

Draco major KVM matrix switches keep NATO's Combined Air Operations Center running



The Customer

After two years of construction the combined control centre for the German national air security (NLFZ) and NATO air operations is now fully operational and provides security and control of all airspace over German territory; guarding against terrorist and national security threats on a 24-hour per day, 7 days per week basis.

The Project

The center, located in Uedem in Kalkar was one of the first installations of the IHSE Draco major KVM switch and extender systems to be installed anywhere in the world. The system was designed and integrated by system specialist Viscon GmbH working closely with IHSE in a project that delivers near-instantaneous configuration of 128 computers to 64 workstations located in a 265 square meter operational center (OPS) to meet every command and control scenario to effectively respond to any threat situation.

A bank of four fully-populated Draco major KVM switches work in synchronization and deliver keyboard, video and mouse signals over Cat 5/6

cabling by means of DVXi extenders to high resolution monitors. Content is also provided to large projection and plasma screens located throughout the building. The system includes a mixture of single and dual head computers. The Draco major switch interfaces with Crestron control equipment containing pre-programmed control sequences to enable instant switching with full system mirroring to ensure back up operation in the event of any component failure.

Manuel Kirchesch, Project Manager for Viscon outlines the extent of the full system: "We need full and complete flexibility to control the entire operations center which is achieved with a configuration of four fully-populated Draco major KVM switches. In total this allows 128 computers to be switched to 64 operator stations with absolutely no limitation on the connection matrix so allowing the duty controller to specify the exact configuration he requires."

To set up a new operational configuration, such as a 'Red Alert' may require as many as 40 individual commands to be received and implemented within the Draco system from a continuous stream output by the Crestron touch

screen master controller. Viscon worked closely with IHSE to develop new firmware that detected and acknowledged each command to ensure that none would be missed.



Manuel Kirchesch: “We had to provide near instantaneous response and could not afford to drop any commands at all, otherwise there might be fatal consequences: with modern aircraft travelling at supersonic speeds, even a slight delay in response means that operators might miss crucial events. A feedback system was developed for this project with IHSE and implemented over the RS232 network to ensure positive confirmation of commands both quickly and reliably.”



Other new requirements were also presented to IHSE for the system including the ability to manage the EDID handshaking between source computers and displays: any computer may be connected to any display over the KVM switch, which means that an individual computer may address a wide variety of display resolutions from 1280 x 1024 through to 2048 x 1200 pixels. Special firmware was designed for the DVXi extenders to cope with this requirement.

Markus Drautz, sales director at IHSE GmbH explains how the company responded to the requirements: “The Draco system has been developed through close liaison with customers to

meet their requirements for totally reliable, instantaneous switching of full specification computer equipment. A process of continuous development means that we readily integrate special requirements to ensure the product meets specific applications and delivers performance without compromise. The capability of the Draco system is without comparison in the market and probably the only system in the world that could have delivered a solution in this application in such an efficient and effective manner.”

The Benefit

The Draco system has proven itself within the NATO command centre environment with its ability to provide rapid and reliable switching, enabling the local Duty Commander to instantly configure the whole command centre to meet any perceived threat, maintaining the safety and security of the skies over Germany, 24 hours per day, 7 days per week.

KVM products in use:

- **Draco major** matrix switches
- **DVXi** extenders

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