Cisco RV315W Wireless-N VPN Router with Highly Integrated and Reliable Connectivity for Small Business and Franchises

The Cisco® RV315W Wireless-N VPN Router provides highly integrated and reliable connectivity, with central management, to small businesses and franchises.

The Cisco RV315W (Figure 1) integrates dual Gigabit Ethernet (GE) WAN ports, eight Fast Ethernet (FE) LAN ports with Wireless-N, and USB to fulfill the evolving requirements of small business customers. With TR-069, Simple Network Management Protocol (SNMP), and remote access capability, the Cisco RV315W can be quickly deployed, monitored, and maintained with central management tools in remote locations without local IT support. Dual WAN and 3G uplink with well-designed VPN redundancy help ensure a reliable connection anywhere, at any time. With a limited lifetime warranty, the RV315W offers the ideal combination of reliability and performance to support a growing business.

Figure 1. Cisco RV315W Wireless-N VPN Router

Product Overview

The Cisco RV315W Wireless-N VPN Router features:

- All-in-one network connectivity

  With eight FE LAN ports, dual GE WAN ports, and USB supporting a Code Division Multiple Access (CDMA) and Wideband CDMA (WCDMA) dongle, the Cisco RV315W is the perfect router to connect all the devices in a small business or franchise to the Internet, securely and reliably, with just a single device. Integrated 802.11n wireless with support for multiple service set identifiers (SSIDs) helps improve employee productivity and customer satisfaction by enabling employee mobility and Internet access for guests.

- Highly available VPN service

  With a hardware acceleration engine, the Cisco RV315W supports up to 50 VPN tunnels with nearly 100-Mbps throughput. In addition to this high level of scalability, the RV315W is designed with VPN redundancy

to support continuous business operation over the VPN connection. The RV315W is able to keep VPN connections operational by switching between GE WAN and 3G connections in case of link failure, and switching over to a backup server in case of headend failure.

- Central management capability

  As your business grows, you need to manage an increasing number of remote sites or satellite locations. With TR-069, SNMP, and remote access capability, the Cisco RV315W can be quickly deployed, monitored, and maintained with central management tools without local IT support. Information on device status and the ability to push configuration parameters and perform remote firmware upgrades enables IT personnel at headquarters to proactively manage the network at all remote sites.

Product Specifications

Figures 2 and 3 show the front and back panels, respectively, of the Cisco RV315W.

Figure 2. Front Panel

Figure 3. Back Panel

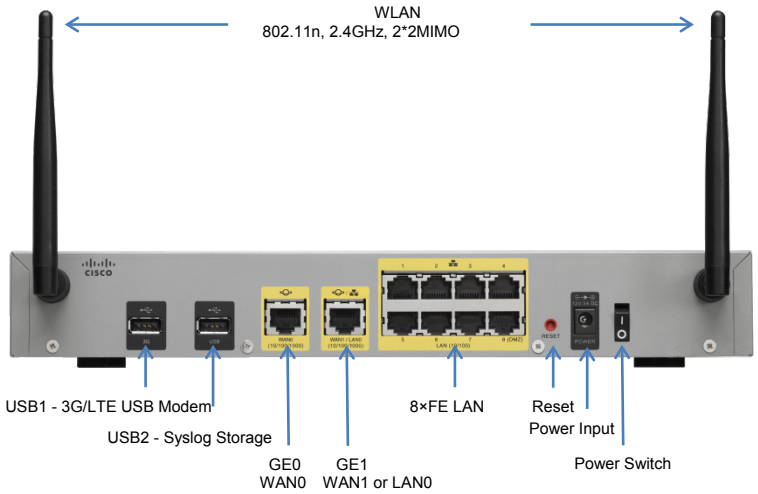


Table 1 lists the port specifications for the Cisco RV315W.

Table 1. Port Specifications

Port	USB1	USB2	GE0	GE1	FE1 to FE8	WLAN
Functionality	3G/LTE access	Storage for syslog	10/100/1000 Mbps, WAN0	10/100/1000 Mbps, WAN1/LAN0	10/100 Mbps, LAN1 to LAN8	802.11b/g/n, 2.4 GHz

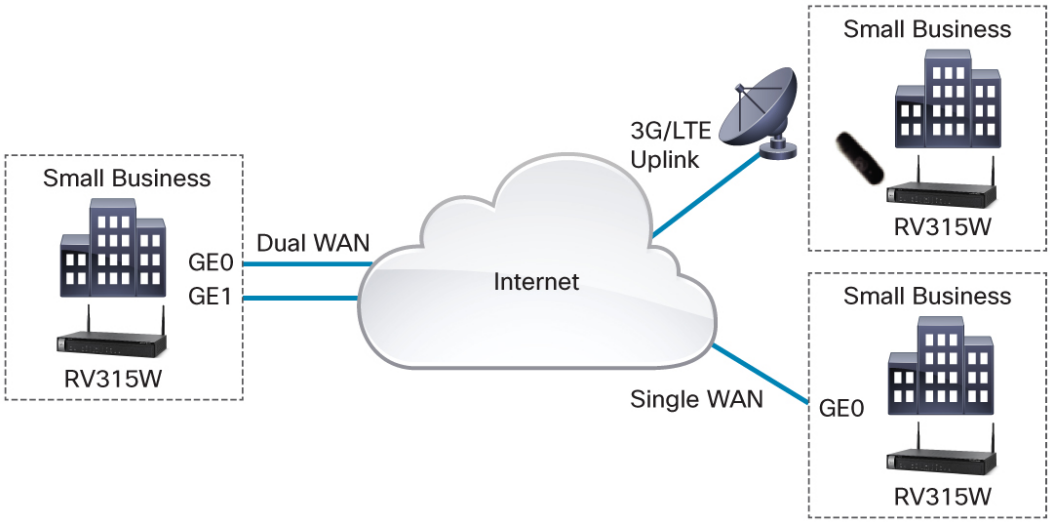
Scenarios

The following are some typical scenarios for the Cisco RV315W:

Internet access with integrated VPN for small businesses

- Dual WAN for Internet connectivity: GE0 and GE1 can connect to the same or different Internet service providers (ISPs), for load balancing or redundancy in case of failure.
- Single WAN for Internet connectivity: GE0 can connect to an ISP, and GE1 can be configured as a GE LAN port, connecting to switches for more endpoint devices.
- 3G mobile wireless connectivity: The 3G capability can serve as emergency backup for the GE WAN ports or as an independent WAN connection when the RV315W is deployed in places where a landline Internet connection is not available.
- VPN access: Several locations can be connected through site-to-site VPN. Employees can also access the office network and resources with remote-access VPN.

Figure 4. Cisco RV315W Internet Access Topology

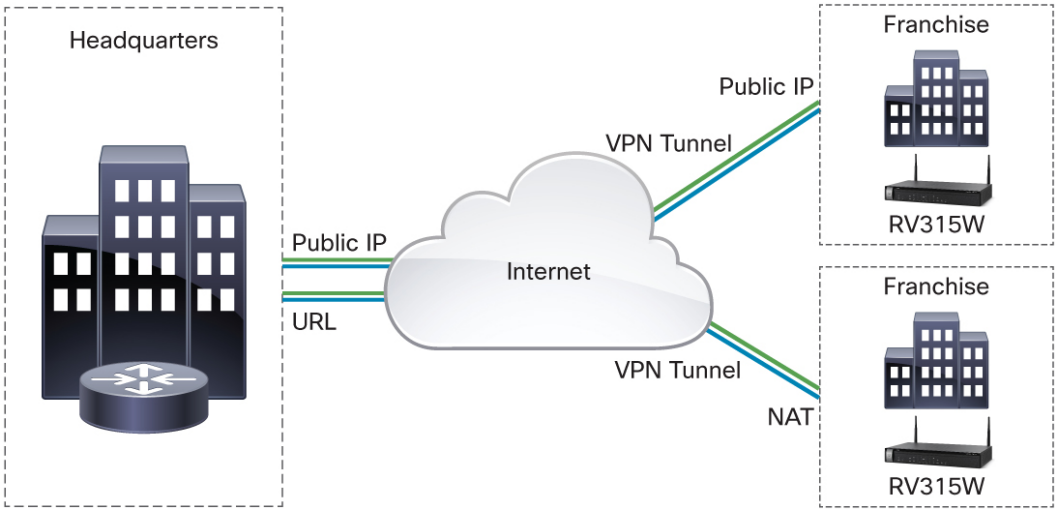


Branch VPN router for franchises

- Site-to-site VPN with dynamic public IP: The Cisco RV315W can serve as an Internet gateway with dynamic address (Point-to-Point Protocol over Ethernet [PPPoE], Dynamic Host Configuration Protocol [DHCP]) connecting to a VPN concentrator at corporate headquarters.
- Site-to-site VPN through Network Address Translation (NAT): The RV315W can be located behind the Internet gateway with a private IP address, connecting through NAT to a VPN concentrator at corporate headquarters.

- Site-to-site VPN over 3G: For remote locations where landline Internet is not available, the RV315W can provide VPN tunnels over 3G to enable deployment flexibility.

Figure 5. Cisco RV315W IPSec Site-to-Site VPN topology



Product Hightlights

Table 2 lists the features and advantages of the Cisco RV315W.

Table 2. Features and Advantages

Feature	Advantages
Flexible interfaces	• 1 GE WAN port, 1 GE WAN/LAN convertible port. • 8 FE LAN ports, 802.11b/g/n WLAN, and 2 USB 2.0 interfaces. • Easily adapt to different network deployment requirements. Provides investment protection in a changing business environment.
Dual GE ports	• Configurable as dual GE WAN ports or GE WAN port plus GE LAN port. • When working as dual GE WAN ports, the GE ports can be in load balancing mode or failover mode. • In load balancing mode, the traffic can be distributed to 2 links by TCP connection. The percentage of traffic for each link is configurable to adapt to different link bandwidths. • In failover mode, redundancy for network connectivity is provided by primary and backup links. When the primary link is disconnected, traffic will automatically fail over to the backup link. • When only a single WAN port is needed, the WAN1/LAN0 GE port can be configured to LAN trunk mode, connecting to a GE uplink switch to expand the LAN ports.
3G/LTE USB uplink	• Can serve as a backup link for the WAN port. The 3G/LTE USB modem is not connected, and will not generate traffic, until the WAN link fails. • Can serve as the primary uplink for the device in remote locations where landline Internet is not available. • Supports a virtual private dialup network (VPDN) to enable Layer 2 Tunneling Protocol (L2TP) VPN with a service provider's 3G/LTE network. • Supports IP Security (IPsec) VPN tunnels over the 3G/LTE link, helping ensure high availability of VPN service.
Hardware acceleration engine for VPN	• VPN hardware acceleration engine supports a variety of cryptographic and hash algorithms, including Data Encryption Standard (DES), Triple DES (3DES), Advanced Encryption Standard (AES), Message Digest Algorithm 5 (MD5), and Secure Hash Algorithm (SHA). • Reduces CPU load and enables rich services with VPN. • Increases VPN throughput due to reduced latency.

Feature	Advantages
Highly reliable VPN service	• Support for VPN tunnel over dual WAN and 3G/LTE uplinks, providing protection against local link failure. • Support for backup remote peer addresses, helping protect against remote device or link failure. • Flexible VPN deployment with dynamic local IP address or private IP address behind NAT for VPN connection. • Support for dead peer detection (DPD) mechanism to detect VPN tunnel status and reconnect as needed.
Web filtering	• Whitelists and blacklists for web filtering, enabling easy implementation of web access policy for the organization. • Ability to filter file downloads by file type. • Support for customized file filter types. • Support for bulk importing of filter lists.
Rate limit	• Limit maximum session number for each IP address according to IP address range. • Limit maximum session number by physical port number. • Rate limit based on destination port, MAC address, local port, VLAN, or IP address. • Rate limit based on protocol type.

Product Specifications

Table 3 lists the hardware specifications for the Cisco RV315W.

Table 3. Hardware Specifications

Specifications	Description
DRAM	• 256 MB, DDR3
Flash	• 128 MB
WAN	• Two 10/100/1000 Ethernet
LAN	• Eight 10/100 Ethernet
WLAN	• IEEE 802.11b/g/n, 2.4 GHz
USB	Two USB 2.0 • USB1: Used for 3G USB modem • USB2: Reserved for future development
LEDs	• Power, SYS, WAN0, WAN1, LAN0, LAN1 through LAN8, USB, 3G, WLAN, VPN, NMS
Buttons	• Power switch button, Reset button
Physical dimensions and weight	• Product dimensions (H x W x D): 12.16 in. x 7.09 in. x 1.73 in. (308 mm x 180 mm x 44 mm) • Weight: 3.09 lb (1.4 kg)
Housing	• Metal
Power	• External power adapter • Input: 100 to 240V AC, 50 to 60 Hz • Output: 12V DC, 3A
Ventilation	• Fanless cooling
Environmental	• Operational temperature: 0° to 40°C (32° to 104°F) • Nonoperational temperature range: –30° to 60°C (–22° to 140°F) • Operational humidity range: 0% to 95% (noncondensing)
Performance	• New TCP connections per second: 3200 • Concurrent active TCP connections: 50,000 • IPsec VPN tunnels: 50

Table 4 lists the software specifications for the Cisco RV315W.

Table 4. Software Specifications

Specifications	Description
IP and IP applications	• DHCP/PPPoE/Static IP/L2TP • DNS Proxy • NAT/PAT • Internet Group Management Protocol (IGMP) v1 and v2 Proxy and Snooping • Dynamic DNS (DDNS) (TZO and DynDNS) • Port Forwarding, Port Range Forwarding, Port Triggering • Port Mirroring • Hardware and software network edge (DMZ) • Application Layer Gateway (ALG) (generic routing encapsulation [GRE], Session Initiation Protocol [SIP], H.323, Rapid Spanning Tree Protocol [RSTP]) • Universal Plug and Play (UPnP)
Routing	• Static • Routing Information Protocol (RIP) v1 and v2 • Policy-based routing
VLAN	• IEEE 802.1Q • VLAN by LAN ports and SSIDs • 15 active VLANs • VLAN trunk • Inter-VLAN routing
Firewall	• Stateful Packet Inspection • Block on proxy, Java, ActiveX, and cookies
Distributed denial of service (DDoS)	• SYN flood • UDP flood • ICMP flood
Anti Address Resolution Protocol (ARP) attack	• ARP flooding threshold • ARP broadcast • IP address and MAC binding
Access control lists (ACL)	• Blacklist and whitelist • Time range • Protocol • LAN port • Source IP address and source IP range • Destination IP address and destination IP range
MAC filtering	• Allow or forbid • Start and end time
IPsec VPN	• Site-to-site and remote access • Main mode and aggressive mode • Pre-shared key • DES, 3DES, AES-128, AES-192, AES-256 • MD5 and SHA-1 • DH group 1 and DH group 2 • DPD • NAT-T • Primary and secondary IP for VPN tunnel peer • IPsec VPN pass-through
L2TP VPN	• L2TP VPN pass-through

Specifications	Description
3G access	• CDMA Evolution-Data Optimized (EVDO) and WCDMA USB modem • Automatic dialing by SIM card default APN, user name, password, and dialing strings • Manual input by APN, user name, password, and dialing strings • Automatic dialing • Manual dialing • Always online • Idle to disconnect • Display of SIM card information • USB modem information • VPDN
Quality of service (QoS)	• 802.1p • Differentiated services code point (DSCP) • Uplink rate limit • 4 queues per port • 1 strict priority queue • 10 application queues • Policy based on destination IP port, MAC address, physical port, VLAN, and IP address • Application protocol-based policy • Session control based on IP address, physical port
Management	• HTTP/HTTPS based web GUI • 2-tier management privilege (administrator and user) • Import and export of configuration file • Firmware web upgrade, dual image firmware upgrade • Diagnostics on ping, traceroute, HTTP get, DNS query, and syslog • Network Time Protocol (NTP) • SNMP v1, v2c, and v3 • TR-069 over HTTP

Table 5 lists the WLAN specifications for the Cisco RV315W.

Table 5. WLAN Specifications

Specifications	Description
Standard	• IEEE 802.11n with 802.11b/g compatibility
Radio frequency	• 2.4 GHz
Radio bandwidth	• 20 MHz and 40 MHz
Transmission rate	• 802.11b: 1, 2, 5.5, or 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, or 54 Mbps • 802.11n: 6.5/15, 13/30, 19.5/45, 26/60, 39/90, 52/120, 58.5/135, 65/150, 78/180, 117/270, or 130/300 Mbps
SSIDs	• Up to 4 SSIDs
WLAN security	• Wired Equivalent Privacy (WEP) • Wi-Fi Protected Access (WPA)-Personal • WPA2-Personal • WPA-Enterprise • WPA2-Enterprise
WLAN QoS	• Wi-Fi Multimedia (WMM)
Antenna	• 2 omnidirectional 2-dBi gain external antennas with SMA connector

Front Panel LEDs

Table 6 describes the LEDs for the Cisco RV315W.

Table 6. Front Panel LEDs

LED	Status
Power Device power LED	Off: Power is off or a fault has occurred
	Steady green: Power is on
SYS System status LED	Off: Network connection is not configured
	Steady red: System error
	Flashing red: System busy (CPU/memory utilization over threshold)
	Flashing green: Connecting to the Internet or a firmware upgrade is in progress
	Steady green: Device is operating
WAN0 GE0 port status LED	Off: Link is disconnected
	Steady green: Link is connected
	Flashing green: Passing traffic on WAN0
WAN1/LAN0 GE1 port status LED	Off: Link is disconnected
	Steady green: Link is connected
	Flashing green: Passing traffic on WAN1 or LAN0
LAN through LAN8 LAN port status LEDs	Off: Link is disconnected
	Steady green: Link is connected
	Flashing green: Passing traffic on LAN link
3G 3G/LTE USB dongle status LED	Off: 3G/LTE link is disconnected
	Steady green: 3G/LTE link is connected
	Flashing green: Passing traffic on 3G/LTE link
USB USB storage device LED	Off: USB storage device is not connected
	Steady green: USB storage device for syslog is connected
	Flashing green: Read/write on USB storage device
WLAN WLAN status LED	Off: WLAN radio is turned off
	Steady green: WLAN radio is active
	Flashing green: WLAN is passing traffic
VPN VPN status LED	Off : No VPN tunnel is established
	Steady green: VPN tunnels is active
	Flashing green: Trying to establish VPN connection or failed to establish connection
NMS Network management status LED	Off: Not connected to central management system
	Steady green: Connected to central management system
	Flashing green: Operation in progress with central management system

Configuration Requirements

Table 7 lists the configuration requirements for the Cisco RV315W.

Table 7. Configuration Requirements

Feature	Requirements
Hardware requirements	PC with network adapter and Ethernet cable
Software requirements	Web browser (Internet Explorer 6.0 or Mozilla Firefox 3.0 or later)

Ordering Information

Table 8 lists ordering information for the Cisco RV315W.

Table 8. Ordering Information

Part Number	Description
RV315W-E-K9-EU	RV315W Broadband Wireless-N VPN Router
RV315W-E-K9-UK	RV315W Broadband Wireless-N VPN Router
RV315W-A-K9-AU	RV315W Broadband Wireless-N VPN Router

Warranty Information

The Cisco RV315W comes with a limited lifetime warranty and service from the award-winning Cisco Small Business Support Center, for unprecedented investment protection. For more information on the product warranty, visit www.cisco.com/en/US/products/prod_warranties_listing.html.

For More Information

For more information, visit www.cisco.com/go/rv315w.

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