

配置并且排除故障在CMX的Hyperlocation

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[背景信息](#)

[使用的首字母缩略词](#)

[配置](#)

[验证](#)

[故障排除](#)

[相关信息](#)

简介

本文描述如何配置和排除故障在已连接移动体验的Hyperlocation (CMX)。

先决条件

要求

思科建议您有Hyperlocation deployment指南的知识。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- CMX 10.2.3-34
- WLC 2504/8.2.130.0
- AIR-CAP3702I-E-K9

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。如果您的网络实际，请保证您了解所有命令潜在影响。

背景信息

当他们不运作正如所料时，本文帮助排除故障法塞特查找和Hyperlocation。

Hyperlocation是提高位置准确性的思科功能。您能闻悉更多在[Hyperlocation部署指南的](#)此功能。

Hyperlocation使用关于接入点(AP) (AoA)提供的客户端的(RSSI级别)和到达角度的数据。

为了使用hyperlocation，您必须有hyperlocation (无线安全和Monitor/WSM)模块用光晕天线。光晕天线有32天线里面并且能检测除Received Signal Strength Indication (RSSI)信息外的地方，探测器

/数据包到达从，使位置更加准确。可以找到更多信息[此处](#)。

并且，Hyperlocation是可以启用的功能，只有当CMX在3365移动服务引擎(MSE)时物理设备或高端虚拟Appliances安装。

[CMX数据表的](#)参考的表检查硬件指南的3。

如果不是肯定的在虚拟设备的运作的specs，您能发出这些命令之一：

```
cmxos inventory  
cmxos verify
```

使用的首字母缩略词

WLC -无线 LAN 控制器

AoA -到达角度

CMX -已连接移动经验

AP -接入点

NMSP -网络移动性服务协议

SNMP -简单网络管理协议 (SNMP)

GUI -图形用户界面

CLI -命令行界面

ICMP -Internet 控制消息协议

HTTP -超文本传输协议

RSSI -收到信号强度征兆

NTP -网络时间协议 (NTP)

MAC -媒体访问控制

WSM -无线安全和监听模块

配置

步骤1.在WLC的Enable (event) Hyperlocation。

为了启用在WLC的Hyperlocation，请使用此line命令：

```
(Cisco Controller) >config advanced hyperlocation enable
```

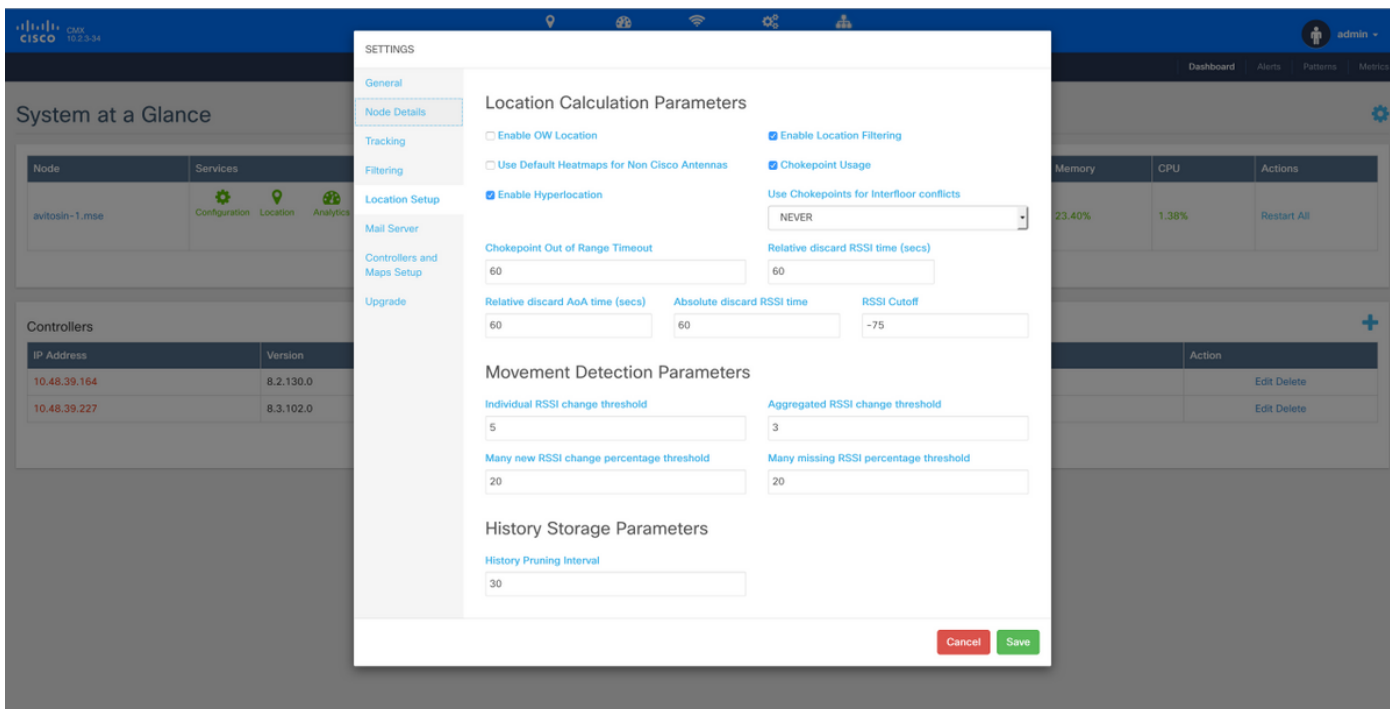
启用在WLC GUI的Hyperlocation也是可能的：

导航对Wireless>Access指向>全局配置>enable Hyperlocation (复选框)。

步骤2.在CMX的Enable (event) Hyperlocation。

为了启用在CMX的Hyperlocation，登录到GUI和执行此步骤：

导航到系统> (齿轮图标) >位置设置>enable Hyperlocation (复选框)如此镜像所显示。



这也启用法塞特查找(即根据数据帧的位置)，因此将启用，只要您有(非hyperlocation)监控模式 AP或无线电或者用hyperlocation模块。有与位置服务涉及的多种参数，您能调整。您能找到更多信息此处; [链路](#)。

步骤3.验证在WLC的Hyperlocation。

为了验证，如果Hyperlocation在WLC启用：

```
(Cisco Controller) >show advanced hyperlocation summary
```

```
Hyperlocation..... UP
Hyperlocation NTP Server..... 10.48.39.33
Hyperlocation pak-rssi Threshold..... -70
Hyperlocation pak-rssi Trigger-Threshold..... 10
Hyperlocation pak-rssi Reset-Threshold..... 8
Hyperlocation pak-rssi Timeout..... 3

AP Name          Ethernet MAC      Slots   Hyperlocation
```

AP78ba.f99f.3c24 78:ba:f9:9d:a6:e0 3 UP

第四步：检查Hyperlocation模块是否在AP检测。

(Cisco Controller) >show ap inventory ?

<Cisco AP> Enter the name of the Cisco AP.

all Displays inventory for all Cisco APs

(Cisco Controller) >show ap inventory all

Inventory for AP78ba.f99f.3c24

NAME: "AP3700" , DESCR: "Cisco Aironet 3700 Series (IEEE 802.11ac) Access Point"

PID: AIR-CAP3702I-E-K9, VID: V03, SN: FCW1915N9YJ

NAME: "Dot11Radio2" , DESCR: "802.11N XOR Radio"

PID: AIR-RM3010L-E-K9 , VID: V01, SN: FOC19330ASB

MODULE NAME: "Hyperlocation Module w/Antenna" ,DESCR: "Advanced Security Module (.11acW1)
w/Ant"

PID: AIR-RM3010L-E-K9 ,VID: V01 ,SN: FOC19330ASB ,MaxPower: 2000mW

(Cisco Controller) >show ap module summary all

AP Name External Module Type

AP78ba.f99f.3c24 Hyperlocation Module w/Antenna

Note:如果光晕天线连接到hyperlocation模块，检测是不可能的。您需要物理的验证那。

步骤5.验证在AP的Hyperlocation。

ap#show capwap client rcb

-----OUTPUT OMITTED-----

NextHop MAC Address : 0014.f15f.f7ca

HYPERLOCATION ADMIN STATE : 1

WLC GATEWAY MAC : 00:14:F1:5F:F7:CA

WLC HYPERLOCATION SRC PORT : 9999

BLE Module State : ENABLED

MSE IP[0] : 10.48.71.21

MSE PORT[0] : 2003

-----OUTPUT OMITTED-----

接入点是传送AoA信息到CMX通过WLC转发的那个。保证被提及的MSE IP是您要使用的那个，当仅AP支持一个MSE IP。

保证WLC网关MAC是WLC的网关MAC地址，如果CMX和WLC不在相同子网。

否则，WLC网关MAC是CMX MAC地址。

步骤6.验证在CMX的Hyperlocation。

如果所有服务在CMX，运作第一步将验证。Hyperlocation功能使用选中项目部分。

```
[cmxadmin@avitosin-1 ~]$ cmxctl status
```

Done

The nodeagent service is currently running with PID: 19316

Host	Service	Status	Uptime (HH:mm)
avitosin-1.mse	Analytics	Running	1 days, 02:14
avitosin-1.mse	Cache_6378	Running	1 days, 02:15
avitosin-1.mse	Cache_6379	Running	1 days, 02:14
avitosin-1.mse	Cache_6380	Running	1 days, 02:14
avitosin-1.mse	Cache_6381	Running	1 days, 02:14
avitosin-1.mse	Cache_6382	Running	1 days, 02:14
avitosin-1.mse	Cache_6383	Running	1 days, 02:14
avitosin-1.mse	Cache_6385	Running	1 days, 02:14
avitosin-1.mse	Cassandra	Running	1 days, 02:15
avitosin-1.mse	Confd	Running	1 days, 02:14
avitosin-1.mse	Configuration	Running	1 days, 02:13
avitosin-1.mse	Connect	Running	1 days, 02:13
avitosin-1.mse	Consul	Running	1 days, 02:15
avitosin-1.mse	Database	Running	1 days, 02:15
avitosin-1.mse	Haproxy	Running	1 days, 02:14
avitosin-1.mse	Hyperlocation	Running	1 days, 02:12
avitosin-1.mse	Influxdb	Running	1 days, 02:14
avitosin-1.mse	Iodocs	Running	1 days, 02:14
avitosin-1.mse	Location	Running	1 days, 02:13
avitosin-1.mse	Matlabengine	Running	1 days, 02:12

```

+-----+-----+-----+-----+
| avitosin-1.mse | Metrics   | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Nmsplb    | Running | 0 days, 01:47 |
+-----+-----+-----+-----+
| avitosin-1.mse | Qlesspyworker | Running | 1 days, 02:14 |
+-----+-----+-----+-----+

```

步骤7. , 如果CMX获得从WLC的AoA信息请验证。

```
[cmxadmin@avitosin-1 ~]$ cmxctl status
```

Done

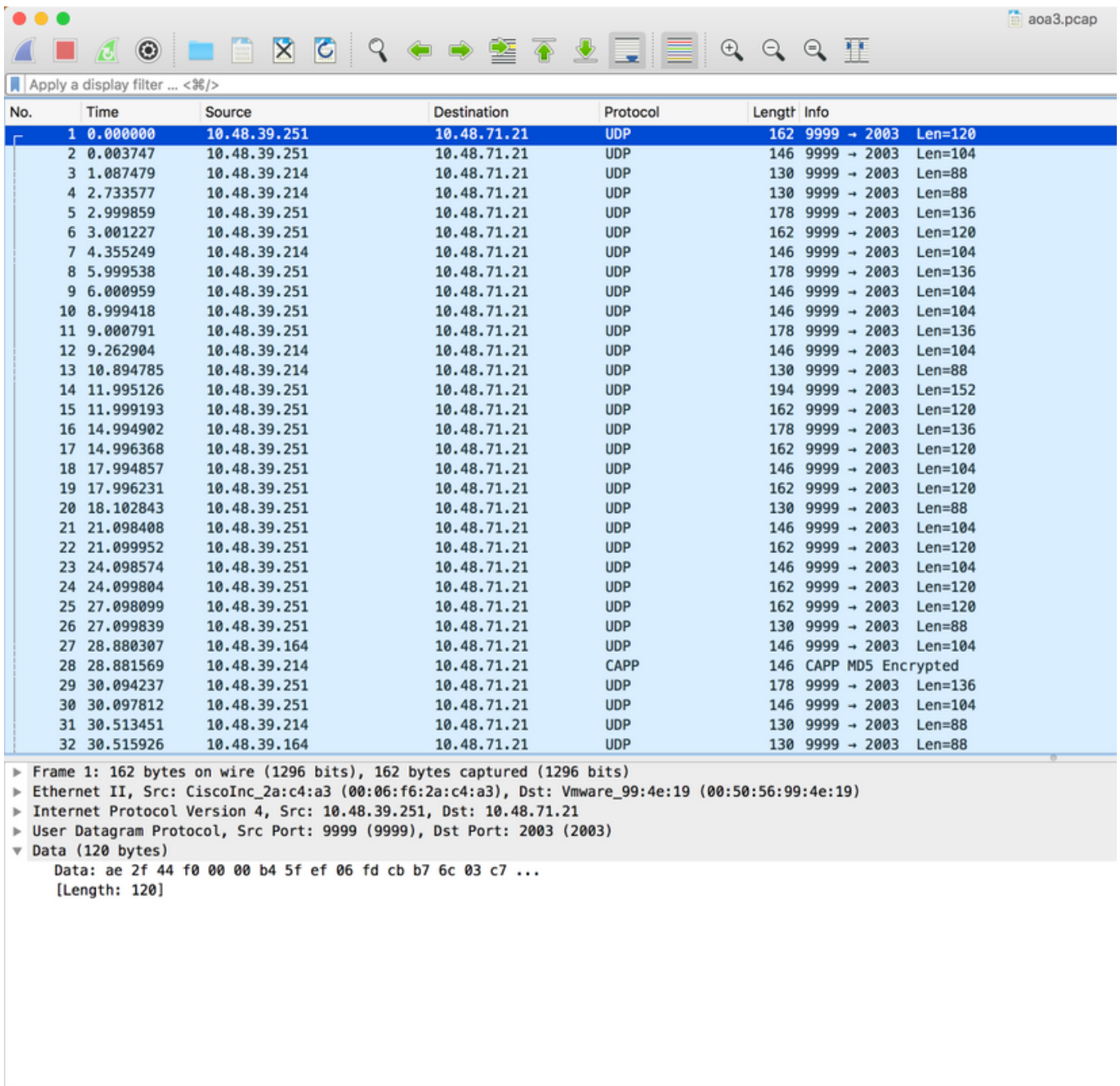
The nodeagent service is currently running with PID: 19316

```

+-----+-----+-----+-----+
| Host          | Service    | Status  | Uptime (HH:mm) |
+-----+-----+-----+-----+
| avitosin-1.mse | Analytics  | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6378 | Running | 1 days, 02:15 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6379 | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6380 | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6381 | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6382 | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6383 | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6385 | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Cassandra  | Running | 1 days, 02:15 |
+-----+-----+-----+-----+
| avitosin-1.mse | Confd      | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Configuration | Running | 1 days, 02:13 |
+-----+-----+-----+-----+
| avitosin-1.mse | Connect    | Running | 1 days, 02:13 |
+-----+-----+-----+-----+
| avitosin-1.mse | Consul     | Running | 1 days, 02:15 |
+-----+-----+-----+-----+
| avitosin-1.mse | Database   | Running | 1 days, 02:15 |
+-----+-----+-----+-----+
| avitosin-1.mse | Haproxy    | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Hyperlocation | Running | 1 days, 02:12 |
+-----+-----+-----+-----+
| avitosin-1.mse | Influxdb   | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Iodocs     | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Location   | Running | 1 days, 02:13 |
+-----+-----+-----+-----+
| avitosin-1.mse | Matlabengine | Running | 1 days, 02:12 |
+-----+-----+-----+-----+
| avitosin-1.mse | Metrics    | Running | 1 days, 02:14 |
+-----+-----+-----+-----+
| avitosin-1.mse | Nmsplb    | Running | 0 days, 01:47 |
+-----+-----+-----+-----+

```

wireshark捕获证明如镜像所显示，CMX获得AoA信息。



步骤8.验证地图/物理AP部署。

请注意非常在AP的箭头在地图的实际方向配置指向，否则位置准确性可以关闭。它没有技术上要求有楼层的所有AP有他们的在同一个方向的箭头点，然而大量地推荐避免在地图的所有错误(例如在AP更换的情况下，是非常容易的忘记重新配置天线方向)。

请注意准确性可以只是正如所料，当客户端由4 AP比-75dbm时同时检测与RSSI好。如果对于若干物理原因，一些区域比预计不完成这些需求，准确性将是。

验证

使用本部分可确认配置能否正常运行。

验证程序在配置部分已经报道在可适用地方。

故障排除

本部分提供了可用于对配置进行故障排除的信息。

在此部分，CMX特定方案讨论。如果任何防火墙存在WLC和CMX之间，您需要打开这些端口：

- 16113网络移动服务协议(NMSP)
- 2003 AoA (AP封装AoA数据包在往WLC的Capwap里面，因此端口2003必须是开放的在WLC之间和CMX)
- 80 HTTP
- 443个HTTPS
- Internet Control Message Protocol (ICMP)
- 161，162简单网络管理协议(SNMP)

方案1。hyperlocation在CMX在WLC启用和没有启用。

在这种情况下没有从WLC的AoA发送的消息到CMX。启用Hyperlocation在WLC并且检查CMX是否收到在端口2003的AoA消息从WLC。

方案2。WLC与CMX不同步，但是可及的。

在这种情况下请检查在两个的网络时间协议(NTP)配置CMX和WLC (请检查日期)

运行命令#显示capwap在AP的客户端rcb发现此：

```
[cmxadmin@avitosin-1 ~]$ cmxctl status
```

```
Done
```

```
The nodeagent service is currently running with PID: 19316
```

```
+-----+-----+-----+-----+
| Host      | Service      | Status  | Uptime (HH:mm) |
+-----+-----+-----+-----+
| avitosin-1.mse | Analytics    | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6378   | Running | 1 days, 02:15  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6379   | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6380   | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6381   | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6382   | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6383   | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cache_6385   | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
| avitosin-1.mse | Cassandra    | Running | 1 days, 02:15  |
+-----+-----+-----+-----+
| avitosin-1.mse | Confd        | Running | 1 days, 02:14  |
+-----+-----+-----+-----+
```


avitosin-1.mse	Configuration	Running	1 days, 02:13	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Connect	Running	1 days, 02:13	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Consul	Running	1 days, 02:15	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Database	Running	1 days, 02:15	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Haproxy	Running	1 days, 02:14	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Hyperlocation	Running	1 days, 02:12	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Influxdb	Running	1 days, 02:14	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Iodocs	Running	1 days, 02:14	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Location	Running	1 days, 02:13	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Matlabengine	Running	1 days, 02:12	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Metrics	Running	1 days, 02:14	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Nmsplb	Running	0 days, 01:47	
+-----+	+-----+	+-----+	+-----+	+-----+
avitosin-1.mse	Qlesspyworker	Running	1 days, 02:14	
+-----+	+-----+	+-----+	+-----+	+-----+

相关信息

- 检查CMX Hyperlocation故障排除列表-。如果所有这些步骤不指向问题，请访问为帮助的 [Cisco支持论坛](#)(在本文和清单提交的输出明确地帮助您缩小您的在论坛的问题)或打开TAC支持请求。
- [技术支持和文档 - Cisco Systems](#)