Cisco 800M Series Integrated Services Router

Powerful Cisco IOS® Software-based router for small to medium sites offers flexible connectivity options and simplifies large-scale wireless WAN deployments.

Product Overview

The Cisco® 800M Series Integrated Services Router (ISR) is a modular platform in the Cisco 800 Series ISR product family. Intended for small to medium sites, it provides a flexible array of WAN connectivity options with easy migration among WAN interface types. It runs Cisco IOS® Software and delivers built-in security in a single software image with no additional software licenses required. It also integrates application hosting capabilities right in the router.

The Cisco 800M ISR is best suited for the following uses:

- Secure WAN connectivity for branches

- Transmitting transactional data from ATM machines, point-of-sale terminals, and kiosks

- Cellular backup to primary wired links

- Quick, easy connectivity in countries where most WAN infrastructure is cellular: 4G LTE /3G connectivity can be used for primary connections, backup connections, or both

- Locations with WAN services requiring serial connectivity

- Deployments requiring real-time, local data collection and analysis from vending machines, Internet of Things (IoT) devices, and M2M sensors in other applications

There are two Cisco 800M Series ISR models; the part numbers are C841M-4X and C841M-8X. Both integrate a Gigabit Ethernet switch and redundant Gigabit Ethernet WAN uplinks. Figure 1 shows the ISR 800M router with part number C841M-8X.

Figure 1.   Cisco 800M ISR (C841M-8X)

The Cisco 800M Series platform supports pluggable Cisco WAN Interface Modules (WIMs) for flexible connectivity.

Figure 2 shows the rear of the ISR 800M (C841M-8X) with WIM-3G and WIM-1T modules inserted. Figure 3 shows the rear of the ISR 800M (C841M-4X), also with both modules inserted.

Figure 2.   Cisco 800M ISR (C841M-8X) with WIM-3G and WIM-1T

Figure 3.   Cisco 800M ISR (C841M-4X) with WIM-3G and WIM-1T

Features and Benefits

The Cisco 800M Series ISR integrates enterprise-class security and application services while delivering the best price/performance ratio in its class. The router supports highly available and redundant WAN connection options and lets you easily migrate to different WAN connections for investment protection.

The Cisco 800M ISR is the first in the industry to support multiple 3G technologies on the same pluggable WAN interface (the Cisco WIM-3G), providing you with the ability to choose the service provider. The platform is future-enabled, and it provides an open, extensible environment for developing and hosting applications at the network edge for local processing right in the router. The routers support single-pane-of-glass management and the 3G/4G cellular Simple Network Management Protocol (SNMP) MIB.

The Cisco 800M ISR will support Cisco® Fourth-Generation Long-Term Evolution (4G LTE Category 4) Wireless WAN Interface Module (WIM) to provide the next generation of wireless WAN primary, backhaul, and backup solutions.

Table 1 details the features and benefits of the Cisco 800M Routers.

Table 1.   Features and Benefits of Cisco 800M Routers

Requirement	Cisco 800M Supporting Feature(s)
Secure connectivity	● VPNs: Integrated IPsec, Group Encrypted Transport, Cisco Dynamic Multipoint VPN (DMVPN), Cisco FlexVPN, Cisco EasyVPN ● Integrated Cisco IOS Zone-Based Firewall with Next-Generation Network-Based Application Recognition (NBAR2) ● Integrated domain/URL filtering ● Cisco Cloud Web Security Connector for cloud-based web security
Ability to easily migrate to other WAN interfaces	● Modular architecture that supports pluggable Cisco WAN Interface Modules (WIMs)
Flexible choices of wireless WAN services and providers	● 4G LTE 　◦ Single Subscriber Identity Module (SIM)/Removable User Identity Module (R-UIM) 　◦ 4G LTE SIM card socket (USIM or Mini-SIM 2FF) 　◦ Theoretical Category 4 with download/upload speed of 150 Mbps/50 Mbps ● 3G 　◦ Supports HSPA+/HSPA and EV-DO on a single multimode 3G WIM with fallback to 2G cellular technologies ● Dual Subscriber Identity Module (SIM) and Removable User Identity Module (R-UIM) support in WIM-3G for easy swap-out as you change networks and providers
High network availability for business continuity	● Supports two slots on a single 3G module that can hold a mix of SIM and/or R-UIM cards for cellular multihoming across HSPA+/HSPA and EV-DO WWANs ● Dual Gigabit Ethernet WAN ports and support for two serial modules for primary/backup wired connections or a mix of wired and cellular links for redundancy
Convergence of required capabilities into a single box for lower CapEx and OpEx	● Integrates Gigabit Ethernet switch, routing, multilayer security, full Cisco IOS Software suite, multiple WAN interface choices
Comprehensive and centralized network management	● Integrated device management using Cisco Configuration Professional Express. Includes comprehensive Security Policy Management (covering identity, user, and user group domain filtering, VPNs, and cloud-based Cisco Web Security) with monitoring and reporting ● Enterprise-class centralized provisioning and management using Cisco Prime™ Infrastructure ● Remote management and network monitoring using SNMP (including 3G SNMP MIBs), Telnet, and HTTP, and locally through a console port

Licensing

The Cisco 800M Series ISR default license supports the Cisco IOS Software Advanced IP Services feature set with no additional technology package license requirement (Table 2).

Table 2.   License for Cisco 800M Series ISR

Model	Image	Default Feature License	First Cisco IOS Software Release
Cisco 800M ISR	c800m-universalk9-mz	SL-800M-AIS (Advanced IP Services)	15.7

Table 3 lists Cisco IOS Software high-level features on the Cisco 800M Series ISR.

Table 3. Cisco IOS Software High-level Features on Cisco 800M Series ISR: Advanced IP Services (Default)

Feature	Description

IP and IP services	● Routing Protocols: RIPv1, RIPv2, OSPF, EIGRP, BGP
	● Generic routing encapsulation (GRE) and multipoint GRE (mGRE)
	● Cisco Express Forwarding
	● Standard 802.1d Spanning Tree Protocol
	● Layer 2 Tunneling Protocol (L2TP, L2TPv3)
	● Network Address Translation (NAT)
	● Dynamic Host Configuration Protocol (DHCP) server, relay, and client
	● Dynamic Domain Name System (DNS), DNS Proxy, DNS Spoofing
	● Access control lists (ACLs)
	● IPv4 and IPv6 Multicast
	● Performance Routing (PfR)
	● Virtual Route Forwarding (VRF) Lite
	
	● Next Hop Resolution Protocol (NHRP)
	● Bidirectional Forwarding Detection (BFD)
	● Web Cache Communication Protocol (WCCP)
	● Flexible NetFlow (FNF)
	  ○ PPP
	  ○ HDLC
	  ○ PPPoE

LAN	● 16 802.1Q VLANs ● MAC filtering ● Switched Port Analyzer (SPAN) ● Storm Control ● Internet Group Management Protocol Version 3 (IGMPv3) snooping ● 802.1x
Security	● IPsec with IKEv1& IKEv2, IPsec over IPV6, VRF-aware IPsec ● EasyVPN, DMVPN, Tunnel-less Group Encrypted Transport VPN, Secure Socket Layer (SSL) VPN ● Hardware-accelerated DES, 3DES, AES 128, AES 192, and AES 256 ● Next Generation Encryption (NGE) based on standard Suite-B algorithms ● Public-key-infrastructure (PKI) support ● Cisco Easy VPN Client and Server ● Cisco IOS Firewall: Zone-Based Stateful Firewall, Application Aware Stateful Firewall with NBAR2 integration & VRF-Aware Firewall ● Advanced application inspection and control ● Secure HTTP (HTTPS), FTP, and Telnet Authentication Proxy ● Cisco Web Security Connector ● Intrusion Prevention (*1-GB DRAM minimum) ● Tested for typical branch scenarios with up to 20 tunnels with minimum of 512-M DRAM and up to 100 tunnels with minimum of 1-GB DRAM
QoS	● Low-Latency Queuing (LLQ) ● Weighted Fair Queuing (WFQ), Class-Based WFQ (CBWFQ) ● Class-Based Traffic Shaping (CBTS) and Policing (CBTP) ● Policy-Based Routing (PBR) ● Class-Based QoS MIB ● Class of service (CoS)-to-differentiated services code point (DSCP) mapping ● Class-Based Weighted Random Early Detection (CBWRED) ● Network-Based Application Recognition (NBAR), NBAR2 ● Link fragmentation and interleaving (LFI) ● Resource Reservation Protocol (RSVP) ● Real-Time Transport Protocol (RTP) header compression (cRTP) ● Differentiated Services (DiffServ) ● QoS preclassify and prefragmentation ● HQoS

Feature	Description
High Availability	● Virtual Router Redundancy Protocol (VRRP) (RFC 2338) ● HSRP ● MHSRP
Application Visibility	NBARv2 and Performance Agent
IPv6	● IPv6 addressing architecture ● IPv6 name resolution ● IPv6 statistics ● IPv6 translation: Transport packets between IPv6-only and IPv4-only endpoints (NAT-PT) ● Internet Control Message Protocol Version 6 (ICMPv6) ● IPv6 DHCP ● OSPFv3 ● BGP4+ ● IPv6 path maximum transmission unit (PMTU) ● IPv6 Neighbor Discovery ● IPv6 stateless address autoconfiguration (SLAAC) ● IPv6 Multicast Routing
Management	● Cisco Configuration Professional Express ● Cisco Prime™ Infrastructure ● Cisco IP Service-Level Agreement (IP SLA) ● Cisco IOS Embedded Event Manager (EEM) ● Telnet, Simple Network Management Protocol Version 3 (SNMPv3), Secure Shell (SSH) Protocol, command-line interface (CLI), and HTTP management ● RADIUS and TACACS+

Product Specifications

Table 4 contains product specifications for the Cisco 800M Series ISR platforms.

Table 4.   System Specifications for Cisco 800M Routers

Feature	C841M-4X	C841M-8X
Dimensions (H x W x D)	1.72 x 13.5 x 6.9 in.	1.72 x 13.5 x 6.9 in.
Weight (kg) with blank modules	1.7 kg	1.7 kg
Weight (kg) with both modules loaded	2.5 kg	2.5 kg
Rack-/Wall-Mountable	Yes	Yes
Memory (DDR3 DRAM): Default/maximum	512 MB/512 MB	1 GB/1 GB
Flash memory (internal): Default/maximum	2 GB/2 GB	2 GB/2 GB
External USB flash-memory slots (Type A)	1	1
Serial console port (up to 115.2 kbps)	1	1
Power supply	External AC power supply	External AC power supply
Redundant-power-supply support	No	No
AC input voltage	100-240V ~	100-240V ~
AC input frequency	50-60 Hz	50-60 Hz
RJ-45 onboard LAN 10/100/1000 ports	4	8
RJ-45 onboard WAN 10/100/1000 ports	2	2
WAN Interface Slots	2	2
WAN Interface Modules	● 4G LTE(3GPP Category 4) Cellular ● 3G Cellular ● Cisco Smart Serial Interface	● 4G LTE(3GPP Category 4) Cellular ● 3G Cellular ● Cisco Smart Serial Interface
Integrated/Fixed WAN Connections	2 Gigabit Ethernet	2 Gigabit Ethernet

Feature	C841M-4X	C841M-8X
Outdoor Antennas	Yes	Yes
Diversity (Dual Antennas)	Yes	Yes
TNC Connectors for Field-replaceable Optional High-gain Antennas	Yes	Yes
Integrated/Fixed LAN Connections	4 Gigabit Ethernet	8 Gigabit Ethernet
Environmental Operating Range	- Nonoperating temperature: -40 to 158°F (-40 to 70°C) - Nonoperating humidity: 5 to 95% RH - Nonoperating altitude: 0 to 15,000 ft (0 to 4570m) - Operating temperature: 32 to 104°F (0 to 40°C) - Operating humidity: 10 to 85% RH - Operating altitude: 0 to 10,000 ft (0 to 3000m)	- Nonoperating temperature: -40 to 158°F (-40 to 70°C) - Nonoperating humidity: 5 to 95% RH - Nonoperating altitude: 0 to 15,000 ft (0 to 4570m) - Operating temperature: 32 to 104°F (0 to 40°C) - Operating humidity: 10 to 85% RH - Operating altitude: 0 to 10,000 ft (0 to 3000m)
Approvals and Compliance	Safety: - IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013 - EN60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013 ITE equipment - UL 60950-1+ AMD 1 AMD 2 ITE equipment EMC - EN55022 Class B - EN55024 - EN61000-3-2 - EN61000-3-3 - VCCI Class B 47 CFR Part 15 - EN 300 386 v1.6.1 - EN 301 489-1 - EN 301 489-7 - EN 301 489-24 Radio: - EN 301 511 - EN 301 908-1 - EN 301 908-2 47 CFR PART 22 47 CFR PART 24	Safety: - IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013 - EN60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013 ITE equipment - UL 60950-1+ AMD 1 AMD 2 ITE equipment EMC - EN55022 Class B - EN55024 - EN61000-3-2 - EN61000-3-3 - VCCI Class B 47 CFR Part 15 - EN 300 386 v1.6.1 - EN 301 489-1 - EN 301 489-7 - EN 301 489-24 Radio: - EN 301 511 - EN 301 908-1 - EN 301 908-2 47 CFR PART 22 47 CFR PART 24

Ordering Information

The Cisco 800M ISR default license supports the Cisco IOS Software Advanced IP Services feature set with no additional technology package license requirement. For ordering details, please consult the part numbers in Table 5. To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

Table 5. Ordering

Part Number	Product Description
C841M-4X	Cisco 800M ISR with 4 10/100/1000 LAN ports LAN, 2 10/100/1000 WAN ports onboard and two WAN Interface Slots
C841M-8X	Cisco 800M ISR with 8 10/100/1000 LAN ports LAN, 2 10/100/1000 WAN ports onboard and two WAN Interface Slots
WIM-1T	Cisco 800M ISR 1-port Serial WAN Interface Module
WIM-LTE-AS	Cisco 800M ISR Single SIM 4G LTE WAN Interface Module (Bands Supported: B1, B3, B5, B8, B40, B41)
WIM-3G	Cisco 800M ISR Dual SIM-multimode 3G WAN Interface Module
ACS-800M-RM-19	Rack-mount/Wall-mount Kit for Cisco 800M ISR Router
WIM-BLANK	Blank plates for Modular Slots

Warranty

The Cisco 800M Series ISR comes with the Cisco one-year limited hardware warranty. Adding a contract for a technical service offering such as Cisco SMARTnet® Service provides benefits not available with warranty, including access to OS updates, Cisco.com online resources, and Cisco Technical Assistance Center (TAC) support services. Table 6 shows the available technical services.

For information about Cisco warranties, visit https://www.cisco.com/go/warranty.

Technical Service Options

Table 6. Cisco Technical Services for the Cisco 800M Series ISR

Service	Description and Features
Cisco SMARTnet Service	● Next-business-day, 8 x 5 x 4, 24 x 7 x 4, and 24 x 7 x 2 advance hardware replacement[1] and onsite parts replacement and installation available ● Global access to the Cisco TAC 24 hours a day ● Unrestricted access to the extensive Cisco.com resources, communities, and tools ● Ongoing operating system software updates[2] within the licensed feature set ● Proactive diagnostics and real-time alerts on Smart Call Home-enabled devices
Cisco SMART Foundation Service	● Next-business-day advance hardware replacement as available ● Business-hours access to SMB Cisco TAC (access levels vary by region) ● Access to Cisco.com SMB knowledge base ● Online technical resources through Smart Foundation Portal ● Operating system software bug fixes and patches

[1] Advance hardware replacement is available in various service-level combinations. For example, 8 x 5 x Next business day (NBD) indicates that shipment will be initiated during the standard 8-hour business day, 5 days a week (the generally accepted business days within the relevant region), with NBD delivery. Where NBD is not available, same-day shipment is provided. Restrictions apply; please review the appropriate service descriptions for details.

[2] Cisco operating system updates include maintenance releases, minor updates, and major updates within the licensed feature set.

For more information about Cisco Technical Services, visit https://www.cisco.com/go/ts.

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Next Steps

Learn more about the Cisco 800M Series ISR products by visiting:

https://www.cisco.com/c/en/us/products/routers/800m-integrated-services-router-isr/index.html. Or contact your local Cisco account representative.

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