



# Configuring Embedded Access Points

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## Embedded Access Points

Controller software release 7.0.116.0 or later releases support the embedded access points: AP801 and AP802, which are the integrated access points on the Cisco 880 Series Integrated Services Routers (ISRs). This access points use a Cisco IOS software image that is separate from the router Cisco IOS software image. The access points can operate as autonomous access points configured and managed locally, or they can operate as centrally managed access points that utilize the CAPWAP or LWAPP protocol. The AP801 and AP802 access points are preloaded with both an autonomous Cisco IOS release and a recovery image for the unified mode.

The following are some guidelines for embedded access points:

- Before you use an AP801 or AP802 Series Lightweight Access Point with controller software release 7.0.116.0 or later releases, you must upgrade the software in the Next Generation Cisco 880 Series Integrated Services Routers (ISRs) to Cisco IOS 151-4.M or later.



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**Note** In Release 7.4, all AP modes except bridging (required for mesh) are supported for both AP801 and AP802. In Release 7.5 and later, all AP modes are supported on AP802; however, bridging is not supported on AP801.

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- When you want to use the AP801 or AP802 with a controller, you must enable the recovery image for the unified mode on the access point by entering the **service-module wlan-ap 0 bootimage unified** command on the router in privileged EXEC mode.
- If the **service-module wlan-ap 0 bootimage unified** command does not work, make sure that the software license is still eligible.
- After enabling the recovery image, enter the **service-module wlan-ap 0 reload** command on the router to shut down and reboot the access point. After the access point reboots, it discovers the controller, downloads the full CAPWAP or LWAPP software release from the controller, and acts as a lightweight access point.




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**Note** To use the CLI commands mentioned above, the router must be running Cisco IOS Release 12.4(20)T or later releases.

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- To support CAPWAP or LWAPP, the router must be activated with at least the Cisco Advanced IP Services IOS license-grade image. A license is required to upgrade to this Cisco IOS image on the router. For licensing information, see [http://www.cisco.com/c/en/us/td/docs/routers/access/sw\\_activation/SA\\_on\\_ISR.html](http://www.cisco.com/c/en/us/td/docs/routers/access/sw_activation/SA_on_ISR.html).

- After the AP801 or AP802 boots up with the recovery image for the unified mode, it requires an IP address to communicate with the controller and to download its unified image and configuration from the controller. The router can provide DHCP server functionality, the DHCP pool to reach the controller, and setup option 43 for the controller IP address in the DHCP pool configuration. Use the following configuration to perform this task:

```
ip dhcp pool pool_name
network ip_address subnet_mask
dns-server ip_address
default-router ip_address
option 43 hex controller_ip_address_in_hex
```

Example:

```
ip dhcp pool embedded-ap-pool
network 60.0.0.0 255.255.255.0
dns-server 171.70.168.183
default-router 60.0.0.1
option 43 hex f104.0a0a.0a0f /* single WLC IP address(10.10.10.15) in hex format
*/
```

- The AP801 and AP802 802.11n radio supports lower power levels than the 802.11n radio in the Cisco Aironet 1250 series access points. The AP801 and AP802 access points store the radio power levels and passes them to the controller when the access point joins the controller. The controller uses the supplied values to limit the user's configuration.
- The AP801 and AP802 access points can be used in FlexConnect mode.

For more information about the AP801, see the documentation for the Cisco 800 Series ISRs at <http://www.cisco.com/c/en/us/support/routers/800-series-routers/tsd-products-support-series-home.html>.

For more information about the AP802, see the documentation for the Next generation Cisco 880 Series ISRs at [http://www.cisco.com/c/dam/en/us/td/docs/routers/access/800/860-880-890/software/configuration/guide/SCG\\_880\\_series.pdf](http://www.cisco.com/c/dam/en/us/td/docs/routers/access/800/860-880-890/software/configuration/guide/SCG_880_series.pdf).