ihse.
Excellence in KVM and Video

The Synchrotron Radiation Center at Hiroshima University runs with the aid of a Draco tera enterprise matrix switch

The Customer

Hiroshima Synchrotron Radiation Center (HiSOR) is part of the Graduate School of Science at Hiroshima University. It is a world-leading research center, carrying out synchrotron radiation research in the vacuum ultraviolet - soft x-ray range, and collaborates with several other elite international research organizations, including Stanford University in the US.

The center hosts the annual Hiroshima International Symposium on Synchrotron Radiation attended by researchers from around the world.

The Challenge

The HiSOR research team is located throughout the vast HiSOR center and each member requires instant and flexible access to a bank of computer servers housed in a dedicated server room. Workstations in the building use high-resolution Eizo monitors that were selected for their image quality and ability to accurately present complex images and large amounts of data.

Researchers need to be able to access a variety of application programs running on the remote servers together with accumulated data on large storage arrays. The programs provide the essential monitoring and statistics consolidation that the scientists use to analyze test results and undertake complex research projects. Data and results may be presented in a variety of formats including graphical and tabulated forms.

The facility operates on a 24-hour per day basis and must operate with no interruption.

The Solution

All the center's servers are located in a secure and environmentally-controlled server room, located on the top floor of the building. Workstations are situated on the first floor in the research laboratories. Locating the servers centrally aids their management, provides security of data and programs and enables the computers to be cooled more effectively thereby prolonging their lifetimes and improving efficiency, as well as removing the heat-producing and noisy computing equipment from the vicinity of the research staff, leading to a more pleasant working environment.

Interconnection between the servers and individual researcher workstations is achieved by means of an 80-port Draco tera enterprise KVM matrix switch using both Cat X and fiber cabling. The initial system configuration provides connection between 10 servers and 12 individual workstations, with sufficient spare capacity to accommodate future expansion as the needs of the center grow and change.

Research staff are able to instantly select and switch between servers using keyboard commands, subject to restrictions and access control managed by the system administrator, which prevents unauthorized access of specific types of data and allows controlled access to application programs.

The Benefit

The system provides a very reliable method for the HiSOR research team to switch between high-end customized servers and their workstations. Workstations are a mixture of full HD and WQHD (2560x1440) formats; both of which are easily handled by the Draco tera KVM switch.

Researchers are able to work from any location and share results of collaborative work without delay, which adds to the efficiency of the whole organization. Each user can instantly switch between application programs and data held on different servers.

As new and different experiments are devised and built, the system can be instantly reconfigured through FlexPort, a method that allows each port to be dynamically configured as an input or an output. This means that no time is lost in reconfiguring the system as the changeover is made and will allow future techniques to be used.

> *"This IHSE matrix switch was installed over one year ago and has not given me any administrative problems. It is 100% reliable we are about to acquire some additional fiber I/O boards to upgrade our overall capability."*
>
> *Goto san, chief engineer at HiSOR*
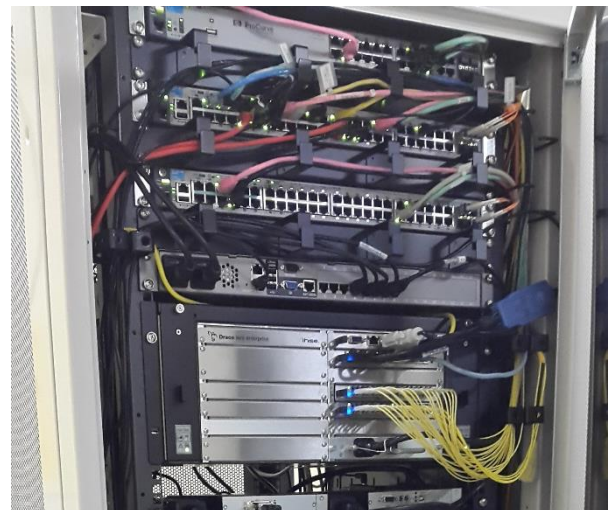
Draco devices in the server room

KVM products in use:

- **Draco tera compact** matrix switch
- **Draco vario** extenders