



SIP Trunking using Optimum Business® SIP Trunk Adaptor and the Cisco Call Manager Express Version 8.5

Goal

The purpose of this configuration guide is to describe the steps needed to configure the Cisco Unified Call Manager Express (CME) IP-PBX for proper operation with Optimum Business SIP Trunking.

Prerequisites

Please follow the instructions in the Optimum Business SIP Trunk Set-Up Guide. The Set-Up Guide was left by the Optimum Business technician at installation. If you do not have the Set-Up Guide, go to <u>www.optimumbusiness.com/SIP</u> to download a copy.

Call Manager Express (CME) PBX Configuration

The steps on the next pages describe the minimum configuration required to enable the CME PBX to use Optimum Business SIP Trunking for inbound and outbound calling. Please refer to the Cisco CME product documentation for more information on other advanced PBX features.

The configuration described here assumes that the PBX is already configured and operational with station side phones using assigned extensions or DIDs. This configuration is based on Cisco 2901, IOS version 15.1(3)T (c2900-universalk9-mz.SPA.151-3.T.bin) with built-in CME v8.5. The Cisco 2901 came with two Etherent ports, GE O/O and GE O/1, with GE O/O defaults to an IP address of 10.10.10.1/248. One of these two Ethernet ports and the Optimum Business SIP Trunk Adatpor's LAN port 1 should be in the same LAN segment. The GE O/O port and the Optimum Business SIP Trunk Adaptor's LAN port 1 have been assigned with IP addresses of 10.10.10.1/248 and 10.10.10.2/248 respectively. The GE O/1 port has been assigned with an IP address of 192.168.0.1/24 and it will be used as the PBX's LAN port for communicating with the IP phones, as well as the DHCP server for the IP phones.

Before you can configure the CME PBX for SIP trunk services, you need to download and install the Cisco Configuration Professional (CCP) GUI on a Windows PC. As of this writing, CME 8.5 and CCP 2.4 are the latest software available. If you have a problem getting CCP 2.4 to work on your Windows PC, check the release notes (i.e.: certain versions of the Java Runtime Environment may require certain settings in order for CCP 2.4 to work). After CCP 2.4 has been successfully installed, connect the Windows PC to the 10.10.10.0/248 LAN segment and start the CCP GUI.



- 1. From the **"Select/Manage Community"** screen, enter the CME PBX info in the first entry of the devices to be discovered.
 - a. Enter the PBX's IP address in the "IP Address/Hostname" field.
 - b. Enter the username in the "Username" field.
 - c. Enter the password in the "Password" field.
 - d. Check the **checkbox** next to the password field.
 - e. Click the "OK" button.

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3. Click the "Yes" button.



4. CCP has discovered the CME PBX. Click the "Configure" button to start configuring the PBX.

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- Navigate to "Configure">"Interface Management">"Interface and Connections" to set up the GE 0/1 Ethernet port needed for the PBX to communicate with the IP phones.
 - a. Select the "Edit Interface/Connection" tab to make sure the GE 0/1 port is not in use.

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6. Select the "Create Connection" tab to set up the GE 0/1 Ethernet port, select the radio button for "Ethernet LAN" and then click the "Create New Connection" button.

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7. Click the "No" button from the "Enable AAA" screen.



8. Click the "Next >" button.

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9. Click the "Next >" button.



 Enter the IP address for the GE 0/1 port in the "IP address" field, enter the subnet mask in the "Subnet mask" field and then click the "Next >" button.

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11. Select the radio button for "Yes" to enable the DHCP server and then click the "Next >" button.



12. Enter the starting IP address in the "Starting IP" field, enter the ending IP address in the "Ending IP" field and then click the "Next >" button.

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 Enter a valid IP address for the DNS server in the "DNS Server1" field, leave other fields as default and then click the "Next >" button.



14. Click the "Finish" button.





16. Click the "OK" button.



 Navigate to "Configure">"Unified Communications">" Unified Communications Features" to make sure the radio button for "Cisco Unified Communications Manager Express" is selected. If not, select it and then click the "Apply" button.



Navigate to "Configure">"Unified Communications">" Telephony Settings" to configure the general settings.

- a. Select "35 users" from the drop-down list of the "Maximum number of Phones" field.
- b. Enter the number of extensions needed in the "Maximum Number of Extensions" field.
- c. Select the date format in the "Date Format" field.
- d. Select the radio button for the "Time Format" field.
- e. Select the IP address for the GE O/1 port from the drop-down list of the "Phone Registration Source IP Address" field.
- f. Enter "9" in the "Secondary dial-tone digit" field, leave other fields as default.

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g. Click the "Apply" button.

19. Click the "No" button.



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- 21. Navigate to "Configure">"Unified Communications">"Advanced Telephony Settings" to configure the Web admin settings.
 - a. Select the "System Config" tab.
 - b. Enter the administrator's username in the **"System** Username" field.
 - c. Enter the password in the "System password" field.
 - d. Leave other fields as default and then click the "Apply" button.

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- Navigate to "Configure">"Unified Communications">" Users, Phones and Extensions">"Extensions" to create extensions for routing inbound calls from the SIP trunk.
 - a. Select the "General" tab to create a new extension.
 - b. Enter a new extension in the "Primary number" field.
 - c. Enter a DID assigned for routing inbound calls to this extension in the "Secondary number" field.
 - d. Enter a descriptive name for displaying on the IP phone in the "Name to be displayed on phone line" field.
 - e. Enter a description in the "Description" field.
 - f. Select "Do not register any number" in the "E.164 registration" field.
 - g. Leave other fields as default and then click the "OK" button.





- 25. Navigate to "Configure">"Unified Communications">"Users, Phones and Extensions">"Phones" to add IP phones.
 - a. Click the "Add" button and from the "Setup a new phone" screen:
 - b. Select "7962" from the drop-down list of the "Type of phone" field.
 - c. Enter the IP phone's MAC address in the "MAC address" field.
 - d. Leave other fields as default and then click the "OK" button.



26. Click the "OK" button.



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Navigate to "Configure">"Unified Communications">"Users, Phones and Extensions">"User Settings" to assign IP phones and extensions to users.

- a. Click the **"Create"** button and select the **"User"** tab from the **"Create User"** screen.
- b. Enter a user ID in the "User ID" field.
- c. Leave other fields as default and then click the "OK" button.

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Select the "Phone/Extensions" tab.

- a. Assign the phone to the user by selecting the MAC address of the IP phone from the drop-down list of the "Phone" field.
- b. Select "1" from the drop-down list of the "Phone Line" field.
- c. Assign the extension to the user by selecting the extension from the "Available Extensions" box and then click the ">" button.
- d. Leave other fields as default and then click the "OK" button.

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30. Click the "No" button.



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		Deliver Conf	guration to Device				🤪 x
		Following	commands will be applied	to the d	device's running configur	ation.	
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		usernam	e CME301				
		exit	-1				
		ephone-d	n 1				
		exit					
		Running c	onfiguration will be lost un	nless it i	s saved to start up confi	guration.	
	-	Save C	urrent Configuration to PC	c			
12.00	-	Save the	configuration displayed a	sbove to	your PC.		
		Save /	is				
	Create						_
						Deliver	Cancel

- 32. Navigate to "Configure">"Unified Communications">"VoIP Settings" and then click the "Edit" button to configure the VoIP parameters.
 - a. Select the "General VoIP Settings" tab, check the checkbox for "Allow SIP to SIP connection", leave the other fields as default and then click the "OK" button.





34. Select the "SIP Settings" tab, check the checkbox for "Use SIP 302 moved temporarily for call forwarding", uncheck the checkbox for "Use SIP Refer for call transfer", leave the other fields as default and then click the "OK" button.





36. Select the "H.323 Settings" tab,

- a. check the checkboxes for "Use H.450.2 protocol for call transfer", "Use H.450.3 protocol for call forwarding" and "Use H.450.7 protocol for call MWI"
- b. leave other fields as default and then click the "OK" button.





- Navigate to "Configure">"Unified Communications">"Trunks">"SIP Trunks" to configure Optimum Business SIP Trunk Adaptor as the SIP service provider.
 - a. Click the "Edit" button, select "-- Generic --" from the drop-down list of the "SIP Service Provider" field and select the "General" tab.
 - b. Enter the "Primary Server" IP address. This is the IP address that was assigned to the Optimum SIP Trunk Adaptor's LAN interface. This address was configured in Step 2 in the Optimum Business SIP Trunk Set-Up Guide.
 - c. Enter the **"Registrar"** IP Address if you are configuring the PBX for SIP registration mode. This is the IP address that was assigned to the Optimum SIP Trunk Adaptor's LAN interface. This address was configured in Step 2 in the Optimum Business SIP Trunk Set-Up Guide. Leave this field blank if you are configuring the PBX for static IP mode.
 - d. Enter the "Outbound Proxy" IP address. This is the IP address that was assigned to the Optimum SIP Trunk Adaptor's LAN interface. This address was configured in Step 2 in the Optimum Business SIP Trunk Set-Up Guide.
 - e. Enter the PBX's GE O/O port's IP address in the "SIP Domain Name" field.
 - f. Enter a valid DNS IP address in the "DNS Service Address" field.
 - g. Enter the maximum number of concurrent calls allowed in the "Maximum Number of Calls Allowed" field.



h. Click the **"OK"** button.

39. Click the "Deliver" button.



Note: This step is needed only if you are configuring the PBX for SIP registration mode.

- 40. Click the "Edit" button, select "-- Generic -" from the drop-down list of the "SIP Service Provider" field and select the "Authentication" tab.
 - a. Click the "Add" button to set up the PBX to send SIP registration for the pilot DID. Note that the username and password must match what has been configured on the Optimum SIP Trunk Adaptor. This is step 3 in the Optimum Business Sip Trunk Set-Up Guide.
 - b. Enter the username in the "Username" field.
 - c. Enter the password in the "Password" field.
 - d. Enter the realm (if needed) in the "Realm" field.
 - e. Click the **"OK"** button.

Home Configure Monitor	*	6 🖄 0	Cis	co Configu	ration Profe	ssional cisco
State Community Kamber:	Configure > 0 SIP trunks el configurets related int	ndrad Communications > Transki > BIP Franki montate the need of traditional Fixed PSTM lines, below dd Gammer SCP Tranki SIP Service General Authoritication Advanced	is a summary (a Provider :	for configured SIP	trunk on this device. 1	rou can edit SIP Trunk
Advanced Telephony Settings	Primar	Service Provider Authentication	User	Authentication		
e 🛅 Users, Phones and Extensions	Outbou	Enter credentials to enable SIP Digest	Enter	credentials to send	a SIP registration me	essage.
Extensions	SIP Do	authentication.	_	Username	Password	Realm
Phones Second	DNS Se Maxim	Password i		6316769580	*****	6316769580
Dial Planz			Add	Delete		
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Unified Communications Security Audil +						
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42. Navigate to "Configure">"View">"Running Configuration" to see if the DHCP server on GE 0/1 interface (IP address of 192.168.0.1/24 in this example) is set up to send "option 150" (TFTP server IP address) to the DHCP clients when the IP phones are restarted. If "option 150" is not in the "ip dhcp pool ccp-pool1" section, the IP phones would not be able to retrieve the files created for the IP phones by the PBX. To take care of this problem, enter the following CLI commands from the console:

cisco2901cme#configure terminal Enter configuration commands, one per line. End with CNTL/Z. cisco2901cme(config)#ip dhcp pool ccp-pool1 cisco2901cme(dhcp-config)#option 150 ip 192.168.0.1 cisco2901cme(dhcp-config)#exit cisco2901cme(config)#exit cisco2901cme#



- Navigate to "Configure">"Unified Communications">"Dial Plans"> "Codec Profiles" to group "g711alaw" and "g711ulaw" into the same codec class.
 - a. Click the "Create" button and from the "Create Voice Class Codec" screen:
 - b. Enter "1" in the "Voice Class Codec Number" field.
 - c. Select the "g711alaw" codec from the "Available Codecs" list and then click the ">" button.
 - d. Select the "g711ulaw" codec from the "Available Codecs" list and then click the ">" button.
 - e. Click the "OK" button.





45. Navigate to "Configure">"View">"Running Configuration" to see if EdgeMarc's IP address is in the "ip address trusted list" under the "voice service voip" section. If it is not there, inbound SIP calls from EdgeMarc will be rejected by the PBX with a SIP "403/Forbidden" response. To take care of this problem, enter the following CLI commands from the console:

cisco2901cme#configure terminal Enter configuration commands, one per line. End with CNTL/Z. cisco2901cme(config)#voice service voip cisco2901cme(conf-voi-serv)#ip address trusted list cisco2901cme(cfg-iptrust-list)#ipv4 10.10.10.2 cisco2901cme(cfg-iptrust-list)#exit cisco2901cme(conf-voi-serv)#exit cisco2901cme(config)#exit cisco2901cme#

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46. Navigate to "Configure">"Unified Communications">"Dial Plans">"VoIP" to complete SIP trunk configuration for Dial Peer. Note that the first Dial Peer entry was automatically created for incoming calls by the PBX when SIP trunk was configured.

Home Configure	Mon	itor 😚	🚯 🖄	0 c	isco Config	uration I	Profession	al dinh
Select Community Member:	c	onfigure > Unifie	d Communications	> Dial Plans > \	/oIP			
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EnergyWise		4	*** Incoming c		.7			sip-server
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Unified Communications								
Unified Communications Fea								
Telephony Settings								
Advanced Telephony Settings								
Users, Phones and Extension								
VoIP Settings								
Trunks								
SIP Trunks								
Dial Plans								
POTS								
Translation Rules and Pro								
Calling Restrictions								
Codec Profiles								
F Telephony Features								
Media Resources								
ities								
Save Configuration to PC								
Write to Startup Configuration								
PTeinet								
Reload Device								
View								

- 47. Select the Dial Peer number 1 entry, click the "Edit" button and then select the "General" tab to change some parameters and leave Dial Peer Number 1 for incoming calls only.
 - a. Select "g711ulaw" from the drop-down list of the "Codec" field for now as selection for "Voice Class Codec" is not yet available.
 - b. Select "rtp-nte" from the drop-down list of the "DTMF Relay Type" field. This allows the PBX to relay outbound DTMF with RFC-2833 DTMF. Note that, for inbound DTMF, the PBX will recognize RFC-2833 DTMF only.
 - c. Leave other fields as default and then click the "OK" button.

Mome Configure Monit	or 😵	0 🖹 0		Cisco Co	onfiguration	Profession	nal cisco
Select Community Member:	Configure > Unified	d Communications ?	Dial Plans > Vol				
							1 rows retrieved
101	Dial Peer Tag	Description	Destination	Incoming Called	Translation	Translation	Remote Site
Interface Management			Numbers	Numbers	Profile Outgoing	Profile Incoming	
Interface and Connections	1.						Sig-server
EnergyWise	Edi	itVoIP Dial Peer					
Konter							
security		General Digi	it Manipulation	Calling Restrictions			
Duralled Communications							
Communications relatives		Dial Peer Numbe	e *:				
_ relephony settings		Description :		*** Incoming call t	to Generic S	IP Trunk *** (1:	64 Characters)
Advanced Telephony Settings		Priority 1		Onincitu O	1.		
P Users, Phones and extensions				Priority 0			
Tote Seconds		Remote site :		0	• SIF	Trunk	
The state of the second s							
a Broul films		Destination Num	ber :				
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C HATE		Annung Address		-			
Completion Fuley and Emples							
Calling Restrictions		Shutdown Dial Pe	ter t	No Ves			
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> Telephony Features		Protocol :		() H.323 () SIP			
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		Stan Kelay Type		rtp-nte			
Save Configuration to PC		Voice Activity	Detection				
Write to Startup Configuration		With Voice Act	ivity Detection ena	bled, only speech voic	e data packets are s	ent over the network	k, and silence
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Reload Device		Enable Void	e Activity Detectio				
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Ealect Community Hemberr	Configure > U	offied Communications > 0	hal Plans > Yo1P
	Dial Poor T	EditVoIP Dial Peer	
		General Digit I	Ranipulation Calling Restrictions
		Dial Peer Number	
		Description :	*** Incoming call to +++ Generic -+ - SLD Trunk *** (1-64 Characters)
		Priority :	Priority 0 *
		Remote Site :	O SIP Trunk
		Destination Numit	
			Deliver Configuration to Device
		Incoming Called	
		Answer Address	Following commands will be applied to the device's running configuration.
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		Protect of a	preference 0
		Protocor i	exit
		Codec :	
		DTMF Relay Type	
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		Tonce Presive	
		With Voice Act	
		voice data par	
		Enable Voi	Running configuration will be lost unless it is saved to start up configuration.
			- Save Current Configuration to PC
			Save the configuration displayed above to your PC.
		* Indiates a manual	Save As

- 49. Select the Dial Peer number 1 entry
 - a. click the "Edit" button and then select the "General" tab again to choose the Voice Class Codec that includes both "g711ulaw" and "g711alaw".
 - b. Select the radio button for the "Voice Class Codec".
 - c. Select "1" from the drop-down list of the "Voice Class Codec" field and then click the "OK" button.

1 Home Configure	onitor	* 😌		0		Cisco Co	nfiguration Profess	sional cisco
Select Community Member:	*	Configure > Unified (ommuni	cations > Dial I	Plans > VolP			
								1 rows retrieved
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- Users, Phones and Extensions								
VoIP Settings				Destination	a Museline i	-		
Trunks								
SIP Trunks				Incoming	Called Number :	-7		
T Cial Plans				Answer Ad	dress i			
a eora				Shutdown	Dial Peer I	(*) No () Yes		
- Value								
Translation Rules and Profiles				Protect of C				
Calling Restrictions				Protocol 1		O HITTI O SID		
Codec Profiles				Codec :		Q g711slaw	Voice Class Codec	
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	Dial Peer Tag	Do EditVoID Dial Peer	
		General Oigit Manipulat	tion Calling Restrictions
		The Designation of the State	
		Description (*** Incoming call to Generic SIP Trunk *** (1-64 Characters)
		Priority i	Priority 0 +
		Remote Site ((i) SIP Trunk
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		Shutdown Dial Day 190 00	eer voice 1 voip dec
		voice	-class codec 1
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		DTMF Relay Type	
		and the second second	
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		With Voice Act	
		voice data per	ng configuration will be lost unless it is saved to start up configuration.
		Enable Vol	a Constant Configuration to DC
			the configuration displayed above to your DP
		Save	we wringwawn wepleyed above to your Mc.
		Sav	ve As

- 51. Navigate to "Configure">"Unified Communications">"Dial Plans">"VolP" to create a second Dial Peer for SIP trunk for outgoing calls only.
 - a. Click the "Create" button and then select the "General" tab.
 - b. Enter a description in the "Description" field.
 - c. Enter "9T" (9 followed any numbers) in the "Destination Number" field.
 - d. Select the radio button for "Voice Class Codec" for the "Codec" field.
 - e. Select "1" from the drop-down list of the "Voice Class Codec" field.
 - f. Select "rtp-nte" from the drop-down list of the "DTMF Relay Type" field. This allows the PBX to relay outbound DTMF with RFC-2833 DTMF. Note that, for inbound DTMF, the PBX will recognize RFC-2833 DTMF only.
 - g. Leave other fields as default and then click the "OK" button.

Application Help						
Home Configure Mo	nitor	1 🛣 😌	20	c	isco Configurat	ion Professional
Select Community Member:	"	Configure > Unified	Communications	> Dial Plans > Yo1P		
						1 rows retrieve
Interface Management		Dial Peer Tag	Description	CreateVoIP Dial Peer	N	
Interface and Connections		+	*** Incomin		4	
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Security				Dial Peer Number *:	2	
Unified Communications				Description (Outoping call to SIP true	(1-64 Characters)
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Telephony Settings				Priority :	Priority 0	· · · · · · · · · · · · · · · · · · ·
Advanced Telephony Settings				Remote Site :	0	SIP Trunk
Users, mones and Extensions						
* Trucks				Destination Number :	97	
SIP Trunks				Incoming Called Number 1		
T Dial Plans				Answer Address 1		
POTS				Shutdown Dial Peer :	(*) No () Yes	
VolP						
Translation Rules and Profiles				Protocol	() H 222 () ETD	
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Coder Profiles				COMP. I	C grand +	• voice Class Codec
Comedia Resources				DTMF Relay Type :	rtp-nte	
				Voice Activity Detection		
lities				With Voice Activity Detection ena	abled, only speech voice dat	a packets are sent over the network,
Configuration Editor	in l			and silence voice data packets a	are dropped optimizing the	network bandwidth usage.
ave configuration to PC				Enable Voice Activity Detection	2h	
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Related Device	1					
Caller	+	Create		* Indicates a mandatory field		

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Morree Configure M	omitor	* 6			Cisco Configuration Professio	nat aliah
Select Community Hember.	~	Configure > Unified	Communications	> Dial Plans > VoTP		
		Dial Peer Tog	Description	CreateVoIP Dial Peer		
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				Dial Peer Number *:	3	
				Description (The second secon	
				Summinganet :	Dortforuð cen to atty privis	
				Priority 1	Priority 0 *	
				Remote Site :	🔘 💽 SIP Trunk	
				Dest Deliver Configuration	to Device	
					Da .	
				Following command	ds will be applied to the device's running configuration.	
				Answ dial-neer yours 2 y		
				Shute no shutdown		
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				Proto Preference 0		
				session protocol s	ipv2	
				dtmf-relay rtp-nte voice-class codec		
				OTME vad		
				- Ve		
				Running configurat	ion will be lost unless it is saved to start up configuration	n.
				- Save Current Co	nfiguration to PC	
				Save the configur	ation displayed above to your PC.	
				Save Aso.		
				· Lotter		

- 53. Navigate to "Configure">"Unified Communications">"Dial Plans">"Translation Rules and Profiles" to create an outbound rule for removing SIP trunk access code before dialing.
 - a. Select the "Translation Rules" tab and click the "Create" button.
 - b. Enter "1" in the "Translation Rule Number" field.
 - c. Click the "Add Rule" button.
 - d. Enter "/^9\(.*\)/" in the "Match Pattern" field to match a string of numbers starting with a "9".
 - e. Enter "/\1/" in the "Replace Pattern" field to replace the matched numbers with the same numbers without the leading "9" digit.
 - f. Click the **"OK"** button.

Application Help					
Toma Configure Acouston	* 😔	± 0	Cisco Configu	ration Professional	cisco
Select Community Mambert 46	Configure > Unified Com	munications > Dial Plans	Translation Rules and Prof	lies	
	Translation Rales	Translation Profiles			
r 🔁 Interface Hanagement: 🔹				1.0 most	estrined (
Interface and Connections	The state of the s		1 miles		
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e 🙀 Router					
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P Unified Communications		Create Translation Rule		🥝 🗙	
Unified Communications Peatures					
Temphony bellings		Translation Rule Numb	er *: 1	(Numbers 1-2147483647)	
Contract contract to second					
		Note: To re-order rule	, drag and drop the rule in t	he table	
a for family		Match Pattern	Replace Pattern		
Charles Truckey		/^9\(.*\)/	/\1/		
e Dial Mans		10000		a da mais	
(A POTS				Add Kole	
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200 text				(
Configuration Editor				OK Cancel	
Save Configuration to PC					
Patrite to Startup Configuration					
Prairie	Creater				



55. Navigate to "Configure">"Unified Communications">"Dial Plans">"Translation Rules and Profiles" to create a Translation Profile to hold the Translation Rule for the called number.

- a. Select the "Translation Profiles" tab and click the "Create" button.
- b. Enter a descriptive name in the "Translation Profile Name" field.
- c. Select "1" (Translation Rule #1) in the "Called number Rule" field.
- d. Leave other fields as default and then click the "OK" button.

Home Configure Monit	- * 😔	0	Cisco Confi	guration Pro	fessional CISCO
Select Community Members	Configure > Unified Comm	unications > Dial Plans > 1	ranslation Rules and Pro	files	
	Translation Rules	Translation Profiles			
Interface Management					I down white add
Interface and Connections					To rows repreved 1
EnergyWise	Translation Profile Name	Called Number Rule	Calling Number Rule	Redirect Called Number Rule	Redirect Target Number Rule
Router					
Security					
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Telephony Settings					0.4
Advanced Telephony Settings		Create Translation Profile			V X
P Users. Phones and Extensions		Translation Profile Name	•;	CID Truck Pulse	(1 + 31 characters)
VoIP Settings					
🔻 🧰 Trunics		Called number Rule:		1 -	
SIP Trunks		Calling number Rules		None T	
T Dial Plans		Redirect Called number F	Rules	None +	
POTS		Redirect transfer-to/forwa	ard-final Number Rule:	None	
VolP				tione +	
Translation Rules and Profiles		· Interaction & consectation.	242		
Calling Restrictions					OK Cancel
Attes.					
D Configuration Editor					
Save Configuration to PC					
Write to Startup Configuration					
@Teinst	Create				
day to a second s					

56. Click the "Deliver" button.



 Navigate to "Configure">"Unified Communications">"Dial Plans">"Translation Rules and Profiles" to create outbound rules for configuring caller ID.

Home Configure Mon	illor 🚼 😤	ê 0	Cisco Configuration Professional	abab
Select Community Member:	Configure > Unified Co	mmunications > Dial Plans 3	Translation Roles and Profiles	cisco
Interface Management	P Filter	Translation Profiles	1 rows	retrieved
D EnergyWise	Translation Rule	Number	Rules	
Router	4		Match Pattern: /^9\(.*\)/ Replace Pattern: /\1/	
Unified Communications				
Telephony Settings				
Users, Phones and Extensions VoIP Settings				
Trunks				
POTS				
VoIP				
Translation Rules and Profiles				
Calling Restrictions				
lities				
Configuration Editor				
Write to Startup Configuration	Course M			
Teinet	Create	Delete		

- a. Select the "Translation Rules" tab and click the "Create" button.
- b. Enter "2" in the "Translation Rule Number" field.
- c. Click the "Add Rule" button.
- d. Enter "/^30[1-3]/" in the "Match Pattern" field to match all the extensions starting with a "3", "301", "302" and "303".
- e. Enter "/6316769580/" in the "Replace Pattern" field to replace each extension with the pilot DID. Note that this example is for SIP registration mode where only the pilot DID can be used as the caller ID. For static IP mode where each extension may use its assigned DID as the caller ID, different translation rules will be needed for mapping all the extensions with different caller ID. For example, to map extension "303" with caller ID of "6316769582", set the "Match Pattern" to "/^303/" and set the "Replace Pattern" to "/6316769582/".
- f. Click the **"OK"** button.

Anne Configure Restor	* 😔	≘ 0	Cisco Configu	ration Professional	cisco
Select Community Member: 66	Configure > Unified Con	emunications > Dial Plans.	Translation Rules and Profile		1
	Translation Rales	Translation Profiles			
r 🛅 Interface Hanagement 👘				1.5 mm	a retrieved 1
Interface and Connections	Translation Rule I	the state of the s	8-6-1		
in the growing			Match Dattern	. PART AND Replace Patterns P.	
Router				a to be a sublide research of	
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59. Navigate to "Configure">"Unified Communications">"Dial Plans">"Translation Rules and Profiles" and select the "Translation Profiles" tab to add Translation Rule #2 for the calling number to the same Translation Profile.

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a. Select the Translation Profile and then click the "Edit" button.

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b. Select "2" (Translation Rule #2) in the "Calling number Rule" field.c. Click the "OK" button.





61. Navigate to "Configure">"Unified Communications">"Dial Plans"> "VoIP" to apply the Translation Profile and its Translation Rules to the outbound calls.

Home Configure Monitor	- * 			Cisco Cor	figuration	Profession	al cisco
Select Community Member:	Configure > Unified	Communications > I	Dial Plans > Vol	P			
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ities							
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(*)	Create						

- a. Select the Dial Peer #2 ("Outgoing calls to SIP trunk") and then click the "Edit" button.
- b. Select the "Digit Manipulation" tab from the "EditVoIP Dial Peer" screen.
- c. Select the translation profile ("SIP_Trunk_Rules") from the dropdown list of the "Translation Profile for Outgoing Calls" field.
- d. Click the **"OK"** button.

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				Running configura	tion will be lost unle	ss it is saved to sta	rt up configuration.	
				Save Current C	configuration to PC			
				Save the configu	ration displayed abo	we to your PC.		
		Create	Edit Dolote	Save As				

63. Navigate to "Configure">"View">"Running Configuration" to see if the "transfer-pattern 9T" and "transfer-system full-consult" commands are set up under the "telephony-service" section. If these commands are not there, you cannot dial the "9" access code to transfer a LAN-to-WAN call to another WAN phone. To take care of this problem, enter the following CLI commands from the console:

cisco2901cme#configure terminal Enter configuration commands, one per line. End with CNTL/Z. cisco2901cme(config)#telephony-service cisco2901cme(config-telephony)#transfer-pattern 9T cisco2901cme(config-telephony)#transfer-system full-consult cisco2901cme(config-telephony)#exit cisco2901cme(config)#exit cisco2901cme(config)#exit

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Note: The Cablevision network only supports inband DTMF tones. The Cisco CME PBX only supports out-of-band DTMF tones. In order for the Cisco CME PBX to operate correctly with the Cablevision network, the Optimum SIP Trunk Adaptor must be configured to convert out-of-band DTMF tones sent by the Cisco CME PBX to inband DTMF tone.

- 64. To enable this conversion, log into the Optimum SIP Trunk Adaptor using the login and password specified in the Optimum SIP Trunk Adaptor Set-Up Guide.
 - a. On the SIP Trunk Configuration page, you must check the "Convert Inband DTMF" checkbox.

Configuration Menu	SIP Trunk Configuration	Help
Customer LAN Settings SIP_Trunk Configuration Diagnostics System	Select your PBX:	Cisco Call Manager Express
	 Passive connection using the local, private IP address of the PBX This address must be on the same subnet as the IP Address that is specified for the LAN interface 	
	PBX Address:	192.168.1.10
	Active connection using registrat	ion
	User Id:	
	Password:	
	Convert Inband DTMF:	×
	Submit Reset	
	Trunk Status:	Registered
	01075 6316769522 (Pilot number) 6316769523 6316769524	•