Welcome to Cisco Business Wireless Mesh Networking

Objective

This article gives an overview of Cisco Business wireless mesh networking including vocabulary, benefits, and components.

If you are unfamiliar with terms in this document, check out Cisco Business: Glossary of New Terms.

Applicable Devices | Software Version

- CBW 140AC (Data Sheet) | (Download latest)
- CBW 141ACM Mesh Extender (Data Sheet) | (Download latest)
- CBW 142ACM Mesh Extender (Data Sheet) | (Download latest)
- CBW 143ACM Mesh Extender (Data Sheet) | (Download latest)
- CBW 240AC (Data Sheet) | (Download latest)
- CBW 150AX (Data Sheet) | (Download latest)
- CBW 151AXM Mesh Extender (Data Sheet) | (Download latest)

Although this information is relevant for all Cisco Business Wireless APs, CBW 15x series devices are not compatible with CBW 14x/240 series devices and coexistence on the same LAN is not supported.

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Introduction

Have you ever watched a great soccer team? If you have, you probably noticed everyone working well together; each player passing the ball, performing quick substitutions, communicating often, and helping each other out as needed. Great teamwork leads to a positive outcome.

You can think about a wireless mesh network in that same way. Just like a great team, the access points work together to create a strong and successful network. A wireless mesh infrastructure uses the same resources as a traditional wireless network, however, it is configured differently, using equipment that is mesh capable.

What does a wireless mesh bring as a solution that other wireless technologies do not provide? Great question!

Wireless mesh networks provide superior performance compared to traditional wireless. Mesh ensures a level of resiliency, a layer of network management control, and a mechanism for dynamic resource allocation. Not only that, but unlike other technologies, it optimizes wireless client connectivity and performance. Sounds complicated, right?

Don’t worry, a significant amount of engineering and technology is put to work to make wireless mesh simple to use and deploy. Cisco Business is proud to offer this equipment as an option for your network.

Beginner Help

This toggled section highlights tips for beginners.

Logging In

Log into the Web User Interface (UI) of the Primary AP. To do this, open a web browser and enter https://ciscobusiness.cisco. You may receive a warning before proceeding. Enter your credentials.You can also access the Primary AP by entering https://[ipaddress] (of the Primary AP) into a web browser.

Tool Tips

If you have questions about a field in the user interface, check for a tool tip that looks like the following:

Trouble locating the Expand Main Menu icon?

Navigate to the menu on the left-hand side of the screen, if you don’t see the menu button, click this icon to open the side-bar menu.

Cisco Business App

These devices have companion apps that share some management features with the web user interface. Not all features in the Web user interface will be available in the App.

Download iOS App Download Android App

Frequently Asked Questions

If you still have unanswered questions, you can check our frequently asked questions document. FAQ

Let’s Increase your Mesh Vocabulary!

- **Access Point (AP)**: A device in a network that is used to allow users to connect to the Network wirelessly. Specific labels may be added to this depending on its function: Primary, Remote, Root, Subordinate, etc.
- **Wireless Mesh Network:** A type of topology where the wireless access points connect to each other to relay information. These networks work dynamically to adjust the needs and maintain connectivity for all users.
- **Primary AP:** The Primary AP provides management and control of the wireless network and topology. It is the bridge to the rest of the external network, (usually the Internet) using an Internet Service Provider (ISP). The Primary AP directly links to the premise router which in turn routes traffic to the WAN ISP interface. The Primary AP is the orchestrator of all the nodes providing wireless services within the mesh network. It manages information from the nodes on the network, each client connection quality and neighbor information in order to make the best decision on the best route for optimized wireless services out to the mobile client.
- **Preferred Primary:** A setting in which a specific Primary-capable AP is listed as preferred. If the Primary AP fails, the Preferred Primary AP will take over. Once the Preferred AP is back up, it does not automatically switch back over. You do not have designate a Preferred Primary.
- **Primary Capable or Secondary AP:** An AP that has a physical wired connection back to the network. This AP needs to be connected to Ethernet and can become the Primary AP if the Primary AP fails.
- **Mesh Extender:** A remote subordinate AP in the network that is not connected to the wired network.
- **Subordinate AP:** A general term that can be applied to any mesh AP that is not configured as a Primary.
- **Parent AP:** A parent AP is an AP that provides the best route back to the Primary AP.
- **Child AP:** A child AP is a mesh extender that selects the parent AP as its best route back to the Primary AP.
- **Upstream AP:** An upstream AP is a general term referring to the direction data flows through APs when going from the client to the server.
- **Downstream AP:** A downstream AP carries data from the Internet down to the client.
- **Co-located APs:** Mesh Extenders that are within broadcast range of the backhaul channel.
- **Nodes:** In this article, APs are referred to as nodes. In general, nodes describe any device that makes a connection or interaction within a network, or has the ability to send, receive, and store information, communicate with the internet, and has an IP address. In a mesh network, optimized radio parameters across all nodes assures maximum wireless coverage while reducing radio interference among nodes to provide superior data speeds and throughput.
- **Backhaul:** In a wireless mesh network, information in the Local Area Network (LAN) needs to get to a wired access point in order to reach the Internet. Backhaul is the process of getting that information back to the wired access point.

What Role can a Mesh Device Play on a Network?

Cisco Business Wireless access points are 802.11 a/b/g/n/ac (Wave 2) based, with internal antennas. These access points support the latest 802.11ac Wave 2 standard for higher performance, greater access, and higher-density networks.

Cisco Business models include the 140AC, 145AC, and the 240AC Access Point (AP) that can act as a Primary AP or a Primary Capable AP. The 141AC, 142AC, and the 143AC can only be configured as mesh extenders. All of the models listed above work with each other.

The CBW 150AX access points and 151AXM mesh extenders are the next generation of the Cisco Business Wireless Product line.

The major new feature is the implementation of 802.11ax, Wi-Fi 6. These new access points provide improved performance by increasing the efficacy of the network and its ability to manage higher numbers of devices.

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Primary AP / Primary Capable AP	Mesh Extender
Cisco Business 140AC Access Point	Cisco Business 141AC Mesh Extender
Cisco Business 145AC Access Point	Cisco Business 142AC Mesh Extender
Cisco Business 240AC Access Point	Cisco Business 143AC Mesh Extender
Cisco Business 150AX Access Point	Cisco Business 151AXM Mesh Extender

What Makes a Wireless Mesh Network Awesome?

Flexibility

Wi-Fi mesh finds an appropriate route to maintain connectivity to all mobile clients and applications that may be delivered where it’s needed most. This is an advantage over a traditional Wi-Fi extender, that creates a separate network and reduces bandwidth.