The bridge to possible

Cisco Embedded Wireless Controller on Catalyst Access Points

Contents

Product overview

The Cisco® Embedded Wireless Controller on Catalyst® Access Points (EWC-AP) is the next-generation Wi-Fi solution, combining the most advanced controller – the Cisco Catalyst 9800 Series Wireless Controllers – with the latest Wi-Fi 6 access points – the Cisco Catalyst 9100 Access Points – creating a best-in-class wireless experience for your evolving and growing organization.

With the 9800 Series wireless controller embedded on the Cisco Catalyst 9100 Access Points, organizations can now benefit from enterprise-class resiliency, security, and IT simplicity for single or multisite enterprise deployments.

Built for intent-based networking and Cisco DNA, the EWC-AP helps you simplify complexity, optimize IT, and reduce operational costs by leveraging intelligence, automation, and human expertise that no other vendor can deliver, regardless of where you are in the intent-based networking journey.

Table 1. Highlights

Metric	Value
Maximum number of access points	Up to 100
Maximum number of clients	Up to 2000
Maximum number of WLANs	16
Deployment modes	Cisco FlexConnect®
Maximum FlexConnect APs per site	100
License	Smart License enabled
Operating system	Cisco IOS® XE Software
Management	Cisco DNA Center 1.3.2, integrated WebUI, mobile app, and third party (open standards APIs)
Policy engine	Cisco Identity Services Engine (ISE) 2.2, 2.3, and 2.4
Access points	Cisco Catalyst 9100 Access Points and Aironet® 802.11ac Wave 2 access points (Catalyst 9105AXW and Wave 2 access points operate in client serving mode only)

Table 2.   Features and benefits

Feature	Benefits
Resiliency	• With active and standby controllers running simultaneously on two 9100 access points, redundancy keeps your network, services, and clients always on, even in unplanned events • Seamless software updates enable faster resolution of critical issues and introduction of new access points with minimal downtime
Security	• Rogue detection, classification, and containment • 802.1X supplicant support on EWC-AP • Walled garden and DNS ACLs
Management	• Cisco DNA Center for Automation and Assurance • Dashboard (web browser) and easy-to-use mobile app for deploying, provisioning, and monitoring • Standards-based interoperability tools using programmable interfaces • Open standards-based programmability with NETCONF and YANG
Guest	• Central web authentication, local web authentication, and BYOD • Cisco DNA Spaces integration for personalized and relevant guest experience
Intelligent Capture	• Intelligent Capture probes the network and provides Cisco DNA Center with deep analysis. The software can track over 240 anomalies and instantaneously review all packets on demand, emulating the onsite network administrator. This feature allows for more informed decisions on your wireless networks
Apple features	• Apple and Cisco have partnered to create an optimal mobile experience for iOS devices on corporate networks based on Cisco technologies. Using new features in iOS 10, in combination with the latest software and hardware from Cisco, businesses can now more effectively use their network infrastructure to deliver an enhanced user experience across all business applications • At the center of the collaboration is a unique handshake between the Cisco WLAN and Apple devices. This handshake enables the Cisco WLAN to provide an optimal Wi-Fi roaming experience to Apple devices. Additionally, the Cisco WLAN trusts Apple devices and gives priority treatment for business-critical applications specified by the Apple device. This feature is also known as Fast Lane
Wi-Fi 6 (802.11ax) and RF features	• Cisco RF Application-Specific Integrated Circuit (ASIC): On 9100 access points with the RF ASIC, the access point can perform advanced RF spectrum analysis and delivers features such as Cisco CleanAir®, Wireless Intrusion Prevention System (WIPS), Fast Locate,* and Dynamic Frequency Selection (DFS) detection (*Future) • Uplink/downlink OFDMA: Orthogonal Frequency-Division Multiple Access (OFDMA)–based scheduling splits the bandwidth into smaller chunks called Resource Units (RUs), which can be allocated to individual clients in both the downlink and uplink directions to reduce overhead and latency • MU-MIMO: Multiuser Multiple-Input Multiple-Output (MU-MIMO) enables access points to split spatial streams between client devices to maximize throughput • BSS coloring: Spatial reuse (also known as Basic Service Set (BSS) coloring) allows the access points and their clients to differentiate between BSSs, thus permitting more simultaneous transmissions • Target Wake Time (TWT): TWT is a new power-saving mode that allows the client to stay asleep and to wake up only at prescheduled (target) times to exchange data with the access point. This offers significant energy savings for battery-operated devices, up to 3x to 4x compared to 802.11n and 802.11ac • Flexible Radio Assignment: Allows the access points to intelligently determine the operating mode of serving radios based on the RF environment

Aesthetically redesigned for the next-generation enterprise

The Cisco Embedded Wireless Controller on Catalyst Access Points is built from the ground up to leverage the new aerodynamic look and smooth finish, RF excellence and next-generation technologies of the Catalyst 9100 series of access points to provide a best-in-class wireless experience without compromise.

Cisco DNA support

Pairing the EWC-AP with the Cisco Digital Network Architecture (Cisco DNA) allows for a total network transformation. Cisco DNA allows you to truly understand your network with real-time analytics, quickly detect and contain security threats, and easily provide networkwide consistency through automation and virtualization.

Working together, the EWC-AP and Cisco DNA offer such features as:

- Cisco DNA Spaces
- Cisco Identity Services Engine
- Cisco DNA Analytics and Assurance

The result? Your network stays relevant, becomes digital ready, and is the lifeblood of your organization.

Licensing

Cisco Embedded Wireless Controller on Catalyst Access Points licensing is dependent on each customer's specific use case.

Use case A: The Embedded Wireless Controller (EWC) can be used for small deployments where EWC is only managed using the smart dashboard or mobile app. For this use case, a Cisco DNA subscription license and Smart Licensing is not required for any access point connecting to the EWC.

Use case B: The Embedded Wireless Controller (EWC) can be used for distributed office deployments with a need to manage multiple EWC networks from a centralized manager. For this use case, a Cisco DNA subscription license and Smart Licensing is required. This enables the customer to use Cisco DNA Center for automation and assurance, or if they are interested in advance resiliency features (such as Software Maintenance Updates (SMU), AP Service Pack (APSP), or AP Device Pack (APDP)).

If you're not sure what Smart Licensing is or need more information, visit the [Smart Licensing](#) page. This provides ease of use for Cisco DNA license management, consumption, and tracking. It includes vastly simplified perpetual base network licenses (both Network Essentials and Advantage) and term-based software subscription licenses (Cisco DNA Essentials, Advantage, and Premier). The Cisco DNA software subscription licenses, in addition to on-box capabilities, also unlock additional functionality in Cisco DNA Center, enabling controller-based software-defined automation and assurance in your network. In order to connect any access points to the embedded wireless controller, Cisco DNA software subscription licenses are required. Subscription licenses are purchased when a customer buys an access point.

The Cisco Embedded Wireless Controller on Catalyst Access Points supports three types of Cisco DNA software subscription: Cisco DNA Essentials, Cisco DNA Advantage, and Cisco DNA Premier. These licenses provide Cisco innovations on the access point and are bundled with the Network Essentials and Network Advantage perpetual licensing options, which cover wireless fundamentals such as 802.1X authentication, Quality of Service (QoS), Plug and Play (PnP), etc., plus telemetry and visibility, Stateful Switchover (SSO), and security controls. Cisco DNA subscription licenses are purchased for a 3-, 5-, or 7-year subscription term. Upon expiration of the Cisco DNA software subscription license, the Cisco DNA features will expire, whereas the Network Essentials or Network Advantage features will remain in effect.

Note that it is not required to deploy Cisco DNA Center just to use one of the above packages. Refer to https://www.cisco.com/c/dam/en/us/products/collateral/software/one-wireless-subscription/q-and-a-c67-739601.pdf for additional details about the Network Essentials and Advantage packages.

For information about feature support, please refer to the Cisco Catalyst 9100 Access Points Release Notes.

Managing licenses with Smart Accounts

Creating Smart Accounts by using the Cisco Smart Software Manager enables you to order devices and licensing packages and also manage your software licenses from a centralized website. You can set up the Smart Account to receive daily email alerts and to be notified of expiring add-on licenses that you want to renew. A Smart Account is mandatory for Cisco Catalyst 9100 Access Points. For more information on Smart Accounts, refer to https://www.cisco.com/go/smartaccounts.

Software requirements

The Cisco Embedded Wireless Controller on Catalyst Access Points runs on Cisco IOS XE Software version 16.12.2 or later.

Table 3.   Minimum software requirements

Part number	Description	Minimum software requirement
C9105AXI-EWC-x	Cisco Embedded Wireless Controller on Catalyst Access Points: Indoor environments, with internal antennas (Regulatory domains: (x = regulatory domain)	Cisco IOS XE Software Release 17.4.1 or later
C9115AXI-EWC-x **C9117AXI-EWC-x** **C9120AXI-EWC-x** **C9130AXI-EWC-x**		Cisco IOS XE Software Release 16.12.2 or later
C9115AXE-EWC-x **C9120AXE-EWC-x** **C9130AXE-EWC-x**	Cisco Embedded Wireless Controller on Catalyst Access Points: Indoor, challenging environments, with external antennas (Regulatory domains: (x = regulatory domain)	Cisco IOS XE Software Release 16.12.2 or later
C9120AXP-EWC-x	Cisco Embedded Wireless Controller on Catalyst Access Points: Indoor, professional installations (Regulatory domains: (x = regulatory domain)	Cisco IOS XE Software Release 16.12.2 or later

Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular country, visit https://www.cisco.com/go/aironet/compliance.

Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.

Warranty information

The Cisco Embedded Wireless Controller on Catalyst Access Points comes with a limited lifetime warranty that provides full warranty coverage of the hardware for as long as the original end user continues to own or use the product. The warranty includes 10-day advance hardware replacement and ensures that software media are defect-free for 90 days. For more details, visit https://www.cisco.com/go/warranty.

Your embedded software is subject to the Cisco End User License Agreement (EULA) (link available below) and/or any Supplemental EULA (SEULA) or specific software warranty terms for additional software products loaded on the device.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance
Sustainability Inquiries	Contact: csr_inquiries@cisco.com

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Cisco and partner services

With Cisco Services, you can achieve infrastructure excellence faster with less risk. From initial WLAN readiness assessment to implementation, full solution support, and in-depth training, our services for the Cisco Embedded Wireless Controller on Catalyst Access Points provide expert guidance to help you successfully plan, deploy, manage, and support your EWC access points. With unmatched networking expertise, best practices, and innovative tools, Cisco Services can help you reduce overall upgrade, refresh, and migration costs as you introduce new hardware, software, and protocols into the network. With a comprehensive lifecycle of services, Cisco experts will help you minimize disruption and improve operational efficiency to extract maximum value from your Cisco DNA-ready infrastructure.

Ordering information

Table 4. Ordering information

Part number	Description
C9105AXI-EWC-x C9115AXI-EWC-x C9117AXI-EWC-x C9120AXI-EWC-x C9130AXI-EWC-x	Cisco Embedded Wireless Controller on Catalyst Access Points: Indoor environments, with internal antennas (Regulatory domains: (x = regulatory domain)
C9115AXE-EWC-x C9120AXE-EWC-x C9130AXE-EWC-x	Cisco Embedded Wireless Controller on Catalyst Access Points: Indoor, challenging environments, with external antennas (Regulatory domains: (x = regulatory domain)
C9120AXP-EWC-x	Cisco Embedded Wireless Controller on Catalyst Access Points: Indoor, professional installations (Regulatory domains: (x = regulatory domain)

Cisco Capital

Flexible payment solutions to help you achieve your objectives

Cisco Capital® financing makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services, and complementary third-party equipment in easy, predictable payments. Learn more.

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