The background

As the world's largest international passenger airline, operating an average of one thousand flights a day worldwide and carrying over 34 million passengers each year, British Airways' networking requirements are second to none. Faced with the challenge of devising a solution to remotely control over 500 servers from one location at its main base at London Heathrow Airport, the World's 'favourite' airline called on the World's Source for Cabling and Network Connectivity - Black Box.

The challenge

"500+ servers remotely monitored over a number of kilometres using just 1 keyboard, video and mouse, made this a difficult design," say Andy Dell'Anno, telecommunications consultant at British Airways. "In addition, we wanted to be able to work on all the servers locally using a mobile work station." A customer of Black Box since 1988, buying networking products directly from the Catalogue as well as working with their Account Manager on more specific requirements including bespoke projects, British Airways quickly turned to Black Box's technical support team to come up with a feasible solution.

The solution

After several visits to spec-out the site, Black Box set to work on a design. "Although we have the capability to manufacture bespoke products, BA

From a distance

ServSwitch allowed the network control team to control all 500+ servers from a single location, however the real challenge - providing remote access over a number of kilometres - still remained. "Extending keyboard, video and mouse (KVM) signals over extended distances is no simple matter; even over a few hundred metres requires a high bandwidth, high quality link," explains Hudgell.

Working closely with key manufacturers, Black Box was able to utilise an ultra high bandwidth transmission system over fibre optic cable. This used designs originally conceived for Military applications to achieve remote access over the required range, maintaining a high quality screen image even at high resolution.

Why Black Box?

Having received tenders from a number of leading network providers for the project, British Airways opted to work with the Black Box design. The solution was finalised in March 1998 and British Airways began evaluation in September, placing the order in November. Black Box was responsible for installing all the units and connecting the system using British Airways' existing CAT5 infrastructure.

"Black Box offered a total solutions approach," explains Dell'Anno. "From the concept stage though to detailed design, equipment supply

requested 'off-the shelf products' to enable the system to be replicated elsewhere as well as connect more servers to the design in hand," explains Patrick Hudgell, Black Box technical director. Black Box was also required to supply evaluation equipment to test its system.

Going solo

Black Box decided to work with its ServSwitch range to provide multi server control. "By controlling multiple servers using just one switch, ServSwitch enables all the network's servers to be monitored from one workstation, making installation, upgrades and security more manageable,"explains Hudgell. "Each server can also be named and selected through on-screen menus and, since the menus reside on the ServSwitch itself, no additional software needs to be installed on the server."

The final design configuration involves 55 rack-mounted switches, with each switch controlling 10 servers. Control of the individual ServSwitches is accomplished by the Black Box designed topology which enables access to 550 CPUs from any workstation.

and installation, backed up by on-going technical support - all at a competitive price."

"We were particularly impressed with the quality and speed of the work, which enabled us to complete the project ahead of schedule, while the equipment performed well first time without any teething problems," concludes Dell'Anno.

"The efficiency gains and financial benefits alone are a huge justification for installing this ServSwitch /KVM solution in most networked environments," says Hudgell. "The reduced number of monitors, whether 2 or 200, means that space and power costs, particularly for air conditioning, are also significantly reduced."