

# Nortel Succession PBX with Cisco 3845 T1 QSIG as an MGCP Gateway to Cisco Unified Communications Manager 4.2 and Cisco Emergency Responder 1

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**Note:** Cisco 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 a Nortel Succession 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 911calls 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 a Nortel Succession 4.0 PBX utilizing 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.

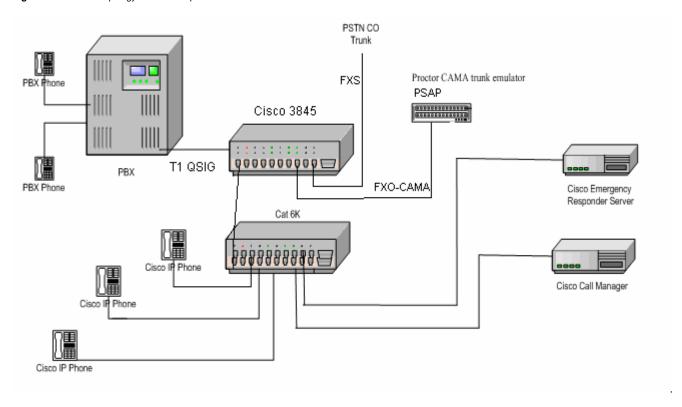
The call back DID number routes the return call to the correct phone that had originated the E911 call from the PBX digital phone.



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 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

Nortel Succession PBX

# **Software Requirements**

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

PBX Software: Version 2121 Release 4.0

Cisco Unified CallManager 4.2 (0.839)

Cisco Emergency Responder 1.3 (0.105)

# **Features**

Calling Number

E911 ERL DID number passed to PSAP

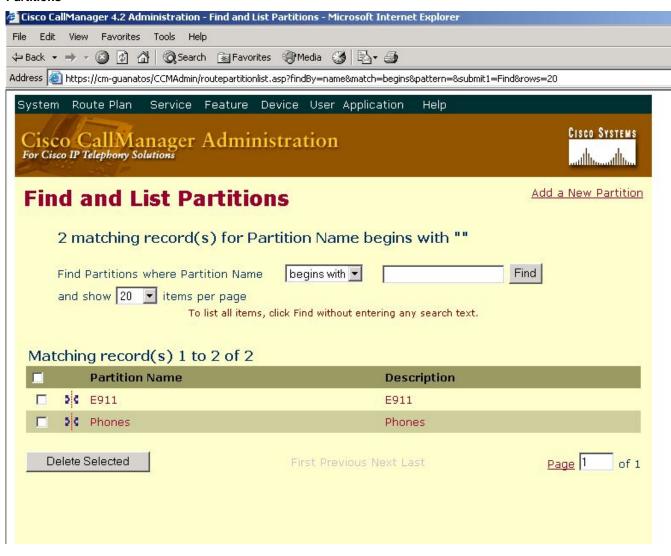
Incoming DID calling to disconnected 911 originating caller



# Configuration

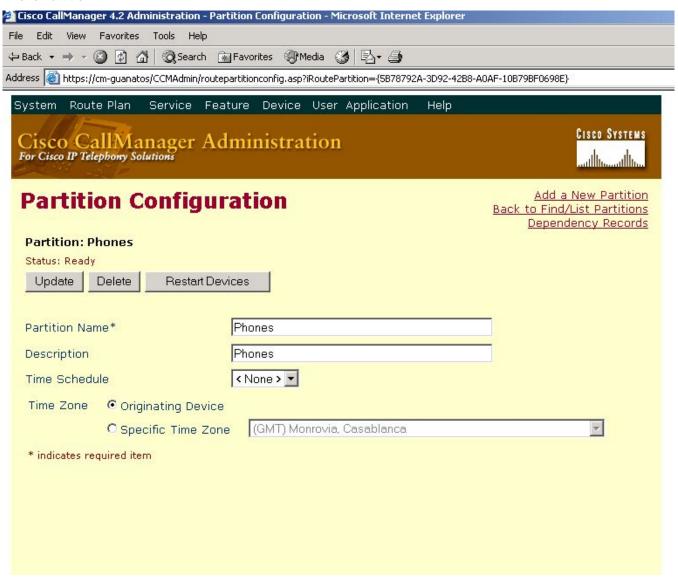
# **Cisco Unified CallManager Configuration**

### **Partitions**



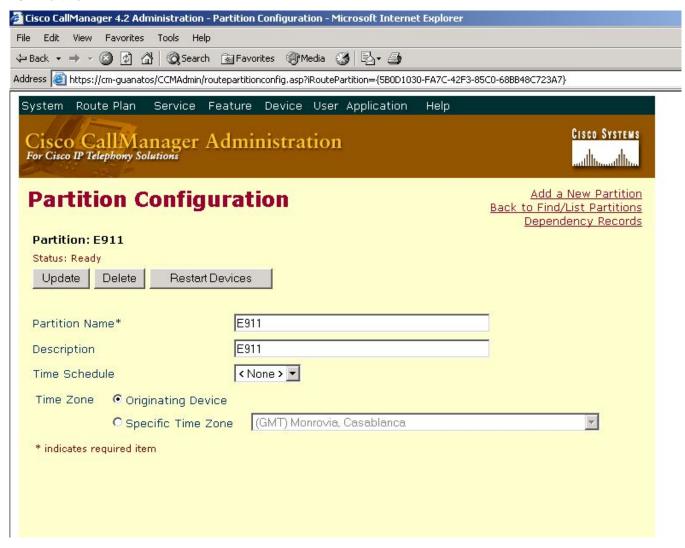


### **Phone Partition**



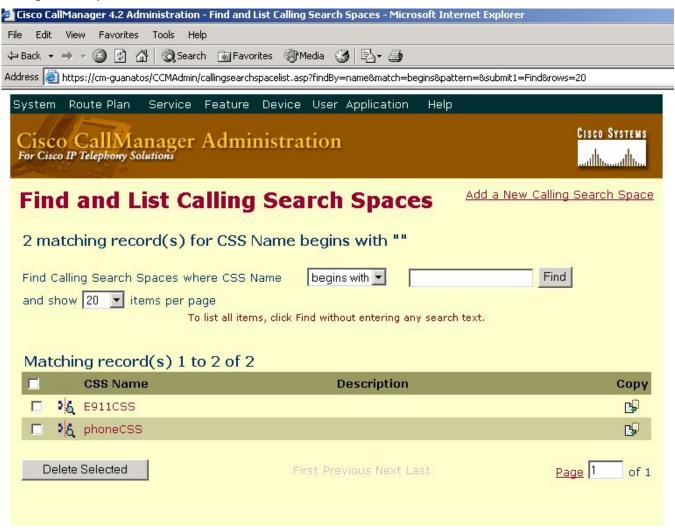


### **E911 Partition**



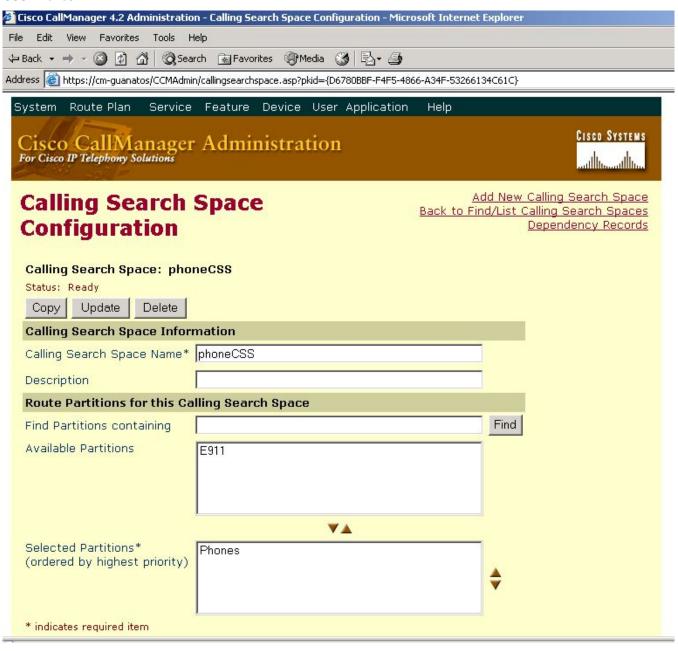


# **Calling Search Space**



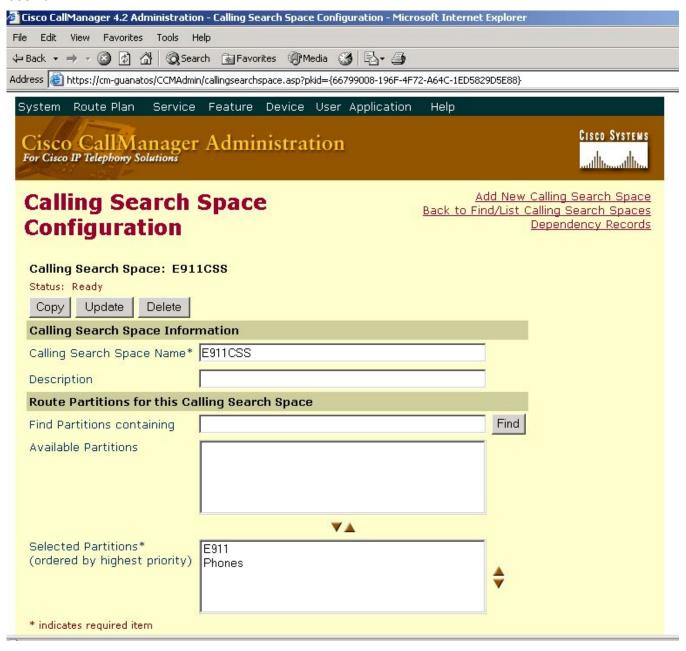


### **CSS Phones**





### **CSS E911**





### **CCM IP Phones**





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Address Address / https://cm-guanatos/C	CCMAdmin/phoneconfig.asp?pkid={8E0BEC3	85-28CD-4744-BEC2-C5F2CB6CB1	98}			
	Network Hold Audio Source	< None >	▼			
	Location	< None >				
	AAR Group	< None >	<u> </u>			
	User Locale	< None >				
	Network Locale	< None >	•			
	Device Security Mode	Use System Default	<u> </u>			
		Device security mode only parameter Cluster Security	takes effect if the enterprise Mode is set to 1			
	Signal Packet Capture Mode	None	•			
	Packet Capture Duration	0				
	Built In Bridge	Default	<u> </u>			
	Privacy	Default				
	Device Mobility Mode	Default	(View Current Settings)			
	☑ Retry Video Call as Audio					
	☐ Ignore Presentation Indica	tors (internal calls only)				
	☑ Logged into Hunt Group					
	Phone Button Template Inf	ormation				
	Phone Button Template*	Standard 7940	( <u>View button list</u> )			
	Softkey Template Informat	ion				
	Softkey Template	< None >				
	Firmware Load Information	(leave blank to use de	efault)			
	Phone Load Name					
	Cisco IP Phone - External D	ata Locations (leave b	lank to use default)			
	Information					

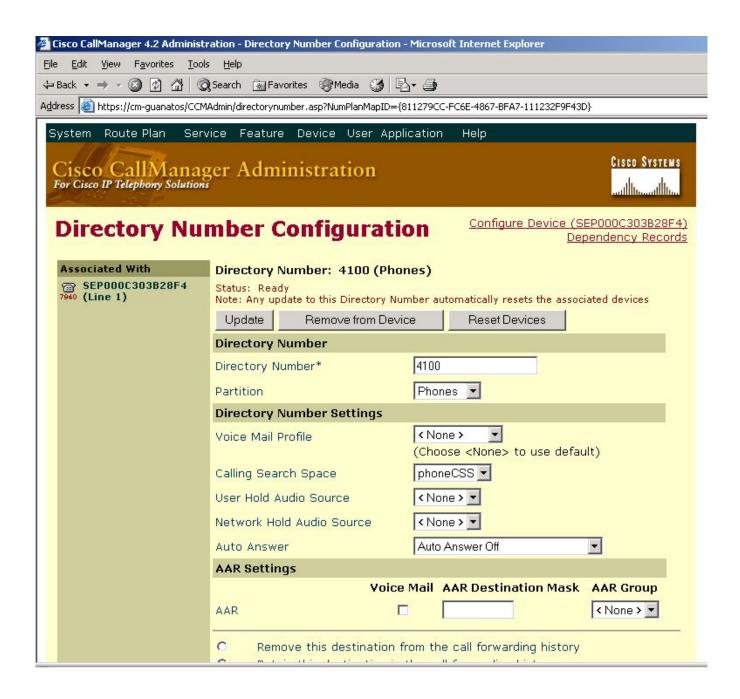


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D	irectory		
м	lessages		
S	ervices		
		Ι	
A	uthentication Server		
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Ic	dle		
Id	dle Timer (seconds)		
E	xtension Mobility (Device P	Profile) Information	
Ţ.	Enable Extension Mobility Fe	eature	
Lo	og Out Profile	— Not Selected —     ▼	
Lo	og In User ID	< None >	
Lo	og In Time	< None >	
		< None >	
С	ertification Authority Proxy	Function (CAPF) Information	
C	ertificate Operation	No Pending Operation 👤	
A	uthentication Mode	By Authentication String	<b>v</b>
A	uthentication String	Ge	nerate String
K	ey Size (bits)	1024	
0	peration Completes By**	:: (YYY	Y: MM: DD: HH)
C	ertificate Operation Status :	None	
M	Iultilevel Precendence and I	Preemption (MLPP) Information	
M	1LPP Domain	(e.g., "0000FF")	
M	1LPP Indication	Default 🔻	



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Address  https://cm-guanatos/CC	EMAdmin/phoneconfig.asp?pkid={8E0BEC35	5-28CD-4744-BEC2-C5F2CB6CB198}				
	Authentication String		Generate String			
	Key Size (bits)	1024				
	Operation Completes By**		(YYYY: MM: DD: HH)			
	Certificate Operation Status :	None				
	Multilevel Precendence and	Preemption (MLPP) Inform	nation			
	MLPP Domain	(e.g., "0000FF")				
	MLPP Indication	Default 🔻				
	MLPP Preemption	Default				
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	<b>Product Specific Configuration</b>	on	<u> </u>			
	Disable Speakerphone					
	Disable Speakerphone and Hea	dset 🗆				
	PC Port*	Enabled	▼			
	Settings Access*	Enabled	•			
	Gratuitous ARP*	Enabled	<u> </u>			
	PC Voice VLAN Access*	Enabled	•			
	Video Capabilities*	Disabled				
	Auto Line Select*	Disabled	•			
	Web Access*	Enabled				
	* indicates a required item. ** Indicates time on Publisher.	<u>B</u> a	Back to top of page ack to Find/List Phones			







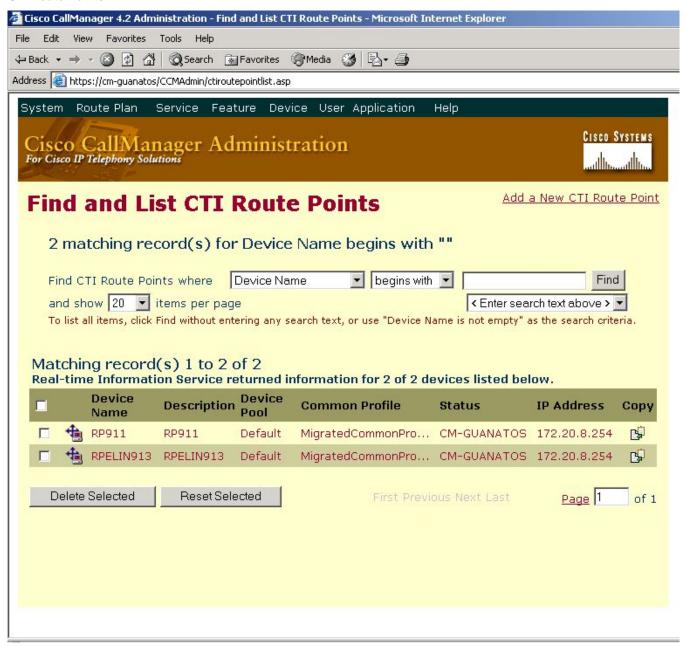
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Address Addres					
	Retain this destination in the call forwarding history				
	7	Call Forward and Pickup Settings			
	Voic	e Mail	Destination	Calling Se	earch Space
	Forward All			< None >	
	Forward Busy Internal	V	4200	< None >	
	Forward Busy External	V	4200	< None >	
	Forward No Answer Internal	V	4200	< None >	
	Forward No Answer External	V	4200	< None >	
	Forward No Coverage Internal			< None >	
	Forward No Coverage External			< None >	
	Forward Unregistered Internal	V	4200	< None >	
	Forward Unregistered External	V	4200	< None >	
	No Answer Ring Duration		(seconds)		
	Call Pickup Group	< Non	e > 🔻 ( <u>View D</u>	etails)	
	MLPP Alternate Party Setting	gs			
	Target (Destination)				
	Calling Search Space	< Non	e> 🔻		
	No Answer Ring Duration		(seconds)		
	Line Settings for all Devices				
	Alerting Name	Omar I	Bravo		
	Line Settings for this Device				
	Display (Internal Caller ID)	Omar I	Bravo		



Cisco CallManager 4.2 Administ	tration – Directory Number Configuration – Microsoft Internet Explorer				
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Address Address //cm-guanatos/CCM	MAdmin/directorynumber.asp?NumPlanMapID={811279CC-FC6E-4867-BFA7-111232F9F43D}				
	Line Settings for this Device				
	Display (Internal Caller ID) Omar Bravo				
	Line Text Label Omar Bravo				
	External Phone Number Mask				
	Message Waiting Lamp Policy Use System Policy				
	Ring Setting (Phone Idle) Use System Default				
	Ring Setting (Phone Active)** Use System Default				
	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* 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.				
	** 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.)				
	Character Set Western European (Latin 1)				

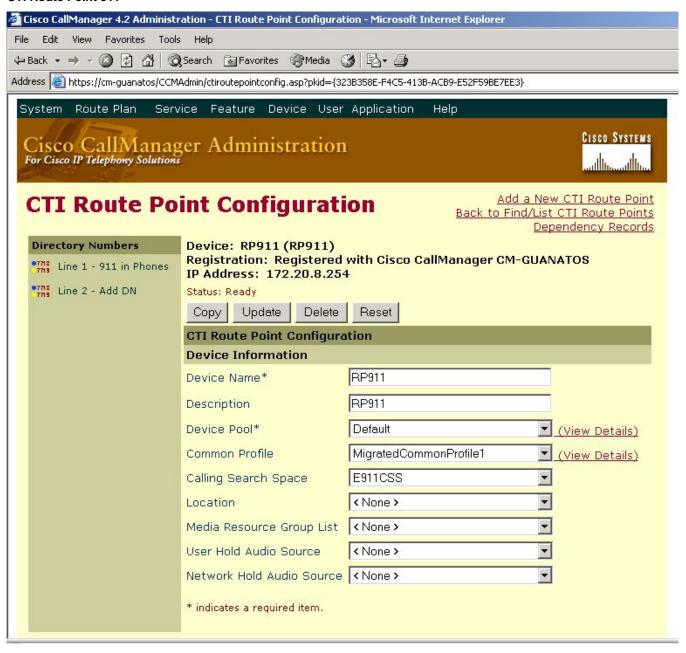


### **CTI Route Points**

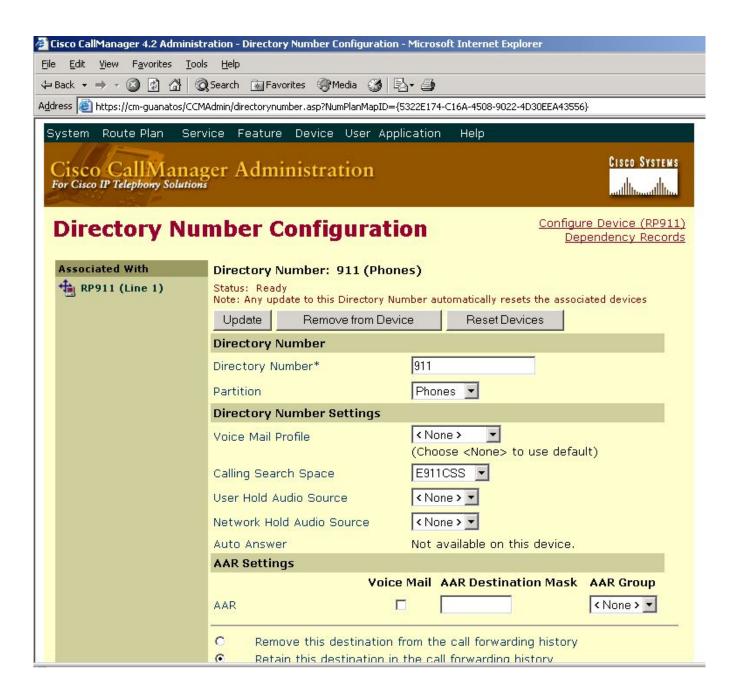




### **CTI Route Point 911**









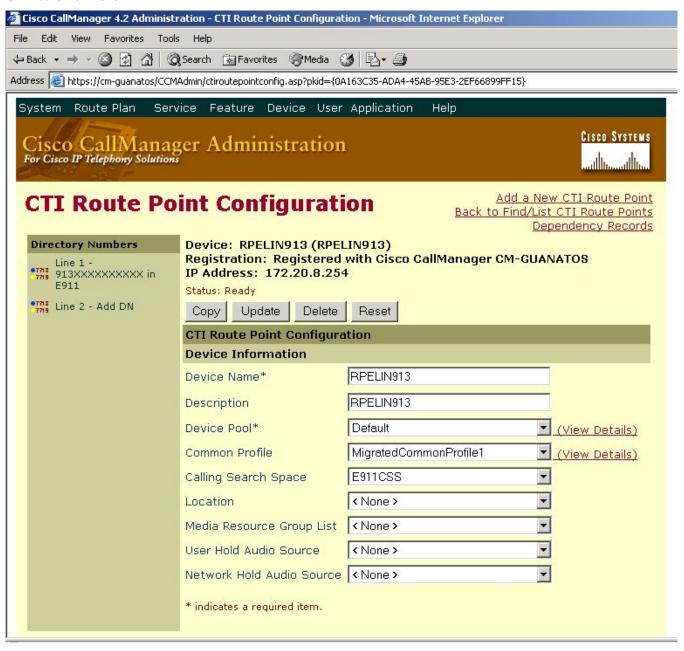
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Address  https://cm-guanatos/CCM	Address a https://cm-guanatos/CCMAdmin/directorynumber.asp?NumPlanMapID={5322E174-C16A-4508-9022-4D30EEA43556}					
	Retain this destination in the call forwarding history					
	Call Forward and Pickup Settings  Voice Mail Coverage/ Calling Search Space					
	Voic	e Mail	Destination	Calling Search Space		
	Forward All			< None > ▼		
	Forward Busy Internal			< None > ▼		
	Forward Busy External			< None > ▼		
	Forward No Answer Internal			<none></none>		
	Forward No Answer External			<none></none>		
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	Forward No Coverage External			<none> ▼</none>		
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	Forward Unregistered Internal Forward Unregistered External			<none> ▼</none>		
		1250				
	Forward On Failure Ext/Int		<u></u>	<none> ▼</none>		
	No Answer Ring Duration		(seconds)			
	Call Pickup Group	< Non	e > 🔽 ( <u>View D</u>	etails)		
	MLPP Alternate Party Setting	gs				
	Target (Destination)					
	Calling Search Space	< Non	e> •			
	No Answer Ring Duration (seconds)					
	Line Settings for all Devices					
	Alerting Name					
Line Settings for this Device						



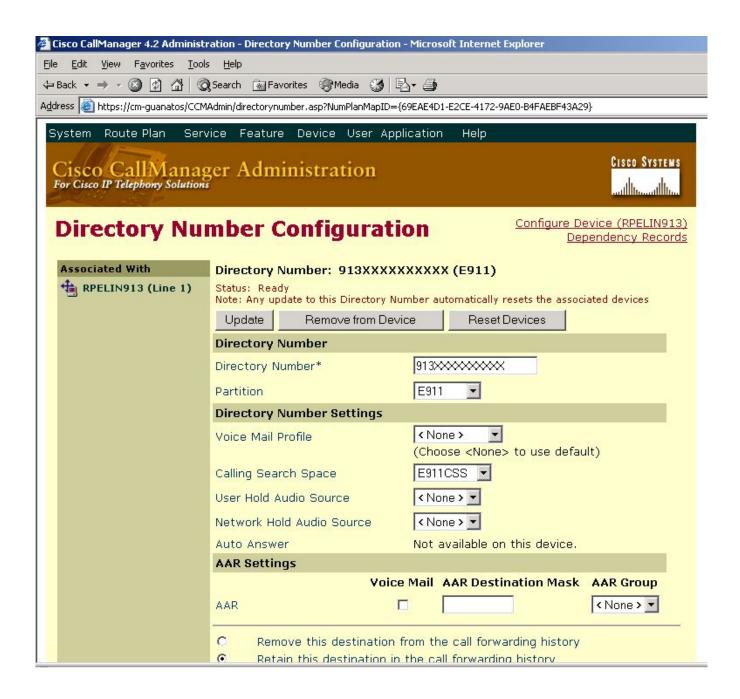
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Address Address / https://cm-guanatos/CCM	Admin/directorynumber.asp?NumPlanMapID	={5322E174-C16A-4508-9022-4D30EEA43556}			
	Line Settings for all Devices				
	Alerting Name				
	Line Settings for this Device				
	Display (Internal Caller ID)				
	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 9	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	pean (Latin 1)			
6					



### **CTI Route Point 913**









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Address Addres					
	Retain this destination  Call Forward and Pickup Set		call forwarding	j history	
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	Yold	e Mail	Destination	Calling Search Space	
	Forward All			<none> ▼</none>	
	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 External			<none> ▼</none>	
	Forward Unregistered Internal			< None > ▼	
	Forward Unregistered External			<none> ▼</none>	
	Forward On Failure Ext/Int			<none> ▼</none>	
	No Answer Ring Duration		(seconds)		
	Call Pickup Group	< Non	e > ▼ ( <u>View D</u>	etails)	
	MLPP Alternate Party Setting	gs			
	Target (Destination)				
	Calling Search Space	< Non	e> •		
	No Answer Ring Duration		(seconds)		
	Line Settings for all Devices				
	Alerting Name				
	Line Settings for this Device				



Cisco CallManager 4.2 Administration - Directory Number Configuration - Microsoft Internet Explorer				
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Address Address Address Address Address		={69EAE4D1-E2CE-4172-9AE0-B4FAEBF43A29}		
	Line Settings for all Devices			
	Alerting Name			
	Line Settings for this Device			
	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		
	* 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.



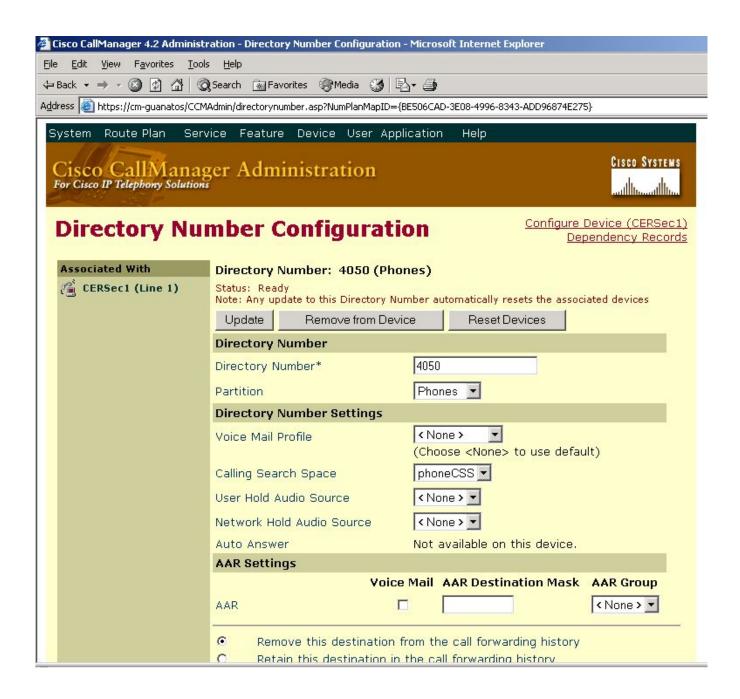
### **CTI Port**





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Address a https://cm-guanatos/CCMAdr	lmin/phoneconfig.asp?pkid={30314	178-6608-47C1-AB7F-D27FF66C62	78}		
Des	scription	CERSec1			
Ow	vner User ID		(Select User ID)		
Dev	vice Pool*	Default	(View Details)		
Cor	mmon Profile	< None >	(View Details)		
Cal	lling Search Space	phoneCSS			
AAI	R Calling Search Space	< None >	•		
Me	edia Resource Group List	< None >	•		
Use	er Hold Audio Source	< None >	•		
Net	twork Hold Audio Source	< None >			
Loc	cation	< None >	•		
AAI	R Group	< None >	•		
Dev	vice Mobility Mode	Default	(View Current Settings)		
	Ignore Presentation Indic	ators (internal calls only)			
⋉	Logged into Hunt Group				
Mu	ultilevel Precendence ar	nd Preemption (MLPP) In	nformation		
MLI	.PP Domain	(e.g., "0000FF")			
		Not available on this devic	ce		
MLI	.PP Preemption	Not available on this device	ce		
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			Back to top of page Back to Find/List Phones		







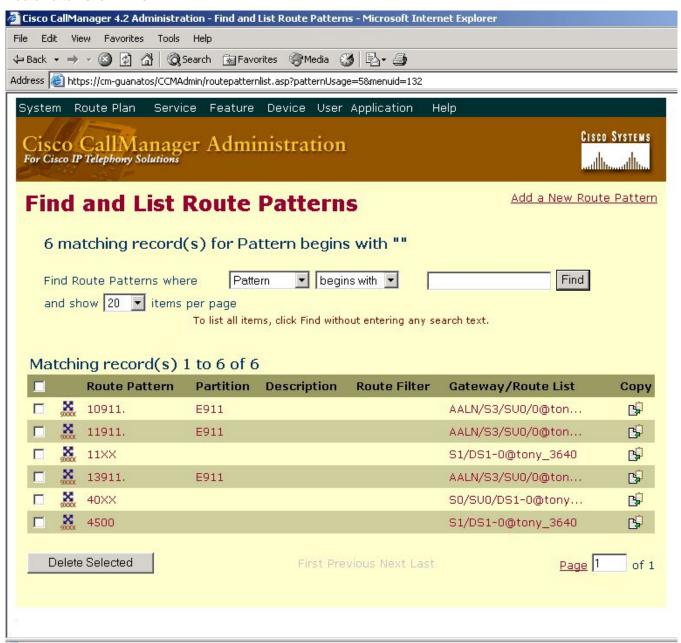
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Address  https://cm-guanatos/CCM/	Address (a) https://cm-guanatos/CCMAdmin/directorynumber.asp?NumPlanMapID={BE506CAD-3E08-4996-8343-ADD96874E275}						
	Call Forward and Pickup Settings						
	Voice Mail Coverage/ Destination Calling Search Space						
	Forward All		Destination	< None > ▼			
	Forward Busy Internal			< None > ▼			
	Forward Busy External			< None > ▼			
	Forward No Answer Internal			<none> ▼</none>			
	Forward No Answer External			< None > ▼			
	Forward No Coverage Internal			< None > ▼			
	Forward No Coverage External			< None > ▼			
	Forward Unregistered Internal			<none> ▼</none>			
	Forward Unregistered External			<none> ▼</none>			
	Forward On Failure Ext/Int			< None > ▼			
	No Answer Ring Duration		(seconds)				
	Call Pickup Group	< Non	e > 🔻 ( <u>View D</u>	etails)			
	MLPP Alternate Party Setting	gs					
	Target (Destination)						
	Calling Search Space	< Non	e> •				
	No Answer Ring Duration		(seconds)				
	Line Settings for all Devices						
	Alerting Name						
	Line Settings for this Device						



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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 Settings				
	Maximum Number of Calls*	4 (1 - 200)		
	Busy Trigger*	2 (<= Max. Calls)		
Forwarded Call Information Display		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)		
6				

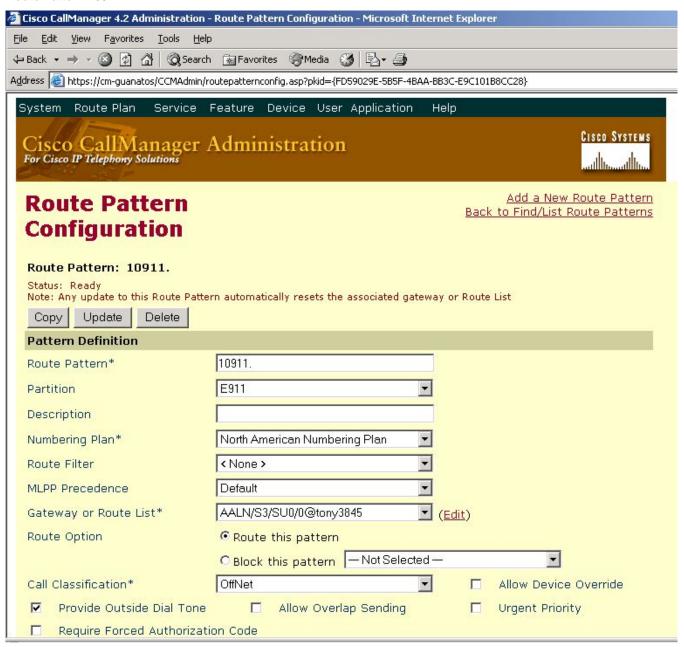


### **Route Patterns for ELINs**





### Route Pattern 10911

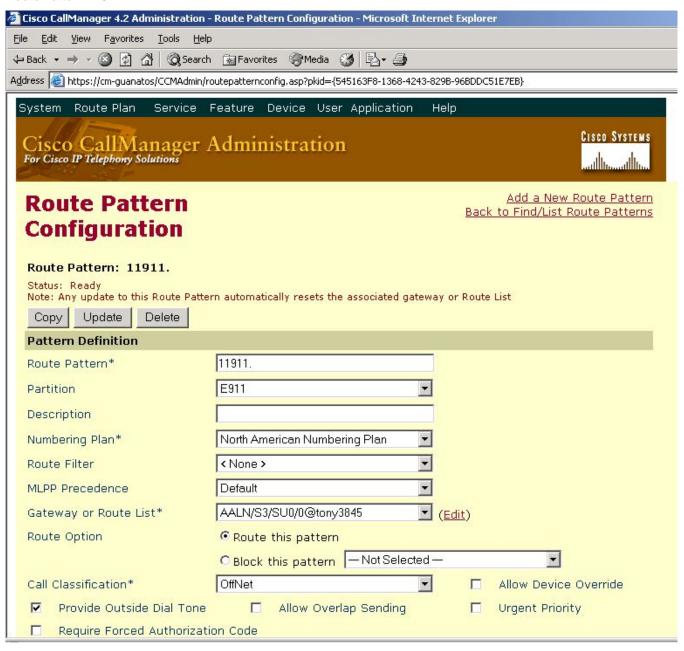




Cisco CallManager 4.2 Administration - Route	Pattern Configuration - Microsoft Internet Explorer
File Edit View Favorites Tools Help	
Back → → ② ② ③ Search   Fa	
Address   https://cm-guanatos/CCMAdmin/routepatte	ernconfig.asp?pkid={FD59029E-5B5F-4BAA-BB3C-E9C101B8CC28}
Authorization Level	0
☐ Require 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**

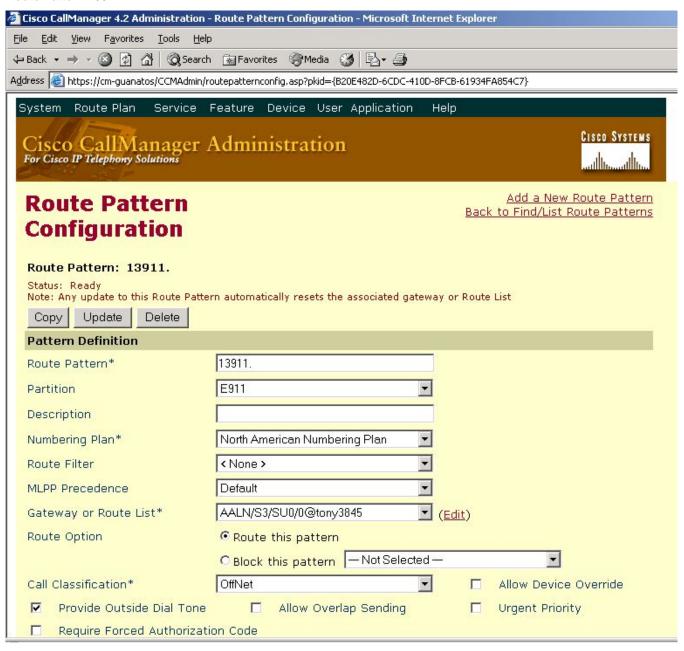




Cisco CallManager 4.2 Administration - Route Pattern Configuration - Microsoft Internet Explorer
File Edit View Favorites Tools Help
□ Back → → ✓ ② ② ③ △ □ ② Search ☑ Favorites ⑤ Media ③ □ □ → ⑤
Address   thtps://cm-guanatos/CCMAdmin/routepatternconfig.asp?pkid={545163F8-1368-4243-829B-96BDDC51E7EB}
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 Service Parameter Name Service Parameter Value
— Not Selected — ✓ < Not Exist >
* indicates required item.



#### Route Pattern 13911

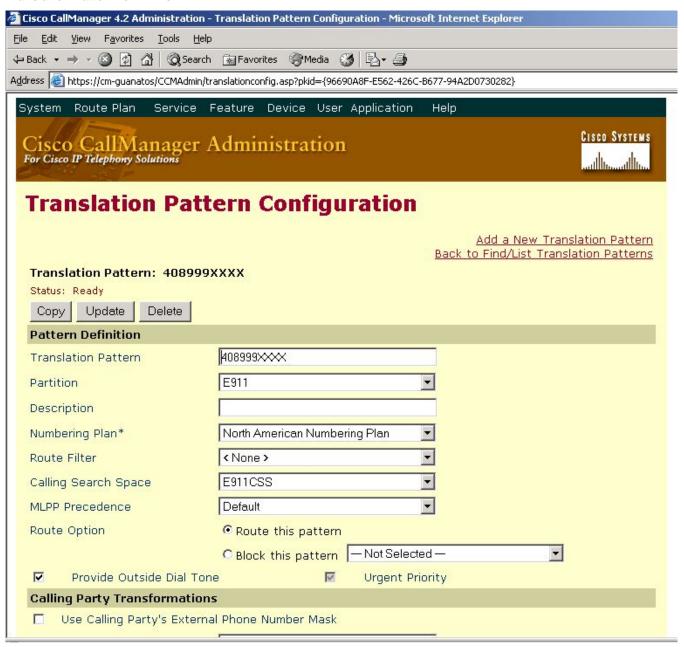




🚰 Cisco CallManager 4.2 Administration -	Route Pattern Configuration - Microsoft Internet Explorer
<u>File Edit View Favorites Tools H</u> elp	
⇔ Back      → →      Ø      Ø      Ø      O	
Address Address //cm-guanatos/CCMAdmin/rd	utepatternconfig.asp?pkid={B20E482D-6CDC-410D-8FCB-61934FA854C7}
Authorization Level	0
Require Client Matter Code	
<b>Calling Party Transformations</b>	
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 <b>▼</b>
<b>Connected Party Transformat</b>	ions
Connected Line ID Presentation	Default
Connected Name Presentation	Default <b>▼</b>
<b>Called Party Transformations</b>	
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**

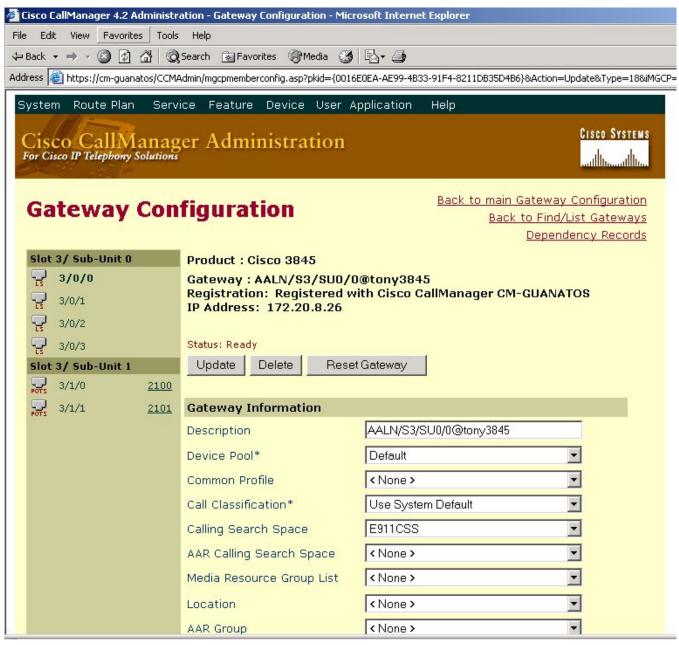




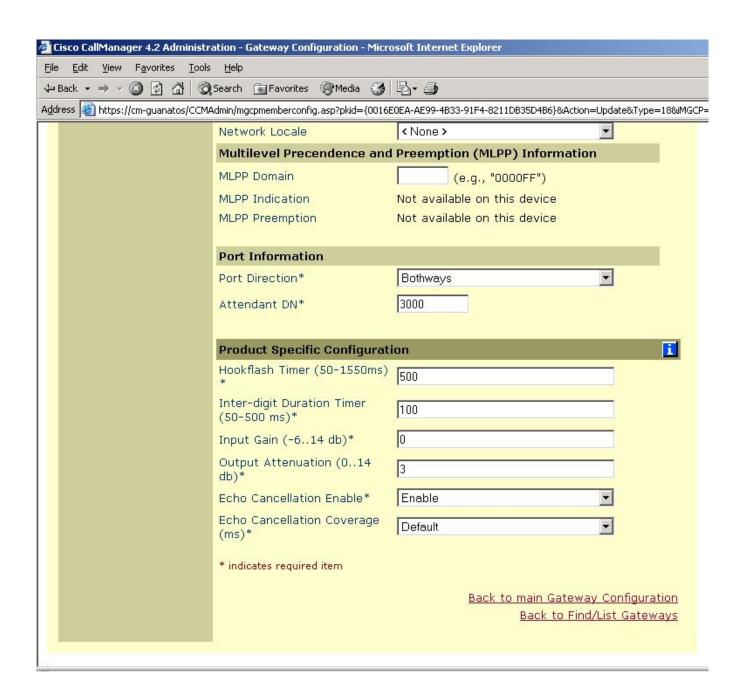
Cisco CallManager 4.2 Administration -	Translation Pattern Configuration - Microsoft Internet Explorer
File Edit View Favorites Tools Help	
← Back     →     ✓ <t< th=""><th></th></t<>	
Address   https://cm-guanatos/CCMAdmin/tra	anslationconfig.asp?pkid={96690A8F-E562-426C-B677-94A2D0730282}
Numbering Plan*	North American Numbering Plan
Route Filter	< None >
Calling Search Space	E911CSS ▼
MLPP Precedence	Default 🔽
Route Option	© Route this pattern
	○ Block this pattern ─ Not Selected ─
✓ Provide Outside Dial Tone	e
Calling Party Transformations	5
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 <b>▼</b>
Connected Party Transformat	tions
Connected Line ID Presentation	Default
Connected Name Presentation	Default <b></b> ■
Called Party Transformations	
Discard Digits	< None >
Called Party Transform Mask	
Prefix Digits (Outgoing Calls)	913
* indicates required item.	
1/4	



## **PSAP Gateway Configuration (CAMA Trunk)**

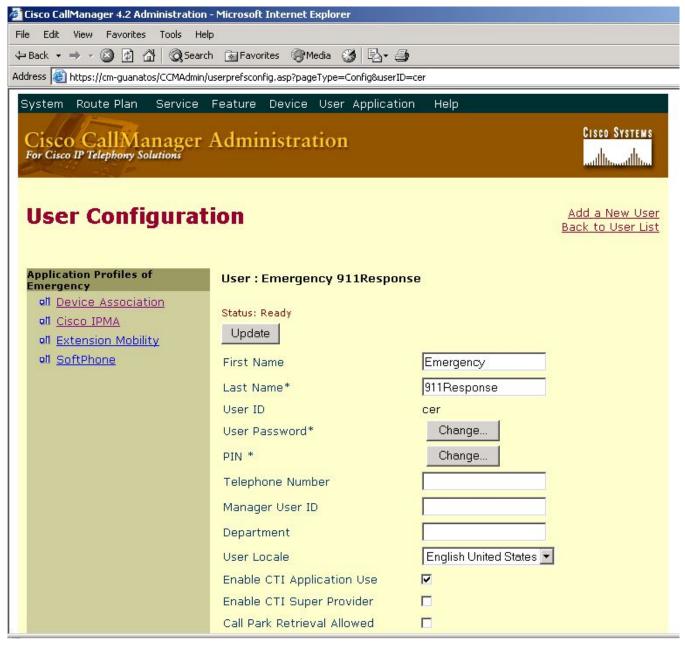




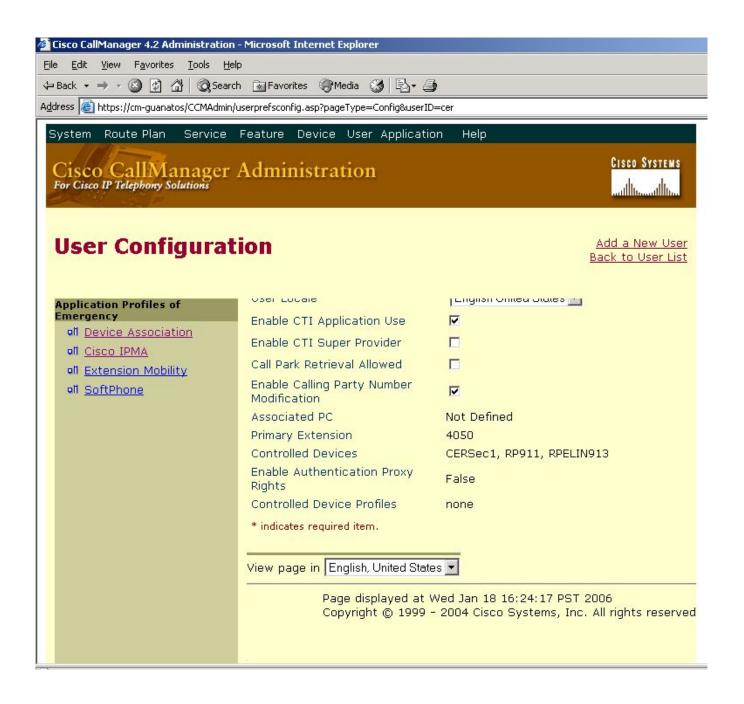




# Cisco Unified CallManager User

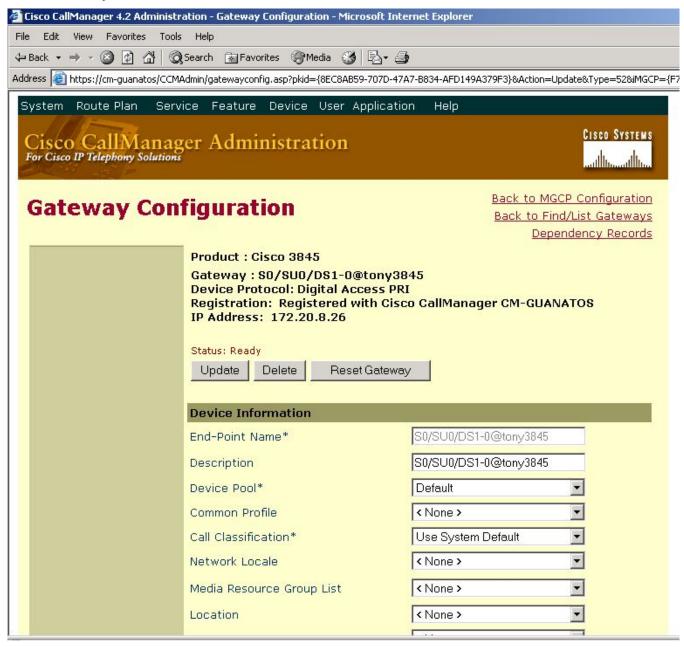








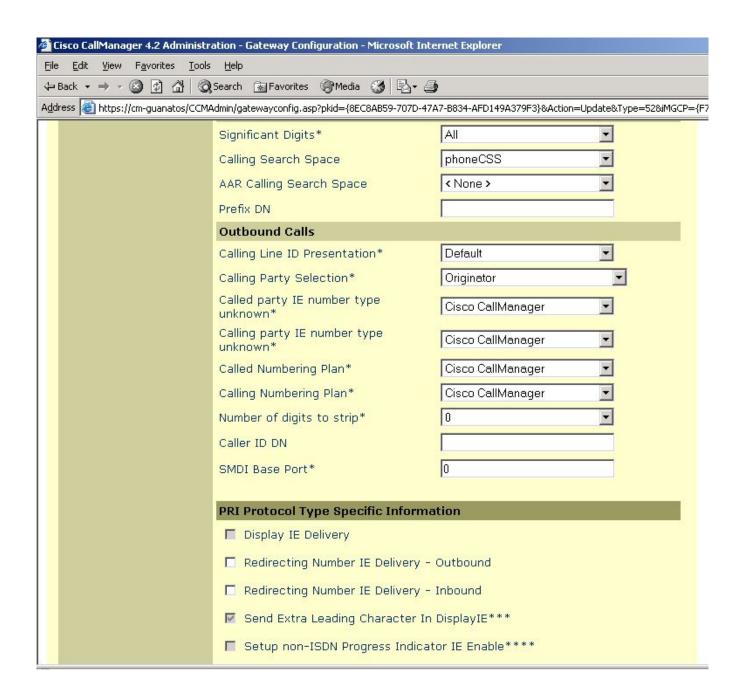
#### T1-QSIG Gateway



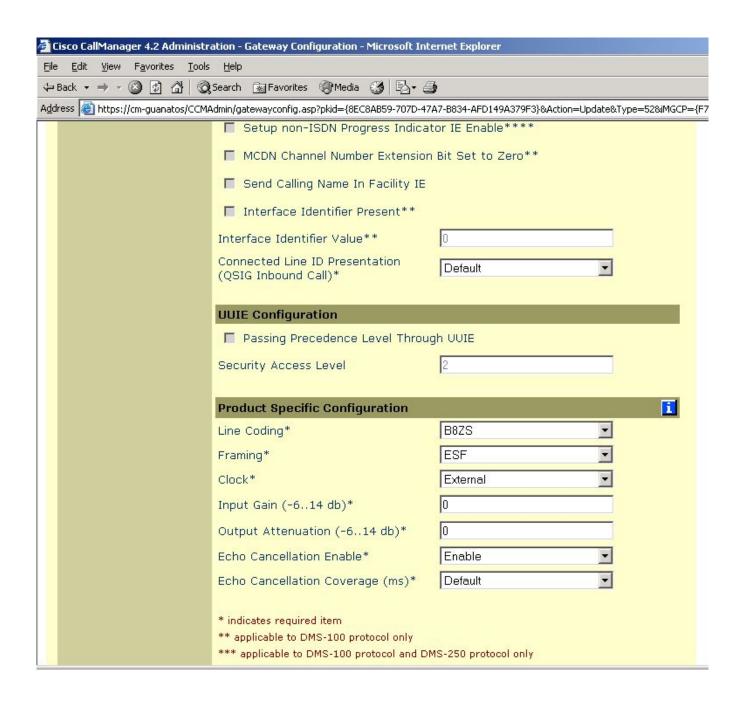


🐴 Cisco CallManager 4.2 Administr	ation - Gateway Configuration - Microsoft Inte	ernet Explorer
<u>File Edit Yiew Favorites T</u> ools	; <u>H</u> elp	
⇔ → ✓ ③ ② △ △ □ □	Search َ Favorites 🎒 Media 🍪 🗟 🗸 🚊	
Address Address //cm-guanatos/CCM	Admin/gatewayconfig.asp?pkid={8EC8AB59-707D-47/	A7-B834-AFD149A379F3}&Action=Update&Type=52&iMGCP={F7
	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 initializatio	n
	Enable status poll	
	Call Routing Information	
	Inbound Calls	
	Significant Digits*	All
	Calling Sparch Space	nhanaCSS •



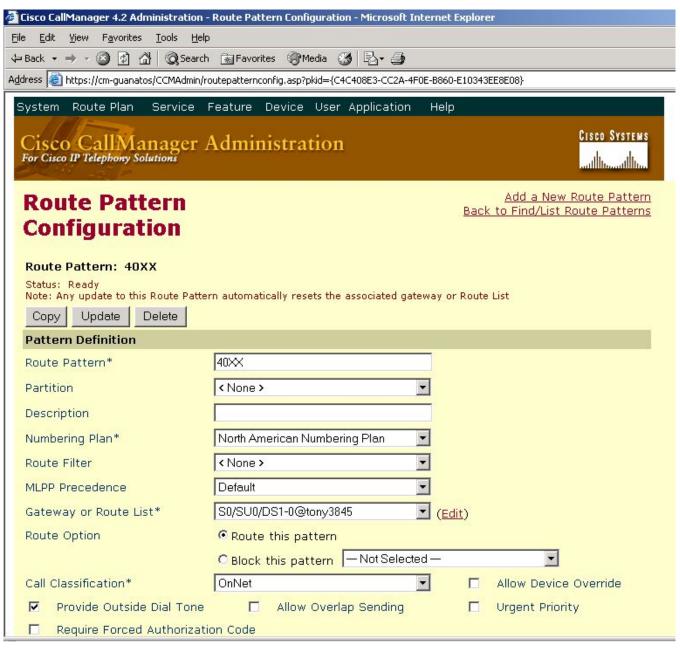








#### **Route Pattern to QSIG Trunk**



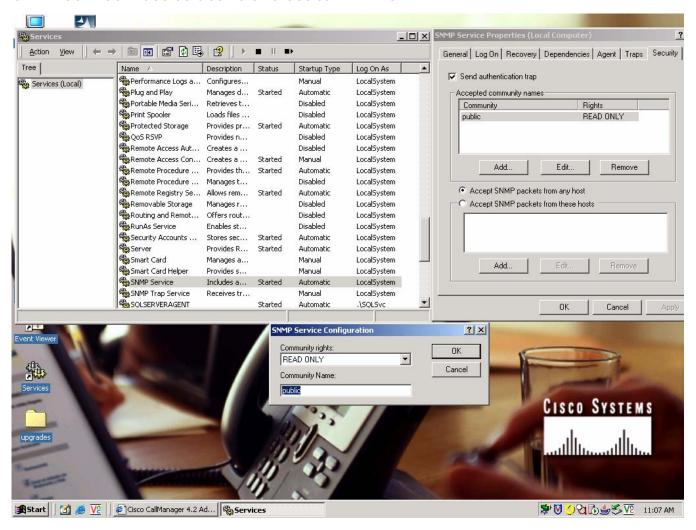


💆 Cisco CallManager 4.2 Administration -	Route Pattern Configuration - Microsoft Internet Explorer
<u>File Edit View Favorites Tools H</u> elp	
Back → → ✓ ③ ② ③ ⑤ ⑤ Search	Favorites
Address Address / https://cm-guanatos/CCMAdmin/ro	utepatternconfig.asp?pkid={C4C408E3-CC2A-4F0E-B860-E10343EE8E08}
Authorization Level	0
☐ Require Client Matter Code	
<b>Calling Party Transformations</b>	
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
<b>Connected Party Transformat</b>	ions
Connected Line ID Presentation	Default <u></u>
Connected Name Presentation	Default 🔻
<b>Called Party Transformations</b>	
Discard Digits	< None >
Called Party Transform Mask	
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.	

Note: For detailed information regarding QSIG interoperability between CCM and Nortel Succession PBX go to: <a href="http://www.cisco.com/warp/public/779/largeent/avvid/inter\_operability/flash/portal.html">http://www.cisco.com/warp/public/779/largeent/avvid/inter\_operability/flash/portal.html</a>



# SNMP service must be active and set to READ-ONLY





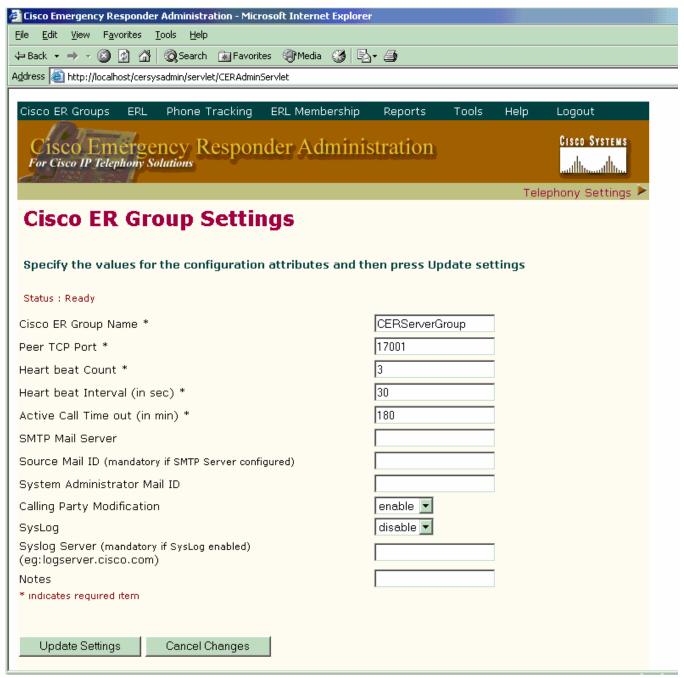
## **Cisco Emergency Responder Configuration**

#### **Cisco Unified CallManager Details**



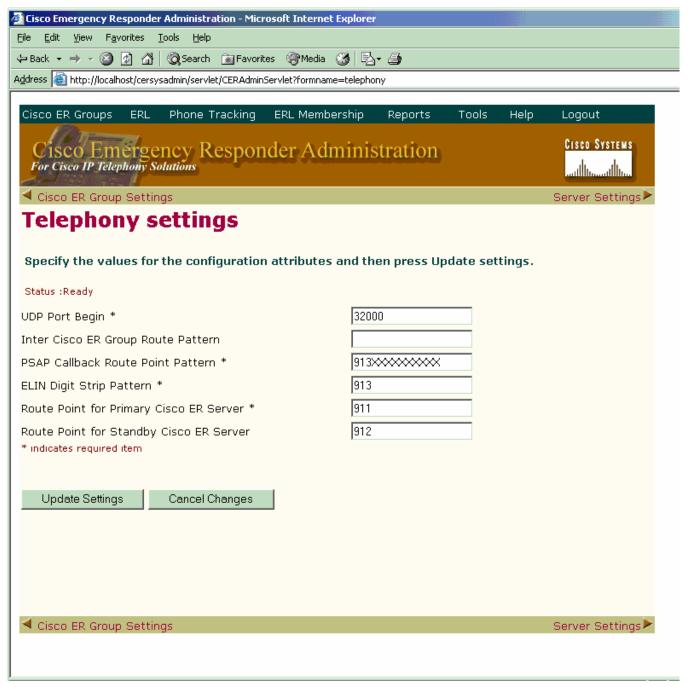


## **Cisco Emergency Responder Server Group**



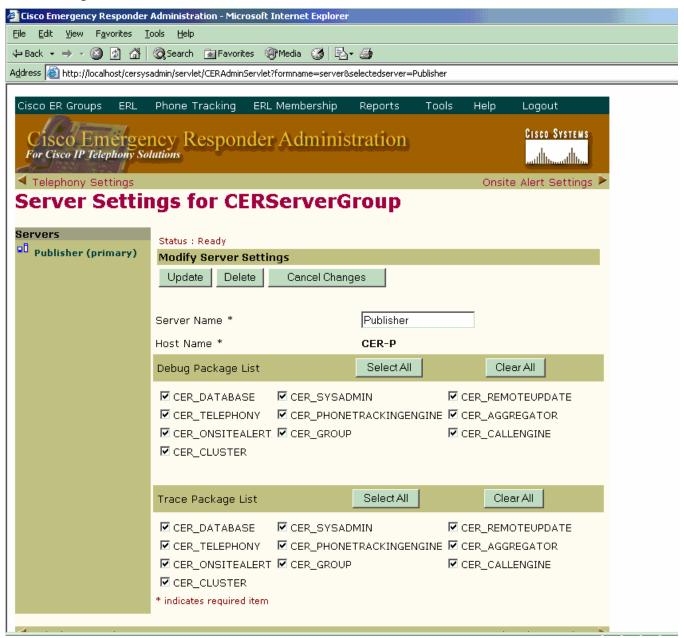


## **Telephony Settings**



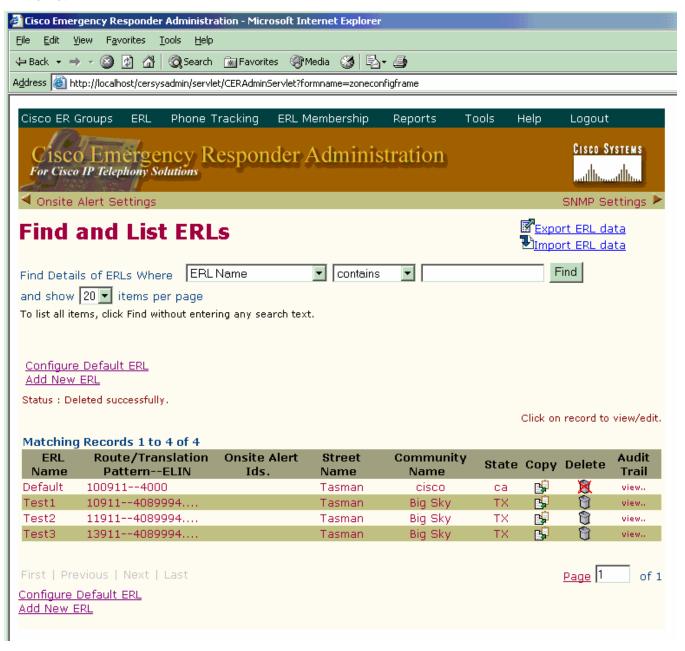


## **Server Settings**



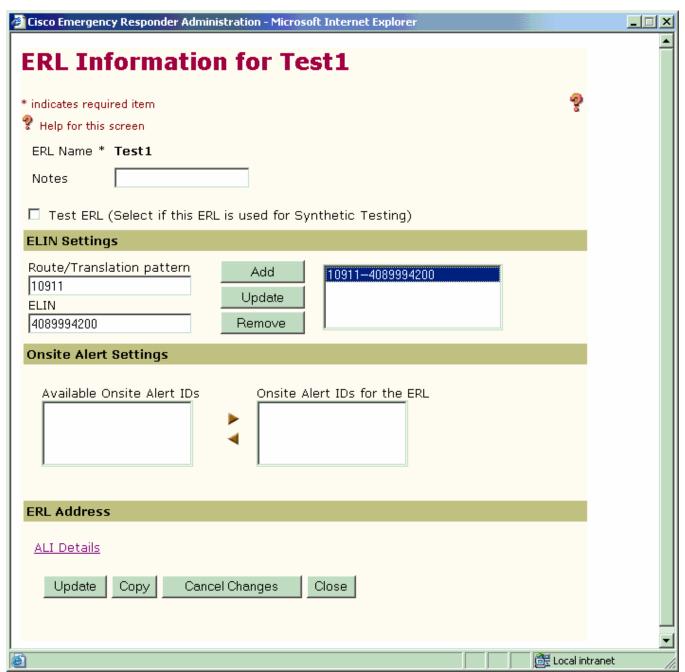


#### **ERLs List**



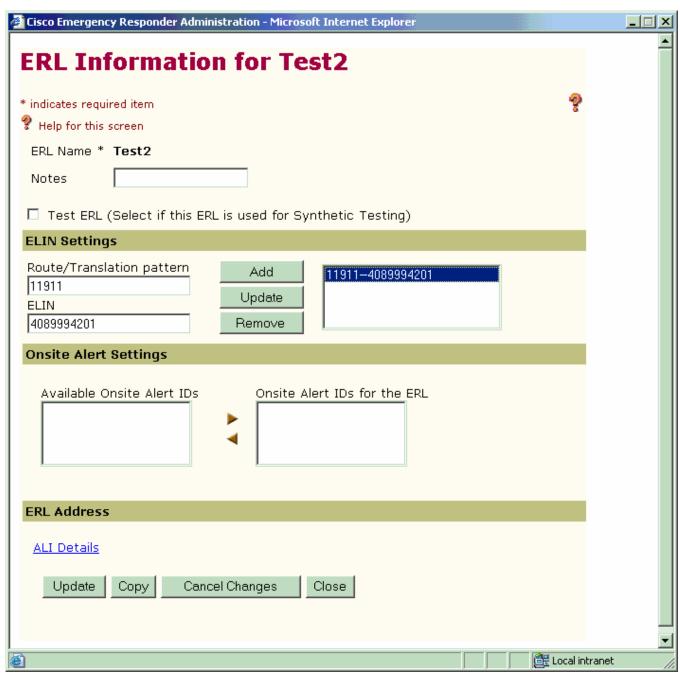


## ERL 1



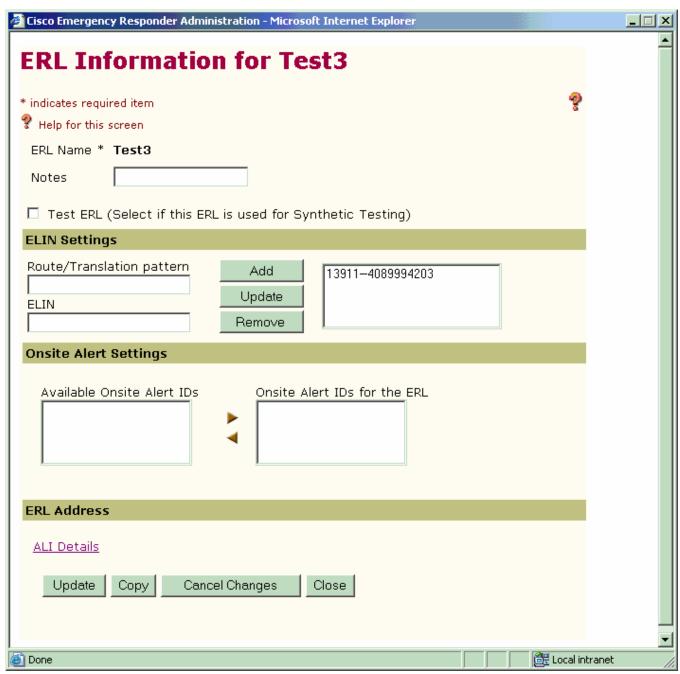


## ERL 2



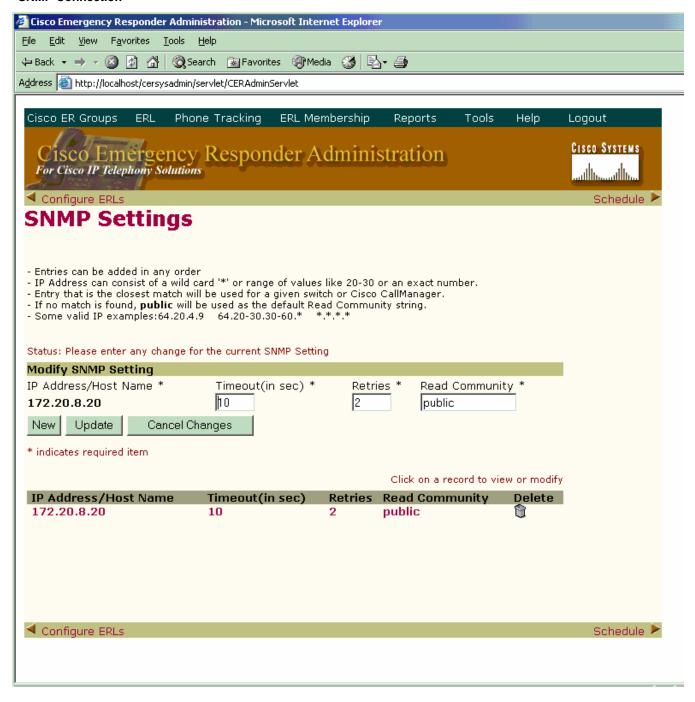


## ERL 3



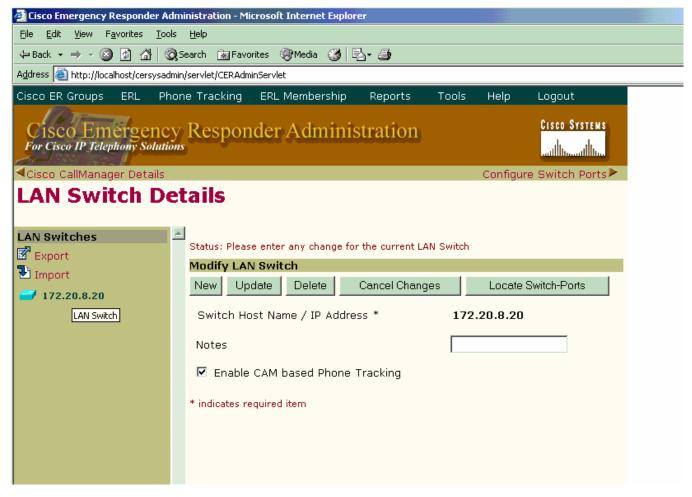


#### **SNMP Connection**



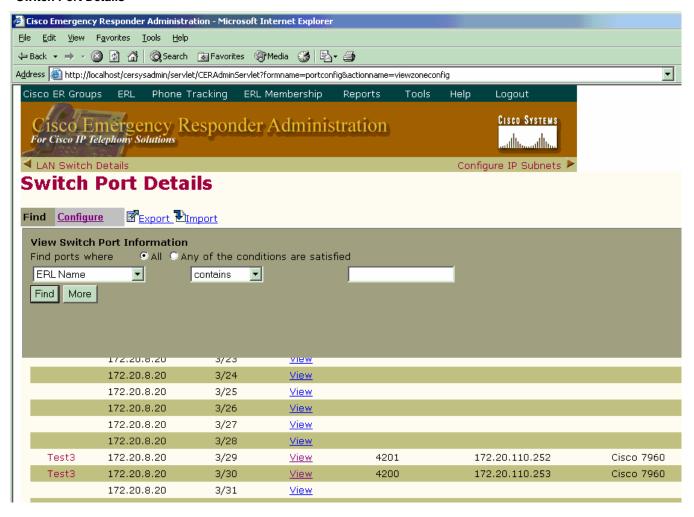


## LAN Switch Identifying



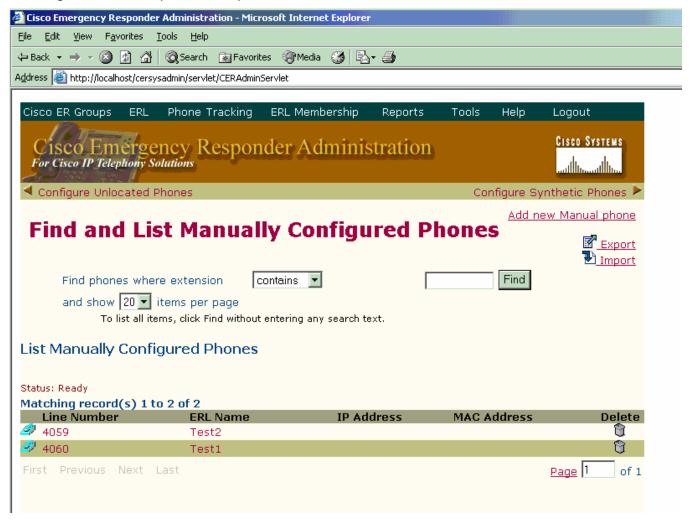


#### **Switch Port Details**

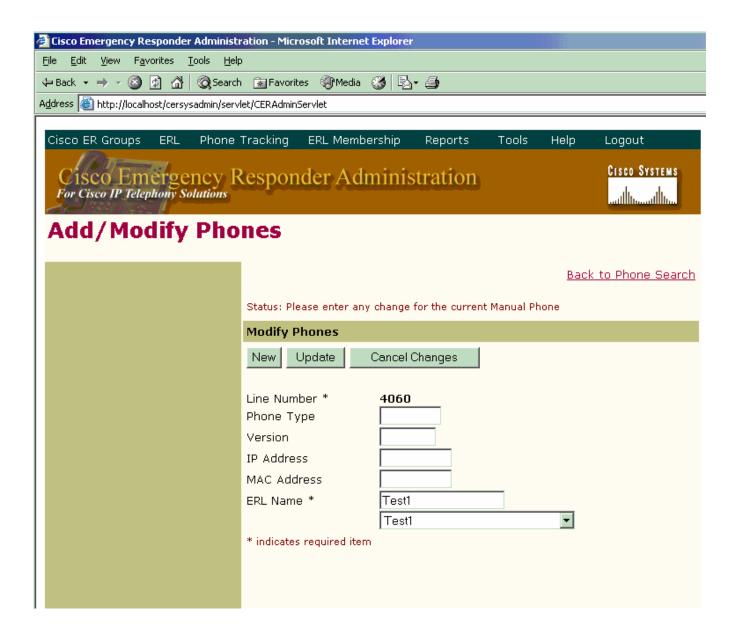




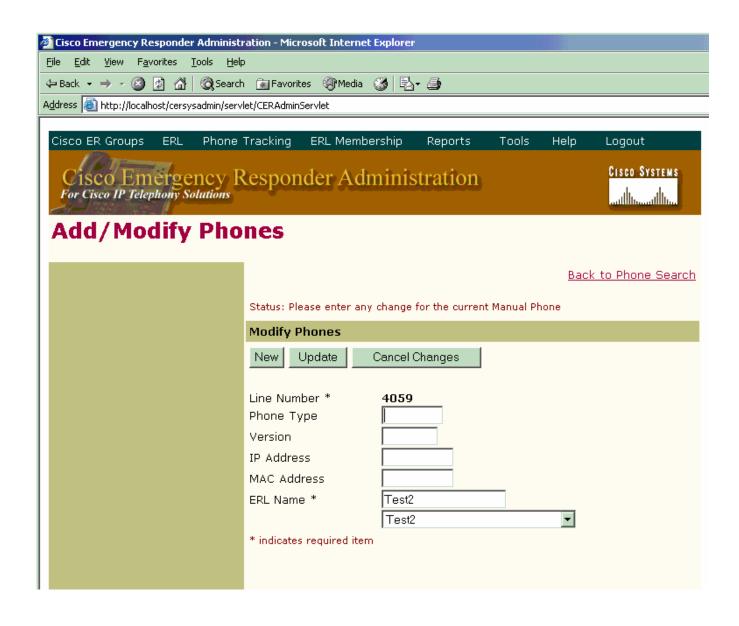
#### **Defining Manual Phones (PBX Stations)**











#### 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  $\ensuremath{\mathsf{ms}}$ 

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



# Nortel CS1000M with Succession 4.0 Software Release PBX Configuration

#### **Common Equipment**

```
REQ prt
TYPE cequ
CEQU
 MPED 8D
 SUPL 000 004 008 012
       016 032 036 040
044 048 064 068
        072 V096 V100
 TDS 000
 CONF 029 030 031 062
        094 095
 DLOP NUM DCH FRM TMDI LCMT YALM T1TE TRSH
  PRI 02 24 ESF NO B8S FDL - 06 23 ESF NO B8S FDL -
                                           00
 PRI2 04 05 07
 DTI2
 MISP
```

#### Configure D-Channel

```
REQ prt
TYPE adan dch 4
ADAN
        DCH 4
 CTYP MSDL
  CARD 04
  PORT 1
 DES toJupiter
  USR PRI
  DCHL 4
  OTBF 32
  PARM RS422 DTE
  DRAT 64KC
  CLOK EXT
  IFC ISGF
   PINX_CUST 0
   ISDN_MCNT 300
  CLID OPT0
  CO_TYPE STD
  SIDE USR
  CNEG 2
  RLS ID 4
  QCHID YES
  RCAP COLP NDI CCBI CCNI PRI DV31 CTI QMWI
  PR_TRIGS DIV 2 3
       CON 0 1
       CTR1 2 3
  MBGA NO
  OVLR NO
```



OVLS NO T310 120 T200 3 T203 10 N200 3 N201 260 K 7

# **Configure Route Data Block**

REQ: prt TYPE: rdb CUST 0 ROUT 104 TYPE RDB CUST 00 DMOD ROUT 104 DES TOJUPITER TKTP TIE NPID\_TBL\_NUM 0 ESN NO CNVT NO SAT NO RCLS EXT VTRK NO NODE DTRK YES BRIP NO DGTP PRI2 ISDN YES MODE PRA IFC ISGF SBN NO PNI 00001 NCNA NO NCRD NO CTYP UKWN INAC NO ISAR NO CPFXS YES DAPC NO INTC NO DSEL VOD PTYP DTT AUTO NO DNIS NO DCDR NO ICOG IAO SRCH LIN TRMB YES STEP ACOD 204 TCPP NO TARG 01 CLEN 1 BILN NO OABS

INST



ANTK

SIGO STD ICIS YES TIMR ICF 512 OGF 512 EOD 13952 NRD 10112 DDL 70 ODT 4096 RGV 640 GRD 896 SFB 3 NBS 2048 NBL 4096 IENB 5 TFD 0 VSS 0 PAGE 002 VGD 6 DRNG NO CDR NO VRAT NO MUS NO FRL 0 0 FRL 1 0 FRL 2 0 FRL 3 0 FRL 4 0 FRL 5 0 FRL 6 0 FRL 7 0 OHQ NO OHQT 00 CBQ NO AUTH NO TTBL 0 ATAN NO PLEV 2 ALRM NO ART 0 SGRP 0 AACR NO

# **Configure Trunk**

REQ: prt
TYPE: tnb
TN 4 1
DATE
PAGE
DES
TOJUPITER

004 01

TN



```
TYPE TIE
CDEN SD
CUST 0
TRK PRI2
PDCA 1
PCML A
NCOS 0
RTMB 104 1
B-CHANNEL SIGNALING
TGAR 1
AST NO
LAPG 0
CLS UNR DTN WTA LPR APN THFD
P10 VNL
```

#### Software Release

```
>LD 22

PT2000
MARP NOT ACTIVATED

ld 22
PT2000

REQ iss

CALL SERVER/MAIN CAB
VERSION 2121
RELEASE 4
ISSUE 00 T +
IDLE_SET_DISPLAY NORTEL
REQ ****
```

# **Software Package Installed (Succession 4.0)**

OPTF	1
CUST	2
CDR	4
CTY	5
RAN	7
TAD	8
DNDI	9
EES	10
INTR	11
ANI	12
ANIR	13
BRTE	14
DNDG	16
MSB	17
SS25	18
DDSP	19
ODAS	20
DI	21
CHG	23
CAB	24
BAUT	25
CASM	26
CASR	27
BQUE	28
NTRF	29
NCOS	32



CPRK	33
CITCIC	
SSC	34
IMS	35
IMS	
UST	35
UMG	35
ROA	36
NSIG	37
MCBQ	38
NSC	39
BACD	40
ACDB	41
ACDC	42
LMAN	43
MUS	44
ACDA	45
MWC	46
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REQ



#### **Acronyms**

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

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