

# Cisco UCS E-Series M1 Servers

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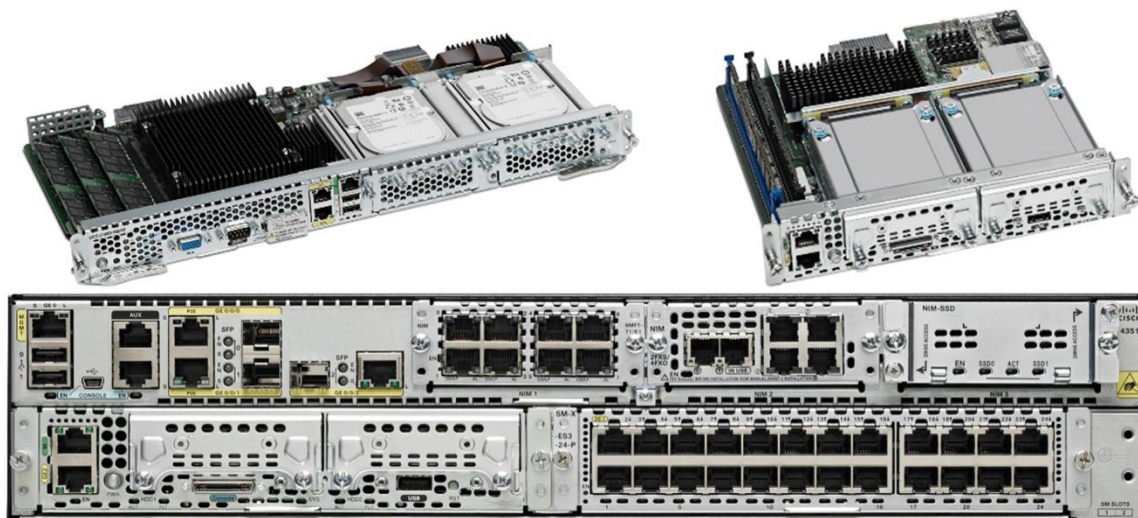
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With powerful, data center-class servers that are virtualization-ready, you can host business applications and network services right in your branch-office router.

## Product Overview

Cisco UCS® E-Series Servers bring data center-class blade servers to the branch office. These powerful, small-form-factor, x86 64-bit blade servers reside in Cisco® branch-office routers: the Cisco 4000 Series Integrated Services Routers (ISRs) and Cisco Integrated Services Routers Generation 2 (ISR G2) networking platforms. The blades are virtualization-ready and host essential infrastructure services and mission-critical business applications, all while you maintain a lean branch-office environment (Figure 1).



**Figure 1.**  
Cisco UCS E-Series Servers with Cisco 4351 ISR

## Product Details

### Cisco UCS E-Series Servers



Cisco Unified Computing System™ (Cisco UCS) E-Series Servers are available in two form factors: a singlewide module and a doublewide module. The singlewide versions include an Intel Xeon processor and occupy a single service-module slot in the Cisco 4000 Series ISR and Cisco ISR G2 platforms. The doublewide module occupies two service-module slots side-by-side.

All the servers are high-density, single-socket blade servers. They balance simplicity, performance, and application density while operating in an energy-efficient environment. The servers deliver next-generation Intel Xeon processor technology in combination with integrated remote lights-out management. They support multiple cores and threads in a reduced-power envelope, providing improved performance and better energy efficiency than preceding models.

They thus provide an excellent platform for introducing virtualization into the branch office and supporting mission-critical business applications. The innovative, zero-footprint form factor of the Cisco UCS E-Series Servers in conjunction with the lower total cost of ownership (TCO) of the Intel Xeon processor increases business agility and enhances reliability when compared to standalone rack-mount and tower servers.

Table 1 lists the top-level part numbers for the E-Series servers.

**Table 1.** Cisco UCS E-Series Servers

Cisco UCS E-Series Part Numbers	Picture
<b>Cisco UCS E-Series Single-Wide Servers:</b> <ul style="list-style-type: none"><li>• UCS-E140S-M1/K9</li></ul>	 A photograph of a Cisco UCS E-Series Single-Wide Server, showing its front panel with various ports and a large cooling fan.
<b>Cisco UCS E-Series Double-Wide Servers:</b> <ul style="list-style-type: none"><li>• UCS-E160D-M1/K9</li><li>• UCS-E160DP-M1/K9</li><li>• UCS-E140D-M1/K9</li><li>• UCS-E140DP-M1/K9</li></ul>	 A photograph of a Cisco UCS E-Series Double-Wide Server, showing its front panel with various ports and a large cooling fan.

## Applications for Cisco UCS E-Series Servers

Cisco UCS E-Series Servers provide excellent performance and value for these and other types of workloads:

- Network applications: Cisco Virtual Wide Area Application Services (vWAAS), Cisco Virtual Wireless LAN Controller (vWLC), Cisco Unity® Connection, Cisco ISR with FirePOWER™ Services, Cisco Energy Management, and other Cisco applications.
- Mission-critical business applications: Point-Of-Sale (POS) systems, bank teller In-Office Control Points (IOCPs), Electronic-Medical-Record (EMR) systems, inventory management systems, and cloud connectors.
- Core Microsoft Windows services: Microsoft Active Directory Domain Services (AD DS), Microsoft Windows print services, Dynamic Host Configuration Protocol (DHCP) server services, Domain Name System (DNS) server services, and file services.
- Client-management services: Configuration and operations management, monitoring services, update and patching services, backup and recovery services, and terminal server gateways.

## Features and Benefits

The Cisco UCS E-Series Servers easily extend the Cisco UCS data center portfolio to branch-office environments. By adding virtualization to the servers, you can deploy new services incrementally on a schedule that best meets your timing and budget. Meanwhile, you avoid service-call costs for onsite visits to deploy new hardware or software.

Cisco UCS E-Series Servers address your changing business needs in the following ways:

- Reduced operational burden: Through a consolidated, wire-free infrastructure, Cisco UCS E-Series Servers make the addition of new services and infrastructure quick and easy.
- Simplified system maintenance: Cisco UCS E-Series Servers ease physical server provisioning and system maintenance.

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- Enhanced server management: Built-in lights-out server management through the Cisco Integrated Management Controller (IMC) runs on the same dedicated baseboard management controller hardware found in all Cisco UCS products. This feature provides standalone management consistency with Cisco UCS C-Series Rack Servers for both local and remote server monitoring and configuration management.
  - Stronger physical security: The blades require no external network cables or physical keyboard, video, or mouse (KVM). They can therefore be easily secured in a wiring closet or other secure location without compromising manageability, a situation that is difficult to achieve with traditional tower and rack-mount servers.
  - Small footprint: Cisco UCS E-Series Servers include multicore x86 64-bit Intel Xeon processors. You can reduce your branch-office server footprint by incorporating high-performance, power-optimized blade servers directly into Cisco ISR G2 and 4000 Series branch-office routers. All are integrated and housed in a single Cisco ISR chassis, delivering an excellent all-in-one platform for the lean branch office.

## Platform Support and Compatibility

Cisco UCS E-Series Servers are designed to support multiple bare-metal operating systems and hypervisors, including:

- Operating systems
  - Microsoft Windows Server
    - Windows Server 2008 64-bit
    - Windows Server 2008 R2 64-bit
    - Windows Server 2012 64-bit
    - Windows Server 2012 R2 64-bit
  - Red Hat Enterprise Linux (RHEL) Release 6.2 and later
  - SuSE Linux 11, Service Pack 2 and later
  - Oracle Enterprise Linux 6.0, Update 2 and later
- Hypervisors
  - Microsoft Hyper-V 2008 R2, 2012, and 2012 R2
  - VMware vSphere 5.0, Update 1, and Releases 5.1, 5.5, 6.0
  - Citrix XenServer Release 6.0 and later

## Product Specifications

Table 2 lists the specifications and Table 3 lists Cisco ISR support for the Cisco UCS E-Series M1 servers. Table 4 lists safety and EMC regulatory standards compliance information.

**Table 2.** Product Specifications for Single and Doublewide M1 Servers

Feature	Cisco UCS E140S M1 (Singlewide)	Cisco UCS E140D, E140DP, E160D, and E160DP M1 (Doublewide)
<b>CPU</b>	<ul style="list-style-type: none"> <li>Intel Xeon processor E3-1105C (6-MB cache, 1.00 GHz, and 4 cores)</li> </ul>	<p>UCS-E 140D and 140DP:</p> <ul style="list-style-type: none"> <li>Intel Xeon processor E5-2418L (10-MB cache, 2.0 GHz, and 4 cores)</li> </ul> <p>UCS-E 160D and 160DP:</p> <ul style="list-style-type: none"> <li>Intel Xeon processor E5-2428L (15-MB cache, 1.8 GHz, and 6 cores)</li> </ul>
<b>DRAM</b>	<ul style="list-style-type: none"> <li>8 GB (default: one 8-GB dual in-line memory module [DIMM]) and up to 16 GB (two 8-GB DIMMs)</li> </ul>	<ul style="list-style-type: none"> <li>8 GB (default) and up to 48 GB (three 16-GB DIMMs)</li> </ul>
<b>Hard-Disk Drive (HDD)</b>	<ul style="list-style-type: none"> <li>Up to 2; refer to the ordering and compatibility guide for more information</li> </ul>	<p>Cisco UCS E140D and E160D:</p> <ul style="list-style-type: none"> <li>Up to 3; refer to the ordering and compatibility guide for more information</li> </ul> <p>Cisco UCS E140DP and E160DP:</p> <ul style="list-style-type: none"> <li>Up to 2; refer to the ordering and compatibility guide for more information</li> </ul>
<b>RAID options</b>	<ul style="list-style-type: none"> <li>Hardware RAID 0 and 1</li> <li>LSI 2004 controller</li> </ul>	<p>Cisco UCS E140D and E160D:</p> <ul style="list-style-type: none"> <li>Hardware RAID 0, 1, and 5</li> <li>LSI 2004 controller</li> </ul> <p>Cisco UCS E140DP and E160DP:</p> <ul style="list-style-type: none"> <li>Hardware RAID 0 and 1</li> <li>LSI 2004 controller</li> </ul>
<b>Network Interface Cards (NICs)</b>	<ul style="list-style-type: none"> <li>2 internal and 1 external Gigabit Ethernet ports</li> </ul>	<ul style="list-style-type: none"> <li>2 internal and 2 external Gigabit Ethernet ports</li> </ul>
<b>PCIe</b>	None	<p>Cisco UCS E140DP and E160DP:</p> <ul style="list-style-type: none"> <li>Four 1 Gigabit Ethernet or one 10 Gigabit Ethernet and Fibre Channel over Ethernet (FCoE)</li> </ul>
<b>Cisco IMC</b>	<ul style="list-style-type: none"> <li>Integrated Emulex Pilot-3 BMC</li> <li>IPMI 2.0 compliant for management and control</li> <li>One 10/100 Ethernet out-of-band management interface</li> <li>Command-Line Interface (CLI) and WebGUI management tool for automated, lights-out management</li> <li>KVM</li> </ul>	<ul style="list-style-type: none"> <li>Integrated Emulex Pilot-3 BMC</li> <li>IPMI 2.0 compliant for management and control</li> <li>One 10/100 Ethernet out-of-band management interface</li> <li>CLI and WebGUI management tool for automated, lights-out management</li> <li>KVM</li> </ul>
<b>SD cards</b>	<p>2 SD cards:</p> <ul style="list-style-type: none"> <li>1 for Cisco IMC and temporary storage of OS and hypervisor installation images comes standard</li> <li>1 for a blank virtual drive on which you can install an OS or a hypervisor (optional).</li> </ul>	<p>2 SD cards:</p> <ul style="list-style-type: none"> <li>1 for Cisco IMC and temporary storage of OS and hypervisor installation images comes standard</li> <li>1 for a blank virtual drive on which you can install an OS or a hypervisor (optional).</li> </ul>

Feature	Cisco UCS E140S M1 (Singlewide)	Cisco UCS E140D, E140DP, E160D, and E160DP M1 (Doublewide)
<b>Front-panel connectors</b>	<ul style="list-style-type: none"> <li>• 1 KVM console connector (supplies 1 VGA, 1 serial, and 1 USB connector)</li> <li>• 1 onboard USB connector</li> </ul>	<ul style="list-style-type: none"> <li>• Front-panel VGA, 2 USB, and serial console connectors</li> </ul>
<b>Physical dimensions (H x W x D)</b>	<ul style="list-style-type: none"> <li>• 1.58 x 7.44 x 7.5 in. (4 x 18.9 x 19.1 cm)</li> </ul>	<ul style="list-style-type: none"> <li>• 1.58 x 16.23 x 7.5 in. (4 x 41.2 x 19.1 cm)</li> </ul>
<b>Maximum weight</b>	<ul style="list-style-type: none"> <li>• 2.5 lb (1.1 kg)</li> </ul>	<ul style="list-style-type: none"> <li>• 7 lb (3.2 kg)</li> </ul>
<b>Temperature: Operating</b>	<ul style="list-style-type: none"> <li>• According to operating requirements of deployable platform: <ul style="list-style-type: none"> <li>◦ 32 to 104°F (0 to 40°C) normal</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• According to operating requirements of deployable platform: <ul style="list-style-type: none"> <li>◦ 32 to 104°F (0 to 40°C) normal</li> </ul> </li> </ul>
<b>Temperature: Nonoperating</b>	<ul style="list-style-type: none"> <li>• -4 to 149°F (-20 to 65°C)</li> </ul>	<ul style="list-style-type: none"> <li>• -4 to 149°F (-20 to 65°C)</li> </ul>
<b>Humidity: Operating</b>	<ul style="list-style-type: none"> <li>• According to operating requirements of deployable platform: <ul style="list-style-type: none"> <li>◦ 10 to 85% operating</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• According to operating requirements of deployable platform: <ul style="list-style-type: none"> <li>◦ 10 to 85% operating</li> </ul> </li> </ul>
<b>Humidity: Nonoperating</b>	<ul style="list-style-type: none"> <li>• 5 to 95%</li> </ul>	<ul style="list-style-type: none"> <li>• 5 to 95%</li> </ul>
<b>Altitude: Operating</b>	<ul style="list-style-type: none"> <li>• 104°F (40°C) at sea level to 10,000 ft (0 to 3000m); maximum ambient temperature decreases by 1°C per 300m</li> </ul>	<ul style="list-style-type: none"> <li>• 104°F (40°C) at sea level to 10,000 ft (0 to 3000m); maximum ambient temperature decreases by 1°C per 300m</li> </ul>
<b>Altitude: Nonoperating</b>	<ul style="list-style-type: none"> <li>• 15,000 ft (4600m)</li> </ul>	<ul style="list-style-type: none"> <li>• 15,000 ft (4600m)</li> </ul>

**Table 3.** Cisco ISR G2 and 4000 Series ISRs Support for Cisco UCS E-Series

ISR Platform	Cisco UCS E140S-M1	Cisco UCS E140D-M1 and UCS E140DP-M1	Cisco UCS E160D-M1 and UCS E160DP-M1
1921	No	No	No
1941	No	No	No
2901	No	No	No
2911	1	No	No
2921	1	1	No
2951	2	1	No
3925	2	1	1
3945	4	1	1
3925E	2	1	1
3945E	4	1	1
4321	No	No	No

ISR Platform	Cisco UCS E140S-M1	Cisco UCS E140D-M1 and UCS E140DP-M1	Cisco UCS E160D-M1 and UCS E160DP-M1
4331	1	No	No
4351	2	1	1
4431	No	No	No
4451	2	1	1

**Table 4.** Regulatory Standards Compliance: Safety and EMC

Specification	Description
<b>Safety</b>	<ul style="list-style-type: none"> <li>• UL 60950-1 Second Edition</li> <li>• CAN/CSA-C22.2 No. 60950-1</li> <li>• IEC 60950-1 Second Edition</li> <li>• EN 60950-1 Second Edition</li> <li>• AS/NZS 60950-1</li> </ul>
<b>EMC: Emissions</b>	<ul style="list-style-type: none"> <li>• 47CFR Part 15 (CFR 47) Class A</li> <li>• AS/NZS CISPR22 Class A</li> <li>• CISPR2 2 Class A</li> <li>• EN55022 Class A</li> <li>• ICES003 Class A</li> <li>• VCCI V-3 Class I</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> <li>• EN300386 Class A</li> <li>• CNS13438, Class A</li> </ul>
<b>EMC: Immunity</b>	<ul style="list-style-type: none"> <li>• EN55024</li> <li>• CISPR24</li> <li>• EN300386</li> <li>• EN50082-1 Part 1</li> <li>• EN 61000 6-1</li> </ul>

## System Requirements

- For Cisco UCS E-Series Servers, Cisco IOS® Software Release 15.2(4)M is required for Cisco 2900 and 3900 Series ISR models.
- For Cisco UCS E-Series Servers, Cisco IOS XE Software Release 3.13 is required for the Cisco 4000 Series ISR platform.



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## Warranty Information

Cisco UCS-E Series Servers are covered by a 90-day warranty. Find warranty information on Cisco.com on the [Product Warranties](#) page.

## Ordering Information

Table 1 contains the top-level part numbers for the Cisco UCS E-Series modules. Review the ordering guide for the complete list of part numbers and ordering examples.

To place an order, visit the [Cisco Ordering homepage](#). To download software, visit the [Cisco Platform Suite](#).

## Cisco Services

Cisco UCS E-Series Servers hardware support is covered by the Cisco Smart Net Total Care™ contract for the router in which the module resides. Cisco Smart Net Total Care support is available on a one-time or annual contract basis. Support options range from help-desk assistance to proactive, onsite consultation.

All support contracts include:

- Major Cisco IOS Software updates for protocol, security, bandwidth, and feature improvements
- Full access rights to Cisco.com technical libraries for technical assistance, electronic commerce, and product information
- Access to the industry's largest dedicated technical support staff 24 hours a day

For more information about Cisco services, refer to [Cisco Technical Support Services](#) or [Cisco Advanced Services](#).

## Cisco and Partner Services for the Branch Office

Services from Cisco and our certified partners can help you transform the branch-office experience and accelerate business innovation and growth. Cisco has the depth and breadth of expertise to create a clear, replicable, optimized branch-office footprint across technologies. Planning and design services align technology with business goals and can increase the accuracy, speed, and efficiency of deployment. Technical services help improve operation efficiency, save money, and mitigate risk. Optimization services are designed to continuously improve performance and help your team succeed with new technologies. For more information, please visit <https://www.cisco.com/go/services>.

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### For More Information

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