

Asterisk in the Work Place

By: Andy Blyler

Agenda

- Selecting SIP Phones
- Finding a SIP Provider
- Basic SIP Configuration
- Call Plan Configuration
- Auto-attendant
- Call Queueing
- Voicemail
- Jabber Integration
- External CallerID
- Manager API
- Q&A

SIP Phone Considerations

- Codecs
 - G.711 (~87.2 Kbps bandwidth)
 - G.729 (~31.2 Kbps bandwidth)
- Phone Directory Integration
- Do Not Disturb

SIP Phones

Linksys SPA942



Polycom IP4000



Cisco 7960



Comparing SIP Providers

- Support methods
- Phone number availability
- Outbound CallerID
- Billing Features
- Supported Codecs
- Cost

CallCentric

- Provides DID, Toll Free, and SIP Trunk
- Online Support Only
- No Toll-Free Number Porting
- Only One Static Outbound CallerID
- AutoCharge
- Good Web Interface

TalkinIP

- Provides SIP Trunk
- Phone and Online Support
- Configurable Outbound CallerID
- No AutoCharge
- Poor Web Interface

IP Communications

- Provides DID and Toll Free
- Phone and Online Support
- AutoCharge
- Must have static external IP
- Poor Web Interface

SIP Configuration

sip.conf - general

[general]

context=from-external

bindport=5060

bindaddr=0.0.0.0

srvlookup=yes

dtmfmode=rfc2833

register => 43214321:Efda32@sip.talkinip.net/43214321

qualify=yes

disallow=all

allow=ulaw

allow=alaw

SIP Configuration

sip.conf - providers

[ipcomms]

context=from-external

host=64.154.41.100

insecure=very

type=friend

[talkinip]

username= 43214321

type=peer

secret= Efda32

nat=yes

insecure=very

host=sip.talkinip.net

canreinvite=no

SIP Configuration

sip.conf - phones

```
; Joe User  
[101]  
context=intra-office  
type=friend  
username=101  
secret=password  
host=dynamic  
canreinvite=no  
nat=1  
mailbox=101
```


Call Plan Configuration

extensions.conf

[general]

[globals]

[from-external]

exten => s,l,answer

exten => s,n,dial(SIP/101,25)

exten => s,n,voicemail(u101)

exten => s,n,hangup

[intra-office]

; if local NANP number, call 1-717-\$EXTEN

exten => _NXXXXXX,l,set(full_namp=1717\${EXTEN})

exten => _NXXXXXX,n,goto(s,100)

; 10 digitt US dialing

exten => _NXXNXXXXXXX,l,set(full_namp=1\${EXTEN})

exten => _NXXNXXXXXXX,n,goto(s,100)

; if long-distance NANP number, call \$EXTEN

exten => _1NXXNXXXXXXX,l,set(full_namp=\${EXTEN})

exten => _1NXXNXXXXXXX,n,goto(s,100)

; if international long distance

exten => _011.,l,set(full_namp=\${EXTEN})

exten => _011.,n,goto(s,100)

; dial the number

exten => s,100,ringing

exten => s,n,set(CALLERID(all)=BitLeap <7176090000>)

exten => s,n,dial(SIP/\${full_namp}@ talkinip)

Auto-attendant

extentions.conf

[auto-attendant]

exten => s,l,wait(1)

exten => s,n,background(greeting)

exten => s,n,wait(30)

exten => s,n,hangup

exten => 0,l,goto(intra-office,100,l)

exten => 1,l,goto(intra-office,100,l)

exten => 2,l,goto(intra-office,200,l)

exten => 3,l,goto(intra-office,300,l)

exten => 4,l,playback(bitleap_info)

exten => 4,n,goto(auto-attendant,s,l)

exten => 5,l,playback(bitleap_frogs)

exten => 5,n,goto(auto-attendant,s,l)

exten => 6,l,goto(auto-attendant,s,l)

exten => 7,l,MeetMe

exten => 8,l,goto(auto-attendant,s,l)

exten => 9,l,goto(intra-office,900,l)

exten => *,l,goto(auto-attendant,s,l)

exten => _#,l,goto(auto-attendant,s,l)

Call Queueing

extentions.conf

[intra-office]

; support queue

exten => 100,1,set(MSG=\${CALLERID(all)} is calling the support queue via \${did}.)

exten => 100,n,jabbersend(asterisk,joe@jabber.server,\${MSG})

exten => 100,n,wait(3)

exten => 100,n,playback(witf)

exten => 100,n,queue(support|t||90)

exten => 100,n,queue(noc|t||90)

exten => 100,n,voicemail(u100)

Call Queueing

queues.conf

[general]

[globals]

[noc]

wrapuptime = 10

music = default

strategy = rrmemory

timeout = 10

member = SIP/101,0

member = SIP/102,0

VoiceMail

voicemail.conf

[general]

format=wav49|wav

attach=yes

pbxskip=yes

serveremail=pbx@bitleap.com

fromstring="Voicemail System"

maxmessage=180

minmessage=2

maxsilence=5

silencethreshold=128

skipms=3000

review=yes

operator=yes

nextaftercmd=yes

emailsubject=New voicemail in mailbox \${VM_MAILBOX} from \${VM_CALLERID}

emailbody=\${VM_NAME},\n\nThere is a new voicemail in mailbox \${VM_MAILBOX}:\n\n\tFrom:\t\${VM_CALLERID}\n\tLength:\t\${VM_DUR} seconds\n\tDate:\t\${VM_DATE}\n\n

forcename=yes

forcegreeting=yes

[default]

100 => 9999,Support,support@bitleap.com

Jabber

jabber.conf

[general]

debug=no

autoprune=no

autoregister=yes

[asterisk]

type=client

serverhost=jabber.bitleap.net

username=asterisk@jabber.bitleap.net/
asterisk

secret=afdsafds

port=5222

usetls=yes

usesasl=yes

statusmessage="I am available"

timeout=100

External CallerID

extensions.conf

; Lookup caller id

exten => _X.,n,noop(\${CALLERID(name)})

exten => _X.,n,agi(callerid|\${CALLERID(num)})

exten => _X.,n,noop(AGI Returned \${lookupname})

exten => _X.,n,set(CALLERID(name)=\${lookupname})

External CallerID

callerid

```
#!/usr/bin/php
```

```
<?php
```

```
echo "SET VARIABLE lookupname \" . asterisk_callerid_lookup($argv["1"], $max_length = "15") .  
"\"\\n";
```

```
?>
```


Manager API

manager.conf

[general]

displayssystemname = yes

enabled = yes

port = 5038

bindaddr = 0.0.0.0

[bitleap]

secret = password

deny=0.0.0.0/0.0.0.0

permit=192.168.0.0/255.255.255.0

permit=127.0.0.1/255.255.255.0

read = system,call,log,verbose,command,agent,user,config

write = system,call,log,verbose,command,agent,user,config

Sites of Interest

- <http://www.voip-info.org/>
- <http://www.callcentric.com/>
- <http://www.ipcomms.net/>
- <http://www.talkinip.net/>

Asterisk in the Work Place

By: Andy Blyler