MAINTAIN NETWORK AVAILABILITY WITH AUTOMATIC NETWORK FAILOVER TO CELLULAR

VERTIV™

ACS 6008 Advanced Console Server

PSTN Out-of-band

4G LTE Out-of-band

INTERNET / COMPANY LAN

Remote Site

ACS 6008 Advanced Console Server

Remote Site

ACS 6000 Advanced Console Server
◄ Cisco Switch
◄ Firewall
◄ Windows Server
◄ Router
◄ Linux Server
◄ UNIX Server
◄ UPS

PDU ►

Corporate IT

Company Data Center
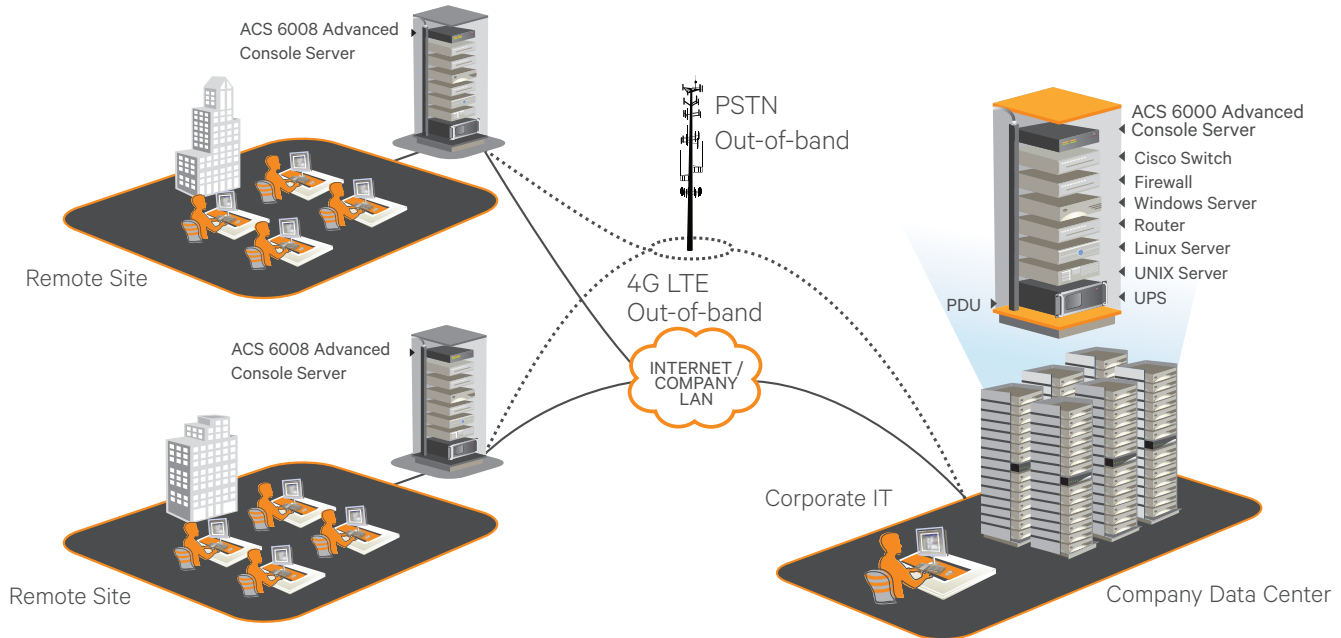
TYPICAL REMOTE ACCESS SCENARIO:

- Company X has a large data center servicing three distinct geographies with 20 remote offices and 2000 users

- IT staff are located at the main data center

- IT staff needs to monitor, access and maintain network equipment for the entire organization regardless of location

- Remote offices operate 24 hours per day, 7 days per week

- A recent network configuration error has isolated a single geography affecting five remote offices and 500 users

- Every hour during the outage results in a revenue loss of $3M

The Challenge

Maintaining network availability, while managing cost, is a challenging exercise in any data center environment. When the data center is implemented across buildings and locations, the task takes on a new level of difficulty. There are many tools for managing IT infrastructures remotely but some availability issues require physical access to systems to determine the nature of the outage. When the site is remote, system access has the added cost of travel or the expense of a remote resource. This brief explores management strategies that enable remote diagnosis and repair of IT system issues even when the primary network is down. Enhanced remote management capability helps IT managers exceed their availability goals while reducing costs.

Many organizations still manage networking systems vis SSH/Telnet over the production network but best practices dictate management through a second network dedicated solely to management tasks. This second network is referred to as the out-of-band network and it allows constant connectivity to network infrastructure without dependence on the production network.

Secondary management networks (out-of-band) are becoming the standard at most large data centers but it is not always financially feasible to have redundant networks for out-of-band access at remote sites. Historically, a network outage at a remote site was resolved by dispatching a technician. This method was slow and costly. Today, IT managers commonly access and manage remote sites over an analog dial-up modem. However, some sites can be difficult to "wire" with analog lines or the installation could take several months. The cost of provisioning an analog line can also be prohibitive at certain sites. These factors have led many IT managers to seek a new alternative-- cellular connectivity. With today's high speed cellular networks, a cellular modem provides an efficient method for maintaining connectivity and reliability at a remote site.

The Solution

The Vertiv™ Avocent® ACS 6000 Advanced Console Server is designed to help Company X, resolve the outage quickly and minimize lost revenue. The Avocent ACS 6000 provides streamlined out-of-band access to remote sites through a separate management network, an internal dial up modem or 3G/4G/LTE cellular uplink. There is no need to lose time and money by sending a technician on-site to troubleshoot and repair problems with remote networks. Skilled staff can centrally remedy problems with the Avocent ACS.

In the above scenario the ACS 6000 provides emergency access through the 3G/4G/LTE cellular uplink. When a primary network connection becomes unavailable, the ACS 6000 can automatically failover to the cellular network for out-of-band remote access. The cellular modem feature on the Avocent ACS 6000 provides the flexibility to choose the cellular carrier and cellular modem. The modem is connected to the ACS 6000 via USB.

The automatic network failover to cellular feature on the ACS 6000 helps IT managers reduce the cost, complexity and risk of managing remote locations, while also improving service levels.

Summary

The Avocent ACS offers several cost effective options for managing IT at remote sites. In the event of a network failure, the ACS 6000 provides two methods for accessing remote IT systems. An internal dial-up modem provides out-of-band access over standard telephone lines; and the more flexible 3G/4G/LTE cellular uplink provides automatic failover to wireless in the event of a network outage. Cellular connectivity is the perfect option for locations that are hard to "wire" or as a back-up connection for sites with high availability requirements. The ACS is designed to meet the needs of any environment and has several methods for accessing heterogeneous, distributed network infrastructure via cellular modem:

- Static public IP with Secure IPSec VPN

- Automatic failover and fallback

- Call Home via Avocent DSView™ Management Software

Vertiv's market-leading Avocent ACS 6000 is a secure, robust, reliable, easy to use console that simplifies out-of-band management of routers, servers, storage and rack PDUs. In data centers and remote sites, the ACS 6000 help IT administrators manage, monitor, diagnose, troubleshoot and effectively maintain IT availability.

For more information please visit our website at www.VertivCo.com

Cellular Wireless Modem Connection

Advances in cellular connectivity have made the technology more affordable and accessible over the last ten years. Enabling cellular connectivity at remote sites improves flexibility, allowing access through a primary network connection, via traditional analog modem or with a USB cellular modem. The cellular modem provides an alternate path to the ACS 6000 if the primary network connection goes down.

Cellular modems must be provisioned by the cellular carrier. Once the modem is provisioned and connected via USB, the ACS6000 is easily configured for cellular connectivity through the user interface.

Failover Mode

Failover occurs when a primary network interface goes down or when an IP/gateway becomes inaccessible. Failover can be enabled using a secondary network connection or via a USB Cellular modem. With the failover feature enabled, the Avocent ACS 6000 automatically connects the secondary (cellular) network when the primary network is unreachable. The ACS 6000 has the added benefit of fallback; it will automatically reconnect to the primary network when service is restored. An administrator can also select one of the four triggers for automatic failover via the web-based user interface:

1. Primary Interface Down

2. Unreachable Primary Default gateway

3. Unreachable DSView

4. Unreachable IP Address

Call Home

The Avocent ACS 6000 Advanced Console Server can call home and update DSView with its failover address in the wired or cellular mode. This feature requires the use of Avocent DSViewTM centralized management software and configuration with the Avocent ACS 6000.

IPSec VPN

Best practice for cellular connectivity is to connect via an IPSec VPN to ensure that the console server traffic is protected from the public internet. This configuration enhances the security of the connection.