# Q.SIG PRI-trunks configureren tussen Call Manager en AVC S8700/G650 met integratie van Unity Voice Mail

### Inhoud

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## **Inleiding**

Het doel van dit document is om Cisco-klanten en zakelijke partners de stappen te geven om Q.SIG PRI-trunks te configureren tussen Cisco Call Manager en Avaya S8700/G650. Bovendien specificeert dit document stappen voor het toevoegen van Cisco Unity op het Cisco Call Manager-platform om spraakpostondersteuning te bieden voor zowel Cisco- als Avaya IP-telefoons. Dit is met name belangrijk in situaties waarin IP-PBX-interoperabiliteit en integratie van spraakpostdiensten vereist zijn. De Avaya-configuratiebeelden zijn gemaakt met het standaard Emulation-gereedschap. Als alternatief kunt u het ASA-gereedschap (Avaya Site Administration) ook gebruiken voor configuratietaken in de Avaya S8700/G650. Het uitvoerdisplay is in beide gevallen hetzelfde. Dit IP-PBX-interoperabiliteitsdocument en spraakpostintegratiedocument is bedoeld voor extern gebruik.

### **Voorwaarden**

#### Vereisten

Er zijn geen specifieke vereisten van toepassing op dit document.

#### Gebruikte componenten

De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- Het gebruikte Avaya IP-PBX-systeem is de Avaya S8700/G650 die Avaya Communication Manager 2.0 exploiteert. De Q.SIG-functieset wordt standaard bij deze softwareversie geleverd.
- De Avaya IP-telefoons die in dit document worden gebruikt, zijn de 4610SW en 4620 Series firmware versie 2.0
- Cisco Call Manager 4.1.2(2) werd gebruikt om de 3745 Media Gateway Control Protocol (MGCP) poort met de NM-HDV module te besturen, met behulp van Cisco IOS® versie 12.2.15ZJ3. Tests werden ook herhaald met Cisco IOS® versie 12.3.8.T5.
- Cisco Unity Express versie 4.0(4) SR1 is gebruikt voor de integratietests voor spraakmail.

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk live is, moet u de potentiële impact van elke opdracht begrijpen.

#### **Conventies**

Raadpleeg <u>Cisco Technical Tips Conventions (Conventies voor technische tips van Cisco) voor</u> meer informatie over documentconventies.

### Test instellen

Het gebruikte Avaya IP-PBX-systeem was de Avaya S8700/G650 met Avaya Communication Manager 2.0. De Q.SIG-functieset wordt standaard bij deze softwareversie geleverd. De gebruikte AvayaIP-telefoons waren de 4610SW en 4620 actieve telefoon firmware versie 2.0.1. Aan de kant van Cisco werd Cisco Call Manager 4.1.2 gebruikt om de 3745 MGCP gateway met de NM-HDV module te besturen, met Cisco IOS® versie 12.2.15ZJ3. Tests ook herhaald met Cisco IOS® versie 12.3.8.T5. Cisco Unity run versie 4.0(4) SR1 werd gebruikt voor de spraakpostintegratietests.

### **Testtopologie**



#### with Cisco Unity Voice Mail integration



### Interoperabiliteit tussen Cisco en Avaya IP-PBX-systemen

De volgende secties bieden procedures en schermopnamen om u te helpen de Q.SIG stam te configureren tussen een Avaya S8700/G650 die Avaya Communication Manager 2.0 runt en een Cisco Call Manager platform Call Manager versie 4.1(2) met het Cisco 3745 MGCP apparaat dat de fysieke ISDN PRI-verbinding naar de Avaya S870 biedt 0/G650.

#### Procedure voor Avaya S8700/G650 IP-PBX-systeem

Voer de volgende stappen uit:

 Aanmelden bij de S8700-server. Draai de klant opdracht voor de weergave van systeemparameters om ervoor te zorgen dat alle benodigde Q.SIG functies op de S8700 server zijn ingeschakeld.

cancel	refresh	enter	clear	help	go to page	next page	prev page				
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		Su	pplement	ary Serv	vices wit	th Rerou	ting? y				
			Ir	ansfer i	Into QSI	G Voice	Mail? y				
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	(NOTE:	You nus	t logoff	& logir	to eff	ect the	permissio	on change	s.)		

2. Configureer de DS-1 kaart voor Q.SIG

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display	ds1 01A09		DC4 0	LDOULT DOOK		Page	1 OF	2	
			051 6	INCOLL LHCK					
	Location:	01A 09		1	Name:	QSIG			
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TN-C	7 Long Timers?	n		Peer Prot	ocol:	Q-SIG			
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3. Configureer een stamgroep. Type add stam-groep #waarin # de gewenste romp is.De volgende drie schermopnamen hebben betrekking op de samenstelling van de romp. Zodra de boomstamgroep wordt gecreëerd, voeg de 23 kanalen van DS0 aan de groep toe. Dit is een voorbeeld van de haventoewijzing: 01A0901 betekent: Gateway# 1, kabinet A, sleuf# 9, DS0 kanaal# groep1.

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display trunk-group 1		Page 1 of 22
	TRUNK GROUP	
Group Number: 1	Group Tupe: isdn	CDR Reports: n
Group Name: QSIG TRUNKING	COR: 90	TN: 1 TAC: *01
Direction: two-way	Outgoing Display? y	Carrier Medium: PRI/BRI
Dial Access? y	Busy Threshold: 99	Night Service:
Queue Length: 0		
Service Type: tie	Auth Code? n	TestCall ITC: rest
Far	End Test Line No:	
TestCall BCC: 4		
Codeset to Send Dis	plau: Ø Codeset to S	end National IEs: 6
Max Message Size to	Send: 260	
Supplementary Service Prot	ocol: b Digit Handli	ng (in/out): enbloc/enbloc
Trunk Hunt: asce	nd	QSIG Value-Added? y
	D:	igital Loss Group: 13
Calling Number - Delete:	Insert:	Numbering Format: pub-unk
Bit Rate: 1200	Synchronization	: async Duplex: full
Disconnect Supervision - In	?y Out?y	
Answer Supervision Timeout:	0	
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	2 3			7	1014	al Administered Members	: 23	
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Port	Code	SFx	Name	Night	Sig Grp		
1:01	A 89 81	TN464	G			1 1		
2: 01	A 89 82	TN464	G			1		
3: 01	A 89 83	TN464	G			1		
4: 011	A 89 84	TN464	G			1		
5: 010	A 89 85	TN464	G			1		
6: 010	A 89 86	TN464	G			1		
7: 01	A 89 87	TN464	G			1		
8: 010	A 89 88	TN464	G			1		
9: 01/	A 89 89	TN464	G			1		
10: 01	A8918	TN464	G			1		
11: 01	A8911	TN464	G			Ť		
12: 01	A0912	TN464	G			1		
13: 01	A8913	TN464	G			1		
14: 01	A8914	TN464	G			1		
15: 010	A 8915	TN464	G			1		

4. Voeg de signaleringsgroep toe en punt aan de startgroep die eerder is gemaakt

isplay	) sign	ali	ng-o	iront	1		SI	GNAL	ING	GRO	UP								
Group	Nunbe	r÷	1	Ass	oci Pri	ated nary	Grou Sig D-C	p T <u>i</u> nali hani	ype: ing? nel:	isd y 01A	In-pri 18924	i T.	Max Ma:	num k num	ber nber	of of	NCA CA	TSC: TSC:	10 10 1
	Trunk Su	Gr pp1	oup ener	for	Cha Se	nnel rvic	Sel e Pr	ecti oto	ion: col:	1 D		x-1	Net:	lity. work	/Wir Cal	ele 1 T	rans	Type: sfer?	NONE
	100																		

5. Voeg het routepatroon toe en plaats het aan de signaleringsgroep. In dit voorbeeld, richt het routepatroon 4 punten op signalerende groep# 1 die in stap 4 werd gecreëerd.

car	icel		ſ	efre	sh		ente	er clear	h	elp	go to page	next page	prev page	2			
lisp	<b>1</b> a	y	r	out	e	-ра	atter	rn 4							Page	1 of	3
								Pattern N	unber	: 4	Patter Secu	'n Name: ure SIP?	isdn 1 n	test			
	Gr	p	FF	٩L	N	PA	Pfx	Hop Toll	No.	Inse	rted					DCS/	IXC
	No						<b>Nrk</b>	Lmt List	Del	Digi	ts 👘					QSIG	
									Dgts							Intu	1
1:	1		1	3	4	88		4								n	user
2:																n	user
3:																n	user
41																n	user
5:																n	user
6:																n	user
	B	CC		IAL	U	E.	TSC	CA-TSC	ITC	BCIE	Service	e/Featur	e BAND	No.	Numbe	ring	LAR
	0	1	2	3	4	W		Request						Dats	Forma	it 🍈	
													Sul	baddr	ess		
1:	y.	y.	y.	y.	y	n	y.	as-needed	rest						pub-u	ink	none
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											а — а — а						

6. Voeg een ingang in de AAR tabel toe om het routepatroon te gebruiken dat u aan routeoproepen hebt gemaakt. In dit voorbeeld, gebruikt de vraag naar de de telefoonuitbreiding van Cisco IP 4XXX de ingang van de AAR tabel met aanvang 4, die op zijn beurt aan routepatroon # 4 wijst

olay aar analysis (	•		CIT ONOL V		E	Page 1	01
	1		GIT MMET	513 100		Percent Full	-
Dialed	Tot	al	Route	Call	Node	ANI	
String	Min	Max	Pattern	Type	Nun	Regd	
4	4	4	28	aar		y .	
4	7	7	999	aar		ñ	
4001	4	4	4	aar		U	
4008	4	4	4	aar		Ű.	
4015	4	4	4	aar		ñ	
44	4	4	4	aar		U	
5	4	4	10	aar		n	
5	7	7	999	aar		n	
5001	4	4	25	aar		n	
5 05 0	4	4	10	aar		n	
555	7	7	4	aar		n	
7	7	7	999	aar		n	
70007950	8	8	45	aar		n	
8	7	7	999	aar		n	
88001	5	5	65	aar		n	

7. Verzeker dat de bezoeker ID op elke IP-telefoon is ingeschakeld om de naam van de oproepende partij te verzenden.

display station 7007	Page 2 of 4
	STATION
FEATURE OPTIONS	
LWC Reception: spe	Auto Select Any Idle Appearance? n
LWC Activation? y	Coverage Hsg Retrieval? y
LWC Log External Calls? n	Auto Answer: none
CDR Privacy? n	Data Restriction? n
Redirect Notification? y	Idle Appearance Preference? n
Per Button Ring Control? n	
Bridged Call Alerting? n	Restrict Last Appearance? y
Active Station Ringing: continuous	이 같은 것이 있는 것이 있는 것이 있는 것이 있는 것이 있다. 이렇게 가지 않는 것이 있다. 같은 것이 같은 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있다. 것이 있는
H.320 Conversion? y	Per Station CPN - Send Calling Mumber? y
Service Link Hode: as-needed	
Multimedia Hode: enhanced	Audible Message Waiting? n
MWI Served User Tupe: gsig-mwi	Display Client Redirection? n
	Select Last Used Appearance? n
	Coverage After Forwarding? s
	Hultimedia Early Answer? n
	Direct IP-IP Audio Connections? u
Emergency Location Ext: 7007	IP Audio Hairpinning? v
	an and a state particular by

#### Procedure voor Cisco Call Manager

Voer de volgende stappen uit:

 Zorg er onder Service parameters voor dat de Minimale en Maximum aantal tijdwaarden voor Startpad vervanging juist zijn ingesteld om problemen (zoals haarspelden) te voorkomen.De volgende twee schermopnamen hebben betrekking op de instellingen van Q.SIGserviceparameters:

Clusterwide Pa	arameters (Feature - Path Replacen	nent)	
Parameter Name	Parameter Value	Sugg	ested Value
Path Replacement Enabled*	True	False	
Path Replacement on Tromboned Calls*	True	True	
Start Path Replacement Minimum Delay Time (sec)*	5	0	
Start Path Replacement Maximum Delay Time (sec)*	10	0	
Path Replacement T1 Timer (sec) *	30	30	
Path Replacement T2 Timer (sec)	15	15	

Start Path Replacement Minimum Delay Time (sec)*	5	0
Start Path Replacement Maximum Delay Time (sec)*	10	0
Path Replacement T1 Timer (sec) *	30	30
Path Replacement T2 Timer (sec) *	15	15
Path Replacement PINX Id	4444	
Path Replacement Calling Search Space	< None >	

2. Voeg Cisco 3745 toe als MGCP-gateway en configureren de NM-HDV T-1 module voor Q.SIG PRI.De volgende vijf schermopnamen hebben betrekking op deze

config	uratie:
coning	uruno.

display ds1 01A09 DS1 CIRCUIT PACK Location: 01A09 Bit Rate: 1.544 Line Coding: b8zs Line Compensation: 1 Signaling Mode: isdn-pri Connect: pbx TN-C7 Long Timers? n Interface: peer-master TN-C7 Long Timers? n Peer Protocol: Q-SIG Interworking Message: PROGress Side: a Loterface: companding: mulaw CRC? n	cancel	refresh	enter	clear	help	go to page	next page	prev page	1			
DS1 CIRCUIT PACK Location: 01A09 Name: QSIG Bit Rate: 1.544 Line Coding: b8zs Line Compensation: 1 Framing Mode: esf Signaling Mode: isdn-pri Connect: pbx Interface: peer-master TN-C7 Long Timers? n Peer Protocol: Q-SIG Interworking Message: PROGress Side: a Interface Companding: mulaw CRC2 n	display	ds1 01A	99						Page	1 of	2	
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TN-C7 Long Timers? n Peer Protocol: Q-SIG Interworking Message: PROGress Side: a	3.	rgnarring	noue.	15un-pr1			Into		nonu-mach			
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Intervorking Message: PROGress Side: a	TH-G	/ Long 11	imerst	0		'	eer pro	COCOL:	Q-516			
Lotertace Connanding: millau CNCY n	Intervol	rking nes	sage:	PROGPESS				510e:	a			
incertable outputdatig. Market	Interfac	ce Compar	iding:	mulau				CRCY	n			
Idle Code: 11111111		Idle	Code:	111111111								
DCP/Analog Bearer Capability: 3.1kHz					DCP/Ana	log Beare	er Capab	ility:	3.1kHz			
	12525262628											
Slip Detection? n Near-end CSU Type: other	S	lip Detec	:tion?	n		Near-e	end CSU	Type: (	other			
Echo Cancellation? n	Echo	Cancella	ation?	n								

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Calling Number - D Bit Disconnect Superv Answer Supervisio	elete: In Rate: 1200 vision - In? y on Timeout: 0	nsert: Synchro y Out?y	Nu nization: a	inbering Forma isync Duple	t: pub-unk x: full
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3. Als laatste stap moet u een gebruikersgroep voor Cisco Call Manager maken om een uitbreiding van het pad naar de PBX-indeling te geven. Zorg ervoor dat het aanrolnummer ook is ingevoerd in de PINX Vervanging ID Service-parameter van het pad (zie stap# 1). Het Avaya-systeem heeft ook een routepatroon nodig om naar de pickup-groep te kunnen leiden.

olay aar analysis 4						Page	1 of	2
	e e	IAR DI	GIT ANALY	SIS TABI	LE			
						Percent Fu	11:	2
Dialed	Tot	al	Route	Call	Node	ANI		
String	Min	Max	Pattern	Type	Nun	Regd		
4	4	4	28	aar		V		
4	7	7	999	aar		ñ		
4001	4	4	4	aar		V		
4008	4	4	4	aar		Ű.		
4015	4	4	4	aar		n		
44	4	4	4	aar		U		
5	4	4	18	aar		ñ		
5	7	7	999	aar		n		
5001	4	4	25	aar		n		
5 05 0	4	4	10	aar		n		
555	7	7	4	aar		n		
7	7	7	999	aar		n		
70007950	8	8	45	aar		n		
8	7	7	999	aar		n		
88001	5	5	65	aar		n		

Opmerking: Zorg ervoor dat deze twee clusterbrede parameters (Apparaat - PRI en MGCP gateway) onder Cisco CallManager Service sparameters (Geavanceerd) overeenkomen met de Q.SIG-configuratie in de PBX-indeling. Alle PBX-stammen moeten precies zo worden geconfigureerd als deze Cisco CallManager-parameters. ASN.1 ROSE OID-versleuteling: Deze parameter geeft aan hoe de Invocke Object-ID (OID) moet worden gecodeerd voor het element Remote Operations Service (ROSE). Bewaar deze parameter op de standaardwaarde is ingesteld, tenzij een Cisco Support Engineer anders instructies geeft. Dit is een vereist veld en de standaardinstelling is Lokale waarde gebruiken. Dit zijn de geldige waarden voor deze parameter: Gebruik lokale waarde, die wordt ondersteund door de meeste telefoniesystemen en moet worden gebruikt wanneer de Q.SIG Variant Service parameter is ingesteld op ISO (Protocol Profile 0x9F). Gebruik Global Value (ISO), die alleen gebruikt wordt als de aangesloten PBX geen Lokale waarde ondersteunt. Gebruik Global Value (ECMA), die moet worden gebruikt als de Q.SIG Variant Service parameter is ingesteld op ECMA (Protocol Profile 0x91). Q.SIG variant: Deze parameter specificeert het protocolprofiel dat in uitgaande informatie-elementen van de faciliteit van Q.SIG wordt verzonden wanneer de romp voor Q.SIG is geconfigureerd. Bewaar deze parameter op de standaardwaarde is ingesteld, tenzij een Cisco Support Engineer anders instructies geeft. Dit is een vereist veld en de standaard is ISO (Protocol Profile 0x9F). Dit zijn de beschikbare waarden voor deze parameter: ECMA (Protocol Profile 0x91), dat doorgaans wordt gebruikt met ECMA PBXsystemen en alleen Protocol Profile 0x91 kan gebruiken. Als deze service-parameter op ECMA (Protocol Profile 0x91) is ingesteld, moet de ASN.1 Rose OID Encoding Serviceparameter worden ingesteld op Use Global Value (ECMA). ISO (Protocol Profile 0x9F), hetgeen de huidige ISO-aanbeveling is. Als deze parameter op ISO (Protocol Profile 0x9F) is ingesteld, moet de ASN.1 Rose OID Encoding Service parameter worden ingesteld om Local Value te gebruiken. Waarschuwing: Cisco CallManager ondersteunt ECMA niet bij het gebruik van interclusterstammen met het veld Tunneled Protocol ingesteld op Q.SIG in het venster Trunk Configuration in het beheerprogramma CallManager. Als u deze service parameter op ECMA (Protocol Profile 0x91) instelt, moeten alle intercluster trunks het Tunneled Protocol-veld op Geen laten instellen.

Clusterwide P	arameters (Device - PRI and MGCP Gateway)		
Parameter Name	Parameter Value		Suggested Value
ASN.1 ROSE OID Encoding*	Use Local Value		Use Local Value
QSIG Variant*	ISO (Protocol Profile 0x9F)		ISO (Protocol Profile 0x9F)
Caller ID			
Calling Name Not Available Timeout (msec)*	2000		2000
Calling Party Number Screening Indicator*	CallManager sets the screening indicator value - Default set	ing 💌	CallManager sets the screening indicator value - Default setting
Change B- Channel Maintenance Status 1			
Change B- Channel			

#### Cisco 3745-configuratie

Dit is de opdrachtoutput van de **show versie** en **show**-configuratie op het Cisco 3745 MGCPapparaat. Controller T1 1/0 op Cisco 3745 is aangesloten op de Avaya S8700/G650 DS1 PRIkaart. Q.SIG-signalering is ingesteld op PRI-link tussen Cisco 3745 en de Avaya S8700/G650.

```
CCME_CUE_3745# sh vers
Cisco Internetwork Operating System Software
IOS (tm) 3700 Software (C3745-IS-M), Version 12.2(15)ZJ3, EARLY DEPLOYMENT RELEASE SOFTWARE
(fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Thu 25-Sep-03 22:25 by eaarmas
Image text-base: 0x60008954, data-base: 0x61C2C000
ROM: System Bootstrap, Version 12.2(8r)T2, RELEASE SOFTWARE (fc1)
ROM: 3700 Software (C3745-IS-M), Version 12.2(15)ZJ3, EARLY DEPLOYMENT RELEASE SOFTWARE (fc2)
CCME_CUE_3745 uptime is 39 minutes
System returned to ROM by reload
System image file is "flash:c3745-is-mz.122-15.ZJ3.bin"
cisco 3745 (R7000) processor (revision 2.0) with 246784K/15360K bytes of memory.
Processor board ID JMX0814L3E2
R7000 CPU at 350Mhz, Implementation 39, Rev 3.3, 256KB L2, 2048KB L3 Cache
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
Primary Rate ISDN software, Version 1.1.
2 FastEthernet/IEEE 802.3 interface(s)
25 Serial network interface(s)
1 terminal line(s)
2 Channelized T1/PRI port(s)
1 ATM AIM(s)
```

```
2 Voice FXS interface(s)
2 Voice E & M interface(s)
1 cisco service engine(s)
DRAM configuration is 64 bits wide with parity disabled.
151K bytes of non-volatile configuration memory.
125184K bytes of ATA System CompactFlash (Read/Write)
Configuration register is 0x2102
CCME_CUE_3745# sh run
Building configuration...
Current configuration : 3291 bytes
1
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
1
hostname CCME_CUE_3745
!
logging queue-limit 100
!
voice-card 1
dspfarm
1
voice-card 5
dspfarm
1
ip subnet-zero
!
1
no ip domain lookup
!
isdn switch-type primary-qsig
!
no voice hpi capture buffer
no voice hpi capture destination
1
!
ccm-manager mgcp
ccm-manager music-on-hold
ccm-manager config server 172.28.221.18
ccm-manager config
mta receive maximum-recipients 0
!
!
controller T1 1/0
framing esf
linecode b8zs
 pri-group timeslots 1-24 service mgcp
!
controller T1 1/1
framing sf
linecode ami
!
1
1
interface FastEthernet0/0
 description CCME-CUE-3745_to_cat3550
 no ip address
 duplex auto
 speed auto
!
interface FastEthernet0/0.1
```

```
encapsulation dot10 99
1
interface FastEthernet0/0.2
description NEW_S8700_G650
encapsulation dot1Q 300
ip address 172.28.221.49 255.255.255.240
ip helper-address 172.28.221.19
h323-gateway voip bind srcaddr 172.28.221.49
1
interface FastEthernet0/0.3
description MODULAR_MESSAGING_SOLUTION
encapsulation dot1Q 900
ip address 172.28.221.129 255.255.255.240
ip helper-address 172.28.221.19
!
interface FastEthernet0/0.4
encapsulation dot1Q 301
ip address 10.1.3.1 255.255.255.128
ip helper-address 172.28.221.19
!
interface FastEthernet0/0.5
 encapsulation dot1Q 302
ip address 10.1.3.129 255.255.255.128
ip helper-address 172.28.221.19
1
interface FastEthernet0/0.6
encapsulation dot10 90
ip address 90.1.1.254 255.255.255.0
ip helper-address 172.28.221.19
1
interface Serial0/0
description CCME-CUE-3745_to_3600
ip address 25.0.0.1 255.0.0.0
clockrate 256000
no fair-queue
1
interface Serial1/0:23
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn incoming-voice voice
isdn bind-13 ccm-manager
isdn bchan-number-order ascending
no cdp enable
Ţ
interface Service-Engine2/0
no ip address
shutdown
!
router eigrp 100
network 10.0.0.0
network 25.0.0.0
network 90.0.0.0
network 172.28.0.0
auto-summary
!
ip http server
ip classless
1
call rsvp-sync
1
voice-port 1/0:23
1
voice-port 4/0/0
```

```
1
voice-port 4/0/1
1
voice-port 4/1/0
!
voice-port 4/1/1
1
macp
mgcp call-agent 172.28.221.18 2427 service-type mgcp version 0.1
mgcp dtmf-relay voip codec all mode out-of-band
mgcp rtp unreachable timeout 1000 action notify
mgcp package-capability rtp-package
no mgcp package-capability res-package
mgcp package-capability sst-package
no mgcp timer receive-rtcp
mgcp sdp simple
mgcp fax t38 inhibit
mgcp rtp payload-type g726r16 static
!
mgcp profile default
1
1
1
dial-peer cor custom
1
dial-peer voice 1 pots
application mgcpapp
 port 1/0:23
1
dial-peer voice 999410 pots
 application mgcpapp
port 4/1/0
!
1
line con 0
 password cisco
 login
line 65
flush-at-activation
 no activation-character
no exec
transport preferred none
 transport input all
line aux 0
line vty 0 4
password cisco
 login
1
end
```

#### Functies getest voor interoperabiliteit tussen Cisco en AVC IP-PBX-systemen

Deze sectie verschaft een lijst van functies die zijn getest tussen het Cisco Call Manager 4.1(2) platform en de Avaya S8700/G650 die Communication Manager 2.0 uitvoeren via de Q.SIG PRIstam:

- Naam en nummerweergave (tweerichtings)
- Oproegespreksoverdracht

Conferentieoproep tussen de twee systemen

### Integratie met Cisco Unity Voice Mail voor ondersteuning van Cisco en AVAY IP-telefoons

Op dit punt kan de Q.SIG-stam worden gebruikt om gesprekken te maken tussen een Avaya S8700/G650 met Avaya Communication Manager 2.0 en een Cisco Call Manager platform met Call Manager versie 4.1(2) met het Cisco 3745 MGCP-apparaat dat de fysieke ISDN PRI-verbinding naar de Avaya S8700 biedt 6650/G650. Een Cisco Unity server kan op het Cisco Call Manager-platform worden toegevoegd om ondersteuning voor spraakpost te bieden aan zowel Cisco- als Avaya IP-telefoons. Om dit mogelijk te maken, moet de beheerder de Cisco Unity op het Cisco Call Manager-platform configureren. Deze sectie omvat de procedures met het scherm vangen voor hoe te om Cisco Unity op de pagina van het Beheer van de Manager van Cisco te vormen.

**Opmerking:** Het grootste deel van de configuratie wordt uitgevoerd op de Cisco Voice Mail Port Wizard.

#### Voeg Cisco Unity toe aan Cisco Call Manager

Voer de volgende stappen uit:

1. Selecteer onder Functie de optie Voice Mail > Voice Mail Port Wizard. Selecteer Een nieuwe voicemailserver maken en er poorten aan toevoegen en klik op

display station 7007	Page 2 of 4
	STATION
FEATURE OPTIONS	
LWC Reception: spe	Auto Select Any Idle Appearance? n
LWC Activation? y	Coverage Msg Retrieval? y
LWC Log External Calls? n	Auto Answer: none
CDR Privacu? n	Data Restriction? n
Redirect Notification? u	Idle Appearance Preference? n
Per Button Ring Control? n	antor boundation displayed in the
Bridged Call Alerting? n	Restrict Last Appearance? u
Active Station Ringing: continuous	
H.320 Conversion? u	Per Station CPN - Send Calling Number? u
Service Link Hode: as-needed	
Multimedia Hode: enhanced	Audible Message Vaiting? n
HWI Served User Tune: asia-mui	Display Client Redirection? n
har berved ober typer qorg and	Select Last lised Annearance? n
	Couprana Ofter Forwarding? c
	Hultinedia Farlu Ancuer? n
	Direct ID-ID Audio Connections? #
Emongenery Location Ext. 7007	TD Audia Usigninging u
Emergency Location Ext: 7007	ir Huulo Hairpinning: y

2. Voer een naam van Cisco Voice Mail Server in, zoals AvayaUM3, en klik op **Volgende**.



3. Selecteer het gewenste aantal poorten en klik op **Volgende**.

· ···Jointeo
System Route Plan Service Feature Device User Application Help
Cisco CallManager Administration
Cisco Voice Mail Port Wizard
Cisco Voice Mail Ports
AvayaUM3 currently has 0 ports configured.
How many ports do you want to add? 2 💌
Back Next Cancel

4. Voer een beschrijving en een apparaatje in voor de spraakpostpoorten. In de voorbeeldconfiguratie werd Avaya VMailPort als beschrijving en standaard als apparaatpool opgenomen.

display trunk-group 1 2 of 22 Page TRUNK FEATURES ACA Assignment? n Heasured: internal Wideband Support? n Maintenance Tests? y Internal Alert? n Data Restriction? n NCA-TSC Trunk Member: 10 Send Name: y Send Calling Number: y Used for DCS? n Hop Dgt? y Suppress # Outpulsing? n Numbering Format: public Outgoing Channel ID Encoding: exclusive UUI IE Treatment: service-provider **Replace Restricted Numbers?** n Replace Unavailable Numbers? n Send Called/Busy/Connected Number: y Send UUI IE? y Send UCID? y Send Codeset 6/7 LAI IE? y Ds1 Echo Cancellation? n Path Replacement with Retention? y Network (Japan) Needs Connect Before Disconnect? y SBS? n

5. Voer het beginnende Directory-nummer in, zoals 4406, en het display, zoals Voice Mail, en klik op

licolau det 81080			Bage 1 of 9
risping usi enner		DS1 CIRCUIT PACK	Fage 1 OF 2
		UST OTHOUT THUN	
Location:	01A 09	Name :	QSIG
Bit Rate:	1.544	Line Coding:	b8zs
Line Compensation:	1	Franing Mode:	esf
Signaling Mode:	isdn-pri		
Connect:	pbx	Interface:	peer-master
TN-C7 Long Timers?	n	Peer Protocol:	Q-SIG
nterworking Message:	PROGress	Side:	a
interface Companding:	mulaw	CRC?	n
Idle Code:	111111111		
		DCP/Analog Bearer Capability:	3.1kHz
Slip Detection?	n	Near-end CSU Type: o	ther
Echo Cancellation?	n		

 Het volgende scherm vraagt: "Wilt u deze folder nummers aan een Line Group toevoegen?" Selecteer Ja. Voeg folder nummers toe aan een nieuwe groep en klik op Volgende.

cancel	refresh	enter	clear	help	go to page	next page	prev page			
display	trunk-	group 1						Page	1 of	22
				TRUNK	GROUP					
Group N Group Dire Dial A Queue L Service TestCal TRUNK P Suppl	umber: Name: ction: ccess? ength: Type: 1 BCC: ARAHETE Codes Nax Me ementar	1 QSIG TRU two-way 9 tie 4 RS et to Se ssage Si y Servic	Far I Far I nd Disp ze to So e Protoc	Gro Dutgoing Busy Th Au End Test Lay: 0 end: 260 col: b	Dup Type: COR: Display hreshold: Line No: Codese Digit	isdn 90 99 n t to Se Handlin	TN: 1 Carr Nigh T end Natio	CDR Report ier Medic t Service estCall 1 nal IEs: t): enblo	rts: n FAC: *0 Jm: PRI 2: ITC: re 6 bc/enb1	1 /BRI st oc
	Tr	unk Hunt	: ascen	1		Di	QSIG Val gital Lo	ue-Added ss Group:	? y : 13	
Calling Discon Answer	Nunber nect Su Superv	- Delet Bit Rate pervisio ision Ti	e: : 1200 n - In? meout:	Insert: y Out? 0	Synchroni Y	ization:	Nunberin async	g Format: Duplex:	: pub-u : full	nk

7. Voer een Line Group Name in die overeenkomt met de Voice Mail Server die u eerder hebt ingevoerd, zoals

AvayaUM3. display trunk-group 1 Page 2 of 22 TRUNK FEATURES ACA Assignment? n Wideband Support? n Heasured: internal Internal Alert? n Maintenance Tests? y NCA-TSC Trunk Member: 10 Data Restriction? n Send Name: y Send Calling Number: y Hop Dgt? y Used for DCS? n Suppress # Outpulsing? n Numbering Format: public Outgoing Channel ID Encoding: exclusive UUI IE Treatment: service-provider Replace Restricted Numbers? n Replace Unavailable Numbers? n Send Called/Busy/Connected Number: y Send UUI IE? y Send UCID? y Send Codeset 6/7 LAI IE? y Ds1 Echo Cancellation? n Path Replacement with Retention? y Network (Japan) Needs Connect Before Disconnect? v SBS? n

 Het volgende scherm toont de configuratie die tot nu toe is ingevoerd. Klik op Voltooien als de configuratie niet is gewijzigd.

<b>aispi</b> a	ay trunk	(-group	1			Page	e 6 of	22
					TRUNK GROUP			
					Administ	ered Members (min/max)	): 1/2:	3
GROUP	MEMBER	ASSIGN	HENT	S	Tota	1 Administered Members	5: 23	
	Bout	Pada	e	Mamo	Might	Sin Cup		
- Q - 3	PUPL	TUBER	318	пане	птдис	ary arp		
11	010001	11404	G					
2:	0100902	TN464	G			1		
3: (	01A 09 03	TN464	G			1		
4: (	01A 09 04	TN464	G			1		
5:1	01A 09 05	TN464	G			1		
6: 1	8188986	TN464	G			1		
7: 1	8168987	TN464	G					
8 -	8108988	TNA6A	č			A CONTRACTOR		
0.	8108080	TNh6h	č			4		
10.	0100000	111404				a da anti-		
10:	0140710	11404	6					
11:	0140911	TN464	G			1		
12: (	0140912	TN464	G					
13: (	01A0913	TN464	G			1		
14: 0	0160914	TN464	G			1		
15: 0	8188915	TNA64	G			4		

9. Klik op een nieuwe hunting List toevoegen aan de webpagina Hunt

						SIG	NALING	GRO	JUP							
Group	Nunbe	r: 1	Ass	ociat Prima	ed ry	iroup Sign D-Ch	Type: aling? annel:	is) y 016	In-pr: 18924	і И Теч	ax nu Max n nk Gr	nber unber	of r of For	NCA CA NCA	TSC: TSC: TSC:	10 10 1
	Trunk Su	Grou pplem	o for entary	Chann Serv	el ice	Sele Pro	ction: tocol:	1 b		X-Mo N	bilit etwor	y/Wi k Ca	rele 11 1	ran	Type: sfer?	NONE

10. Voer een naam en beschrijving van de hunting List in, zoals Avaya VMailHL. Selecteer ook **Standaard** voor de Cisco Call Managergroep.

nter clear	help (	go to page	next page	prev page			
ern 4					Page	1 of	3
Pattern Nur	nber: 4	Patter Secu	'n Name: re SIP?	isdn t n	est		
x Hop Toll No k Lmt List De	o. Inser el Digit	ted S				DCS/ QSIG	IXC
Do	gts					Intw	
4						n	user
						n	user
						n	user
						n	user
						n	user
						n	user
C CA-TSC 1	ITC BCIE	Service	/Feature	e BAND	No. Number	rina	LAR
Request					Dots Forma	t	
aliante a construction.				Sub	address		
as-needed r	rest				pub-u	nk	none
	rest				7007009709		none
	rest						none
	rest						none
6 T - 1	rest						none
	rest						none
e e	1	rest	rest	rest	rest	rest	rest

11. Deze schermopname is het resultaat van de succesvolle toevoeging van de hunting List. Klik op Lijngroep

lay aar analysis 4						Page	1 of	
	6	IAR DI	GIT ANALY	SIS TABI	LE			3
						Percent Ful	1:	-
Dialed	Tot	al	Route	Call	Node	ANI		
String	Min	Max	Pattern	Type	Nun	Reqd		
4	4	4	20	aar		y		
4	7	7	999	aar		n		
4001	4	4	4	aar		y .		
4008	4	4	4	aar		ý		
4015	4	4	4	aar		n		
44	4	4	4	aar		y .		
5	4	4	10	aar		n		
5	7	7	999	aar		n		
5001	4	4	25	aar		n		
5 05 0	4	4	10	aar		n		
555	7	7	4	aar		n		
7	7	7	999	aar		n		
70007950	8	8	45	aar		n		
8	7	7	999	aar		n		
88001	5	5	65	aar		n		

12. Selecteer de eerder geconfigureerd lijngroep. In dit geval is het AvayaUM3.

display station 7007	Page 2 of 4
	STATION
FEATURE OPTIONS	
LWC Reception: spe	Auto Select Any Idle Appearance? n
LWC Activation? y	Coverage Msg Retrieval? y
LWC Log External Calls? n	Auto Answer: non
CDR Privacy? n	Data Restriction? n
Redirect Notification? y	Idle Appearance Preference? n
Per Button Ring Control? n	CONTRACTOR AND
Bridged Call Alerting? n	Restrict Last Appearance? y
Active Station Ringing: continuous	
H.320 Conversion? y Service Link Mode: as-needed	Per Station CPN - Send Calling Number? y
Multimedia Hode: enhanced	Audible Message Waiting? n
MWI Served User Tupe: asia-mwi	Display Client Redirection? n
	Select Last Used Appearance? n
	Coverage After Forwarding? s
	Hultinedia Earlu Answer? n
	Direct IP-IP Audio Connections?
Emergency Location Ext: 7007	IP Audio Hairpinning? u

13. De volgende schermopname toont het resultaat van de succesvolle invoeging van de lijngroep.

<u> </u>				
Hunt List Çon	figuration		Add a new Hunt Back to Find/List Hunt I Dependency Rec	Lists Lists ords
Hunt List Details	Hunt List: Avaya	Mail HL		
AvayaUM3	Status: Line Group ins	ert completed		
-	Copy Update	Delete Reset		
	Hunt List Informat	ion		
	Hunt List Name*	Avaya VMail HL		
	Description	Avaya VMail HL		
	Cisco CallManager G	roup* Default	¥	
	F Enable this Hunt	List (change effective on Update;	no reset required)	
	Hunt List Member	Information		
	Add Line Group			
	Selected Groups*	AvayaUM3		
	priority)			
			1	\$
		▼ ▲		
	Removed Groups			
	(to be removed from Hunt List when you			
	click Update)			

14. Ga naar **routeplan > route/hunting > Tunt Pilot**. Klik op **Een nieuwe hunting-piloot** toevoegen uit het scherm Hunt Pilot dat het resultaat geeft.

system Ryute Plan Service Feature Device User Application Help	
Cisco CallManager Administration	Cisco Systems
Find and List Hunt Pilots	Add a New Hunt Pilot
No current search	
Find Hunt Pilots where Patern Robert Page and show 20 Robert items per page To list all items, dick Find without entering any search text.	Find

15. Voer in de Tunt Pilot in, zoals 4408, en selecteer een Taaklijst, zoals Avaya VMail Handleiding en klik op

cancel refresh enter	clear	heip g	go to page	next page	prev pag	e					
isplay ds1 01A09							Page	1	of	2	
		DS1 CIR	CUIT PAG	CK							
Location:	01A 09				Name:	QSIG					
Bit Rate:	1.544			Line C	oding:	b8zs					
Line Compensation: Signaling Mode:	1 isdn-pri		1	Franing	Hode:	esf					
Connect:	pbx			Inte	rface:	peer	-naste	r i			
TN-C7 Long Timers?	n		Pe	eer Pro	tocol:	Q-SI	G				
nterworking Message:	PROGress				Side:	а					
nterface Companding:	mulaw				CRC?	n					
Idle Code:	111111111										
	I	OCP/Analo	ig Bearei	r Capab	ility:	3.1k	Hz				
Slip Detection?	n		Near-ei	nd CSU	Type:	other					
Echo Cancellation?	n										
										1	

16. Ga naar Functie > Voice Mail > Voice Mail Pilot en klik op Add a New Voice Mail Pilot op het scherm dat het resultaat is.

cancel	refresh	enter	clear	help	go to page	next page	prev page			
display	trunk-	group 1						Page	1 of	22
				TRUNK	GROUP					
Group No Group Direc Dial Ac Queue Lo Service TestCall TRUNK PO	umber: Name: ction: ccess? ength: Type: BCC: BAMETE	1 QSIG TRU two-way 9 tie 4 RS	NKING ( Far [	Gr Dutgoing Busy T A End Test	oup Type: COR: Display? hreshold: uth Code? Line No:	isdn 90 y 99 n	TN: 1 Carr: Night	CDR Repor ier Medic Service estCall )	rts: n IAC: *Ø JM: PRI, 2: ITC: re	1 /BRI st
	Codes	et to Se	nd Displ	lay: 0	Codese	t to Se	nd Nation	nal IEs:	6	
	Max Me	ssage Si	ze to Se	end: 260						
Supple	ementar	y Servic	e Protoc	:01: b	Digit	Handlin	ng (in/out	t): enblo	oc/enbl	oc
	Tr	unk Hunt	: ascend	1		Di	QSIG Valu gital Los	le-Added s Group	?у :13	
Calling Discon Answer	Number nect Su Superv	- Delet Bit Rate pervisio ision Ti	e: 1200 n - In? meout: 1	Insert: y Out? Ø	Synchroni Y	zation:	Nunbering async	j Format: Duplex:	: pub-u : full	nk

 Geef het proefnummer van de Voice Mail op dat overeenkomt met het eerder ingestelde nummer van de Hunt Pilot. In dit geval zijn zowel de nummers Hunt Pilot als Voice Mail Pilot 4408.



 Ga naar functies > Spraak-mail > Spraak-mailprofiel en klik op Een nieuw spraakpostprofiel toevoegen.

01SPI	ay trunk	(-group	1					Page	6 (	of	22
					TRUNK GROUP						
					Administer	ed Nember	s (mi	n/max):	1,	/23	
GROUP	MEMBER	ASSIGN	HENT	S	Total	Administe	red H	embers:	23		
	8 3	2 5		387	447 - 632						
	Port	Code	SEX	Name	Night	Sig (	irp				
1:	01A0901	TN464	G			1					
2:	01A 09 02	TN464	G			1					
3:	01A 09 03	TN464	G			1					
4:	01A 09 04	TN464	G			1					
5:	01A 09 05	TN464	G			1					
6:	01A 09 06	TN464	G			1					
7:	01A 09 07	TN464	G			1					
8:	0140908	TN464	G			1					
9:	8168989	TN464	G			1					
18:	8168918	TN464	G			1					
11:	8168911	TN464	G								
12:	8168912	TN464	G_								
13:	8168913	TN464	G								
14:	8168914	TN464	G			4					
15.	8108015	TNh6h	č								
12.	01110313	111404	u								

19. Voer de naam en beschrijving van het spraakprofiel in, zoals AvayaVMailProfile, en selecteer het proefnummer van de Voice Mail in stap 17. In dit geval is het Pilotnummer van de Voice Mail

4408.												
displa	y sign	aling-	group	1								
	Surray on the Second	destruction (Read)			\$16	NALING	GROUP					
Group	Nunbe	r: 1	Ass	ociate Primar	Group d Sign y D-Ch	Type: aling? annel:	isdn-pr: y 01A0924	i Max Max Trunk	number number Group f	of NCA of CA or NCA	TSC: TSC: TSC:	10 10 1
	Trunk	Group	For	Channe	1 Sele	ction:	1	X-Mobil	ity/Wir	eless	Type:	NONE
	Su	pprene	ntary	266.01	ce Pro	C0C01:	D	Netw	JORK CAL	I Tran	ster?	n
Ann an a		and a second second	a de coloridad				on de sugerije goerde s	ana da cana da cara d			a de la consta	
Comman	4 -											_
COMMAN	u -											

20. Klik op Functies > Voice Mail > Message Waiting Indicator > Voeg een nieuw bericht toe met een Waiting Number om de berichtwachtindicator (MWI) aan/uit toe te voegen. Hieronder staan twee schermopnamen voor getallen van Waiting Indicator On/Off.

car	nce		ſ	efre	sh		ente	er clear	h	elp	go to page	next page	prev page	•			
is	<b>p1</b> ;	ay	r	out	te-	pa	atter	rn 4							Page	1 0	3
								Pattern N	unber	: 4	Patter Secu	n Name: re SIP?	isdn t n	test			
	Gi Ni	rp o	FI	RL	NP	A	Pfx Mrk	Hop Toll Lmt List	No. Del Dats	Inse Digi	rted ts					DCS/ QSII	/ IXC
1:	1		- 1	9	40	18		4	3.00							n	user
2:																n	user
3:																n	user
4:																n	user
5:																n	user
6:																n	user
	1	BCI	; ;	UAL	LUE	Ċ.	TSC	CA-TSC	ITC	BCIE	Service	/Feature	BAND	No.	Numbe	ring	LAR
	0	1	2	3	4	W		Request					Sül	Dgts	Forma ess	it	
1:	y	y	y	y	y	n	y	as-needed	rest						pub-u	ink	none
2:	y	y	y	y	y	п	n		rest								none
3:	y	y	y	y	y	n	n		rest								none
4:	y	y	y	y	y	n	n		rest								none
5:	y	y	y	y	y	n	n		rest								none
6:	y	y	y	y	y	n	n		rest								none

Jiay aar analysis 4			CIT ANALY	INT 212	E	rage 1 of	
				Percent Full:			
Dialed	Tot	al	Route	Call	Node	ANI	
String	Min	Max	Pattern	Type	Nun	Regd	
4	4	4	20	aar		У	
4	7	7	999	aar		n	
4001	4	4	4	aar		y	
4008	4	4	4	aar		ÿ	
4015	4	4	4	aar		n	
44	4	4	4	aar		y	
5	4	4	10	aar		n	
5	7	7	999	aar		n	
5001	4	4	25	aar		n	
5 05 0	4	4	10	aar		n	
555	7	7	4	aar		n	
7	7	7	999	aar		n	
70007950	8	8	45	aar		n	
8	7	7	999	aar		n	
88001	5	5	65	aar		n	

### **Cisco Unity Voice Mail-functies getest**

Dit is een lijst van Cisco Unity Voice Mail-functies die met de Avaya IP-telefoons worden getest en die worden gebruikt om Cisco Unity Voice Mail te benaderen via de Q.SIG PRI-stam tussen het Cisco Call Manager 4.1(2) platform en het Avaya S8700/G650 actieve CommunicatieManager 2.0:

- Interne groet
- Busygroet
- MWI
- Snelle berichttoegang

# Gerelateerde informatie

- Ondersteuning voor spraaktechnologie
- Productondersteuning voor spraak en Unified Communications
- Probleemoplossing voor Cisco IP-telefonie
- Technische ondersteuning en documentatie Cisco Systems