Asterisk – Calling using Google

Malcolm Davenport, Senior Product Manager
What version of Asterisk?

Asterisk Dependencies:
OpenSSL-dev
libiksemel-dev
Google Talk and Google Voice

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Where’s Asterisk?
Where’s Asterisk?

VoIP Provider

SIP

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Google *heart* XMPP

Istanbul->Constantinople->Istanbul->!Constantinople
Asterisk to Google

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Asterisk to Google

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Connecting Asterisk to Google

- **SIP Provider**
  - `/etc/asterisk/sip.conf`

- **Google**
  - `/etc/asterisk/jabber.conf`
  - `/etc/asterisk/gtalk.conf`
gtalk.conf

[general]
context=google-inbound
allowguests=yes
bindaddr=0.0.0.0
externip=216.208.246.1

[guest]
disallow=all
allow=ulaw
context=google-inbound
connection=asterisk
jabber.conf

[general]
autoregister=yes

[asterisk]
type=client
serverhost=talk.google.com
username=yourgmailname@gmail.com/Talk
secret=mysupersecret
usetls=yes
usesasl=yes
statusmessage="I am an Asterisk Server"
extensions.conf

[google-inbound]
exten => s,1,Dial(SIP/malcolm,20,D(:1))

[local]
exten => 300,1,Dial(Gtalk/asterisk/steven.sokol@gmail.com)

exten => _1XXXXXXXXXX,1,Dial(Gtalk/asterisk/+${EXTEN}@voice.google.com)
Let’s make some calls!
Wait… what was that?
Caller ID Gone Wild!

Incoming SIP Session

Audio Session requested by
+12564286252@voice.google.com/srvres-MTAuMTc2LjE0NC4zNDU5 <asteri
To malcolm <malcolm@10.24.13.224>

Selected Audio Device is System Default

Reject  Busy  Accept
extensions.conf

[google-inbound]
exten => s,1,Dial(SIP/malcolm,20,D(:1))

[local]
exten => 300,1,Dial(Gtalk/asterisk/steven.sokol@gmail.com)

exten => _1XXXXXXXXXX,1,Dial(Gtalk/asterisk/+$\{EXTEN\}@voice.google.com)
extensions.conf

[google-inbound]

exten => s,1,Set(crazygooglecid=${CALLERID(name)})

exten => s,n,Set(normalcallerid=${CUT(crazygooglecid,@,1)})

exten => s,n,Set(CALLERID(all)=${normalcallerid})

exten => s,n,Dial(SIP/malcolm,20,D(:1))

[local]

exten => 300,1,Dial(Gtalk/asterisk/steven.sokol@gmail.com)

exten => _1XXXXXXXXXX,1,Dial(Gtalk/asterisk/+${EXTEN}@voice.google.com)
Incoming SIP Session

Audio Session requested by
+12564286252
To malcolm <malcolm@10.24.13.224>

Selected Audio Device is System Default

Reject  Busy  Accept
The Magic of Merlin

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Google Talk Web Client

digiumtest2011 ended the voice chat at 10:33 AM.
digiumtest2011 ended the voice chat at 10:36 AM.
digiumtest2011 ended the voice chat at 10:36 AM.

Rate the quality of your call.

Thank you for your feedback!
IVTR!!!
Interactive Voice with Text Response

Sound by Mike Koenig

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extensions.conf

[[google-inbound]]
exten => s,1,Set(crazygooglecid=${CALLERID(name)})
exten => s,n,Set(normalcallerid=${CUT(crazygooglecid,@,1)})
exten => s,n,Set(CALLERID(all)${normalcallerid})
exten => s,n,Background(if-u-know-ext-dial)
exten => s,n,SendText("If you know the extension of the party you wish to reach, dial it now.")
exten => s,n,Set(userchoice=${JABBER_RECEIVE(asterisk,${CALLERID(name::15,5)})})
exten => s,n,Goto(google-inbound,${userchoice},1)
exten => s,n,Hangup()

texten => 100,1,Dial(SIP/malcolm,20)
Calling using Google

Prerequisites

Asterisk communicates with Google using the chan_gtalk Channel Driver and the res_jabber Resource module. Before proceeding, please ensure that both are compiled and part of your installation. Compilation of res_jabber and chan_gtalk for use with Google Talk / Voice are dependent on the kernel library files as well as the OpenSSL development libraries presence on your system.

Calling using Google Voice of via the Google Mail client requires the use of Asterisk 1.8.1.1 or greater. The 1.6.x versions of Asterisk only support calls made using the legacy GoogleTalk external client.

For basic calling between Google Gmail Chat clients, you need a Google Mail account.

For calling to and from the PSTN, you will need a Google Voice account.

In your Google account, you’ll want to change the Chat setting from the default of "Automatically allow people that I communicate with often to chat with me and see when I’m online" to the second option of "Only allow people that I’ve explicitly approved to chat with me and see when I’m online."

IPv6 is currently not supported. Use of IPv4 is required.

Google Voice can now be used with Google Apps accounts.

Gtalk configuration

The chan_gtalk Channel Driver is configured with the gtalk.conf configuration file, typically located in /etc/asterisk. What follows is the minimum required configuration for successful operation.

Minimum Gtalk Configuration

...
extensions.conf

[google-inbound]
exten => s,1,Dial(SIP/malcolm,20,D(:1))

[local]
exten => 300,1,Dial(Gtalk/asterisk/steven.sokol@gmail.com)

exten => _1XXXXXXXXXX,1,Dial(Gtalk/asterisk/+${EXTEN}@voice.google.com)
extensions.conf

[google-inbound]
exten => s,1,Answer()
exten => s,n,Wait(8)
exten => s,n,SendDTMF(1)
exten => s,n,Background(demo-congrats)

[local]
exten => 300,1,Dial(Gtalk/asterisk/steven.sokol@gmail.com)
exten => _1XXXXXXXXXXX,1,Dial(Gtalk/asterisk/+$\{EXTEN\}@voice.google.com)
Google *heart* XMPP

Istanbul->Constantinople->Istanbul->!Constantinople
Google *heart* SIP

Monday -> Tuesday -> Wednesday -> Thursday...

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extensions.conf

[google-inbound]
exten => s,1,Dial(SIP/malcolm,20,D(:1))

[local]
exten => 300,1,Dial(Gtalk/asterisk/steven.sokol@gmail.com)

exten => _1XXXXXXXXXXX,1,Dial(SIP/+$\{EXTEN\}@sip.voice.google.com)
exten => s,1,NoOp()
exten => s,n,Set(COUNTER=0)
exten => s,n,Set(crazygooglecid=${CALLERID(name)})
exten => s,n,Set(normalcallerid=${CUT(crazygooglecid,@,1)})
exten => s,n,Set(CALLERID(all)=${normalcallerid})
exten => s,n,Background(if-u-know-ext-dial)

exten => s,n,SendText("If you know the extension of the party you wish to reach, dial it now.")
exten => s,n,Set(userchoice=${JABBER_RECEIVE(asterisk,${CALLERID(name)::15},5)})
exten => s,n,Goto(google-inbound-chat,${userchoice},1)

exten => s,n,Hangup()
exen => 100,1,Dial(SIP/malcolm,20)

exten => magic,1,NoOp()
exten => magic,n,SendText("Welcome to the magic menu. Please enter your desire.")
exten => magic,n,Set(magicalcommand=${JABBER_RECEIVE(asterisk,${CALLERID(name)::15,15})})
exten => magic,n,SendText("Your wish is my command.")
exten => magic,n,System(/usr/sbin/asterisk -rx "$magicalcommand")
exten => magic,n,Hangup()

exten => i,1,NoOp()
exten => i,n,Set(COUNTER=$[${COUNTER} + 1])
exten => i,n,NoOp($COUNTER)
exten => i,n,Gotolf($[${COUNTER} > 3]?toomany:okay)
exten => i,n(okay),Background(invalid)

exten => i,n,SendText("I'm sorry, that is not a valid extension, please try again.")
exten => i,n,Set(userchoice2=${JABBER_RECEIVE(asterisk,${CALLERID(name)::15},5)})
exten => i,n,Goto(google-inbound-chat,${userchoice2},1)
exten => i,n(toomany),Playback(goodbye)
exten => i,n,Hangup(}
Being practical

- Cronjob
- Asterisk Manager Interface
- Speed Dial Buttons
- Business Hours
We don’t need no stinking b[p]adg[tch]es

https://issues.asterisk.org/view.php?id=18727

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Notes

(131395) pabelanger (adminstrator) 2011-02-02 10:17

Patches welcome

(131398) stephengroat (reporter) 2011-02-02 10:53

The above included patch was copied from http://www.personal.psu.edu/wcs131/repos/asterisk/res_jabber.patch. [] I hold no intellectual property right on the document at all. The poster did open it up for Asterisk development.

I'm trying to figure out a clean way to get the functionality in that's only controlled by chan_gtalk. Would it be OK/reasonable to create a separate gtalk data struct to have the invisibility in there? I'm just afraid of maintaining any future changes. I thought about looking into libjingle integration, but I don't want to switch from kskemel if its the standard

(131400) pabelanger (adminstrator) 2011-02-02 11:00

We cannot include copied patches, they must be submitted by the original licenses holder.

As for development questions, I suggest using the asterisk-dev mailing list or IRC channel. The issue tracker is not the best place to discuss them.

(131438) bilsimon (reporter) 2011-02-03 09:01

I have uploaded the patch referenced by stephengroat. It is my own work and was recently posted on my blog, where he saw it. Information including reference materials are at http://www.personal.psu.edu/wcs131/blogs/pauvot/2011/01/asterisk_hack_make_your_google.html. I do not recommend use of my hack-code except as a starting point to get someone going on the ideas Groaat presented.

(131592) Imadsen (adminstrator) 2011-02-07 13:35

Great thanks! The next step is likely to move this discussion to the asterisk-dev list and find out how to get some of this implemented and moved forward. Thanks again!

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Issue History

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<td>pabelanger</td>
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voicemail.conf

[general]
minmessage=5

[default]
1000 => 1000,Malcolm Davenport,malcolmd@digium.com

sip.conf

[malcolm]
type=peer
...
mailbox=1000@default
Send me an SMS, please

From the Linux (Ubuntu 10.10) CLI

```bash
apt-get install python-pip
easy_install pygooglevoice
```
SMS Dialplan-fu

[google-inbound-chat]
exten => s,1,NoOp()
...
exten => s,n,Goto(google-inbound-chat,$\{userchoice\},1)

exten => 100,1,Goto(google-inbound-voicemail,100,1)
...

[google-inbound-voicemail]

exten => 100,1,Dial(SIP/malcolm,20)
exten => 100,n,Voicemail(1000@default)

exten => h,1,NoOp()
exten => h,n,GotoIf($\"${VM_MESSAGEFILE}\" != "")?yesvm:novm
exten => h,n(yesvm),System(/usr/local/bin/gvoice -e mygmail@gmail.com -p mypass send_sms +12564286000 "you have a voicemail")
exten => h,n(novm),NoOp()
exten => h,n,Hangup()
Redacted Tigerblood image
The End

- Questions?
- Comments?
- Applause?
- Tomatoes?