



Benefits	Description
Network agility	<ul style="list-style-type: none"> Designed to address customer business requirements, the Cisco 1921 with the modular architecture offers a performance range of modular interfaces and services as your network needs grow. Modular interfaces offer increased bandwidth, a diversity of connection options, and network resiliency.
Energy efficiency	<ul style="list-style-type: none"> The Cisco 1921 architecture provides energy-savings features that include the following: <ul style="list-style-type: none"> The Cisco 1900 Series offers intelligent power management and allows you to control power to the modules based on the time of day. Cisco EnergyWise technology will be supported in the future. Services integration and modularity on a single platform performing multiple functions optimizes raw-materials consumption and energy usage. Platform flexibility and ongoing development of both hardware and software capabilities lead to a longer product lifecycle, lowering all aspects of the TCO, including materials and energy use. High-efficiency power supplies are provided with each platform. DC Power option available (CISCO1921DC/K9).
Investment protection	<ul style="list-style-type: none"> The Cisco 1921 maximizes investment protection: <ul style="list-style-type: none"> Reuse of a broad array of existing modules supported on the original ISRs provides a lower TCO. A rich set of Cisco IOS Software features is carried forward from the original ISRs and delivered in the Universal image. This router gives you the flexibility to grow as your business needs evolve.

Architecture and Modularity

The Cisco 1921 is architected to meet the application demands of today's branch offices with design flexibility for future applications. The modular architecture is designed to support expanding customer requirements, increased bandwidth, and fully integrated power distribution to modules supporting 802.3af PoE and Cisco Enhanced PoE (ePoE). Table 2 lists the architectural features and benefits of the Cisco 1921.

Table 2. Architectural Features and Benefits


Architectural Feature	Benefits
Modular platform	<ul style="list-style-type: none"> The Cisco 1921 ISRs are highly modular platforms with multiple module slots to provide connectivity and services for varied branch-office network requirements. The ISRs offer an industry-leading breadth of LAN and WAN connectivity options through modules to accommodate field upgrades to future technologies without requiring replacement of the platform.
Processors	<ul style="list-style-type: none"> The Cisco 1921 is powered by high-performance multicore processors that support growing demands of branch-office networks by supporting high-throughput WAN requirements.
Embedded IP Security/Secure Sockets Layer (IPsec/SSL) VPN hardware acceleration	<ul style="list-style-type: none"> Embedded hardware encryption acceleration is enhanced to provide higher scalability, which, combined with an optional Cisco IOS Security license, enables WAN link security and VPN services (both IPsec and SSL acceleration). The onboard encryption hardware outperforms the advanced integration modules (AIMs) of previous generations.
Integrated Gigabit Ethernet ports	<ul style="list-style-type: none"> All onboard LAN and WAN ports are 10/100/1000 Gigabit Ethernet routed ports.
Innovative universal-serial-bus (USB)-based console access	<ul style="list-style-type: none"> A new, innovative, mini-Type B USB console port supports management connectivity when traditional serial ports are not available. The traditional console and auxiliary ports are also available. You can use either the USB-based console or the RJ-45-based console port to configure the router.
Optional external power supply for distribution of PoE	<ul style="list-style-type: none"> An optional upgrade to the power supply provides inline power (802.3af-compliant PoE) and Cisco Standard Inline Power to optional integrated switch modules.

Modularity Features and Benefits

The Cisco 1921 provides significantly enhanced modular capabilities (refer to Table 3) that offer you investment protection. Most of the modules available on previous generations of Cisco routers, such as the Cisco 1841 ISR, are supported on the Cisco 1921. Additionally, you can easily interchange modules used on the Cisco 1921 with other Cisco routers to provide maximum investment protection. Taking advantage of common interface cards across a network greatly reduces the complexity of managing inventory requirements, implementing large network rollouts, and maintaining configurations across a variety of branch-office sizes.

A complete list of supported modules is available at <http://www.cisco.com/go/1921>.

Table 3. Modularity Features and Benefits

Feature	Benefits
Cisco Enhanced High-Speed WAN Interface Card (EHWIC) 	<ul style="list-style-type: none">• The EHWIC slot replaces the high-speed WAN interface card (HWIC) slot and can natively support HWICs, WAN interface cards (WICs), and voice/WAN interface cards (VWICs).• Two integrated EHWIC slots are available on the Cisco 1921 for flexible configurations for support of two modules: One doublewide HWIC-D or two singlewide EHWIC/HWIC modules are supported.• Each EHWIC slot offers high-data-throughput capability.
USB 2.0 ports	<ul style="list-style-type: none">• One high-speed USB 2.0 port is supported. The USB port enables another mechanism for secure-token capabilities and storage.

Cisco IOS Software

The Cisco 1921 Integrated Services Routers deliver innovative technologies running on industry-leading Cisco IOS Software. Developed for wide deployment in the world's most demanding enterprise, access, and service provider networks, Cisco IOS Software Releases 15M and T support a comprehensive portfolio of Cisco technologies, including new functions and features delivered in Releases 12.4 and 12.4T, and new innovations that span multiple technology areas, including security, high availability, IP Routing and Multicast, quality of service (QoS), IP Mobility, Multiprotocol Label Switching (MPLS), VPNs, and embedded management.

Cisco IOS Software Licensing and Packaging

A single Cisco IOS Universal image encompassing all functions is delivered with the platforms. You can enable advanced features by activating a software license on the Universal image. In previous generations of access routers, these feature sets required you to download a new software image. Technology packages and feature licenses, enabled through the Cisco software licensing infrastructure, simplify software delivery and decrease the operational costs of deploying new features.

Four major technology licenses are available on the Cisco 1921 Integrated Services Routers; you can activate the licenses through the Cisco software activation process identified at <http://www.cisco.com/go/sa>.

- IP Base: This technology package is available as default
- Data
- Security (SEC) or Security with No Payload Encryption (SEC-NPE)

For additional information and details about Cisco IOS Software licensing and packaging on Cisco 1921 Integrated Services Routers, please visit <http://www.cisco.com/go/1921>.

Key Branch-Office Services

The industry-leading Cisco Integrated Services Routers offer unprecedented levels of services integration. Designed to meet the requirements of the branch office, these platforms provide a complete solution with security, mobility, and data services. Businesses enjoy the benefit by deploying a single device that meets all their needs and saves on capital and operational expenses.

Integrated Network Security for Data and Mobility

Security is essential to protect a business' intellectual property while also ensuring business continuity and providing the ability to extend the corporate workplace to employees who need anytime, anywhere access to company resources. As part of the architectural framework of the SAFE Blueprint from Cisco that allows organizations to identify, prevent, and adapt to network security threats, the Cisco 1900 Series ISRs facilitate secure business transactions and collaboration.

The Cisco IOS Software Security technology package license for the Cisco 1900 Series offers a wide array of common security features such as advanced application inspection and control, threat protection, and encryption architectures for enabling more scalable and manageable VPN networks in one solution set. The Cisco 1921 offers native hardware-based encryption acceleration to provide greater IPsec throughput with less overhead for the router processor when compared with software-based encryption solutions. Cisco ISRs offer a comprehensive and adaptable security solution for branch-office routers that include features such as:

- Secure connectivity: Achieve secure collaborative communications with Group Encrypted Transport VPN, Dynamic Multipoint VPN (DMVPN), or Enhanced Easy VPN.
- Integrated threat control: Respond to sophisticated network attacks and threats using Cisco IOS Firewall, Cisco IOS Zone-Based Firewall, Cisco IOS IPS, and Cisco ScanSafe Web Security and Flexible Packet Matching (FPM).
- Identity management: Intelligently protect endpoints using technologies such as authentication, authorization, and accounting (AAA) and public key infrastructure (PKI).

Detailed information about the security features and solutions supported on the Cisco 1900 Series routers is available at http://www.cisco.com/c/en_US/products/routers/1900/1900_security.html

Organizations rely on Cisco, third-party, and in-house developed network management applications to achieve their operating expense (OpEx) and productivity goals. Underpinning those applications are the embedded management features available in every ISR. The new ISRs continue a tradition of broad and deep manageability features within the devices. Features such as Cisco IOS IP Service-Level Agreements (IP SLAs), Cisco IOS Embedded Event Manager (EEM), and NetFlow allow you to know what is going on in your network at all times. These features along with Simple Network Management Protocol (SNMP) and syslog support enable your organization's management applications.

Tables 4 through 6 give details about Cisco IOS software feature and protocol support, Cisco IOS software management capabilities, and Cisco Network Management applications for Cisco 1921 Integrated Services Routers.

Table 4. Cisco 1921 with Cisco IOS Software Feature and Protocol High-Level Support

Feature	Description
Protocols	IPv4, IPv6, static routes, Open Shortest Path First (OSPF), Enhanced IGRP (EIGRP), Border Gateway Protocol (BGP), BGP Router Reflector, Intermediate System-to-Intermediate System (IS-IS), Multicast Internet Group Management Protocol (IGMPv3) Protocol Independent Multicast sparse mode (PIM SM), PIM Source-Specific Multicast (SSM), Distance Vector Multicast Routing Protocol (DVMRP), IPsec, generic routing encapsulation (GRE), Bidirectional Forwarding Detection (BFD), IPv4-to-IPv6 Multicast, MPLS, Layer 2 Tunneling Protocol Version 3 (L2TPv3), 802.1ag, 802.3ah, and Layer 2 and Layer 3 VPN.
Encapsulations	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), Point-to-Point Protocol over Ethernet (PPPoE), and ATM.
Traffic management	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).

For a more comprehensive list of features supported in Cisco IOS Software, refer to the Feature Navigator tool at: <http://www.cisco.com/go/fn>.

Table 5 highlights several ISR management capabilities that are available within Cisco IOS Software.

Table 5. Cisco IOS Software Management Capabilities

Feature	Description of Feature Supported by Cisco Integrated Services Routers
WSMA	The Web Services Management Agent (WSMA) defines a mechanism through which you can manage a network device, retrieve configuration data information, and upload and manipulate new configuration data. WSMA uses XML-based data encoding that is transported by the Simple Object Access Protocol (SOAP) for the configuration data and protocol messages.
EEM	Cisco IOS EEM is a distributed and customized approach to event detection and recovery offered directly in a Cisco IOS Software device. It 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.
IPSLA	Cisco IOS IP SLAs enable you to assure new business-critical IP applications, as well as IP services that use data, voice, and video, in an IP network.
SNMP , RMON , syslog , NetFlow , and TR-069	Cisco 1900 Series ISRs support SNMP, Remote Monitoring (RMON), syslog, NetFlow, and TR-069 in addition to the embedded management features previously mentioned.

Cisco Network Management Applications

The applications listed in Table 6 are standalone products that you can purchase or download to manage your Cisco network devices. The applications are built for the different operational phases; you can select the ones that best fit your needs.

Table 6. Network Management Solutions

Operational Phase	Application	Description
Device staging and configuration	Cisco Configuration Professional	<ul style="list-style-type: none">• Cisco Configuration Professional is a GUI device-management tool for Cisco IOS Software-based access routers. This tool simplifies routing, firewall, IPS, VPN, unified communications, and WAN and LAN configuration through GUI-based easy-to-use wizards.
Networkwide deployment, configuration, monitoring, and troubleshooting	CiscoWorks LMS	<ul style="list-style-type: none">• CiscoWorks LAN Management Solution (LMS) is a suite of integrated applications for simplifying day-to-day management of a Cisco end-to-end network, lowering OpEx while increasing network availability. CiscoWorks LMS offers network managers an easy-to-use web-based interface for configuring, administering, and troubleshooting the Cisco ISRs, using new instrumentation such as Cisco IOS EEM.• In addition to supporting basic platform services of the ISR, CiscoWorks also provides added-value support for the Cisco Services-Ready Engine (SRE) by enabling the management and distribution of software images to the SRE, thereby reducing the time and complexities associated with image management.
Networkwide staging, configuration, and compliance	CiscoWorks NCM	<ul style="list-style-type: none">• CiscoWorks Network Compliance Manager (NCM) tracks and regulates configuration and software changes throughout a multivendor network infrastructure. It provides superior visibility into network changes and can track compliance with a broad variety of regulatory, IT, corporate governance, and technology requirements.
Security staging, configuration, and monitoring	Cisco Security Manager	<ul style="list-style-type: none">• Cisco Security Manager is a leading enterprise-class application for managing security. It delivers provisioning of firewall, VPN, and intrusion-prevention-system (IPS) services across Cisco routers, security appliances, and switch service modules. The suite also includes the Cisco Security Monitoring, Analysis and Response System (Cisco Security MARS) for monitoring and mitigation.
Configuration and provisioning	Cisco Unified Provisioning Manager	<ul style="list-style-type: none">• Cisco Unified Provisioning Manager provides a reliable and scalable web-based solution for managing a company's crucial next-generation communications services. It manages unified communications services in an integrated IP telephony, voicemail, and messaging environment.
Staging, deployment, and changes of licenses	Cisco License Manager	<ul style="list-style-type: none">• Easily manage Cisco IOS Software activation and license management for a wide range of Cisco platforms running Cisco IOS Software as well as other operating systems with the secure client-server application Cisco License Manager.
Staging, deployment, and changes to configuration and image files	Cisco Configuration Engine	<ul style="list-style-type: none">• Cisco Configuration Engine is a secure network management product that provides zero-touch image and configuration distribution through centralized, template-based management.

Summary and Conclusion

As businesses strive to lower the TCO in running their networks and increase their overall employee productivity with more centralized and collaborative network applications, more intelligent branch-office solutions are required. The Cisco 1921 offers these solutions by providing enhanced performance and increased modular density to

Product Specifications

Table 7. Product Specifications of Cisco 1921 Integrated Services Router

	Cisco 1921 Integrated Services Router
Services and Slot Density	
Embedded hardware-based cryptography acceleration (IPsec + SSL)	Yes
RJ-45 onboard LAN/WAN 10/100/1000 ports	2
EHWIC slots	2
Doublewide EHWIC slots (use of a doublewide EHWIC slot will consume 2 EHWIC slots)	1
Cisco Integrated Services Module (ISM) slots	0
Memory (DDR2 DRAM): Default/maximum	512 MB/512 MB
USB flash memory (internal): Default/maximum	256 MB/256 MB
External USB flash-memory slots (Type A)	1
USB console port (mini-Type B) (up to 115.2 kbps)	1
Serial console port (up to 115.2 kbps)	1
Serial auxiliary port (up to 115.2 kbps)	1
Integrated power supply	AC and DC power-supply models
Power-supply options	POE (external) - on AC models only
Redundant-power-supply support	No
Power Specifications	
AC input voltage	100-240V ~
AC input frequency	47-63 Hz
AC input current range AC power supply (maximum) (amps)	1.5-0.6
AC input surge current	<50A
Typical power (no modules)	25W
Maximum power capacity with AC power supply	60W
Maximum power capacity with PoE power supply (platform only)	70W
Maximum PoE device power capacity with PoE power supply	80W
DC power input	32-60 VDC, 4A, positive or negative, single source
DC input wire size	AWG 14 (2.0 mm2)
Safety ground-wire size	AWG 14 (2.0 mm2), minimum
Wire terminal (lug)	Amp/Tyco No.32957
Overcurrent protection	20A maximum
Physical Specifications	
Dimensions (H x W x D)	1.75 x 13.5 x 11.5 in. (4.45 x 34.29 x 29.21 cm)
Rack height	1 rack unit (1RU)
Rack-mount 19 in. (48.3 cm) EIA	Optional
Wall-mount (refer to installation guide for approved orientation)	Yes
Weight: With AC power supply (no modules)	6.75 lb
Weight: With PoE power supply (no modules)	7.5 lb
Airflow	Back to sides

Cisco 1921 Integrated Services Router	
Environmental Specifications	
Operating Conditions	
Temperature: 5906 ft (1800m) maximum altitude	32-104°F (0-40°C)
Temperature: 9843 ft (3000m) maximum altitude	32-77°F (0-25°C)
Altitude	10,000 ft (3,000m)
Humidity	10 to 85% relative humidity (RH)
Acoustic: Sound pressure (typical/maximum)	32.99/58.33 dBA
Acoustic: Sound power (typical/maximum)	41.99/67.22 dBA
Transportation and Storage Conditions	
Temperature	-40 to 158°F (-40 to 70°C)
Humidity	5 to 95% RH
Altitude	15,000 ft (4,570m)
Regulatory Compliance	
Safety	UL 60950-1 CAN/CSA C22.2 No. 60950-1 EN 60950-1 AS/NZS 60950-1 IEC 60950-1
EMC	47 CFR, Part 15 ICES-003 Class A EN55022 Class A CISPR22 Class A AS/NZS 3548 Class A VCCI V-3 EN 300-386 EN 61000 (Immunity) EN 55024, CISPR 24 EN50082-1
Telecom	TIA/EIA/IS-968 CS-03 ANSI T1.101 IEEE 802.3 RTTE Directive

Supported Modules

Cisco 1921 Integrated Services Routers support a wide range of modules that span industry-leading breadths of services at the branch office. Please refer to the following link for the list of modules supported on the Cisco 1900: http://www.cisco.com/en/US/products/ps10538/products_relevant_interfaces_and_modules.html.

Ordering Information

For more information about the Cisco 1900 Series, visit <http://www.cisco.com/go/1921>.

Table 8 gives ordering information for the Cisco 1921 Router; also refer to the [Cisco Ordering Home Page](#). For information about how to order the Cisco 1900 Series, please visit the Cisco 1900 Series Ordering Guide. For additional product numbers, including the Cisco 1900 Series bundle offerings, please check the [Cisco 1900 Series Integrated Services Router Price List](#) or contact your local Cisco account representative.

Table 8. Cisco 1921 Basic Ordering Information

Product Number	Product Description
Cisco1921/K9	Cisco 1921 with 2 onboard GE, 2 EHWIC slots, 256MB USB Flash (internal) 512MB DRAM, IP Base Lic
Cisco1921-SEC/K9	Cisco 1921 with 2 onboard GE, 2 EHWIC slots, 256MB USB Flash (internal) 512MB DRAM, SEC Feature Lic
Cisco1921DC/K9	Cisco 1921 Modular Router DC Power, 2GE, 2EHWIC slots, 512MB, IP Base
C1921-AX/K9	Cisco 1921 Router, 256MB CF, 512MB DRAM, IP Base, SEC, AX
C1921-4G-V-SEC/K9	C1921 4G LTE 700MHz (B13) For Verizon Networks with security
Cisco1921-T1SEC/K9	Cisco 1921 SEC T1 bundle with HWIC-1DSU-T1, 256F/512D, IOS SEC Lic
C1921-VA/K9	Cisco 1921 ISR with EHWIC-VA-DSL-A bundle
C1921VAM/K9	Cisco 1921 ISR with Multimode EHWIC for VDSL/ADSL2+ Annex M
C1921-4SHDSL-EA/K9	Cisco 1921 4pair Double Wide EHWIC-4SHDSL-EA bundle, IP Base
PWR-1900-POE	POE Power Adapter for Cisco1921

To download the Cisco 1921 with Cisco IOS Software, go to [Download Software](#), click "Router Software", and go to "Cisco ISR 1921 Integrated Services Router".

ISR Migration Options

Cisco 1900 Series Routers are included in the standard Cisco Technology Migration Program (TMP). Refer to <http://www.cisco.com/go/TMP> and contact your local Cisco account representative for program details.

Warranty Information

The Cisco 1900 Series Integrated Services Routers have a 1-year limited liability warranty.

Cisco and Partner Services for the Branch Office

Services from Cisco and our certified partners can help you reduce the cost and complexity of branch-office deployments. We have the depth and breadth of experience across technologies to architect a blueprint for a branch-office solution to meet your company's needs. Planning and design services align technology with business goals and can increase the accuracy, speed, and efficiency of deployment. Technical services help maintain operational health, strengthen software application functions, solve performance problems, and lower expenses. Optimization services are designed to continually improve performance and help your team succeed with new technologies. For more information, please visit <http://www.cisco.com/go/services>.

Cisco SMARTnet[®] technical support for the Cisco 1900 Series 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 in 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

For more information about the Cisco 1900 Series, visit <http://www.cisco.com/go/1900> or contact your local Cisco account representative.



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