

Cisco UCS Express with VMware vSphere Hypervisor

Simplify Branch-Office Infrastructure

OVERVIEW

Businesses with remote-office and branch-office (ROBO) locations face unique challenges with their IT infrastructure. Cisco Unified Computing System™ (Cisco UCS™) Express, featuring VMware vSphere™ Hypervisor™, is a converged networking, computing, and virtualization platform that allows these multisite organizations to create a lean branch-office architecture that delivers the benefits of virtualization to ROBO locations in a low-cost, small-footprint, easily administered solution.

INDUSTRY CHOICES

Today, organizations typically choose one of three branch-office design strategies for their ROBO locations:

- Serverless branch office, with no local servers
- Lean branch office, with one or two local servers
- Full-service branch office, with all local servers

The serverless branch office relies fully on the WAN to deliver all applications. While this branch-office design has a simple infrastructure that costs little to build and operate, it does not provide application performance and availability service-level guarantees.

A full-service branch office provides the highest level of application performance and availability and is not subject to WAN limitations, but it is very costly to build and operate, as well as complex to manage.

Cisco UCS Express provides an excellent way to implement the middle option: a lean branch-office architecture that balances IT efficiency with user experience.

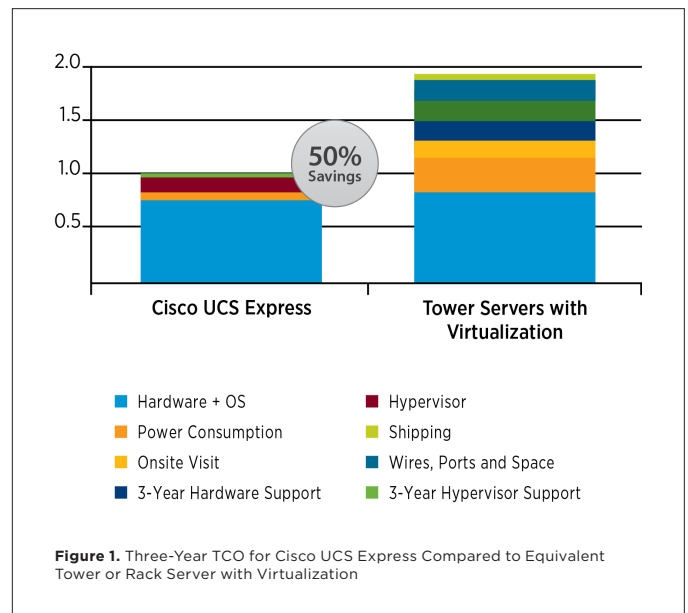
Solution Overview

With Cisco UCS Express and VMware vSphere Hypervisor, ROBO locations gain a converged computing, virtualization, and networking platform for hosting essential infrastructure services and mission-critical business applications in a lean branch office.

Cisco UCS Express is well suited for multisite organizations with centralized IT infrastructure that need to host applications locally in the branch office for performance, survivability, or compliance reasons.

Main Benefits

- Single-unit solution: The solution provides a compact, all-in-one computing, virtualization, and networking platform.
- Centralized management: The solution enables central, enterprisewide, multisite management for ROBO sites and data center servers using optional VMware vCenter Server.
- Streamlined IT staffing: Use of a centralized data center reduces the need for local IT staff in ROBO locations.
- Significantly lower total cost of ownership (TCO): Power-efficient Cisco UCS Express blades use only 35 watts (W) on average, reducing power consumption and cooling costs. Also, Cisco SMARTnet® Service covers the Cisco UCS Express components, so there are no additional server hardware and virtualization support costs—all of which reduces TCO (Figure 1).



Solution Components

Cisco UCS Express provides everything a ROBO location needs in a single, lightweight converged infrastructure solution:

- Cisco® Services-Ready Engine (SRE) Module x86 blade server computing platform: Cisco UCS Express takes advantage of x86 server features offered by the Cisco SRE blades. Cisco SRE blades have their own processors, storage, network interfaces, and memory resources that operate independently of the host router resources, helping ensure optimal concurrent routing and application performance. Cisco SRE blades provide simple and fast hardware provisioning that even nontechnical branch-office employees can perform.
- Cisco Integrated Services Router Generation 2 (ISR G2): Cisco ISR G2 functions as a blade-server enclosure for Cisco UCS Express. The Cisco ISR is one of the most widely deployed branch-office devices, and it already has slots for various networking modules, allowing users to reuse the same slots for x86 blade servers.
- VMware vSphere Hypervisor: Cisco has joined with VMware to create the Cisco SRE Virtualization (SRE-V) platform: the VMware vSphere Hypervisor optimized for the Cisco SRE blades. Cisco SRE-V is a bare-metal hypervisor that runs directly on the SRE hardware. The initial version of Cisco SRE-V is equivalent to VMware vSphere Hypervisor Version 4.1.
- VMware vCenter Server (optional): Cisco UCS Express supports VMware vCenter Server, which enables IT administrators to dramatically improve control over the virtual environment and manage remote- and branch-office infrastructure from a central data center.

Solution Use Cases

Cisco UCS Express with VMware vSphere Hypervisor is ideal for delivering applications that have defied most centralization efforts and continue to be deployed locally at ROBO sites.

Use Case 1: Core Infrastructure Services

- Core Microsoft Windows services: Microsoft Active Directory Domain Services (AD DS) and Microsoft Windows print services, Dynamic Host Configuration Protocol (DHCP) server, Domain Name System (DNS) server, file services, and other services.
- Client management services: Configuration and operations management, monitoring services, update and patching services, backup and recovery services, terminal server gateways, and other services.
- Client management services: Configuration and operations management, monitoring services, update and patching services, backup and recovery services, terminal server gateways, and other services.

Use Case 2: Business-Specific Applications

Cisco UCS Express is particularly useful for ROBO sites including retail stores; warehouses; hospitals and clinics; sales, insurance, and government offices; factories; and other locations with standalone servers running line-of-business applications such as point-of-sale, inventory management, electronic medical records, bank teller in-office control points (IOCP), and manufacturing and industrial automation software.

For More Information

For more information about how Cisco UCS Express with VMware vSphere Hypervisor can create a lean branch-office architecture for your ROBO locations, visit:

<http://www.cisco.com/go/ucse>

<http://www.vmware.com/cisco>

