

Cisco uBR900 Series Cable Access Router

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Overview

Q. What are the Cisco uBR900 Series Cable Access Routers?

A. The Cisco uBR900 Series Cable Access Routers consist of the Cisco uBR905 and Cisco uBR925 Cable Access Routers, both of which are integrated Cisco IOS[®] Software routers and DOCSIS 1.1-based cable modems. The Cisco uBR905 Cable Access Router is data-only and integrates a four-port 10BaseT Ethernet hub with firewall and IP Security Protocol (IPSec) virtual private network (VPN) technologies in a single compact design. The Cisco uBR925 Cable Access Router has all the features of the Cisco uBR905 Cable Access Router, plus voice capability. It has two additional RJ-11 telephone jacks for Voice-over-IP (VoIP). The Cisco uBR905 and Cisco uBR925 Cable Access Routers have dedicated hardware for achieving high-speed IPSec VPN performance.

Q. What are the target markets for the Cisco uBR900 Series Cable Access Routers?

A. Target markets are as follows:

- The Cisco uBR905 Cable Access Router is targeted at small/home businesses, branch offices, and corporate telecommuters needing a secure, manageable, and high-performance solution for accessing the Internet and corporate LAN.
- The Cisco uBR925 Cable Access Router is targeted at small businesses, small and medium branch offices, needing a secure, manageable, and high-performance solution for accessing the Internet and corporate LAN with VoIP capability.

Q. What are typical applications for the Cisco uBR900 Series Cable Access Routers?

A. One typical application is for use in a small business environment. The Cisco uBR900 Series Cable Access Routers give small businesses high-speed access to the Internet, security, and support for multiple devices. By integrating a fully functional Cisco IOS[®] Software and DOCSIS 1.1-based cable modem, the Cisco uBR900 Series Cable Access Routers provide small offices with the ability to support multiple IP devices in their LAN environment. You gain the benefit of both a trusted router and a quality cable modem in one box.

Small businesses can entrust their data across high-speed cable access with the full security suite of the Cisco uBR900 Series Cable Access Routers. The Cisco uBR900 Series Cable Access Routers offer a full business-class firewall integrated inside one box. The routers support 56-bit Data Encryption Standard (DES) and 168-bit Triple Data Encryption Standard (3DES) VPN capabilities, widely recognized as the standards

to use for ensuring security and privacy in telecommunications infrastructures. The Cisco uBR900 Series Cable Access Routers contain dedicated hardware for IPSec, thereby greatly improving performance over software-based solutions. For voice and data applications, the Cisco uBR925 Cable Access Router provides an optimal solution.

Q. The Cisco uBR900 Series Cable Access Routers are targeted at business users, but don't cable operators mainly serve residential customers?

A. While cable operators have traditionally focused on the consumer market, there is significant interest in delivering commercial services to businesses over a cable infrastructure. Cable operators see a win-win situation. Businesses benefit from commercial services delivered at competitive rates while cable operators benefit from serving a less price-sensitive market that requires more value-add features than the consumer market. While cable operators pass 96 percent of all homes in the United States, some major U.S. cable operators have estimated that they pass 50 to 60 percent of businesses in their service area as well. Also, most telecommuters work out of their homes, which may classify them as "residential" customers who need commercial services. Another advantage of targeting business users is that the usage pattern complements the pattern of residential customers; business users operate during the daytime hours, while residential customers' usage peaks in the early evening hours.

Positioning

Q. Why is the Cisco uBR900 Series Cable Access Router a "cable access router" and not a "cable modem?"

A. The term "cable modem" has come to define a product category that is made up of low-cost, consumer electronic bridging devices. The Cisco uBR905 and Cisco uBR925 Cable Access Routers are in a different product category from cable modems because these products serve a different segment—business users. Business users not only value the high-speed connectivity offered by cable modems, but they require the enhanced security, manageability, and quality of service (QoS) offered by an integrated router.

Q. What are the differences between the Cisco uBR925 and Cisco uBR924 Cable Access Routers?

A. The Cisco uBR925 Cable Access Router is an evolutionary, not revolutionary, design. It is very similar to, and uses much of the same technology as the award-winning Cisco uBR924 Cable Access Router—the first Cisco cable customer premises equipment (CPE) product to support VoIP. There are, however, two major differences. The Cisco uBR925 Cable Access Router contains hardware acceleration to optimize IPSec VPN performance. The Cisco uBR925 Cable Access Router also offers a USB port that the Cisco uBR924 Cable Access Router did not.

Software Feature Sets

Q. Do the Cisco uBR900 Series Cable Access Routers run Cisco IOS® Software?

A. Yes, the Cisco uBR900 Series Cable Access Routers run Cisco IOS® Software.

Q. Why should business users and cable operators care about having Cisco IOS® Software technology in their Cisco uBR900 Series Cable Access Routers?

A. Cisco IOS® Software technology offers powerful features that have been appropriately engineered to meet the application requirements of business users. Cisco IOS® Software delivers advanced security, manageability, and QoS features today and provides investment protection through future software upgrades.

Q. What software feature sets are available for the Cisco uBR925 Cable Access Router at first customer ship (FCS)?

A. The Cisco uBR925 Cable Access Router comes with the following base image:

Value Telecommuter—Includes 56 bit (DES) IPSec; product ID is S90C7K8V

In addition, the following software upgrade options are available at extra cost:

- Performance Telecommuter—Includes 3DES IPsec; product ID is S90C7VK9
- Value Small Office—Includes firewall, 56-bit IPsec; Product ID is S90C8HK8V
- Performance Small Office—Includes firewall, 3DES IPsec; Product ID is S90C8HVK9

Q. Can you use Network Address Translation (NAT) with the Cisco uBR900 Series Cable Access Router?

A. Yes, all images come with Cisco Easy IP, which includes NAT, Port Address Translation (PAT), Dynamic Host Configuration Protocol (DHCP) Server, and Internet Protocol Control Protocol (IPCP).

Q. What are performance numbers for IPsec at DES and 3DES?

A. Performance depends on average packet size, but users can expect average downstream data rates greater than 2 Mbps for both DES and 3DES IPsec performance.

Q. What firewall features are available on the Cisco uBR900 Series Cable Access Router?

A. The Cisco uBR900 Series Cable Access Routers provide a full-featured, business-class firewall as an optional software license. This business-class solution provides a more robust alternative than partial security solutions such as NAT or packet filtering. The Cisco uBR900 Series Cable Access Routers provide the benefits of combining firewall and routing functionality into one platform, enabling an easy add-on for existing networks.

Q. Which routing protocols do the Cisco uBR900 Series Cable Access Routers support?

A. The Cisco uBR900 Series Cable Access Routers currently support RIP and RIP v2. Since the cable network is an IP-only network, only IP routing protocols will be supported on Cisco uBR900 Series Cable Access Routers.

Q. What type of LAN connections do the Cisco uBR900 Series Cable Access Router support?

A. The Cisco uBR905 Cable Access Router supports an integrated four-port 10BaseT Ethernet hub (RJ-45 connectors). The 10BaseT hub can connect to an external 10BaseT hub or switch, or directly to a PC Ethernet port (using a crossover cable) using inexpensive, unshielded twisted pair (UTP) wiring.

The Cisco uBR925 Cable Access Router supports an integrated four-port 10BaseT Ethernet hub (RJ-45 connectors) and a USB port. The 10BaseT hub can be connected in a similar way as described above for the Cisco uBR905 Cable Access Router. With both Ethernet and USB connections, the Cisco uBR925 Cable Access Router supports separate, simultaneous services. For example, the Ethernet LAN interface can utilize NAT, allowing users to operate small, private networks that provide true business-class features to small office LANs. At the same time, the USB port can be configured for transparent bridging that allows a second service to be offered to the PC connected to the USB port. Other configurations can also allow routing between the Ethernet and USB ports, offering additional network configuration options.

Hardware Functionality

Q. What are the DS, US, and DSNR LEDs on the front of the Cisco uBR900 Series Cable Access Router and what information do they provide?

A. These LEDs provide an at-a-glance picture of the radio frequency (RF) state of the product. These LEDs make installs and troubleshooting much easier for cable operators. These LEDs are not found on many competitors' cable CPE devices.

DS: Downstream LED:

- On = The Cisco uBR900 Series Cable Access Router has locked to a downstream frequency (channel).
- Off = The Cisco uBR900 Series Cable Access Router has not yet locked to a downstream frequency (channel) or has not yet located a digital signal.

US: Upstream LED:

- On = The Cisco uBR900 Series Cable Access Router has established upstream communications with the CMTS; the router has completed ranging state 2 (as per DOCSIS), has entered the provisioning state, and is communicating within 6 dB of desired final power level (generally within 3 dB).
- Off = The Cisco uBR900 Series Cable Access Router has not completed secondary ranging; the CMTS has heard from the router, however, and there is some upstream continuity.

DSNR: Downstream signal-to-noise ratio LED:

- On = The Cisco uBR900 Series Cable Access Router is receiving a quality, downstream signal; SNR is greater than 5 dB above the downstream lock threshold.
- Off = The Cisco uBR900 Series Cable Access Router is receiving low or marginal downstream signal strength or quality.

UPS: Uninterruptible Power Supply LED:

This LED is reserved for future use. Currently, there is no UPS option being sold with the Cisco uBR925 Cable Access Router.

For more information on other LEDs, please refer to the Cisco uBR905 and Cisco uBR925 Cable Access Router user reference guides.

Q. Which processor does the Cisco uBR900 Series Cable Access Router utilize?

A. The Cisco uBR900 Series Cable Access Routers use a Motorola MPC850 PowerQUICC running at 66 MHz.

Network Management

Q. How can the Cisco uBR900 Series Cable Access Router be managed?

A. The Cisco uBR900 Series Cable Access Routers support centralized management via Simple Network Management Protocol (SNMP), Telnet, Hypertext Transfer Protocol (HTTP), secure centralized management through Secure Shell (SSHv2), or local management through the router's console port.

Miscellaneous

Q. Does Cisco Configuration Express support the Cisco uBR900 Series Cable Access Router?

A. Yes, Cisco Configuration Express supports both the Cisco uBR905 and Cisco uBR925 Cable Access Routers.

Q. Is the Cisco uBR900 Series Cable Access Router CableLabs-certified?

A. The Cisco uBR905 Cable Access Router is CableLabs-certified to DOCSIS 1.0 specifications. The Cisco uBR925 Cable Access Router is in the process of being certified by CableLabs.

Q. Is the Cisco uBR900 Series Cable Access Router DOCSIS 1.1 compliant? If not, can it become compliant, and how?

A. The Cisco uBR905 and Cisco uBR925 Cable Access Routers are designed to DOCSIS 1.1 specifications. Cisco believes that these products will be certifiable to DOCSIS 1.1.

Q. Is there a EuroDOCSIS version of the Cisco uBR925 Cable Access Router?

A. The Cisco uBR925 Cable Access Router is designed to accept the EuroDOCSIS components using the same design as the Cisco uBR905 Cable Access Router. While it would be possible to create a European version without a lot of effort, the EuroDOCSIS market is still developing and business-class services are not a top priority for operators.

Q. What are the cable plant restrictions for the Cisco uBR900 Series Cable Access Routers?

A. The Cisco uBR905 and Cisco uBR925 Cable Access Routers are DOCSIS CPE devices. The cable plant must meet DOCSIS requirements.

Q. What cable CPE products does Cisco offer?

A. The Cisco uBR900 Series Cable Access Routers and Cisco CVA120 Series Cable Voice Adapters are Cisco cable CPE products. The Cisco uBR900 Series Cable Access Routers include the Cisco uBR905 and Cisco uBR925 Cable Access Routers. The Cisco CVA120 Series Cable Voice Adapters include the Cisco CVA122 and Cisco CVA122E Cable Voice Adapters.

Q. What are the primary differences between the Cisco CVA120 Series Cable Voice Adapters and the Cisco uBR900 Series Cable Access Routers?

A. The Cisco CVA120 Series Cable Voice Adapters support one Ethernet port and one USB port for data, and two telephony ports. Data capability is limited to IP routing and Cisco Easy IP. The product is primarily positioned as a flexible cable VoIP platform. On the other hand, the Cisco uBR900 Series Cable Access Routers support a rich set of Cisco IOS[®] Software features such as Cisco IOS[®] firewall and hardware-accelerated IPSec. The Cisco uBR905 and Cisco uBR925 Cable Access Routers feature a four-port Ethernet hub.

Q. Are the Cisco uBR900 Series Cable Access Routers available today?

A. The Cisco uBR905 Cable Access Router is shipping today. The Cisco uBR925 Cable Access Router is now orderable, with shipments planned for late-July 2001.



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