

Avaya Definity G3 PBX with Cisco 3845 T1 QSIG as an MGCP Gateway to Cisco Unified CallManager 4.2 and Cisco Emergency Responder 1.3

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Note: Cisco Unified CallManager is now known as Cisco Unified CallManager in release 4.0 and later releases.



Introduction

The following is an Application Note for Interoperability of a Cisco Unified CallManager 4.2, Cisco Emergency Responder 1.3 and Cisco 3845 with CAMA interface and T1-QSIG trunk with an Avaya CM Definity PBX interconnected via VWIC-2MFT-T1

Test emergency 911 call from a PBX digital station was routed to the T1 QSIG trunk, of the Cisco 3845 MGCP gateway, and was correctly associated to the appropriate Emergency Response Location. The call was connected through the Cisco 3845 CAMA trunk to the PSAP Emulator. The Emergency Response Location associated the ten digit DID call back number (ELIN) correctly and sent it to the PSAP, audio connection was also achieved. The PBX digital station was then disconnected.

A return call was originated from an incoming trunk (PSTN side) in the same Cisco Unified CallManager Partition. The number dialed was the DID digits of the 10 digit call back number sent to the PSAP on the previous 911 call (ELIN number). The call was routed through to the PBX digital station that had originated the E911 call. The call was disconnected and an alternate trunk was used to dial the same DID number and the call was routed through, again, to the PBX digital station that had originated the E911 call.

Test emergency 911 calls were made from each PBX digital station and Cisco IP phone. All calls were confirmed to select its associated Emergency Response Location and the associated 10 digit DID call back number. In each case, the call was disconnected and the call back number was confirmed to reach the phone that had originated the E911 call.

Emergency 911calls made from an Avaya CM 2.0 PBX using a T1 QSIG trunk configured as ISO, associates with the correct Emergency Response Location and routes to the associated PSAP with the correctly formatted 10 digit DID call back number.

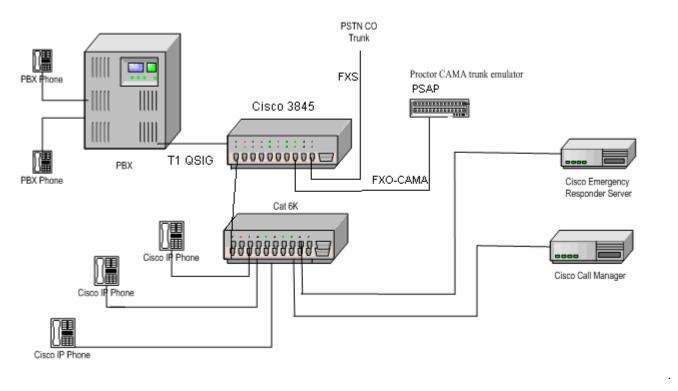
The call back DID number routes the return call to the correct phone that had originated the E911 call from the PBX digital phone.

Figure 1 shows the test set-up for interoperability between the Cisco Unified CallManager and Cisco Emergency Responder connected to the PBX via a T1 QSIG trunk using a Cisco3845 MGCP Gateway.



Network Topology

Figure 1. Network Topology or Test Setup



Limitations

Unique DID numbers must be used to associate with each Emergency Response Location to allow the return call if the 911 caller is disconnected.

Each available calling party that might dial 911 from the PBX side must have that calling party number configured in the Manually Configured Phones screen of the Cisco Emergency Responder.

System Components

Hardware Requirements

Cisco Hardware

Cisco 3845 Gateway with NM-HD/VWIC-2MFT-T1 (QSIG trunk) and NM-HD-V2/VIC2-4FXO (CAMA trunk)

Cisco Catalyst 6x00 switch

Cisco Unified CallManager

Cisco Emergency Responder

Avaya Definity PBX

Software Requirements

CISCO IOS Software releases "c3845-ipvoice-mz.123-14.T4".



PBX Software: G3si MV1.1

Cisco Unified CallManager 4.2 (0.839)

Cisco Emergency Responder 1.3 (0.105)

Features

Calling Number

E911 ERL DID number passed to PSAP

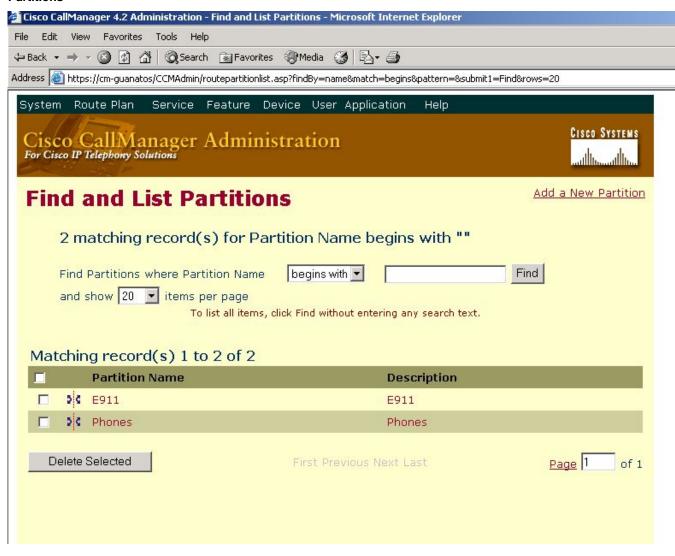
Incoming DID calling to disconnected 911 originating caller



Configuration

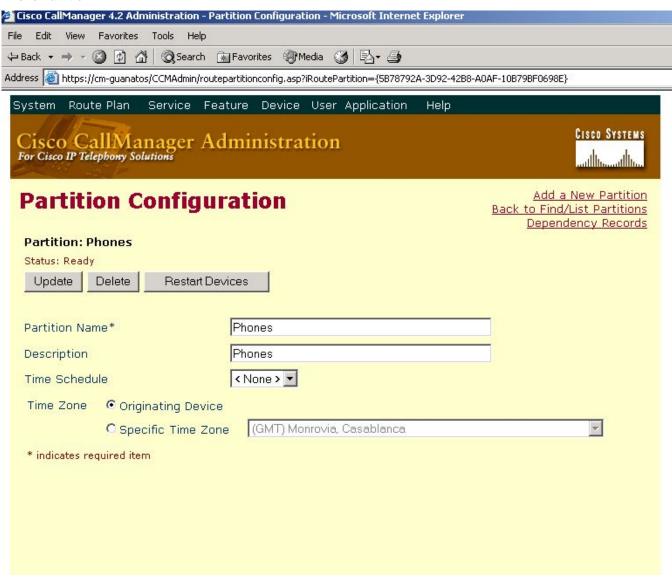
Cisco Unified CallManager Configuration

Partitions



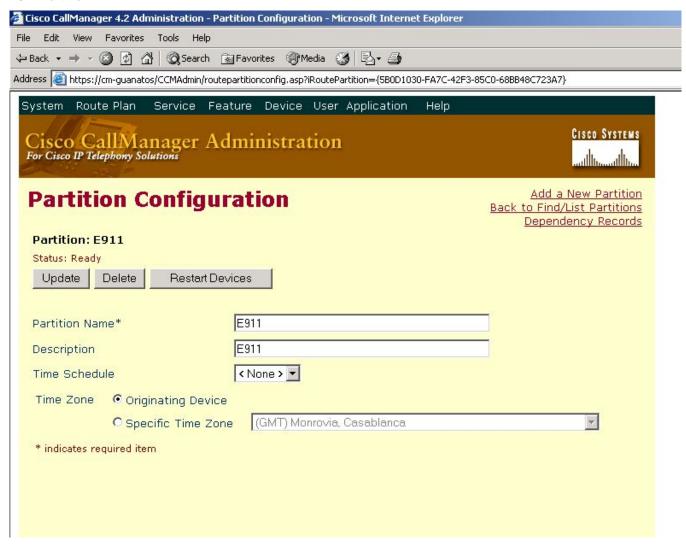


Phone Partition



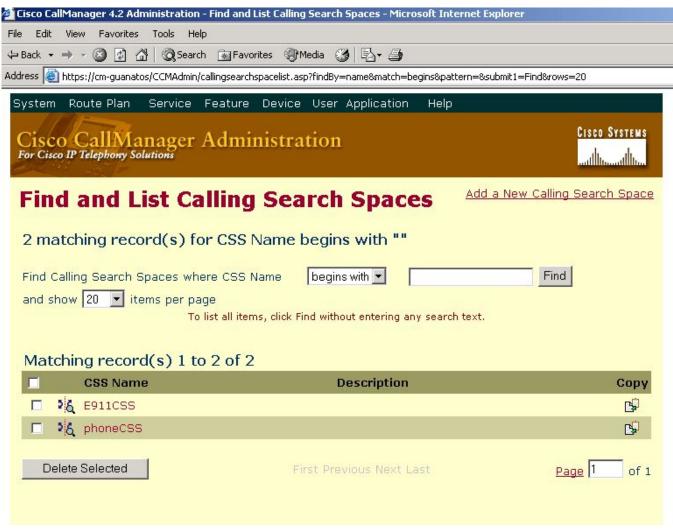


E911 Partition



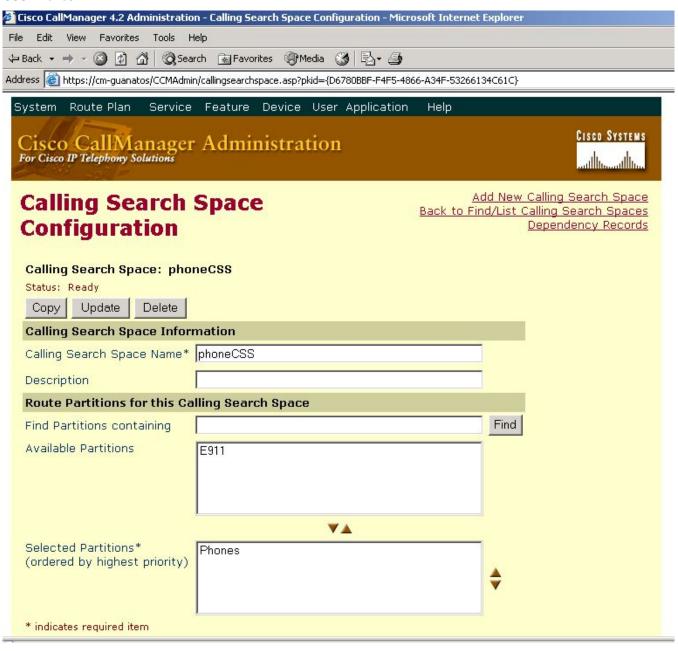


Calling Search Space



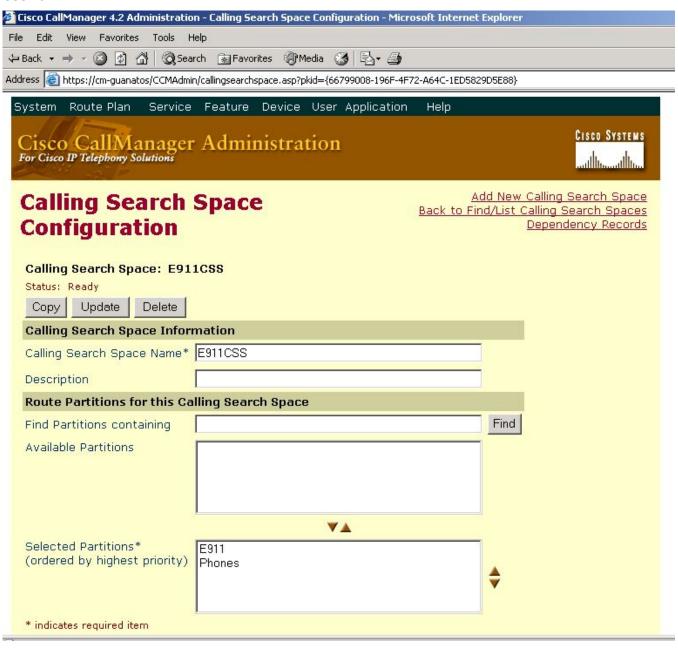


CSS Phones





CSS E911

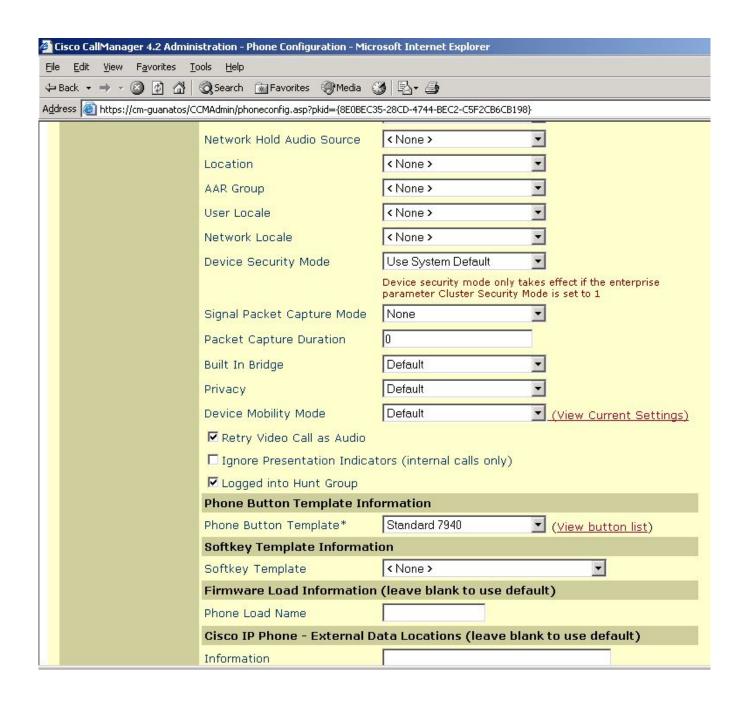




CCM IP Phones







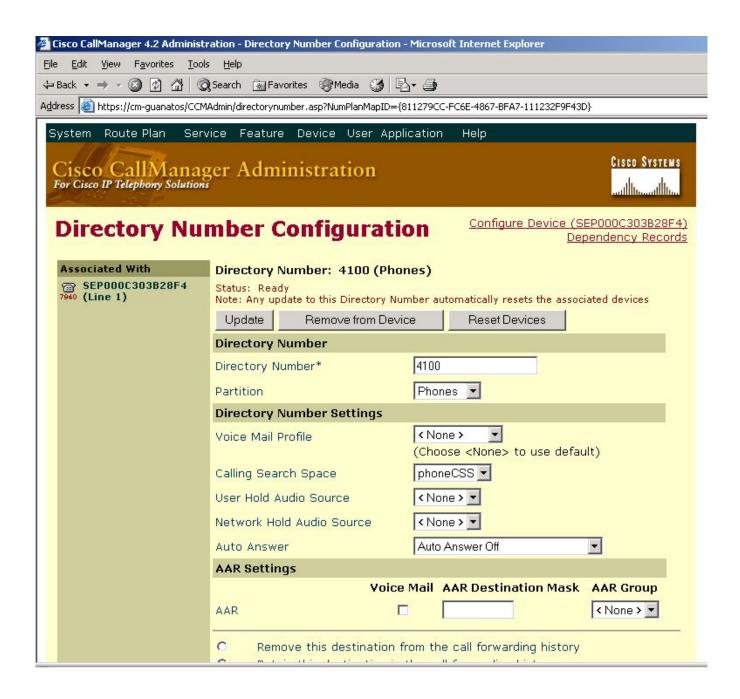


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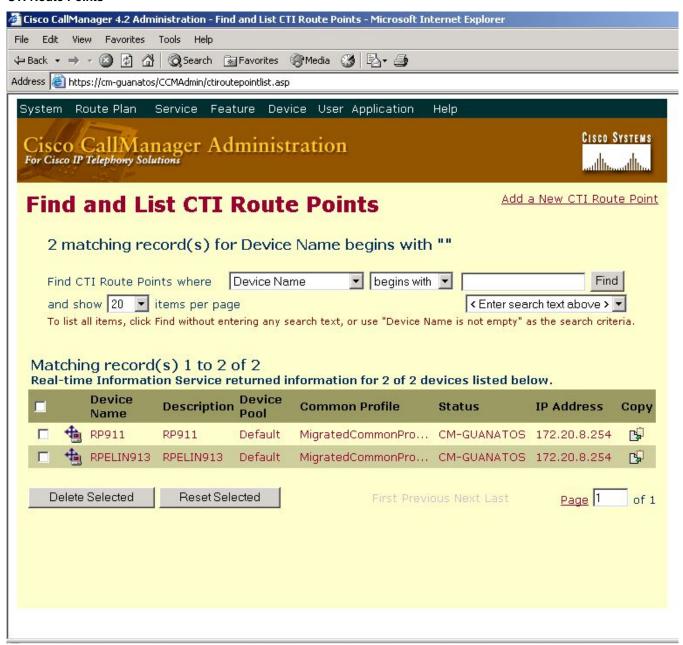
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	Call Pickup Group Audio Alert Setting(Phone Idle) Use System Default			
	Call Pickup Group Audio Alert Setting(Phone Active) Use System Default			
	Multiple Call / Call Waiting Settings			
	Maximum Number of Calls* 4 (1 - 200)			
	Busy Trigger* (<= Max. Calls)			
	Forwarded Call Information Display			
	✓ Caller Name ☐ Caller Number			
	☐ Redirected Number ☑ Dialed Number			
	* indicates required item; changes to Line or Directory Number settings require restart.			
	** Ring Setting (Phone Active) applies to this line when any line on the phone has a call in progress.			
	Note: If you are using a language other than English for Display (Internal Caller ID) or Line Text Label text, make sure the correct character set (shown below) is selected. Text displays incorrectly if the wrong characterset is selected. (English characters are included in all character sets.)			
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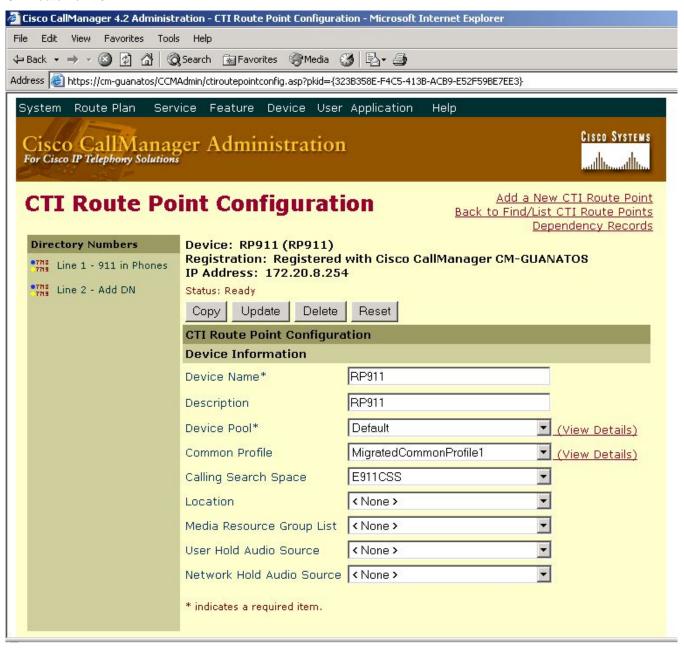


CTI Route Points

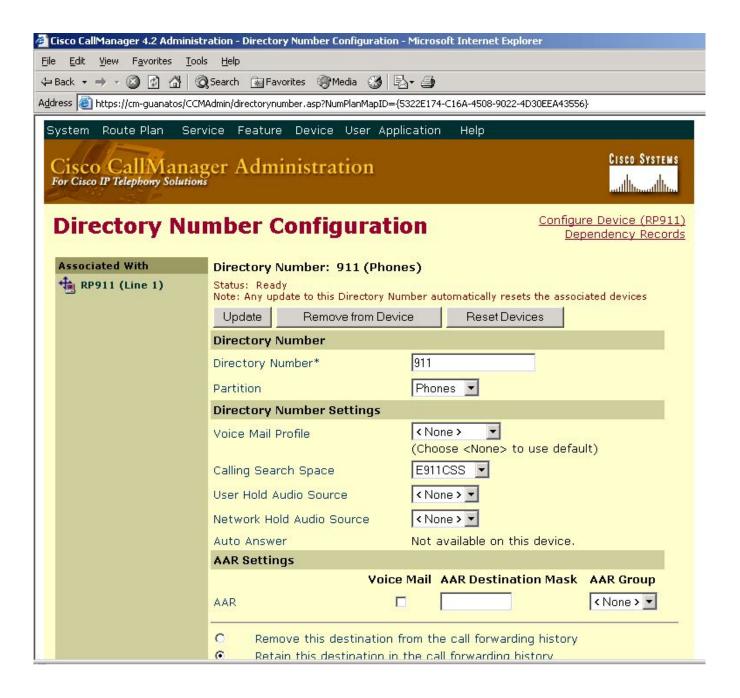




CTI Route Point 911









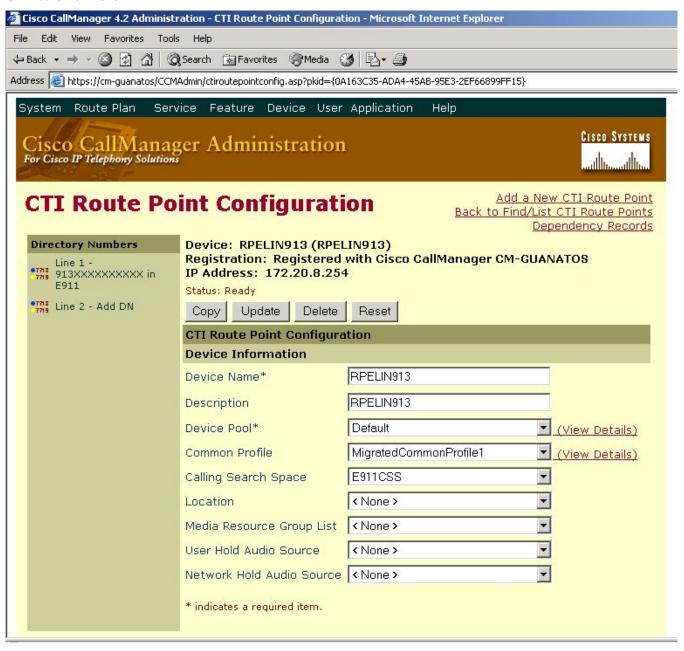
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	Alerting Name					
	Line Settings for this Device					



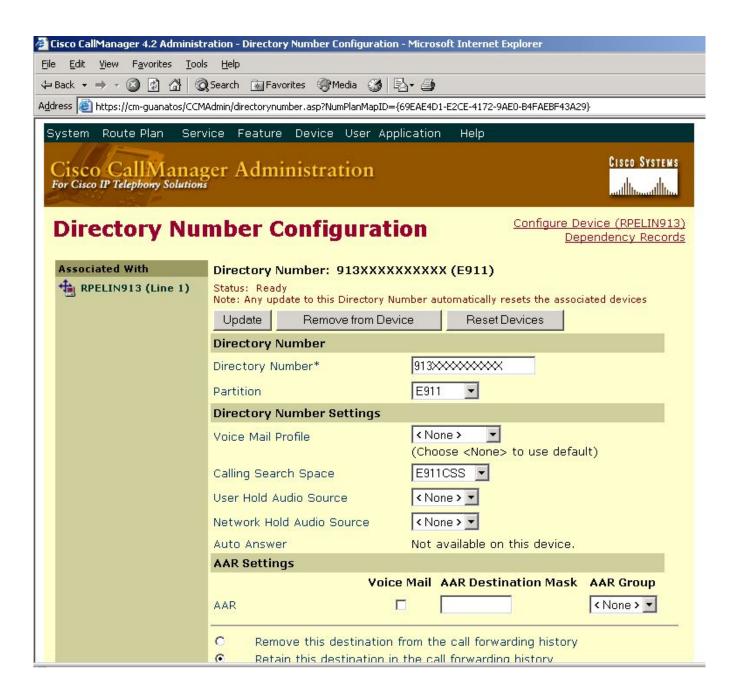
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	Display (Internal Caller ID)					
	Line Text Label	Not available on this device.				
	External Phone Number Mask					
	Message Waiting Lamp Policy	Not available on this device.				
	Ring Setting (Phone Idle)	Not available on this device.				
	Ring Setting (Phone Active)**	Not available on this device.				
	Call Pickup Group Audio Alert Setting(Phone Idle)	Not available on this device.				
	Call Pickup Group Audio Alert Setting(Phone Active)	Not available on this device.				
	Multiple Call / Call Waiting S	Settings				
	Maximum Number of Calls*	5000 (1 - 10000)				
	Busy Trigger*	4500 (<= Max. Calls)				
	Forwarded Call Information	Display				
	✓ Caller Name	☐ Caller Number				
	Redirected Number	✓ Dialed Number				
		to Line or Directory Number settings require restart.				
	Note: If you are using a language other than English for Display (Internal Caller ID) or Line Text Label text, make sure the correct character set (shown below) is selected. Text displays incorrectly if the wrong characterset is selected. (English characters are included in all character sets.)					
	Character Set Western Europ	ean (Latin 1)				
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CTI Route Point 913









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	Forward No Coverage Internal			< None >	
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	Line Text Label	Not available on this device.		
	External Phone Number Mask			
	Message Waiting Lamp Policy	Not available on this device.		
	Ring Setting (Phone Idle)	Not available on this device.		
	Ring Setting (Phone Active)**	Not available on this device.		
	Call Pickup Group Audio Alert Setting(Phone Idle)	Not available on this device.		
	Call Pickup Group Audio Alert Setting(Phone Active)	Not available on this device.		
	Multiple Call / Call Waiting S	Settings		
	Maximum Number of Calls*	5000 (1 - 10000)		
	Busy Trigger*	4500 (<= Max. Calls)		
	Forwarded Call Information	Display		
	✓ Caller Name	Caller Number		
	Redirected Number	✓ Dialed Number		
	* indicates required item; changes	to Line or Directory Number settings require restart.		
	Note: If you are using a language other than English for Display (Internal Caller ID) or Line Text Label text, make sure the correct character set (shown below) is selected. Text displays incorrectly if the wrong characterset is selected. (English characters are included in all character sets.)			
	Character Set Western Europ	ean (Latin 1)		

Note: A Backup CER server was not used during testing therefore CTI route point for 912 was not created.



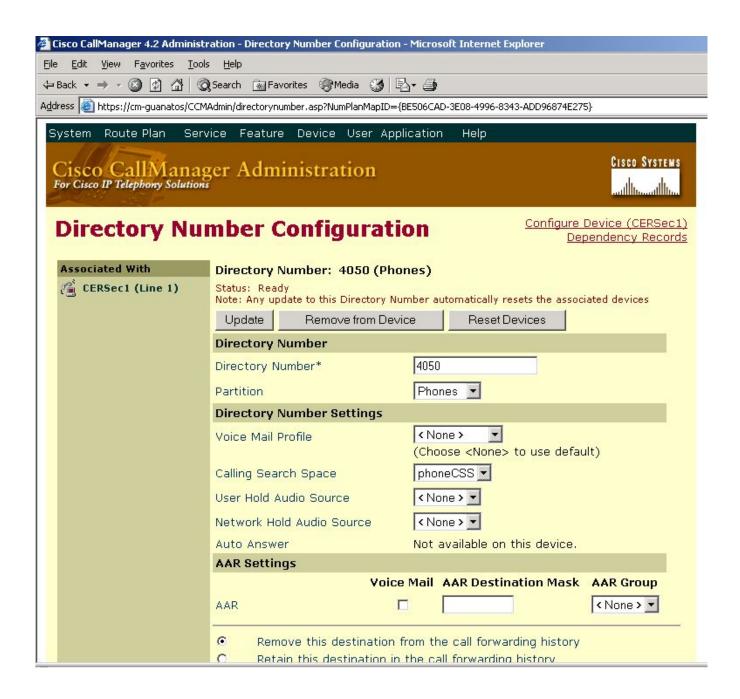
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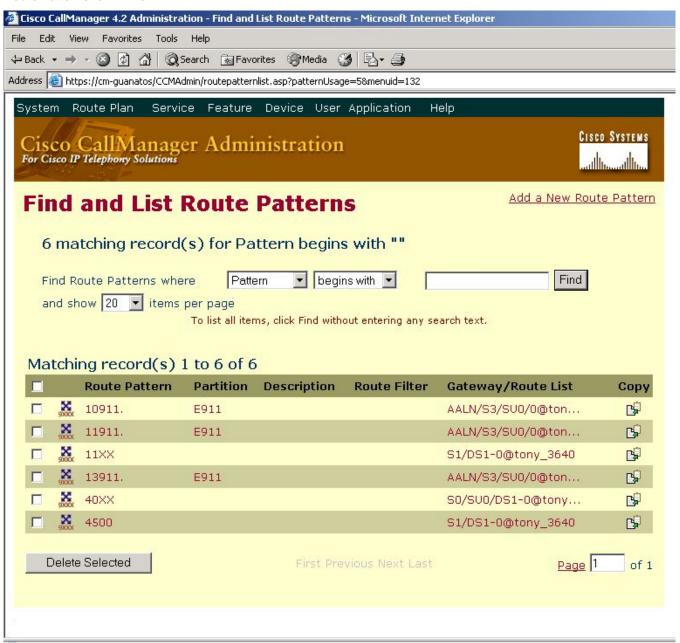
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		Forward Busy Internal			< None >	•
		Forward Busy External			< None >	•
		Forward No Answer Internal			< None >	•
		Forward No Answer External			< None >	
		Forward No Coverage Internal			< None >	•
		Forward No Coverage Externa			< None >	•
		Forward Unregistered Internal			< None >	
		Forward Unregistered External			< None >	•
		Forward On Failure Ext/Int			< None >	•
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		Target (Destination)				
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Cisco CallManager 4.2 Administration - Directory Number Configuration - Microsoft Internet Explorer						
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← Back - → - ② ② ③ △ □	Back → → ✓ ② ② △ □ Q Search 图 Favorites 例 Media ③ □ □ → ③					
Address Address / https://cm-guanatos/CCM	Madmin/directorynumber.asp?NumPlanMapIC)={BE506CAD-3E08-4996-8343-ADD96874E275}				
	Alerting Name					
	Line Settings for this Device	,				
	Display (Internal Caller ID)					
	Line Text Label					
	External Phone Number Mask					
	Message Waiting Lamp Policy	Use System Policy ▼				
	Ring Setting (Phone Idle)	Not available on this device.				
	Ring Setting (Phone Active)**	Not available on this device.				
	Call Pickup Group Audio Alert Setting(Phone Idle)	Not available on this device.				
	Call Pickup Group Audio Alert Setting(Phone Active)	Not available on this device.				
	Multiple Call / Call Waiting 9	Settings				
	Maximum Number of Calls*	4 (1 - 200)				
	Busy Trigger*	2 (<= Max. Calls)				
	Forwarded Call Information	Display				
	✓ Caller Name	Caller Number				
	Redirected Number	✓ Dialed Number				
	* indicates required item; changes	to Line or Directory Number settings require restart.				
	Note: If you are using a language other than English for Display (Internal Caller ID) or Line Text Label text, make sure the correct character set (shown below) is selected. Text displays incorrectly if the wrong characterset is selected. (English characters are included in all character sets.)					
	Character Set Western Europ	ean (Latin 1)				
u G						

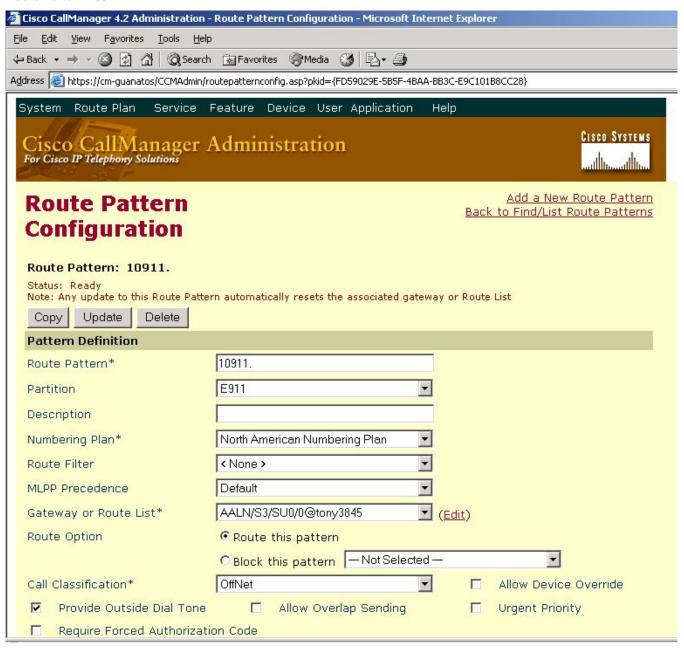


Route Patterns for ELINs





Route Pattern 10911

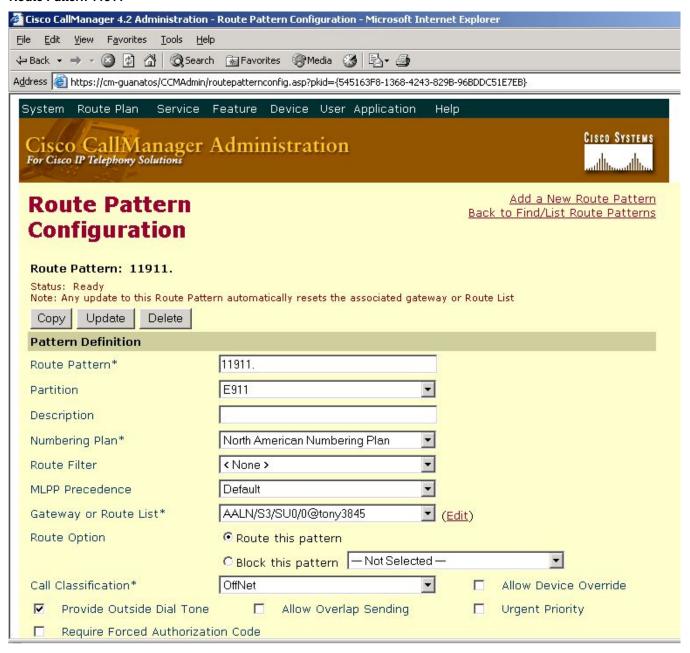




Cisco CallManager 4.2 Administration - Route	Pattern Configuration - Microsoft Internet Explorer
File Edit View Favorites Tools Help	
Back → → ② ② ③ Search Fa	
Address https://cm-guanatos/CCMAdmin/routepatte	ernconfig.asp?pkid={FD59029E-5B5F-4BAA-BB3C-E9C101B8CC28}
Authorization Level	0
☐ Require Client Matter Code	
Calling Party Transformations	
✓ Use Calling Party's External Phon	e Number Mask
Calling Party Transform Mask 40899	94200
Prefix Digits (Outgoing Calls)	
Calling Line ID Presentation Defau	alt 💌
Calling Name Presentation Defau	alt 💌
Connected Party Transformations	
Connected Line ID Presentation Defau	ult 🔻
Connected Name Presentation Defau	ult 💌
Called Party Transformations	
Discard Digits PreD	ot 💌
Called Party Transform Mask 40899	94200
Prefix Digits (Outgoing Calls)	
ISDN Network-Specific Facilities Inf	formation Element
Carrier Identification Code	
Network Service Protocol — No	t Selected —
Network Service	Service Parameter Name Service Parameter Value
— Not Selected — ▼	< Not Exist >
* indicates required item.	
<u> </u>	



Route Pattern 11911

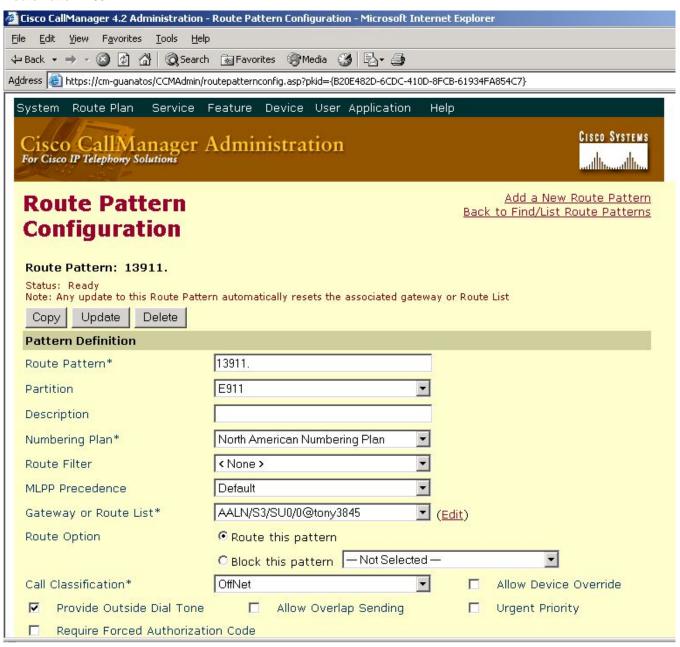




Eisco CallManager 4.2 Administration - Route Pattern Configuration - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back → → ✓ ② ② ③ Garch ③ Favorites ⑤ Media ③ ⑤ □ → ⑤
Address
Authorization Level 0
Require Client Matter Code
Calling Party Transformations
☐ Use Calling Party's External Phone Number Mask
Calling Party Transform Mask 4089994201
Prefix Digits (Outgoing Calls)
Calling Line ID Presentation Default
Calling Name Presentation Default
Connected Party Transformations
Connected Line ID Presentation Default
Connected Name Presentation Default
Called Party Transformations
Discard Digits PreDot
Called Party Transform Mask
Prefix Digits (Outgoing Calls) 4089994201
ISDN Network-Specific Facilities Information Element
Carrier Identification Code
Network Service Protocol ─Not Selected ─ ▼
Network Service
— Not Selected — ✓ < Not Exist >
* indicates required item.



Route Pattern 13911

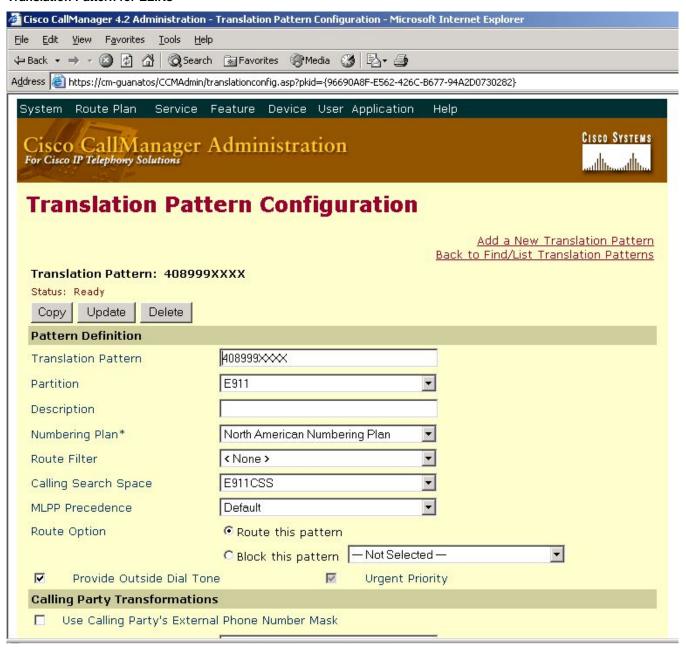




🚰 Cisco CallManager 4.2 Administration -	Route Pattern Configuration - Microsoft Internet Explorer
<u>File Edit View Favorites Tools H</u> elp	
⇔ Back → → → Ø Ø Ø O	
Address Address //cm-guanatos/CCMAdmin/rd	utepatternconfig.asp?pkid={B20E482D-6CDC-410D-8FCB-61934FA854C7}
Authorization Level	0
Require Client Matter Code	
Calling Party Transformations	
Use Calling Party's Externa	l Phone Number Mask
Calling Party Transform Mask	4089994203
Prefix Digits (Outgoing Calls)	
Calling Line ID Presentation	Default <u>▼</u>
Calling Name Presentation	Default ▼
Connected Party Transformat	ions
Connected Line ID Presentation	Default
Connected Name Presentation	Default ▼
Called Party Transformations	
Discard Digits	PreDot 🔻
Called Party Transform Mask	4089994203
Prefix Digits (Outgoing Calls)	
ISDN Network-Specific Faciliti	es Information Element
Carrier Identification Code	
Network Service Protocol	— Not Selected — ■
Network Service	Service Parameter Name Service Parameter Value
— Not Selected —	▼ < Not Exist >
* indicates required item.	



Translation Pattern for ELINs

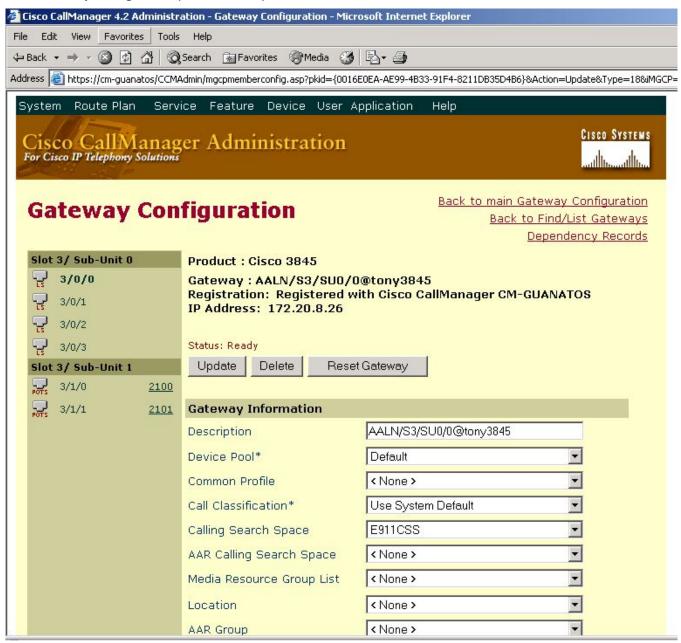




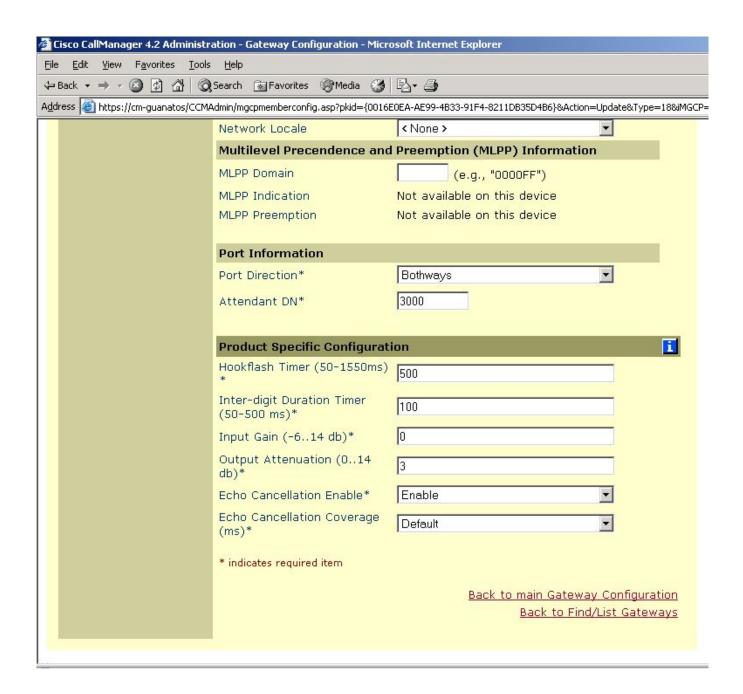
Cisco CallManager 4.2 Administration -	Translation Pattern Configuration - Microsoft Internet Explorer
<u>File Edit View Favorites Tools H</u> elp	
Back → → ✓ ② ② △ △ Search	
Address Mttps://cm-guanatos/CCMAdmin/tr	anslationconfig.asp?pkid={96690A8F-E562-426C-B677-94A2D0730282} -
Numbering Plan*	North American Numbering Plan
Route Filter	< None >
Calling Search Space	E911CSS 🔻
MLPP Precedence	Default <u></u>
Route Option	© Route this pattern
	○ Block this pattern ─Not Selected ─
✓ Provide Outside Dial Tone	e Vrgent Priority
Calling Party Transformations	
Use Calling Party's Externa	l Phone Number Mask
Calling Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Calling Line ID Presentation	Default 🔻
Calling Name Presentation	Default 🔻
Connected Party Transformat	tions
Connected Line ID Presentation	Default 🔻
Connected Name Presentation	Default 🔻
Called Party Transformations	
Discard Digits	< None >
Called Party Transform Mask	
Prefix Digits (Outgoing Calls)	913
* indicates required item.	
2/4	



PSAP Gateway Configuration (CAMA TRUNK)

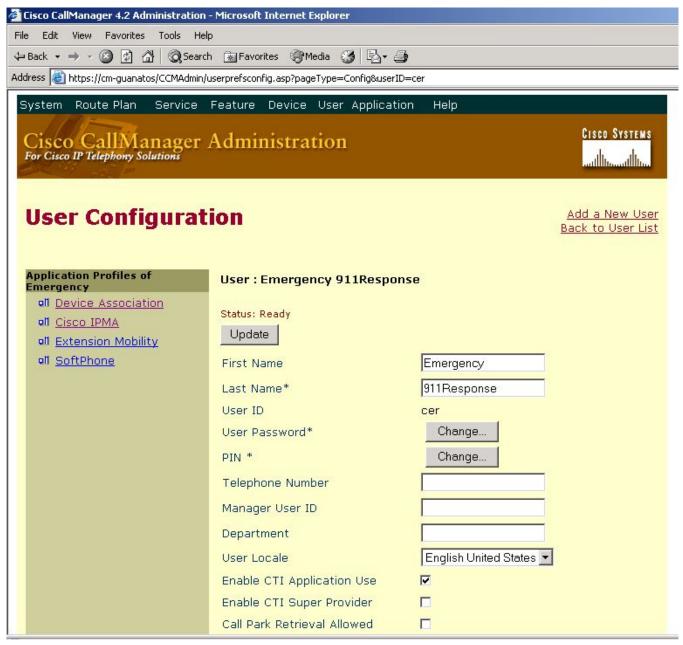




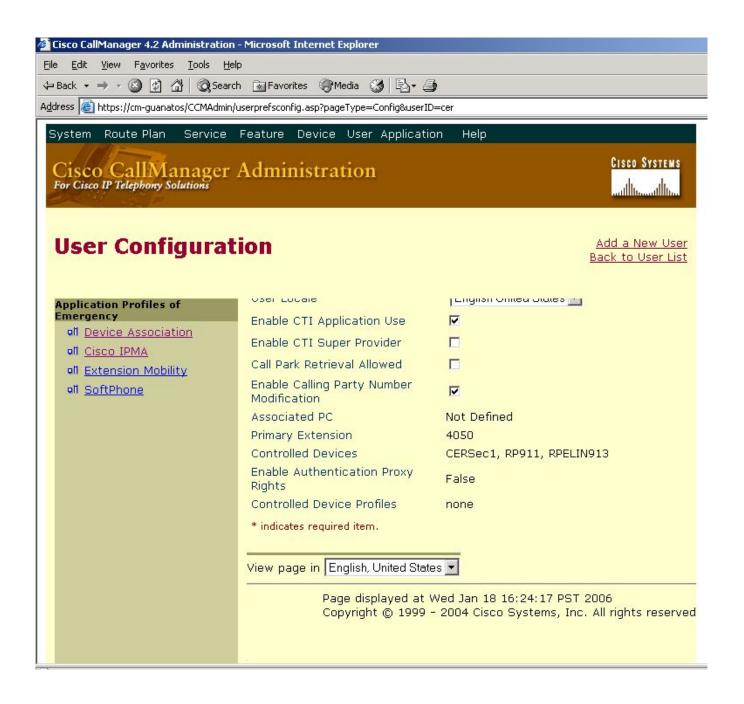




Cisco Unified CallManager User

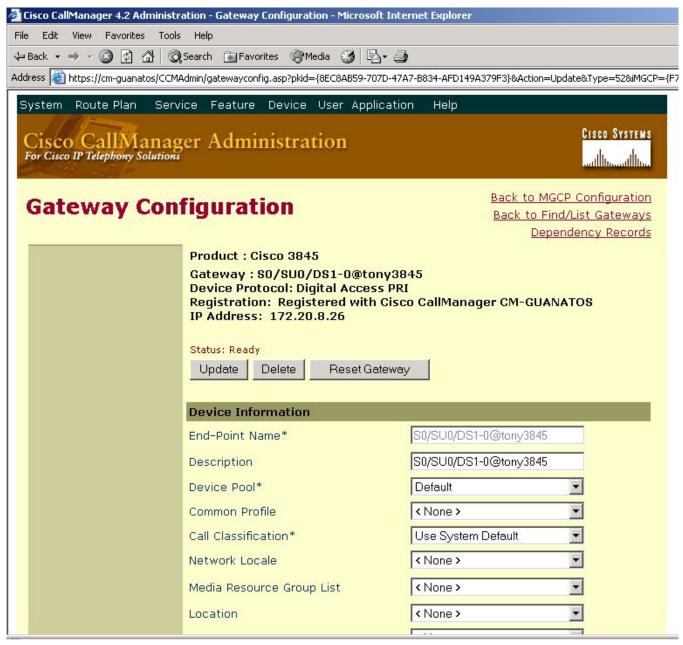








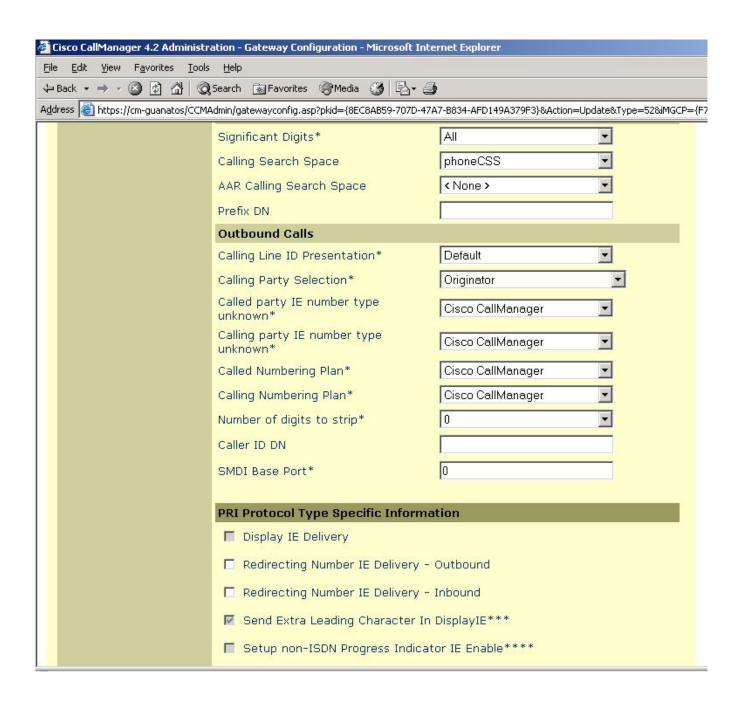
T1-QSIG Gateway



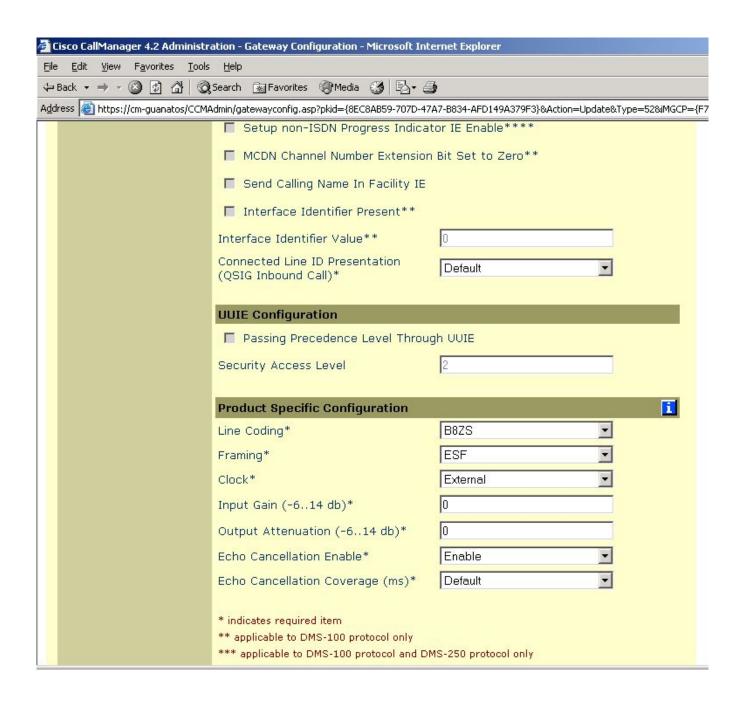


🗿 Cisco CallManager 4.2 Administr	ation - Gateway Configuration - Microsoft Inte	ernet Explorer
<u>File Edit Yiew Favorites T</u> ools	; <u>H</u> elp	
⇔ Back → → → ② ② ③ ⑥ ⑥	Search 🕍 Favorites 🍘 Media 🧭 🗟 🕶 🗐)
Address Address //cm-guanatos/CCM	Admin/gatewayconfig.asp?pkid={8EC8AB59-707D-474	A7-B834-AFD149A379F3}&Action=Update&Type=52&iMGCP={F7
	AAR Group	< None > ■
	Load Information	
	V150 (subset)	
	Multilevel Precendence and Preem	nption (MLPP) Information
	MLPP Domain (e.g., "0000FF")	
	MLPP Indication	Off 🔽
	MLPP Preemption	Disabled
	Interface Information	
	PRI Protocol Type*	PRI QSIG T1
	Protocol Side*	Network
	Channel Selection Order*	Top Down
	Channel IE Type*	Timeslot Number
	PCM Type*	μ-law _
	Delay for first restart (1/8 sec ticks)	32
	Delay between restarts (1/8 sec ticks)	4
	☑ Inhibit restarts at PRI initialization	n
	☐ Enable status poll	
	Call Routing Information	
	Inbound Calls	
	Significant Digits*	All
	Calling Sparch Space	phono(22



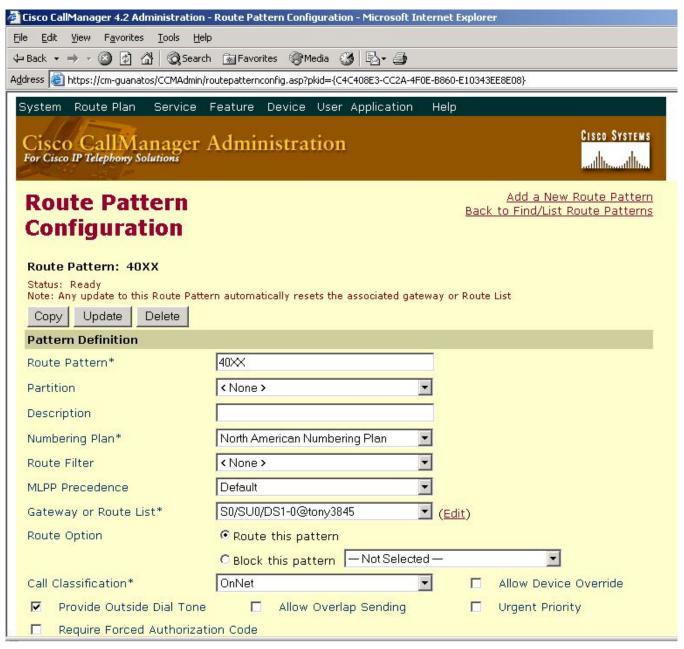








Route Pattern to QSIG Trunk



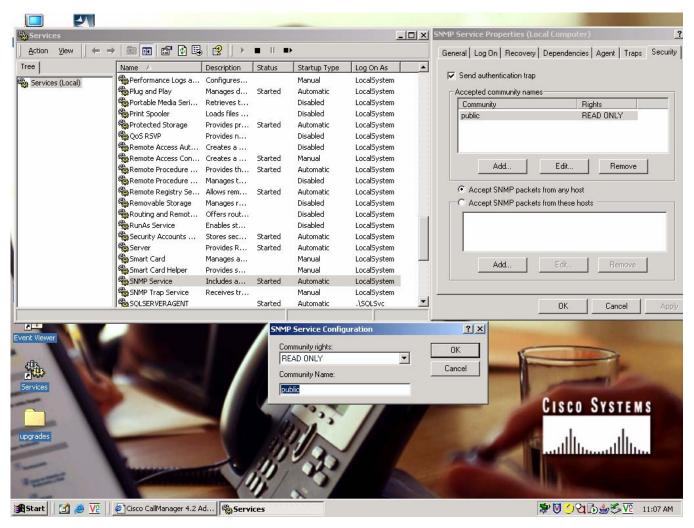


Cisco CallManager 4.2 Administration - Route Pattern Configuration - Microsoft Internet Explorer
File Edit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools <u>H</u> elp
← Back → → ✓ ☑ ② ② △ ☐ ② Search ☑ Favorites ③ Media ③ □ □
Address
STATE STATE AND A CONTROL OF THE STATE OF TH
Authorization Level 0
Require Client Matter Code
Calling Party Transformations
Use Calling Party's External Phone Number Mask
Calling Party Transform Mask
Prefix Digits (Outgoing Calls)
Calling Line ID Presentation Default
Calling Name Presentation Default
Connected Party Transformations
Connected Line ID Presentation Default
Connected Name Presentation Default
Called Party Transformations
Discard Digits < None >
Called Party Transform Mask
Prefix Digits (Outgoing Calls)
ISDN Network-Specific Facilities Information Element
Carrier Identification Code
Network Service Protocol ─ Not Selected ─ ▼
Network Service Service Parameter Name Service Parameter Value
— Not Selected — ▼ < Not Exist >
* indicates required item.

Note: For detailed information regarding QSIG interoperability between CCM and Avaya PBX go to: http://www.cisco.com/warp/public/779/largeent/avvid/inter_operability/flash/portal.html



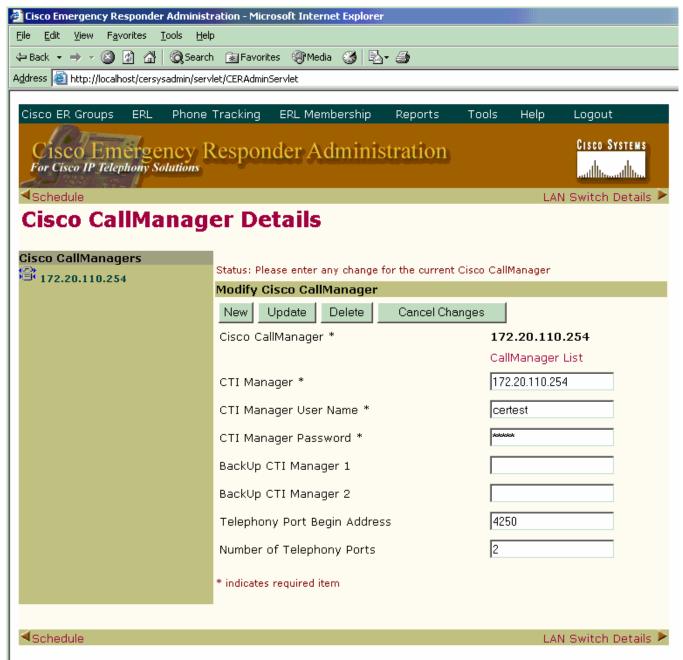
SNMP service must be active and set to READ-ONLY





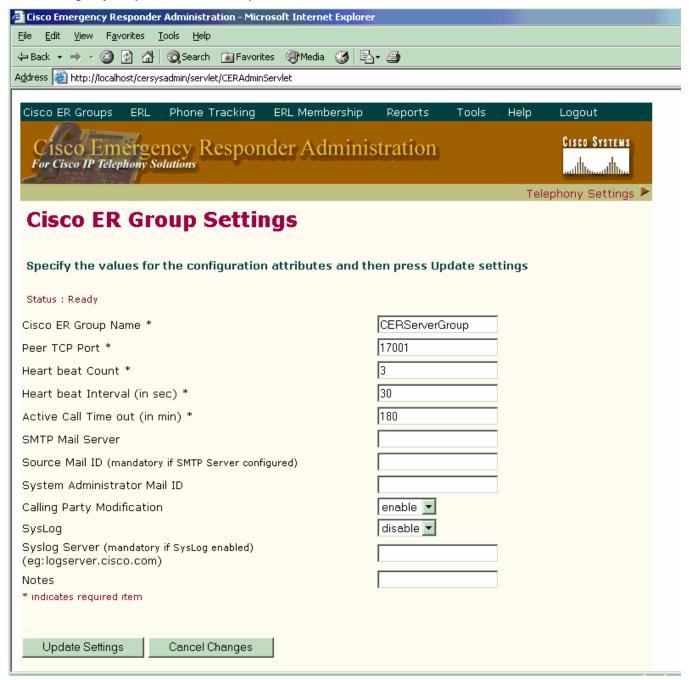
Cisco Emergency Responder Configuration

Cisco Unified CallManager Details



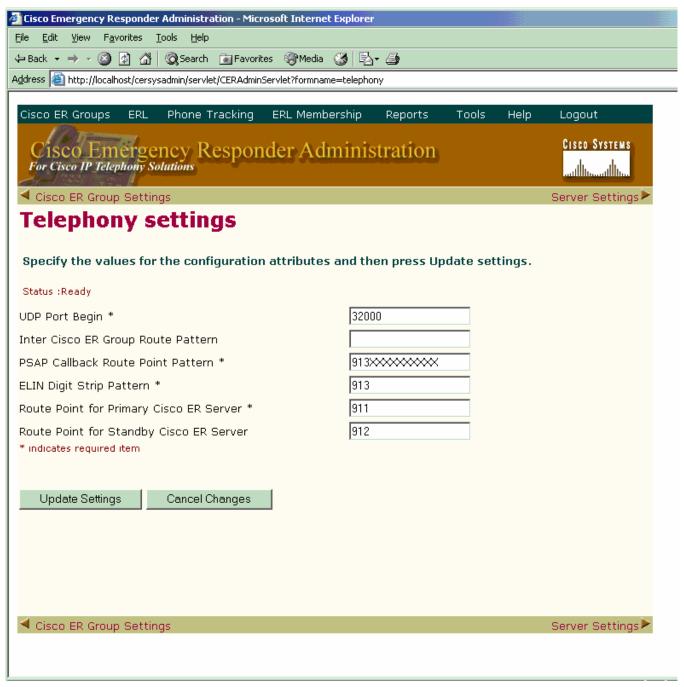


Cisco Emergency Responder Server Group



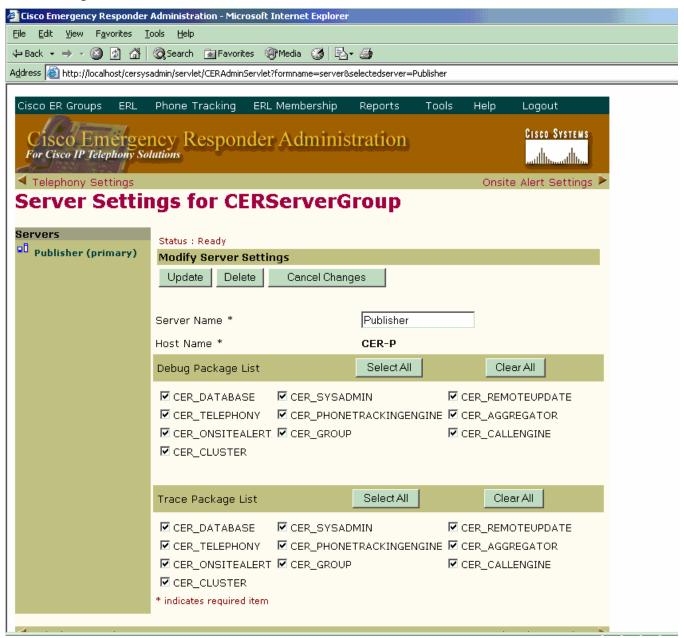


Telephony Settings



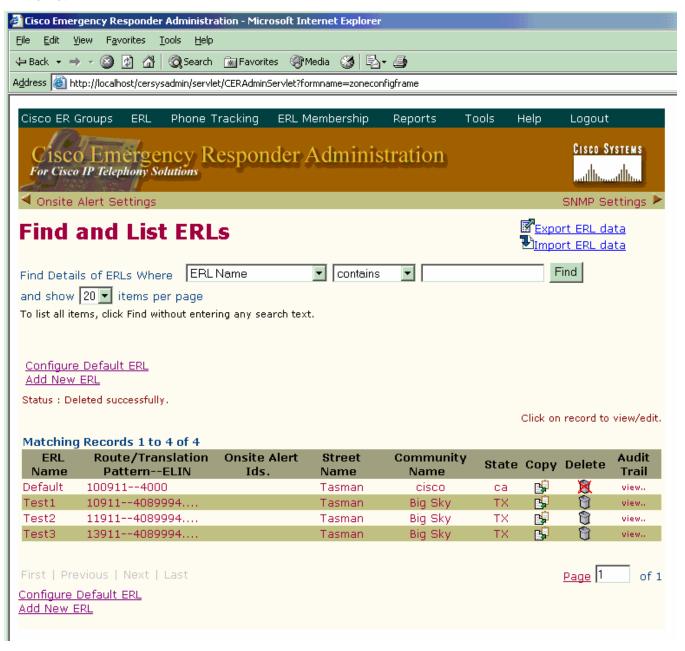


Server Settings



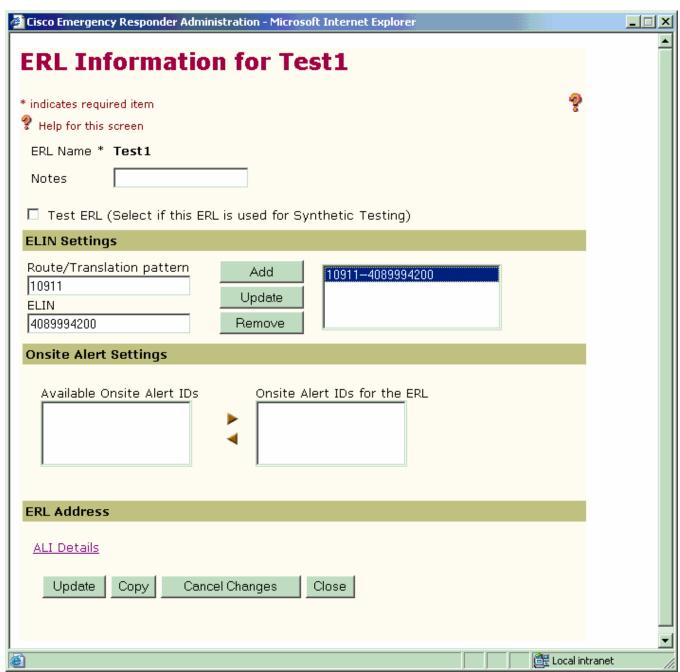


ERLs List



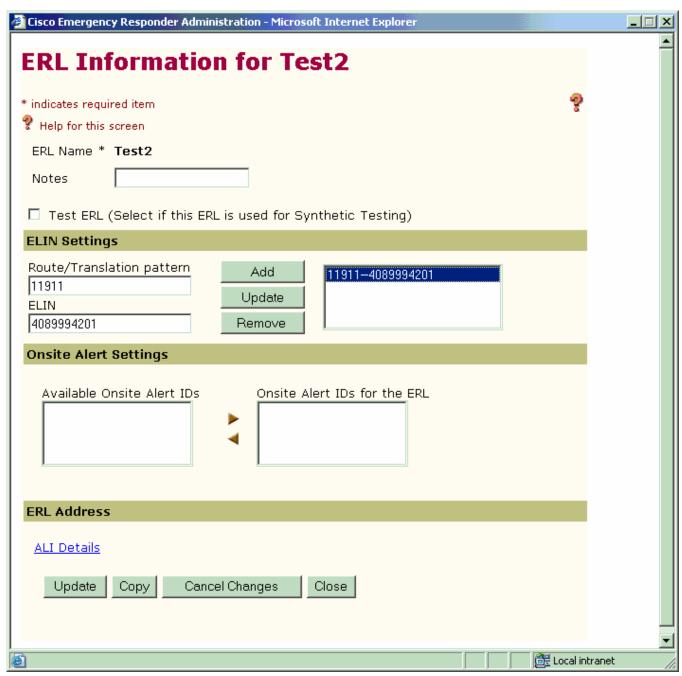


ERL 1



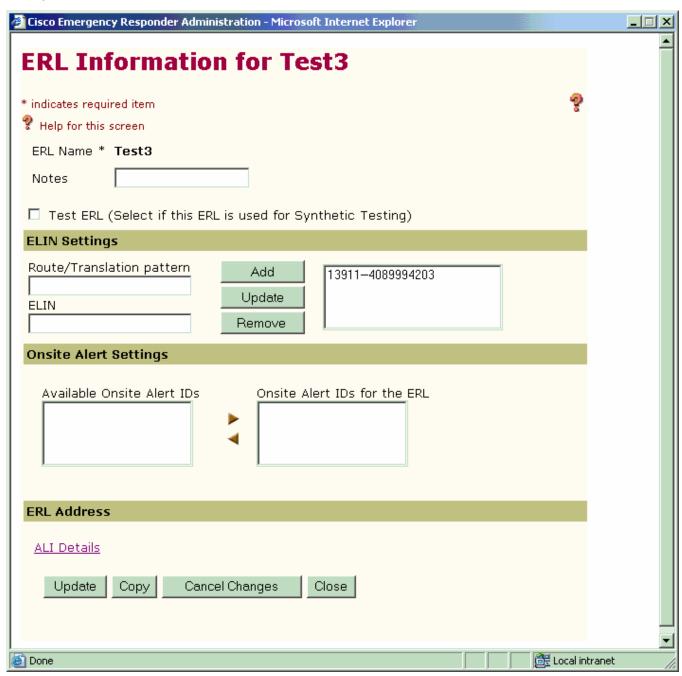


ERL 2



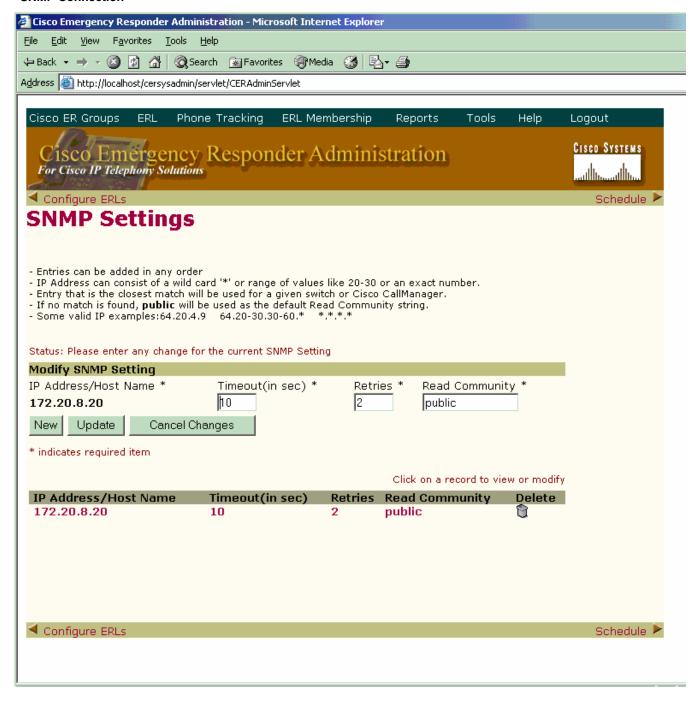


ERL 3



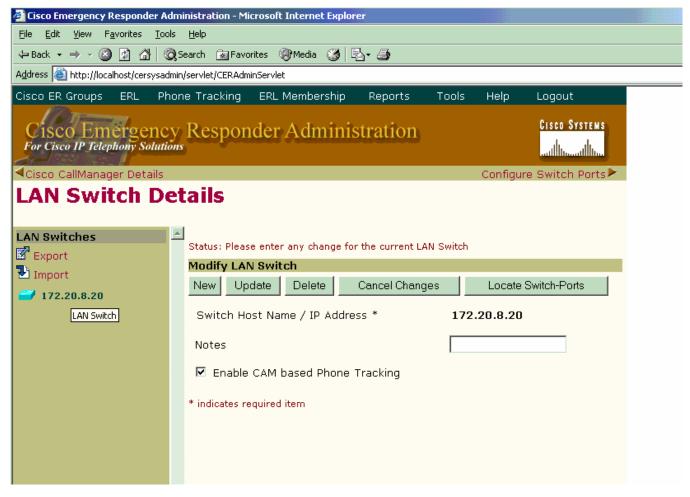


SNMP Connection



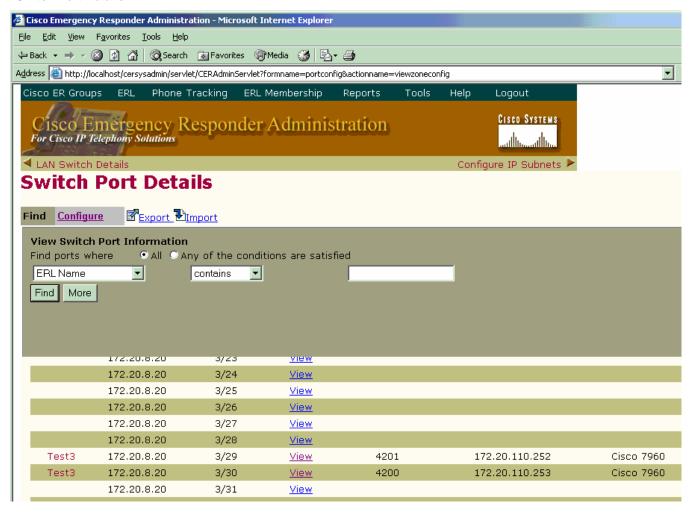


LAN Switch Identifying



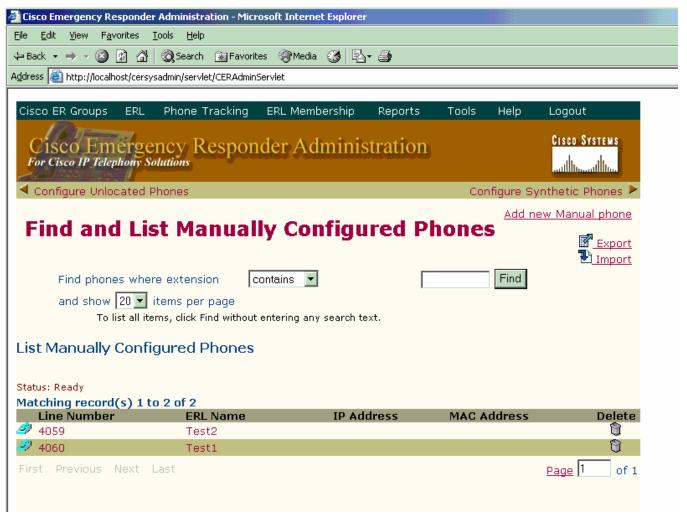


Switch Port Details

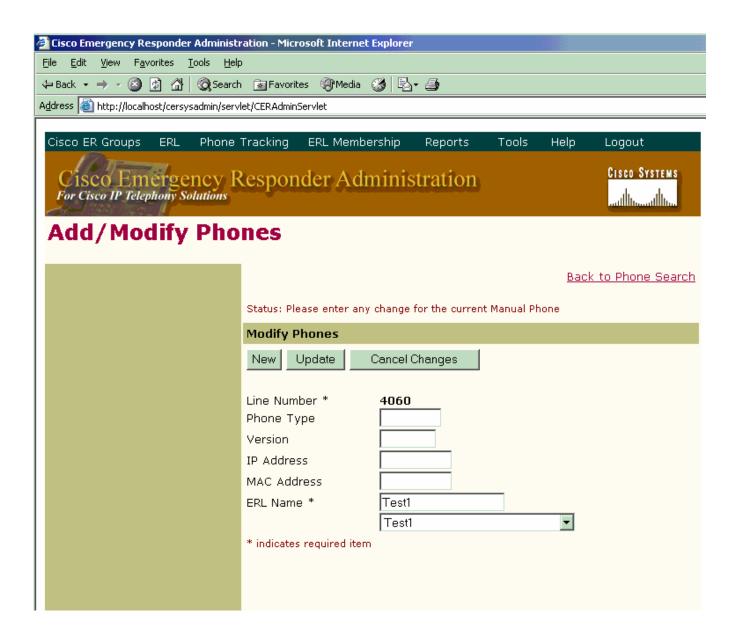




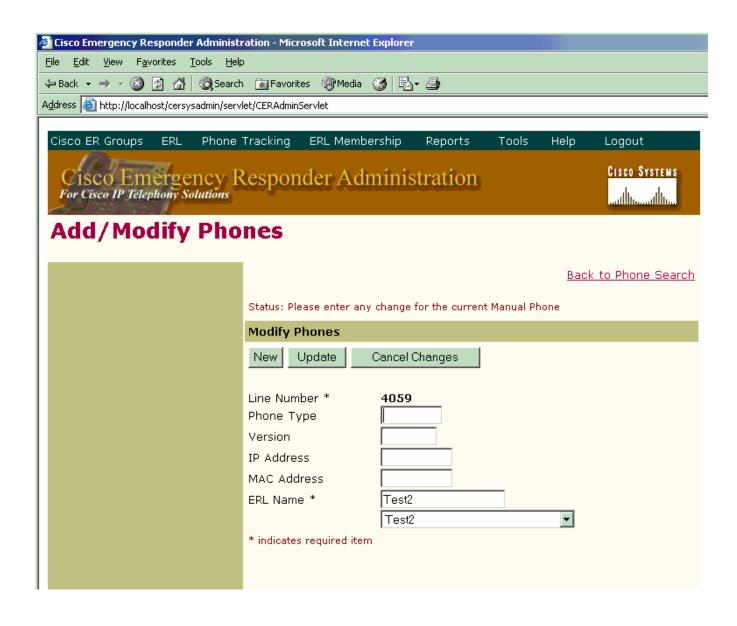
Defining Manual Phones (PBX Stations)











Cisco 3845 CISCO IOS Gateway Configuration

Router3845# **show running-config** Building configuration...

Current configuration: 3087 bytes

!

Version 12.3

service timestamps debug datetime msec service timestamps log datetime msec no service password-encryption

!

hostname Router3845



```
boot-start-marker
boot system flash:c3845-ipvoice-mz.123-14.T4.bin
boot-end-marker
enable password cisco
no aaa new-model
resource policy
no network-clock-participate slot 3
no network-clock-participate slot 4
network-clock-participate wic 0
voice-card 0
no dspfarm
voice-card 3
no dspfarm
voice-card 4
dspfarm
ip subnet-zero
ip cef
no ip dhcp use vrf connected
ip host CM-GUANATOS 172.20.8.254
ip host CM-BARZA 172.20.110.254
no ftp-server write-enable
isdn switch-type primary-4ess
controller T1 0/0/0
framing esf
```



```
linecode b8zs
pri-group timeslots 1-24 service mgcp
controller T1 0/0/1
framing esf
linecode b8zs
controller E1 4/0/0
shutdown
pri-group timeslots 1-31 service mgcp
controller E1 4/0/1
interface GigabitEthernet0/0
ip address 172.20.8.26 255.255.255.0
duplex half
speed 100
media-type rj45
negotiation auto
interface GigabitEthernet0/1
ip address 172.20.110.104 255.255.255.0
shutdown
duplex auto
speed auto
media-type rj45
negotiation auto
interface Serial0/0/0:23
no ip address
isdn switch-type primary-qsig
isdn protocol-emulate network
isdn incoming-voice voice
isdn T310 120000
isdn bind-l3 ccm-manager
no cdp enable
interface Serial4/0/0:15
no ip address
shutdown
isdn switch-type primary-qsig
isdn incoming-voice voice
isdn bind-l3 ccm-manager
no cdp enable
ip default-gateway 172.20.8.1
ip classless
ip route 0.0.0.0 0.0.0.0 172.20.8.1
```



```
ip http server
control-plane
voice-port 0/0/0:23
voice-port 3/0/0
signal cama KP-NPD-NXX-XXXX-ST
dial-type mf
timing hookflash-out 500
voice-port 3/0/1
dial-type mf
timing hookflash-out 500
voice-port 3/0/2
dial-type mf
timing hookflash-out 500
voice-port 3/0/3
dial-type mf
timing hookflash-out 500
voice-port 3/1/0
voice-port 3/1/1
voice-port 4/0/0:15
ccm-manager mgcp
ccm-manager music-on-hold
ccm-manager config server CM-GUANATOS
ccm-manager config
!
mgcp
mgcp call-agent CM-GUANATOS 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 modem passthrough voip mode nse
mgcp package-capability rtp-package
no mgcp package-capability res-package
mgcp package-capability sst-package
no mgcp package-capability fxr-package
mgcp package-capability pre-package
```



```
no mgcp timer receive-rtcp
mgcp sdp simple
mgcp fax t38 inhibit
mgcp rtp payload-type g726r16 static
mgcp profile default
dial-peer voice 999300 pots
service mgcpapp
port 3/0/0
dial-peer voice 999301 pots
service mgcpapp
port 3/0/1
dial-peer voice 999310 pots
service mgcpapp
port 3/1/0
dial-peer voice 999311 pots
service mgcpapp
port 3/1/1
dial-peer voice 999302 pots
service mgcpapp
port 3/0/2
dial-peer voice 999303 pots
service mgcpapp
port 3/0/3
line con 0
password cisco
stopbits 1
line aux 0
stopbits 1
line vty 0 4
password cisco
login
scheduler allocate 20000 1000
End
Router3845#sh ver
Cisco IOS Software, 3800 Software (C3845-IPVOICE-M), Version 12.3(14)T4, RELEASE
SOFTWARE (fc2)
```



Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2005 by Cisco Systems, Inc. Compiled Thu 08-Sep-05 21:49 by kehsiao

ROM: System Bootstrap, Version 12.3(11r)T2, RELEASE SOFTWARE (fc1)

Router3845 uptime is 1 week, 2 days, 5 hours, 15 minutes System returned to ROM by power-on System image file is "flash:c3845-ipvoice-mz.123-14.T4.bin"

Cisco 3845 (revision 1.0) with 485376K/38912K bytes of memory.

Processor board ID FTX0933A1JA

2 Gigabit Ethernet interfaces

55 Serial interfaces

2 Channelized E1/PRI ports

2 Channelized T1/PRI ports

4 Voice FXO interfaces

2 Voice FXS interfaces

DRAM configuration is 64 bits wide with parity enabled.

479K bytes of NVRAM.

125184K bytes of ATA System CompactFlash (Read/Write)

Configuration register is 0x2102

Router3845#

Router3845# show voice port 3/0/0

Foreign Exchange Office 3/0/0 Slot is 3, Sub-unit is 0, Port is 0

Type of VoicePort is FXO

Operation State is DORMANT

Administrative State is UP

The Last Interface Down Failure Cause is Administrative Shutdown

Description is not set

Noise Regeneration is enabled

Non Linear Processing is enabled

Non Linear Mute is disabled

Non Linear Threshold is -21 dB

Music On Hold Threshold is Set to -38 dBm

In Gain is Set to 0 dB

Out Attenuation is Set to 3 dB

Echo Cancellation is enabled

Echo Cancellation NLP mute is disabled

Echo Cancellation NLP threshold is -21 dB

Echo Cancel Coverage is set to 64 ms

Echo Cancel worst case ERL is set to 6 dB

Playout-delay Mode is set to adaptive

Playout-delay Nominal is set to 60 ms

Playout-delay Maximum is set to 250 ms

Playout-delay Minimum mode is set to default, value 40 ms



Playout-delay Fax is set to 300 ms
Connection Mode is normal
Connection Number is not set
Initial Time Out is set to 10 s
Interdigit Time Out is set to 10 s
Call Disconnect Time Out is set to 60 s
Ringing Time Out is set to 180 s
Wait Release Time Out is set to 30 s
Companding Type is u-law
Region Tone is set for US

Analog Info Follows:

Currently processing none

Maintenance Mode Set to None (not in mtc mode)

Number of signaling protocol errors are 8

Impedance is set to 600r Ohm

Station name None, Station number None

Translation profile (Incoming):

Translation profile (Outgoing):

Voice card specific Info Follows:

Signal Type is cama

Cama Type is KP-NPD-NXX-XXXX-ST

NPD to NPA mapping is :

NPD NPA

0 0

1 0

2 (

3 0

Battery-Reversal is enabled

Number Of Rings is set to 1

Supervisory Disconnect is signal

Answer Supervision is inactive

Hook Status is On Hook

Ring Detect Status is inactive

Ring Ground Status is inactive

Tip Ground Status is inactive

Dial Out Type is mf

Digit Duration Timing is set to 100 ms

InterDigit Duration Timing is set to 100 ms

Pulse Rate Timing is set to 10 pulses/second

InterDigit Pulse Duration Timing is set to 750 ms

Percent Break of Pulse is 60 percent

GuardOut timer is 2000 ms

Minimum ring duration timer is 125 ms

Hookflash-in Timing is set to 600 ms

Hookflash-out Timing is set to 500 ms



Supervisory Disconnnct Timing is set to 350 ms Router3845#

Cisco Catalyst 6x00 Configuration

Console> (enable) show snmp SNMP: Enabled RMON: Disabled

Extended RMON Netflow Enabled : None.

Memory usage limit for new RMON entries: 85 percent

EngineId: 00:00:00:09:00:01:97:31:c8:00:00:00

Chassis Alias: Traps Enabled: None Port Traps Enabled: None

Community-Access Community-String

read-only public read-write private read-write-all secret

Additional- Access-

Community-String Access-Type Number View

Trap-Rec-Address Trap-Rec-Community Trap-Rec-Port Trap-Rec-Owner Trap-Rec-Index

Console> (enable) show cdp

CDP : enabled
Message Interval : 60
Hold Time : 180
Version : V2
Device Id Format : Other
Console> (enable)

set interface sc0 109 172.20.8.20/255.255.255.0 172.20.8.255



Avaya Definity Configuration

DS1 Circuit Pack

```
display ds1 1a12
                                                                Page
                                                                       1 of 2
                                DS1 CIRCUIT PACK
            Location: 01A12
                                                      Name: T1 to CCM
            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
                                                       CRC? n
           Idle Code: 11111111
                              DCP/Analog Bearer Capability: 3.1kHz
      Slip Detection? y
                                        Near-end CSU Type: other
```



Signaling Group

```
SIGNALING GROUP

SIGNALING GROUP

Group Number: 12 Group Type: isdn-pri
Associated Signaling? y Max number of NCA TSC: 5
Primary D-Channel: Ø1A1224 Max number of CA TSC: 5
Trunk Group for NCA TSC: 12
Trunk Group for Channel Selection: 12 X-Mobility/Wireless Type: NONE
Supplementary Service Protocol: b
```



Trunk Group

```
display trunk-group 12
                                                                         1 of 10
                                                                  Page
                                 TRUNK GROUP
Group Number: 12
                                                               CDR Reports: y
                                    Group Type: isdn
  Group Name: QSIG to CM-Neptune
                                                                       TAC: 612
                                           COR: 1
                                                          TN: 1
                              Outgoing Display? y
Busy Threshold: 99
   Direction: two-way
                                                           Carrier Medium: PRI/BRI
 Dial Access? y
                                                           Night Service:
Queue Length: 0
Service Type: tie
                                     Auth Code? n
                                                              TestCall ITC: rest
                         Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
                                         Codeset to Send National IEs: 6
         Codeset to Send Display: 0
        Max Message Size to Send: 260
                                         Charge Advice: none
  Supplementary Service Protocol: b
                                         Digit Handling (in/out): enbloc/enbloc
            Trunk Hunt: ascend
                                                       QSIG Value-Added? y
                                                     Digital Loss Group: 13
                                                       Numbering Format: unk-unk
Calling Number - Delete:
                              Insert:
              Bit Rate: 1200
                                      Synchronization: async
                                                                 Duplex: full
 Disconnect Supervision - In? y Out? y
 Answer Supervision Timeout: 0
```

display trunk-	-group 12			Page 3 of 10
	I		L HANDLING TREATMENT	
Service/	Called	Called	Del Insert	Per Call Night
Feature	Len	Number		CPN/BN Serv



Acronyms

Acronym	Definitions	
CAMA	Analog "Centralized Automatic Message Accounting" E911 Trunk	
PSAP	Public Service Answering Point	



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