

# Asterisk – Calling using Google

Malcolm Davenport, Senior Product Manager



# What version of Asterisk?



1.4.x



1.6.2



1.8

Asterisk Dependencies:  
OpenSSL-dev  
libiksemel-dev



# Compiling





# Google Talk and Google Voice





# Google Talk

 Search Mail Search the Web[Show search options](#)  
[Create a filter](#)

## Mail

Contacts  
Tasks

Compose mail

## Inbox

Buzz  
Starred  
Sent Mail  
Drafts  
Personal  
Travel  
6 more▼

## Chat

 Search, add, or invite

Digium Test  
Set status here  
Call phone  
malcolmd

## Invite a friend

Give Gmail to:

Send Invite 50 left

[Preview Invite](#)

[Learn Spanish in 10 Days](#) - PimsleurApproach.com/Learn-Spanish - World-famous Pimsleur Method. As seen on PBS - \$9.95 w/ Free S&H.

[About these ads](#) < >

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1 - 5 of 5

<input type="checkbox"/>	☆ me, Malcolm (2)	Hi - Howdy, I have successfully received your test. Cheers On Thu, Jan 20, 2011 at 11:03 AM, Digium ...	11:04 am
<input type="checkbox"/>	☆ Google Voice	Welcome to Google Voice - Hi there, Thanks for signing up for Google Voice! Your new Google number is (256) 274-1593. Here ...	Jan 19
<input type="checkbox"/>	☆ Gmail Team	Customize Gmail with colors and themes - To spice up your inbox with colors and themes, check out the Themes tab under Settir	Jan 19
<input type="checkbox"/>	☆ Gmail Team	Import your contacts and old email - You can import your contacts and mail from Yahoo!, Hotmail, AOL, and many other web mail	Jan 19
<input type="checkbox"/>	☆ Gmail Team	Get Gmail on your mobile phone - Access Gmail on your mobile phone The days of needing your computer to get to your inbox an	Jan 19

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1 - 5 of 5

Visit [settings](#) to save time with **keyboard shortcuts**!

**You are currently using 0 MB (0%) of your 7542 MB.**

Last account activity: 1 day ago at this IP (216.207.245.1). [Details](#)

Gmail view: standard | [turn off chat](#) | [turn off buzz](#) | [older contact manager](#) | [basic HTML](#) | [Learn more](#)

©2010 Google - [Terms](#) - [Privacy Policy](#) - [Buzz Privacy Policy](#) - [Gmail Blog](#) - [Google Home](#)

malcolmd

Voice calling - [Cancel](#)

Call computer

Press Enter to send your message.



# Google Voice



Google voice

Search

Your number: (256) 274-1593

Call Text

☒ Archive Report Spam Delete More Actions Refresh

Show: All Unread 1-1 of 1

## Inbox

★ Starred  
Spam  
Trash

Contacts

## History

Voicemail  
Text  
Recorded  
Placed  
Received  
Missed

Calling Credit \$0.00

Add Credit Rates History

**Google Voice** Add - Mountain View, CA  
1/19/11 10:45 AM 24 hours ago  
Welcome to Google Voice. Google Voice gives you a single phone number that rings all of your phones, saves your voicemail online, and transcribes your voicemail to text. Other cool features include the ability to listen in on messages while they're being left, block unwanted callers, and make cheap international calls. We hope you enjoy using Google Voice.  

00:18

[Call](#) [Text](#) [more](#)

Tip: Choose when a particular phone rings by setting a custom ring schedule. [Learn more](#)

©2011 Google - [Terms](#) - [Blog](#) - [Google Home](#)



# Where's Asterisk?



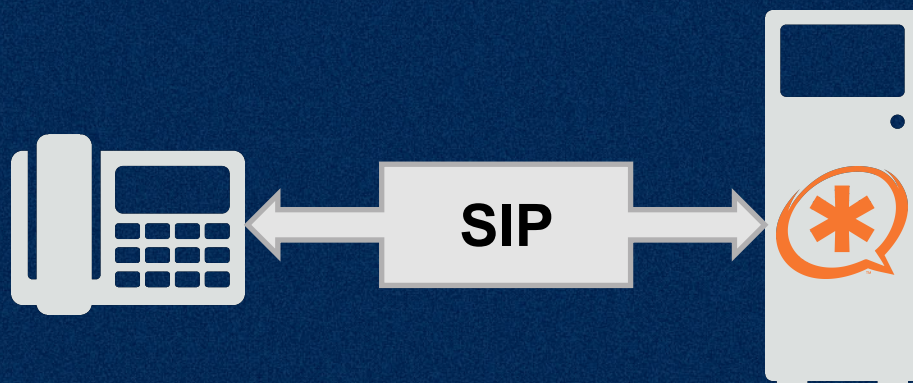


# Where's Asterisk?



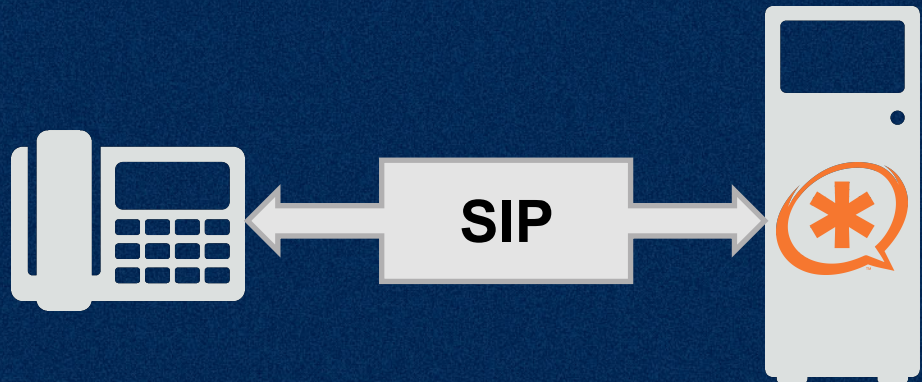


# Where's Asterisk?



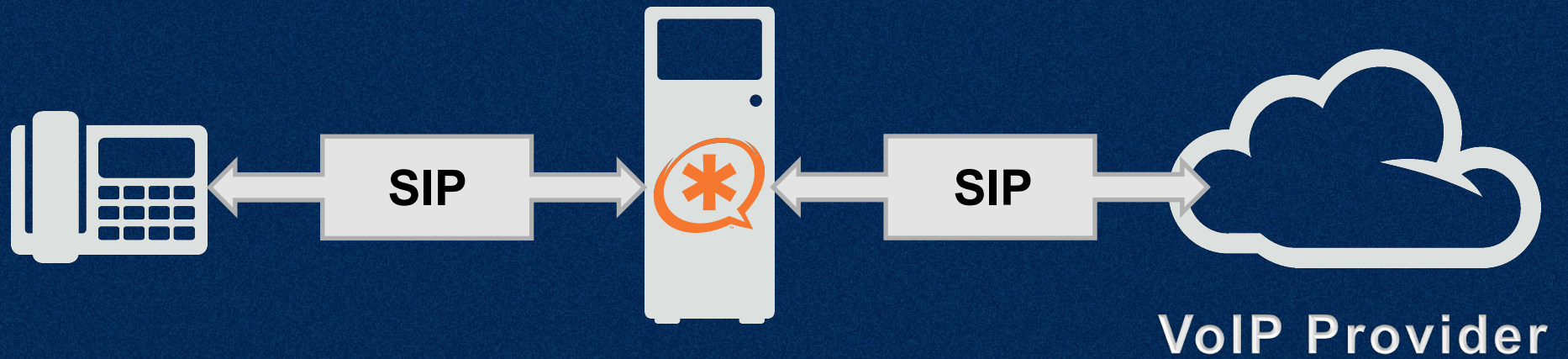


# Where's Asterisk?



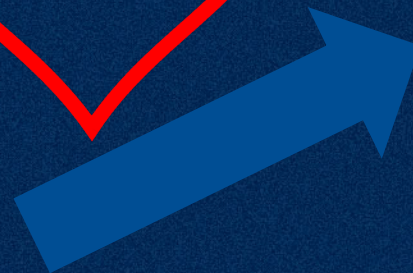
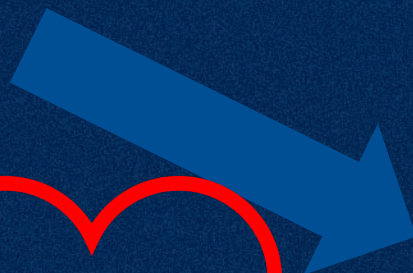
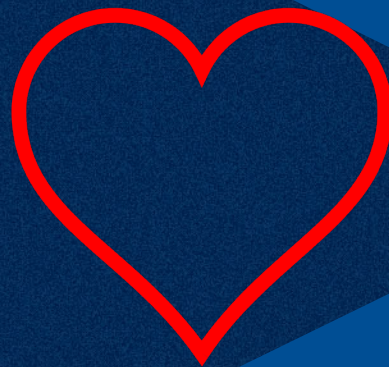


# Where's Asterisk?





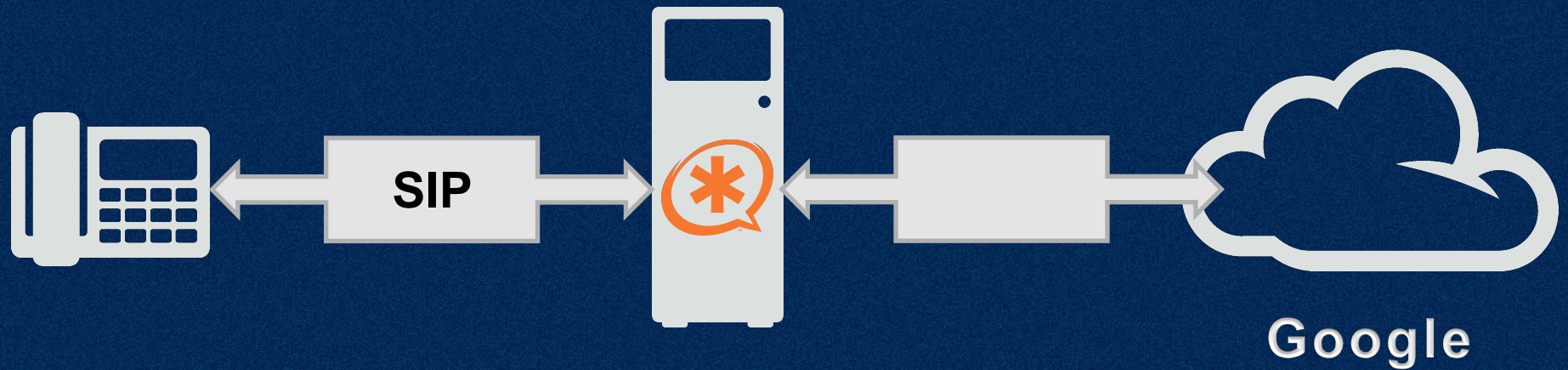
# Google \*heart\* XMPP



Istanbul->Constantinople->Istanbul->!Constantinople

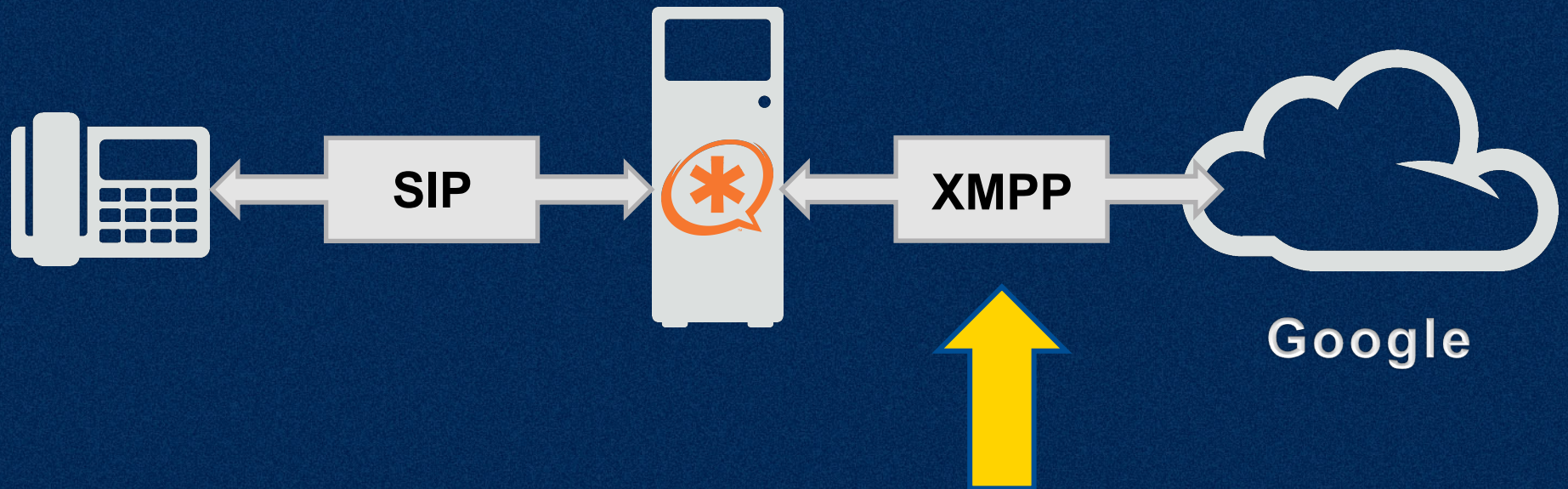


# Asterisk to Google





# Asterisk to Google





# Connecting Asterisk to Google

- SIP Provider
  - /etc/asterisk/sip.conf
  
- Google
  - /etc/asterisk/jabber.conf
  - /etc/asterisk/gtalk.conf



# Gtalk Configuration

```
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
```



# XMPP / Jabber Configuration

```
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"
```



# Dialplan Configuration



extensions.conf

[google-inbound]

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

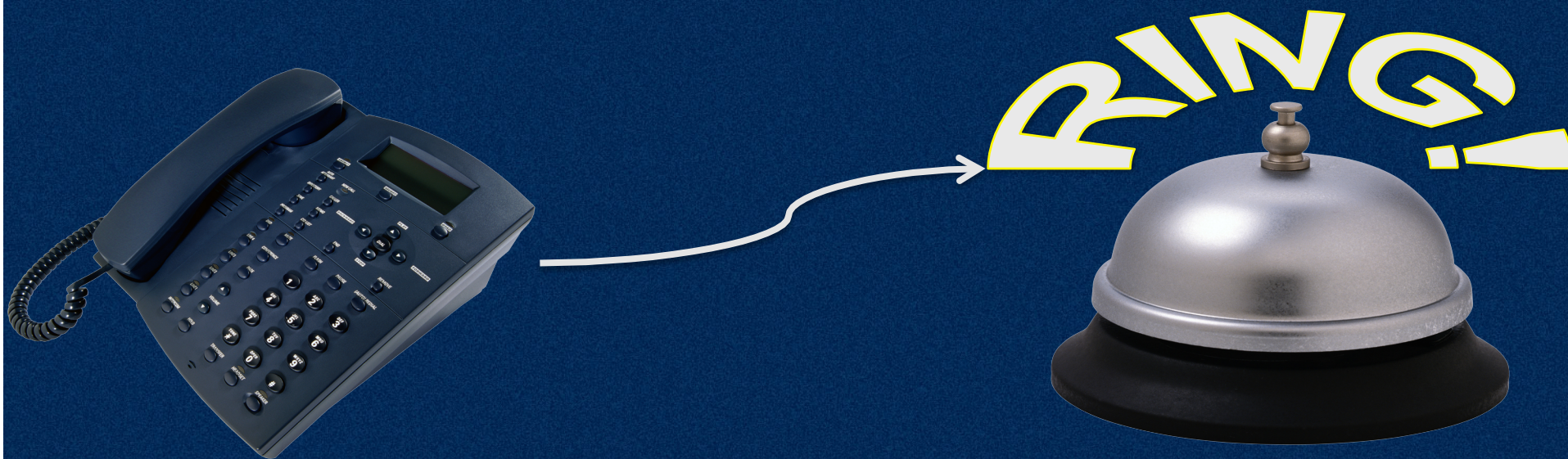
[local]

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

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



Let's make some calls!



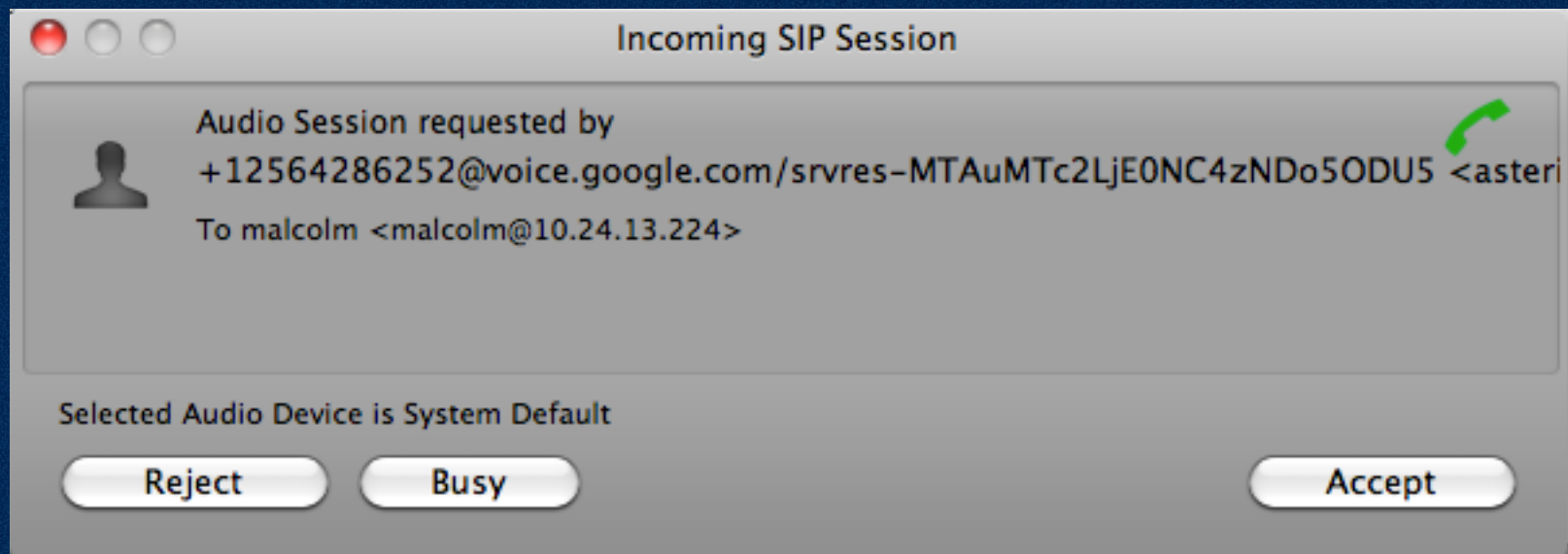


# Wait...what was that?





# Caller ID Gone Wild!





# Caller ID Gardening



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)



# Caller ID Gardening

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))
```

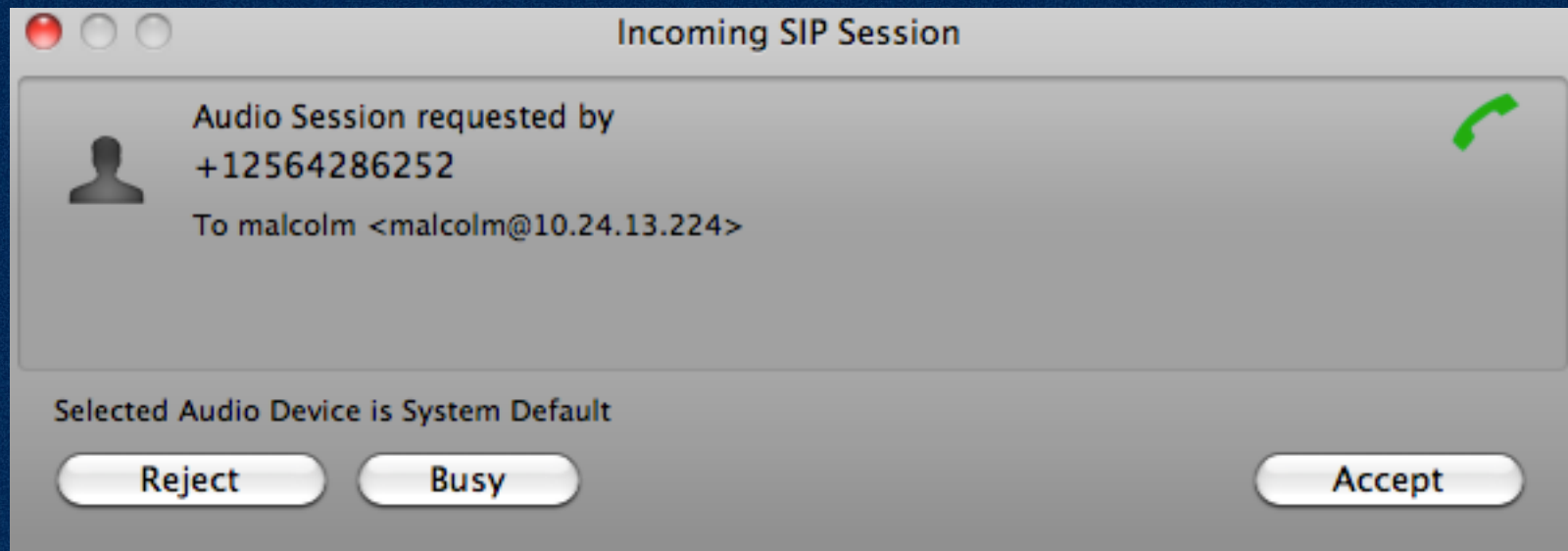
[local]

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

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



# Caller ID Gardening





# The Magic of Merlin





# The Magic of Merlin



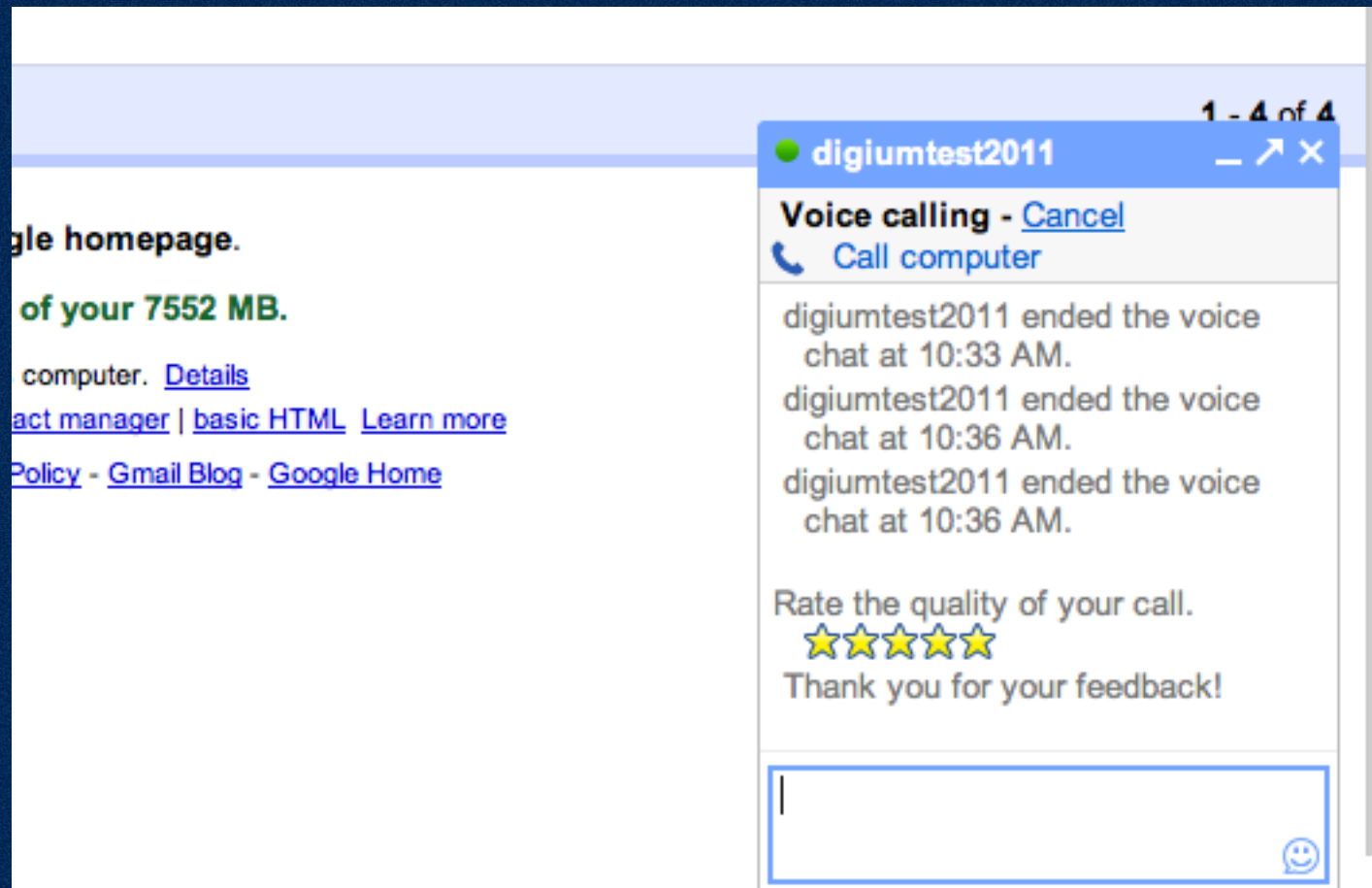




Photo by Stevage



# Google Talk Web Client





# IVTR!!!

Interactive Voice with Text Response



Sound by Mike Koenig



# The Magic of IVTR

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()
```

```
exten => 100,1,Dial(SIP/malcolm,20)
```



# For More Help



Calling using Google – Asterisk Project – Asterisk Project Wiki

https://wiki.asterisk.org/wiki/display/AST/Calling+using+Google

calling using google

Dashboard > Asterisk Project > ... > Configuration and Operation > Calling using Google

Browse > Malcolm Davenport > calling google

- Search
- Asterisk 1.8 Documentation
    - Getting Started
    - Configuration and Operation
      - Asterisk Calendaring
      - Asterisk Channel Drivers
      - Asterisk Configuration
      - Asterisk Extension Language (AEL)
      - Asterisk Manager Interface (AMI)
      - Asterisk Queues
      - Asterisk Security Framework
      - Asterisk Sounds Packages
      - Call Completion Supplementary Services (CCSS)
      - Call Detail Records (CDR)
      - Calling using Google**
      - Channel Event Logging (CEL)
      - Channel Variables
      - Distributed Universal Number Discovery (DUNDI)
      - E.164 Number Mapping (ENUM)



## Calling using Google

Added by Malcolm Davenport, last edited by Malcolm Davenport on Dec 27, 2010 (view change)

### 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 dependant on the iksemel 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

Powered by a free **Atlassian Confluence Open Source Project License** granted to Asterisk. Evaluate Confluence today.

Powered by Atlassian Confluence 3.4.6, the Enterprise Wiki | Report a bug | Atlassian News

Report problems with this site

wiki.asterisk.org runs on a server provided by Digium, Inc. and uses bandwidth donated to the open source Asterisk community by API Digital Communications in Huntsville, AL USA.





the

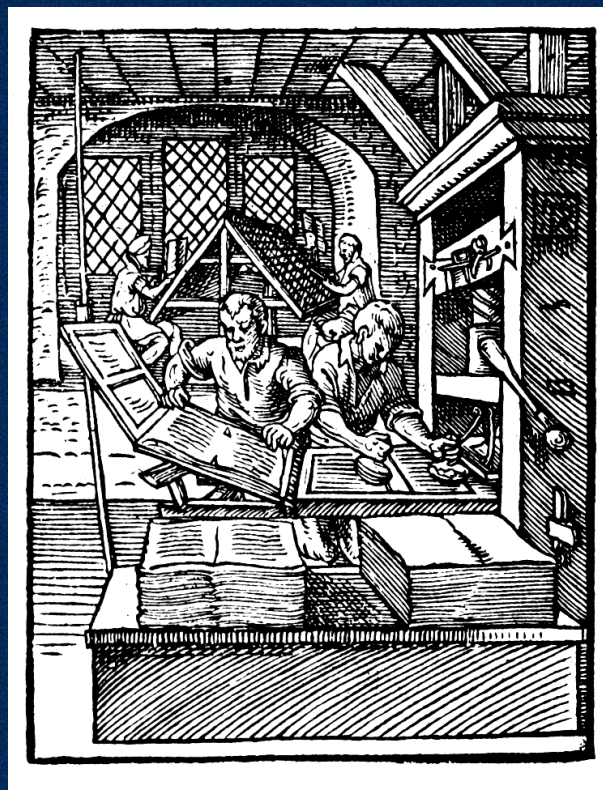






Photo by USDA Forest Service



# Quenching the Flames

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)



# Quenching the Flames

extensions.conf

[google-inbound]

exten => s,1,Answer()

exten => s,n,Wait(8)

exten => s,n,SendDTMF(1)

exten => s,n,Background(demo-congrats)

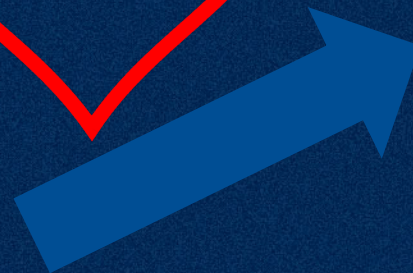
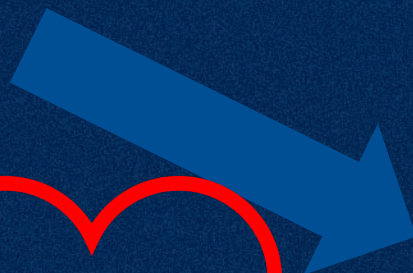
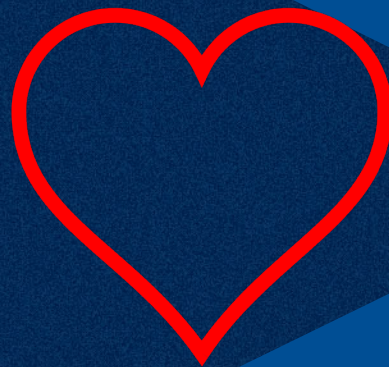
[local]

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

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

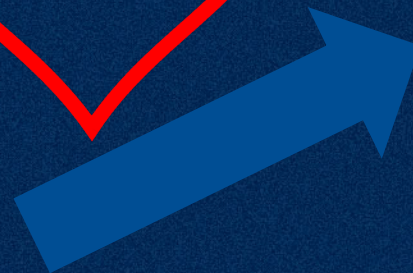
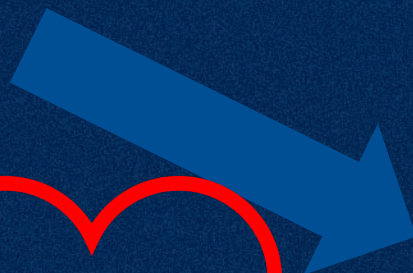
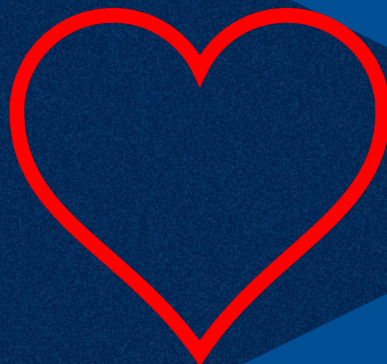


# Google \*heart\* XMPP



Istanbul->Constantinople->Istanbul->!Constantinople





# SIP



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



# Google \*sorta heart\* SIP

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(SIP/+\$\${EXTEN}@sip.voice.google.com)





Photo by Andrew Dunn



# Now you see me...

```
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()
exten => 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(${COUNTER})
exten => i,n,GotoIf(${[${COUNTER} > 3]}?toomany:okay)
exten => i,n(okay),Background(invalid)
exten => i,n,SendText("I'm sorry, that is not a valid extension, please try again.")
exten => i,n,Set(userchoice2=${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()
```



- **Cronjob**
- **Asterisk Manager Interface**
- **Speed Dial Buttons**
- **Business Hours**



# We don't need no [a] stinking b[p]adg[tch]es



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



## Notes

<a href="#">(0131395)</a> <b>pabelanger</b> (administrator) 2011-02-02 10:17	Patches welcome
<a href="#">(0131398)</a> <b>stephengroat</b> (reporter) 2011-02-02 10:53	<p>The above included path was copied from <a href="http://www.personal.psu.edu/wcs131/repos/asterisk/res_jabber.patch">http://www.personal.psu.edu/wcs131/repos/asterisk/res_jabber.patch</a>. [^] I hold no intellectual property right on the document at all. The poster did open it up for Asterisk development.</p> <p>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 iksemel if its the standard</p>
<a href="#">(0131400)</a> <b>pabelanger</b> (administrator) 2011-02-02 11:00	<p>We cannot include copied patches, they must be submitted by the original licenses holder.</p> <p>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.</p>
<a href="#">(0131438)</a> <b>billsimon</b> (reporter) 2011-02-03 09:01	<p>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 <a href="http://www.personal.psu.edu/wcs131/blogs/psuwoip/2011/01/asterisk_hack_make_your_google.html">http://www.personal.psu.edu/wcs131/blogs/psuwoip/2011/01/asterisk_hack_make_your_google.html</a> [^] . I do not recommend use of my hack-code except as a starting point to get someone going on the ideas Groat presented.</p>
<a href="#">(0131592)</a> <b>lmadsen</b> (administrator) 2011-02-07 13:35	<p>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!</p>

## Issue History

Date Modified	Username	Field	Change
2011-02-01 19:10	stephengroat	New Issue	
2011-02-01 19:10	stephengroat	Asterisk Version	=> 1.8.2.3
2011-02-01 19:10	stephengroat	Regression	=> No
2011-02-01 19:10	stephengroat	SVN Branch (only for SVN checkouts, not tarball releases)	=> N/A
2011-02-02 10:17	pabelanger	Note Added: 0131395	
2011-02-02 10:53	stephengroat	Note Added: 0131398	









Photo by Aljawad



# Send me an SMS, please



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

```
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()





Creative Innovation – Customer Satisfaction – Continual Quality Improvement



Redacted Tigerblood image



# The End

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

