be accessed only through physical access to a KVM device that is configured in the KVM system, protected through user authentication, and uses an encrypted IP connection so the network is inherently secure. If needed, MCS can grant external access over the Internet using a secure VPN connection — a task administrators could not perform with the older proprietary KVM matrix.

Although MCS technicians can access the on-premises Emerald system by logging in to Boxilla from a browser, MCS has taken advantage of the Emerald Remote App to enable its IT support and maintenance team to access sources from everywhere on the campus and work partly from home. The Remote App also gives MCS a secure and convenient way to grant access to third-party suppliers for maintenance. (They can use the app and an MCS-supplied laptop to connect via secure VPN.)

The combination of Emerald KVM physical extenders and the Emerald Remote App, all running on IP infrastructure, will introduce greater flexibility, scalability, and efficiency across all broadcast services. Free from the technical constraints of its old system, the broadcaster will be able to turn more of its time and resources toward creating compelling content for its radio, television, and online/mobile audiences.