Cisco Aironet 3500 Series with CleanAir Technology

CleanAir Technology for Unified Wireless Networks

Cisco CleanAir technology is a systemwide feature of the Cisco Unified Wireless Network that improves air quality by:

- Detecting RF interference that other systems can't see
- Identifying the source and locating it on a floor plan
- Providing automatic adjustments to optimize wireless coverage around the interference

This innovative technology provides the following benefits:

- Self-healing and self-optimizing wireless networks
- Faster troubleshooting for less downtime
- Effective policy enforcement
- Layer 1 security

Q. How does Cisco® CleanAir technology eradicate interference?

A. Based on an application-specific integrated circuit (ASIC), Cisco CleanAir technology detects, classifies, locates, and mitigates interference automatically. It uses a database of classifiers on the access point itself to identify the Wi-Fi and non-Wi-Fi interferers to mitigate.

Q. Do we have any case studies showing the benefits on a particular customer's network and how Cisco CleanAir technology saves time and money and increases user satisfaction?

A. Yes, we have a total-cost-of-ownership (TCO) analysis that shows the value - directly - of implementing this technology. Please visit http://www.cisco.com/go/cleanair for details.

Q. How many elements of the Cisco wireless LAN (WLAN) suite must be "CleanAir-enabled" to get the benefits of stopping interference? Do access points plus the Cisco Wireless LAN Controller (WLC) plus the Cisco Wireless Control System (WCS) need to be enabled, or just access points?

A. You can deploy Cisco CleanAir technology effectively with just Cisco Aironet® 3500 Access Points and the Cisco WLC for simple detection and mitigation of RF interference. For added benefits such as location, zone of impact, policy enforcement, and visualization of air quality, you should also consider including the Cisco Mobility Services Engine (MSE) and the Cisco WCS.

Q. What are the differences between the functions of the old Cisco Spectrum Expert standalone product and the new Cisco Aironet 3500 Series with CleanAir technology? For example, is a separate "spectrum analyzer" tool still required to do a proper site survey?

A. Cisco CleanAir technology includes all troubleshooting functions from the spectrum analyzer in an integrated solution that you can now perform remotely instead of sending a technician to the site locally. You can still use a Cisco Spectrum Expert card for those facilities and areas that do not have the Cisco Aironet 3500 Series Access Points.

Q. What does “local mode” refer to?

A. Local mode refers to the “normal” access-point operation mode with CleanAir technology enabled when the Service Set Identifier (SSID) is tunneling data traffic back to the Cisco WLC with Control and Provisioning of Wireless Access Points (CAPWAP). Other access-point modes are Hybrid Remote Edge Access Point (HREAP), Monitor, Sniffer, and Spectrum Connect.

Q. Is the Cisco Aironet 3500 a dual-band radio? I assume so because it has two radios.

A. Yes, it comes in two versions: The Cisco Aironet 3502 is dual-band (dual-radio) and the Cisco Aironet 3501 is single-band (2.4 GHz) for those domains that do not support the 5-GHz frequency.

Q. Are 10-packs available?

A. Yes, the Cisco Aironet 3500 is delivered in 10-access point eco-packs that reduce packaging waste by more than 50% and can reduce shipping and installation costs.

Q. Does the Cisco Aironet 3500 support OfficeExtend (OEAP)?

A. Yes.

Q. Just to confirm that the Cisco Aironet 3500 Access Point with CleanAir technology has two roles: Does it allow users to associate with the access point for data? In addition, does it also monitor and report on the spectrum with active Radio Resource Management (RRM)?

A. The access point radios in 2.4- and 5-GHz scan the operating channels for interference while simultaneously serving clients, doing RRM and all other activities as usual. This advantage is unique because of the ASIC integration.

Q. Does the Cisco Aironet 3500 Access Point also include intrusion-prevention-system (IPS) detection?

A. The Cisco Aironet 3500 performs the traditional on- and off-channel scanning for rogues and other wireless attacks, threats, and vulnerabilities.

Q. How large can the coverage area be for an indoor scenario with the new Cisco Aironet 3500 Access Point?

A. The Cisco Aironet 3500 Access Point is designed to have the same coverage patterns as the existing 11n products such as the Cisco Aironet 1140, Aironet 1250, and Aironet 1260. In general, coverage is determined by the type of applications you are supporting: location, voice, data, etc.

Q. Is a mixed environment advisable with older access points in the same RF area as Cisco Aironet 3500s?

A. The ideal recommendation is pervasive Cisco Aironet 3500 deployment for full performance and functions of the Cisco CleanAir technology.

Q. Are there any concerns with supporting the new Cisco Aironet 3500 Series Access Points with the older Cisco 2000, 2100, 4100, or 4400 Series Wireless LAN Controllers?

A. The new Cisco Aironet 3500 Access Points with CleanAir technology require Cisco Unified Wireless Network software Release 7.0. Currently Cisco supports the Cisco Catalyst® 6500 Series Wireless Service Module (WiSM) and the Cisco 2100, 4400, and 5500 Series Wireless LAN Controllers.

Q. Is the Cisco Aironet 3500 supported in earlier releases of Cisco Unified Wireless Network software Release 7.0?

A. No, it is supported only by Cisco Unified Wireless Network software Release 7.0 and new releases going forward.

Q. What about the power consumption of the Cisco Aironet 3500 compared to that of the Cisco Aironet 1250?

A. Cisco Aironet 3500 Series Access Points with dual band and CleanAir technology enabled all operate under 13W, and can be powered by standard 802.3af Power over Ethernet (PoE).

Q. Are bundles available with the Cisco 5508 Wireless LAN Controller and many access points?

A. There are no plans to introduce a bundle with the Cisco 5500 WLC and the Cisco Aironet 3500 Access Point.

Q. I already have numerous Cisco Aironet 1142 Access Points to cover my whole enterprise. Should I buy Cisco Aironet 3500 Access Points and have a mix in the same Cisco WLC?

A. Yes, you can mix Cisco Aironet 3500 and older access points on the same Cisco WLC. General guidance is to put the Cisco Aironet 3500 Access Points in the "same area" for spectrum coverage, and then deploy Cisco Aironet 3500 Access Points in monitor mode for already-deployed areas for full CleanAir monitoring. For local-mode deployments where you want data-serving clients along with CleanAir, it is best to deploy Cisco Aironet 3500 Series Access Points pervasively.

Q. Is it correct to have a mixed system with Cisco Aironet 1131 and Cisco Aironet 3500 Access Points?

A. You can use them on the same controller, but our recommendation is to deploy Cisco Aironet 3500s in monitor mode to provide spectrum analysis over existing Cisco Aironet 1130 deployments. Generally it is poor network design to mix data-serving 11n and non-11n access points in the same coverage area.

Q. Is there a trade-in program for Cisco Aironet 1131 Series Access Points where CleanAir technology is supported in all platforms of a WLC? For example, with the Cisco Aironet 2100 Series?

A. There is a good Trade-In, Trade-To program upgrade to the Cisco Aironet 3500s. Cisco CleanAir technology is supported on all current WLC platforms. For more information, please visit: http://www.cisco.com/web/partners/sell/technology/wireless/promotions.html.

Cisco CleanAir Technology with Cisco MSE

Q. Does this work with the locations device?

A. Cisco CleanAir technology works with the Cisco MSE. It does not work with the older Cisco 2700 Series Wireless Location Appliances. With Cisco MSE, you can locate interference sources along with clients, tags, and rogue access point or clients.

Q. What are the prerequisites on the Cisco MSE to add these endpoint tracking licenses?

A. The customer must have the Context Aware software running on the Cisco MSE. As long as the customer has the software on the Cisco MSE and has reached a maximum from the license perspective and tracking clients and tags, the incremental licenses will apply automatically as the system detects the new Cisco Aironet 3500 Series on the network.

Additionally, the Cisco MSE automatically detects when a Cisco Aironet 3500 Series comes onto its network and automatically provides five endpoint (interferer) tracking licenses at no cost, with a total of 100 maximum across the network. For additional tracking requirements, the customer would then buy additional licenses.

Q. If I have only a Cisco WCS, can I try to detect one noise or interferer at a time? Is it necessary to have a Cisco MSE?

A. No, you need the Cisco MSE to provide interference-location capabilities, history, and cross-controller interference correlation (that is, One microwave heard by six access points = One microwave in the system).

Cisco CleanAir Technology with Cisco WCS

Q. Does the Cisco WCS Plus option support Cisco CleanAir technology?

A. The Cisco WCS Plus option is not a requirement, but it is a recommended part of the solution if you want to use the Cisco MSE functions with Cisco WCS, including interference location, history tracking, and cross-correlation and de-duplication of interference events on the WLC. Technically, the Cisco WCS Plus option is a requirement to use Cisco MSE with Cisco WCS.

Q. What is the URL for the Cisco Smart Business Architecture (SBA)?

A. You can locate additional information about the Cisco SBA at: http://www.cisco.com/go/partner/smartarchitecture.

Q. Where can I find information about network assessments?

A. You can locate information about network assessments on Partner Central at: http://www.cisco.com/web/partners/pr11/incentive/core.html.

Q. Where can I find more information about Cisco CleanAir technology?

A. The launch URL for the technology is http://www.cisco.com/go/partnercleanair.

Q. Are there any additional training sessions for Cisco CleanAir technology?

A. Yes, the CleanAir technology launch page has some training sessions, and some additional sessions will be added. Visit http://www.cisco.com/go/partnercleanair to get the latest information.

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