

# Cisco UCS E-Series M3 Servers

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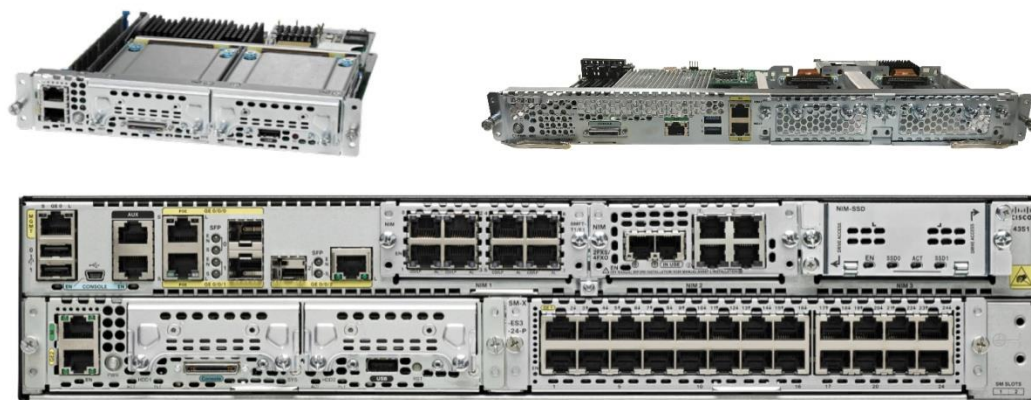
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With powerful data center-class servers that are virtualization-ready, you can host business applications and network services right in your branch-office router.

## 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) 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


The Cisco Unified Computing System™ (Cisco UCS) E-series M3 Server is available in two flavors: as singlewide and as doublewide module. The singlewide version occupies a single service-module slot in the Cisco 4000 Series ISR as shown above. The doublewide module occupies two service-module slots side-by-side.

All Cisco UCS E-Series M3 Servers are high-density blade servers with single-socket Intel Xeon-D processors. They balance simplicity, performance, and application density while operating in an energy-efficient environment providing better energy efficiency than preceding models. The servers also include integrated remote lights-out management.

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-E160S-M3/K9</li></ul>	 A photograph of a Cisco UCS E-Series Single-Wide Server, showing its front panel with various ports and a blue Cisco logo.
<b>Cisco UCS E-Series Double-Wide Servers:</b> <ul style="list-style-type: none"><li>• UCS-E180D-M3/K9</li><li>• UCS-E1120D-M3/K9</li></ul>	 A photograph of a Cisco UCS E-Series Double-Wide Server, showing its front panel with various ports and a blue Cisco logo.

## Applications for Cisco UCS E-Series Servers

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

- **Cisco Network services:** Cisco Virtual Wide Area Application Services (vWAAS), Cisco Virtual Wireless LAN Controller (vWLC), Cisco Unity® Connection, Cisco Firepower Threat Defense for ISR 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, video surveillance systems and cloud connectors
- **Core Network services:** Dynamic Host Configuration Protocol (DHCP) server services and Domain Name System (DNS) server services
- **Core Microsoft Windows services:** Microsoft Active Directory Domain Services (AD DS), Microsoft Windows print services and Microsoft Windows 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.

- **Enhanced server management:** Built-in lights-out server management through the Cisco Integrated Management Controller (IMC) which 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 legacy tower and rack-mount servers which lack virtual KVM capabilities.
- **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 4000 Series ISRs in the branch office. These servers 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:

- Hypervisors
  - VMware vSphere ESXi 6.0U2 and 6.5 onwards
  - Microsoft Hyper-V 2016
- Operating systems
  - Microsoft Windows Server
    - Windows Server 2016 64-bit
    - Windows Server 2012 R2 64-bit
    - Windows Server 2012 64-bit
  - Red Hat Enterprise Linux (x86\_64) 7.3 - 7.x
  - Red Hat OpenStack Platform (x86\_64) for Compute 9.0 - 13.0
  - SUSE® Linux Enterprise Server 12 for AMD64 and Intel64 Service Pack 3
  - SUSE® OpenStack Cloud 7 - Admin and Control Node
  - Citrix XenServer 7.1.0 CU1, 7.4.0, 7.5.0, 7.6.0 (only UCS-E180D-M3/K9 and UCS-E1120D-M3/K9)
  - Oracle Linux
    - Oracle Linux 7.2, Kernel 3.8.13-98.7.1 (only UCS-E160S-M3/K9)
    - Oracle Linux 7.3, Kernel 4.1.12-103.3.8 (only UCS-E180D-M3/K9 and UCS-E1120D-M3/K9)

## Product specifications

Table 2 lists the specifications and Table 3 lists Cisco ISR support for the Cisco UCS E-Series M3 servers. Table 4 lists safety and EMC regulatory standards compliance information.

**Table 2.** Product specifications for M3 Servers

Feature	Cisco UCS E160S M3 (Singlewide)	Cisco UCS E180D M3 and E1120D M3 (Doublewide)
<b>CPU</b>	<ul style="list-style-type: none"> <li>Intel Xeon Broadwell DE processor D-1528 (9-MB cache, 1.90 GHz, and 6 cores)</li> </ul>	<ul style="list-style-type: none"> <li>180D: Intel Xeon Broadwell DE processor D-1548 (12-MB cache, 2.0 GHz, 8 cores)</li> <li>1120D: Intel Xeon Broadwell DE processor D-1557 (18-MB cache, 1.50 GHz, 12 cores)</li> </ul>
<b>DRAM</b>	<ul style="list-style-type: none"> <li>8 - 64 GB</li> <li>2 DIMM slots, each with 8 GB, 16 GB or 32 GB VLP DDR4 RAM</li> </ul>	<ul style="list-style-type: none"> <li>16 - 128 GB</li> <li>4 DIMM slots, each with 8 GB, 16 GB or 32 GB VLP DDR4 RAM</li> </ul>
<b>Hard-Disk Drive (HDD/SSD)</b>	<ul style="list-style-type: none"> <li>2 SFF slots; up to 4 TB each (SSD) or 2 TB each (HDD); Refer to the ordering and compatibility guide for more information</li> </ul>	<ul style="list-style-type: none"> <li>4 SFF slots; up to 4 TB each (SSD) or 2 TB each (HDD); 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 MegaRAID SAS 3108 controller</li> <li>Queue depth: 928</li> <li>Stripe size: 64K</li> <li>PCIe passthrough</li> </ul>	<ul style="list-style-type: none"> <li>Hardware RAID 0, 1, 5, 10</li> <li>LSI MegaRAID SAS 3316 controller</li> <li>Queue depth: 928</li> <li>Stripe size: 64K</li> <li>PCIe passthrough</li> </ul>
<b>Power Loss Protection for Cache Back Up</b>	<ul style="list-style-type: none"> <li>No</li> </ul>	<ul style="list-style-type: none"> <li>1 Super Capacitor (3-year life) for Power Loss Protection</li> <li>Write-through/Write-back cache with power back up</li> </ul>
<b>Network Interface Cards (NICs)</b>	<ul style="list-style-type: none"> <li>2 internal Gigabit Ethernet ports (Broadcom 5719)</li> <li>2 external 10 Gigabit Ethernet ports (1000/10000) (Integrated within Intel Xeon-D CPU)</li> </ul>	<ul style="list-style-type: none"> <li>2 internal Gigabit Ethernet ports (Broadcom 5719)</li> <li>2 external 10 Gigabit Ethernet ports (1000/10000) (Integrated within Intel CPU)</li> <li>1 dedicated management Ethernet port (10/100/1000) for Cisco IMC</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>Command-Line Interface (CLI) and WebGUI management tool for automated, lights-out management</li> <li>Virtual 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>Command-Line Interface (CLI) and WebGUI management tool for automated, lights-out management</li> <li>Virtual KVM</li> </ul>
<b>Integrated eMMC storage</b>	<ul style="list-style-type: none"> <li>8-GB partition for Cisco IMC</li> <li>8-GB partition for Intel X86 host</li> </ul>	<ul style="list-style-type: none"> <li>8-GB partition for Cisco IMC</li> <li>8-GB partition for Intel X86 host</li> </ul>
<b>Front-panel connectors</b>	<ul style="list-style-type: none"> <li>1 KVM console connector (supplies 1 VGA, 1 serial and 1 USB 2.0 connector)</li> <li>1 onboard USB 3.0 port</li> </ul>	<ul style="list-style-type: none"> <li>1 KVM console connector (supplies 1 VGA, 1 serial and 1 USB 2.0 connector)</li> <li>2 onboard USB3.0 ports</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>

Feature	Cisco UCS E160S M3 (Singlewide)	Cisco UCS E180D M3 and E1120D M3 (Doublewide)
<b>Temperature: Operating</b>	<ul style="list-style-type: none"> <li>According to operating requirements of deployable platform: 32 to 104° F (0 to 40° C) normal</li> </ul>	<ul style="list-style-type: none"> <li>According to operating requirements of deployable platform: 32 to 104° F (0 to 40° C) normal</li> </ul>
<b>Temperature: Non-operating</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: 10 to 85% operating</li> </ul>	<ul style="list-style-type: none"> <li>According to operating requirements of deployable platform: 10 to 85% operating</li> </ul>
<b>Humidity: Non-operating</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 3,000m); 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 3,000m); maximum ambient temperature decreases by 1° C per 300m</li> </ul>
<b>Altitude: Non-operating</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 M3 series

ISR Platform	Cisco UCS E160S-M3	Cisco UCS E180D-M3 and Cisco UCS E1120D-M3
19xx, 29xx, 39xx	No	No
4221	No	No
4321	No	No
4331	1	No
4351	2	1
4431	No	No
4451	2	1
4461	3	2

**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> </ul>

Specification	Description
	<ul style="list-style-type: none"> <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 M3 Servers, Cisco IOS® XE Software Release 16.4 or later is required for the Cisco 4000 Series ISR platform.

## 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.

## Cisco environmental sustainability

Information about Cisco’s environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the “Environment Sustainability” section of Cisco’s [Corporate Social Responsibility](#) (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the “Environment Sustainability” section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	<a href="#">Materials</a>
Information on electronic waste laws and regulations, including products, batteries, and packaging	<a href="#">WEEE compliance</a>

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

## 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](#).



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## 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>.

## Cisco Capital

### Flexible payment solutions to help you achieve your objectives

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. [Learn more](#).

## For more information

For more information about Cisco UCS E-Series Servers, visit <https://www.cisco.com/go/ucse/> or contact your local Cisco account representative.

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