Improve Remote Server Management

KVM Switches, Embedded Processors & Software Solutions All Have Their Place

IT MANAGERS have a lot on their plates when it comes to managing servers both in-house and remotely, especially if they work in environments where they need access to multiple systems regardless of whether they are onsite or at a separate location. Fortunately, there are plenty of solutions to consider for remote server management that are unique from one another but can also be used together in certain situations to cover all of your bases.

Multiple Options From Top To Bottom

With remote server management, there are many different options available. KVM switches, according to Mark Bowker, senior analyst at ESG, "aggregate the monitor, keyboard, and mouse cabling into a central console that includes a switching box, monitor, keyboard, and mouse." KVM is commonly used in smaller data centers that require direct physical interaction with servers or in environments that "have strict security constraints," Bowker says.

The next step up from KVM is embedded management, which is where "server vendors embed a chipset that monitors the health and state of the system," Bowker says. Using these embedded processors, IT teams no longer have to install their own agents, but can actually use the onboard tool to configure settings, update firmware, and "detect any faults," Bowker adds. You can also connect these processors back to your centralized system for alerts and monitoring reports.
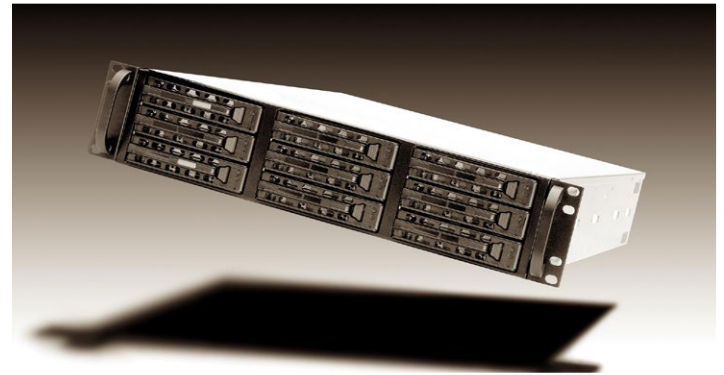
For true remote management, you can step back even further to solutions like virtual network consoles (VNC) or remote desktop protocols (RDP). With RDP, you connect to your servers through the network and "get the classic window into that system," says Greg Schulz, senior advisory analyst at Server and StorageIO.

VNC actually gives you "the operating system view," but also lets you dig deeper into the server to the lower-level functions either onsite or off-site, he says. "For example, I can use a VNC tool to get to my dedicated private server at my hosting site or I can use it to get to one of the physical servers that are running the virtual machines in my own environment," Schulz says.

KVM Offers Benefits Other Alternatives Can't Yet Match

Although it's helpful to consider RDP, VNC, and embedded processors because

they let you perform some management and diagnostics tasks from a distance, there still isn't a solid replacement for traditional KVM as an onsite and remote access tool.

According to Richard Dominach, senior product manager at Raritan (800/724-8090; www.raritan.com), this is because KVM is "rock-solid dependable" and it "doesn't use the server's own network connection to

Get Started

Before you choose which remote server management solution to rely on, you have to first think about business needs and ask yourself a series of questions. "It's a balancing act," says Greg Schulz, senior advisory analyst at Server and StorageIO. "What is it that you're looking to do? What is it you're looking to accomplish and do the most often? How many times a day or week do you have to physically go to a console for a server? Or how often are you in the computer room as opposed to being able to come in and connect through the network. How much time are you spending doing that? How many servers do you have?"

Key Points

- KVM switches, embedded processors, virtual network consoles, and remote desktop protocols are all options for server management.

- KVM is still the most reliable solution, so it will continue to be the primary solution for many data centers.

- Consider a hybrid setup where you use both KVM and VNC or RDP together.

access the server." KVM also doesn't rely on software agents or "on the underlying operating system and networking," Dominach says.

If there is a server hardware malfunction or something that impacts the server's ability to connect via the network, you still have the direct KVM connection to run diagnostics and get it back up and running quickly.

In addition to offering that out-of-band connection to the server, there are many other benefits to KVM as well. For example, KVM switches offer "heterogeneous access to servers from multiple vendors," Dominach says, so you can get the same console experience regardless of the vendor. And although some other remote server management tools are relatively powerful, they still can't quite match some of the in-depth features of long-standing KVM solutions.

"Service processors provide limited KVM-over-IP performance, adequate for routine IT maintenance, but not sufficient for many users who need high-performance, remote access to broadcast, video, scientific, and other dynamic applications," says Dominach. "These sophisticated users require ultra-fast IP access and special features, only available from high-performance KVM switches.

These customers require ultra-fast response, 1,920 x 1,080 video at 30 to 60 frames per second, 24-bit color, dual video cards, multiple monitors, and digital audio and video (DVI, HDMI, and DisplayPort)."

Choose The Right Tool

If you want true remote access and management, go with RDP, VNC, or another alternative. Remember that it's always possible to set up a hybrid solution where you have the benefits of KVM and the flexibility of VNC or RDP. You can pick and choose which solution you use with which server, or you can have a true hybrid setup where you have the option of using either one depending on the situation. P