Konfigurationsbeispiel für konvergenten Zugriff (5760/3850/3650) über eine Prime-Infrastruktur mit SNMP v2 und v3

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In diesem Dokument wird beschrieben, wie Sie die Prime-Infrastruktur mit Simple Network Management Protocol (SNMP) v2 und v3 um konvergenten Zugriff (5760/3850/3650) erweitern.

Voraussetzungen

Anforderungen

Cisco empfiehlt, über Kenntnisse in folgenden Bereichen zu verfügen:

- Konvergenter Zugriff (5760/3850/3650) Cisco IOS[®] Version 3.3.x und höher oder Denali 16.x
- Prime Infrastructure Version 2.0 oder höher

Verwendete Komponenten

Dieses Dokument ist nicht auf bestimmte Software- und Hardwareversionen beschränkt.

Die Informationen in diesem Dokument wurden von den Geräten in einer bestimmten Laborumgebung erstellt. Alle in diesem Dokument verwendeten Geräte haben mit einer leeren (Standard-)Konfiguration begonnen. Wenn Ihr Netzwerk in Betrieb ist, stellen Sie sicher, dass Sie die potenziellen Auswirkungen eines Befehls verstehen.

Konfigurieren (Prime-Infrastruktur 2.2 und früher)

SNMP v2-Konfiguration auf einem Switch

Benutzeroberfläche

Wählen Sie Configuration > Controller > Management > SNMP > Communities > New aus.

cisco Wireless Controller	🟠 Home	Monitor 🔻	Configuration 🛛 🔻	Administration 🛛 🔻	Help
Controller	SNMP v1/v2c Communi	ty			
System	New Remove				
 Internal DHCP Server 	Community Name		Status		
 Management 	Community Name		Status		
 Protocol Management 	No data available				
* SNMP					
SNMP V3 Users					
SNMP Host					
HTTP-HTTPS					
 Technical Support 					
 System Resources Information Controller math 					
Controller crash					
AP crash					
 Mobility Management 					
 Mobility Global Config 					
 Mobility Peer 					
Switch Peer Group					
* mDNs					
	4				
	•				
	<u> </u>				
	<u> </u>				
ujuuju cisco Wireless Controller		Monitor ¥	Configuration V	Administration	Hala
սիսիս cisco Wireless Controller	▲ Home	Monitor 🔻	Configuration 🔻	Administration 🔻	Help
Controller	Home SNMP v1/v2c Community > Nev SNMP v1/v2c Community > Nev	Monitor 🔻	Configuration 🔻	Administration 🗐 🔻	Help
Controller System	Home SNMP v1/v2c Community > New	Monitor • ty w	Configuration 🔻	Administration 🔻	Help
Controller System Internal DHCP Server	Home SNMP v1/v2c Community > New Community Name V2Comm	Monitor I 💌	Configuration •	Administration 🔻	Help
Controller System Internal DHCP Server Management Protocol Management	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Assess Marke Read Marke	Monitor 💌	Configuration •	Administration 🔻	Help
System Internal DHCP Server Management SNMP	Home SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V ty w hunity	Configuration ▼	Administration 🔻	Help
Controller System Internal DHCP Server Management Protocol Management SNMP General	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V ty w hunity Vrite V	Configuration •	Administration 🔻	Help
System Internal DHCP Server Management SNMP General Communities	Home SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor 💌 ty w nunity Vrite 💌	Configuration ▼	Administration •	Help
Wireless Controller System Internal DHCP Server Management Fortocol Management SNMP General Communities SNMP V3 Users	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V ty w nunity Vrite V	Configuration 🔻	Administration 🔻	Help
System Internal DHCP Server Management SNMP General Communities SNMP V3 Users SNMP Host	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V ty w nunity Write V	Configuration ▼	Administration •	Help
Controller System Internal DHCP Server Management Vertocol Management SNMP General General SNMP V3 Users SNMP Host HTTP-HTTPS Vertocical Support	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V	Configuration •	Administration 🔻	Help
Vireless Controller System Internal DHCP Server Management Protocol Management SNMP General General SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V ty w nunity Write V	Configuration v	Administration •	Help
Controller System Internal DHCP Server Management Vertocol Management Vertocol Management SNMP General General Gommunities SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash	Home SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V	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 Corroller crash CoreDump	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V	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 AP crash	Home SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V	Configuration	Administration •	Help
Wireless Controller System Internal DHCP Server Management Protocol Management SNMP General General SNMP V3 Users SNMP V3 Users SNMP Host SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash CoreDump AP crash Mobility Management	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V	Configuration 🔻	Administration	Help
System Internal DHCP Server Management Protocol Management SNMP General General General SNMP V3 Users SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash CoreDump AP crash Mobility Management Mobility Global Config Mobility Global Config	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V	Configuration	Administration 🗐	Help
Controller System Internal DHCP Server Management Management SNMP General General Gommunities SNMP V3 Users SNMP Host SNMP Host HTTP-HTTPS Technical Support System Resources Information Controller crash CoreDump AP crash Mobility Management Mobility Global Config Mobility Peer Switch Peer Group	Home SNMP v1/v2c Community SNMP v1/v2c Community > New Community Name V2Comm Access Mode Read/W	Monitor V	Configuration	Administration	Help

Geben Sie folgende Befehle ein:

conf t

snmp-server community V2Community RW

SNMP v3-Konfiguration auf einem Switch

CLI

Geben Sie folgende Befehle ein:

conf t	
snmp-serv	ver group V3Group v3 auth read V3Read write V3Write
snmp-serv	ver user V3User V3Group v3 auth sha Password1 priv aes 128 Password1
snmp-serv	ver view V3Read iso included
snmp-serv	ver view V3Write iso included
snmp-serv	ver host 10.201.234.170 version 3 auth V3User
snmp-serv	ver enable traps
Prime-I	nfrastruktur

Hinweis: Verwenden der Lebenszyklusansicht.

Wählen Sie Operate > Device Work Center > Add Device.

cisco Prime cisco Infrastructure	۵+	iome Design	n ▼ Deploy	 Operate 	Report ¥	Administration	n 🔻 Workflow	s ¥
Device Work Center								き
Device Group	ALL ©	e Group > ALL						
		Edit 🗙 Delete	Sync 🐣	Groups & Sites 👻	Add Device	Bulk Import	Export Device	
Bevice Type		Device Name		Reachability	IP Address/DN	S Dev	rice Type	
Site Groups		5508_P5_165		~	10.201.166.16	i5 Cisc	o 5508 Wireless L	AN Con
🍐 User Defined		5760.gateway	.2wire.net	S	10.201.234.6	Cisc	o 5760 Wireless L	AN Con
		85108-78		S	10.201.166.15	i2 Osc	o Flex 8500 Wirel	ess LAN
	: 🗆	Shankar_2504			10.201.234.16	5 Osc	o 2504 Wireless L	AN 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	

SNMP v3

Add Device			×
 deneral 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	cisco		
Password	•••••		-
		Add Cance	

Hinweis: Wenn keine Telnet-/Secure Shell-Parameter eingegeben werden, erfasst die Prime-Infrastruktur keine Bestände vom Switch.

Konfigurieren (Prime-Infrastruktur 3.x und höher)

SNMP-Konfiguration auf einem Switch (Denali 16.x)

Benutzeroberfläche

Wählen Sie General Settings > Management > SNMP aus.

Aktivieren Sie SNMP.

		Cisco Cat3k Switch Denali 16.1.2			Welcome cisco
④ Monitoring					Apply
🔛 Configure	SNMP				
🔛 Services	General	Communities	SNMP V3 Users	SNMP Host	
🔛 General Settings		SNMP Status	Enable Disable		
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					

GUI SNMP v2-Konfiguration auf einem Switch (Denali 16.x)

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

CLI SNMP v2-Konfiguration auf einem Switch (Denali 16.x)

Geben Sie folgende Befehle ein:

conf t

snmp-server community V2Community RW

GUI-SNMP v3-Konfiguration auf einem Switch (Denali 16.x)

		Cisco Cat3k Switch					0	Welcome <i>cisco</i>
② Monitoring								Apply
🖽 Configure	SNMP							
🔛 Services	General	Communities	SNMP V3 Users	SNMP Host				
🔛 General Settings		User Name v	Group	 Auth. Protocol 	 Auth. Password 	Priv. Protocol	Priv. Password	~
Commands		vsoser	vsoroup	SHA		AE5126		
DHCP Scopes		▶ 10 ▼ Items per page						1 - 1 of 1 items
License	Add	Delete						Cancel
Logs								
Management ~								
HTTP/HTTPS								
SNMP								
NTP								
System >								
UserAdministration								

CLI SNMP v3-Konfiguration auf einem Switch (Denali 16.x)

Geben Sie folgende Befehle ein:



SNMP v2

Cisco Prime Infrastructure				Q.	 Application Set 	arch		root - R	OOT-DON
↑ Configuration / Network / Network	ork Devices 🔺								0
Device Groups Configuration / Network / Network Device Groups C	Add Device	•	 SNMP Parameters Version Read Community Confirm Read Community Write Community Confirm Write Community 	V2c SNMP Retries SNMP Timeout SNMP Port Add V	2 10 161) (secs)) ✓ ᠙) ✓ ᠙	X	Selected 0 / Total 1 Show Quick Filter Inventory Collection T 10-JUN-16 05:25:47	Complet

SNMP v3

Prime Infrastructure				0,	 Application Search 	h	🐥 😣 2 root - Ri	oot-domain 🌣
Configuration / Network / Netw	vork Devices 🔺							0 Ø 🛛
Device Groups	Edit Device					×	Selected 1 / Total 2	() P 🗘 🔻
÷ ≣ +			* SNMP Parameters				Show Quick Filter	T T
Q Search All All Devices (j)	• General 🗸]	Version	v3	•		. Inventory Collection T	Last Inventory C
Device Type (i) Unified AP (i)	* SNMP 🗸]		* SNMP Retries * SNMP Timeout	2 10 (s	ecs)	10-JUN-16 05:25:47	Completed
Wireless Controller	Telnet/SSH 🗸	•	* Username	* SNMP Port	161		10-JUN-16 16:10:32	Completed
	HTTP/HTTPS]•	Mode Auth. Type	AuthPriv HMAC-SHA	▼ ▼ ▼			
J	Civic Location		Auth. Password Privacy Type	••••••• CFB-AES-128	@			
			Privacy Password	•••••				
			Update Upda	te & Sync Ve	erify Credentials	Cancel		

Überprüfen

In diesem Abschnitt überprüfen Sie, ob Ihre Konfiguration ordnungsgemäß funktioniert.

Der <u>Cisco CLI Analyzer</u> (nur <u>registrierte</u> Kunden) unterstützt bestimmte **show**-Befehle. Verwenden Sie den Cisco CLI Analyzer, um eine Analyse der **Ausgabe des** Befehls **show** anzuzeigen.

SNMP v2-Konfiguration auf einem Switch (Cisco IOS-XE)

Geben Sie den folgenden Befehl ein:

5760-79b#show snmp community

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

SNMP v3-Konfiguration auf einem Switch (Cisco IOS-XE)

Geben Sie folgende Befehle ein:

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

User name: V3User Engine ID: 80000009030068BC0C5A8F80 storage-type: nonvolatile active Authentication Protocol: SHA Privacy Protocol: AES128 Group-name: V3Group contextname: <no context specified>
readview : V3Read
notifyview: <no notifyview specified>
row status: active

Hinweis: Bei einigen bekannten Problemen, die mit der Cisco Bug-ID <u>CSCuo52406</u> behoben werden, wird die CLI für die SNMP v3-Konfiguration auf dem konvergenten Zugriff gegenüber der GUI bevorzugt.

Prime-Infrastruktur (2.2 und früher)

cisco Infrastructure		🏠 Home Design 🔹 D	epicy • Operate •	Report • Adm	nistration • Workflows •		
Device Work Center					純 Di	covery 👖 Configurati	on Archives 🥳 Software Image Managem
Device Group	P	Device Group > ALL ALL					
ALL	92 +	/ Edt XDelete Source	🔒 Groups & Stes 👻	👷 Add Device 🛛 👔 Duk D	nport Propert Device		
 As Device Type As Site Groups User Defined 		Device Name 508_P5_165 5760.gsteway.2wme.nd 65106-78 Stankar_2504	Freachability	JP Address/DNS 10.201.166.165 10.201.236.136 10.201.234.6 10.201.244.6 10.201.166.152 10.201.214.165	Device Type Osco 5509 Wireless LAN Con Osco 5760 Wireless LAN Con Osco 5760 Wireless LAN Con Osco Fisi (1500 Wireless LAN Osco 2504 Wireless LAN Con	Admin Status Managed Managed Managed Managed Managed	Inventory Collection Status Completed Completed Completed Completed Completed

SNMP v2-Konfiguration auf einem Switch (Denali 16.x)

Geben Sie den folgenden Befehl ein:

```
polaris-3850#show snmp community
```

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

SNMP v3-Konfiguration auf einem Switch (Denali 16.x)

Geben Sie folgende Befehle ein:

```
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>

security model:v3 auth
storage-type: nonvolatile
writeview: V3Write

Prime-Infrastruktur

E viluelu Prime Infrastructure						O ▼ Application Se	earch	🐥 Ӿ 2 🛛 rc	oot - ROO	T-DOMAIN 🏠
Configuration / Network / Network	workDevices ★									0 0 D
Device Groups	Device Groups All Devices							Selected 0 /	Total 2 🕻	J 🖻 🌣 -
< * '≣ +	+• / ×	Admin State 🔻	Sync Group	os & Sites 🔻 🗉	cport Dev	vice Revoke C	ertificate St	Quick Filter		• 7
Q Search All All Devices ⑦ ▼ Device Type ⑦	Reachab	Admin Status	Device Name	IP Address		DNS Name	Device Type	Last Inventory C	ollect	Last Success
► Unified AP (j)		Managed A	AirMario	10.201.236.100	🛄 (j)	10.201.236.100	Cisco 2504 Wireless	Completed	i	June 10, 2016
► Wireless Controller (i)		Un-Managed		10.201.234.36	(i)	10.201.234.36		Synchronizing	(i)	
► Location (i) User Defined (i)										

Fehlerbehebung

Dieser Abschnitt enthält Informationen zur Fehlerbehebung in Ihrer Konfiguration.

Konvergenter Zugriff

Der Befehl **show logging** zeigt aktive Pakete an, die vom WLC an die IP-Adresse der Prime-Infrastruktur gesendet werden.

Geben Sie folgende Befehle ein:

```
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, regid 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
--More-- *Jun 10 15:58:52.001: SNMP: Packet sent via UDP to 10.201.236.107
```

Von der Prime-Infrastruktur

SNMPWALK zwischen Geräten

Geben Sie folgende Befehle ein:

```
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

Dies ist das Ergebnis, wenn die Erreichbarkeit vorhanden ist:

DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: xx.xxx