在Catalyst 9800无线控制器上具有802.1x AAA覆 盖的FlexConnect WLAN

目录

简介 <u>先决条件</u> 要求 使用的组件 配置 网络图 配置 9800 WLC上的AAA配置 WLAN 配置 将AP设置为FlexConnect模式 交换机配置 策略配置文件配置 策略标记配置 策略标记分配 ISE配置 验证 故障排除

简介

本文档介绍如何设置弹性无线LAN控制器(9800 WLC)和FlexConnect模式接入点(AP)以及使用虚拟 局域网(VLAN)身份验证、授权和记帐(AAA)本地交换的802.1x无线局域网(WLAN)。

先决条件

要求

Cisco 建议您了解以下主题:

- 9800 WLC配置模式
- FlexConnect

使用的组件

本文档中的信息基于以下软件和硬件版本:

• 9800 WLC v16.10

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。



网络图



配置

9800 WLC上的AAA配置

您可以按照以下链接的说明进行操作:

<u>9800 WLC上的AAA配置</u>

WLAN 配置

您可以按照以下链接的说明进行操作:

<u>WLAN 配置</u>

将AP设置为FlexConnect模式

与AireOS配置不同,在9800 WLC上,无法直接从AP配置AP本地模式或flexconnect模式。按照以 下步骤在FlexConnect模式下配置AP。 步骤1.配置Flex Profile。

导航至 配置>标记和配置文件>Flex 并修改默认Flex配置文件或单击+Add创建新配置文件。

Q Search Menu Items	Flex Profile			
🔜 Dashboard	+ Add × Delete			
(2) Monitoring	Flex Profile Name		~	Description
	default-flex-profile			default profile
Configuration	1 ≤ 1 ► ► 10	 items per page 		
() Administration	>			
X Troubleshooting				
Add Flex Profile				×
General Local Authentica	ation Policy ACL VLAN			
Name*	new-flex-profile	Multicast Cverridden Interface		
Description	New flex profile	Fallback Radio Shut		
Native VLAN ID	2601	ARP Caching	\checkmark	
	0	Efficient Image Upgrade	\checkmark	
HTTP Proxy Port	0	CTS Inline Tagging		
HTTP-Proxy IP Address	0.0.0.0	Office Extend AP		
		Join Minimum Latency		
ී Cancel			Sav	e & Apply to Device

步骤2.添加所需的VLAN(默认WLAN的VLAN或从ISE推送的VLAN)。

注意:在策略配置文**件配置**部分的步骤3中,选择分配给SSID的默认VLAN。如果在该步骤中 使用VLAN名称,请确保在Flex Profile配置中使用相同的VLAN名称,否则客户端将无法连接 到WLAN。

Edit Flex Pro	file
General	Local Authentication Policy ACL VLAN
+ Add	× Delete
VLAN Name	e v ID v ACL Name v
≪ ≪ 0	▶ ▶ 10 ▼ items per page
	No items to display

您可以选择为每个VLAN添加特定ACL。

VLAN Name*	vlan2602
VLAN Id*	2602
ACL Name	Select ACL
✓ Save	Cancel

或者,分配Radius服务器组以允许FlexConnect AP执行本地身份验证。

Edit Flex Profile			
General Local Authentic	Policy ACL	VLAN	
Radius Server Group	ISE-kcg-grp 🔻	LEAP	
EAP Fast Profile	Select Profile	PEAP	
		TLS	
		RADIUS	
Users			
+ Add X Delete			
Username		¥.	
≪ ≪ 0 ⊨ ⊨ 10	 items per page 		
	No items to	display	

步骤3.配置站点标记。

导航**至配置>标记和配置文件>标记>站点**。修改**default-site-tag**(默认为分配给所有AP的标记)或 创建新标记(单击**+添加**以创建新标记)。

Q Search Menu Items	Manage Tags
Dashboard	Policy Site RF AP
Monitoring >	+ Add × Delete
\sim Configuration \rightarrow	Site Tag Name
(○) Administration →	default-site-tag
💥 Troubleshooting	

确保禁用"**启用本地站**点"选项,否**则"Flex**配置文件"选项不可用。

Add Site Tag		×
Name*	new-flex-site	
Description	Enter Description	
AP Join Profile	default-ap-profile 🔻	
Flex Profile	new-flex-profile v	
Enable Local Site		-
Cancel		Save & Apply to Device

注意:任何获取已启用启用本地站点**的站点标**记的AP都配置为本地模式。同样,任何获取站 点标记且禁用**启用本地站**点的AP都配置为flexconnect模式。

步骤4.使AP关联到9800 WLC并分配步骤2中配置的站点标记。

导航至**Configuration > Wireless > Access Points > AP name**并设置Site标记。然后单**击更新并应用 到设**备以设置更改。

Q. Search Menu Items	Access Points	Edit AP			×
Dashboard	All APS Number of AP(s): 1	General Interfaces General	High Availability Inve	ntory Advanced Version	
⊘ Monitoring > ⊗ Configuration > ⊘ Administration > ⊗ Troubleshooting >	AP Name v AP Model v Base Radio MAC v AP Mode v Stat AP1702-05 AR-CAP1702I-A-K9 00:c Local En v Items per page Radios 802.11a/n/ac Radios 802.11b/g/n Dual-Band Radios	AP Name* Location* Base Radio MAC Ethernet MAC Admin Status AP Mode Operation Status Fabric Status	AP1702-05 default location 00:rd=strutestand0 00:rd=strutestand0 Enabled Local • Registered Disabled	Primary Software Version Predownloaded Status Predownloaded Version Next Retry Time Boot Version IOS Version Mini IOS Version IP Config	16.8.1.5 N/A N/A 15.3.0.0 15.5(200000000000000000000000000000000000
	> Country	Tags Policy Site	default-policy-tag v new-flex-site v	IP Address Static IP Time Statistics	172.16.0.200
		RF	default-rf-tag v	Up Time Controller Associated Time Controller Association Latency	0 days 19 hrs 8 mins 11 9cc3 0 days 18 hrs 57 mins 16 9ccs 0 days 0 hrs 10 mins 44
					secs
		Cancel			TUpdate & Apply to Device

注意: **请注意,在更改AP上的标记后,它将失去与9800 WLC的关联,并在大约1分钟内重新**加入。

步骤5. AP重新加入后,请注意AP模式为Flex



CLI

```
# config t
# wireless profile flex new-flex-profile
# arp-caching
# description "New flex profile"
# native-vlan-id 2601
# config t
# wireless tag site new-flex-site
# flex-profile new-flex-profile
# no local-site
# site-tag new-flex-site
# config t
# ap <eth-mac-address>
# site-tag new-flex-site
Associating site-tag will cause associated AP to reconnect
# exit
#show ap name <ap-name> config general | inc AP Mode
AP Mode
                                                 : FlexConnect
交换机配置
```

配置AP所连接的交换机接口。

config t
interface <int-id>
switchport trunk native vlan 2601
switchport mode trunk
spanning-tree portfast trunk
end

策略配置文件配置

在策略配置文件中,您可以决定将客户端分配到哪个VLAN,以及其他设置(如访问控制列表 [ACL]、服务质量[QoS]、移动锚点、计时器等)。

GUI

步骤1.配置要分配给WLAN的策略配置文件。

导航至Configuration > Tags & Profiles > Policy,然后创建新策略或修改default-policy-profile。

Q, Search Menu Items	Policy Profile	
Dashboard	+ Add × Delete	
	Policy Profile Name	Description
	default-policy-profile	default policy profile
Configuration	4 4 1 ⊨ ⊨ 10 • Items per page	
() Administration		
X Troubleshooting		

步骤2.从General选**项卡,**为Policy Profile分配名称,并将其状态更改为ENABLED。

Add Policy Profile				×
General	Access Policies	QOS and AVC	Mobility	Advanced
O Configuring in enabled	state will result in loss of connectiv	ity for clients associated w	ith this profile.	
Name*	new-policy-profile			
Description	Enter Description			
Status				
Cancel				Save & Apply to Device

步骤3.从Access Policies选**项卡**分配无线客户端在默认情况下连接到此WLAN时分配给的VLAN。

您可以从下拉列表中选择一个VLAN名称,或手动键入vlan id。

注意:如果从下拉列表中选择VLAN名称,请确保它与"将AP设置为FlexConnect模式"一节中第 2步中**使用的VLAN名称匹配。**

Add Policy Pr	ofile				×
General	Access Policies	QOS and AVC	Mobility	Advanced	
WLAN Local	Profiling		WLAN A	CL	
Local HTTP Pr	rofiling		IPv4 ACL	Search or Select	•
Radius HTTP F	Profiling		IPv6 ACL	Search or Select	•
Local DHCP P	rofiling				
Local Subscrit Name	Sea Sea	rch or Select			
VLAN					
VLAN/VLAN G	iroup VLA	N2602			
Cancel)			🖹 Save & Apply t	o Device

或

General	Access Poli	QOS and AVC	Mobility	Advanced
WLAN Local	Profiling		WLAI	N ACL
Local HTTP Pro	ofiling		IPv4 A	CL Search or Select
Radius HTTP P	rofiling		IPv6 A	CL Search or Select
.ocal DHCP Pr	ofiling			·
.ocal Subscrib Name	er Policy	Search or Select		
VLAN				

步骤4.导航至"高级"**选项卡,**并启用**Central Authentication Enable和**Allow AAA Overrideoptions。 **必须禁**用中央交换。

如果希望9800 WLC集中执行身份验证过程,则必须启用集中身份验证。如果希望FlexConnect AP对无线客户端进行身份验证,请禁用它。

General Access Policies QOS and AVC Mobility Advanced WLAN Timeout Fabric Profile Search or Select • Session Timeout (sec)* 300 Central Switching • de Timeout (sec)* 300 Central Authentication ✓ de Timeout (sec)* 300 Central Authentication ✓ de Timeout (sec)* 60 Central Authentication ✓ Client Exclusion Timeout (sec)* 60 Central Association • DHCP Enable Central Association • • DHCP Enable 0.0.0 WLAN Flex Policy • • DHCP Opt82 Enable 0.0.0 WLAN Flex Policy • • DHCP Opt82 Farable 0.0.0 WLAN Central Switching • • DHCP Opt82 RiD 0 O Split MAC ACL Search or Select • DHCP Opt82 RiD 0 O O • • • DHCP AP MAC 0 O O • • • DHCP AP IT MAC 0 O • • • • DHCP AP It MAC 0 O • • • • DHCP AP It MAC 0 • • • • • DHCP AP It MAC 0 • • • • • DHCP AP It MAC 0 • • • • • DHCP AP It MAC 0 • • • • • DHCP AP It M	t Policy Profi	le			
WLAN Timeout Fabric Profile Search or Select Session Timeout (sec)* 1800 WLAN Switching Policy die Timeout (sec)* 300 Central Switching die Timeout (sec)* 0 Central Authentication die Threshold (bytes)* 0 Central Authentication Client Exclusion Timeout (sec)* 60 Central Authentication DHCP 60 Central Authentication DHCP 60 Central Authentication DHCP 60 Central Authentication DHCP Enable 0.0.0.0 WLAN Fiex Policy DHCP Opt82 Enable 0.0.0.0 VLAN Fiex Policy DHCP Opt82 Enable VLAN Fiex Policy DHCP Opt82 RiD 0.0.0.0 DHCP Opt82 Format 0.0.0.0 DHCP AP MAC 0.0.0.0 DHCP AP IMAC 0.0.0.0 DHCP AP IMAC 0.0.0.0 DHCP AP IMAC 0.0.0.0 DHCP AP IMAC 0.0.0.0 DHCP AP ID 0.0.0.0 DHCP AP ID 0.0.0.0 DHCP AP ID 0.0.0.0 DHCP AP Location 0.0.0.0 DHCP AP Location 0.0.0.0 DHCP AP Location 0.0.0.0 DHCP AP Location 0.0.0.0 DHCP AP ID 0.0.0.0 DHCP AP Location 0.0.0.0 DHCP A	General	Access Policies	QOS and AVC	Mobility	Advanced
Session Timeout (sec)* 1800 WLAN Switching Policy dle Timeout (sec)* 300 Central Switching Central Switching die Timeout (sec)* 60 Central Authentication Central Authentication Client Exclusion Timeout (sec)* 60 DHCP Central Association DHCP 60 DHCP Central Authentication DHCP Enable Central Association DHCP Server IP Address 0.0.0 DHCP Opt82 Enable VLAN Fiex Policy DHCP Opt82 Rabile VLAN Central Switching DHCP Opt82 Rabile VLAN Central Switching DHCP Opt82 Rabile VLAN Central Switching DHCP Opt82 Rabile Split MAC ACL DHCP AP MAC Split MAC ACL DHCP AP ETH MAC Split MAC ACL DHCP Policy Tag Split MAC ACL DHCP VLAN ID Split MAC ACL AAA Policy VLAN Split Split MAC ACL VAC State Split Spli	WLAN Timeout			Fabric Profile	Search or Select 🗸
die Timeout (sec)* 300 die Timeout (sec)* 0 Central Authentication Central Authentication Client Exclusion Timeout (sec)* 60 Central Authentication Central Authentication DHCP Central Authentication DHCP Central Authentication DHCP Central Authentication DHCP Carboic Central Authentication DHCP Carboic Central Authentication DHCP Server IP Address 0.0.0 DHCP Opt82 Enable Image: Central Switching DHCP Opt82 Rable Image: Central Switching DHCP AP MAC Image: Central Switching DHCP AP Image: Central Switching Image: Central Switching DHCP A	Session Timeout	(sec)* 1800		WLAN Switching	Policy
Idle Threshold (bytes)* 0 Client Exclusion Timeout (sec)* 60 DHCP Central Authentication 【 DHCP Central Association DHCP Flex NAT/PAT DHCP Opt82 Enable 0.0.00 DHCP Opt82 Enable VLAN Central Switching DHCP Opt82 Enable Split MAC ACL DHCP Opt82 Format Split MAC ACL DHCP Opt82 Format OLOP Opt82 Format DHCP Opt82 Format OLOP Opt82 Format DHCP AP MAC OLOP Opt82 Format DHCP AP NAME OLOP Opt82 Format DHCP AP Iccation OLOP Opt82 Format DHCP VLAN ID OLOP Opt82 Format DHCP VLAN ID Subscription DHCP VLAN ID NAC State Policy Name Search or Select	Idle Timeout (sec	300		Central Switching	
Client Exclusion Timeout (sec) 60 Central DHCP Central Association Control Association Central Association Central Association Control Association Central Associat	Idle Threshold (b	ytes)* 0		Central Authenticat	ion 🖌
DHCP Central Association DHCP Enable Flex NAT/PAT DHCP Server IP Address 0.0.0 DHCP Opt82 Enable VLAN Flex Policy DHCP Opt82 Enable VLAN Central Switching DHCP Opt82 Enable Split MAC ACL DHCP Opt82 Ascii Split MAC ACL DHCP Opt82 Format Other Aption DHCP AP ETH MAC Other Aption DHCP AP Location Other Aption DHCP AP NAME Other Aption DHCP AP Location Other Aption DHCP AP Location Split MAC ACL DHCP AP Location Other Aption DHCP AP Location Other Aption DHCP AP Location Split MAC ACL DHCP AP Location Split MAC DHCP AP MAC Split MAC DHCP AP MAC Split MAC DHCP AP MAC S	Client Exclusion	Timeout (sec)* 60		Central DHCP	
DHCP Enable Image: Sect or Select Flex NAT/PAT Image: Sect or Select DHCP Server IP Address 0.0.00 VLAN Flex Policy DHCP Opt82 Enable Image: Sect or Select VLAN Central Switching DHCP Opt82 Ascii Image: Sect or Select Split MAC ACL Sect or Select DHCP Opt82 Ascii Image: Sect or Select Image: Sect or Select Image: Sect or Select DHCP Opt82 Format Image: Sect or Select Image: Sect or Select Image: Sect or Select Image: Sect or Select DHCP Opt82 Format Image: Sect or Select Image: Sect or Select Image: Sect or Select Image: Sect or Select DHCP AP MAC Image: Sect or Select DHCP AP Location Image: Sect or Select	DHCP			Central Association Enable	
DHCP Server IP Address 0.0.0 DHCP Opt82 Enable DHCP Opt82 Enable DHCP Opt82 Ascii DHCP Opt82 Ascii DHCP Opt82 RID DHCP Opt82 Format DHCP AP MAC DHCP AP MAC DHCP AP NAME DHCP AP Internation DHCP VLAN ID Alka Policy NAC State Policy Name	DHCP Enable			Flex NAT/PAT	
DHCP Opt82 Enable VLAN Central Switching DHCP Opt82 Ascii DHCP Opt82 Ascii DHCP Opt82 RID DHCP Opt82 Format DHCP AP MAC DHCP AP MAC DHCP SSID DHCP AP TH MAC DHCP AP NAME DHCP AP NAME DHCP AP Location DHCP AP Location DHCP VLAN ID AAA Policy Allow AAA Override Policy Name Search or Select v	DHCP Server IP	Address 0.0.0.0		WLAN Flex Policy	r
DHCP Opt82 Ascii Search or Select • DHCP Opt82 RID DHCP Opt82 RID DHCP Opt82 Format DHCP AP MAC OHCP AP MAC OHCP SSID DHCP AP ETH MAC OHCP AP ETH MAC OHCP AP Location DHCP AP Location DHCP VLAN ID AAA Policy Allow AAA Override Policy Name Search or Select •	DHCP Opt82 Ena	able		VLAN Central Switc	ching 🗌
DHCP Opt82 RID DHCP Opt82 Format DHCP AP MAC DHCP SSID DHCP AP ETH MAC DHCP AP ETH MAC DHCP Policy Tag DHCP Policy Tag DHCP VLAN ID AAA Policy Allow AAA Override NAC State Policy Name Search or Select	DHCP Opt82 Asc	cii 🗖		Split MAC ACL	Search or Select
DHCP Opt82 Format CHCP AP MAC C C DHCP AP MAC C C C C C C C C C C C C C C C C C C	DHCP Opt82 RID				
DHCP AP MAC DHCP SSID DHCP AP ETH MAC DHCP AP ETH MAC DHCP AP NAME DHCP Policy Tag DHCP Policy Tag DHCP VLAN ID DHCP VLAN ID ALLOW AAA Override ALLOW AAA Override NAC State Policy Name Search or Select	DHCP Opt82 For	mat 🗌			
DHCP SSID □ DHCP AP ETH MAC □ DHCP AP NAME □ DHCP Policy Tag □ DHCP AP Location □ DHCP VLAN ID □ AAA Policy □ Allow AAA Override ✓ NAC State □ Policy Name Search or Select ▼	DHCP AP MAC				
DHCP AP ETH MAC DHCP AP NAME DHCP Policy Tag DHCP AP Location DHCP VLAN ID AAA Policy Allow AAA Override NAC State Policy Name Search or Select	DHCP SSID				
DHCP AP NAME DHCP Policy Tag DHCP AP Location DHCP VLAN ID AAA Policy Allow AAA Override NAC State Policy Name Search or Select	DHCP AP ETH M	AC 🗌			
DHCP Policy Tag DHCP AP Location DHCP VLAN ID AAA Policy Allow AAA Override NAC State Policy Name Search or Select •	DHCP AP NAME				
DHCP AP Location □ DHCP VLAN ID □ AAA Policy Allow AAA Override ✓ NAC State □ Policy Name Search or Select ▼	DHCP Policy Tag				
DHCP VLAN ID □ AAA Policy Allow AAA Override ✓ NAC State Policy Name Search or Select	DHCP AP Location	on 🗌			
AAA Policy Allow AAA Override NAC State Policy Name Search or Select	DHCP VLAN ID				
Allow AAA Override NAC State Policy Name Search or Select	AAA Policy				
NAC State Search or Select	Allow AAA Overr	ide 🔽			
Policy Name Search or Select	NAC State				
	Policy Name	Search or S	elect 🔻		
	D Cancel			[🛱 Update & Apply to

CLI

config t

wireless profile policy new-policy-profile # central association # vlan <vlan-id or vlan-name>

策略标记配置

策略标记用于将SSID与策略配置文件链接。您可以创建新的策略标记或使用默认策略标记。

注意: default-policy-tag会自动将WLAN ID在1到16之间的任何SSID映射到default-policyprofile。无法修改或删除它。如果您有ID为17或更高的WLAN,则无法使用default-policytag。

GUI:

导航至Configuration > Tags & Profiles > Tags > Policy,并在需要时添加新的。

Q. Search Menu Items		Manage Tags						
Dashboard		Policy Site RF AP						
Monitoring	>	+ Add X Delete						
🔾 Configuration	>	Policy Tag Name	×	Description				
বি Administration	<u>,</u>	central-anchor						
\$7 · · · · · · · · · · · · · · · · · · ·		default-policy-tag		default policy-tag				
💥 Troubleshooting		[≪ ≪ 1 » »] 10 v items per page						

将您的WLAN配置文件链接到所需的策略配置文件。

ļ	Add Policy Tag					×
	Name*	PolicyTagName				
	Description	Enter Description				
	+ Add X Dele					
	WLAN Profile		~	Policy Profile		~
		10 🔹 items per page			No items to display	
	Cancel				🖹 Save & Apply to Device	

Add Policy Tag × Name* PolicyTagName Description Enter Description + Add X Delete WLAN Profile **Policy Profile** \sim 0 10 No items to display . ► ▼ items per page Map WLAN and Policy WLAN Profile* prof-name default-policy-profile -Ŧ Policy Profile* × \checkmark 📔 Save & Apply to Device **D** Cancel Add Policy Tag × Name* PolicyTagName Description Enter Description + Add X Delete WLAN Profile Policy Profile \sim \sim default-policy-profile prof-name 10 1 - 1 of 1 items 1 items per page b •

📔 Save & Apply to Device

CLI :

config t
wireless tag policy <policy-tag-name>

whereas tay pointy <pointy-tag-name>
wlan <profile-name> policy <policy-profile-name>

策略标记分配

D Cancel

将策略标记分配给AP

GUI

要将标记分配给一个AP,请导航至Configuration > Wireless > Access Points > AP Name > General Tags,进行所需的分配,然后单击Update & Apply to Device。

t AP			
General Interfaces	High Availability In	ventory Advanced	
General		Version	
AP Name*	AP1702-05	Primary Software Version	16
Location*	default location	Predownloaded Status	NIA
Base Radio MAC	00:01:00:00:00:00:00:00:00:00:00:00:00:0	Predownloaded Version	NIA
Ethernet MAC	00::	Next Retry Time	NIA
Admin Status	Enabled .	Boot Version	15.*
AP Mode	Flex •	IOS Version	15.2
Operation Status	Registered	Mini IOS Version	0.0.0.0
Fabric Status	Disabled	IP Config	
Tags		IP Address	172.16.0.200
Policy	new-policy-tag •	Static IP	0
Ste	new-fex-ste	Time Statistics	
NF .	default-frag +	Up Time	1 days 1 hrs 44 mins 59 9005
		Controller Associated Time	0 days 5 hrs 32 mins 5 secs
		Controller Association Latency	0 days 20 hrs 11 mins 24 secs
		_	
O Cancel			🗄 Update & Apply to De

注意: **请注意,在更改AP上的策略标记后,它将失去与9800 WLC的关联,并在大约1分钟内 重新加入。**

要向多个AP分配相同的策略标记,请导航至Configuration > Wireless > Wireless Setup > Start Now > Apply。



选择要向其分配标签的AP,然后单击+ Tag AP

+ Tag APs

Number of APs: 3

¢

Selected Number of APs: 3

	AP ~ Name	AP ~ Model	AP MAC ~	AP ~ Mode	Admin ~ Status	Operation ~ Status	Policy ~ Tag	Site Tag
	AP3802- 02-WS	AIR- AP3802I- A-K9	00-40-00-00-00-00-00-00-00-00-00-00-00-0	Local	Enabled	Registered	default- policy-tag	defaul site-ta
	AP3802- 01	AIR- AP2802I- B-K9	2	Local	Enabled	Registered	default- policy-tag	defaul site-ta
	AP3802- 02	AIR- AP3802I- B-K9	e e	Local	Enabled	Registered	default- policy-tag	defaul site-ta
4	∢ 1	▶ 10	 items per page 				1 - 3 of 3 i	tems

选择已清除的标记,然后单击保存并应用到设备

Tag APs			×
Tags			
Policy	default-policy-tag	•	
Site	SiteTag1	•	
RF	default-ff-tag	•	
Cancel		Save & Apply to Device	

CLI

config t

- # ap <ethernet-mac-addr>
- # policy-tag <policy-tag-name>
- # end

ISE配置

对于ISE v1.2配置,请检查以下链路:

<u>ISE配置</u>

验证

您可以使用这些命令验证当前配置

show run wlan
show run aaa
show aaa servers
show ap config general
show ap name <ap-name> config general
show ap tag summary
show ap name <AP-name> tag detail
show wlan { summary | id | name | all }
show wireless tag policy detailed <policy-tag-name>
show wireless profile policy detailed <policy-profile-name>

故障排除

WLC 9800提供ALWAYS-ON跟踪功能。这可确保持续记录所有与客户端连接相关的错误、警告和 通知级别消息,并且您可以查看发生事故或故障情况的日志。

注意:根据生成的日志数量,您可以返回数小时到数天。

要查看默认情况下收集的9800 WLC的跟踪,您可以通过SSH/Telnet连接到9800 WLC并执行以下步 骤(确保将会话记录到文本文件)。

步骤1.检查控制器的当前时间,以便在发生问题时跟踪日志。

show clock

步骤2.从控制器缓冲区或外部系统日志收集系统日志,如系统配置所述。这可快速查看系统运行状况和错误(如果有)。

show logging

步骤3.检验是否启用了任何调试条件。

show debugging
IOSXE Conditional Debug Configs:

Conditional Debug Global State: Stop

IOSXE Packet Tracing Configs:

Packet Infra debugs:

Ip Address Port

注意:如果您看到列出的任何条件,这意味着跟踪记录到遇到启用条件(mac地址、ip地址等)的所有进程的调试级别。 这将增加日志的数量。因此,建议在非主动调试时清除所有条件

步骤4.假设测试中的mac地址未列为步骤3中的条件,请收集特定mac地址的始终在线通知级别跟踪

show logging profile wireless filter { mac | ip } { <aaaa.bbbb.cccc> | <a.b.c.d> } to-file
always-on-<FILENAME.txt>

您可以显示会话中的内容,也可以将文件复制到外部TFTP服务器。

more bootflash:always-on-<FILENAME.txt>

or

copy bootflash:always-on-<FILENAME.txt> tftp://a.b.c.d/path/always-on-<FILENAME.txt>

条件调试和无线电活动跟踪

如果始终在线跟踪没有提供足够的信息来确定所调查问题的触发因素,您可以启用条件调试并捕获 活动无线电(RA)跟踪,这将为与指定条件(本例中为客户端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5.确保未启用调试条件。

clear platform condition all 步骤6.为要监控的无线客户端mac地址启用调试条件。

此命令开始监控提供的MAC地址30分钟(1800秒)。 您可以选择将此时间增加到2085978494秒。

debug wireless mac <aaaa.bbbb.cccc> {monitor-time <seconds>}

注意: 要一次监控多个客户端,请按mac地址运行debug wireless mac <aaaa.bbbb.cccc>命令。

注意:您看不到终端会话上客户端活动的输出,因为所有内容都在内部缓冲,以备以后查看。

步骤7.重现要监控的问题或行为。

步骤8.如果问题在默认或配置的监控时间开启之前重现,请停止调试。

no debug wireless mac <aaaa.bbbb.cccc> 监控时间过去或调试无线停止后,9800 WLC将生成名为:

ra_trace_MAC_aaabbbbcccc_HHMMSS.XXX_timezone_DayWeek_Month_Day_year.log

步骤9.收集MAC地址活动的文件。您可以将ra trace .log复制到外部服务器或直接在屏幕上显示输出 。

检查RA跟踪文件的名称

dir bootflash: | inc ra_trace 将文件复制到外部服务器:

copy bootflash:ra_trace_MAC_aaaabbbbbcccc_HHMMSS.XXX_timezone_DayWeek_Month_Day_year.log
tftp://a.b.c.d/ra-FILENAME.txt

显示内容:

more bootflash:ra_trace_MAC_aaaabbbbbcccc_HHMMSS.XXX_timezone_DayWeek_Month_Day_year.log 步骤10.如果根本原因仍不明显,请收集内部日志,这些日志是调试级别日志的更详细视图。您无需 再次调试客户端,因为我们只是进一步详细查看已收集和内部存储的调试日志。

show logging profile wireless internal filter { mac | ip } { <aaaa.bbbb.cccc> | <a.b.c.d> }
to-file ra-internal-<FILENAME>.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,并且相当庞大。请联系思科 TAC,帮助解析这些跟踪。

您可以将ra-internal-FILENAME.txt复制到外部服务器,或直接在屏幕上显示输出。

将文件复制到外部服务器:

copy bootflash:ra-internal-<FILENAME>.txt tftp://a.b.c.d/ra-internal-<FILENAME>.txt 显示内容:

more bootflash:ra-internal-<FILENAME>.txt 步骤11.删除调试条件。

clear platform condition all

注意:确保在故障排除会话后始终删除调试条件。