



VERTIV WHITE PAPER

Streamlining Troubleshooting and Problem Resolution in Remote Sites

The Future of IT Management

Not that long ago, the “network edge” in many organizations consisted of a few remote branches along with legacy main or intermediate distribution frames.

But now that is changing. Spurred by the need to drive compute and storage closer to users and devices, the edge is becoming more distributed, more critical and more difficult to manage.

The emergence of 5G will only amplify this trend. Analyst firm 451 Research in its 2019 Report, “**Telco Study on 5G Reveals Industry Hopes and Fears: From Energy Costs to Edge Computing Transformation**,” found that four of five survey participants globally have either already deployed or intend to deploy multi-access edge computing (MEC) sites to support their 5G deployments. These self-contained mini data centers represent the purpose-built edge of the future. Efficiently managing this growing network of sites will be one of the most significant challenges IT organizations face in the coming years.

Serial consoles provide a proven solution to this challenge. These compact, powerful devices provide the ability to view all working processes independent of the software view of the screen. In the event of a failure they deliver the ability to analyze configuration and log files remotely, even if no IP is available. Here’s how that can change the process of dealing with a failure.

The Traditional Incident Response Process

Without a serial console, the engineer called to respond to a failure will first try to connect to the device via IP.

If IP is not available, they need to get to the device. If the device is remote, they may rely on a local technician (if the site is lucky enough to have one), or a technician must be dispatched to the site.

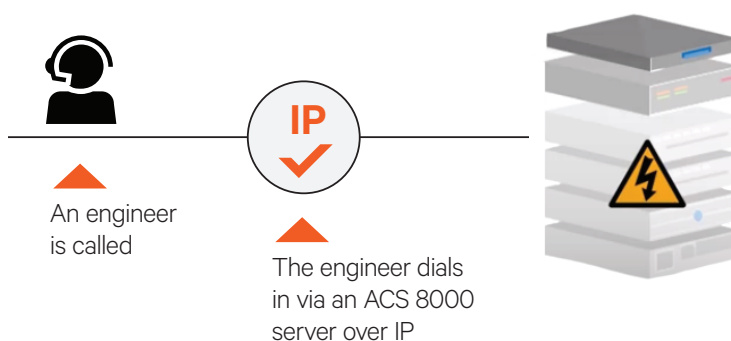
Only then can diagnosis of the problem begin. If the failure turns out to be hardware-related, the technician may need to make a second visit to the site to make the repair. Meanwhile, the clock is ticking and the device remains unavailable to local users.



Re-defining the Process through Remote Access

A serial console connects via a standard RS 45 cable to the serial port of a wide range of devices, including switches/routers, storage units, firewalls, servers, power distribution units, and thermal management systems. It is available over IP so that you can dial into any device at any time via telnet or secure shell (SSH) protocol. A proactive response system built into the console can even trigger scripted responses to some issues, reducing the incidents where human intervention is required.

If human intervention is required, the engineer is able to dial into the system even if IP is not available. The engineer can then examine logs to see what the device was doing before it failed. If the issue is software or firmware related, which 80 percent are, it can be resolved remotely, significantly reducing the downtime of the device and the technical time to resolve it. Even if the issue is hardware related, the mean time to repair (MTTR) has been reduced through faster diagnosis.



CASE STUDY:

Managing Remotely with the Avocent ACS 8000

Managed hosting, security, and application management services provider NTT Europe Online operates eight data centers across Europe. The company needed an IT management solution that would allow it to centralize management of all facilities while streamlining administrative processes and responding faster to customer issues.

NTT Europe Online chose Avocent ACS advanced console servers to enable its central support team to perform reliable and secure data center management of its IT assets distributed across Europe. The company also leverages Avocent power management devices to enable remote power management and control of its data center servers and equipment.

“The Avocent solutions enable us to run all data centers from one location, giving us a tremendous financial advantage that also saves our customers money,” said Craig Pennington, vice president of European operations, NTT Europe Online. “Our customers can have their solutions spread over two or three data centers and with Avocent, we can manage them from a single view. The economies of scale we gain with Avocent not only saves on costs, but it increases the performance of our team.”



Other Benefits of Serial Consoles

Serial consoles, such as the Avocent 800 ACS and 8000 ACS are an ideal foundation for centralized management of multiple remote sites. In addition to faster problem resolution and reduced MTTR, they deliver:

- **Simplified Management:** Software updates and other routine maintenance tasks are greatly simplified by enabling access to multiple devices through consoles. With these tools, IT administrators can gain centralized remote access to devices across multiple locations to streamline configuration, troubleshooting and monitoring.
- **Enhanced Security:** Serial consoles minimize the need to physically access IT systems and include support for smart card/CAC readers and other physical security systems, enabling centralized management of access to critical facilities.
- **Lower Operating Costs:** Faster provisioning, improved management and reduced MTTR all translate directly into lower operating costs while freeing resources to focus on strategic initiatives.

Finding Your Solution

Vertiv Avocent boasts a long history delivering access and IT management solutions around the world to companies like Dell, Gateway, Hewlett-Packard, Intel and Microsoft. With more than 200,000 users, Avocent KVM and serial access consoles combine with renowned enterprise class data center and edge products from Vertiv to securely and remotely manage IT devices anywhere in the world. Go online for more information on Vertiv's [Avocent serial consoles](#).



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