DuVoice	Integration

Title	**Digital Media Gateway using Analog**
Document	dmg100-analog-sip-in
Last update	**2012/09/17**
DuVoice Versions	**5.XX**
Switch Versions	**N/A**

Table of Contents

PBX Configuration

Avaya ACM/Definity

Enable Adjunct Supervision for each analog port connected to the DMG.

Mitel

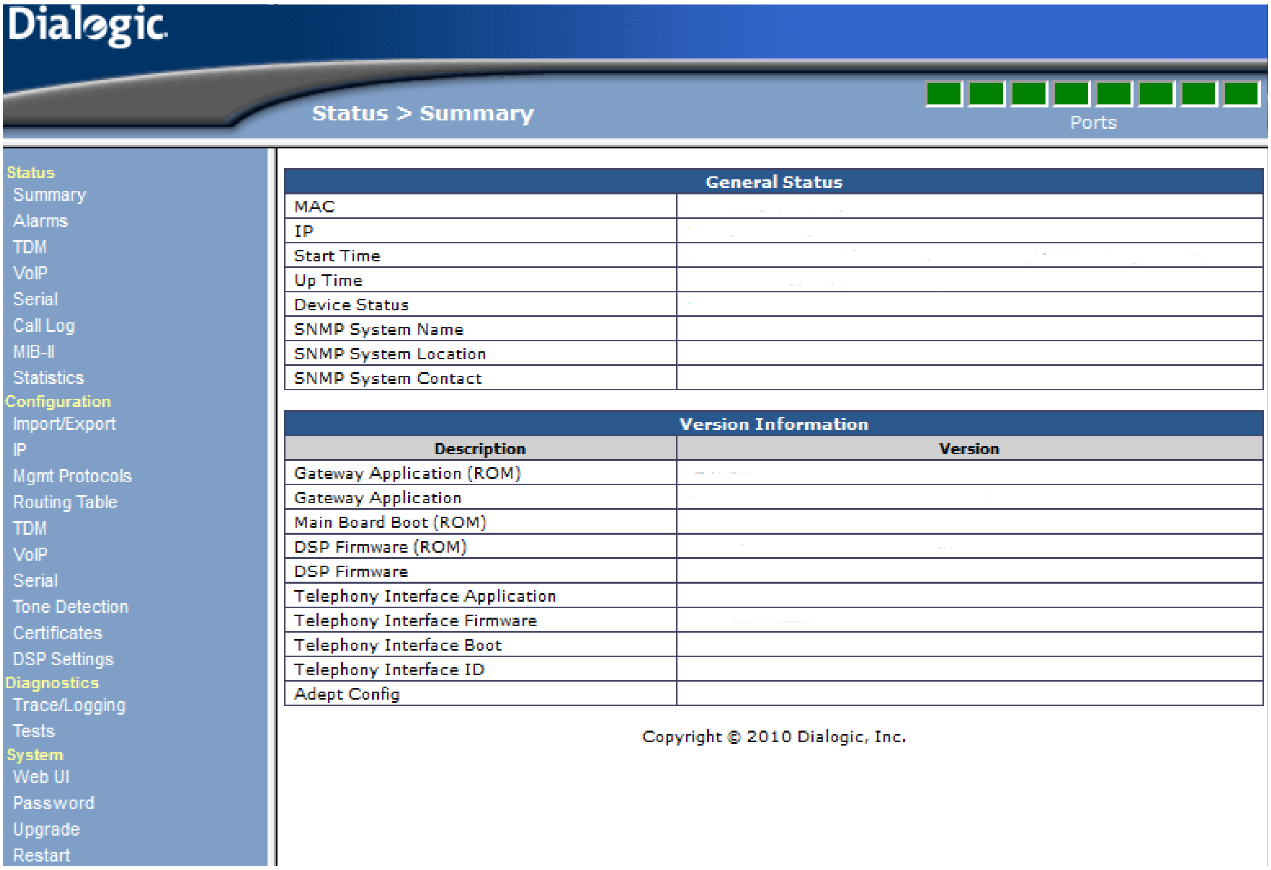
Enable System Option 22 (Last Party Clear: Dial Tone) for all analog Mitel ports connected to the DMG.

DMG 1000 Configuration

Initial Setup

1. You must first add the DMG to your network. By default the DMG is configured for ip address 10.12.13.74.
2. Default username is **admin** and the default password is **IpodAdmin**. The password is case-sensitive.

The sections below correspond with the DMG menu items on the left of the configuration. Here you can see the default screen your presented with upon login.



IP

IP Settings, LAN1	
MAC	00-a0-e6-89-d5-7c
* **Client IP Address**	10.12.13.74
* **Client Subnet Mask**	255.255.255.0
* **Default Network Gateway Address**	0.0.0.0
* **BOOTP Enabled**	No
* **SNTP Server IP Address**	

Client IP Address
Set the IP settings to match the network.

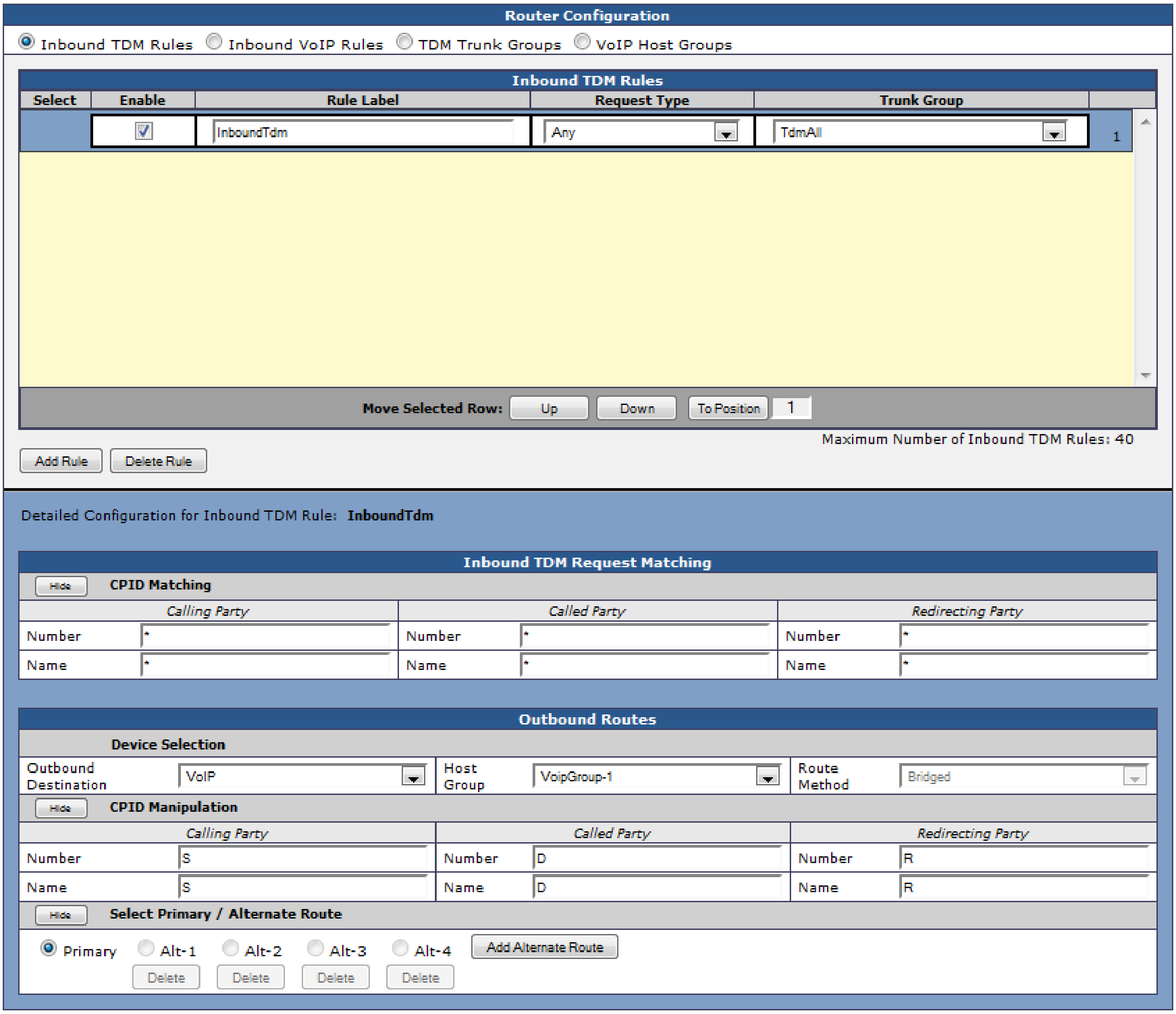
Mgmt Protocols

All fields should remain as default shown here.

Management Protocols	
E-mail	
E-Mail Alarms Enabled	No
E-Mail Minimum Alarm Severity	Info
Destination E-Mail List	
E-Mail Server IP Address	
Source E-Mail Address	alarm@pbxgw.com
SysLog	
* **SysLog Server IP Address**	
Alarms to Syslog Enabled	No
SysLog Minimum Alarm Severity	Info
Diagnostics Trace to SysLog Enabled	No
SNMP	
SNMP Traps Enabled?	No
SNMP Minimum Alarm Severity	Info
SNMP Trap IP List	255.255.255.255
* **SNMP Community Name**	public
* **SNMP System Name**	
* **SNMP System Contact**	
* **SNMP System Location**	
Web Server	
* **HTTP Server Enabled**	Yes
* **HTTPS Server Enabled**	No
Telnet	
* **Telnet Server Enabled**	Yes
Serial Ports	
* **Maintenance Port Enabled**	Yes

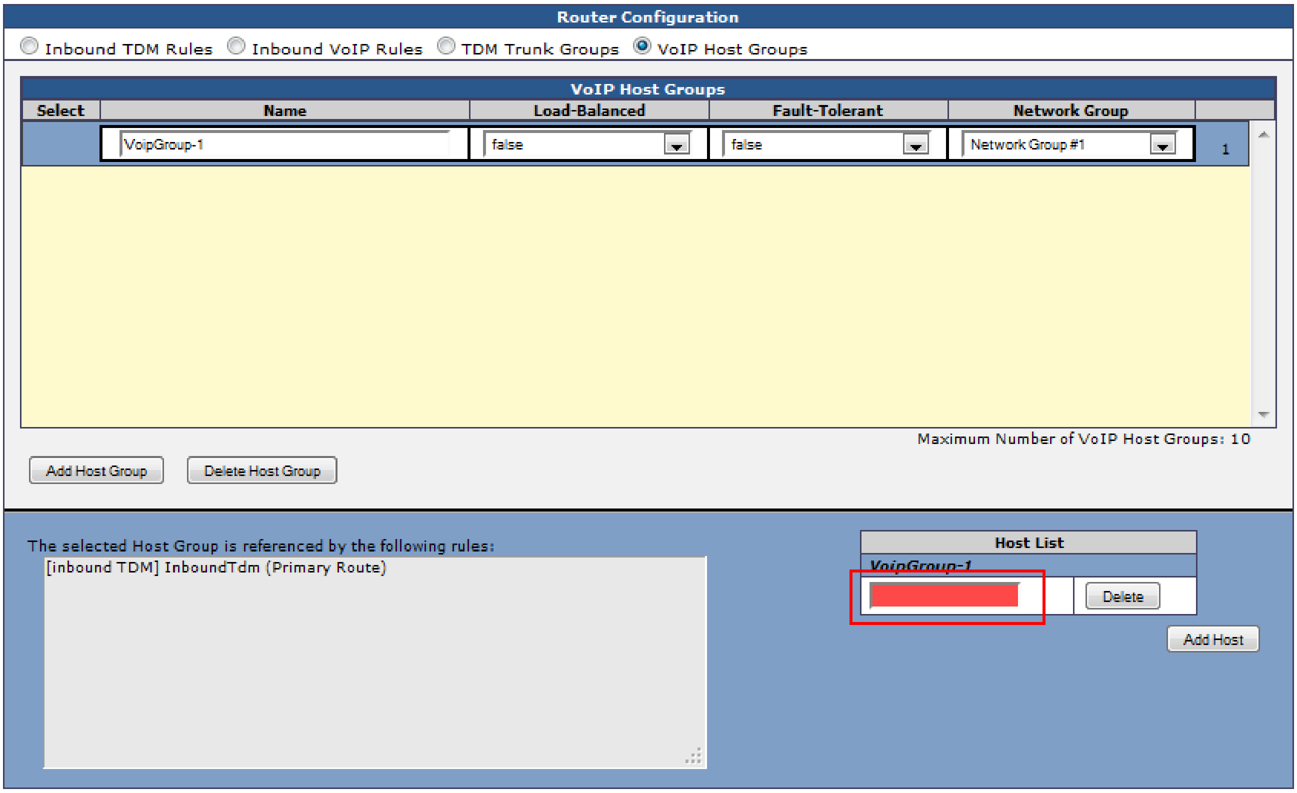
Routing Table

All fields should remain as default shown here.



Routing Table > VoIP Host Groups

In order to route calls to the DuVoice system the IP address must be entered under VoIP Host Groups.



VoipGroup-1
Enter the IP address of the DuVoice system.

TDM > Analog

The DMG can be configured to integrate in two ways. The first is for the DMG to collect and interpret the integration then route the call to DuVoice system, the other is for the DMG to route the call to the DuVoice and once connected interpret the integration. The integration will operate best using option 1. If you find the integration is not operating correctly try option 2.

Option 1 - Prefered Method

TDM Analog Settings	
Timing	
Flash Hook (ms)	800
Wait for Dial Tone after Flash Hook	Yes
Delay After Flash-Hook (ms)	2000
Loop Current Off Debounce (ms)	5000
Incoming Rings Before Answer	1
Ringing Timeout (ms)	6000
Feature Code	
Transfer Feature Code	!
Consult Call Dial Tone Drop Code	!
Consult Call Proceeding Drop Code	!!
Consult Call Busy Drop Code	!!
Consult Call Error Drop Code	!!
Consult Call Connected Drop Code	!!
Consult Call Disconnected Drop Code	!!
Message Waiting Control	
MWI Confirmation Tone	No
Use Same Port for Mwi Clear/Set	Yes
CPID Settings	
Analog Interface Type	PBX
Central Office CID Type	None
Central Office CID Alert Type	Pause in Ring Cycle
FSK CID expiration	10000
FSK CID timeout	5000
Auto-Answer Inbound TDM Calls (Type II CPID)	Yes
Initial Wait for Inband CPID (ms)	2000
Inband CPID Complete Timeout (ms)	300
CID to First Ring Timeout (ms)	2000
Rx/Tx Gain Control	
Analog Receive Gain (dB)	0

Loop Current Off Debounce(ms)
Set to 5000.

Auto-Answer Inbound TDM Calls (Type II CPID)
Set to Yes.

TDM > General

TDM General Settings	
* **PCM Coding**	uLaw
Minimum Call Party Delay (ms)	2000
Maximum Call Party Delay (ms)	5000
Dial Digit On Time (ms)	100
Dial Inter-Digit Time (ms)	100
Dial Pause Time (ms)	2000
Turn MWI On FAC	
Turn MWI Off FAC	
Outbound Call Connect Timeout (ms)	10000
Wait for Ringback/Connect on Blind Transfer	Yes
* **Hunt Group Extension**	
Disconnect on Fax Cleardown Tone	No
Connect Outbound Call On DTMF	No

Minimum Call Party Delay (ms)
Set to 2000.

Maximum call Party Delay (ms)
Set to 5000. You may need to increase this value depending on your integration. The value should be set as low as you can to reduce delays.

Option 2

TDM Analog Settings	
Timing	
Flash Hook (ms)	800
Wait for Dial Tone after Flash Hook	Yes
Delay After Flash-Hook (ms)	2000
Loop Current Off Debounce (ms)	5000
Incoming Rings Before Answer	1
Ringing Timeout (ms)	6000
Feature Code	
Transfer Feature Code	!
Consult Call Dial Tone Drop Code	!
Consult Call Proceeding Drop Code	!!
Consult Call Busy Drop Code	!!
Consult Call Error Drop Code	!!
Consult Call Connected Drop Code	!!
Consult Call Disconnected Drop Code	!!
Message Waiting Control	
MWI Confirmation Tone	No
Use Same Port for Mwi Clear/Set	Yes
CPID Settings	
Analog Interface Type	PBX
Central Office CID Type	None
Central Office CID Alert Type	Pause in Ring Cycle
FSK CID expiration	10000
FSK CID timeout	5000
Auto-Answer Inbound TDM Calls (Type II CPID)	No
Initial Wait for Inband CPID (ms)	2000
Inband CPID Complete Timeout (ms)	300
CID to First Ring Timeout (ms)	2000
Rx/Tx Gain Control	
Analog Receive Gain (dB)	0

Loop Current Off Debounce(ms)
Set to 5000.

Auto-Answer Inbound TDM Calls (Type II CPID)
Set to No.

TDM > General

TDM General Settings	
* **PCM Coding**	uLaw
Minimum Call Party Delay (ms)	0
Maximum Call Party Delay (ms)	0
Dial Digit On Time (ms)	100
Dial Inter-Digit Time (ms)	100
Dial Pause Time (ms)	2000
Turn MWI On FAC	
Turn MWI Off FAC	
Outbound Call Connect Timeout (ms)	10000
Wait for Ringback/Connect on Blind Transfer	Yes
* **Hunt Group Extension**	
Disconnect on Fax Cleardown Tone	No
Connect Outbound Call On DTMF	No

Minimum Call Party Delay (ms)
Set to 0.

Maximum call Party Delay (ms)
Set to 0.

MWI Settings

Use these settings for either option one or two.

Turn MWI On FAC and Turn MWI Off FAC

Avaya Definity

- Set MWI values to:
    - TURN MWI On FAC to *4
    - TURN MWI Off FAC to #4

Mitel

- Set MWI values to:
    - TURN MWI On FAC to #21
    - TURN MWI Off FAC to #22
    - Enable COS Option 259 (Message Sending).
    - Enable COS Option 216 (Data Security).

Other PBX's
Set the codes to match your PBX settings.

- You must set your PBX to send a dial tone at disconnect or loop current drop.
  Mitel dial tone - Enable System Option 22 (Last Party Clear: Dial Tone) for all analog Mitel ports connected to the DMG
  Avaya ACM/Definity enable Adjunct Supervision for each analog port for the DMG

TDM > CPID Parsing

These settings are for Avaya Definity. These values are from the configuration file available by Dialogic distributed in the firmware upgrade file. This is typically blank and must be configured on a per PBX basis. Prebuilt CPID files are available for import from http://www.duvoice.com/downloads.

rule #00#\d(3-10)##
src_number 1
reason direct

rule #00#\d(3-10)#\d(3-10)#
src_number 1
dst_number 2
reason no-answer

rule #02#\d(3-10)#\d(3-10)#
src_number 1
dst_number 2
reason no-answer

rule #01#\d(1-2)##
reason trunk

rule #01#\d(1-2)
reason opening

rule #03##\d(3-10)#
dst_number 1
reason no-answer

rule #04##\d(1-2)#
reason trunk

VOIP > General

All fields should remain as default shown here.

Voip General Settings	
User-Agent	
* **Host and Domain Name**	pbxgw.default.com
User-Agent Header Value	PBX-IP Media Gateway
Call as Domain Name?	No
Invite Expiration (sec)	120
Reliable Provisional Responses	Supported
Server	
* **DNS Server Address**	
* **DNS Server Address (Secondary)**	
DNS Translation of Phone Numbers	No
TCP/UDP	
* **UDP/TCP Transports Enabled**	Yes
* **TCP/UDP Server Port**	5060
TCP Inactivity Timer (sec)	90
TLS	
* **TLS Transport Enabled**	No
* **TLS Server Port**	5061
* **SSL TLS Protocol**	SSLv3_TLSv1
* **Mutual TLS Authentication Required**	Yes
TLS Inactivity Timer (sec)	30
Verify TLS Peer Certificate Date	Yes
Verify TLS Peer Certificate Trust	Yes
Verify TLS Peer Certificate Purpose	Yes
Timing	
T1 Time (ms)	500
T2 Time (ms)	4000
T4 Time (ms)	5000
* **T1 Multiplier**	64
Monitoring	
Monitor Call Connections	No
Call Monitor Interval (sec)	60
* **VoIP Host Monitor Interval (sec)**	30
* **Proactive DNS Monitoring**	No
QoS	
* **Call Control QoS Byte**	0

VoIP > Network Groups

All fields should remain as default shown here.

VoIP Network Group Configuration	
Network Group	
Network Group Label	Network Group #1
Transport	
Transport Protocol	UDP
SIPS URI Scheme	No
URI Parameters	
User Phone Parameter	Yes
Local Phone Context	
Remote Phone Context	
Diversion Header Format	TEL
Proxy	
Primary Proxy Server Address	
Primary Proxy Server Port	5060
Backup Proxy Server Address	
Backup Proxy Server Port	5060
Proxy Query Interval (sec)	30
Registration	
Registration Server Address	
Registration Server Port	5060
Registered User	
Gateway Name	
Registration Expiration (sec)	120
Audio	
Codec #1	G.711u
Codec #2	G.711a
Codec #3	None
Low Bit Rate Codec	G.723.1 [Modify]
Packet Time (ms)	30
SRTP	
SRTP Preference	RTP_Only
Authentication Tag Length	80
MKI on Transmit Stream	Yes
Key Derivation Enable	No
Key Derivation Rate	16
Window Size Hint	64
UnEncrypted SRTP Enable	No
UnEncrypted SRTCP Enable	No
UnAuthenticated SRTP Enable	No

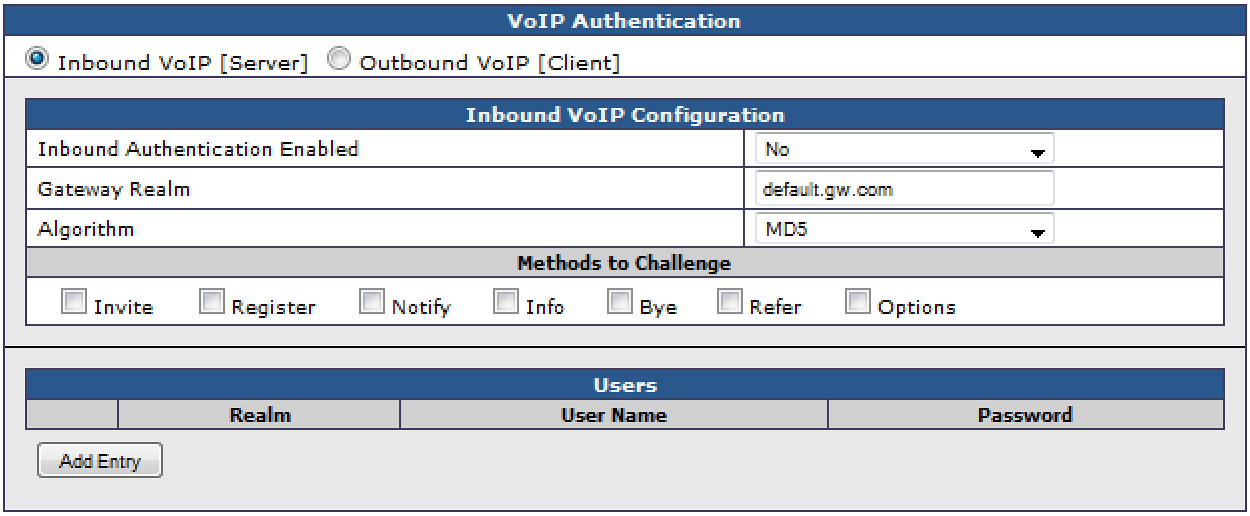
VoIP > Media

VoIP Media Settings	
Early Media	
RFC 3960 Early Media Support	OnDemand
Send Early 183 Progress Response	No
Send Early 180 Ringing Response	Yes
Require Reliable Provisional Responses	No
Audio	
* **Low Bit Rate Codec**	G.723.1
Signaling Digit Relay Mode	Off
Voice Activity Detection	Off
Continue Ringback on CN	Yes
Acceptable Media	RTP_SRTP
Packet Time (ms) for Inbound VoIP	30
Digit Relay Mode	RFC2833
Telephone-Event Payload Type	101
Fax	
Fax IP-Transport Mode	T.38
Fax Server Host	
Fax Server Network Group	
Fax/Modem Tone Relay Mode	RFC2833
RTP	
* **RTP Start Port**	49000
* **RTP End Port**	50000
* **RTP Source IP Address Validation**	On
* **RTP Source UDP Port Validation**	On
RTP QoS Byte	0

Voice Activity Detection
Set to off. Setting this value to off will reduce clipping during audio recordings on calls with low db levels.

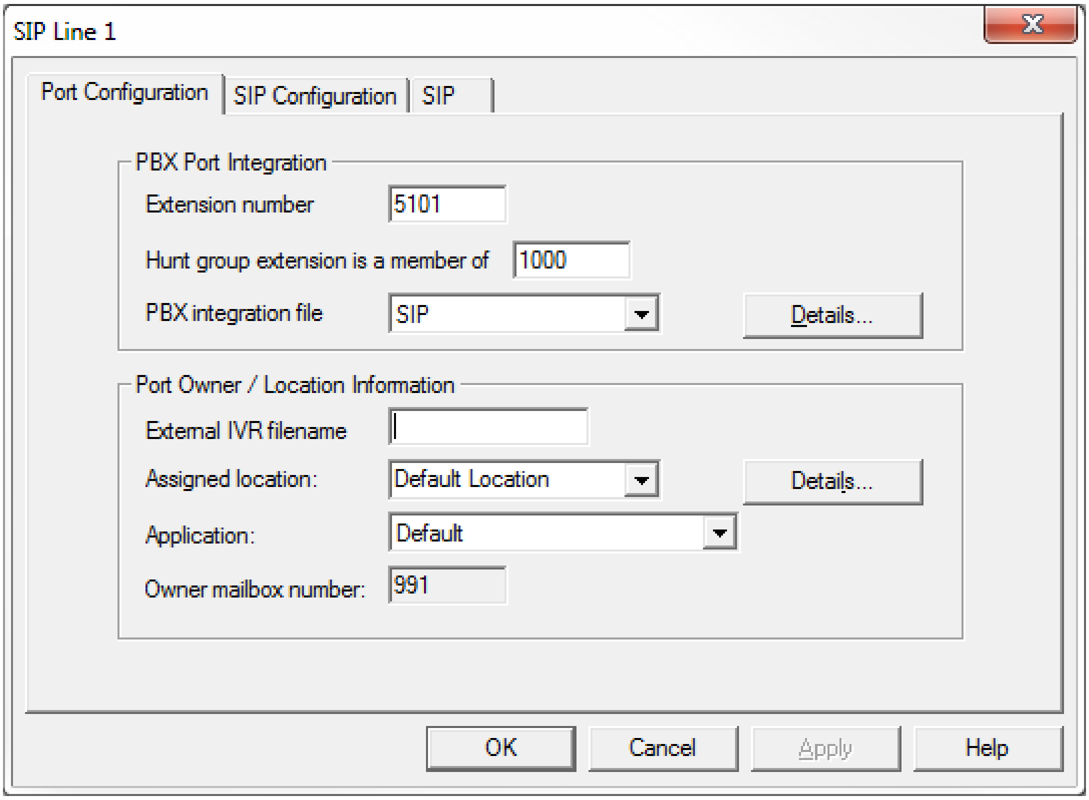
VoIP > Authentication

All fields should remain as default shown here.



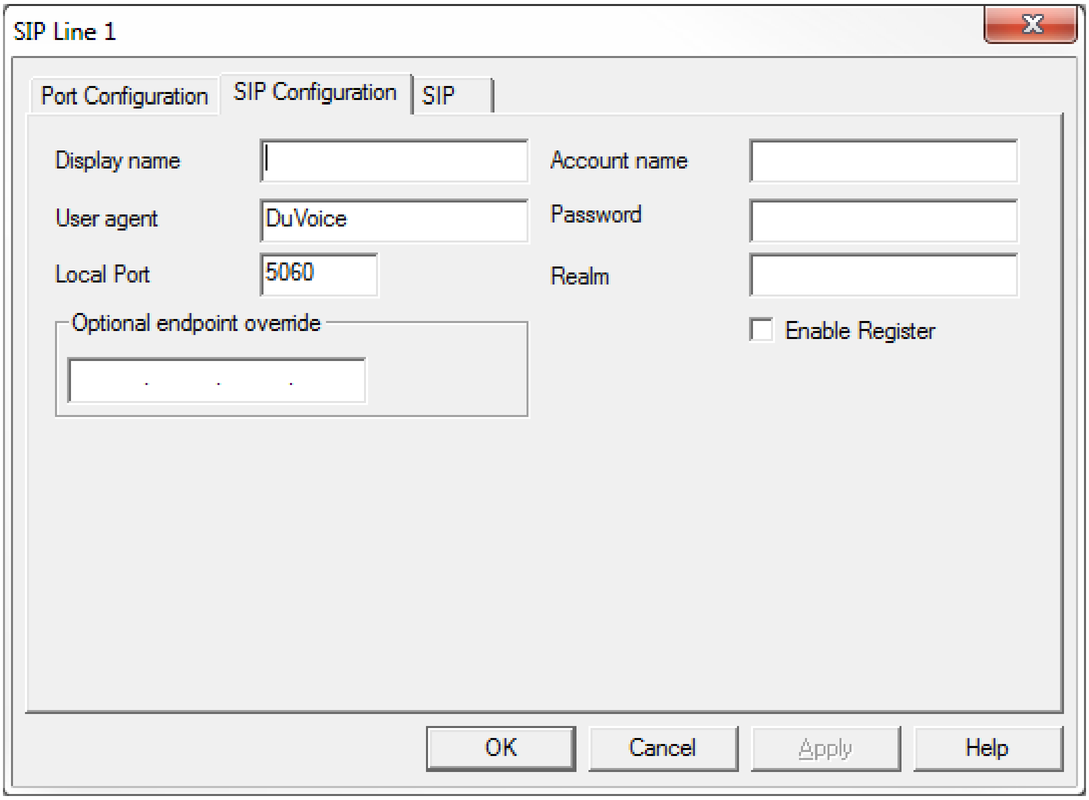
DuVoice Configuration

Lines



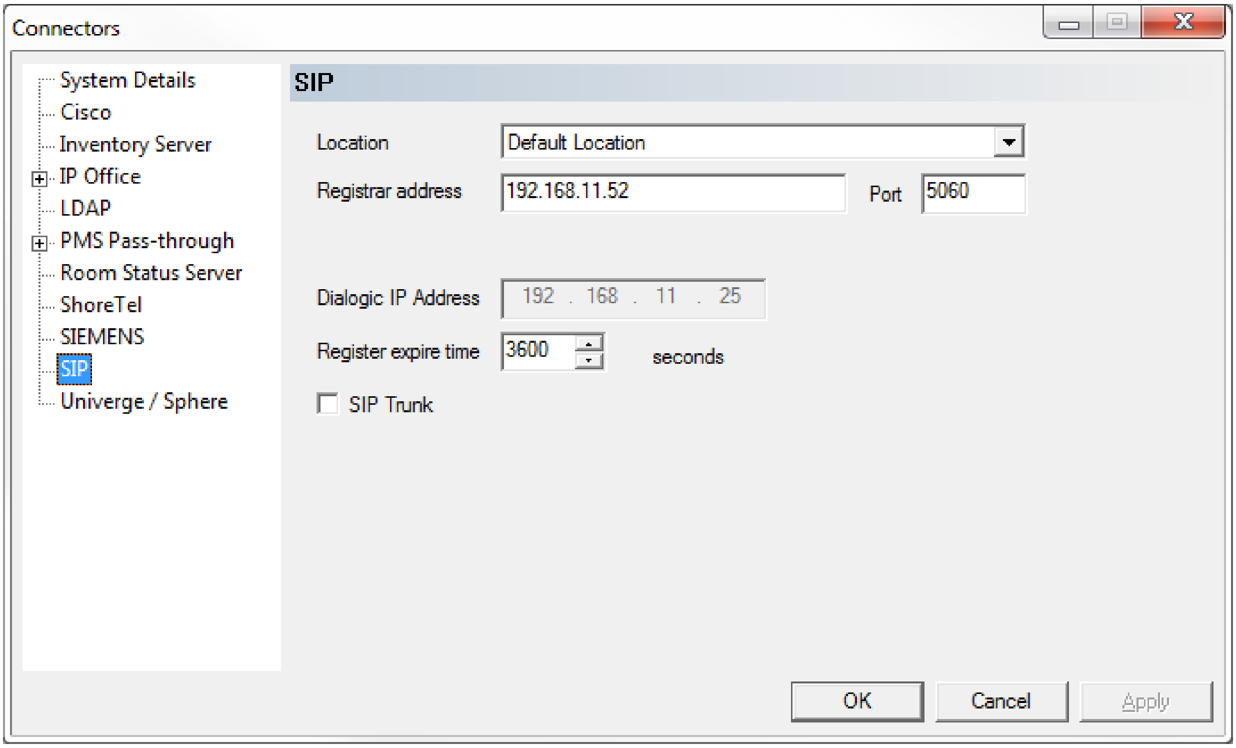
Extension number
Set the extension number for each line to a matching number associated with an extension located on the DMG.

Hunt group extension is a member of
Set the hunt group field to the hunt group number assigned to the DMG extensions.



Enable Register
Do not check the Register field for any line.

SIP Configuration



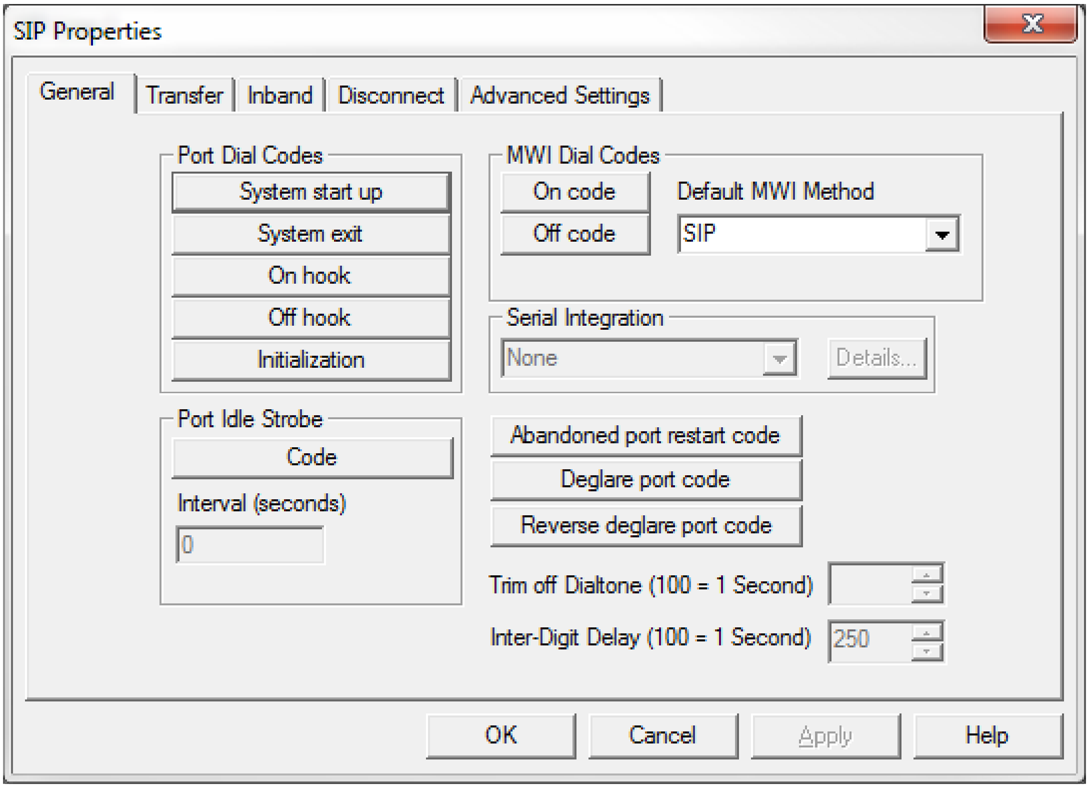
Registrar address
Set the registrar address to the IP address of the DMG.

Registrar expire time
Set the Register expire time to what the DMG is configured for in VoIP General under the field Invite Expiration (sec). The default is 120.

MWI

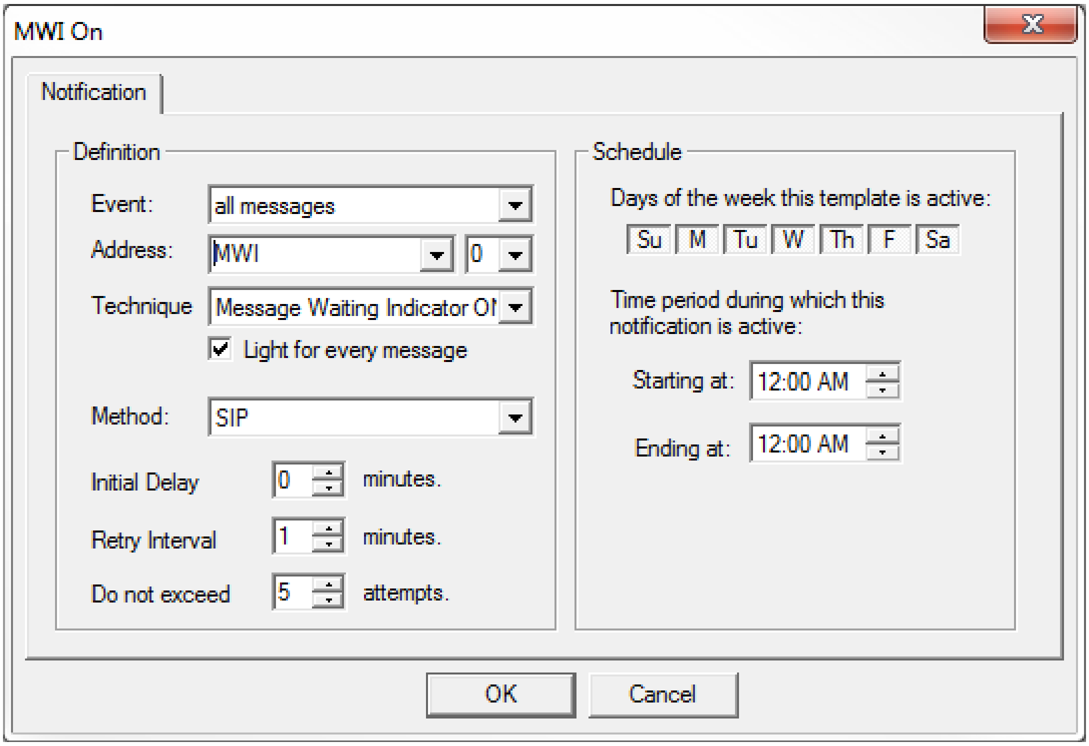
System Configuration

Confirm the setting for Default MWI Method for the active template is set to SIP.



Mailbox Administration

Confirm the MWI On and MWI Off templetes are configured as follows. MWI On shown here as an example.



Method
Set to SIP for both MWI On and MWI Off templates. You may need this set to SIP+PMS if MWI should be sent to the PMS as well as the PBX.

Do not exceed
Set to 5 for both MWI On and MWI Off templetes.