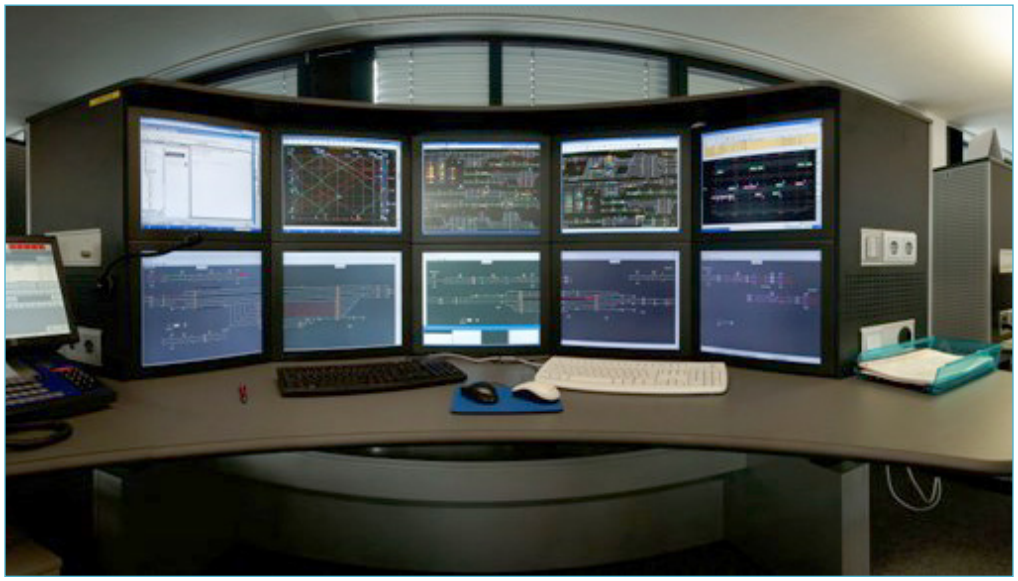
Austrian Federal Railways Keep Traffic in Check with Matrox Extio KVM Extenders

Österreichische Bundesbahnen deploys Matrox Extio to enable remote desktops of up to 10 displays to better manage operations

By Ryan Szporer, Matrox Graphics Inc. and Eckart Engel, ARGE VLZ



Images courtesy of ÖBB/Wolfgang Grasl

Matrox Extio KVM extenders successfully separate operators' desktops at five central Österreichische Bundesbahnen (ÖBB) offices across Austria from their host systems and each now span up to 10 displays.

Matrox Extio Series

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Eckart Engel
Project Manager,
ARGE VLZ

Summary

Österreichische Bundesbahnen (ÖBB; Austrian Federal Railways) already automates railway traffic across a distance of over 5000 km. Adding hundreds of meters between employee desks and their computers to enhance system-wide operations was an easy decision to make, made easier through the use of Matrox Extio F2408 KVM extenders. Solutions-provider ARGE VLZ, an Austrian traffic-monitoring-market leader, was initially contracted to address ÖBB's remote-computing needs. The task at hand — to optimize ÖBB employees' workspace by minimizing heat emissions and background noise while maximizing desktop space — was technologically demanding to say the least. Asked to outfit over 100 desks spanning five offices with a high-performance external solution, ARGE VLZ selected the Matrox Extio with little hesitation.

The Challenge

Hot on the heels of its announced desire to move further toward the pan-European European Train Control System standard, the ÖBB sought to become more high tech, reliable, and of course safe. The continued development and digitalization of the ÖBB has since led to increasing demand for enhanced transportation control and monitoring and the centralization of operations as a result.

Five central offices — located in Innsbruck, Salzburg, Vienna, Villach, and Linz — were made responsible for operations in each of their respective regions in accordance with this new mandate. Each is equipped with 20-60 desks filling 9 open-concept offices, a design deployed for optimal employee comfort.

With that end goal in mind, the decision was made to enable operators to work at their desks running remote PC systems with Linux Red Hat Version 6.2 and Advanced Railway Automation Management and Information Systems (ARAMIS) software. This was in a bid to increase workspace, reduce background noise, and enhance IT-maintenance capabilities. The ÖBB subsequently called upon ARGE VLZ to make this ideal work environment a reality.

With host systems in secure locations, operators enjoy a noise-free and cooler environment.

The Solution

Already in several ÖBB offices, Matrox M-Series multi-display graphics cards had been deployed to provide operators with more on-screen workspace. However, ARGE VLZ was now asked to separate each PC — 110 in total — from its corresponding desktop to mitigate noise, heat, airflow and security issues.

To meet these requirements, ARGE VLZ turned to a familiar face in Matrox and its Extio F2408 KVM extenders, which separate a given system's keyboard, mouse, audio peripherals, and as many as four displays from the rest of the computer by up to 1 km. The ability to combine two PCIe interface cards with two Extio F2408 units and then upgrade each with an Extio F2408E quad-monitor Expander unit meanwhile results in support of up to 16 monitors from one system. Compatibility with a wide variety of both Linux and Windows® operating systems also gives users added flexibility.

Additionally, Extio facilitates the centralization of all systems in a single, secure location, providing ÖBB with the perfect opportunity to improve upon current IT maintenance objectives. Extio employs the use of fiber-optic cable, which is also critical as all cable connections need to be resistant to electromagnetic interference. According to project manager Eckart Engel of ARGE VLZ, all these features set Extio apart from competitors.

"Electromagnetic interference has always been a concern with railway traffic," he says. "Extio is the appropriate solution because of its resistance against all kinds of interference, due to its fiber-optic infrastructure as well as modularity, form factor, power input, and compatibility with Linux operating systems."

Taking all these addressed factors, including aforementioned security, heat, and noise issues as well as overall cost effectiveness, into consideration, it was clear to ARGE VLZ that Extio was the right solution for ÖBB.

The Result

For each of the 110 operator workstations in question, 1-2 Extio units and one Extio Expander were installed to drive remote multi-display desktops of 4-10 displays — running at resolutions of 1280 x 1024 — at distances of up to 180 m away from the host workstations. The results, Engel says, have more than met the initial objectives of the project.

"We have reduced the environmental stress of the user, which means less noise, less heat, and more working space by avoiding local servers and workstations at operators' desks," he says, also indicating the extended desktop space at each workstation is another big plus for users. The enhanced productivity that results also benefits ÖBB as a whole and the railway system's countless passengers each day.

For More Information

The Matrox Extio F2408 KVM extender delivers remote functionality of its keyboard, mouse, USB, audio, and monitors up to 1 km away from a host system. Support of up to four DisplayPort™ and/or DVI displays from a single unit yields unmatched HD-resolution support, as uncompressed data is transmitted from the workstation to the user via fiber-optic cable. Extio offers users seeking a remote multi-display solution in process control, operations control centers, emergency dispatch, and transportation management access to desktops of up to 16 displays by combining two F2408 and two F2408E Expander units. Contact Matrox Video to learn more.

Contact Matrox

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