AVOCENT® ACS 6000 ADVANCED CONSOLE SERVER

Improve Productivity and Enhance Security with Zero Touch Provisioning

VERTIV

Manual Update of Serial Consoles

Total Personnel Time
~90 minutes

Install/Update Serial Console ~15 minutes

Install/Update Serial Console ~15 minutes

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Install/Update Serial Console ~15 minutes
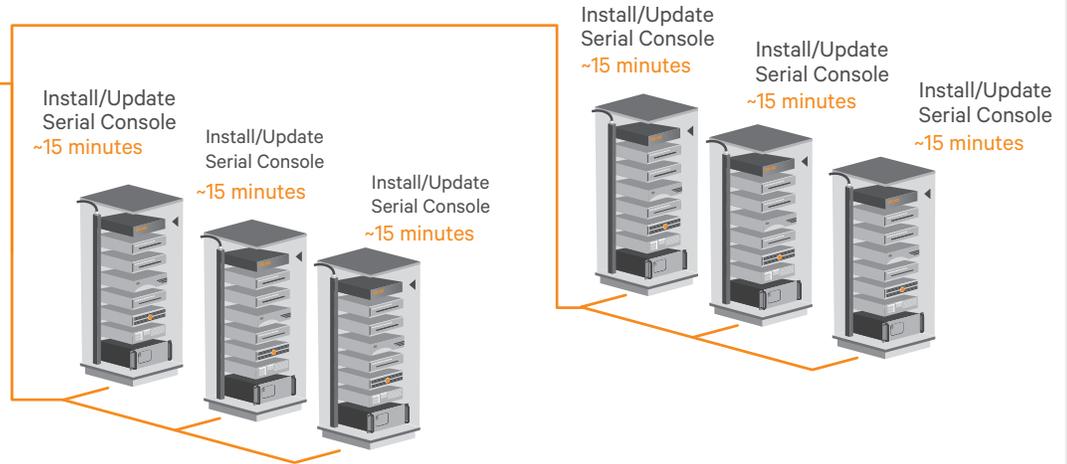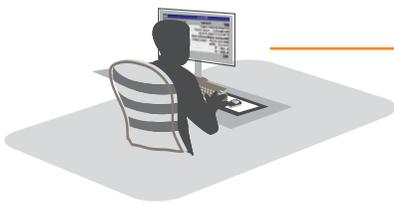
Typical remote access scenario:

- Company "X" has several data centers with no on-site IT staff

- IT staff uses Serial Consoles to remotely monitor, access and maintain thousands of IT assets throughout the data centers

- Recent purchase requires installation of 50 new serial consoles

- Simultaneously, the IT staff needs to update firmware and configuration on current install base of 50 Serial Consoles

- Manual installation and configuration of 100 Serial Consoles requires three work days

The Problem

In a world of flat to declining IT budgets, organizations need any edge they can find to cope with the routine demands of ensuring business productivity. Any IT administrator knows that time saved from routine administration is time that can be used to solve problems or drive innovations.

Data center management is an environment that is ready for simplified, streamlined, highly efficient technologies. Over the years, dozens, or perhaps hundreds of data center technologies have claimed to reduce administrative overhead while opening up new windows of opportunity. But most fail to live up to their promises of reducing time, cost, and risk.

Serial Console technology provides clear-cut benefit, especially in larger environments, where remote in-band and out-of-band, access and management is required. But, few Serial Console solutions are designed with the complexities of the largest, most heterogeneous, and most complex data centers in mind. In these environments, a fifteen minute task performed on one system can grow to a week of work when the task is duplicated across dozens or hundreds of critical IT systems.

Many products offer adequate simplicity for small environments, but don't consider the issues that crop up in the largest data centers. In these data centers, IT administrators need intelligent Serial Console systems that automate routine tasks and enable enhanced security and standardization across the infrastructure.

Automated Installation and Update with Avocent® ACS 6000 Zero Touch Provisioning

Total Personnel Time
~24 minutes

Create Configuration File and Firmware Image
~15 minutes

DCHP/ACS Configuration Server

Automated Update of Serial Console
~1.5 minutes

Automated Update of Serial Console
~1.5 minutes

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~1.5 minutes

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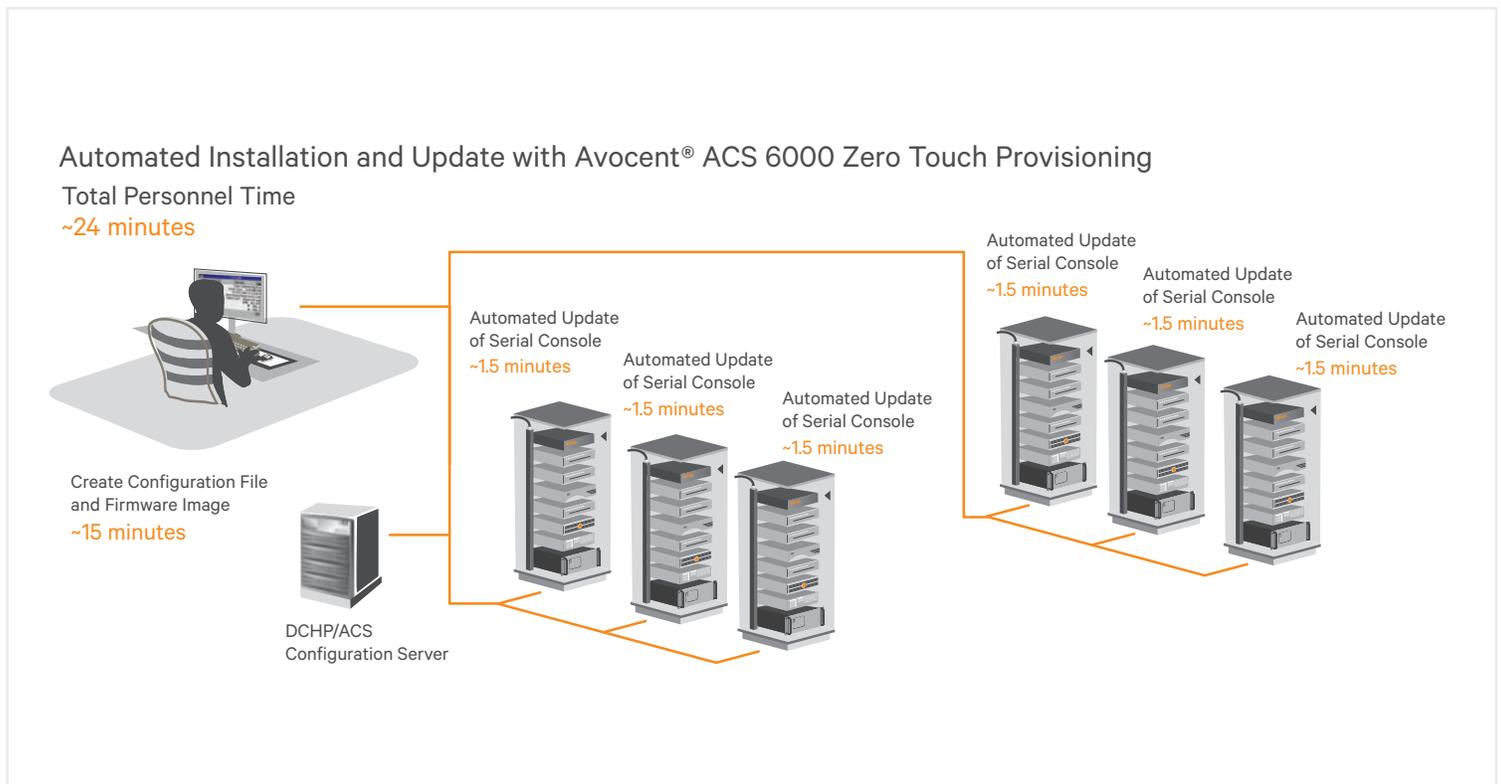
The Solution

The Zero Touch Provisioning capability on the Avocent ACS 6000 allows IT administrators to reduce the time and effort spent on installation and provisioning. With the ACS 6000, IT administrators can create configuration files and firmware images one time, then use them for automatic deployment instead of manually updating the files on each serial console. The ACS 6000 has a built-in intelligence engine that retrieves a new configuration file or firmware image from a network attached configuration server. Once the file is retrieved the ACS 6000 automatically installs the required firmware. Many administrators are comfortable with similar technologies, such as Cisco's Power On Auto Provisioning.

The net savings is up to 90% reduction in installation time in addition to reducing travel costs, freeing personnel for other essential tasks.

Productivity is not the only benefit of Zero Touch Provisioning. When managing large consistent disbursed infrastructures, it can be difficult to maintain current firmware on all systems. Inconsistent firmware versions can leave the IT infrastructure vulnerable to security threats. In 2014 alone, three security vulnerabilities were identified that required updates to environments including IT equipment such as serial consoles. With Zero Touch Provisioning, the ACS automatically updates as soon as the IT administrator provides the latest firmware.

IT management tasks are also streamlined with Zero Touch Provisioning. Global changes like updates to access and control can be scripted once and propagated to all ACS 6000 systems automatically. With Zero Touch Provisioning, IT managers increase infrastructure security, reduce cost, and improve IT service levels.

Annual Savings with Zero Touch Provisioning

NUMBER OF ACS 6000S	TOTAL TIME IN MINUTES WITHOUT ZERO TOUCH PROVISIONING[1]	TIME SPENT IN WORK DAYS	FIRMWARE AND CONFIGURATION SETUP TIME IN MINUTES	TOTAL TIME IN MINUTES WITH ZERO TOUCH PROVISIONING[2]	TIME SPENT IN WORK DAYS	NET SAVINGS IN MINUTES	NET SAVINGS[3]	SAVINGS PER YEAR[4]
10	150	2 Hours 30 Minutes	15	15	15 Minutes	120	$150	$1,800
50	750	1 Day 4 Hours 30 Minutes	15	75	1 Hour 15 Minutes	660	$825	$9,900
100	1500	3 Days 1 Hour	15	150	2 Hours 30 Minutes	1335	$1,668	$20,016
500	7500	15 Days 5 Hours	15	750	12 Hours 30 Minutes	6735	$8,418	$101,016
1000	15000	31 Days 2 Hours	15	1500	1 Day 1 Hour	13485	$16,856	$202,272

1. Assumes 15 minute installation time per unit | 2. Assumes at 1.5 minute installation time per unit. Actual installation time can vary based on network availability and download speed.
3. Assumes $75/hour personnel cost | 4. Assumes scheduled updates once a month

Summary and Benefits

Without Zero Touch Provisioning, network administrators could spend unnecessary time and energy setting up Serial Consoles. Our approach provides organizations with:

- Centralized setup

- Automated firmware updates

- Secure file/data transfer

- Configurable zero touch capability

- The ability to to apply security fixes and custom configurations over time as requirements evolve

Zero Touch Provisioning capability minimizes setup time, reduces installation time by 90%, and ensures standardization and consistency across small and large environments alike.

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

How Does It Work?

There are three phases to Zero Touch Provisioning:

1. Appliance IP address assignment

2. Assignment of a TFTP server

3. Download the setup file from the TFTP server

Appliance IP address assignment

The Zero Touch Provisioning feature is an extension of the existing "bootp" feature on the ACS 6000 appliance. During the boot process the appliance requests an IP address assignment.

Assignment of a TFTP server

In response to the ACS 6000 appliance request, the DHCP server returns:

- The identification of the TFTP server from which to obtain the setup file.

- Name of the setup file to be downloaded.

Download the setup file from the TFTP server

The ACS 6000 downloads the Setup file from the TFTP server and uses the information contained in the Setup file to obtain the image or process the configuration. The ACS 6000 supports seven different transport protocols to help ensure secure and reliable transfers.