Schweizer Radio und Fernsehen (SRF)
New broadcast center integrates virtual machines using IHSE KVM

The Customer

Schweizer Radio und Fernsehen (SRF; "Swiss Radio and Television") is the largest broadcaster in German-speaking Switzerland. The public broadcasting organization operates four main studios; two located in Zurich and others in Basel and Bern.

The Challenge

The new SRF broadcasting center News and Sports Center at the Leutschenbach location in Zurich planned to build a new control center to access a variety of computers and virtual machines. A requirement specification was produced that included a central KVM matrix switch with redundant equipment for fail-safe operation, maximum flexibility and scalability.

The new six-story building was designed to incorporate 200 workstations connected to the KVM distribution system enabling instant and switchable connection to over 300 computer and server sources.

For video editing applications, it is essential that editors access content on their screens with no delay. It was therefore critical that the chosen KVM solution must exhibit extremely low transmission and switching latency.

A particular challenge was the required integration of virtual machines within the KVM switching system so that users can select and operate virtual processors in an identical manner to physical computers. In addition, administrators should be able to access the system from any location over a remote internet connection whilst maintaining the highest security standards.

The Solution

Due to a convincing offering and previous successful experience with IHSE KVM systems at another SRF broadcasting complex, the solution chosen was a 576-port Draco tera enterprise KVM matrix switch. The switching system connects the computers in the secured Media Data Center (MDC) with all the user workstations spread throughout the studio production rooms. Fiber optic cables throughout the building provide interconnection between the computers in the MDC and the workstations through the KVM switching matrix.

The Draco tera enterprise supports HD and 4K image resolutions used within the SRF broadcast complex across different video and data formats including HDMI, DisplayPort, DVI, digital audio and USB.

Users throughout the building are able to access the devices they need without delay. It is immaterial whether these are physical computers or virtual clients. Seamless integration into the KVM workflow via Draco SIRA CPU devices means all sources may be selected in the same way with the same instant access.

Server racks with 576-port Draco tera enterprise and relocated computers in the central Media Data Center

> " *Thanks to the simple and flexible configuration of the system, all application requirements can be covered with just one central matrix.*
>
> **Sandro Niederhauser, Technichal Support**

Access rights are individually assigned and managed so that users are only able to access sources that are relevant to their work. This maintains security of data throughout the system and increases the efficiency of operation.

Workstations with multi-monitor arrangements, as commonly encountered in control rooms, are operated using a single keyboard and mouse set. Switching to a currently active monitor is made easily, and without delay, by simply moving the mouse cursor over the edge of the screen to the next screen.

In order to provide system administrators with the ability to access the KVM system from any location, several Draco SIRA CON units were also provided. Users may access the KVM matrix remotely, including from their home office, using a standard internet browser or software client. The Draco SIRA CON maintains full security and prevents outside access or manipulation attempts via the IP network through the incorporation of several embedded security levels.

> " *The core properties of a KVM system are reliability, flexibility and operation without restriction. The IHSE system enables us to fully implement our media data center concept for the broadcast production environment.*
>
> **Andreas Lattmann, CTO SRF**

BROADCAST / POST PRODUCTION

The Benefit

In operation, each user has access to all necessary sources and data from their own workstation without having to change their working position. The KVM system separates users from noisy and heat-producing computers and servers. Hardware, in turn, exhibits extended service lives through location in the access-restricted and air-conditioned media data center where they are protected from unauthorized access and harmful environmental factors.

The use of virtual machines saves costs: less hardware is required to satisfy several virtual sessions on a single server. Their integration into the KVM environment enables homogeneous, practical and efficient work practices.

The Draco tera KVM system delivers a highly stable work process. Its integrated redundancy capability ensures continuous operation in the event of partial system failure accident. Even in the event of a matrix fault computers can still be accessed via direct connections with workstations over redundant KVM links. This solution delivers a considerable cost saving with a high level of reliability.

As early as 2011, SRF played a pioneering role in converting to a complete digital infrastructure and deployed one of the first Draco tera enterprise KVM matrices. SRF is again pioneering the application of the most advanced technologies with the integration of virtual machines into a KVM infrastructure via Draco SIRA CPU and with secure IP connection via Draco SIRA CON.

Ergonomic workstations in the SRF broadcast center: instead of bulky and noisy servers, compact extenders are located under the desks

> ❝ *The IHSE KVM solution is state of the art and meets the requirements of the project. Cooperation with the IHSE support team has always been professional and effective.*
>
> Martin Sauter, Project Management

KVM products in use

> Draco tera enterprise (Matrix Switch)
> Draco U-Switch (USB switch)
> Draco vario (Extender)
> Draco SIRA CON (IP Gateway)
> Draco SIRA CPU (Virtual Machine Integration)

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