

Integrating GCK with Mitel MiVoice

Background

This document describes the steps necessary to configure a Mitel MiVoice Business (MiVB) phone system in order to interface with AtlasIED GCK running in Trunking Mode. In this mode, GCK acts like a peer phone system to MiVB. This guide also provides instructions for connecting GCK to a MiVB trunk and how to test the trunk. This document serves as an example reference implementation. Other configurations are possible, but have not been vetted by AtlasIED.

This document assumes the following:

- The user has a functioning installation of MiVB. The version used here is 8.0 SP3 PR1.
- MiVB has enough license units available to allow a SIP trunk to be created. Contact Mitel for licensing information.
- The user has a functioning installation of GCK version 10.2 or higher.

Installation

The process of creating a new SIP trunk consists of setting up MiVB and GCK in the following steps:

MiVB Configuration

1. Create the SIP trunk licenses in MiVB.
2. Build a Class of Service in MiVB.
3. Build a Network Element in MiVB.
4. Build a Trunk Service in MiVB.
5. Build a SIP Peer Profile in MiVB.
6. Set SIP Peer Profile SDP option in MiVB.
7. Set Digit Modification in MiVB.
8. Build SIP Route in MiVB.
9. Build Dialed Digits in MiVB.

GCK Configuration

1. Set Trunking Mode in GCK.
2. Set the Proxy Address in GCK.
3. Create the Extensions in GCK.
4. Test.

MiVB Configuration

Create the SIP trunk licenses in MiVB.

Category	Sub-Category	Value	Description	Restriction	Notes
SIP	SIP Trunks	3		Unrestricted	Yes
	MLPP	0	No	Unrestricted	No

Figure 1 - Setting up 2 SIP Trunk Licenses in MiVB

Build Class Of Service 3. Set highlighted parameters to YES.

Class of Service	Setting
3	Sin 3 Ring Re
3	Atlas Paging

Figure 2 - Building a Class of Service in MiVB

Build Network Element. 10.50.20.6 is the IP address of GCK in this example. Note: UDP Port for GCK is 5080, not SIP default of 5060.

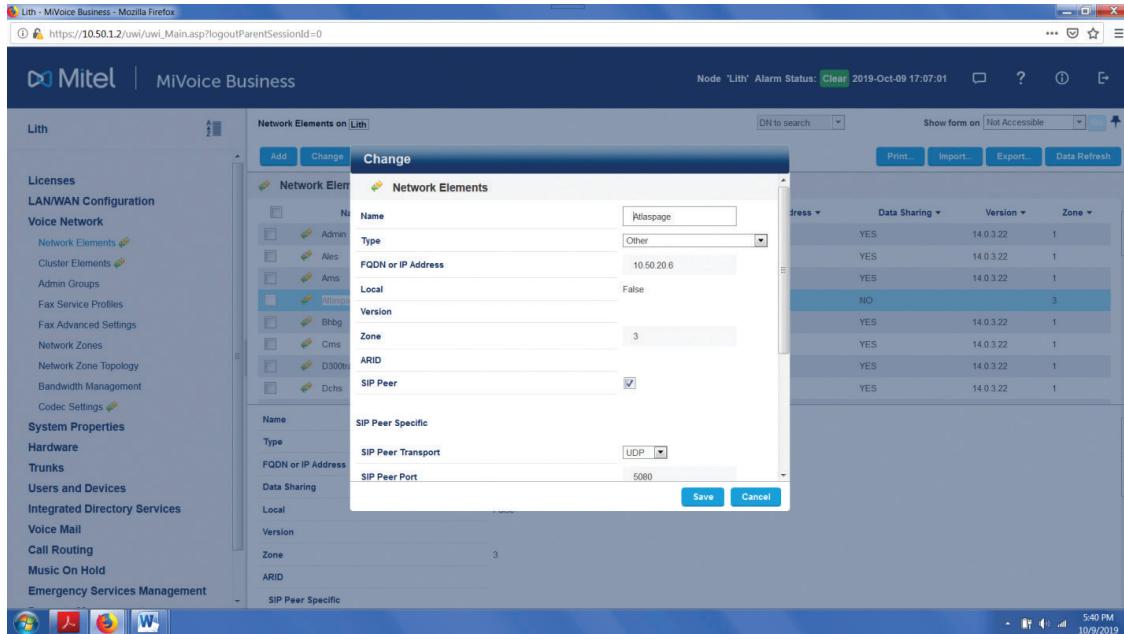


Figure 3 - Building a Network Element (Part 1) in MiVB

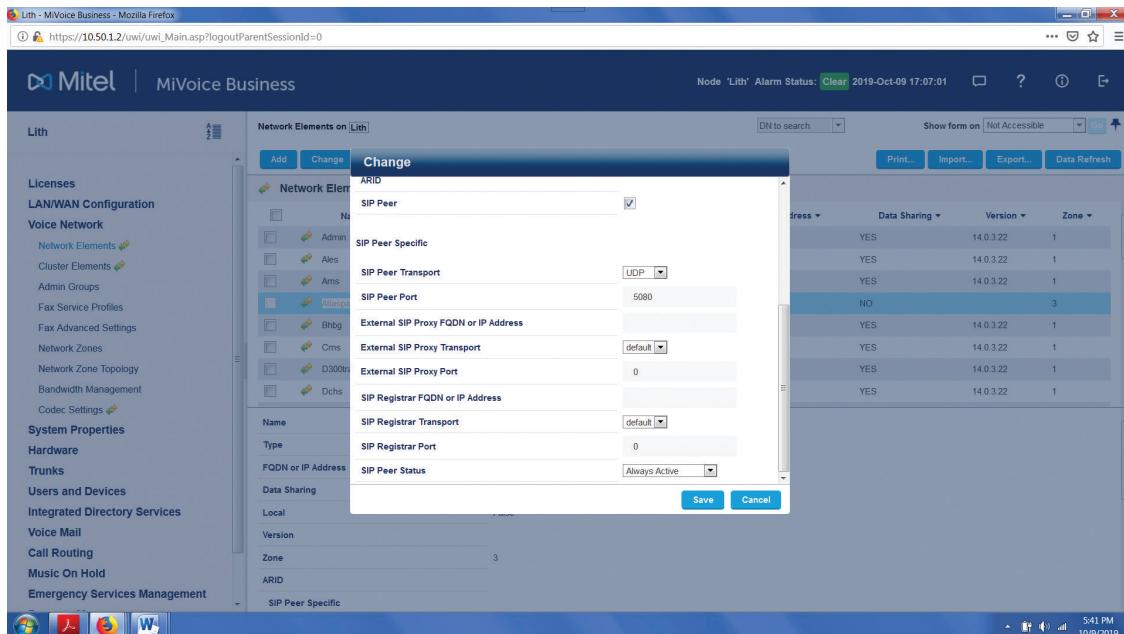


Figure 4 - Building a Network Element (Part 2) in MiVB

Lith - MiVoice Business - Mozilla Firefox
 https://10.50.1.2/uwi/uwi_Main.asp?logoutParentSessionId=0

Mitel | MiVoice Business
 Node 'Lith' Alarm Status: Clear 2019-Oct-09 17:07:01
 ? | E

Network Elements on [Lith]							
	Name	Type	PBX Number/Cluster Element ID	FQDN or IP Address	Data Sharing	Version	Zone
<input type="checkbox"/>	Admin	3300 ICP	22	10.146.1.2	YES	14.0.3.22	1
<input type="checkbox"/>	Ales	3300 ICP	29	10.36.1.2	YES	14.0.3.22	1
<input type="checkbox"/>	Arms	3300 ICP	4	10.32.1.2	YES	14.0.3.22	1
<input checked="" type="checkbox"/>	Allspage	Other	---	10.50.20.6	NO		3
<input type="checkbox"/>	Bhbg	3300 ICP	48	10.68.1.2	YES	14.0.3.22	1
<input type="checkbox"/>	Crms	3300 ICP	2	10.140.1.2	YES	14.0.3.22	1
<input type="checkbox"/>	D300trans	3300 ICP	84	10.4.1.2	YES	14.0.3.22	1
<input type="checkbox"/>	Dchs	3300 ICP	1	10.0.1.2	YES	14.0.3.22	1

Network Elements

Name	Allspage
Type	Other
FQDN or IP Address	10.50.20.6
Data Sharing	NO
Local	False
Version	
Zone	3
ARID	
SIP Peer Specific	

Figure 5 - Building a Network Element (Part 3) in MiVB

Build Trunk Service

Lith - MiVoice Business - Mozilla Firefox
 https://10.50.1.2/uwi/uwi_Main.asp?logoutParentSessionId=0

Mitel | MiVoice Business
 Node 'Lith' Alarm Status: Clear 2019-Oct-09 17:07:01
 ? | E

Trunk Attributes on [Lith]								
	Change	Change Page	Change All	Clear	Go to	Print...	Import...	Export...
Page 1 of 15 >					Value	Go		
Trunk Attributes								
Trunk Service Number	Release Link Trunk	Call Recognition Service	Direct Inward Dialing Service	Class of Service	Class of Restriction	Baud Rate	Intercept Number	Trunk Label
1	No	Off	Off	50	62	9600	1	CO Trunks
2	No	Off	Off	1	64	9600	1	PAGING
3	No	Off	Off	50	62	9600	1	direct in
4	No	Off	Off	1	1	300	1	
5	No	Off	Off	51	62	9600	1	PRI
6	No	Off	Off	3	64	300	1	Allspage
Trunk Service Number								
Release Link Trunk								
Call Recognition Service								
Direct Inward Dialing Service								
Class of Service								
Class of Restriction								
Baud Rate								
Intercept Number								
Non-dial In Trunks Answer Point - Day								
Non-dial In Trunks Answer Point - Night								

Figure 6 - Building Trunk Service (Part 1) in MiVB

Lith - MiVoice Business - Mozilla Firefox
 https://10.50.1.2/uwi/uwi_Main.asp?logoutParentSessionId=0

Mitel | MiVoice Business
 Node 'Lith' Alarm Status: Clear 2019-Oct-09 17:07:01

Lith

- Licenses
- LAN/WAN Configuration
- Voice Network
- System Properties
- Hardware
- Trunks**
- Trunk Attributes
- DTS Service Profiles
- Analog
- Digital
- IPXNET
- SIP
 - DID Ranges for CPN Substitution
 - SIP Peer Profile
 - SIP Peer Profile Assignment by Incoming D
 - SIP Peer Profile Called Party Inward Dialing
 - SIP Peer Profile Calling Party Inward Dialin
 - URI/Number Translation
- Users and Devices
- Integrated Directory Services
- Voice Mail

Trunk Attributes on [Lith]

Change Change Page Change All Clear

Page 1 of 15 Go to Value Go

Trunk Attributes

Trunk Service Number	Release Link Trunk	Call Recognition Service	Direct Inward Dialing Service	Class of Service	Class of Restriction	Baud Rate	Intercept Number	Trunk Label
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4	No	Off	Off	1	1	300	1	
5	No	Off	Off	51	62	9600	1	PRI
6	No	Off	Off	3	64	300	1	Altaspage

Baud Rate: 300
 Intercept Number: 1
 Non-dial In Trunks Answer Point - Day
 Non-dial In Trunks Answer Point - Night 1
 Non-dial In Trunks Answer Point - Night 2
 Dial In Trunks Incoming Digit Modification - Absorb
 Dial In Trunks Incoming Digit Modification - Insert
 Dial In Trunks Answer Point
 Dial In Trunks Insert Forwarding Information
 Trunk Label: Altaspage

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Figure 7 - Building Trunk Service (Part 2) in MiVB

Build SIP Peer Profile

Lith - MiVoice Business - Mozilla Firefox
 https://10.50.1.2/uwi/uwi_Main.asp?logoutParentSessionId=0

Mitel | MiVoice Business
 Node 'Lith' Alarm Status: Clear 2019-Oct-09 17:07:01

Lith

- Licenses
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 - SIP Peer Profile Calling Party Inward Dialin
 - URI/Number Translation
- Users and Devices
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- Voice Mail

SIP Peer Profile on [Lith]

Add Change Delete

SIP Peer Profile

Network Element	SIP Peer Profile Label	Outbound Proxy Server	CPN Restriction	Trunk Service	Session Timer	Zone
Altaspage	AltasPage		No	6	90	3

Basic Call Routing Calling Line ID SDP Options Signaling and Header Manipulation Timers Key Press Event Outgoing DID Ranges Profile Information

SIP Peer Profile Label: AltasPage
Network Element: Altaspage
Local Account Information
 Registration User Name: Altas
 Address Type: IP Address: 10.50.1.2
Administration Options
 Interconnect Restriction: 1
 Maximum Simultaneous Calls: 2
 Minimum Reserved Call Licenses: 2
 Outbound Proxy Server: SMDR Tag
 Trunk Service: 6
 Zone: 3
Authentication Options

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Figure 8 - Building a SIP Peer Profile (Part 1) in MiVB

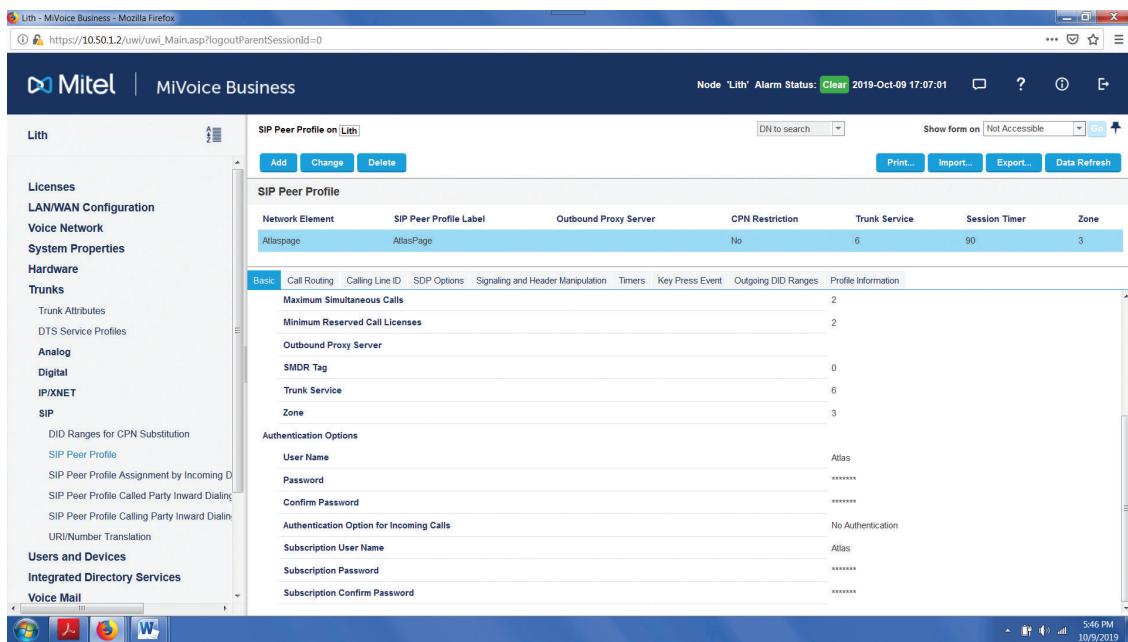


Figure 9 - Building a SIP Peer Profile (Part 2) in MiVB

In SDP Options of SIP Peer Profile set "Force sending SDP in Initial Invite Message" to Yes.

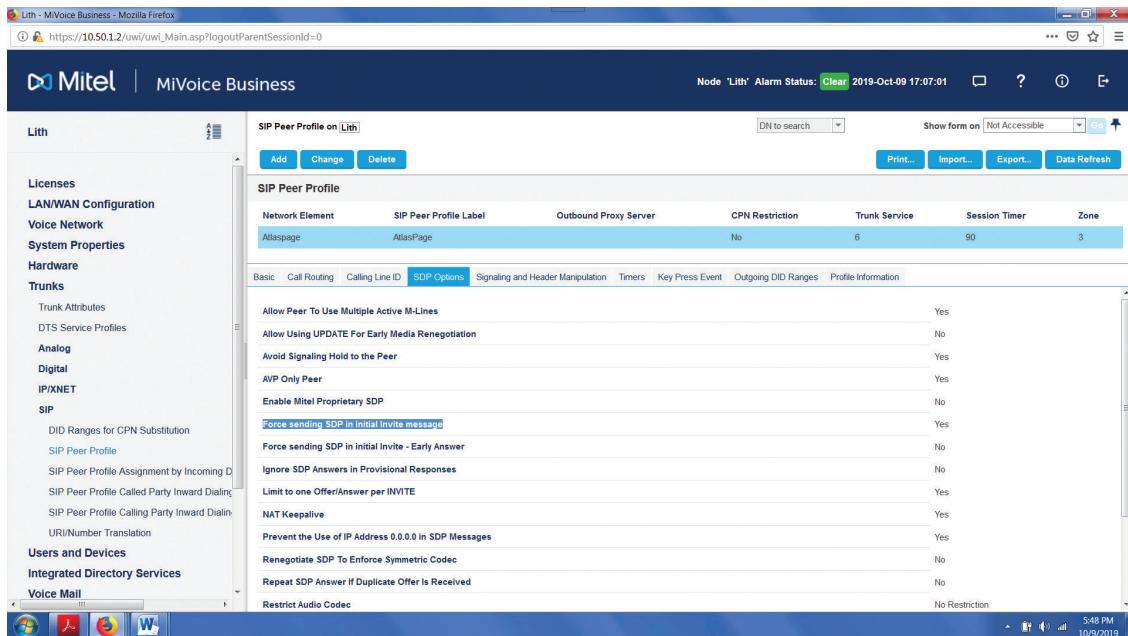


Figure 10 - Setting SIP Peer Profile SDP in MiVB

All other options in SIP Peer Profile were default. Choose Digit Mod 3 that by default does not absorb any digits.

Digit Modification Number	Number of Digits to Absorb	Digits to be Inserted	Final Tone Plan/Information Marker
1	1	<T01>	
2	0	<T01>	
3	0		
4	4		
5	0		
6	0		
7	0		
8	0		
9	0		
10	3		
11	4	918003733411	
12	5	918003733411	
13	12	918003733411	
14	0		
15	0		

Figure 11 - Setting Digit Modification in MiVB

Build Route 9

Route Number	Routing Medium	SIP Peer Profile	COR Group Number	Digit Modification Number	Digits Before Outpulsing	Route Type	Compression
9	SIP Trunk	AtlasPage	1	3		Off	Off
10	IPX/NET Trunk Group		7	64	5	Emergency	Off
11	TDM Trunk Group		1	64	1	Emergency	Off
12	IPX/NET Trunk Group		7	64	6	Emergency	Off
13	TDM Trunk Group		1	64	2	Emergency	Off
14				1	1	Off	Off
15				1	1	Off	Off

Figure 12 - Building Route in MiVB

Built Digits Dialed. In this example, dialstrings 7010 through 7024 are set to go out Route 9 to allow for future use. Only 7010 and 7024 will be defined in GCK, so only those will work.

Digits Dialed	Number of Digits to Follow	Termination Type	Termination Number
7010	0	Route	84
7011	0	Route	84
7012	0	Route	84
7013	0	Route	84
7014	0	Route	84
7015	0	Route	84
7016	0	Route	84
7017	0	Route	84
7018	0	Route	84
7019	0	Route	84
7020	0	Route	84
7021	0	Route	84
7022	0	Route	84
7023	0	Route	84
7024	0	Route	84

Figure 13 - Build Dialed Digits (Part 1) in MiVB

Digits Dialed	Number of Digits to Follow	Termination Type	Termination Number
7020	0	Route	84
7021	0	Route	84
7022	0	Route	84
7023	0	Route	84
7024	0	Route	84
7400	0	Route	83
8300	0	Route	72
8801	Unknown	Route	51
8802	Unknown	Route	52
8803	Unknown	Route	53
8804	Unknown	Route	54
8805	Unknown	Route	55
8807	Unknown	Route	57
8808	Unknown	Route	58
8810	Unknown	Route	60
8811	Unknown	Route	61

Figure 14 - Build Dialed Digits (Part 2) in MiVB

GCK Configuration

Using Internet Explorer, open the SMC. Set Trunking Mode in GCK.

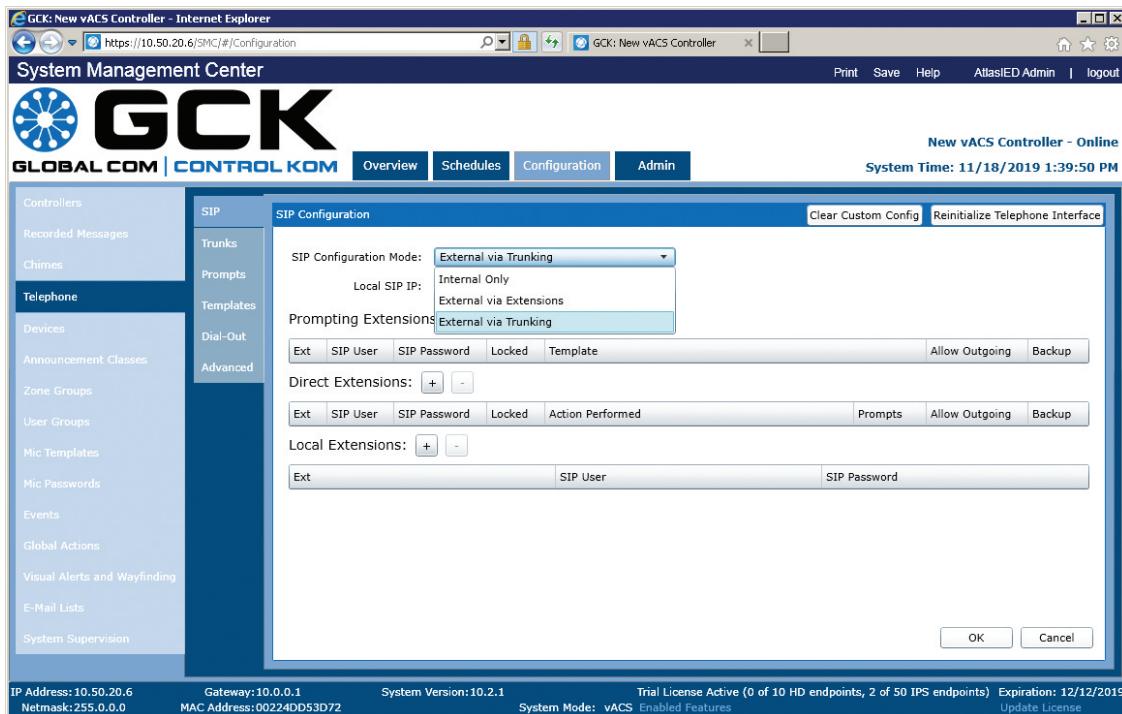


Figure 15 - Setting GCK to External via Trunking

Set the Proxy Address (IP address of MiVB) in GCK.

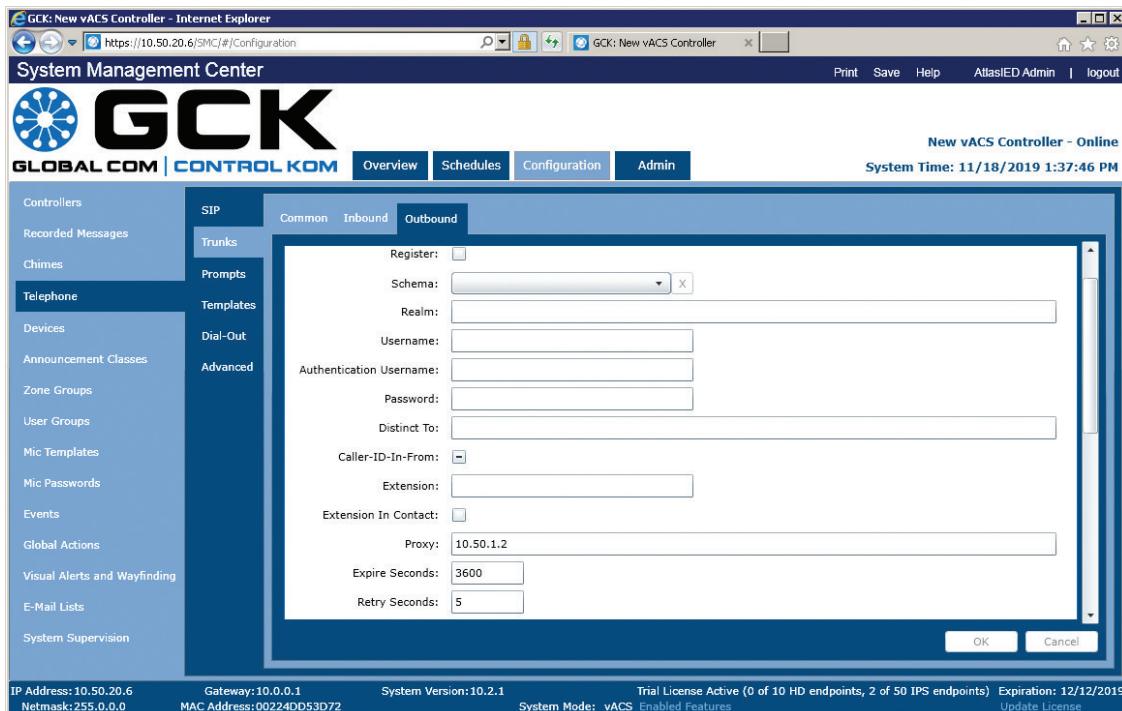


Figure 16 - Setting Proxy in GCK

Create the Extensions in GCK. In this example, Prompting Extension x7010 and Direct Extension x7011 are created for announcements, and Local Extensions x3333 is created for testing. Enter the data, click OK, then click Save.

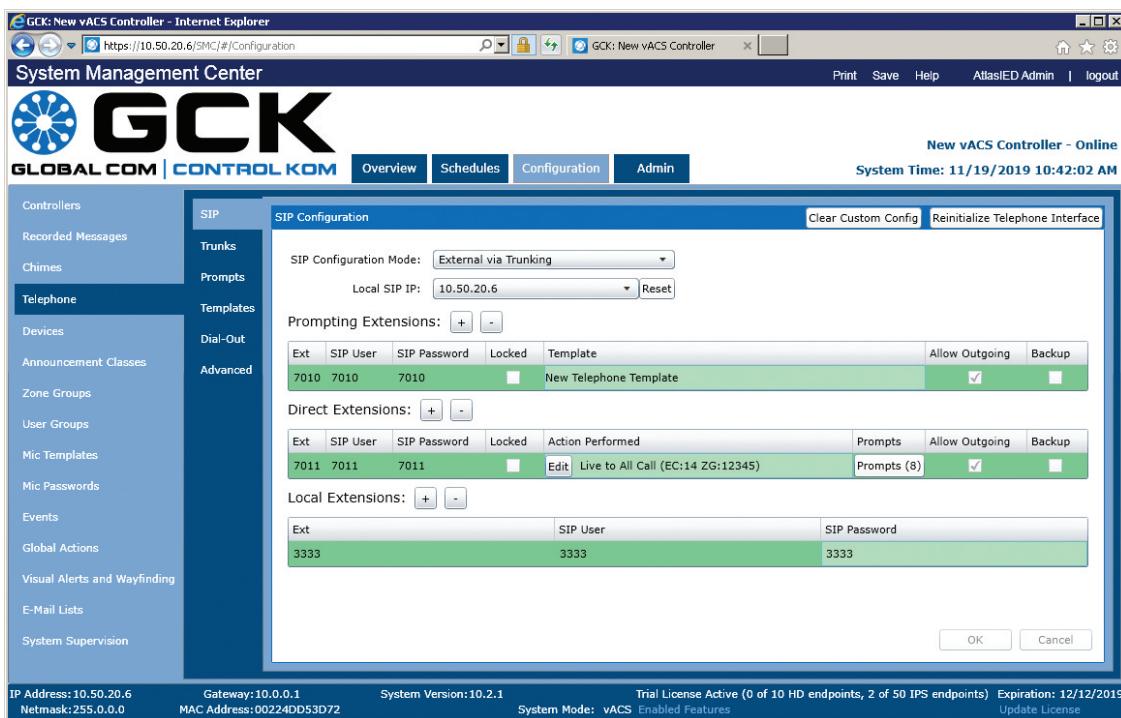


Figure 17 - Creating Extensions in GCK

Testing

The following tests use a softphone as a stand-in for AtlasIED paging equipment in order to limit the scope of the tests to merely be the telephony communications. This also allows integration testing at sites where full installation has not been completed, or where paging would be disruptive. For full verification, announcements to zones and intercom calls should also be made as necessary to fully test the system.

Prior to Testing

1. Install the free Phonerlite softphone on a separate PC, such as a technician's laptop. This PC must have a microphone and speakers. Any other SIP softphone or hardphone may be used as long as it is compatible. AtlasIED has a separate whitepaper on how to configure Phonerlite as a Local Extension in GCK.
2. Connect the PC to the same network as GCK.
3. Ensure that basic TCP/IP configuration is compatible between the PC and GCK. Verify connectivity using ping.
4. Configure Phonerlite to register to GCK as extension 3333.
5. Ensure that the softphone only has CODECs G.711u, G.711A, and G.722 enabled.

Inbound Call

1. Place a call from MiVB to GCK extension 3333.
2. Verify two-way audio between the caller phone and Phonerlite softphone. This will ensure that subsequent inbound calls to GCK for announcements will work.

Outbound Call

This test is only necessary in installations where GCK will perform automated dialing to MiVB (e.g. room-initiated intercom).

1. Using Phonerlite, place a call to *NUMBER, where NUMBER is an extension reachable in MiVB. The asterisk (*) indicates that the call is routed via the trunk to MiVB and will be stripped off the dialstring before the call is initiated to MiVB.
2. Answer the MiVB phone.
3. Verify two-way audio between the caller phone and softphone. This will ensure that subsequent outbound calls from GCK for announcements will work.