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Cisco 1000 Series Integrated Services Routers

Contents

Cisco® 1000 Series Integrated Services Routers (ISRs) with Cisco IOS® XE Software combine Internet access, comprehensive security, and wireless services (LTE Advanced 3.0 wireless WAN and 802.11ac wireless LAN) in a single, high-performance device. The routers are easy to deploy and manage, with separate data and control plane capabilities.

The Cisco 1000 Series ISRs are well suited for deployment as Customer Premises Equipment (CPE) in enterprise branch offices, in service provider managed environments as well as smaller form factor and M2M use cases.

Note: Not all 1000 series SKU variants are available in every region with different technologies (check on CCW pricelist for your region).

Figure 1.
Cisco 1000 Product Family Series

Figure 2.
Cisco 1100-8P ISR with LTE advanced, back and front view

Figure 3.
Cisco 1120 and 1160 with LTE pluggable and 802.11ac Wi-Fi options

Primary features and benefits

Table 1.   Business benefits

Business need	Features/description
Lightweight, compact size with low power consumption	• Can be deployed in many different environments where space, heat dissipation, and low power consumption are critical factors (Including Cisco Pluggable smaller form factor technology).
High performance to run concurrent services	• High performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services. C1160 models will have better overall performance.
High availability and business continuity	• Redundant WAN connections for failover protection and load balancing. • Dynamic failover protocols such as Virtual Router Redundancy Protocol (VRRP; RFC 2338), Hot Standby Router Protocol (HSRP), and Multigroup HSRP (MHSRP).
Consistent, high application performance levels	• The router can run multiple services simultaneously with minimal performance degradation.
Risk mitigation with multilevel security	• Network perimeter security with integrated application inspection firewall. • Data privacy through high-speed IP Security (IPsec) Triple Data Encryption Standard (3DES), and Advanced Encryption Standard (AES) encryption. • High-performance VPNs: DMVPN, FlexVPN, GETVPN. • Encrypted Traffic Analytics (ETA) to identify malware communications in encrypted traffic using passive monitoring, extraction of relevant data elements, and supervised machine learning with cloud-based global visibility. • Cisco Umbrella™ is a cloud security platform that provides the first line of defense against threats on the internet wherever users go. • Security hardware acceleration. • Trustworthy systems with Field-Programmable Gate Array (FPGA) and hardware anchor.
Unified control of wired and wireless networks from a common console for streamlined operations	• Simplifies and centralizes configuration and management of wireless and wireline devices. Supports WLAN services without requiring a wireless LAN controller. • Supports Mobility Express for WLAN-enabled routers.
Remote configuration and management to keep local IT staff lean	• Supports separate console and USB ports. Can be configured to work with optional USB token. • Supports TR-069.
Performance • Throughput • Service reliability	• ISR 1000 can provide encrypted traffic performance greater than 350 Mbps. • A distributed multicore architecture with the dedicated control plane and service plane. • Remote installation of application-aware services that run identically to their counterparts in dedicated appliances (Future roadmap).
Lower WAN expenditures	• Cisco Software-Defined WAN (SD-WAN) support for optimized WAN connection. • Smaller form factor and Cisco Pluggable technology provide additional protection investment and flexibility.
Pay as you grow: IPsec performance upgrade model	• Router IPsec capacity can be increased with a remote performance-on-demand license upgrade (no hardware upgrade) for exceptional savings and CapEx budget management.
IT consolidation, space savings, and improved Total Cost of Ownership (TCO)	• Single converged branch platform integrates routing, switching, security, and performance management capabilities.
Business continuity and increased resiliency	• The entire 1000 Series supports Power over Ethernet (PoE) and PoE+ power to endpoints (Not available on C1101 and C1109 smaller form factor series).

Table 2.   Support for Software-Defined WAN on ISR 1000

Cisco SD-WAN offers an entirely new way to manage and operate your WAN infrastructure. Cisco SDWAN is a cloud delivered architecture that offers secure, flexible and rich services with the following key benefits:

Cisco SD-WAN	Cisco SD-WAN capability can be enabled on ISR 1000 platform
Better user experience	• The ability to deploy applications in minutes, on any platform, with a consistent user experience. Deliver predictable performance for applications residing in the data center or in the cloud.
Greater agility	• Faster, easier deployment and operation of your WAN, and get faster performance using less bandwidth. Add new revenue generating services in minutes not months.
Advanced threat protection	• Securely connect your users to applications in minutes and protect your data from the WAN edge to the cloud. Secure segmentation for critical assets and multi-layer, robust security that encrypts all data.

IOS XE SD-WAN software enables important steps towards Intent Based Networking for WAN, i.e.

- Centralized management and operational simplicity

- Secure connectivity on the hybrid WAN

- Optimized access to SaaS and Public Cloud

- Predictable Application Quality of Experience with policy-based automation

Platform architecture and capabilities

Table 3.   Architectural highlights

Architectural feature	Benefits/description
Multicore processors	• High-performance multicore processors support high-speed WAN connections. The data plane uses a flow processor that delivers Application-Specific Integrated Circuit (ASIC)-like performance that does not degrade as services are added.
Embedded IPsec VPN hardware acceleration	• Increases scalability when combined with an optional Cisco IOS XE Software Security license, enables WAN link security and VPN services.
Integrated Gigabit Ethernet ports	• Provides up to 10 built-in 10/100/1000 Ethernet ports for WAN or LAN (1100-8P: 2 WAN and 8 LAN ports, 1100-4P: 2 WAN and 4 LAN ports, 1101-4P: 1WAN and 4 LAN ports, 1109-2P M2M: 1 WAN and 2 LAN ports, and 1109-4P M2M: 1 WAN and 4 LAN).
	• All 1100-8P and 1100-4P platforms model have one 10/100/1000 Ethernet port that can support Small Form-Factor Pluggable (SFP)-based connectivity in addition to RJ-45 connections, enabling fiber or copper connectivity.
	• Depending on the platform, PoE/PoE+ can be enabled on Gigabit Ethernet interfaces (4 PoE or 2 PoE+ ports on the 1100-8P and 2 PoE or 1 PoE+ ports on the 1100-4P), to provide power to external devices such as video endpoints and 802.11ac access points (Not available on C1101 and C1109 M2M smaller form factor models).
	• Smaller form factor 1101-4P and 1109-4P with Cisco WAN LTE Pluggable technology option. Additional WAN options such as Cisco 12:1 High Speed Serial Pluggable.
USB-based console access	• A type B micro USB console port supports management connectivity when traditional serial ports are not available. Traditional console port is also available on selected models.
Optional PoE upgrade	• An optional upgrade to enable PoE capabilities on the integrated ethernet switch modules is available.
	• PoE is not supported on 1101 and 1109.

Architectural feature	Benefits/description
Flash memory support	• The 1000 Series ship with a fixed 4GB or 8GB flash memory depending on the models selected. • Type A USB 3.0 ports provide capabilities for convenient storage.
DRAM	• The 1000 Series comes with 4 GB or 8GB fixed DRAM depending on the models selected. The C1111, C1120, C1160 series have an option to include an 8 GB fixed DRAM for advanced SD-WAN security features.

Table 4.   Network management solutions

Operational phase	Application	Description
Cloud management user interface	vManage	• vManage provides a single cloud-based console to manage your network and SD-WAN security for faster deployments with automated provisioning and app assurance.
Device staging and configuration	WebUI	• A GUI-based device-management tool for Cisco IOS and Cisco IOS XE Software-based access routers. This tool simplifies routing, firewall, VPN, unified communications, and WAN and LAN configuration through easy-to-use wizards.
Networkwide deployment, configuration, monitoring, and troubleshooting	Cisco Prime® Infrastructure	• Offers comprehensive lifecycle management of wired and wireless access, campus, and branch-office networks; rich visibility into enduser connectivity; and application performance assurance. • Provides wired lifecycle functions such as inventory, configuration, and image management; automated deployment; compliance reporting; integrated best practices; and reporting.
Context-aware security configuration and monitoring	Cisco Prime Security Manager	• Management tool for configuring and managing context-aware security. The application supports both single- and multidevice manager form factors. • Provides the ability to write and enforce granular context-aware security policies.
Digitalized applications to become inherently network-aware and Application Policy Infrastructure Controller Enterprise Module	Cisco Digital Network Architecture (Cisco DNA Center) with APIC-EM	• Cisco DNA centers around a network infrastructure that is not only fully programmable and open to third-party innovation, but can also fully and seamlessly integrates the cloud as an infrastructure component. • The Cisco DNA controller factilitatest simple, automated and programmatic deployment of network services. It brings the notion of user-and application-aware policies into the foreground of network operations. • With Cisco DNA, the network can provide continuous feedback to simplify and optimize network operations. • Automate network configuration and setup APIC-EM is a central part of Cisco Digital Network Architecture. It delivers software-defined networking to the enterprise branch, campus, and WAN.

Table 5.   Embedded management capabilities

Feature	Description
Cisco IOS Embedded Event Manager (EEM)	• A distributed and customized approach to event detection and recovery. • Offers the ability to monitor events and take informational, corrective, or any desired EEM. • Action when the monitored events occur or when a threshold is reached.
Cisco IOS XE IP Service-Level Agreements (IP SLAs)	• Helps assure the performance of new business-critical IP applications as well as IP services that use data and voice in an IP network.
Simple Network Management Protocol (SNMP), Remote Monitoring (RMON), syslog, NetFlow, IP Flow Information Export (IPFix)	• Network monitoring and accounting tools. Enhanced 3G MIB with 4G MIB extension.
LTE network management and diagnostics	• In-band and out-of-band management using Telnet (Cisco IOS XE Software Command Line Interface [CLI]) and SNMP, including MIB II and other extensions. Industry-standard LTE diagnostics and monitoring tools (Qualcomm CDMA Air Interface Tester [CAIT] and Spirent Universal Diagnostic Monitor [UDM]).

Table 6.   Software features and protocols

Feature	Description
Protocols	IPv4, IPv6, static routes, Routing Information Protocol Versions 1 and 2 (RIP and RIPv2), Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol (BGP), BGP Router Reflector, Intermediate System-to-Intermediate System (IS-IS), Multicast Internet Group Management Protocol Version 3 (IGMPv3), Protocol Independent Multicast Sparse Mode (PIM SM), PIM Source-Specific Multicast (SSM), Resource Reservation Protocol (RSVP), Cisco Discovery Protocol, Encapsulated Remote Switched Port Analyzer (ERSPAN), Cisco IOS IP Service-Level Agreements (IPSLA), Call Home, Cisco IOS Embedded Event Manager (EEM), Internet Key Exchange (IKE), Access Control Lists (ACL), Ethernet Virtual Connections (EVC), Dynamic Host Configuration Protocol (DHCP), Frame Relay (FR), DNS, Locator ID Separation Protocol (LISP), Hot Standby Router Protocol (HSRP), RADIUS, Authentication, Authorization, and Accounting (AAA), Application Visibility and Control (AVC), Distance Vector Multicast Routing Protocol (DVMRP), IPv4-to-IPv6 Multicast, Multiprotocol Label Switching (MPLS), Layer 2 and Layer 3 VPN, IPsec, Layer 2 Tunneling Protocol Version 3 (L2TPv3), Bidirectional Forwarding Detection (BFD), IEEE 802.1ag, and IEEE 802.3ah.
Encapsulations	Generic Routing Encapsulation (GRE), Ethernet, 802.1q VLAN, Point-to-Point Protocol (PPP), Multilink Point-to-Point Protocol (MLPPP), Frame Relay, Multilink Frame Relay (MLFR) (FR.15 and FR.16), High-Level Data Link Control (HDLC), Serial (RS-232, RS-449, X.21, V.35, and EIA-530), and PPP over Ethernet (PPPoE).
Traffic management	Quality of Service (QoS), Class-Based Weighted Fair Queuing (CBWFQ), Weighted Random Early Detection (WRED), Hierarchical QoS, Policy-Based Routing (PBR), Performance Routing (PfR), and Network-Based Application Recognition (NBAR).
Cryptographic algorithms	Encryption: DES, 3DES, AES-128 or AES-256 (in CBC and GCM modes). Authentication: RSA (748/1024/2048 bit), ECDSA (256/384 bit); Integrity: MD5, SHA, SHA-256, SHA-384, SHA-512.

Product specifications

Table 7.   Cisco 1000 Series ISRs DSL and LTE SKUs

Model	WAN					Wi-Fi	LAN switch			Integrated Micro USB console	Pluggables
	GE	GE/SFP combo	ADSL2/VDSL2 + or G.FAST or G.SHDSL	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11ac	GE	PoE or PoE+			
C1101-4P	1	NA	NA	NA	NA	NA	4	NA	NA	Yes	CAT4 LTE Dongle
C1109-2PLTEVZ	1	NA	NA	NA	NA	NA	2	NA	NA	Yes	Embedded builtin same CAT4 LTE technology as P–LTE–VZ
C1109-2PLTEUS	1	NA	NA	NA	NA	NA	2	NA	NA	Yes	Embedded builtin same CAT4 LTE technology as P–LTE–US
C1109-2PLTEGB	1	NA	NA	NA	NA	NA	2	NA	NA	Yes	Embedded builtin same CAT4 LTE technology as P–LTE–GB
C1109-4PLTE2P	1	NA	NA	Yes with Pluggable Technology	NA	NA	4	NA	NA	Yes	Yes (CAT4/CAT6), Dual Pluggables, Single P–1T Serial in Slot 0
C1111-8P (C1111X-8P with 8 GB memory and flash for SD-WAN Advanced Security support)	1	1	NA	NA	NA	NA	8	4	2	Yes	NA
C1111-4P	1	1	NA	NA	NA	NA	4	2	1	Yes	NA
C1112-8P	NA	1	1 G.FAST (Annex B)	NA	NA	NA	8	4	2	Yes	NA
C1113-8P	NA	1	1 G.FAST (Annex A)	NA	NA	NA	8	4	2	Yes	NA
C1113-8PM	NA	1	1 G.FAST (Annex M)	NA	NA	NA	8	4	2	Yes	NA

Model	WAN					Wi-Fi	LAN switch			Integrated Micro USB console	Pluggables
	GE	GE/SFP combo	ADSL2/VDSL2 + or G.FAST or G.SHDSL	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11ac	GE	PoE or PoE+			
C1116-4P	NA	1	1 VA-DSL (Annex B/J)	NA	NA	NA	4	2	1	Yes	NA
C1117-4P	NA	1	1 VA-DSL (Annex A)	NA	NA	NA	4	2	1	Yes	NA
C1117-4PM	NA	1	1 VA-DSL (Annex M)	NA	NA	NA	4	2	1	Yes	NA
C1101-4PLTEP	1	NA	NA	Yes with Pluggable Technology	NA	NA	4	NA	NA	Yes	Yes (CAT4/CAT6), or Single P-1T Serial
C1111-8PLTEEA	1	1	NA	1 EMEAR and North America	NA	NA	8	4	2	Yes	NA
C1111-8PLTELA	1	1	NA	1 LATAM and APAC	NA	NA	8	4	2	Yes	NA
C1111-4PLTEEA	1	1	NA	1 EMEAR and North America	NA	NA	4	2	1	Yes	NA
C1111-4PLTELA	1	1	NA	1 LATAM and APAC	NA	NA	4	2	1	Yes	NA
C1112-8PLTEEA	NA	1	1 G.FAST (Annex B)	1 EMEAR and North America	NA	NA	8	4	2	Yes	NA
C1113-8PLTEEA	NA	1	1 G.FAST (Annex A)	1 EMEAR and North America	NA	NA	8	4	2	Yes	NA
C1113-8PLTELA	NA	1	1 G.FAST (Annex A)	1 LATAM and APAC	NA	NA	8	4	2	Yes	NA
C1113-8PMLTEEA	NA	1	1 G.FAST (Annex M)	1 EMEAR and North America	NA	NA	8	4	2	Yes	NA
C1116-4PLTEEA	NA	1	1 ADSL2/VDSL2 + (Annex B/J)	1 EMEAR and North America	NA	NA	4	2	1	Yes	NA

Model	WAN					Wi-Fi	LAN switch			Integrated Micro USB console	Pluggables
	GE	GE/SFP combo	ADSL2/VDSL2 + or G.FAST or G.SHDSL	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11ac	GE	PoE or PoE+			
C1117-4PLTEEA	NA	1	1 ADSL2/VDSL2 + (Annex A)	1 EMEAR and North America	NA	NA	4	2	1	Yes	NA
C1117-4PLTELA	NA	1	1 ADSL2/VDSL2 + (Annex A)	1 LATAM and APAC	NA	NA	4	2	1	Yes	NA
C1117-4PMLTEEA	NA	1	1 ADSL2/VDSL2 + (Annex M)	1 EMEAR and North America	NA	NA	4	2	1	Yes	NA
C1118-8P	NA	1	1 G.SHDSL	NA	NA	NA	8	4	2	Yes	NA
C1121-4P	1	1	NA	NA	NA	NA	4	2	1	Yes	CAT4 LTE Dongle
C1121-4PLTEP	1	1	NA	Yes with Pluggable Technology	Yes with Pluggable Technology	NA	4	2	1	Yes	Yes (All)
C1121-8P (C1121X-8P with 8 GB memory and flash for SD-WAN Advanced Security support)	1	1	NA	NA	NA	NA	8	4	2	Yes	CAT4 LTE Dongle
C1121-8PLTEP (C1121X-8PLTEP with 8 GB memory and flash for SD-WAN Advanced Security support)	1	1	NA	Yes with Pluggable Technology	Yes with Pluggable Technology	NA	8	4	2	Yes	Yes (All)
C1126-8PLTEP (C1126X-8PLTEP with 8 GB memory and flash for SD-WAN Advanced Security support)	NA	1	1 ADSL2/VDSL2 + (Annex B/J)	Yes with Pluggable Technology	Yes with Pluggable Technology	NA	8	4	2	Yes	Yes (All)

Model	WAN					Wi-Fi	LAN switch			Integrated Micro USB console	Pluggables
	GE	GE/SFP combo	ADSL2/VDSL2 + or G.FAST or G.SHDSL	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11ac	GE	PoE or PoE+			
C1127-8PLTEP (C1127X-8PLTEP with 8 GB memory and flash for SD-WAN Advanced Security support)	NA	1	1 ADSL2/VDSL2 + (Annex A)	Yes with Pluggable Technology	Yes with Pluggable Technology	NA	8	4	2	Yes	Yes (All)
C1127-8PMLTEP (C1127X-8PMLTEP with 8 GB memory and flash for SD-WAN Advanced Security support)	NA	1	ADSL2/VDSL2 + (Annex M)	Yes with Pluggable Technology	Yes with Pluggable Technology	NA	8	4	2	Yes	Yes (All)
C1128-8PLTEP	NA	1	G.SHDL	Yes with Pluggable Technology	Yes with Pluggable Technology	NA	8	4	2	Yes	Yes (All)
C1161-8P (C1161X-8P with 8 GB memory and flash for SD-WAN Advanced Security support)	1	1	NA	NA	NA	NA	8	4	2	Yes	CAT4 LTE Dongle
C1161-8PLTEP (C1161X-8PLTEP with 8 GB memory and flash for SD-WAN Advanced Security support)	1	1	NA	Yes with Pluggable Technology	Yes with Pluggable Technology	NA	8	4	2	Yes	Yes (All)

Table 8.   Cisco 1000 Series ISRs DSL and Wi-Fi SKUs

Model	WAN					Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11 ac	GE	PoE or PoE+			
C1109-4PLTE2PWZ***	1	NA	NA	Yes with Pluggable Technology	NA	2X2 MIMO	4	NA	NA	Yes	Yes (CAT4/CAT6), Dual Pluggables, Single P-1T Serial in Slot 0
C1111-8PWY*	1	1	NA	NA	NA	2X2 MIMO	8	4	2	Yes	NA
C1111-4PWX**	1	1	NA	NA	NA	2X2 MIMO	4	2	1	Yes	NA
C1112-8PWE	NA	1	1 G.FAST (Annex B)	NA	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PWA	NA	1	1 G.FAST (Annex A)	NA	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PWB	NA	1	1 G.FAST (Annex A)	NA	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PWE	NA	1	1 G.FAST (Annex A)	NA	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PWZ	NA	1	1 G.FAST (Annex A)	NA	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PMWE	NA	1	1 G.FAST (Annex M)	NA	NA	2X2 MIMO	8	4	2	Yes	NA
C1116-4PWE	NA	1	1 ADSL2/VDSL2+ (ISDN) Annex B/J	NA	NA	2X2 MIMO	4	2	1	Yes	NA

Model	WAN					Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11 ac	GE	PoE or PoE+			
C1117-4PWE	NA	1	1 ADSL2/VDSL2+ (POTS) Annex A	NA	NA	2X2 MIMO	4	2	1	Yes	NA
C1117-4PWA	NA	1	1 ADSL2/VDSL2+ (POTS) Annex A	NA	NA	2X2 MIMO	4	2	1	Yes	NA
C1117-4PWZ	NA	1	1 ADSL2/VDSL2+ (POTS) Annex A	NA	NA	2X2 MIMO	4	2	1	Yes	NA
C1117-4PMWE	NA	1	1 ADSL2/VDSL2+ (POTS) Annex M	NA	NA	2X2 MIMO	4	2	1	Yes	NA

* Wi-Fi domain WY; Y = A, B, E, F, H, N, Q, R, Z (S will be available with IOX XE 16.9 or later releases starting January, 2019)

** Wi-Fi domain WX; X = A, B, D, E, F, H, N, Q, R, Z

*** Wi-Fi domain WZ; Z = A, B, D, E, Q, R, Z

Cisco WLAN Country Compliance Lookup https://www.cisco.com/c/dam/assets/prod/wireless/wireless-compliance-tool/index.html.

Table 9. Cisco 1000 Series ISRs LTE, Wi-Fi, and DSL SKUs

Model	WAN					Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/ VDSL2+	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11ac	GE	PoE or PoE+			
C1111-8PLTEEAWX*	1	1	NA	1 EMEAR and North America	NA	2X2 MIMO	8	4	2	Yes	NA
C1111-8PLTELAWY**	1	1	NA	1 LATAM and APAC	NA	2X2 MIMO	8	4	2	Yes	NA
C1112-8PLTEEAWE	NA	1	1 G.FAST (Annex B)	1 EMEAR and North America	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTEEAWA	NA	1	1 G.FAST (Annex A)	1 EMEAR and North America	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTEEAWB	NA	1	1 G.FAST (Annex A)	1 EMEAR and North America	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTEEAWE	NA	1	1 G.FAST (Annex A)	1 EMEAR and North America	NA	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTELAWZ	NA	1	1 G.FAST (Annex A)	1 LATAM and APAC	NA	2X2 MIMO	8	4	2	Yes	NA
C1116-4PLTEEAWE	NA	1	1 ADSL2/ VDSL2+ (ISDN) Annex B/J	1 EMEAR and North America	NA	2X2 MIMO	4	2	1	Yes	NA
C1117-4PLTEEAWE	NA	1	1 ADSL2/ VDSL2+ (POTS) Annex A	1 EMEAR and North America	NA	2X2 MIMO	4	2	1	Yes	NA
C1117-4PLTEEAWA	NA	1	1 ADSL2/ VDSL2+ (POTS) Annex A	1 EMEAR and North America	NA	2X2 MIMO	4	2	1	Yes	NA
C1117-4PLTELAWZ	NA	1	1 ADSL2/ VDSL2+	1 LATAM and APAC	NA	2X2 MIMO	4	2	1	Yes	NA

Model	WAN					Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	LTE Adv. Pro (CAT18)	802.11ac	GE	PoE or PoE+			
			(POTS) Annex A								
C1117-4PMLTEEAWE	NA	1	1 ADSL2/VDSL2+ (POTS) Annex M	1 EMEAR and North America	NA	2X2 MIMO	4	2	1	Yes	NA
C1101-4PLTEPWX***	1	NA	NA	Yes with Pluggable Technology	NA	2X2 MIMO	4	NA	NA	Yes	Yes (CAT4/CAT6), or Single P–1T Serial
C1121-8PLTEPWX* (C1121X-8PLTEPWY* with 8 GB memory and flash for SD-WAN Advanced Security support)	1	1	NA	Yes with Pluggable Technology	Yes with Pluggable Technology	2X2 MIMO	8	4	2	Yes	Yes (All)

C1111-8PLTEEAWX*

* Wi-Fi domain WX; X = A, B, E, R

C1111-8PLTELAWY**

** Wi-Fi domain WY; Y = D, F, H, N, Q, Z (S, E and A will be available with IOX XE 16.9 or later releases starting January, 2019)

C1101-4PLTEPWX***

*** Wi-Fi domain WX; X = A, B, D, E, Z

C1121-8PLTEPWX*

* Wi-Fi domain WX; X = B, E, Z, Q

C1121X-8PLTEPWY**

** Wi-Fi domain WY; Y = A, E, B, Z

Cisco WLAN Country Compliance Lookup https://www.cisco.com/c/dam/assets/prod/wireless/wireless-compliance-tool/index.html.

System specifications

Table 10.   LTE (3GPP Category 4) pluggable bands supported

Region or theater	Cisco LTE 2.5 for P-LTE-VZ	Cisco LTE 2.5 for P-LTE-US	Cisco LTE 2.5 for P-LTE-GB
Bands	LTE bands 4, 13. FDD LTE 700 MHz (band 13), 1700 MHz and 2100 MHz (band 4 AWS).	LTE bands 2, 4, 5, 12. FDD LTE 700 MHz (band 17), 700 MHz (band 12), 850 MHz (band 5 CLR), 1700 MHz and 2100 MHz (band 4 AWS).	LTE bands 1, 3, 7, 8, 20, 28. FDD LTE 700 MHz (band 28), 800 MHz (band 20), 900 MHz (band 8), 1800 MHz (band 3), 2100 MHz (band 1), and 2600 MHz (band 7).
Theoretical Category 4 download/upload speeds	150 Mbps/50 Mbps	150 Mbps/50 Mbps	150 Mbps/50 Mbps
United States	• Verizon	• ATT and T-Mobile	
Europe			•

Table 11.   USB based LTE Dongle (3GPP Category 4) bands supported

Region or theater	Cisco LTE 2.5 for D-LTE-GB	Cisco LTE 2.5 for D-LTE-AS	Cisco LTE 2.5 for D-LTE-NA
Bands	*LTE bands 1,3,7,8,20,28	*LTE bands 1,3,5,8,40,41	*LTE band 2,4,5,12,13,14,17
Theoretical Category 4 download/upload speeds	75 Mbps/50 Mbps	75 Mbps/50 Mbps	75 Mbps/50 Mbps
United States			•
Europe	•		
India		•	
China		•	
Indonesia		•	
Malaysia		•	
Philippines		•	
South Africa		•	

* Non-LTE Bands are not supported.

Table 12. LTE Advanced (3GPP Category 6) pluggable supported bands

Region or theater	Cisco LTE Advanced 3.0 LTEEA (Category 6)	Cisco LTE Advanced 3.0 LTELA (Category 6)
Bands	LTE bands 1–5, 7, 12, 13, 20, 25, 26, 29, 30, and 41. FDD LTE 700 MHz (band 12), 700 MHz (band 29), 800 MHz (band 20), 850 MHz (band 5 CLR), 850 MHz (band 26 Low), 900 MHz (band 8), 1800 MHz (band 3), 1900 MHz (band 2), 1900 MHz (PCS band 25), 1700 MHz and 2100 MHz (band 4 AWS), 2100 MHz (band 1), 2300 MHz (band 30), or 2600 MHz (band 7). TDD LTE 2500 MHz (band 41). **Carrier aggregation band combinations:** 1+8; 2+(2,5,12,13,29); 3+(7,20); 4+(4,5,12,13,29); 7+(7,20); 12+30, 5+30, and 41+41.	LTE bands 1, 3, 5, 7, 8, 18, 19, 21, 28, 38, 39, 40, and 41. FDD LTE 700 MHz (band 28), 850 MHz (band 5 CLR), 850 MHz (bands 18 and 19 Low), 900 MHz (band 8), 1500 MHz (band 21), 1800 MHz (band 3), 2100 MHz (band 1), or 2600 MHz (band 7). TDD LTE 1900 MHz (band 39), 2300 MHz (band 40), 2500 MHz (band 41), or 2600 MHz (band 38). **Carrier aggregation band combinations:** 1+(8,18,19,21); 3+(5,7,19,28); 7+(5,7,28); 19+21, 38+38, 39+39,40+40, and 41+41.
Theoretical Category 6 download/upload speeds	300 Mbps/50 Mbps	300 Mbps/50 Mbps
United States	•	
Europe	•	
Canada	•	
Middle East with specific LTE bands/frequencies	•	
Australia and New Zealand		•
Japan		•
China		•
India		•
Southeast Asia		•
Latin America		• Dependent upon specific operators supporting the LTE bands listed above.
South Korea		•

Table 13.   LTE Advanced Pro (3GPP Category 18) pluggable supported bands

Region or theater	Cisco LTE Advanced Pro Pluggable P-LTEAP18-GL
Bands	LTE bands 1-5, 7, 8, 12-14, 17, 18-20, 25, 26, 28-30, 32, 38-43, 46, 48, 66, and 71. FDD LTE 600 MHz (band 71), 700 MHz (bands 12, 13, 14, 17, 28, and 29), 800 MHz (band 20), 850 MHz (bands 5, 18, 19, and 26), 900 MHz (band 8), 1500 MHz (band 32), 1700 MHz (bands 4 and 66), 1800 MHz (band 3), 1900 MHz (bands 2 and 25), 2100 MHz (band 1), 2300 MHz (band 30), 2600 MHz (band 7). TDD LTE 1900 MHz (band 39), 2300 MHz (band 40), 2500 MHz (band 41), 2600 MHz (band 38), 3500 MHz (bands 42 and 48), 3700 MHz (band 43), 5200 MHz (band 46).
Theoretical Category 6 download/upload speeds	1.2 Gbps/200 Mbps
United States	•
Europe	•
Canada	•
Australia and New Zealand	•
Japan	•

Table 14.   Cisco LTE specifications

Item	Specification
LTE modem form factor	• Embedded (included with the router) or LTE Pluggable Technology with LTEP PIDs. • Cisco LTE Advanced 3.0 LTEEA (CAT6) and Pluggable P-LTEA-EA SKU: FW-7455-LTE-VZ (Verizon) or FW-7455-LTE-AT (ATT) or FW-7455-LTE-ST (Sprint) or FW-7455-LTE-BE (Bell) or FW-7455-LTERO (Rogers) or FW-7455-LTE-TE (Telus) or FW-7455-LTE-GN (generic for T-Mobile, Europe, and Middle East) selection option. • Cisco LTE Advanced 3.0 LTELA (CAT6) and Pluggable P-LTEA-LA SKU: FW-7430-LTE-AU (Australia) or FW-7430-LTE-JN (Japan) or FW-7430-LTE-GN (generic) selection option. • Cisco LTE Advanced Pro (CAT18) pluggable P-LTEAP18-GL SKU: FW-LM960-LTE-VZ (Verizon), FW-LM960-LTE-ST (Sprint), FW-LM960-LTE-AT AT&T), FW-LM960-LTE-GN (Generic/Global) selection options.
Important LTE features	• Automatic switch failover between primary and backup link. • Multichannel-Interface-Processor (MIP) profile configuration. • Remotely initiated data callback using voice or Short Message Service (SMS). • Remote firmware upgrade over LTE. • SIM lock and unlock capabilities. • Dying gasp available on pluggable LTE modules.
Dual SIM support	• High reliability, and cellular multihoming support for dual micro (3FF) SIMs card socket; compliant with ISO-7816-2 (SIM mechanical), Auto SIM carrier capability with correct firmware selection (Fast SIM failover).
SMS and GPS	• GPS antenna: SMA connector (separate active GPS antenna with SMA option). • Send and receive SMS (maximum 160 characters). • Standalone GPS and Assisted GPS (AGPS); needs line of sight.
Modem information	**Modem form factor:** (M.2) EM7455 or (M.2) EM7430 series for Cisco LTE Advanced 3.0,

Item	Specification
	WP7600 series for Cisco LTE 2.5, (mPCIe) LM960 series for Cisco LTE Advanced Pro.
Wireless technologies supported (performance and throughput)	**Cisco LTE Advanced 3.0 LTEEA and LTELA (Refer to above Table 11: LTE Advanced Bands Supported)** **Backward compatibility:** • UMTS and HSPA+. • DC-HSPA+ speed download with Category 24 (42 Mbps) and upload up to Category 8 (11.5 Mbps). LTELA supports DC-HSPA+ band 1, 5, 6, 8, 9, 19. LTEEA supports DC-HSPA+ band 1, 2, 3, 4, 5, 8. • TD-SCDMA 39 (LTELA China Mobile supports). **Cisco LTE 2.5 (Refer to Table 10: LTE Bands Supported) Backward compatibility:** • P-LTE-US: HSPA+ (Band 2, 4, 5). • P-LTE-GB: UMTS, HSPA+ (Band 1, 8), EDGE, GSM, GPRS (900/1800).
Included antenna	• Two multiband swivel-mount dipole antennas (LTE-ANTM-D for CAT6 and LTE-ANTM2-SMA-D for CAT18) are included with all Cisco LTE pluggables and 1000 Series routers. Two multiband swivel-mount dipole antennas (LTE-ANTM-SMA-D) are included with all Cisco LTE 2.5 Pluggables 1101 and 1109 Series routers. For –N antenna and cable installation guidance, view the [Connected Grid Antennas Installation Guide](#).
Carrier support	• For a list of carriers that offer services on the Cisco 1000 Series LTE Advanced 3.0, please visit the [Wireless Carrier Partners page](#).

Table 15.   Cisco USB Based Cat4 LTE specifications

Item	Specification
LTE modem form factor	• USB Based CAT4 LTE Dongle.
Important LTE features	• Automatic switch failover between primary WAN and backup LTE link and vice-versa. • Multiple profile configuration. • Remote firmware upgrade over LTE.
Single SIM support	• Single micro (3FF) SIMs card socket; compliant with ISO-7816-2 (SIM mechanical).
SMS and GPS	• Send and receive SMS (maximum 160 characters). • GPS: Not Supported.
Modem information	**Modem form factor:** WP7600 series for Cisco USB based CAT4 LTE Dongle.
Wireless technologies supported (performance and throughput)	Cisco LTE 2.5 (Refer to Table 10: LTE Bands Supported). 75Mbps (DL)/50Mbps (UL).
Included antenna	• Sub-Miniature version-A (SMA) Antenna is included with USB based CAT4 LTE Dongle. • For Dongle installation guidance, view the Hardware Installation Guide.

Table 16. Cisco 1000 Series ISRs system specifications

Feature	Specification	
Memory (default and maximum)	DRAM: 4 GB Only C1111X-8P,C1121X-8P,C1126X,C1127X,C1161X models have 8GB DRAM	Flash: 4 GB Only C1111X-8P,C1121X-8P,C1126X,C1127X,C1161X models have 8GB Flash
Console	• Micro USB console (Type A). • RJ45.	
Micro-USB port (reserved)	• Micro-USB port to support remote LTE diagnostics and monitoring tools (Qualcomm CAIT and Spirent UDM) (USB 3.0).	
WLAN interfaces	• Multiuser Multiple-Input Multiple-Output (MU-MIMO) allows transmission of data to multiple 802.11ac Wave 2-capable clients simultaneously to improve the client experience. Prior to MU-MIMO, 802.11n and • 802.11ac Wave 1 access points could transmit data to only one client at a time, typically referred to as Single-User MIMO (SU-MIMO). • 802.11ac Wave 2 with 2x2:2 MIMO technology uses two spatial streams when operating in SU-MIMO or MU-MIMO mode, offering 867-Mbps rates for more capacity and reliability than competing access points. • Flexible deployment through the Mobility Express solution is ideal for small to medium-sized deployments. Easy setup allows the 1000 Series (similar to 1815i) to be deployed on networks without a physical controller. • For more information, view the Cisco Aironet 1815i Access Point Data Sheet.	
Maximum clients	• Maximum number of associated wireless clients: 200 per Wi-Fi radio; in total 400 clients per access point. C1109-4PLTEP and C1109-4PLTEW models come with default dual W-ANTM2050D-RPSMA external antenna and all modem have default 8.8 AP autonomous or Mobility Express release. Option to select 8.8 CAPWAP WLC image.	
Authentication and security	• AES for Wi-Fi Protected Access 2 (WPA2). • 802.1X, RADIUS AAA. • 802.11r and 802.11i.	
802.11ac	• 2x2 SU-MIMO/MU-MIMO with two spatial streams. • Maximal Ratio Combining (MRC). • 20-, 40-, and 80-MHz channels. • PHY data rates up to 866.7 Mbps (80 MHz on 5 GHz). • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx). • 802.11 Dynamic Frequency Selection (DFS). • Cyclic Shift Diversity (CSD) support.	
Software	• Cisco IOS Software feature set: Universal Cisco IOS XE 16.6.1 Software image or later. C1112, C1113, and C1101 models support starting with IOS XE 16.8.1 Software image or later. C1118, C1111X-8P and C1109 models support with IOS XE 16.9.1 Software image or later. • Cisco IOS Software feature set: C1120 and C1160 models Universal Cisco IOS XE 16.11.1 Software image or later. • Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.5 (migration to 8.8 starting March, 2019 and 8.8 for 1101 and 1109 Models) MR1 or later.	

Feature	Specification
DSL interfaces	**C1116 and C1117** • Dying gasp. • ITU G.993.2 (VDSL2) and supported profiles: 8a, 8b, 8c, 8d, 12a, 12b, and 17a. • VDSL2 Vectoring. • ADSL Annex A and Annex B ITU G. 992.1 (ADSL), G.992.3 (ADSL2), and G.992.5 (ADSL2+). • ADSL Annex M G.992.3 (ADSL2) and G.992.5 (ADSL2+). **C1112 and C1113** • G.FAST (spectrum up to 106MHz) Annex A, Annex B, Annex M and compatible with ADSL2/2+ and VDSL2. • ITU G.993.2 (VDSL2) and supported profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, and 35b. • ITU G.9700/9701/997.2 G.FAST and supported profiles: 106a, and 106b. **C1118** • G.SHDSL.
Serial WAN interface and protocol	• Support for both synchronous and bisync modes. • Synchronous maximum speed of up to 8 Mbps. • Support for bisync modes. • Support for network clock synchronization. • EIA-232, EIA-449, EIA-530, EIA-530A, V.35, and X.21.

Cisco Smart Serial Cabling	Product Number	Cable Type	Length	Connector Type
	CAB-SS-V35MT	V.35 DTE	10 ft (3m)	Male
	CAB-SS-V35FC	V.35 DCE	10 ft (3m)	Female
	CAB-SS-232MT	EIA/TIA-232 DTE	10 ft (3m)	Male
	CAB-SS-232FC	EIA/TIA-232 DCE	10 ft (3m)	Female
	CAB-SS-449MT	EIA/TIA-449 DTE	10 ft (3m)	Male
	CAB-SS-449FC	EIA/TIA-449 DCE	10 ft (3m)	Female
	CAB-SS-X21MT	X.21 DTE	10 ft (3m)	Male
	CAB-SS-X21FC	X.21 DCE	10 ft (3m)	Female
	CAB-SS-530MT	EIA/TIA-530 DTE	10 ft (3m)	Male
	CAB-SS-530AMT	EIA/TIA-530A DTE	10 ft (3m)	Male
				Male

Feature	Specification
Inline PoE	• Optional internal adapter for inline PoE on 4 switch ports for IP phones or external wireless access points; 802.3af-compliant PoE or 802.3at-compliant PoE+.

Feature	Specification
External power supply	**Product power specifications:** **C111X, C1120 and C1160 Models** • AC input voltage: Universal 100 to 240 VAC. • Frequency: 50 to 60 Hz. • Maximum output power: 66W (default). • Output voltages: 12 VDC. • Optional PoE and PoE+: ◦ Single 150W power supply required for Cisco 1100-8P series router ◦ Single 115W power supply required for Cisco 1100-4P series router • External output voltage: 48 VDC. **C1101-4PLTEPWX and C1109-4PLTE2PWX Models:** • AC input voltage: Universal 100 to 240 VAC. • Frequency: 50 to 60 Hz. • Maximum output power: 66W (default iTemp for C1109-4PLTE2PWX Models). • Output voltages: 12 VDC. **C1101-4P, C1101-4PLTEP,C1109-2PLTE, and C1109-4PLTE2P Models:** • AC input voltage: Universal 100 to 240 VAC. • Frequency: 50 to 60 Hz. • Maximum output power: 30W (default iTemp for Models). • Output voltages: 12 VDC.
USB 3.0	• USB devices supported: ◦ USB eTokens and USB flash memory • Devices USB 3.0 supports to be connected externally. View the USB Device Support Data Sheet.
LEDs	• WWAN (green/amber). • SIM status (green/amber). • Received signal strength indication (RSSI) bar (green). • 3G/LTE service (green/amber). • GPS (green/amber). • Speed and link for Gigabit Ethernet WAN port (green). • Speed and link for all Fast Ethernet LAN ports (green).

Feature	Specification
Physical dimensions (H x W x D)	**C111X Models** • 1.75 x 12.7 x 9.6 in. (44 x 323 x 244 mm) (includes rubber feet on LTE models). • 1.75 x 12.7 x 9.03 in. (42 x 323 x 230mm) (includes rubber feet on non–LTE models). **C1120 Models** • 1.65 x 12.7 x 8.9 in. (41.9 x 322 x 226 mm). **C1160 Models** • 1.65 x 10.8 x 7.85 in. (41.9 x 274 x 199 mm). **C1101-4PLTEP and C1101-4PLTEPWX Models** • 1.73 x 9.75 x 6.6 in. (43.9 x 247.6 x 167.6 mm) (includes rubber feet models). **C1101-4P Models** • 1.1 x 7.5 x 6.0 in. (27.9 x 190.5 x 152.4 mm) (includes rubber feet models). **C1109-2PLTE Models** • 1.27 x 8.4 x 6.0 in. (32.3 x 213.4 x 152.4mm) (includes rubber feet models). **C1109-4PLTE2P and C1109-4PLTE2PWX Models (ship default with dual W-ANTM2050DRPSMA Wi-Fi antennae)** • 1.71 x 11.16 x 9.8 in. (43.4 x 283.5 x 248.9 mm) (includes rubber feet models). **Pluggable** • .85 x 2.5 x 3.88 in. (21.6 x 63.5 x 98.5 mm). • USB Based CAT4 LTE Dongle 3.69 x 1.3 x 0.39 in. (93.73 x 32.99 x 10.00 mm).
Weight	**C111X Models** • 1.94 lb to 4.59 lb (1.94kg to 2.08 kg). • 4.50 lb (2.04 kg) with LTE Advanced. • 4.76 lb (2.16 kg) with Wave 2 802.11ac Dual Radio. • 4.89 lb (2.22 kg) with LTE Advanced plus Wave 2 802.11ac Dual Radio. **C1120 Models** • 3.43 lb (1.56Kg). base model with 4 ports. • 3.7 lb (1.68Kg). with 4 ports and pluggable LTE. • 4.62 lb (2.1Kg). with LTE and WiFi. • 4.53 lb (2.06Kg). with LTE and VDSL. • 3.7 lb (1.68Kg). with 4 ports and pluggable LTE. **C1160 Models** • 3.48 lb (1.58Kg). base model with 8 ports. • 3.74 lb (1.7Kg). with 8 ports and pluggable LTE. **C1101-4PLTEPWX Models** • 3.78 lb (1.71kg). **C1101-4PLTEP Models** • 3.34 lb (1.51kg). **C1101-4P Models** • 1.89 lb (.86kg). **C1109-2PLTE Models** • 2.25 lb (1.02kg).

Feature	Specification
	C1109-4PLTE2PWX Models (Only C1109-4PLTE2PWX have external Wi-Fi antennae options) • 6.23 lb (2.83kg). **C1109-4PLTE2P Models** • 5.93 lb (2.69kg). **Pluggable** • CAT18 LM960XX.45 lb (.21kg) • CAT6 EM74XX.44 lb (.20kg). • CAT4 WP76XX.40 lb (.18kg). • USB Based CAT4 LTE Dongle WP76XX 0.068 lb (0.031kg).
Standard safety certifications	• UL 60950-1.and EN 60950-1. • CAN/CSA C22.2 No. 60950-1. • CB to IEC 60950-1, 2nd edition with all group differences and national deviations.
EMC emissions	• EN55022/CISPR22, CFR 47 Part 15, ICES003, VCCI-V-3, AS/NZS CISPR22, CNS13438, EN300-386, EN61000-3-2, EN61000-3-3, and EN61000-6-1.
EMC immunity	• EN55024/CISPR24, (EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11), and EN300-386.
Radio immunity	• EN301 489-1, EN 301 489-7, and EN301 489-24.
Cellular radio	• EN 301 908-1, EN 301 908-2, EN 301 511, 47 CFR Part 22, 47 CFR Part 24, and EN 301 908-13.
Environmental operating range	• Nonoperating temperature: -4° to 149°F (-20° to 65°C). • Nonoperating humidity: 5% to 95% relative humidity (noncondensing). • Nonoperating altitude: 0 to 15,000 ft (0 to 4570 m). • Operating temperature: 32° to 104°F (0° to 40°C). C1101 support 32° to 113°F (0° to 45°C). C1109-2PLTE support 32° to 122°F (0° to 50°C). C1109-4PLTE2P and C1109-4PLTE2PW models support -4° to 131°F (-20° to 55°C). • Operating humidity: 10% to 85% relative humidity (noncondensing). • Operating altitude: 0 to 10,000 ft (0 to 3000 m at 30°C). Operating altitude: 0 to 10,000 ft (0 to 3000 m at 35°C for C1109-2PLTE models). Operating altitude: 0 to 10,000 ft (0 to 3000 m at 40°C for C1109-4PLTE2P and C1109-4PLTE2PW models).

Cisco IOS Software licensing and packaging

Universal Cisco IOS XE Image

A single Cisco IOS XE Universal image encompassing all functions is delivered with the platform. Advanced features can be enabled simply by activating a software license on the Universal image. Technology packages and feature licenses, enabled through right-to-use licenses, simplify software delivery and decrease the operational costs of deploying new features.
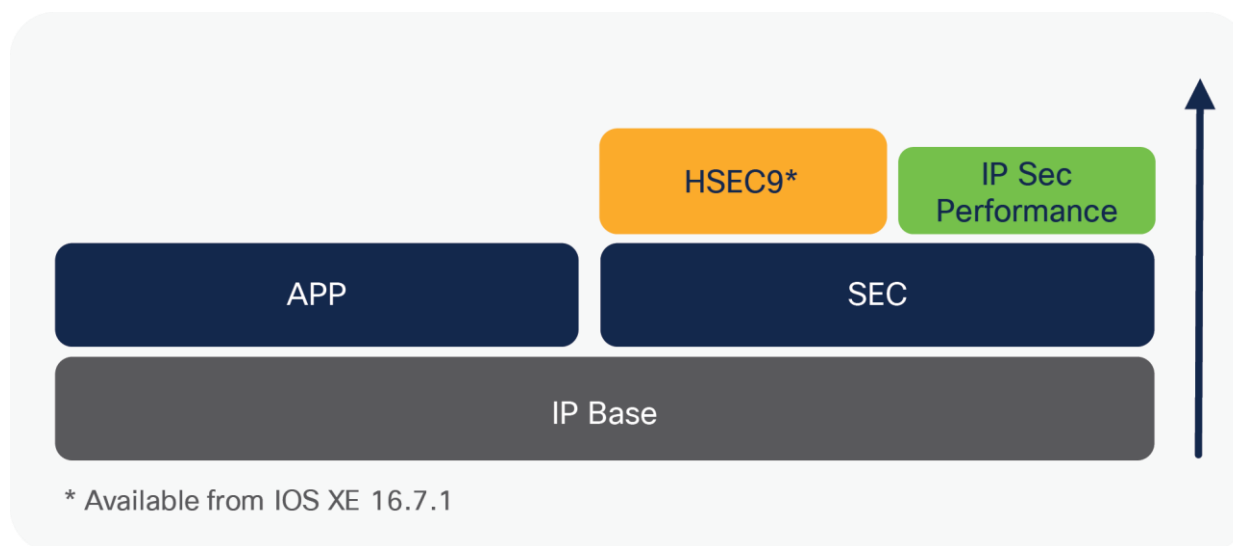

Figure 4.
Technology packages and feature licenses available on Cisco 1000 Series ISRs

Four major technology licenses are available on the Cisco 1000 Series; these licenses can be activated through the Cisco software activation process identified at https://www.cisco.com/go/sa. The following licenses are available:

- IP Base: This technology package is available as the default.

- Application Experience (APP): This license includes data and application performance features.

- Security (SEC) or Security with No Payload Encryption (SEC-NPE): This license includes features for securing network infrastructure.

- IP Security (IPSEC): This license includes features that improve IP security performance multifold.

The Cisco SD-WAN subscriptions are aligned across three subscription licenses of **Cisco DNA Essentials, Cisco DNA Advantage and Cisco DNA Premier,** each expanding functionally. The **Cisco DNA Essentials** covers all types of connectivity and router life cycle management, support for Network and application visibility coupled with basic premise and transport security. The **Cisco DNA Advantage** provides for Advanced WAN topologies, Application aware policies supported by enhanced network security. The **Cisco DNA Premier** provides for Cloud connectivity with unlimited segmentation, Advanced Application optimization and Network Analytics, secured by advanced threat protection. There are separate SD-WAN promotional PIDs or using LIC-DNA-ADD option. For Cisco ONE, there is also C1-ISR-ADD option.

Cisco CVO is now supported on 1100-8P and 1100-4P models with SEC license.

Smart Licensing

Cisco Smart Licensing is a flexible licensing model that provides you with an easier, faster, and more consistent way to purchase and manage software across the Cisco portfolio and across your organization. And it's secure – you control what users can access. With Smart Licensing you get:

- **Easy Activation:** Smart Licensing establishes a pool of software licenses that can be used across the entire organization—no more PAKs (Product Activation Keys).

- **Unified Management:** My Cisco Entitlements (MCE) provides a complete view into all of your Cisco products and services in an easy-to-use portal, so you always know what you have and what you are using.

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For a more detailed overview on Cisco Licensing, go to cisco.com/go/licensingguide

For more information on Cisco SD-WAN please refer to: https://www.cisco.com/c/en/us/products/software/one-wan-subscription/index.html.

Table 17. Cisco 1000 Series licenses

Part number	Bundles	Features
SL-1100-8P-IPB SL-1100-4P-IPB SL-1100-2P-IPB	IP Base (default)	Routing protocols, ACL, NAT, QoS, BFD, VRF Lite, IP SLA Responder.
SL-1100-8P-APP(=) SL-1100-4P-APP(=) SL-1100-2P-APP(=)	Application Experience (APP)	IP Base + advanced networking protocols: L2TPv3, MPLS. Application Experience: PfRv3, NBAR2, AVC, IPSLA Initiator. Hybrid Cloud Connectivity: LISP, Virtual Private LAN Services (VPLS), Ethernet over MPLS.
SL-1100-8P-SEC(=) SL-1100-8P-SECNPE(=) SL-1100-4P-SEC(=) SL-1100-4P-SECNPE(=) SL-1100-2P-SEC(=) SL-1100-2P-SECNPE(=)	Security (SEC)	IP Base + Advanced Security: Zone-based firewall, IPsec VPN, Dynamic Multipoint VPN (DMVPN), FlexVPN, GETVPN. Provides up to 50 Mbps IPsec performance. SEC license needed for CVO deployment option.
FL-VPERF-8P-200(=) FL-VPERF-4P-100(=)	IPSec Performance (VPERF)	IPsec Performance: Additional 100 Mbps for ISR 1100-4P and 200 Mbps for ISR 1100-8P. Not applicable on C1109-2PLTE models.

Part number	Bundles	Features
FL-1100-8P-HSEC(=) FL-1100-4P-HSEC(=) FL-1100-2P-HSEC(=)	IPSec HSEC	IPSEC HSEC License for Cisco ISR 1100 8P,ISR 1100 4P, and 1100 2P. Support with IOS XE 16.8.1 or later releases.
C1F1PISR1100S8PK9 C1F1PISR1100S4PK9	Cisco One S/W Bundle	APP, SEC, PRIME licenses (SL-1100-8P-IPB, C1-SL-11008P-APP, C1-SL-1100-8P-SEC or C1-SL-1100-8P-SECNPE, C1-PI-LFAS-ISR-K9, C1F1VISR1100S8P-01, C1-SL-1100-PAK) or (SL-1100-4P-IPB, C1-SL-1100-4P-APP, C1-SL1100-4P-SEC or C1-SL-1100-4P-SECNPE, C1-PI-LFASISR-K9, C1F1VISR1100S4P-01, C1-SL-1100-PAK). Cisco ONE selection option can also be order with separate SWSS PID under C1-ISR-ADD.

Table 18.   Product part numbers and software images

Product part number	Description
Router software images	
SISR1100UK9-166(=) SISR1100NPEUK9-166(=) SISR1100UK9-168(=) SISR1100NPEUK9-168(=) SISR1100UK9-169(=) SISR1100NPEUK9-169(=) SISR1100UK9-1610(=) SISR11NPEUK9-1610(=) SISR1100UK9-1611(=) SISR11NPEUK9-1611(=)	Cisco 1100 ISR Universal Image and Non-Pay load Encryptions Image.
SD-WAN image	
SISR1100UCMK9-169(=) SISR1100UCMK9-1610(=) SISR1100UCMK9-1611(=)	SD-WAN Image for ISR 1100 platforms. Some models with -DNA value, -SPM promotional PIDs or certain models with separate LIC-DNA-ADD (or L-LIC-DNA-ADD) option.
Access point software images	
AIR-AP1815-K9-ME-8-8-110-0.tar	Cisco 111X Models AP delivers industry-leading wireless performance with support for the latest Wi-Fi standard, IEEE's 802.11ac Wave 2 and Mobility Express.

Product part number	Description
DSL firmware options	
A2pvbF039t.d26d	Annex A and M.
B2pv6F039g1.d26d	Annex B and J.
A2pvfbH043j	G.FAST Annex A and M.
B2pvfbH043j	G.FAST Annex B.
Power over Ethernet options	
ISR-1100-POE2(=)	1100-4P with 115W PSU (2 PoE or 1 PoE+).
ISR-1100-POE4(=)	1100-8P with 150W PSU (4 PoE or 2 PoE+).
Rack mount kit and RJ Console Adapter	
ACS-1100-RM-19(=)	Rack-mount kit for all 111X Series ISRs.
ACS-1100-RM2-19(=)	Rack-mount kit for 112X and 116X Series ISRs.
CAB-CON-USBRJ45(=)	Micro USB to RJ45 Console Adapter (Only for 1101 and 1109 Models).
Pluggable	
P-LTEAP18-GL(=)	System and spare CAT18 LTE Advanced Pro Pluggable for North America, Europe and APJC.
P-LTEA-EA(=)	System and spare CAT6 LTE Advanced Pluggable for North American and Europe.
P-LTEA-LA(=)	System and spare CAT6 LTE Advanced Pluggable for APAC, ANZ, and LATAM.
P-LTE-VZ(=)	System and spare CAT4 LTE Pluggable for Verizon. Single SIM slot. Spare need antenna selection option.
P-LTE-US(=)	System and spare CAT4 LTE Pluggable for ATT and T-Mobile. Spare need antenna selection option.
P-LTE-GB(=)	System and spare CAT4 LTE Pluggable for Europe. Spare need antenna selection option.
D-LTE-GB(=)	System and spare USB Based CAT4 LTE Pluggable for EMEAR.
D-LTE-AS(=)	System and spare USB Based CAT4 LTE Pluggable for India, China, Hong Kong, Indonesia, Malaysia, Philippines, South Africa.
D-LTE-NA(=)	System and spare USB Based CAT4 LTE Pluggable for North America.
D-MHLD(=)	System and spare Magnetic Holder for USB based CAT4 LTE Dongle.
P-1T(=)	System and spare Cisco 12:1 High Speed serial WAN interface (sync and bisync).
P-BLANK(=)	System and spare blank Pluggable.

Table 19.   Small Form-factor Pluggable (SFP) part numbers

Small Form-Factor Pluggable	ISR 1100 8P	ISR 1100 4P	Description
GLC-EX-SMD	Yes	Yes	1000BASE-EX SFP transceiver module, SMF, 1310nm, DOM.
GLC-LH-SM	Yes	Yes	GE SFP, LC connector LX/LH transceiver.
GLC-LH-SMD	Yes	Yes	GE SFP, LC connector LX/LH transceiver; with DOM.
GLC-SX-MM	Yes	Yes	GE SFP, LC connector SX transceiver.
GLC-SX-MMD	Yes	Yes	GE SFP, LC connector SX transceiver; with DOM.
GLC-ZX-SM	Yes	Yes	1000BASE-ZX SFP.
GLC-ZX-SMD	Yes	Yes	1000BASE-ZX SFP; with DOM.
GLC-FE-100FX	Yes	Yes	100BASE-FX SFP for FE port.
GLC-FE-100LX	Yes	Yes	100BASE-LX SFP for FE port.
GLC-FE-100ZX	Yes	Yes	100BASE-ZX SFP (80km).
GLC-FE-100EX	Yes	Yes	100BASE-EX SFP (40km).
GLC-FE-100BX-D	Yes	Yes	100BASE-BX10-D SFP.
GLC-FE-100BX-U	Yes	Yes	100BASE-BX10-U SFP.
GLC-GE-100FX	Yes	Yes	100FX SFP on GE ports.
GLC-BX80-D-I	Yes	Yes	1000BASE-BX80 SFP, 1570NM.
GLC-BX80-U-I	Yes	Yes	1000BASE-BX80 SFP, 1490NM.
GLC-BX40-D-I	Yes	Yes	1000BASE-BX40 SFP, 1550NM.
GLC-BX40-U-I	Yes	Yes	1000BASE-BX40 SFP, 1310NM.
GLC-BX-D	Yes	Yes	1000BASE-BX SFP, 1490NM.
GLC-BX-U	Yes	Yes	1000BASE-BX SFP, 1310NM.
GLC-TE	Yes	Yes	10/100/1000BASE-T.
GLC-T	Yes	Yes	10/100/1000BASE-T.
SFP-GE-S	Yes	Yes	1000BASE-SX SFP transceiver module for MMF, 850-nm wavelength, extended operating temperature range and DOM support, dual LC/PC connector.
SFP-GE-T	Yes	Yes	10/100/1000BASE-T SFP (NEBS 3 ESD).
CWDM-SFP-1470	Yes	Yes	CWDM 1470 NM SFP Gigabit Ethernet and 1G/2G FC.

Small Form-Factor Pluggable	ISR 1100 8P	ISR 1100 4P	Description
CWDM-SFP-1490	Yes	Yes	CWDM 1490 NM SFP Gigabit Ethernet and 1G/2G FC.
CWDM-SFP-1510	Yes	Yes	CWDM 1510 NM SFP Gigabit Ethernet and 1G/2G FC.
CWDM-SFP-1530	Yes	Yes	CWDM 1530 NM SFP Gigabit Ethernet and 1G/2G FC.
CWDM-SFP-1550	Yes	Yes	CWDM 1550 NM SFP Gigabit Ethernet and 1G/2G FC.
CWDM-SFP-1570	Yes	Yes	CWDM 1570 NM SFP Gigabit Ethernet and 1G/2G FC.
CWDM-SFP-1590	Yes	Yes	CWDM 1590 NM SFP Gigabit Ethernet and 1G/2G FC.
CWDM-SFP-1610	Yes	Yes	CWDM 1610 NM SFP Gigabit Ethernet and 1G/2G FC.
DWDM-SFP-3033	Yes	Yes	DWDM SFP 1530.33 nm SFP (100 GHz ITU grid).
DWDM-SFP-3112	Yes	Yes	DWDM SFP 1531.12 nm SFP (100 GHz ITU grid).
DWDM-SFP-3190	Yes	Yes	DWDM SFP 1531.90 nm SFP (100 GHz ITU grid).
DWDM-SFP-3268	Yes	Yes	DWDM SFP 1532.68 nm SFP (100 GHz ITU grid).
DWDM-SFP-3425	Yes	Yes	DWDM SFP 1534.25 nm SFP (100 GHz ITU grid).
DWDM-SFP-3504	Yes	Yes	DWDM SFP 1535.04 nm SFP (100 GHz ITU grid).
DWDM-SFP-3582	Yes	Yes	DWDM SFP 1535.82 nm SFP (100 GHz ITU grid).
DWDM-SFP-3661	Yes	Yes	DWDM SFP 1536.61 nm SFP (100 GHz ITU grid).
DWDM-SFP-3819	Yes	Yes	DWDM SFP 1538.19 nm SFP (100 GHz ITU grid).
DWDM-SFP-3898	Yes	Yes	DWDM SFP 1538.98 nm SFP (100 GHz ITU grid).
DWDM-SFP-3977	Yes	Yes	DWDM SFP 1539.77 nm SFP (100 GHz ITU grid).
DWDM-SFP-4056	Yes	Yes	DWDM SFP 1540.56 nm SFP (100 GHz ITU grid).
DWDM-SFP-4214	Yes	Yes	DWDM SFP 1542.14 nm SFP (100 GHz ITU grid).
DWDM-SFP-4294	Yes	Yes	DWDM SFP 1542.94 nm SFP (100 GHz ITU grid).
DWDM-SFP-4373	Yes	Yes	DWDM SFP 1543.73 nm SFP (100 GHz ITU grid).
DWDM-SFP-4453	Yes	Yes	DWDM SFP 1544.53 nm SFP (100 GHz ITU grid).
DWDM-SFP-4612	Yes	Yes	DWDM SFP 1546.12 nm SFP (100 GHz ITU grid).
DWDM-SFP-4692	Yes	Yes	DWDM SFP 1546.92 nm SFP (100 GHz ITU grid).
DWDM-SFP-4772	Yes	Yes	DWDM SFP 1547.72 nm SFP (100 GHz ITU grid).
DWDM-SFP-4851	Yes	Yes	DWDM SFP 1548.51 nm SFP (100 GHz ITU grid).

Small Form-Factor Pluggable	ISR 1100 8P	ISR 1100 4P	Description
DWDM-SFP-5012	Yes	Yes	DWDM SFP 1550.12 nm SFP (100 GHz ITU grid).
DWDM-SFP-5092	Yes	Yes	DWDM SFP 1550.92 nm SFP (100 GHz ITU grid).
DWDM-SFP-5172	Yes	Yes	DWDM SFP 1551.72 nm SFP (100 GHz ITU grid).
DWDM-SFP-5252	Yes	Yes	DWDM SFP 1552.52 nm SFP (100 GHz ITU grid).
DWDM-SFP-5413	Yes	Yes	DWDM SFP 1554.13 nm SFP (100 GHz ITU grid).
DWDM-SFP-5494	Yes	Yes	DWDM SFP 1554.94 nm SFP (100 GHz ITU grid).
DWDM-SFP-5575	Yes	Yes	DWDM SFP 1555.75 nm SFP (100 GHz ITU grid).
DWDM-SFP-5655	Yes	Yes	DWDM SFP 1556.55 nm SFP (100 GHz ITU grid).
DWDM-SFP-5817	Yes	Yes	DWDM SFP 1558.17 nm SFP (100 GHz ITU grid).
DWDM-SFP-5898	Yes	Yes	DWDM SFP 1558.98 nm SFP (100 GHz ITU grid).
DWDM-SFP-5979	Yes	Yes	DWDM SFP 1559.79 nm SFP (100 GHz ITU grid).
DWDM-SFP-6061	Yes	Yes	DWDM SFP 1560.61 nm SFP (100 GHz ITU grid).

For more information

For more information about the Cisco 1000 Series ISRs, visit: https://www.cisco.com/go/ISR1000 or contact your local Cisco account representative.

To learn more about Cisco SD-WAN Security, visit: https://www.cisco.com/c/en/us/solutions/enterprise-networks/sd-wan/sd-wan-security.html.

For additional information and details about Cisco IOS Software licensing and packaging on the Cisco 1000 Series, please visit:

https://www.cisco.com/c/en/us/support/routers/1110-integrated-services-router/model.html#LicensingInformation.

For the Cisco 1000 Series ISR Hardware and Software Installation Guide, Go to:

https://www.cisco.com/c/en/us/support/routers/1110-integrated-services-router/model.html#InstallandUpgradeGuides.

https://www.cisco.com/c/en/us/support/routers/1110-integrated-services-router/model.html#ConfigurationGuides.

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For more information, visit https://www.cisco.com/go/services.

Ordering information

To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

Product sustainability

Table 20.   Product part numbers and software images

Sustainability Topic		Reference
General	Information on product-material-content laws and regulations	Materials
	Information on electronic waste laws and regulations, including our products, batteries and packaging	WEEE Compliance
	Information on product takeback and resuse program	Cisco Takeback and Reuse Program
	Sustainability Inquiries	Contact: csr_inquiries@cisco.com
	Environmental specifications	Table 16. Cisco 1000 Series ISRs system specifications
	Regulatory and compliance	Table 16. Cisco 1000 Series ISRs system specifications
Power	Power supplies	Table 16. Cisco 1000 Series ISRs system specifications
	Power	Table 16. Cisco 1000 Series ISRs system specifications
Material	Product packaging weight and materials	Contact: environment@cisco.com
	Size and Weights	Table 16. Cisco 1000 Series ISRs system specifications
	Packaging Weight	Table 16. Cisco 1000 Series ISRs system specifications

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Document history

New or revised topic	Described in	Date
Added support for CAT18 Pluggable and USB LTE Dongle	Table 11, 13, 14, 15, 16 and 18	September 24, 2019
Add support for additional SFPs	Table 16	August 2, 2019
Add support for P-1T high speed serial pluggable module and update some corrections	Updated throughout document	April 18, 2019
Add support for C1109-4PLTE2P models, LIC-DNA-ADD option, SDWAN promotional PIDs, and C1-ISR-ADD option	Updated throughout document	January 11, 2019
Add support for new platforms, add available date	C1118-8P, C1111X-8P, C1109-2PLTEXX	October 05, 2018

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