

在Cisco cEdge路由器上配置SNMPv3陷阱

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简介

本文档介绍在cEdge路由器上使用vManage功能模板启用简单网络管理协议(SNMP)第3版陷阱的配置。

先决条件

要求

Cisco 建议您了解以下主题：

- Cisco SDWAN解决方案
- 基本了解SNMP

使用的组件

本文档中的信息基于以下软件和硬件版本：

- 运行16.12.3的思科云服务路由器1000V(CSR1000v)路由器
- 运行19.2.2的vManage版本。

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。

注意：一般情况下，边缘不需要陷阱组。在vManage版本20.x及更高版本的cEdge和vEdge模板中，不再存在陷阱组的依赖关系。

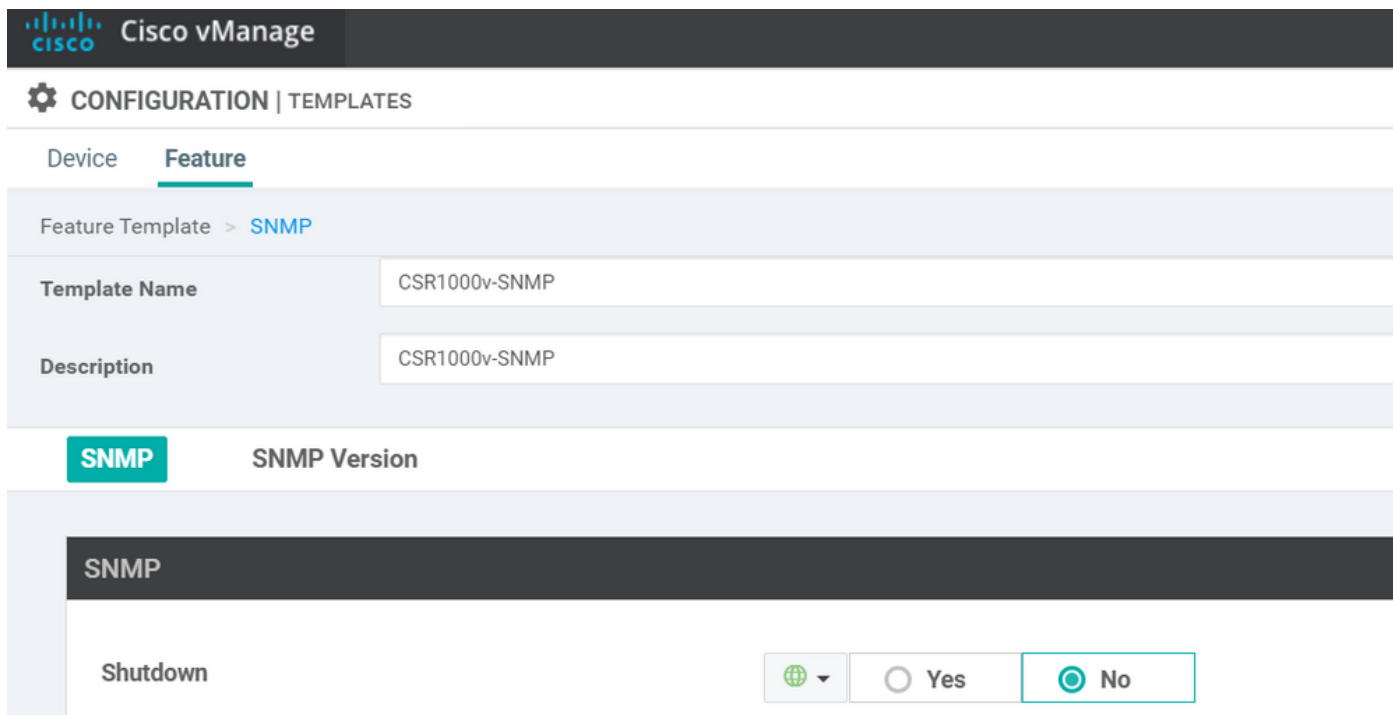
配置

配置

在vManage上：

步骤1.要创建SNMP功能模板，请导航至CONFIGURATION > TEMPLATES > Feature Template > SNMP。

输入模板名称和说明，后跟SNMP no-shutdown，如下图所示。



Cisco vManage

CONFIGURATION | TEMPLATES

Device **Feature**

Feature Template > SNMP

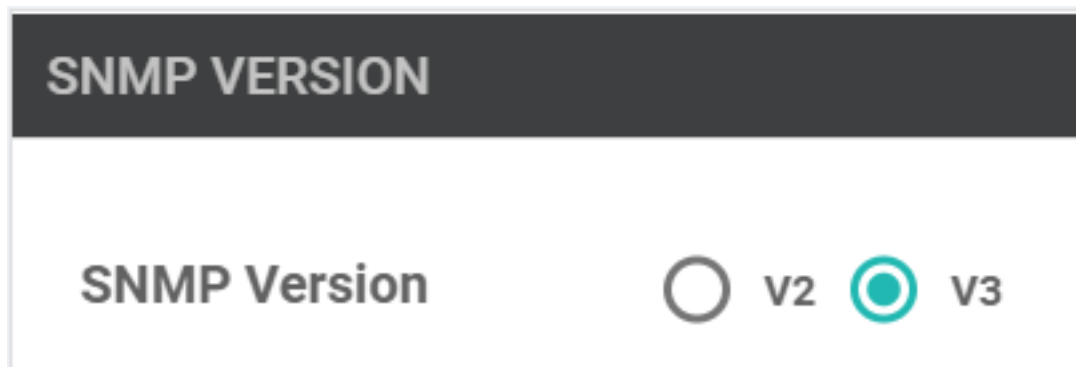
Template Name CSR1000v-SNMP

Description CSR1000v-SNMP

SNMP SNMP Version

Shutdown Yes No

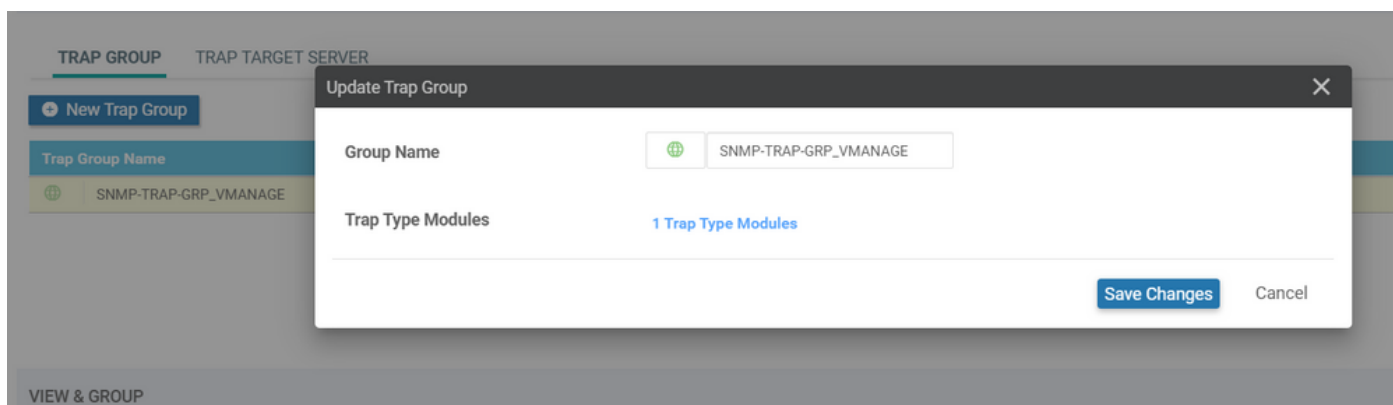
步骤2.选择SNMP版本。在本例中为第3版。



SNMP VERSION

SNMP Version V2 V3

步骤3.创建SNMP陷阱组并填入陷阱模块，如下图所示。



TRAP GROUP TRAP TARGET SERVER

New Trap Group

Trap Group Name

SNMP-TRAP-GRP_VMANAGE

Update Trap Group

Group Name

Trap Type Modules 1 Trap Type Modules

Save Changes Cancel

VIEW & GROUP

Trap Type Modules ✕

Module Name	Severity Levels
🌐 ▼ all ▼	 🌐 ▼ critical ✕ major ✕ minor ✕ -
+ Add Trap Module	
Save Changes Cancel	

步骤4. 创建SNMP陷阱目标服务器。

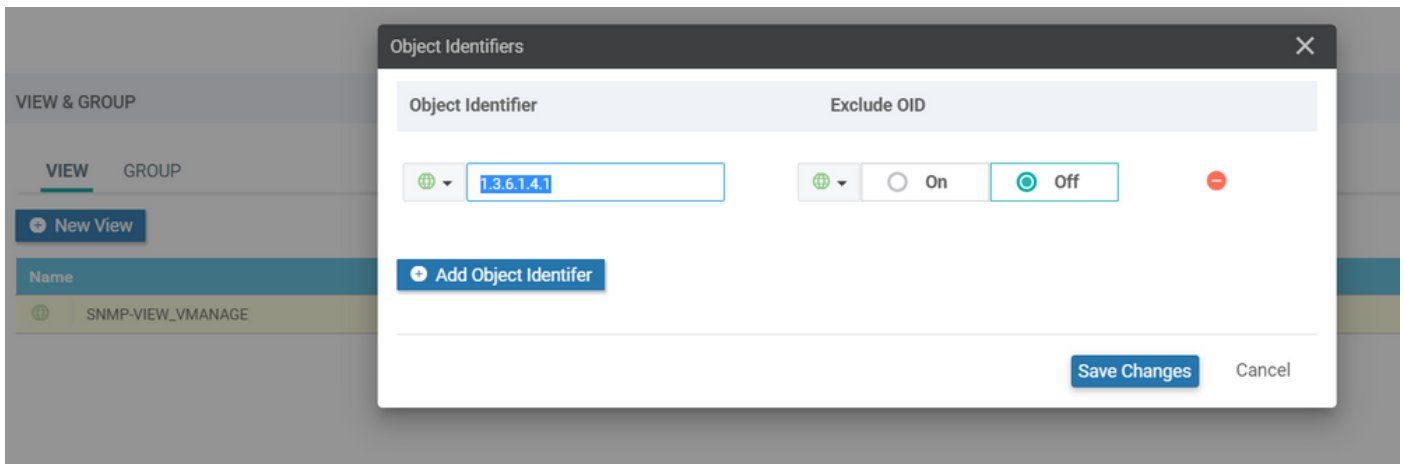
此处使用mgmt-intf虚拟路由转发(VRF)来获取SNMP陷阱。

```
interface GigabitEthernet1 vrf forwarding Mgmt-intf ip dhcp client default-router distance 1 ip
address dhcp negotiation auto arp timeout 1200 no mop enabled no mop sysid end
```

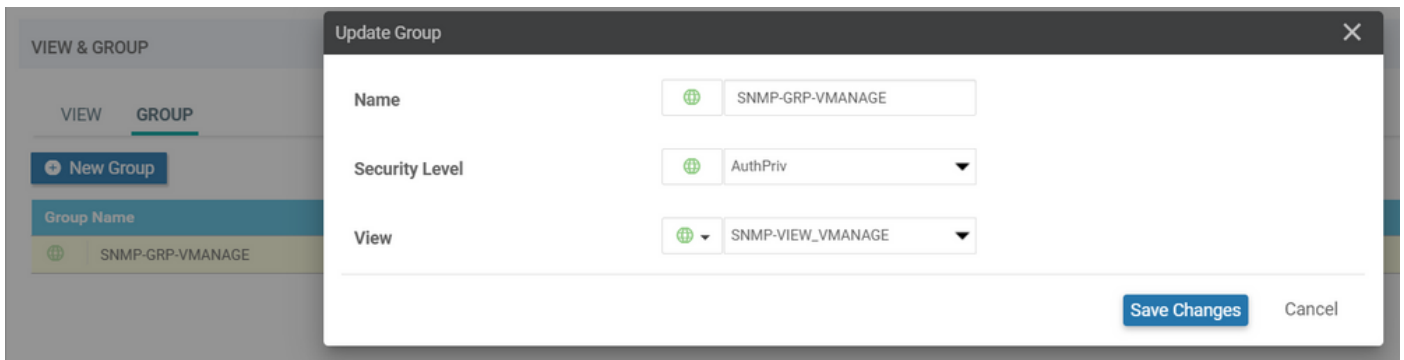
Update Trap Target ✕

VPN ID	🌐 ▼ 512	<input type="checkbox"/> Mark as Optional Row i
IP Address	🌐 ▼ 10.48.35.219	
UDP Port	🌐 ▼ 161	
Trap Group Name	🌐 ▼ SNMP-TRAP-GRP_VMANAGE ▼	
User Name	🌐 ▼ SNMP_V3_USER_VMANAGE ▼	
Source Interface	🌐 ▼ GigabitEthernet1	
Save Changes Cancel		

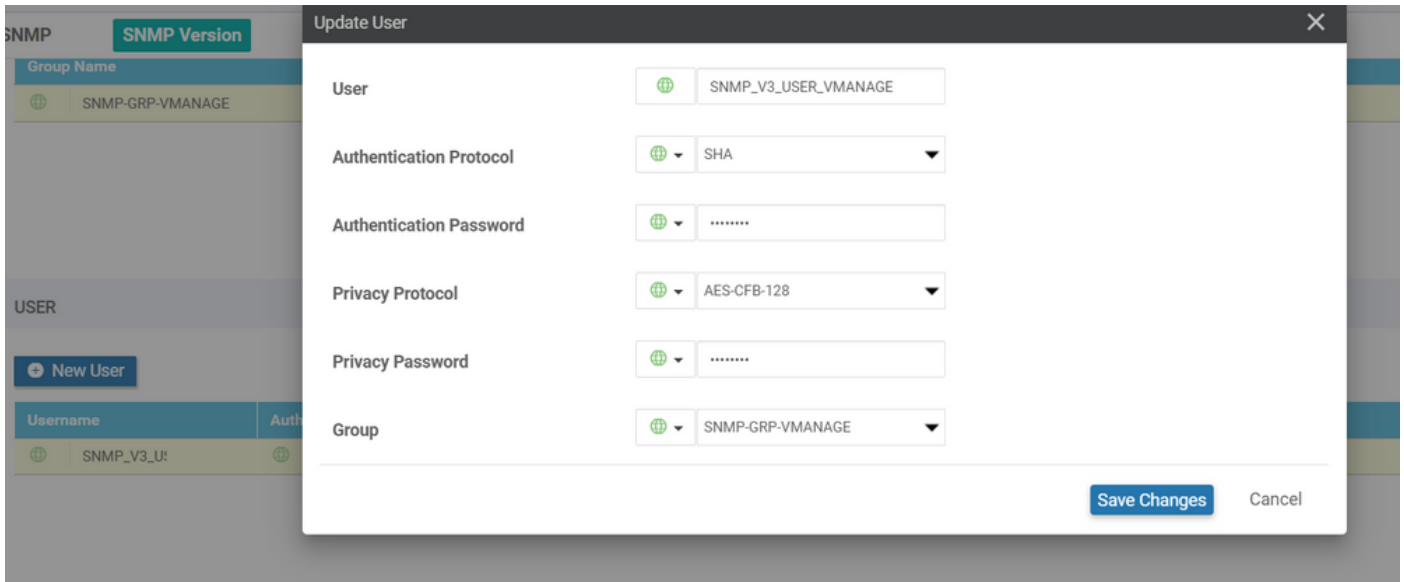
步骤5. 创建SNMP视图并添加SNMP对象标识符(OID)。



步骤6.创建SNMP组，并将之前创建的SNMP视图附加到组。



步骤7.添加SNMPv3用户，如本图所示。



步骤8.将SNMP功能模板附加到设备模板的附加模板部分：



Additional Templates

AppQoE	<input type="text" value="Choose..."/>
Banner	<input type="text" value="Choose..."/>
Global Template	<input type="text" value="Choose..."/>
Policy	<input type="text" value="Choose..."/>
Probes	<input type="text" value="Choose..."/>
SNMP	<input type="text" value="CSR1000v-SNMP"/>
Security Policy	<input type="text" value="test-1-sec"/>



步骤9.将设备模板连接到相应设备。

验证

在cEdge上：

启用以下调试：

```
debug snmp packets debug snmp detail
```

生成SNMP陷阱：**test snmp trap config**

```
cEdge#test snmp trap config Generating CONFIG-MAN-MIB Trap cEdge# Aug 19 14:26:03.124: SNMP:
Queuing packet to 10.48.35.219 Aug 19 14:26:03.124: SNMP: V2 Trap, reqid 5563, errstat 0, erridx
0 sysUpTime.0 = 233535801 snmpTrapOID.0 = ciscoConfigManEvent ccmHistoryEventCommandSource.2 = 1
ccmHistoryEventConfigSource.2 = 2 ccmHistoryEventConfigDestination.2 = 2
ccmHistoryEventTerminalUser.2 = test Aug 19 14:26:03.374: SNMP: Packet sent via UDP to
10.48.35.219
```

这里注意到，SNMP陷阱已发送到服务器10.48.35.219。

数据包捕获：

```
<
> Frame 2: 306 bytes on wire (2448 bits), 306 bytes captured (2448 bits)
> Ethernet II, Src: VMware_8d:61:ce (00:50:56:8d:61:ce), Dst: Cisco_5b:a6:1d (cc:7f:76:5b:a6:1d)
> Internet Protocol Version 4, Src: 10.48.62.184, Dst: 10.48.35.219
> User Datagram Protocol, Src Port: 49444, Dst Port: 161
v Simple Network Management Protocol
  msgVersion: snmpv3 (3)
  > msgGlobalData
  > msgAuthoritativeEngineID: 766d616e6167652d0a151515
  msgAuthoritativeEngineBoots: 1
  msgAuthoritativeEngineTime: 4490
  msgUserName: SNMP_V3_USER_VMANAGE
  msgAuthenticationParameters: ecb71af6d4616f7944426464
  msgPrivacyParameters: d2c8f7ee670781e2
  > msgData: encryptedPDU (1)
```

有时，您可能会注意到“CheckMIBView:OID不在MIB视图中。”调试中出错。

验证上述SNMP视图配置并向其添加OID(例如：1.3.6.1.4.1)。

故障排除

```
debug snmp detail debug snmp packets cEdge#test snmp trap config Generating CONFIG-MAN-MIB Trap
SPOKE-8#CheckMIBView: OID is in MIB view. CheckMIBView: OID is in MIB view. CheckMIBView: OID is
in MIB view. CheckMIBView: OID is in MIB view. CheckMIBView: OID is in MIB view. CheckMIBView:
OID is in MIB view. CheckMIBView: OID is in MIB view. SrCheckNotificationFilter: OID is
included. SrCheckNotificationFilter: OID is included. SrCheckNotificationFilter: OID is
included. SrCheckNotificationFilter: OID is included. SrCheckNotificationFilter: OID is
included. SrCheckNotificationFilter: OID is included. SrCheckNotificationFilter: OID is
included. Aug 19 14:30:16.527: SNMP: Queuing packet to 10.48.35.219Sr_send_trap: trap sent to
10.48.35.219:161:Mgmt-intf Aug 19 14:30:16.527: SNMP: V2 Trap, reqid 5564, errstat 0, erridx 0
sysUpTime.0 = 233561141 snmpTrapOID.0 = ciscoConfigManEvent ccmHistoryEventCommandSource.2 = 1
ccmHistoryEventConfigSource.2 = 2 ccmHistoryEventConfigDestination.2 = 2
ccmHistoryEventTerminalUser.2 = test SrV2GenerateNotification:Function has reached clean up
routine. Aug 19 14:30:16.777: SNMP: Packet sent via UDP to 10.48.35.219 cEdge#sh snmp | i sent
Logging to 10.48.35.219.161, 0/10, 3316 sent, 2039 dropped. cEdge#sh snmp user User name:
SNMP_V3_USER_VMANAGE Engine ID: 766D616E6167652D0A151515 storage-type: nonvolatile active
Authentication Protocol: SHA Privacy Protocol: AES128 Group-name: SNMP-GRP-VMANAGE cEdge#show
snmp group groupname: ILMI security model:v1 contextname:
```

相关信息

- [Cisco IOS和IOS-XE的嵌入式数据包捕获配置示例](#)
- [使用 SNMP 陷阱](#)
- [SNMP对象导航器](#)
- [技术支持和文档 - Cisco Systems](#)