Cisco Embedded Wireless Controller on Catalyst Access Points

General information

What is the Cisco® Embedded Wireless Controller on Catalyst Access Points?
A The Cisco Embedded Wireless Controller on Catalyst Access Points is a next-generation enterprise Wi-Fi solution in which the Cisco Catalyst 9800 Series Wireless Controller is embedded on Cisco Catalyst 9100 Access Points.

The Embedded Wireless Controller (EWC) on Catalyst Access Points is specifically designed and built for single or multisite enterprise locations. Like the 9800 Series Wireless Controller, the EWC on Catalyst Access Points is resilient, secure, and intelligent; is open and programmable; supports streaming telemetry; and yet is simple to deploy and manage.

What operating system does the Embedded Wireless Controller run?
A The EWC uses the same code as the 9800 Series, so it runs Cisco IOS® XE.

Which Cisco Catalyst 9100 Access Points can run the Embedded Wireless Controller?
A All Cisco Catalyst 9100 Access Points (the 9115AX, 9117AX, 9120AX, and 9130AX Series) can run the EWC.

What are the scale limits for the Embedded Wireless Controller on Catalyst Access Points?
A The Cisco Catalyst 9115AX and 9117AX Series Access Points running the EWC support up to 50 Access Points and 1000 clients. The Catalyst 9120AX and Catalyst 9130AX Series running the EWC support up to 100 Access Points and 2000 clients.

Can the Access Point running the Embedded Wireless Controller also service wireless clients?
A Yes, the Access Point running the EWC can also service clients at the same time.

Can 802.11ac Wave 1 or 802.11ac Wave 2 Access Points join an Embedded Wireless Controller network?
A 802.11ac Wave 2 Access Points can join an EWC network and service clients, but they cannot run the EWC function on the Access Points. Please note that 802.11ac Wave 1 Access Points are not supported with the EWC on Catalyst Access Points.

Can I mix and match different Access Points in an Embedded Wireless Controller deployment?
A Yes, you can mix and match different Cisco Catalyst 9100 Access Points in an EWC deployment.
What differentiates the Embedded Wireless Controller from competitive solutions?

There are several differentiators. Unlike competitors, the Cisco EWC solution provides:

- High availability with active and standby controllers running simultaneously on two Cisco Catalyst 9100 Access Points
- Software maintenance updates providing hot patching of the controller, AP device pack, and AP service pack
- Cisco DNA Center support for Plug and Play, Automation, and Assurance, including Intelligent Capture
- Advanced RF features such as Flexible Radio Assignment and Cisco CleanAir® technology
- Automatic configuration of wireless best practices derived from more than 10 years of experience with large- and medium-scale implementations

Can I convert an Access Point running CAPWAP to an Embedded Wireless Controller?

Yes, all 802.11ax CAPWAP Access Points can be converted to an EWC and vice versa.

What are the licensing requirements for the Embedded Wireless Controller?

Cisco Catalyst 9100 Access Points bought with the EWC software will have Cisco DNA term-based licensing.

What are the management options for the Embedded Wireless Controller?

The EWC can be managed using Cisco DNA Center for multisite deployment, or using a web browser or a standalone mobile app for single-site deployment.

Does Cisco DNA Center support the Embedded Wireless Controller on Catalyst Access Points?

Yes, all Cisco DNA Center Automation and Assurance use cases are supported for the EWC.

What WLANs are supported on the Embedded Wireless Controller on Catalyst Access Points?

The EWC supports a variety of WLAN options, such as open WLAN, WPA2-PSK, WAP2-Enterprise (802.1X), and guest WLAN, which includes central web authentication and local web authentication with an internal and external splash page.
**Q** Is Application Visibility and Control (AVC) supported on the Cisco Embedded Wireless Controller on Catalyst Access Points?

A: Yes, AVC is supported on the EWC.

**Q** Is Application Visibility and Control (AVC) supported on the Cisco Embedded Wireless Controller on Catalyst Access Points?

A: Yes, AVC is supported on the EWC.

**Q** Does redundency supported on the Cisco Embedded Wireless Controller on Catalyst Access Points?

A: Yes, all EWC access points are capable of running the controller function. When subordinated EWC-capable 9100 APs join, the active EWC access point selects a standby EWC access point based on an algorithm, and active–standby redundancy is formed. In the event of a failure of the active ECA access point, the standby EWC access point becomes active automatically and new standby is selected.

**Q** How do I upgrade the software for the Embedded Wireless Controller on Catalyst Access Points and connected Access Points?

A: You can upgrade using Secure FTP (SFTP), Trivial FTP (TFTP), and HTTP. In addition, you can download software from Cisco.com. The EWC centrally manages the software image distribution for the Access Points connected to the virtual wireless LAN controller.

**Q** Is Guest Anchor supported on the Cisco Embedded Wireless Controller on Catalyst Access Points?

A: No, Guest Anchor is not yet supported on the EWC.

**Q** If my needs should change, can I transition from the Embedded Wireless Controller on Catalyst Access Points to an appliance-based WLAN controller deployment in the future to scale up the number of Wireless Access Points and clients I can support?

A: Yes, you can simply point your EWC-enabled Access Points to the Cisco Catalyst 9800 Series WLAN controller IP address as the primary controller. This is independent of modes. The WLAN controller will push the right software image and respective configuration to your Access Points.
**Do I need Smart Account for EWC?**
Yes, a Smart Account is required for an EWC deployment.

**How do I migrate my Mobility Express network to EWC network?**
For migration, a Mobility Express controller configuration can be converted to an equivalent EWC controller config via Wireless Config Converter Tool. The converted configuration should then be imported to the EWC controller. You can also use DNA Center Migration Flow to move Mobility Express to EWC.

**What are the key difference between Mobility Express and EWC?**
The key differences are – EWC is IOS-XE based. It supports advanced enterprise feature set like SMU, APDP, APSP, Intelligent Capture which Mobility Express does not support.

EWC has High Availability with active-standby redundancy with less than 10 seconds of downtime. EWC also enables customers to use them for Site Surveys.

**What are the key difference between a Catalyst 9800 appliance-based solution and EWC?**
EWC is meant to address flex deployments while also saving the user space, since an on-premise device does not need to be installed. Aside from the number of access points and devices supported, the feature differences between the two controller types are minimal.

### Ordering

**Do I need to enter a specific SKU when ordering the Cisco Embedded Wireless Controller on Catalyst Access Points?**
Please see Table 1 for product IDs (SKUs) for ordering the Cisco Embedded Wireless Controller on Catalyst Access Points.

<table>
<thead>
<tr>
<th>SKU</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C9115AXI-EWC-x</td>
<td>Cisco Catalyst 9115AXI Access Point, internal antenna</td>
</tr>
<tr>
<td>C9115AXE-EWC-x</td>
<td>Cisco Catalyst 9115AXE Access Point, external antenna</td>
</tr>
<tr>
<td>C9117AXI-EWC-x</td>
<td>Cisco Catalyst 9117AXI Access Point, internal antenna</td>
</tr>
<tr>
<td>C9120AXI-EWC-x</td>
<td>Cisco Catalyst 9120AXI Access Point, internal antenna</td>
</tr>
<tr>
<td>C9120AXE-EWC-x</td>
<td>Cisco Catalyst 9120AXE Access Point, external antenna</td>
</tr>
<tr>
<td>C9120AXP-EWC-x</td>
<td>Cisco Catalyst 9120AXP Access Point, professional install</td>
</tr>
<tr>
<td>C9130AXI-EWC-x</td>
<td>Cisco Catalyst 9130AXI Access Point, internal antenna</td>
</tr>
</tbody>
</table>

**Note:** x = regulatory domain. Please visit https://www.cisco.com/go/aironet/compliance for details