使用SNMP v2和v3的Prime基礎設施進行融合接入(5760/3850/3650)管理配置示例

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簡介

本文說明如何使用簡易網路管理通訊協定(SNMP)v2和v3將聚合存取(5760/3850/3650)新增到 Prime基礎架構。

必要條件

需求

思科建議您瞭解以下主題:

- 融合接入(5760/3850/3650)Cisco IOS[®]版本3.3.x及更高版本或Denali 16.x
- Prime基礎架構版本2.0或更高版本

採用元件

本文件所述內容不限於特定軟體和硬體版本。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除(預設))的組態來啟動。如果您的網路正在作用,請確保您已瞭解任何指令可能造成的影響。

配置(Prime基礎設施2.2及更低版本)

交換器上的SNMP v2組態

GUI

選擇Configuration > Controller > Management > SNMP > Communities > New。

cisco Wireless Controller	🟠 Home 🛛 M	Nonitor 🔻	Configuration 🔻	Administration 🛛 🔻	Help
Controller	SNMP v1/v2c Community				
System	New Remove				
 Internal DHCP Server 	Community Namo		Ctatur		
 Management 	Community Name		Status		
 Protocol Management 	No data available				
SNMP General					
Communities					
SNMP V3 Users					
SNMP Host					
HTTP-HTTPS					
 Technical Support 					
System Resources Information					
AP crash					
 Mobility Management 					
 Mobility Global Config 					
Mobility Peer Cuttale Deer					
mDNS					
110/10					
	•				
ahaha					
սիսիս cisco Wireless Controller	A Home Mo	onitor 🔻	Configuration •	Administration 🔻	Help
Controller	Mone Mone SNMP v1/v2c Community New	onitor i 🔻	Configuration 🔻	Administration 🔻	Help
Controller	Mome Mome SNMP v1/v2c Community New	ionitor 🔻	Configuration 🔻	Administration 🔻	Help
Controller System Internal DHCP Server	Home Mo SNMP v1/v2c Community > New	onitor 🔻	Configuration 🔻	Administration 🗐 🔻	Help
Controller System Internal DHCP Server Management	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Community	ionitor 🔻	Configuration •	Administration 🔻	Help
Controller System Internal DHCP Server Management Protocol Management SNMP	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 💌 nity te 💌	Configuration v	Administration 🔻	Help
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System System Internal DHCP Server Management SNMP General Communities	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 💌 nity te 💌	Configuration v	Administration 🔻	Help
System Internal DHCP Server Management SNMP General Communities SNMP V3 Users	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	ionitor •	Configuration v	Administration •	Help
System System Internal DHCP Server Management SNMP General Communities SNMP V3 Users SNMP Host	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 💌 nity te 💌	Configuration v	Administration •	Help
System System Internal DHCP Server Management SNMP General SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 🛛 🔻	Configuration v	Administration •	Help
System System Internal DHCP Server Management Protocol Management SNMP General General SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor •	Configuration •	Administration •	Help
Controller System Internal DHCP Server Management Protocol Management SNMP General General SNMP V3 Users SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 🛛 🔻	Configuration 🛛	Administration •	Help
System System Internal DHCP Server Management Protocol Management SNMP General General Communities SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash CoreDump	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 🛛 🔻	Configuration V	Administration •	Help
Wireless Controller System Internal DHCP Server Management Protocol Management SNMP General General Communities SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash CoreDump AP crash	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 🔻	Configuration V	Administration •	Help
	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	ionitor 🔻	Configuration •	Administration 🗐 🔻	Help
Controller System Internal DHCP Server Management Protocol Management SNMP General General Gommunities SNMP V3 Users SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash CoreDump AP crash Mobility Management Mobility Global Config Mobility Peer	Home Mo SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Commun Access Mode Read/Write	onitor 💌	Configuration V	Administration •	Help
System System Internal DHCP Server Management Protocol Management SNMP General Communities SNMP V3 Users SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash CoreDump AP crash Mobility Management Mobility Global Config Mobility Peer Switch Peer Group	More More SNMP v1/v2c Community New SNMP v1/v2c Community > New New Community Name V2Community Access Mode Read/Write	onitor 🛛 🔻	Configuration •	Administration •	Help

輸入以下命令:

conf t

snmp-server community V2Community RW

交換器上的SNMP v3組態

CLI

輸入以下命令:

conf t

snmp-server group V3Group v3 auth read V3Read write V3Write snmp-server user V3User V3Group v3 auth sha Password1 priv aes 128 Password1 snmp-server view V3Read iso included snmp-server view V3Write iso included snmp-server host 10.201.234.170 version 3 auth V3User snmp-server enable traps

Prime基礎架構

附註:使用「生命週期」檢視。

選擇Operate > Device Work Center > Add Device。

cisco Prime	A			
Device Work Center	(▲) Home Design ▼ Deploy	Operate	Report Administra	ation • worktiows •
Device Group	Device Group > ALL ALL			
	/Edit XDelete Sync 🔒	Groups & Sites 👻 👱	Add Device Bulk Import	Export Device
B Device Type	Device Name	Reachability 1	P Address/DNS	Device Type
Site Groups	5508_P5_165	1	0.201.166.165	Cisco 5508 Wireless LAN Con
by User Defined	5760.gateway.2wire.net	1	0.201.234.6	Cisco 5760 Wireless LAN Con
	85108-78	1	0.201.166.152	Cisco Flex 8500 Wireless LAN
	Shankar_2504	1	0.201.234.165	Cisco 2504 Wireless LAN Con

Add Device ▼ General Parameters *			×
IP Address	10.201.236.136		
O DNS Name			
▼ SNMP Parameters			
Version	v2c •]	
* Retries	2		
* Timeout	10	(secs)	
* Community	•••••	2	
* Confirm Community	•••••		
 Telnet/SSH Parameters 			
Protocol	Telnet •]	
* Timeout	60	(secs)	
Username	cisco		
Password	•••••		
Confirm Password	•••••		
Enable Password	•••••		
Confirm Enable Password	••••••		-
		Add Cancel	
L			

SNMP v3

Add Device • General Parameters *			×
 IP Address 	10.201.236.136		-
O DNS Name			
▼ SNMP Parameters			
Version	v3 •		
* Retries	2		
* Timeout	10	(secs)	
Username	V3User		
Auth. Type	HMAC-SHA		
Auth. Password	•••••		
Privacy Type	CFB-AES-128		
Privacy Password	•••••		
Telnet/SSH Parameters			
Protocol	Telnet		
* Timeout	60	(secs)	
Username		()	
Password	•••••		•
		Add Cance	el 🛛

附註:如果未輸入Telnet/Secure Shell引數,Prime Infrastructure將不會從交換機收集清單。

配置(Prime Infrastructure 3.x及更高版本)

交換器上的SNMP組態(Denali 16.x)

GUI

ł

選擇General Settings > Management > SNMP。

啟用SNMP。

		Cisco Cat3k Switch			Welcome cisco Image: Cisco in the second
Monitoring Monitoring					Apply
🔛 Configure	SNMP				
🔛 Services	General	Communities	SNMP V3 Users	SNMP Host	
🔛 General Settings		SNMP Status	Enable Oisable		
Commands		System Location	Richardson		
DHCP Scopes		System Contact	Boss		
License		SNMP Global Trap	Enable Oisable		
Logs		SNMP Logging	Disabled		
Management ~					
HTTP/HTTPS					
SNMP					Cancel
NTP					
System >					
UserAdministration					

交換器上的GUI SNMP v2組態(Denali 16.x)

		Cisco Cat3k Switch					Welcome <i>cisco</i>
Monitoring							Apply
🔛 Configure	SNMP						
🔛 Services	General	Communities	SNMP V3 Users	SNMP Host			
🔛 General Settings		Community Name			~	Access Mode	~
		v2community				Read/Write	▼
Commands						Read Only	~
DHCP Scopes		10 🔹 items per page					1 - 2 of 2 items
License							
Logs	Add	Delete					Cancel
Management >							
NTP							

交換機上的CLI SNMP v2配置(Denali 16.x)

輸入以下命令:

conf t

snmp-server community V2Community RW

交換器上的GUI SNMP v3組態(Denali 16.x)

		Cisco Cat3k Switch					00	Welcome cisco
② Monitoring								Apply
🖽 Configure	SNMP							
🔛 Services	General	Communities	SNMP V3 Users S	NMP Host				
🔛 General Settings		User Name ~	Group ~	Auth. Protocol ~	Auth. Password ~	Priv. Protocol ~	Priv. Password	~
Commands		vauser	vsoroup	SHA		AES128		~
DHCP Scopes	⊣ 4 1 >	▶ 10 ▼ items per page						1 - 1 of 1 items
License	Add	Delete					(Cancel
Logs								
Management ~								
HTTP/HTTPS								
SNMP								
NTP								
System >								
UserAdministration								

交換機上的CLI SNMP v3配置(Denali 16.x)

輸入以下命令:

conf t

snmp-server user V3user V3Group v3 auth sha Password1 priv aes 128 Password1

snmp-server view V3Read iso included

snmp-server view V3Write iso included

snmp-server host 10.201.236.107 version 3 auth V3user

snmp-server enable traps

Prime基礎架構

SNMP v2

Cisco Prime Infrastructure			Q	 Application Set 	earch		🕂 😣 2 🛛 root - RC	DOT-DO
▲ Configuration / Network / Network	vork Devices 🔺							2
Configuration / Network /	Add Device * Add Device General SNMP Telnet/SSH HTTP/HTTPS	* SNMP Parameters Version * Read Community * Confirm Read Community Write Community	V2c SNMP Retries SNMP Timeout SNMP Port	▼ 2 10 161)) (secs)) ↓ ♀ ♀ ♀ ♀ ♀ ♀ ♀	×	Selected 0 / Total 1 Show Quick Filter Inventory Collection T 10-JUN-16 05:25:47	Complet
	Civic Location	Confirm Write Community	Add	erify Credential	s Car	ncel		

SNMP v3

Prime Infrastructure			O ₄ ▼ Application Search	root - ROOT-DOMAIN 🌣
Configuration / Network / Netw	vork Devices 🔺			0 Ø 🖸
Device Groups	Edit Device		×	Selected 1 / Total 2 🕥 🕅 🖏 🔻
< ĭ ≣ +		* SNMP Parameters		Show Quick Filter
O ₄ Search All	* General 🗸	Version	v3 💌	Inventory Collection T Last Inventory C
 ✓ Device Type (i) > Unified AP (i) 	* SNMP 🗸		SNMP Retries 2 SNMP Timeout 10 (secs)	10-JUN-16 05:25:47 Completed
Wireless Controller Location	Telnet/SSH 🗸	• • Vsername	* SNMP Port 161	10-JUN-16 16:10:32 Completed
User Defined ()	HTTP/HTTPS	Mode Auth. Type	AuthPriv V HMAC-SHA V	
	Civic Location	Auth. Password		
		Privacy Password	······	
		Update Updat	e & Sync Verify Credentials Cancel	

驗證

使用本節內容,確認您的組態是否正常運作。

<u>Cisco CLI Analyzer(僅供已註冊客戶使用)支援某些 show</u> 指令。使用 Cisco CLI Analyzer 檢視 show 指令輸出的分析。

交換器上的SNMP v2組態(Cisco IOS-XE)

輸入以下命令:

5760-79b#show snmp community

Community name: V2Community Community Index: V2Community Community SecurityName: V2Community storage-type: nonvolatile active

交換器上的SNMP v3組態(Cisco IOS-XE)

輸入以下命令:

5760-79b#**show snmp user**

User name: V3User Engine ID: 8000009030068BC0C5A8F80 storage-type: nonvolatile active Authentication Protocol: SHA Privacy Protocol: AES128 Group-name: V3Group

5760-79b#**show snmp group**

groupname: V3Group

附註:對於思科錯誤ⅠD <u>CSCuo52406</u>中涉及的一些已知問題,在融合接入上配置SNMP v3時 ,CLI優先於GUI。

Prime基礎架構(2.2及更低版本)

Device Work Center Encoury Configuration Archives Software in Device Group Price Group > ALL ALL ALL Image: Configuration Archives Software in Image: Configuration Archives Image: Configuration Archives Software in Image: Configuration Archives Software in Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Software in Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Software in Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Image: Configuration Archives Im	cisco Infrastructure	▲ Home Design ▼ De	epicy * Operate * Report * Admin	istration • Workflows •	
Device Group Price Group > ALL ALL Price Type > ALL Price Type > Son from type Price Type > Son from type Price Type > Wor Defined Price Type Image: State Group and Son from type Price Type Admin Status Imentary Collector State Group and Son from type State Group and Son from type Image: State Group and Son from type State Group and Son from type Image: State Group and Son from type State Group and Son from type Image: State Group and Son from type State Group and Son from type Image: State Group and type and type State Group and type and typ	Device Work Center			👬 Discovery 🐒 🛙	Configuration Archives 👩 Software Image Managen
Ball / Edt * Device * Sync & Groups & Stes * Phild Device * Duk Import * Device > Boekice Type Device Type > Ste Groups Ste Groups > User Defined 10.201.266.105 Device Type Admin Status Inventory Collection 10.201.234.56 0sco 5760 Wreless LAN Con Maraged Completed 5760.gabeway.2wre.net 10.201.234.56 Osco 5760 Wreless LAN Con Maraged 0 65106-70 10.201.234.365 Osco 2504 Wreless LAN Con Maraged Completed Shankar_2504 10.201.234.365 Osco 2504 Wreless LAN Con Maraged Completed	Device Group	ALL			
• Bachabity IP Address/DNS Device Type Admin Status Immentory Collection • Bashabity IP Address/DNS Device Type Admin Status Immentory Collection • Bashabity IP Address/DNS Device Type Admin Status Immentory Collection • Bashabity IP Address/DNS Osco 5000 Wreless LAN Con Managed Completed • S760.gabeway.2wre.net IP 10.201.236.6 Osco 5760 Wreless LAN Con Managed Completed • S100-78 IP 10.201.234.6 Osco 5760 Wreless LAN Con Managed Completed • S100-78 IP 10.201.234.65 Osco 5760 Wreless LAN Con Managed Completed • S100-78 IP 10.201.234.165 Osco 2504 Wreless LAN Con Managed Completed	ALL .	/ Edt XDelete SigSync	🔒 Groups & Sites 👻 👷 Add Device 🛛 👔 Duk Ing	port Provide Device	
• <u>5508_75_165</u> <u>10.201.166.165</u> <u>Osco 5500 Wireless LAN Con</u> <u>Managed</u> <u>Completed</u> <u>5760.79b</u> <u>20077b</u>	Barbar Device Type	Device Name	Reachability JP Address/DNS	Device Type Admin Sta	tus Driventory Collection Status
Status	Bite Groups	5508_P5_165	10.201.166.165	Osco 5508 Wireless LAN Con Managed	Completed
5760.gateway.zwre.net Image: completed 65109-76 Image: completed 65109-76 Image: completed 95109-76 Image: completed </td <td>🍰 User Defined</td> <td>5760-79b</td> <td>10.201.236.136</td> <td>Osco 5760 Wreless LAN Con Managed</td> <td>Completed</td>	🍰 User Defined	5760-79b	10.201.236.136	Osco 5760 Wreless LAN Con Managed	Completed
Image: Distance of the state of the sta		5760.gateway.2wire.net	et 2 10.201.234.6	Osco 5760 Wreless LAN Con Managed	Completed
Shankar_2504 2 10.201.234.165 Osco 2504 Wireless LAN Con Managed Completed		05108-70	10.201.166.152	Osco Flex 8500 Wreless LAN Managed	Completed
		Shankar_2504	10.201.234.165	Osco 2504 Wireless LAN Con Managed	Completed

交換器上的SNMP v2組態(Denali 16.x)

輸入以下命令:

polaris-3850#show snmp community

Community name: v2community Community Index: v2community Community SecurityName: v2community storage-type: nonvolatile active

交換器上的SNMP v3組態(Denali 16.x)

輸入以下命令:

polaris-3850#show snmp user

User name: v3user Engine ID: 8000009030068BC0C5A8F80 storage-type: nonvolatile active Authentication Protocol: SHA Privacy Protocol: AES128 Group-name: V3Group

polaris-3850#**show snmp group**

groupname: V3Group contextname: <no context specified> readview : V3Read notifyview: <no notifyview specified> row status: active security model:v3 auth
storage-type: nonvolatile
writeview: V3Write

Prime基礎架構

E viluilu Prime Infrastructure						O ▼ Application S	earch	🐥 Ӿ 2 roc	it - Root-Domain 🔾	¢
↑ Configuration / Network / Net	workDevices 🔺								000	I
Device Groups	Device Groups All Devices							Selected 0 / To	otal 2 💭 🖻 🄅 🔻	r
< * ' ≣ +	+• / ×	Admin State 🔻	Sync Group	os & Sites 🔻 🗉	xport Dev	vice Revoke C	ertificate	Show Quick Filter	•	
 Q Search All All Devices () ▼ Device Type () 	Reachab	Admin Status	Device Name	IP Address		DNS Name	Device Type	Last Inventory Co	lect Last Succes	ss
► Unified AP (i)		Managed	AirMario	10.201.236.100	🛄 (j)	10.201.236.100	Cisco 2504 Wireless	Completed	i June 10, 2016	6
► Wireless Controller (i)		Un-Managed		10.201.234.36	(i)	10.201.234.36		Synchronizing	(i)	
 Location (j) User Defined (j) 										

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

來自融合接入

show logging命令會顯示從WLC傳送到Prime基礎架構IP位址的活動封包。

輸入以下命令:

```
polaris-3850#debug snmp packets
Polaris-3850#show logging
entPhysicalEntry.7.2042 = Gi2/0/1
*Jun 10 15:58:51.817: SNMP: Packet sent via UDP to 10.201.236.107
*Jun 10 15:58:51.819: SNMP: Packet received via UDP from 10.201.236.107 on Vlan1105
*Jun 10 15:58:51.825: SNMP: Get-bulk request, reqid 945449769, nonrptr 0, maxreps 10
Jun 10 15:58:51.904: SNMP: Packet sent via UDP to 10.201.236.107
*Jun 10 15:58:51.927: SNMP: Packet received via UDP from 10.201.236.107 on Vlan1105
*Jun 10 15:58:51.928: SNMP: Get-bulk request, reqid 945449775, nonrptr 0, maxreps 10
entPhysicalEntry.7.2062 = NULL TYPE/VALUE
*Jun 10 15:58:51.931: SNMP: Response, reqid 945449775, errstat 0, erridx 0
entPhysicalEntry.7.2063 = Gi2/0/22
entPhysicalEntry.7.2064 = Gi2/0/23
entPhysicalEntry.7.2065 = Gi2/0/24
 entPhysicalEntry.7.2066 = Switch 2 FRU Uplink Module 1
 --More--
                                     entPhysicalEntry.7.2067 = Gi2/1/1 Container
entPhysicalEntry.7.2068 = Gi2/1/2 Container
entPhysicalEntry.7.2069 = Te2/1/3 Container
entPhysicalEntry.7.2070 = Te2/1/4 Container
entPhysicalEntry.8.1 = V01
*Jun 10 15:58:51.951: SNMP: Packet sent via UDP to 10.201.236.107
*Jun 10 15:58:51.974: SNMP: Packet received via UDP from 10.201.236.107 on Vlan1105
*Jun 10 15:58:51.975: SNMP: Get-bulk request, reqid 945449777, nonrptr 0, maxreps 10
ciscoEnvMonTemperatureStatusEntry.3 = NULL TYPE/VALUE
*Jun 10 15:58:51.978: SNMP: Response, reqid 945449777, errstat 0, erridx 0
ciscoEnvMonTemperatureStatusEntry.3.2008 = 28
ciscoEnvMonTemperatureStatusEntry.3.2009 = 40
ciscoEnvMonTemperatureStatusEntry.3.2010 = 44
```

ciscoEnvMonTemperatureStatusEntry.6.2008 = 1

*Jun 10 15:58:52.001: SNMP: Packet sent via UDP to 10.201.236.107

從Prime Infrastructure

裝置之間的SNMPWALK。

輸入以下命令:

--More--

PrimeInfrastructurejoker/admin# shell
Enter shell access password :
Starting bash shell ...

ade # snmpwalk -v2c -c v2community 10.201.234.36 sysUpTime
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (238833753) 27 days, 15:25:37.53
V2community = snmp community

10.201.234.36 = WLC IP

如果可達性存在,則出現以下結果:

DISMAN-EVENT-MIB::sysUpTimeInstance =時間戳:xx.xxx