

# 在非SDA EWC-Switch(C9800-SW)上配置和板载AP

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## 简介

本文档介绍在非SDA部署（没有正在使用的Cisco DNA中心）中，在Catalyst 9000(Catalyst 9K)交换机(EWC-Switch)上加入并调配带有嵌入式无线控制器的接入点(AP)的过程。

## 先决条件

### 要求

您需要执行以下必备条件：

- 将无线子软件包安装在将用作无线LAN控制器(WLC)的Catalyst 9K交换机上。
- 确保环回接口已配置，以便将其配置为无线管理接口(WMI)。
- 确保启用对Catalyst 9K交换机的GUI访问，因为建议通过GUI进行配置。



注：仅17.3.X版本支持非SDA部署上的EWC-Switch。

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### 使用的组件

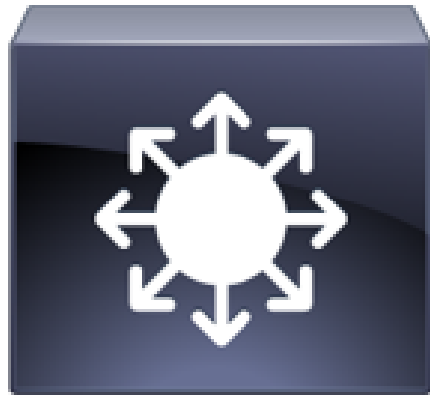
本文档中的信息基于以下软件和硬件版本：

- C9300-24P交换机，Cisco IOS® XE版本17.3.4
- 版本17.3.4的无线子包
- C9120-AX AP

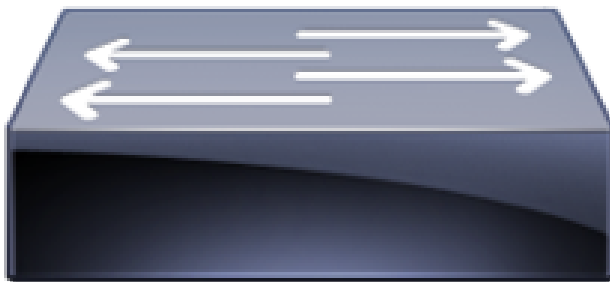
本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

## 配置

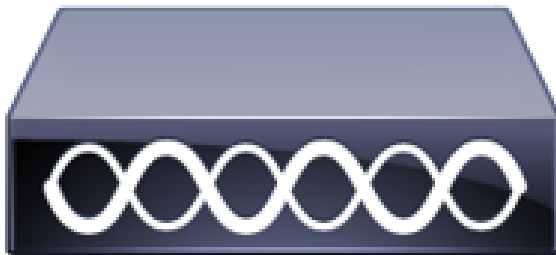
## 网络图



C9300 Switch  
EWC-Switch




Layer 2  
Switch



允许AP直接连接到EWC-Switch，但这不是要求。建议使用接入交换机插入AP，以便在主用EWC交换机发生故障时实现高可用性(HA)故障切换。

## 配置

步骤1:为将要部署AP的地理位置配置国家/地区代码。这是强制性的，以使AP能够注册，并确保符合其部署所在国家/地区的管制范围准则。在GUI中，导航到Configuration > Wireless > Access Points，然后单击Country选项卡。选择所有适用的国家/地区代码以匹配AP的管制范围。

 注意：在17.3.1到17.3.3的版本中，EWC交换机GUI会列出国家/地区代码，但不会应用任何选择，直到通过CLI添加一个国家/地区代码，如Cisco bug ID [CSCvw20478](#)中所述。配置了一个国家/地区代码后，您可以通过GUI添加更多国家/地区代码。

Configuration > Wireless > Access Points

> All Access Points

> 5 GHz Radios

> 2.4 GHz Radios

> Dual-Band Radios

▼ Country

[Click here](#) for list of access point models and protocols supported per country and regulatory domain.

Selected Country MX, US

Apply

Regulatory Domain

802.11a/n/ac: [ Indoor: -ABN, Outdoor: -ABN ]

802.11b/g/n: [ Indoor: -A, Outdoor: -ABN ]

Q Search

	Country Code	Name
<input type="checkbox"/>	MY	Malaysia
<input type="checkbox"/>	MO	Macau
<input type="checkbox"/>	MT	Malta
<input checked="" type="checkbox"/>	MX	Mexico
<input type="checkbox"/>	MY	Malaysia
<input type="checkbox"/>	NG	Nigeria
<input type="checkbox"/>	NL	Netherlands
<input type="checkbox"/>	NO	Norway

CLI配置 ( 17.3.1到17.3.3 ) :

```
<#root>
```

```
9300-1#
```

```
configure terminal
```

```
9300-1(config)#
```

```
ap dot11 5ghz shutdown
```

Disabling the 802.11a network may strand mesh APs.

Are you sure you want to continue? (y/n)[y]:

y

```
9300-1(config)#
```

```
ap dot11 24ghz shutdown
```

Disabling the 802.11b network may strand mesh APs.  
Are you sure you want to continue? (y/n)[y]:

y

```
9300-1(config)#
```

```
wireless country MX
```

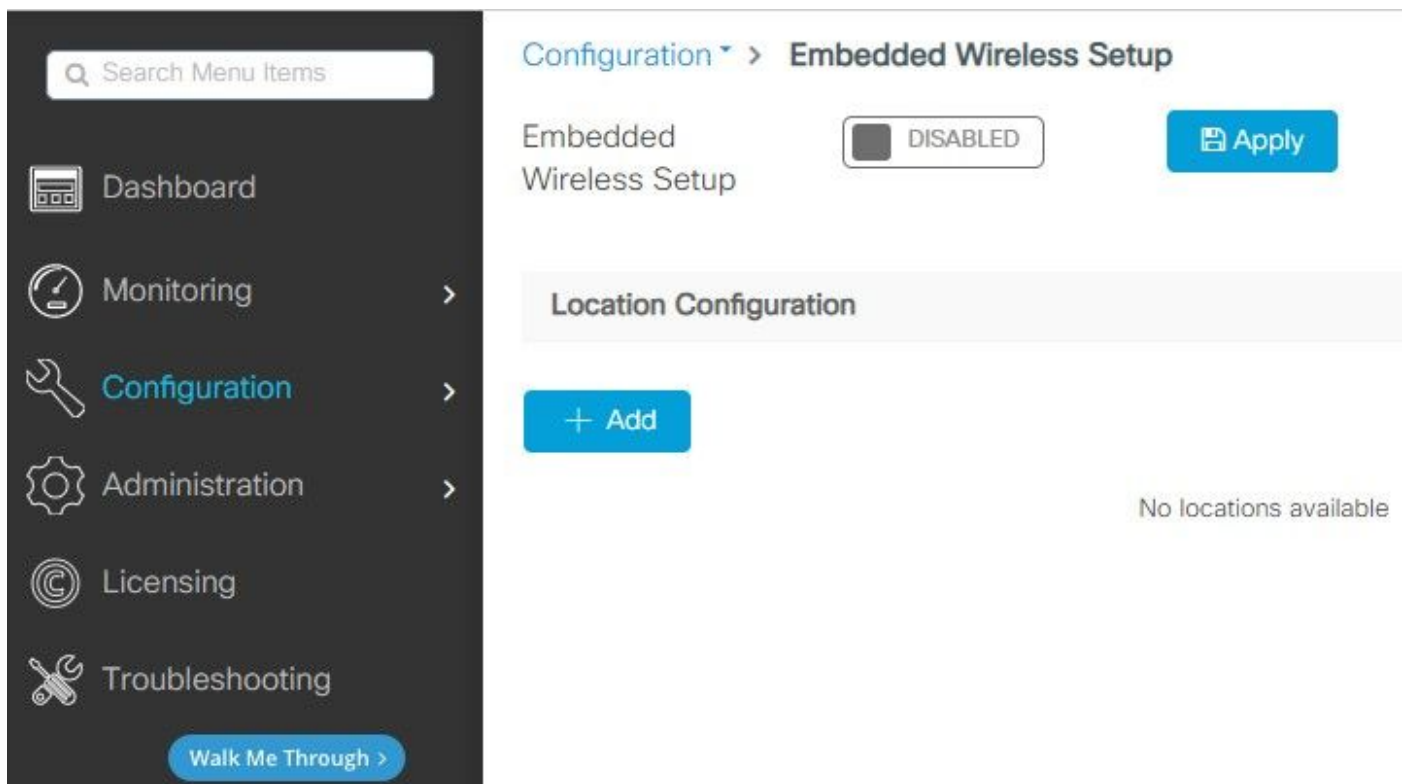
```
9300-1(config)#
```

```
no ap dot11 5ghz shutdown
```

```
9300-1(config)#
```

```
no ap dot11 24ghz shutdown
```

第二步：启用无线控制器功能并配置AP将驻留的VLAN。导航到Configuration > Embedded Wireless Setup，将幻灯片Embedded Wireless Setup到Enabled，并在Location Configuration下，单击+ Add。



启用嵌入式无线设置后，这些命令会被推送到CLI。这些CLI在Catalyst 9K交换机上启用lisp交换矩阵，因此它将用作控制平面/映射服务器节点、具有环回作为WMI的无线控制器以及到控制平面映射的WLC，以允许AP和客户端入网。

<#root>

9300-1(config)#

router lisp

9300-1(config-router-lisp)#

locator-table default

9300-1(config-router-lisp)#

locator-set rloc\_ewlc

9300-1(config-router-lisp-locator-set)#

IPv4-interface Loopback0

9300-1(config-router-lisp-locator-set)#

auto-discover-rlocs

9300-1(config-router-lisp-locator-set)#

exit-locator-set

9300-1(config-router-lisp)#

locator-set WLC

9300-1(config-router-lisp-locator-set)#

9300-1(config-router-lisp-locator-set)#

exit-locator-set

9300-1(config-router-lisp)#

service ipv4

9300-1(config-lisp-srv-ipv4)#

encapsulation vxlan

9300-1(config-lisp-srv-ipv4)#

itr map-resolver

9300-1(config-lisp-srv-ipv4)#

etr map-server

key

9300-1(config-lisp-srv-ipv4)#

etr map-server

proxy-reply

9300-1(config-lisp-srv-ipv4)#

etr

9300-1(config-lisp-srv-ipv4)#

sgt

9300-1(config-lisp-srv-ipv4)#

no map-cache away-eids send-map-request

9300-1(config-lisp-srv-ipv4)#

proxy-etr

9300-1(config-lisp-srv-ipv4)#

proxy-itr

```
9300-1(config-lisp-srv-ipv4)#
```

```
map-server
```

```
9300-1(config-lisp-srv-ipv4)#
```

```
map-resolver
```

```
9300-1(config-lisp-srv-ipv4)#
```

```
exit-service-ipv4
```

```
9300-1(config-router-lisp)#
```

```
service ethernet
```

```
9300-1(config-lisp-srv-eth)#
```

```
itr map-resolver
```

```
9300-1(config-lisp-srv-eth)#
```

```
itr
```

```
9300-1(config-lisp-srv-eth)#
```

```
etr map-server
```

```
key
```

```
9300-1(config-lisp-srv-eth)#
```

```
etr map-server
```



**proxy-reply**

9300-1(config-lisp-srv-eth)#

**etr**

9300-1(config-lisp-srv-eth)#

**map-server**

9300-1(config-lisp-srv-eth)#

**map-resolver**

9300-1(config-lisp-srv-eth)#

**exit-service-ethernet**

9300-1(config-router-lisp)#

**ipv4 source-locator Loopback0**

9300-1(config-router-lisp)#

**map-server session passive-open WLC**

9300-1(config-router-lisp)#

**exit**

9300-1(config)#

**interface LISP0**

9300-1(config-if)#

**exit**

9300-1(config)#

**router lisp**

9300-1(config-router-lisp)#

```
site site_uci
```

```
9300-1(config-router-lisp-site)#
```

```
description map-server configured from Wireless LAN Controller
```

```
9300-1(config-router-lisp-site)#
```

```
authentication-key
```

```
9300-1(config-router-lisp-site)#
```

```
exit-site
```

```
9300-1(config-router-lisp)#
```

```
exit-router-lisp
```

```
9300-1(config)#
```

```
ip dhcp relay information option
```

```
9300-1(config)#
```

```
wireless fabric
```

```
9300-1(config)#
```

```
wireless management interface Loopback0
```

```
9300-1(config-mgmt-interface)#
```

```
exit
```

```
9300-1(config)#
```

```
wireless fabric control-plane default-control-plane
```

```
9300-1(config-wireless-cp)#
```

```
ip address
```

```
key 0
```

```
9300-1(config-wireless-cp)#
```

```
exit
```

第三步：在General选项卡中的弹出窗口生成的第2步后，输入Location Name和AP Onboarding详细信息，如VLAN和子网掩码。默认情况下，VLAN字段预填为2045。允许使用不同的VLAN ID，但VLAN ID必须介于2045和4094之间，并且必须独立于客户端流量（不允许有线或无线客户端使用此VLAN）。完成详细信息后，点击Apply

Configuration > Embedded Wireless Setup

Location Configuration

[← Back](#)

**General**   Wireless Networks   AP Provisioning

Location Name*	<input type="text" value="EWC-Location"/>	<b>AP Onboarding</b>	
Description	<input type="text" value="Enter Description"/>	VLAN*	<input type="text" value="2674"/>
Client Density	<input type="range" value="Typical"/>	IP Address*	<input type="text" value="172.16.80.1"/>
	Low   Typical   High	Subnet Mask*	<input type="text" value="255.255.255.0"/>
		DHCP Server*	<input type="text" value="172.16.80.1"/>

这会为AP创建VLAN，为该AP VLAN创建SVI（AP的默认网关）、AP位置、策略和RF标记以及L2和L3虚拟网络标识符(VNID)。作为步骤3的结果，这些命令在CLI中可见。

```
<#root>
```

```
9300-1(config)#
```

```
interface LISP0.4097
```

```
9300-1(config-subif)#
```

```
router lisp
```

```
9300-1(config-router-lisp)#
```

```
locator-set rloc_ewlc
```

```
9300-1(config-router-lisp-locator-set)#
exit-locator-set

9300-1(config-router-lisp)#
instance-id 4097

9300-1(config-lisp-inst)#
remote-rloc-probe on-route-change

9300-1(config-lisp-inst)#
dynamic-eid APONBOARDING_0_2674_4097_8188

9300-1(config-lisp-inst-dyn-eid)#
database-mapping 172.16.80.0/24 locator-set rloc_ewlc

9300-1(config-lisp-inst-dyn-eid)#
exit-dynamic-eid

9300-1(config-lisp-inst)#
service ipv4

9300-1(config-lisp-inst-srv-ipv4)#
eid-table default

9300-1(config-lisp-inst-srv-ipv4)#
map-cache 172.16.80.0/24 map-request

9300-1(config-lisp-inst-srv-ipv4)#
route-export site-registrations

9300-1(config-lisp-inst-srv-ipv4)#
distance site-registrations 250

9300-1(config-lisp-inst-srv-ipv4)#
map-cache site-registration

9300-1(config-lisp-inst-srv-ipv4)#
exit-service-ipv4

9300-1(config-lisp-inst)#
exit-instance-id
```

9300-1(config-router-lisp)#

instance-id 8188

9300-1(config-lisp-inst)#

remote-rloc-probe on-route-change

9300-1(config-lisp-inst)#

service ethernet

9300-1(config-lisp-inst-srv-eth)#

eid-table vlan 2674

9300-1(config-lisp-inst-srv-eth)#

database-mapping mac locator-set rloc\_ewlc

9300-1(config-lisp-inst-srv-eth)#

exit-service-ethernet

9300-1(config-lisp-inst)#

exit-instance-id

9300-1(config-router-lisp)#

site site\_uci

9300-1(config-router-lisp-site)#

eid-record instance-id 4097 172.16.80.0/24 accept-more-specifics

9300-1(config-router-lisp-site)#

eid-record instance-id 8188 any-mac

9300-1(config-router-lisp-site)#

exit-site

9300-1(config-router-lisp)#

exit

9300-1(config)#

vlan 2674

9300-1(config-vlan)#

```
name AP_VLAN2674
```

```
9300-1(config-vlan)#
```

```
exit
```

```
9300-1(config)#
```

```
interface Vlan2674
```

```
9300-1(config-if)#
```

```
description APONBOARDING_0_2674_4097_8188
```

```
9300-1(config-if)#
```

```
mac-address 0000.0C9F.FAD1
```

```
9300-1(config-if)#
```

```
ip address 172.16.80.1 255.255.255.0
```

```
9300-1(config-if)#
```

```
ip helper-address 172.16.80.1
```

```
9300-1(config-if)#
```

```
no ip redirects
```

```
9300-1(config-if)#
```

```
ip route-cache same-interface
```

```
9300-1(config-if)#
```

```
no lisp mobility liveness test
```

```
9300-1(config-if)#
```

```
ip directed-broadcast
```

```
9300-1(config-if)#
```

```
lisp mobility APONBOARDING_0_2674_4097_8188
```

```
9300-1(config-if)#
```

```
exit
```

```
9300-1(config)#
```

```
wireless fabric name APONBOARDING_0_2674_4097_8188 12-vnid 8188 13-vnid 4097 ip 172.16.80.0 255.255.255.0
```

第四步：配置Catalyst 9K交换机，使其也充当AP VLAN的DHCP服务器并创建相应的DHCP池。导航到管理> DHCP池，然后单击+添加。设置池名称和网络参数，确保将默认网关设置为SVI IP地址；否则，AP会部分加入控制器。

### Create DHCP Pool

Basic  Advanced

DHCP Pool Name\*  (1-236 Characters)

IP Type

Network\*

Subnet Mask\*

Starting ip\*

Ending ip\*

Reserved Only  DISABLED

Lease\*

(0-365 days)  (0-23 hours)  (0-59 minutes)

### Create DHCP Pool

Basic  Advanced

Enable DNS Proxy

Default Router(s)  +

IP Address	Remove
172.16.80.1	×

DNS Server(s)  +

IP Address	Remove
No items to display	

NetBios Name Server(s)  +

IP Address	Remove
No items to display	

Domain

DHCP Options List

CLI 配置：

```
<#root>
```

```
9300-1#
```

```
configure terminal
```

```
9300-1(config)#
```

```
ip dhcp excluded-address 172.16.80.0 172.16.80.9
```

```
9300-1(config)#
```

```
ip dhcp pool
```

```
9300-1(dhcp-config)#
```

```
network 172.16.80.0 255.255.255.0
```

```
9300-1(dhcp-config)#
```

```
default-router 172.16.80.1
```

第五步：将交换机端口配置为接入模式，并将其分配给先前定义的VLAN。

```
<#root>
```

```
3850-1(config)#
```

```
interface
```

```
3850-1(config-if)#
```

```
switchport mode access
```

```
3850-1(config-if)#
```

```
switchport access vlan
```



第六步：导航到Configuration > Embedded Wireless Setup，然后选择在步骤3中创建的站点。单击AP Provisioning选项卡，从Available AP列表中选择需要调配的AP，然后单击蓝色箭头图标将其更改为Associated AP list。将感兴趣的所有无线接入点分配给特定位置后，单击Apply。

**⚠ 注意:**EWC-Switch允许手动创建和分配标签；但是，这不是支持的配置，唯一支持的标签分配是由Location Assignment进行的。EWC-Switch上仅支持一个位置，因此所有AP必须位于同一子网中并分配到同一位置。

The screenshot shows the 'AP Provisioning' interface. On the left, under 'Add/Select APs', the 'Available AP list' contains one entry: AP MAC 5ce1.7629.2b40 and AP Name APSCE1.7629.2B40. A blue arrow icon is highlighted in the top right of this list. On the right, under 'APs on this Location', the 'Associated AP list' is empty, showing 'Number of selected APs : 0'.

The screenshot shows the 'AP Provisioning' interface after the AP has been added. On the left, the 'Available AP list' is now empty, showing 'Number of selected APs : 0'. On the right, the 'Associated AP list' now contains one entry: AP MAC 5ce1.7629.2b40 and AP Name APSCE1.7629.2B40, with a status of 'Joined'. A blue 'Apply' button is highlighted in the top right of the 'Associated AP list' section.

此步骤将此配置添加到EWC-Switch:

<#root>

```
9300-1(config)#  
ap location name EWC-Location
```

```
9300-1(config-ap-location)#  
ap-eth-mac
```

```
9300-1(config-ap-location)#  
tag policy EWC-Location
```

```
9300-1(config-ap-location)#  
tag rf EWC-Location
```

对添加到位置的每个AP重复执行ap-eth-mac <AP mac address> 命令。一个站点将支持多达500个AP。

## 验证

使用此命令可验证WMI和AP Onboard的VLAN创建和状态。

```
<#root>
```

```
9300-1#
```

```
show wireless fabric summary
```

```
Fabric Status : Enabled
```

```
Control-plane:
```

```
Name IP-address Key Status
```

```
-----  
default-control-plane 172.16.0.1 ciscoeca Up
```

```
Fabric VNID Mapping:
```

```
Name L2-VNID L3-VNID IP Address Subnet Control plane name
```

```
-----  
APONBOARDING_0_2674_4097_8188 8188 4097 172.16.80.0 255.255.255.0
```

使用以下命令验证AP注册状态：

```
<#root>
```

```
9300-1#
```

```
show wireless stats ap join summary
```

```
Number of APs: 1
```

```
Base MAC Ethernet MAC AP Name IP Address Status Last Failure Phase Last Disconnect Reason
```

```
-----  
ac4a.569c.f560 5ce1.7629.2b40
```

```
AP5CE1.7629.2B40 172.16.80.10 Joined
```

```
Run Tag modified
```

```
9300-1#show fabric ap summary
```

```
Number of Fabric AP : 1
```

```
AP Name Slots AP Model Ethernet MAC Radio MAC Location Country IP Address State
```

```
-----  
AP5CE1.7629.2B40
```

```
2 9120AXI 5ce1.7629.2b40 ac4a.569c.f560 default location US
```

```
172.16.80.10 Registered
```

使用此命令验证AP的VxLAN隧道状态。

```
<#root>
```

```
9300-1#
```

```
show access-tunnel summary
```

```
Access Tunnels General Statistics:
```

```
Number of AccessTunnel Data Tunnels = 1
```

```
Name RLOC IP(Source) AP IP(Destination) VRF ID Source Port Destination Port
```

```
-----  
Ac0 172.16.0.1 172.16.80.10 0 N/A 4789
```

```
Name IfId Uptime
```

```
-----  
Ac0 0x00000069 0 days, 00:20:11
```

使用此命令验证AP标记分配。AP必须具有相同的标记并在源下显示位置。

```
<#root>
```

```
9300-1#
```

```
show ap tag summary
```

```
Number of APs: 1
```

```
AP Name AP Mac Site Tag Name Policy Tag Name RF Tag Name Misconfigured Tag Source
```

```
-----  
AP5CE1.7629.2B40
```


```
5ce1.7629.2b40 default-site-tag
```

```
EWC-Location EWC-Location
```

```
No
```

```
Location
```

---

 注：在本示例中，172.16.0.1是Loopback0 IP地址（即无线管理），且AP会加入该地址。由于这是机箱中的交换矩阵，因此所有交换矩阵组件也指向它。

---

## 故障排除

### 条件调试和无线电主动跟踪

启用条件调试并捕获无线活动(RA)跟踪以对加入进程进行故障排除，RA跟踪为与指定条件（本例中为AP MAC地址）交互的所有进程提供调试级别跟踪。要启用条件调试，请执行以下步骤。

步骤1:确保未启用调试条件。

```
<#root>
```

```
9300-1#
```

```
clear platform condition all
```

第二步：为要监控的AP MAC地址启用调试条件。

默认情况下，monitor-time为30分钟（1800秒）。您可以增加调试以运行最多2085978494秒。

```
<#root>
```

```
9300-1#
```

debug wireless mac

{monitor-time

}


9300-1#

debug wireless mac


{monitor-time

}

---

 注：要调试多个AP，请对每个AP的无线电和以太网MAC地址运行debug wireless mac命令。只有以太网MAC调试会显示DTLS事务。

---

 注意:C9800调试在存储和流程模式下运行。也就是说，调试不会显示在终端会话上，并且所有日志都会在内部缓冲，以便稍后查看。

---

第三步：从AP CLI退回无线接入点交换机端口或capwap重置AP以捕获完整跟踪。

第四步：如果在默认或配置的监控器时间开启之前重现问题，则停止调试。

```
<#root>
```

```
9300-1#
```

```
no debug wireless mac
```

```
9300-1#
```

```
no debug wireless mac
```

监控时间过后或手动停止debug wireless后，EWC-Switch会生成一个名为：

ra\_trace\_MAC\_aaaabbbbcccc\_HHMMSS.XXX\_timezone\_DayWeek\_Month\_Day\_year.log

第五步：收集 MAC 地址活动的文件。 您可以选择将ra trace.log复制到外部服务器以进行脱机分析，或直接在终端会话上显示输出。由于生成的跟踪日志数量较大，因此最好选择脱机分析。

检查 RA 跟踪文件的名称。

```
<#root>
```

```
9300-1#
```

```
dir flash: | inc
```

```
ra_trace
```

将文件复制到外部服务器：

```
<#root>
```

```
9300-1#
```

```
copy flash:
```

```
ra_trace_MAC_<AP_RADIO_MAC>_HHMMSS.XXX_timezone_DayWeek_Month_Day_year.log
```

```
tftp://
```

```
/
```

```
ra-AP_RADIO_MAC.txt
```

```
9300-1#
```

```
copy flash:
```

```
ra_trace_MAC_<AP_ETHERNET_MAC>_HHMMSS.XXX_timezone_DayWeek_Month_Day_year.log
```

```
tftp://
```

/

```
ra-AP_ETHERNET_MAC.txt
```

要显示终端会话上的tracelogs，请执行以下操作：

```
<#root>
```

```
9300-1#
```

```
more flash:
```

```
ra_trace_MAC_<AP_RADIO_MAC>_HHMMSS.XXX_timezone_DayWeek_Month_Day_year.log  
9300-1#
```

```
more flash:
```

```
ra_trace_MAC_<AP_ETHERNET_MAC>_HHMMSS.XXX_timezone_DayWeek_Month_Day_year.log
```

第六步：如果根本原因不明显，请收集内部日志，后者是tracelogs的更详细视图。您无需再次调试客户端，因为命令提供已收集并内部存储的调试日志。

```
<#root>
```

```
9300-1#
```

```
show logging profile wireless internal filter
```

```
to-file flash:
```

```
ra-internal-<AP_RADIO_MAC>.txt
```

```
9300-1#
```


```
show logging profile wireless internal filter
```



```
to-file flash:
```

```
ra-internal-<AP_RADIO_MAC>.txt
```

---

 **注意：**此命令输出返回所有进程的所有日志记录级别的跟踪，而且数量相当大。请与技术支持中心(TAC)联系，以帮助分析这些跟踪。

---

```
<#root>
```

```
9300-1#
```

```
copy flash:
```

```
ra-internal-<AP_RADIO_MAC>.txt
```

```
tftp://
```

```
/
```

```
ra-internal-<AP_RADIO_MAC>.txt
```

```
9300-1#
```

```
copy flash:
```

```
ra-internal-<AP_RADIO_MAC>.txt
```

```
tftp://
```

/

```
ra-internal-<AP_RADIO_MAC>.txt
```

要显示终端会话上的tracelogs，请执行以下操作：

```
<#root>
```

```
9300-1#
```

```
more flash:
```

```
ra-internal-<AP_RADIO_MAC>.txt
```


```
9300-1#
```

```
more flash:
```

```
ra-internal-<AP_ETHERNET_MAC>.txt
```

步骤 7.删除调试条件。

---

 注：请务必在排除故障后删除调试条件。

---

## 成功的AP加入示例

这是从RA跟踪角度进行的成功连接尝试的输出。使用日志样本验证AP在哪个阶段被阻塞。

CAPWAP发现请求和响应：

```
<#root>
```

```
2021/09/30 17:49:13.823492 {wncmgrd_R0-0}{1}: [capwapac-discovery] [7353]: (note): MAC: ac4a.569c.f560
```

```
Discovery Request received
```

```
2021/09/30 17:49:13.823519 {wncmgrd_R0-0}{1}: [capwapac-discovery] [7353]: (note): MAC: ac4a.569c.f560
```

```
2021/09/30 17:49:13.823793 {wncmgrd_R0-0}{1}: [ewlc-infra-evq] [7353]: (debug): instance :0 port:12289M
```

```
2021/09/30 17:49:13.824314 {wncmgrd_R0-0}{1}: [capwapac-discovery] [7353]: (note): MAC: ac4a.569c.f560
```

```
2021/09/30 17:49:13.824414 {wncmgrd_R0-0}{1}: [capwapac-discovery] [7353]: (note): MAC: ac4a.569c.f560
```

```
Discovery Response sent
```

证书有效性检查的DTLS握手：

<#root>

2021/09/30 17:49:23.259157 {wncd\_x\_R0-0}{1}: [capwapac-smgr-srvr] [7770]: (note): MAC: ac4a.569c.f560

DTLS session create callback received.

2021/09/30 17:49:23.259393 {wncd\_x\_R0-0}{1}: [capwapac-smgr-sess] [7770]: (info): Session-IP: 172.16.80

2021/09/30 17:49:23.259406 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 22, ha

2021/09/30 17:49:23.259406 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (info):

DTLS client hello

2021/09/30 17:49:23.260931 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 22, ha

2021/09/30 17:49:23.260931 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (info):

DTLS client hello

2021/09/30 17:49:23.267234 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 22, ha

2021/09/30 17:49:23.267332 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 22, ha

2021/09/30 17:49:23.267891 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 22, ha

2021/09/30 17:49:23.270741 {wncd\_x\_R0-0}{1}: [ewlc-dtls-sessmgr] [7770]: (info): Remote Host: 172.16.80

Completed cert verification, status:CERT\_VALIDATE\_SUCCESS

2021/09/30 17:49:23.608757 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 22, ha

2021/09/30 17:49:23.608990 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 20, ch

2021/09/30 17:49:23.609255 {wncd\_x\_R0-0}{1}: [ewlc-dtls-sess] [7770]: (info): Remote Host: 172.16.80.10

2021/09/30 17:49:23.609348 {wncd\_x\_R0-0}{1}: [capwapac-smgr-sess] [7770]: (info): Session-IP: 172.16.80

2021/09/30 17:49:23.609361 {wncd\_x\_R0-0}{1}: [capwapac-smgr-srvr] [7770]: (info): Session-IP: 172.16.80

DTLS session has been established for AP

2021/09/30 17:49:23.650838 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 23, ap

CAPWAP加入请求和响应：

<#root>

2021/09/30 17:49:23.650970 {wncd\_x\_R0-0}{1}: [capwapac-smgr-sess] [7770]: (info): Session-IP: 172.16.80

2021/09/30 17:49:23.650972 {wncd\_x\_R0-0}{1}: [capwapac-smgr-sess] [7770]: (note): MAC: ac4a.569c.f560

Received CAPWAP join request

2021/09/30 17:49:23.652901 {wncd\_x\_R0-0}{1}: [rrm-client] [7770]: (ERR): ac4a.569c.f560 Failed to overr

2021/09/30 17:49:23.653789 {wncd\_x\_R0-0}{1}: [rrm-client] [7770]: (ERR): ac4a.569c.f560 Failed to overr

2021/09/30 17:49:23.653959 {wncd\_x\_R0-0}{1}: [apmgr-capwap-join] [7770]: (info): ac4a.569c.f560 Retrie

2021/09/30 17:49:23.653967 {wncd\_x\_R0-0}{1}: [apmgr-db] [7770]: (info): ac4a.569c.f560 Operation state

2021/09/30 17:49:23.654039 {wncd\_x\_R0-0}{1}: [apmgr-capwap-join] [7770]: (note): MAC: ac4a.569c.f560

Successfully processed Join request

. AP name: AP5CE1.7629.2B40, Model: C9120AXI-B, radio slots: 2, rlan slots: 0, site tag name: default-s  
policy tag name: EWC-Location, rf tag name: EWC-Location

2021/09/30 17:49:23.654112 {wncmgrd\_R0-0}{1}: [ewlc-infra-evq] [7353]: (note): Msg type :mesg->msgtype  
2021/09/30 17:49:23.654233 {wncd\_x\_R0-0}{1}: [capwapac-smgr-srvr] [7770]: (info): MAC: ac4a.569c.f560 J  
2021/09/30 17:49:23.654311 {wncd\_x\_R0-0}{1}: [capwapac-smgr-srvr] [7770]: (note): MAC: ac4a.569c.f560  
Join processing complete. AP in joined state

## CAPWAP配置 :

<#root>

2021/09/30 17:49:23.947851 {wncd\_x\_R0-0}{1}: [apmgr-ap-global] [7770]: (info): ac4a.569c.f560 Lispagent  
2021/09/30 17:49:23.948023 {wncd\_x\_R0-0}{1}: [capwapac-smgr-srvr] [7770]: (info): Session-IP: 172.16.80  
Config status request was processed and Config status response was sent. AP in Configuration state.

2021/09/30 17:49:23.948157 {wncd\_x\_R0-0}{1}: [lisp-agent-db] [7770]: (ERR): Invalid source IP address t  
2021/09/30 17:49:23.948344 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (note): Map request msg sent succ  
2021/09/30 17:49:23.949993 {wncmgrd\_R0-0}{1}: [hl-core] [7353]: (debug): Radio change on AP ac4a.569c.f  
2021/09/30 17:49:23.950130 {wncmgrd\_R0-0}{1}: [hl-core] [7353]: (debug): Radio change on AP ac4a.569c.f  
2021/09/30 17:49:24.889682 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 23, ap  
2021/09/30 17:49:24.889807 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 23, ap  
2021/09/30 17:49:24.889992 {wncd\_x\_R0-0}{1}: [capwapac-smgr-sess] [7770]: (info): Session-IP: 172.16.80

Capwap message received, type: config\_status\_request

2021/09/30 17:49:24.890020 {wncd\_x\_R0-0}{1}: [capwapac-smgr-sess-fsm] [7770]: (info): Session-IP: 172.1  
2021/09/30 17:49:24.890045 {wncd\_x\_R0-0}{1}: [capwapac-smgr-srvr] [7770]: (info): Session-IP: 172.16.80  
2021/09/30 17:49:24.890048 {wncd\_x\_R0-0}{1}: [capwapac-smgr-sess] [7770]: (info): Session-IP: 172.16.80  
2021/09/30 17:49:24.890134 {wncd\_x\_R0-0}{1}: [apmgr-msgelem] [7770]: (info): ac4a.569c.f560 AP domain n  
2021/09/30 17:49:24.890135 {wncd\_x\_R0-0}{1}: [apmgr-msgelem] [7770]: (info): ac4a.569c.f560 AP IPv6 nam  
[...]  
2021/09/30 17:49:24.890818 {wncd\_x\_R0-0}{1}: [capwapac-smgr-srvr] [7770]: (info): Session-IP: 172.16.80  
Config status request was processed and Config status response was sent. AP in Configuration state

.  
2021/09/30 17:49:24.892967 {wncmgrd\_R0-0}{1}: [hl-core] [7353]: (debug): Radio change on AP ac4a.569c.f  
2021/09/30 17:49:24.892993 {wncmgrd\_R0-0}{1}: [hl-core] [7353]: (debug): Radio change on AP ac4a.569c.f  
2021/09/30 17:49:24.964085 {wncd\_x\_R0-0}{1}: [ewlc-infra-evq] [7770]: (debug): DTLS record type: 23, ap  
[...]  
2021/09/30 17:49:24.964384 {wncd\_x\_R0-0}{1}: [ble-d] [7770]: (debug): BLE LTX DB: Creating AP ac4a.569c  
2021/09/30 17:49:24.964474 {wncd\_x\_R0-0}{1}: [ble-d] [7770]: (debug): BLE LTX DB:

Successfully created AP

ac4a.569c.f560  
2021/09/30 17:49:24.964479 {wncd\_x\_R0-0}{1}: [ble-d] [7770]: (debug): BLE LTX DB: Setting capability  
2021/09/30 17:49:24.964479 {wncd\_x\_R0-0}{1}: [ble-d] [7770]: (debug): BLE LTX DB: Updating AP ac4a.569c  
2021/09/30 17:49:24.964483 {wncd\_x\_R0-0}{1}: [ble-d] [7770]: (debug): BLE LTX DB:

Successfully updated AP a

c4a.569c.f560

[...]

2021/09/30 17:49:25.000954 {wncd\_x\_R0-0}{1}: [apmgr-capwap-config] [7770]: (info): ac4a.569c.f560

AP is in config ready state. Initial configuration will be pushed.

```
2021/09/30 17:49:25.000972 {wncd_x_R0-0}{1}: [apmgr-capwap-config] [7770]: (info): ac4a.569c.f560 Sendi
2021/09/30 17:49:25.000975 {wncd_x_R0-0}{1}: [apmgr-capwap-config] [7770]: (info): Preparing FIPS confi
2021/09/30 17:49:25.000978 {wncd_x_R0-0}{1}: [apmgr-capwap-config] [7770]: (info): Preparing WLANCC con
2021/09/30 17:49:25.001064 {wncd_x_R0-0}{1}: [apmgr-ap-global] [7770]: (info): ac4a.569c.f560 AP is in
2021/09/30 17:49:25.001064 {wncd_x_R0-0}{1}: [apmgr-ap-global] [7770]: (info): ac4a.569c.f560
```

Mode update on AP join : AP already in Local mode which matches site configuration

```
2021/09/30 17:49:25.001081 {wncd_x_R0-0}{1}: [apmgr-db] [7770]: (info): ac4a.569c.f560 Tag process ap w
```

如果AP未处于Local模式，则会重新启动以应用模式更改。EWC-Switch控制台上会显示与以下内容类似的日志：

<#root>

```
*Sep 29 20:54:07.769: %APMGR_TRACE_MESSAGE-4-WLC_CONFIG_CHECKER_WARNING: Switch 1 R0/0: wncd: config ch
*Sep 29 20:54:07.769: %APMGR_TRACE_MESSAGE-3-WLC_EXEC_MSG: Switch 1 R0/0: wncd: % Error: AP: AP5CE1.762
will go for a reboot due to Mode change from Flexconnect to Local
```

## 关于此翻译

思科采用人工翻译与机器翻译相结合的方式将此文档翻译成不同语言，希望全球的用户都能通过各自的语言得到支持性的内容。

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