

Cisco 880G Series 3G Wireless Integrated Services Router

The Cisco® 880G Series Integrated Services Router with the third-generation (3G) wireless WAN (WWAN) option provides secure high-speed wireless WAN connectivity to small businesses, enterprise small branch offices, and teleworker sites (Figure 1). Transparently integrated into the enterprise-class feature set available on the Cisco 880 Series, 3G wireless connectivity allows rapid installation, deployment flexibility, and resilient WAN backup.

Product Overview

Cisco 880 Series Integrated Services Routers are the next generation of fixed-configuration routers that provide collaborative business solutions for secure data communication to small businesses and enterprise teleworkers. The 3G wireless option available on these routers offers a cost-effective, rapidly deployable, reliable, and secure backup solution. With data rates approaching T1 speeds, 3G wireless can be used for primary WAN connectivity in locations where wireline services such as DSL and ISDN are not available or are too expensive to deploy.

The Cisco 880G Series Integrated Services Routers support the latest 3G standards (High-Speed Packet Access [HSPA] and EVDO Rev A) and are backward-compatible with Universal Mobile Telecommunications Service (UMTS), Enhanced Data Rates for Global Evolution (EDGE), General Packet Radio Service (GPRS), and EVDO Rev0/1xRTT. The Cisco 880G Series has two variants (refer to Table 1 for part numbers):

- Global System for Mobile Communications (GSM) and UMTS models are based on Third-Generation Partnership Project (3GPP), and they support HSPA, UMTS, EDGE, and GPRS.
- Code Division Multiple Access (CDMA) models are based on 3GPP2, and they support EVDO RevA/Rev0 and 1xRTT.

In addition to 3G wireless WAN, the Cisco 880G Series offers additional WAN options such as xDSL and Fast Ethernet WAN interface, a 4-port 10/100 Fast Ethernet managed switch with VLAN support and the latest 802.11n WLAN capability. The Cisco 880 Series provides the performance required for concurrent services, including firewall, intrusion prevention, content filtering, and encryption for VPNs; and quality-of-service (QoS) features for optimizing voice and video applications. In addition, Cisco Configuration Professional is a web-based configuration tool that simplifies setup and deployment. Centralized management capabilities give network managers visibility and control of the network configurations at the remote site.

Businesses are looking for ways to reduce costs, increase revenue, and improve business continuity. Third-generation wireless connectivity allows a small enterprise branch office or remote office to set up in a matter of hours, without worrying about availability of broadband services and the need for laying down the lines. Wireless carriers offer flexible, usage-based data plans that can be catered to meet the needs and price points of the business customer. As a WAN backup alternative, 3G wireless offers greater WAN diversity and resiliency because it is independent of the local terrestrial infrastructure. It enables businesses to stay productive during service provider downtime or a network failure.

With enhanced data rates and improved latency (below 100 milliseconds), WWAN services are an ideal way to supplement traditional wireline services. Third-generation WWAN data services offered today have average data rates well in excess of ISDN speeds, with theoretical limits in excess of 7 Mbps on the downlink and 2 Mbps on the uplink. Cisco is building on these performance milestones and adding support for wireless broadband to our wide variety of access routers.

Figure 1. Cisco 880G Series 3G Wireless Integrated Services Routers



Applications

The Cisco 880G Series is ideal for deployment by small businesses, retail locations, small branch offices that are part of a large enterprise network, and a host of other deployments that need high-speed wireless connectivity and secure data, voice, and wireless services.

Small Remote Office

The Cisco 880G Series connects users in small remote offices, such as those for insurance agents, lawyers, or sales, to the main office. You can use the integrated 3G wireless backup option for added reliability when the primary broadband link fails, or as the primary connection for deployments that are portable, such as insurance adjustment, mobile banking, and mobile retail. When connecting to the main office, VPN encryption and integrated security features such as firewall and intrusion prevention protect the network at every perimeter. IT managers can centrally manage the remote site to quickly troubleshoot network problems. Integrated secure unified WLAN connectivity simplifies the deployment and management of devices at the remote site.

Virtual Office

The Cisco 880G Series is ideal for corporate teleworkers, who might have a mix of broadband connection types such as DSL, 3G, and Metro Ethernet. The Cisco 880G Series provides a secure virtual office with all the collaborative services such as data, voice, and video. Redundant WAN links help ensure business continuity. QoS features in the Cisco 880 Series allow an IP phone to be connected to the router, giving voice traffic precedence over data applications. Integrated WLAN support in the Cisco 880 Series helps ensure that if wireless connectivity is to be used, the connection will be secure. (Refer to Cisco Business-Ready Teleworker Solutions for more information, <http://www.cisco.com/go/cvo>).

Remote Call Center Agent

Similar to teleworking applications, this solution extends the Cisco IP Contact Center solution for telephone call center agents to remote sites. With a high-quality, secure connection through the Cisco 880 Series, the call center agent can be dispersed away from costly call center facilities while maintaining secure and productive voice and data access in the home. Business continuity solutions in the Cisco 880 Series provide reliability and continuous business operation.

Retail VPN

Retail stores migrating from dialup connections for point-of-sale transactions can use the 3G wireless option on the Cisco 880G Series for low-cost broadband access with the required security to comply with payment-card-industry (PCI) and other data security requirements. Multiple devices and applications can then be added to the store network to take advantage of the increased bandwidth and also incorporate optional WLAN support to enable secure mobility and enhance productivity.

Managed Services

Service providers and value-added resellers can use the Cisco 880G Series as a platform to offer differentiated business-class security and WLAN services for small to medium-sized business customers. Superior management capabilities such as Simple Network Management Protocol (SNMP) support and Cisco Configuration Professional make remote management and provisioning easier.

Product Specifications

Table 1 provides 3G specifications for the Cisco 880G Series Integrated Services Router.

Table 1. 3G Specifications


Item	Specification
3G modem form factor	PCI Express card (included with the router)
3G performance and throughput	<ul style="list-style-type: none"> • HSPA, UMTS, and GSM (part numbers CISCO881G-G-K9 and CISCO881G-A-K9) • HSPA for global market: (CISCO881G-G-K9) <ul style="list-style-type: none"> ◦ HSPA: 850, 1900, and 2100 MHz (7.2-Mbps downlink; 2.0-Mbps uplink) ◦ UMTS: 850, 1900, and 2100 MHz (2.0-Mbps downlink; 384-kbps uplink) ◦ EDGE: 850, 900, 1800, and 1900 MHz (236-kbps downlink; 124-kbps uplink) ◦ GPRS: 850, 900, 1800, and 1900 MHz (80-kbps downlink; 42-kbps uplink) • HSPA for North American market (CISCO881G-A-K9) <ul style="list-style-type: none"> ◦ Set for North American bands above global bands ◦ 3G Firmware is PTCRB Certified and also for AT&T's network ◦ HSPA: 850, 1900, and 2100 MHz (3.6-Mbps downlink; 2.0-Mbps uplink) ◦ UMTS: 850, 1900, and 2100 MHz (2.0-Mbps downlink; 384-kbps uplink) ◦ EDGE: 850, 900, 1800, and 1900 MHz (236-kbps downlink; 124-kbps uplink) ◦ GPRS: 850, 900, 1800, and 1900 MHz (80-kbps downlink; 42-kbps uplink) • CDMA and CDMA2000 (CISCO881G-S-K9 and CISCO8801G-V-K9) <ul style="list-style-type: none"> ◦ CDMA 1xEV-DO Rev A (3.1 Mbps; 1.8-Mbps downlink) ◦ CDMA 1xEV-DO Rev 0 (2.4 Mbps; 153.6-kbps downlink) ◦ CDMA 1xRTT (153.6-kbps downlink; 153.6-kbps downlink)
Frequency bands supported	<ul style="list-style-type: none"> • HSPA, UMTS, and GSM (CISCO881G-G-K9 and CISCO881G-A-K9) <ul style="list-style-type: none"> ◦ 850-, 1900-, and 2100-MHz UMTS bands ◦ 850-MHz GSM, GPRS, and EDGE band ◦ 900-MHz GSM, GPRS, and EDGE band ◦ 1800-MHz GSM, GPRS, and EDGE band ◦ 1900-MHz GSM, GPRS, and EDGE band • EVDO Rev A/ EVDO/1xRTT (CDMA) (CISCO881G-S-K9 and CISCO8801G-V-K9) <ul style="list-style-type: none"> ◦ 800 MHz: North American cellular band ◦ 1900 MHz: North American PCS band
Subscriber Identity Module (SIM) card	Universal Subscriber Identity Module (USIM) or Subscriber Identity Module (SIM) card slot on the PCI Express card (HSPA, UMTS, and GSM)
Antenna connector	SSMB plug-type connector on the PCI Express card for external antenna connection
Included antenna	2-dB gain multiband dipole antenna on cradle with 4.5-ft cable
Antitheft PCI Express card slot	PCI Express card slot on router front panel with antitheft locking bracket

LED indicators	Received signal strength indication (RSSI)
Approvals and compliance	<ul style="list-style-type: none"> • Safety <ul style="list-style-type: none"> ◦ UL 60950-1, CAN/CSA-C22.2 No. 60950-1, EN 60950-1, IEC 60950-1, AS/NZS 60950.1, FCC Part 2.1093, RSS-102, and EN 50385 • EMC <ul style="list-style-type: none"> ◦ FCC Part 15, Industry Canada ICES-003, EN 301 489-01, EN 301 489-07, EN 301 489-24, EN55022 (CISPR22), EN55024 (CISPR24), EN300-386, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22, CNS13438, and VCCI V-3 • Radio <ul style="list-style-type: none"> ◦ FCC Part 2, FCC Part 22, FCC Part 24, RSS 129 and RSS 133, RSS 132 and RSS 133, EN 301 511 GSM, EN 301 908-1, and EN 301 908-2 ◦ PTCRB-approved
Carrier support	For an updated list of carriers that offer services on the Cisco 880G Series, please visit: http://www.cisco.com/go/3g .

Table 2 lists the system specifications for the Cisco 880G Series Routers.

Table 2. System Specifications

Feature	Specification
Default DRAM	256 MB on Cisco 880 Series data models
Maximum DRAM	768 MB
Default and maximum flash memory	128 MB on Cisco 880 Series data models
802.11g/n access point based on IEEE 802.11n Draft 2.0 standard	Optional on all models
Console or auxiliary port	RJ-45: Single dual-purpose port provides direct connection to a console or external modem for management or backup access point.
One USB 1.1 port for advanced security features such as security tokens or USB flash memory	<ul style="list-style-type: none"> • One USB 1.1 port on Cisco 881 and 888 Series Routers • USB devices supported: <ul style="list-style-type: none"> ◦ USB eTokens ◦ USB flash memory <p>Note: USB 1.1 port cannot be used for connecting external devices other than those specified at: http://www.cisco.com/en/US/partner/prod/collateral/modules/ps6247/product_data_sheet0900aecd80232473.htm</p>
External power supply	Universal 100- to 240-VAC input; 60W, 12-VDC output
Inline Power over Ethernet (PoE)	Optional internal adapter for inline PoE on 2 switch ports for IP phones or external wireless access points; 802.3af- and Cisco PoE-compliant
G.SHDSL specifications	<ul style="list-style-type: none"> • Conexant chipset • Two- and 4-wire modes supported • Annex A and Annex B supported, starting with Cisco IOS® Software Release 12.4(15)XZ • Support for wetting current (Section A.5.3.3 of G.991.2) • Support for dying gasp; uses power status bit (Section 7.1.2.5.3 of G.991.2) for signaling • Symmetrical WAN speeds of 2.304 Mbps per pair
Wireless specifications	2.4 GHz
Data rates supported	<ul style="list-style-type: none"> • 802.11b: 1, 2, 5.5, 6, 9, and 11 Mbps • 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps • 802.11n: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, and m0-m15 (approximately fivefold of 802.11g maximum data rate using multiple input, multiple output [MIMO])
Maximum transmit power (2-channel aggregate)	<p>Note: Maximum power setting subject to changes by channel and by region, depending on regulations:</p> <ul style="list-style-type: none"> • 802.11b 20 dBm • 802.11g 17 dBm • 802.11n 16 dBm

Physical dimensions and weight	Product dimensions: <ul style="list-style-type: none"> • Nonwireless models: <ul style="list-style-type: none"> ◦ H x W x D = 1.9 x 12.8 x 9.8 in. (48 x 325 x 249 mm) (includes rubber feet) ◦ H x W x D = 1.75 x 12.8 x 9.8 in. (44 x 325 x 249 mm) (without rubber feet) • Wireless models: <ul style="list-style-type: none"> ◦ H x W x D = 1.9 x 12.8 x 10.4 in. (48 x 325 x 264 mm) (includes rubber feet) ◦ H x W x D = 1.75 x 12.8 x 10.4 in. (44 x 325 x 264 mm) (without rubber feet; excludes antennas) ◦ Weight: 5.5 lb (2.5 kg) maximum
Power	<ul style="list-style-type: none"> • Product power specifications: • AC input voltage: 100 to 240 VAC • Frequency: 50 to 60 Hz • Maximum output power: 60W • Output voltages: 12 VDC • Optional internal PoE with external adapter • Maximum output power: 80W • Output voltage, external: 48 VDC
Approvals and compliance	<ul style="list-style-type: none"> • IEC 60950-1:2005, Second Edition, with all country deviations • AS/NZS 60950-1:2003, First Edition • CAN/CSA 22.2 No. 60950-1-05, Second Edition • UL 60950-1, Second Edition, 2005 • EN55024 • Industry Canada CS-03 • TIA-968-A, Addendum 1, 2, 3, 4, 5 • EMI • VCCI Class II • IEC 1000-3-2 • UNI 3.1/4.0 PVC • ITU G.991.2 G.SHDSL • California Energy Commission (CEC) Compliant • Australia and New Zealand: <ul style="list-style-type: none"> • Australia AS/ACIF S031: 2001 • Australia AS/ACIF S043.1: 2003 • Australia AS/ACIF S043.2: 2006 • New Zealand PTC220: 2003 • The following are supported on Enterprise Teleworker Models: AS/NRZ 3548:1992 Class B • CFR 47 Part 15 Class B • EN60555-2 Class B • EN55022 Class B • ICES-003, Issue 2, Class B, April 1997S
Certifications	
Environmental operating range	<ul style="list-style-type: none"> • Nonoperating temperature: -4 to 149°F (-20 to 65°C) • Nonoperating humidity: 5 to 95 percent relative humidity (noncondensing) • 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%, relative humidity (noncondensing) • Operating altitude: 0 to 10,000 ft (0 to 3000m)

Ordering Information

To place an order, refer to Tables 3 and 4 and visit the [Cisco Ordering Home](#) Page.

Table 3. Cisco 880G Series 3G WWAN Ordering Information

Part Number	Description
CISCO881G-G-K9	Cisco 881 Fast Ethernet Security Router supporting HSPA/UMTS/EDGE/GPRS – Global SKU
CISCO881GW-GN-A-K9	Cisco 881 Fast Ethernet Wireless Router 802.11n FCC Compliant, configurable with a choice of 3G modems
CISCO881GW-GN-E-K9	Cisco 881 Fast Ethernet Wireless Router; 802.11n ETSI Compliant, configurable with a choice of 3G modems
CISCO881G-A-K9	Cisco 881 Fast Ethernet Security Router supporting HSPA/UMTS/EDGE/GPRS—North American SKU
CISCO881G-S-K9	Cisco 881 Fast Ethernet Security Router supporting EVDO/1xRTT—Sprint SKU
CISCO881G-V-K9	Cisco 881 Fast Ethernet Security Router supporting EVDO/1xRTT—Verizon SKU
CISCO888G-K9	Cisco 888 G.SHDSL Router configurable with a choice of 3G modems
CISCO888GW-GN-A-K9	Cisco 888 G.SHDSL Wireless Router 802.11n FCC Compliant, configurable with a choice of 3G modems
CISCO888GW-GN-E-K9	Cisco 888 G.SHDSL Wireless Router; 802.11n ETSI Compliant, configurable with a choice of 3G modems
PCEX-3G-CDMA-V (=)	Cisco 3G EVDO Rev A/0/1xRTT Modem—Verizon Network
PCEX-3G-CDMA-S (=)	Cisco 3G EVDO Rev A/0/1xRTT Modem—Sprint Network
PCEX-3G-HSPA-A (=)	Cisco 3G HSPA/UMTS/EDGE/GPRS Modem—North American Networks
PCEX-3G-HSPA (=)	Cisco 3G HSPA/UMTS/EDGE/GPRS Modem—Global Networks (excluding USA)

Note: The Cisco 880G 3G Wireless Integrated Services Routers ship with a default 2-dB gain multiband dipole antenna on a cradle with 4.5-ft cable and SMA connector.

Table 4. Cisco 880 Series 3G WWAN Options Ordering Information

Part Number	Description
POE Option	
800-IL-PM-2(=)	2 port 802.3af capable inline power module for 880 routers
Memory	
MEM8XX-256U512D(=)	256-MB DRAM upgrade to 512 MB for Cisco 880 Series Routers
MEM8XX-256U768D(=)	512-MB DRAM upgrade to 768 MB for Cisco 880 Series Routers
Router Software	
C880data-universalk9-mz	Universal image for Cisco 880 ISR Data Router Series
Access Point Software	
ap801-k9w7-tar	Autonomous software image for ap801
ap801-rcvk9w8-tar	LWAPP recovery image for ap801
Software License for Cisco 880 Data	
SL-880-ADSEC (default)	Cisco 880 Advanced Security Image Feature License
SL-880-AIS(=) (default upgrade)	Cisco 880 Advanced IP Services Image Feature License
Security Services	
SL-CNFIL-88x-1Y(=)	One year subscription to Content Filtering for Cisco 881/888-URL/Phishing
FL-WEBVPN-10-K9(=)	Feature License SSL VPN for Up to 10 Users (incremental)

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services can help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, refer to [Cisco Technical Support Services](#) and [Cisco Advanced Services](#).

For More Information

For more information about the Cisco 3G products, visit <http://www.cisco.com/go/3g> or contact your local Cisco account representative.

For more information regarding Cisco 880 Series Integrated Services Routers and options, contact your Cisco representative or go to <http://www.cisco.com/go/isr>.



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