# MITEL – SIP COE Technical Configuration Note

Configure Mitel MiVoice Office 6.1 SP1 PR2 for use with IntelePeer SIP Trunking

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SIP CoE 12-4940-00XXX



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Mitel Technical Configuration Notes – Configure MiVoice Office for use with IntelePeer SIP Trunking

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# **Overview**

This document provides a reference to Mitel Authorized Solutions providers for configuring the MiVoice Office to connect to IntelePeer SIP Trunking. The different devices can be configured in various configurations depending on your VoIP solution. This document covers a basic setup with required option setup.

# **Interop History**

Version	Date	Reason				
1	5/24/2016	Initial Interop with MiVoice Office 250 Release 6.1 SP1 PR2 and IntelePeer SIP Trunking				

## **Interop Status**

The Interop of IntelePeer SIP Trunking has been given a Certification status. This service provider or Trunking device will be included in the SIP CoE Reference Guide. The status IntelePeer SIP Trunking achieved is:



# Software & Hardware Setup

This was the test setup to generate a basic SIP call between IntelePeer SIP Trunking and the MiVoice Office.

Manufacturer	Variant	Software Version
Mitel	MiVoice Office	Release 6.1 SP1 PR2
Mitel	Minet Sets: 5320, 5360, 5312	6.03.00.12
Mitel	MiVoice Border Gateway	9.2.0.23
Service Provider	IntelePeer	N/A

# **Tested Features**

This is an overview of the features tested during the Interop test cycle and not a detailed view of the test cases. Please see the SIP Trunk Side Interoperability Test Pans (08-4940-00034) for detailed test cases.

Feature	Feature Description	Issues
Basic Call	Making and receiving a call through IntelePeer and their PSTN gateway, call holding, call forwarding, transferring, conferencing, busy calls, DTMF RFC2833, long calls durations, variable codec, G.711 and G.729 Codec, Privacy, Loop back calling, Long Ringing	۲
Automatic Call Distribution	Making calls to an ACD environment with RAD treatments, Interflow and Overflow call scenarios and DTMF detection	۲
NuPoint Voicemail	Terminating calls to a NuPoint voicemail boxes as well as Embedded voicemail and DTMF detection	
Packetization	Forcing the MiVoice Office to stream RTP packets through its E2T card at different intervals, from 10ms to 90ms	
Personal Ring Groups	Receiving calls through IntelePeer and their PSTN gateway to a personal ring group. Also moving calls to/from the prime member and group members	Ń
Video	Making and receiving a call through IntelePeer with video capable devices	×
Fax	T.38 and G711Fax Calls	V

 $\overrightarrow{\mathbb{V}}$  - No issues found  $\overrightarrow{\mathbb{V}}$  - Issues found, cannot recommend to use  $\Delta$  - Issues found

# **Device Limitations and Known Issues**

This is a list of problems or not supported features when IntelePeer SIP Trunking is connected to the MiVoice Office.

Feature	Problem Description
Video Call	IntelePeer does not support video calls
	Recommendation: Contact IntelePeer for update on this feature

# Network Topology

This diagram shows how the testing network is configured for reference



Figure 1: Network Topology

# **Configuration Notes**

This section is a description of how the SIP Interop was configured. These notes should give a guideline how a device can be configured in a customer environment and how MiVoice Office programming with IntelePeer SIP Trunking was configured in our test environment.

Disclaimer: Although Mitel has attempted to setup the interop testing facility as closely as possible to a customer premise environment, implementation setup could be different onsite. YOU MUST EXERCISE YOUR OWN DUE DILIGENCE IN reviewing, planning, implementing, and testing a customer configuration.

# MiVoice Office 250 Configuration Notes

The following steps show how to program a MiVoice Office 250 to interconnect with IntelePeer.

#### **Network Requirements**

- There must be adequate bandwidth to support the voice over IP. As a guide, the Ethernet bandwidth is approx. 85 Kb/s per G.711 voice session and 29 Kb/s per G.729 voice session (assumes 20ms packetization). As an example, for 20 simultaneous SIP sessions, the Ethernet bandwidth consumption will be approx. 1.7 Mb/s for G.711 and 0.6Mb/s. Almost all Enterprise LAN networks can support this level of traffic without any special engineering. Please refer to the 3300 Engineering guidelines for further information.
- For high quality voice, the network connectivity must support a voice-quality grade of service (packet loss <1%, jitter < 30ms, one-way delay < 80ms)</li>

## Assumptions for the MiVoice Office 250 Programming

• The SIP signaling connection uses UDP on Port 5060

# Licensing and Option Selection – SIP Licensing

Ensure that the MiVoice Office 250 is equipped with enough SIP trunk licenses for the connection to IntelePeer. This can be verified under the **Software License** form.

🔾 💭 🏂 🔋 Recent 🔻 길 MiVoice (	Office 250	
a 퉬 MiVoice Office 250	Software License Feature	Value
Maintenance Accounts	💯 System Type	MiVoice Office 250
퉬 Software License	Ø ACD Hunt Group	Yes
b 🏭 System	Additional T1/E1/PRI Ports	0
Users	🕼 Agent Help	Yes
Voice Processor	💯 Analog Voice Mail Hunt Group	No
	Category 'A' Phones	5
	Category 'B' Phones	5
	Category 'C' Phones	5
	Category 'D' Phones	5
	Category 'E' Phones	5
	Category 'F' Phones	5
	💯 Desktop Interface	No
	Ø Dynamic Extension Express	Yes
	File-Based MOH Sources	5
	💯 Hot Desking	Yes
	💯 IP Networking	6
	💯 Meet-Me Conferencing	Yes
	💯 Remote ACD Hunt Groups	Yes
	💷 SIP Trunks	9
	💷 SIP Voice Mail Ports	4
	💯 System OAI Events	Yes
	💷 System OAI Third Party Call Control	Yes
	Virtualized PS-1 Support	No
	Voice Processor Messaging Networking	No
	Unified Voice Messaging Ports	4
	💯 Unified Voice Messaging Blackberry® Integration	Yes
	Unified Voice Messaging E-mail Synchronization	Yes
	💯 User Web Portal	Yes

Figure 2: License Selection



Figure 3: Create SIP Trunk Group

#### Program the Configuration

**Navigation**: System  $\rightarrow$  Device and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Trunk Groups  $\rightarrow$  92002  $\rightarrow$  Configuration

- 1. **IP Address**: Indicates the **IP address** for the **IntelePeer** side. Please contact IntelePeer for your deployment.
- 2. **Port Number**: Indicates the port that the system listens on the system for SIP peer messages. The range is 0–65535. *5060* is used for this setup.
- 3. **Fully Qualified Domain Name**: Indicates the domain name of the SIP peer trunk group. Leave it blank.
- 4. Call Configuration: Call Configuration 1 is used for this setup
- 5. **Operating State**: Indicates the operating state of the SIP peer. Set to *In-Service*.
- Maximum Number of Calls: Indicates the maximum number of concurrent calls that are permitted towards the SIP peer. DB Programming restricts this field based on the number of the SIP Trunks and SIP trunk licenses.
- 7. Use ITU-T E.164 Phone Number: If set to Yes, the MiVoice Office 250 handles ITU-T E.164 formatted phone numbers as part of the incoming SIP INVITE messages from the SIP peer. *No* is set for this setup.
- 8. **DTMF Decoding Payload**: *101* is used for the setup as IntelePeer uses the same payload for DTMF



Figure 4: SIP Trunk Group Configuration

9. **Registration**: If the SIP peer does not require registration, the fields do not need to be configured. The **Enable Registration** option is set to **No** by default and the remaining fields appear with a red "X".



Figure 5: Registration

#### 10. Authentication:

a. *Username / Password*: These fields apply only if the SIP peer requires registration or call authentication



Figure 6: Authentication

11. **Keep-Alive**: The Keep-Alive option keeps refreshing the NAT bindings for any Firewall/NAT in the path. It also helps in determining whether the SIP peer is reachable or not.

a 퉬 92002	[		Name	Value
4 퉬 Configuration			Enable Pinging	Yes
📗 Registrar		Ĩ	🛚 Ping Interval	60
📗 Authenticati	on	1	Ping Failure Threshold	1
] Keep-Alive				
NAT Setting:	;			
📗 Alternate IP/	FQDN List			

Figure 7: IntelePeer SIP Trunk Group - Keep-Alive

12. **NAT Settings**: Specifies the NAT address type. The default is "No NAT or SIP-Aware NAT" (for systems that are using a SIP-aware firewall). If you are not using a SIP-aware firewall, you must change the setting to "Non SIP-Aware NAT".

a 🌗 92002	-	Name	Value
Configuration		■ NAT Address Type	No NAT or SIP-Aware NAT
퉬 Registrar		·	
Authentication			
퉲 Keep-Alive			
NAT Settings			

#### Figure 8: NAT Settings

13. Alternate IP/FQDN List: Some providers use multiple IP addresses to send SIP messages to the MiVoice Office 250. You must add All IP addresses or FQDNs other than the primary IP/FQDN to the list for all calls to be successful. To make the anonymous inbound calls to work, "default" is given as FQDN as shown in figure below.

a 鷆 92002	*	IP/FQDN
a 퉬 Configuration		
🌗 Registrar		
) Authentication		
퉬 Keep-Alive		Edit IP/FODN
) NAT Settings		
🌗 Alternate IP/FQDN List		
Route Sets		
Irunk Group Configuratic		@ FODN default
Þ 퉲 92003		
SIP Voice Mails		OK Cancel
📗 Trunks		

Figure 9: Alternate IP/FQDN

14. Route Sets: Enter the IP address of the MBG LAN to the route set



Figure 10: Route Sets



Figure 11: Route Sets – Cont.

## Programming the Trunk Group Configuration Folder

**Navigation**: System  $\rightarrow$  Device and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Trunk Groups  $\rightarrow$  92002  $\rightarrow$  Configuration  $\rightarrow$  Trunk Group Configuration

- 1. Music-On-Hold: File-based MOH is selected for this test
- 2. Audio on Transfer/Hold: File-Based MOH is selected
- 3. **Ring-In Type Day/Night**: Set *Call Routing Table 1* for this setup, please refer to section <u>Call Routing Table</u>

D CO Trunk Groups	*	Name	Value	Extende
Node Trunk Groups		\mu Trunks		
▲ J SIP Peers		X Multiple Ring-In		
IP Phone Groups		Emergency Outgoing Access		
a 🃗 SIP Trunk Groups		Dutgoing Access		
a 퉬 92002		Toll Restriction		
Configuration		■ Audio for Calls Camped onto this Device	File-Based MOH	1 😭
🌗 Registrar		E▼ Music-On-Hold	File-Based MOH	1 😭
Authentication		E▼ Audio on Transfer to Ring	File-Based MOH	1 😭
🍶 Keep-Alive		■ Audio on Transfer to Hold	File-Based MOH	1 😭
NAT Settings		■ Audio on Hold for Transfer Announcement	File-Based MOH	1 😭
Alternate IP/FQDN List		■ Audio for Calls Holding for this Device	File-Based MOH	1 (چ
Route Sets		Echo Trunk Number	No	
Trunk Group Configuration		≣▼ Day Ring-In Type	Call Routing Table	1 (1
▶ 92003		E▼ Night Ring-In Type	Call Routing Table	1 🔝
SIP Voice Mails		Send Station Extension/Username to Attached PBX	No	
Trunks		Propagate Original Caller ID	Yes	
Echo Profiles		Calling Party Name		
E-mail Gateway	_	Calling Party Number	9175122291	
File-Based MOH	-	Force Trunk Group Calling Party Name and Number	No	
		V Do Not Propagate Original Caller ID to P-Asserted-Identity	No	

Figure 12: IntelePeer Trunk Group Configuration

Create the SIP peer trunks:

**Navigation**: System  $\rightarrow$  Device and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Trunk Groups  $\rightarrow$  92002  $\rightarrow$  Trunk Group Configuration  $\rightarrow$  Trunks

- 1. Right-click the right pane, and the select Create SIP Peer Trunk
- 2. Select the extension number you want to use for the item in the **Starting Extension** field. The recommended range is 94000–94999; **94000** is used in this lab setup.
- 3. Indicate the number of extensions you want to create in the **Number of Extensions** field. If the system is set to have more than one extension, the new trunks are assigned sequentially to the next available numbers. The number of SIP Peer trunks is restricted by the number of available SIP Trunks licenses.
- 4. Click OK



#### Figure 13: Create SIP Trunks

SIP Phone Groups	*	Extension	Trunk Group	Label	Туре
a 📗 SIP Trunk Groups		<b>1</b> 94000	+++ 92002	Undefined	SIP Peer Trunk
a 퉬 92002		1 94001	111 92002	Undefined	SIP Peer Trunk
4 🎚 Configuration		194002	111 92002	Undefined	SIP Peer Trunk
📗 Registrar		†.] 94003	111 92002	Undefined	SIP Peer Trunk
Authentication		Ť.] 94004	111 92002	Undefined	SIP Peer Trunk
🕌 Keep-Alive		1 94005	<u>ttt</u> ] 92002	Undefined	SIP Peer Trunk
NAT Settings		194006	<u>+††</u> } 92002	Undefined	SIP Peer Trunk
👔 Alternate IP/FQDN Li	st	<u>ት</u> ] 94007	<u>†††</u> 3 92002	Undefined	SIP Peer Trunk
Route Sets		1 94008	<u>ttt</u> 92002	Undefined	SIP Peer Trunk
a 퉬 Trunk Group Configura	atic				
Trunks					

Figure 14: SIP Trunks – Cont.

# Call Routing Table

**Navigation**: System  $\rightarrow$  Trunk-Related Information  $\rightarrow$  Call Routing Tables  $\rightarrow$  1

- 1. Pattern: Set with the DID numbers assigned by IntelePeer
- 2. Ring-In Type: Default value Single is used for all DIDs
- 3. Ring-In Destination: Set the proper target for the call to be routed

퉬 System	*	Pattern	Description	Ring-In Type	Ring-In Destination
D Controller		9175122291		Single	1003
Description Provide Automatic Provided Automatic		9175122293		Single	<b>1006</b>
Devices and Feature Codes		9175122289		Single	10220
Echo Profiles		9175122294		Single	2500
퉬 E-mail Gateway		7		Single	1000
File-Based MOH					
퉬 Flags					
Hunt-Group Related Information					
IP-Related Information					
IP Settings					
Maintenance					
Numbering Plan	-				
Phone-Related Information	-				
Reference Clock List					
Sockets					
퉬 System Manager					
Dimers and Limits					
Trunk-Related Information					
a 퉬 Call Routing Tables					
1					

Figure 15: Call Routing Table

## **IP Call Configurations**

Call configurations define the settings that IP endpoints and gateways use when connected to calls. You can assign multiple devices to a specific call configuration.

**Navigation**: System  $\rightarrow$  IP-Related Information  $\rightarrow$  Call Configurations

By default, all IP devices are placed in Call Configuration 1, which is programmable. You do not need to add SIP endpoints to Call Configurations, because these devices negotiate call configurations before establishing a connection. You can program up to 25 different Call Configurations. Call Configuration 1 was used for phone and SIP trunk, while Call Configuration 3 was used for NuPoint voice mail.

- 1. Set Audio Frames/IP Packet: 2 (20ms packetization rate) is set for this test
- 2. **DTMF Encoding Setting**: *RFC*2833 is selected for this test
- 3. Set **Speech Encoding Setting**: *G711 Mu-Law* is selected as IntelePeer supports G711 Codecs only
- 4. **Fax Encoding Setting**: *RFC 2833* is selected as IntelePeer supports both G711 Mu-Law Pass-through and T.38 for fax
- 5. **Support RTP Redirect**: for Call Configuration 1, YES is set, and No is set for Configuration 3
- 6. Leave all other fields as default



Figure 16: Call Configuration



Figure 17: Call Configuration for NuPoint Voice mail

## Call Routing

By default, the Feature Code for Outgoing Calls in MiVoice Office 250 is set to "8". User can dial '8" then followed by the 10/11 digits (i.e.:8 1 214242XXXX) for outgoing calls. The User may also dial by the SIP trunk Group's extension (i.e.:92002 1 214242XXXX) or dial by each SIP trunk extension (i.e.: 94030 1 214242XXXX).





Figure 18: Feature Codes

In order to let user pickup correct trunk group for outgoing call, need to assign the proper SIP trunk Group extension to the phone:

Navigation: System ->	Devices and F	eature Code -	$\rightarrow$ Phones $\rightarrow$	XXXX (i.e.	1003) →
Associated Extensions	1				

🛛 퉬 Page Zones	•	Associated Extension	Value
Phantoms & Hot Desk Profiles		Attendant	NONE
Phones		Message Center	1000
Þ 퉲 10220		Alternate Message Source	🛃 NONE
Þ 퉲 10221		Transfer Recall Destination	🛐 1003
Þ 퉲 1000		Voice Mail	2500
Þ 퉲 1001		Outgoing Extension	<b>92002</b>
Þ 퉲 1002		Agent Help	NONE
a 🌆 1003		✓ Agent Help User-Keyed Ext.	No
Associated Extensions		Emergency Extension	<u>92001</u>
📗 Call Logging		X Associated User Extension	1003

Figure 19: Associated Phone Extensions

# SIP Voice Mail Configuration (NuPoint)

MiVoice Office 250 can use embedded Basic Voice Mail or integrated with NuPoint Voice Mail. Before configuring NuPoint SIP Peer Voice mail, please make sure BVM (Basic Voice Mail) is disabled.

**Navigation**: Operations  $\rightarrow$  Voice Processor Operations  $\rightarrow$  Disable Unified Voice Messaging

File View	Operations Tools Favorites Help	_
	Backup Operations	
🔺 📗 MiVoi	DHCP Server Operations	Value
Mai	Error Information	unte
Soft	Export/Import Devices	
Syst	IP Device Status	
🛛 📗 User	Software License Operations	
Voic	System Manager CA Certificate Upload	
	Voice Processor Operations	Voice Processor Save
	Default Database	Voice Processor Restore
	Reset Call Processing Application	Enable Unified Voice Messaging
	Reset System	Disable Unified Voice Messaging
	Utime	3:34 PM

Figure 20: Disable Basic Voice Mail

## Create SIP Voice Mail

**Navigation**: System  $\rightarrow$  Devices and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Voice Mails

- 1. Right-click in the right pane, and the select Create SIP Voice Mail
- 2. A pop-up window appears
- 3. Click YES to confirm this SIP Voice Mail is NuPoint UM
- 4. The next pop-up window Create SIP Voice Mail Extension appears
- 5. Set P9001 as Starting Extension and 1 as Number of Extensions
- 6. Click OK



Figure 21: Create SIP Voice Mail

## SIP Voice Mail Configuration (NuPoint)

**Navigation**: System  $\rightarrow$  Devices and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Voice Mails  $\rightarrow$  P9001  $\rightarrow$  Configuration

- 1. Set IP Address: Enter the NuPoint UM IP Address
- 2. Set **Port Number**: Port *5058* is given for this test as we are using NuPoint UM on MiCollab. If using NuPoint UM Standalone, then Port 5060 will be used.
- 3. Set **Call Configuration**: Call Configuration 3 (see Section <u>IP Call Configurations</u>) is used for this test
- 4. **Maximum Number of Ports**: *4* is given for this test, this number should be same as the ports under the Line Group 1 in <u>NuPoint UM Configuration</u>
- 5. **DTMF Decoding Payload**: *101* is given to match SIP trunk and IntelePeer DTMF payload
- 6. Leave all other fields as default

IP Connections	*	Name	Value
🛛 퉬 Modems		MWI	
Network Groups		\mu Keep-Alive	
🛛 📗 Nodes		NAT Settings	
> 퉬 Page Ports		🕌 Route Sets	
> 퉬 Page Zones		🗐 IP Address	10.64.3.4
🛛 📗 Phantoms & Hot Desk Profiles		88 Port Number	5058
> 퉲 Phones		Fully Qualified Domain Name	
D CO Trunk Groups		Call Configuration	🛃 З
> 퉲 Node Trunk Groups		<ul> <li>Camp-Ons Allowed</li> </ul>	Yes
SIP Peers		∃▼ Operating State	In-Service
SIP Phone Groups		88 Maximum Number of Ports	4
SIP Trunk Groups		Call Failure Threshold	3
SIP Voice Mails		E▼ Supports Displays	Yes
A 🛄 P9001		<ul> <li>Static Binding</li> </ul>	Yes
Configuration	Ξ	✓ Use Peer Address In From Header	No
MWI		<ul> <li>Disable Domain Validation</li> </ul>	No
Keen-Alive		BB DTMF Decoding Pavload	101
Meep-Anve			

Figure 22: SIP Voice Mail Configuration

## SIP Voice Mail Pilot (NuPoint)

**Navigation**: System  $\rightarrow$  Devices and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Voice Mails  $\rightarrow$  P9001  $\rightarrow$  Applications

- 1. Right-click in the right pane and the select Create Voice Mail
- 2. Set 2600 as Starting Extension and 1 as Number of Extensions
- 3. Click OK



Figure 23: SIP Voice Mail Application

**Navigation**: System  $\rightarrow$  Devices and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Voice Mails  $\rightarrow$  P9001  $\rightarrow$  Applications  $\rightarrow$  2600

- 1. Set SIP Voice Mail Pilot / Transfer Recall Destination: 2600
- 2. Leave all other fields as default



Figure 24: SIP Voice Mail Pilot

#### SIP Voice Mail Mailbox (NuPoint)

**Navigation**: System  $\rightarrow$  Devices and Feature Codes  $\rightarrow$  SIP Peers  $\rightarrow$  SIP Voice Mails  $\rightarrow$  P9001  $\rightarrow$  Mailboxes

- 1. Right-click in the right pane and select Create Associated Mailboxes
- 2. Select 52xx/53xx as Type in next pop-up window
- 3. Click Next
- 4. Select desired extensions and click Add Items
- 5. Click Finish



Figure 25: Create Associated Mailbox

a 🃗 SIP Voice Mails	*	Extension	Description	Username	Associ	ated
a 🃗 P9001		¥ 1000			Yes	
a 🃗 Configuration		¥ 1001			Yes	
IWM 🏭		1005			Yes	
鷆 Keep-Alive		¥ 1006			Yes	
🌗 NAT Settings						
> 퉲 Route Sets						
4 퉲 Applications						
a 퉲 2600						
Class of Service						
Group Lists						
Mailboxes						

#### Figure 26: Associated Mailboxes

# NuPoint UM on MiCollab Configuration Notes

This section provides detail steps to configure NuPoint UM on MiCollab

Navigation: Applications → NuPoint Web Console

1. Login to MiCollab Server-manager

🕅 Mitel 🛛	MiCollat	D admin@micollab.tekvizionla	bs.com Ala	ırm Status: <mark>Clear</mark>
Applications Users and Services Audio, Web and Video Conferencing MiVoice Border Gateway NuPoint Web Console MiCollab Client Service	This page display indicate that you upgrade licenses	Information s details about user licensing for your ap have assigned some services for which y please contact your authorized Reseller Application U	oplications. "Curre you are not curre ser Totals	ently used" totals displa ntly licensed. To purch:
Licensing Information		Application	User Licenses	Currently used
ServiceLink Install Applications		Audio, Web and Video Conferencing	10000	0
Status		Nupoint Unified Messaging	8	5
Administration		Teleworker	2	0
Web services		MiCollab Client	-	0
Backup			0	
View log files		Console	1	0
System information		Deskphone	3	0
System monitoring		Mobile	3	0
System users		Softphone	3	0
Shutdown or reconfigure		Sortphone	5	0
Virtualization Configuration Integrated Directory Service MiCollab Client Integration	MiCollab 6.0.205.0 Mitel Standard Linu MiVoice Border Gat OVA 6.0.205.0 © Mitel Networks C	x 10.1.39 eway 8.1.25.0 Corporation		

#### Figure 27: MiCollab Server-Manager

**Navigation**: Offline Configuration > Edit Offline Configuration



#### Figure 28: Offline Configuration

2. Click **YES** to duplicate the active configuration to the offline configuration for editing purposes

Offline Configuration Duplicate Active Configuration View Offline Configuration	Duplicate Active Configuration
Dialers (Pagers) Fax Groups Network Elements	Before you begin, would you like to copy the contents of the Active Configuration (1) to the Offline Configuration (0)?
Pre-Extension Dial Strings External Applications NP Net TCP/IP	Yes No

#### Figure 29: Duplicate Active Configuration

#### Add SIP Gateway Network Element

Navigation: Offline Configuration > Network Elements

1. Click Add

Offline Configuration Duplicate Active Configuration View Offline Configuration	Your OFFLINE configuration has change changes to your system.	ed. You must commit and activ	/ate the configura	ation to apply the	
Line Groups	Notwork Elemente				
Dialers (Pagers) Fax Groups Network Elements	Network Elements				
Pre-Extension Dial Strings External Applications	Add Edit Delete				
NP Net TCP/IP Unified TCP/IP	Name	IP Address	Туре	Login	

Figure 30: Network Elements

- 2. Set **Type**: Select *SIP Gateway* from drop-down
- 3. Set Name: MiVoice Office is given for this setup
- 4. Set **IP Address**: Enter the MiVoice Office 250 Base Server IP address (if your deployment with MiVoice Office 250 equipped with a Processing Server, then enter the IP address of Processing Server)
- 5. Set Number of Ports: 4 is given here
- 6. Click Save

Add Ne	twork	Element
Save C	ancel	
Network Eler	nent Infor	mation
		* Type: SIP GATEWAY 🔻
		Name: Mvoice_Office
	Domai	n Name:
[	* IP /	Address: 10 . 70 . 62 . 2
	Number	of Ports: 4 V
Save C	ancel	

Figure 31: Add Network Element

## Add Voice Mail Line Group

Navigation: Offline Configuration > Line Groups

1. Click Add

Offline Configuration Duplicate Active Configuration View Offline Configuration	Your OFFLINE configuration has changed changes to your system.	d. You must commi	t and activate the configu	ration to apply the
Line Groups Dialers (Pagers)	Line Groups			
Network Elements	Add Edit Delete			
Pre-Extension Dial Strings External Applications	Number Name	Number of Lines	User Interface	Application



- 2. Set **Line Group Number**: Specify a number or click **Next Available**. *1* is given for this setup.
- 3. Set Name: MiVoice\_Office is used here
- 4. Set Application: *NuPoint Voice* is selected from drop-down
- 5. Set User Interface: Call Director is selected from drop-down
- 6. Set Fax Group Connection: None
- 7. Click Save

Add Line Group							
Save Cancel							
	Line Group Number:	4 * Next Available					
	Name:	MiVoice_Office	*				
	Application:	NuPoint Voice 🔹					
	User Interface:	Call Director					
	Fax group connection:	None <b>T</b>					

Figure 33: Add Line Group

- 1. Select the Dialing Plan tab
- 2. Create a dialing plan based on site requirements
- 3. Click Save

Lines	Dialing Plan	Voicemail Dial Strings	
Disting	Diam		
Dialing Star	Man Mode		
© Sta	Length of outon	inne etertine with	
	Length of exten	aons starting with	
	1 : 3 digits	• Standard	<b>v</b>
	2 : 3 digits	<ul> <li>Standard</li> </ul>	•
	3: 3 digits	▼ Standard	T
	4 : 3 digits	▼ Standard	•
	5 : 3 digits	▼ Standard	T
	6 : 3 digits	▼ Standard	¥
	7: 3 digits	▼ Standard	¥
	8 : 3 digits	▼ Standard	¥
	9 : 3 digits	▼ Standard	T
Clas	ssic Mode		
	Dialing Plan: 3,	3,3,3,3,3,3,3,3	
Save	Cancel		

Figure 34: Line Group - Dialing Plan

- 1. Select the Lines tab
- 2. Click Add
- 3. Set Line Triplet: Click Net Available, it will populate automatically. *1:0:6* is shown as this is the 1<sup>st</sup> Line Triplet configured in NuPoint Voice Mail.
- 4. Set **Number of Lines**: This number should match the number configured in previous section <u>SIP Voice Mail Configuration</u>. *1* is given in this setup.
- 5. Set PBX: Select MiVoice Office programed in section Network Element from drop-down
- 6. Set Mapping: 5 is set for this test as the starting mapping number
- 7. Click Add

Line	S Dialing Plan	Voicemail	Dial Strings		
Line	95				
A.	dd Edit Do	loto —			
A		iete 🔹			
	Line Triplet:	1:0:6		Ne	ext Available
	Number of lines:	1			
50	PBX:	Mvoice_Offic	e▼		
	Mapping:	5			
	Add Cancel				

Figure: 35 Add Line Triplet

- Enter pilot number in the field that matches the **Pilot Number** defined in MiVoice Office 250 <u>SIP Voice Mail Pilot</u> section, 2600 is given in this example
- 2. Click Save to complete the Line Group configuration

Save Cancel	
Line Group Number: 3	
Name: MWI_Office	
Application: DTMF to PBX Dialer •	
User Interface: NuPoint Voice 🔻	
Fax group connection: None ▼	
Lines DTMF to PBX Dialer	
Lines	
Pilot Number: 2600	

Figure 36: Add Line Group – Cont.

## Add Message Waiting Indicator (MWI) Line Group

1. At Line Groups page, Click Add

Line Groups			
Add Edit Delete			
Number Name	Number of Lines	User Interface	Application

Figure 37: Add MWI Line Group

- 2. Set Line Group Number: It will automatically populate or you can set a number
- 3. Set Name: MWI\_Office is given for this test
- 4. Set Application: Select DTMF to PBX Dialer from drop-down
- 5. Set **User Interface**: Select *NuPoint Voice* from drop-down
- 6. Set Fax Group Connection: Leave the default value None

Add Line Group		
Save Cancel		
Lin	e Group Number: 4 * Next Available	
	Name: MWI_Office *	
	Application: DTMF to PBX Dialer •	
	User Interface: NuPoint Voice ▼	
Fax g	group connection: None ▼	

Figure 38: Add MWI Line Group – Cont.

- 7. Select the DTMF to PBX Dialer tab
- 8. Set Pre-DN On Dial String: 1 is given for the test
- 9. Set Pre-DN Off Dial String: 0 is given for the test
- 10. Set Initial Dialtone Detect: Checked
- 11. Set Suppress Updates to MWI: Checked
- 12. Leave all other fields either empty or unchecked

Lines DTMF to PBX Dialer	
DTMF to PBX Dialer	
PBX Special Access Code	E.
Pre-DN On Dial String	j: 1
Pre-DN Off Dial String	p: 0
Post-DN On Dial String	ц
Post-DN Off Dial String	ц.
Maximum PBX Message Coun	t
Options	
	☑ Initial Dialtone Detect
	Dial Tone Confirmation
	Suppress Updates to MWI
	☐ Wait for Dial Tone
	Enable Alternate Code
	Use Same Port to Turn On/Off MWI
Save Cancel	

Figure 39: DTMF to PBX Dialer

- 1. Select the Lines tab
- 2. Click Add
- 3. Click Next Available to select Line Triplet
- 4. Set Number of Lines: 1 is given for the test
- 5. Set **PBX**: Select *MiVoice Office* from drop-down, this was configured in section <u>Network Element</u>
- 6. Set **Mapping**: Set this to the next number according to the sequential mapping set for the line groups under same SIP Gateway. *5* is given in this example
- 7. Click Add

Lines		
Pilot Number: 2600		
Add Edit Delete 🕶		
Line Triplet     Device		
✓ <u>1:0:6</u>	Mvoice_Office	
Line Triplet: 1:0:6 Save PBX: Mvoice_Office ▼ Mapping: 5		

Figure 40: Add MWI Line Triplet

- 8. Set **Pilot Number**: **2600** which was configured as Pilot Number in MiVoice Office 250 section <u>SIP Voice Mail Pilot</u> is given here
- 9. Click **Save** to complete the configuration

Save	Cancel			
	Line Group Number: 3			
	Name: MWI_Office			
	Application: DTMF to PBX Dialer •			
	User Interface: NuPoint Voice ▼			
	Fax group connection: None ▼			
Lines	DTMF to PBX Dialer			
Lines				
Pilot Number: 2600				

Figure 41: Add MWI Line Group – Cont.

## Activate Offline Configuration

Navigation: Offline Configuration > Commit Changes & Exit

1. Click **Commit** at **Commit Offline Changes** page

Offline Configuration Duplicate Active Configuration View Offline Configuration	Your OFFLINE configuration has changed. You must commit and activate the config changes to your system.
Line Groups	Commit Offling Changes
Dialers (Pagers)	Commit Online Changes
Network Elements	
Pre-Extension Dial Strings	Do you wish to commit the changes you have made to the Offline Configuration (0):
External Applications	
NP Net TCP/IP	
Unified TCP/IP	Commit Continue Editing
Auto Purge	Comme Continue Luting
Auto Backup	
Commit Changes & Exit	
Discard Changes & Exit	
Server Manager Return to Server Manager	

Figure 42: Commit Changes

- 2. Click Activate link
- 3. Uncheck Wait for MWI/pager queue to be empty
- 4. Click Activate

E

Your OFFLINE configuration has changed. You must <u>activate</u> the configuration to apply the changes to system.			
Activate Offline Configuration			
Changes have been made to the Offline Configuration (0). Press Activate to apply this configuration to your system. Wait for MWI queue to be empty. Wait for pager queue to be empty. The following users are currently longed in and will possibly lose changes if you activate now			
ID Name Login Time			
admin May 23, 4:49 PM			
Activate			

#### Figure 43: Activate the Configuration

5. Click **OK** at pop-up window to confirm



Figure 44: Activate the Configuration – Cont.

6. Click **OK** at Activation complete page

10.64.3.4 says:	×
Activation completed successfully The system will soon be fully operational.	
Prevent this page from creating additional dialogs.	
	ОК

Figure 45: Activate the Configuration – Cont.

## Add Mailbox

**Navigation**: Mailbox Maintenance  $\rightarrow$  Mailboxes

1. Click Add

Mailbox Maintenance Mailboxes Report Generation Billing	Mailboxes     Search Advanced Search		
Billing Gather	Search for Mailbox Number or Range:		
Billing Report			
Billing Rates	View: 10 Results ▼ at a time		
Statistics			
Line Usage			
Line Group Usage	Mailboxes		
Speech Block Usage			
Call Detail Record	Add Edit ▼ Delete ▼ Unlock ▼		
System Information	Number Name Extension		
Audit Trail			

Figure 46: Add Mailbox

- 2. Set Mailbox Number: 1006 is given in this example
- 3. Set Name: IntelePeer is given in this setup
- 4. Set **Passcode**: Enter the proper passcode for the mailbox
- 5. Set Extension: Enter the associated MiVoice Office 250 Extension
- 6. Click Save

Create Mailbox(es)			
Mailbox Number(s): 1006			
Copy from another mailbox:	Сору		
Save Cancel Basic	Advanced		
General Class of Service	Message Waiting		
Personal Information			
Name:	Intelepeer		
	IMPORIANT NOTE If you expect your callers to use "Dial By Name " with First Name then:		
	Enter the name in following format: <first name=""> <last name="">. For example: Joh</last></first>		
	If you expect your callers to use "Dial By Name" with Last Name then: Enter the name in following format: <last name="">, <first name="">. For example: Sm Note that the comma is ESSENTIAL in this case.</first></last>		
	••••		
Passcode:	The user will be asked to change the passcode on the next TUI login		
Extension:	1006		
Attendant Extension:			
Unified Messaging Information			
UM Audio Encoding:	ADPCM (Smallest files, default value)		
UM-SMTP Email Address:			
UM-Web View Email Address:			
Save Cancel Basic Advanced			

Figure 47: Add Mailbox – Cont.

- 7. Select the Message Waiting tab
- 8. Set **Message Waiting #1 Type**: *DTMF to PBX* is selected from drop-down
- 9. Leave all other fields as default
- 10. Click Save

Add Mailbox(es)
Create Mailbox(es)
Mailbox Number(s): 1006
Copy from another mailbox:
Save Cancel Basic Advanced
General Class of Service Message Waiting
Message Waiting #1
Type: DTMF to PBX •
►Details
Message Waiting #2
Type: None
► Details
Message Waiting #3
Type: None 🔻
Save Cancel Basic Advanced

Figure 48: Message Waiting

## MiVoice Border Gateway Configuration Notes

When configuring MiVoice Border Gateway (MIVOICE BORDER GATEWAY), you need to specify the Network profile, gateway mode used in this setup

**Navigation:** Applications  $\rightarrow$  MiVoice Border Gateway  $\rightarrow$  System Configuration  $\rightarrow$  Network Profiles

- 1. Click the "→" beside Server-gateway configuration
- 2. Click Apply

System status • Serv	ice configuration 🔻	System configuration 🔻	Administration 🔻
Page updated: Tue May 24 2016 08:53 Configure this server in	:41 GMT-0500 (Central Day	ylight Time)	
Network profile (Gateway mode)			
on the network edge	→ For a server on the netwo	ork edge, the streaming addresses	will most likely be the same as those
	You should not have to us you click on the "Apply" b	se the override addresses, unless t button below, I will set the streamin	the server is behind NAT for some reason. If ng addresses appropriately.
	Apply S/G conf	iguration Apply	
Server-only configuration on the network DMZ	$\rightarrow$		
Server-only configuration on the network LAN	$\rightarrow$		
Custom configuration	$\rightarrow$		

Figure 49: Network Profiles

Identify the working MiVoice Office ICP where to forward SIP messages to and then to configure the SIP trunk.

Navigation: MiVoice Border	Gateway $\rightarrow$	Service Configuration $\rightarrow$ ICPs
----------------------------	-----------------------	--

	System	n status	<ul> <li>Service cont</li> </ul>	figuration 🔻	System configu	ration 🔹 Ad	ministration	*		?
Page updated: Tue May 24 2016 08:55:05 GMT-0500 (Central Daylight Time) To test connectivity to your configured ICPs, or to run a DNS resolution test on configured hostnames, see the Diagnostics page.										
	Default for MiNet	Default for SIP	Name	Hostname or IP address	Туре	Installer password	SIP capabilities	Indirect call recording capable		
	۲	۲	MiVoice Office10.70.62.2	10.70.62.2	MiVoice Office 250		UDP	×	/	Ê

Figure 50: MIVOICE BORDER GATEWAY Configuration

On **ICPs** page, ensure that the "working" MiVoice Office is configured. If needed, click **Add ICP** link and add a new Mitel switch.

- 1. Click Update Default ICPs
- 2. To add a new SIP trunk:
  - Navigate to Service Configuration → SIP Trunking
  - Click Add a SIP Trunk (+) link

System status 👻	Service configuration •	System configuration   Administration
Page updated: Tue May 24 20: The SIP trunks Information se	ICPs MiNet devices	ight Time) of each SIP trunk. Click on the SIP trunk for detailed information
To make changes to SIP set SIP trunking		settings in System configuration.
To test DNS resolution on any	WebRTC Application integration	to the Diagnostics page.

Figure 51: SIP Trunking Configuration

- 3. Set **Name**: IntelePeer is given in this setup
- 4. Set **Remote Trunk Endpoint Address**: Enter the IP address / FQDN for your deployment
- 5. Set Remote Trunk Endpoint Port: 5060 is used
- 6. Set **Remote RTP Framesize (ms)**: This is the Packetization rate you want to set on this trunk. Set to Auto.
- 7. Set **PRACK Support**: Disabled for this configuration
- 8. Set **Routing rules:** This allows routing of calls with certain range of dialed digits to the selected MiVoice Office ICP
- 9. The remaining settings are optional and could be configured as required
- 10. Click Save

Manage SIP trunk				
Name	IntelePeer	Remote	trunk endpoint address	
Remote trunk endpoint port	5060	Acce	pt traffic from any port	
Options keepalives	Never	T	Options interval	60
Rewrite host in PAI	•	Remo	ote RTP framesize (ms)	20ms 🔻
Idle timeout (s)	3600		RTP address override	
Local streaming			PRACK support	Disabled <b>v</b>
Log verbosity	Use master setting	T AI	uthentication username	
Authentication password		Confirm a	uthentication password	
Set-side RTP security	Allow	T	Icp-side RTP security	Disable <b>v</b>
Search routing rules		Next	Previous	
Note, if you modify your routing rules, you r	nust save them before changing pages	or navigating elsewhere, or those	e changes will be lost.	
Page	1 of 1		Jump to page	1 •
Rules per page	10	•		
First Prev				Next Las
Match	Rule	Primary	Secondary	
1 Request URI	91751222XX	MiVoice Office10.70.62.2	¥	Raise Prepend Delete
		Save		

Figure 52: SIP Trunk Configuration Settings



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