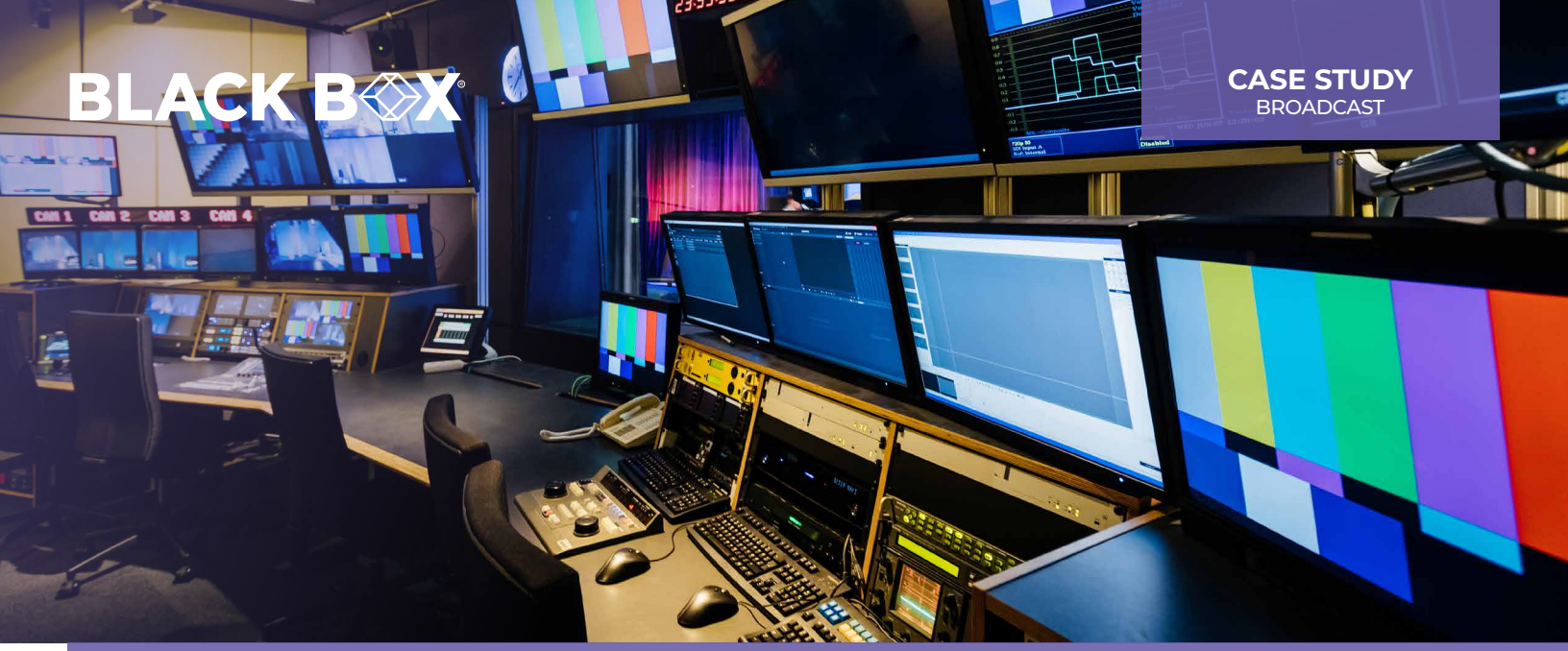


BLACK BOX

CASE STUDY
BROADCAST

KVM Over IP Brings Ultimate in Flexibility to German Public Broadcaster

- **Industry:** Broadcast
- **Client:** German Public Broadcaster
- **Region:** Germany
- **Solution:** KVM-over-IP
- **Products:** Emerald® KVM over IP, Boxilla® KVM Manager

BACKGROUND

A technical service provider for a large public radio and television broadcaster with multiple sites 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.

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

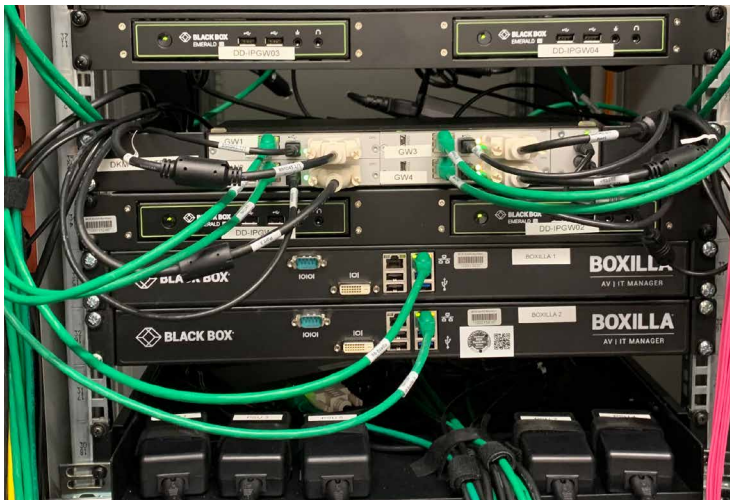
THE CHALLENGE

However, because the KVM system for radio broadcasting 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 one KVM grid. At the same time, distance limitations of the proprietary KVM network installed to support television broadcast operations made it impractical or impossible to connect not only all operator workspaces to all equipment rooms, but also radio and television control rooms to one another across the broadcaster's extensive campus. Growth had become difficult, requiring complex and costly workarounds, and the separation of resources prevented both the radio and television divisions from operating efficiently.

To address this problem, the service provider decided to consolidate its radio and television broadcast divisions on a single KVM system that would simplify management, support scalability, enable cross-functional access to content, and take advantage of the existing IP infrastructure to extend connectivity campus wide. The resulting system would permit the broadcaster to achieve trimediality and to leverage all of its resources to create and deliver content across its radio, television, and online/mobile services. To ensure uninterrupted broadcast operations, the service provider needed to deploy this new KVM system in an incremental migration, allowing for continued use of legacy systems through completion of the shift.

THE SOLUTION

Based largely on its positive experience working with Black Box DKM systems, the service provider chose a Black Box Emerald KVM-over-IP system with an Emerald Remote App license and the Boxilla AV/IT and KVM system management platform. The company is building out a system that currently 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 Gbps, 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.

RESULTS

Using the Black Box Emerald KVM platform, the service provider is gradually deploying a single, flexible, and future-proof IP-based system that will connect all radio and television 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 our longtime customer 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, EMEA, for Black Box. "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, 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. Because of the system's low bandwidth consumption, it is now possible for the end customer to link their headquarters with a satellite studio in a different city 40 miles away.

Connected sources can be accessed only through physical access to a KVM device that is configured in the KVM system, so the network is inherently secure. If needed, the service provider 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 the service provider's technicians can access the on-premises Emerald system by logging into Boxilla from a browser, the company has taken advantage of the Emerald Remote App to enable its IT support and maintenance team to work partly from home. The Remote App also provides a secure and convenient way to grant access to third-party suppliers for maintenance. (They can use the app and a laptop supplied by the service provider to connect via a secure VPN.)

The combination of Emerald KVM physical extenders and the Emerald Remote App, all running on an 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.