Whipping Asterisk Music-On-Hold Into Shape

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Astricon 2010 * Washington DC, USA
October 27, 2010

Asterisk Music-on-Hold

- The Technical Side:
    - Asterisk Music on Hold modes
    - How to set it up in Asterisk
    - Version changes (From Asterisk 1.0 to 1.8)
    - Audio formats / codecs
    - What applications can use Music on Hold
- The Operations Side:
    - What type of music to use
    - Periodic announcements
    - Opt-out options
    - Other uses
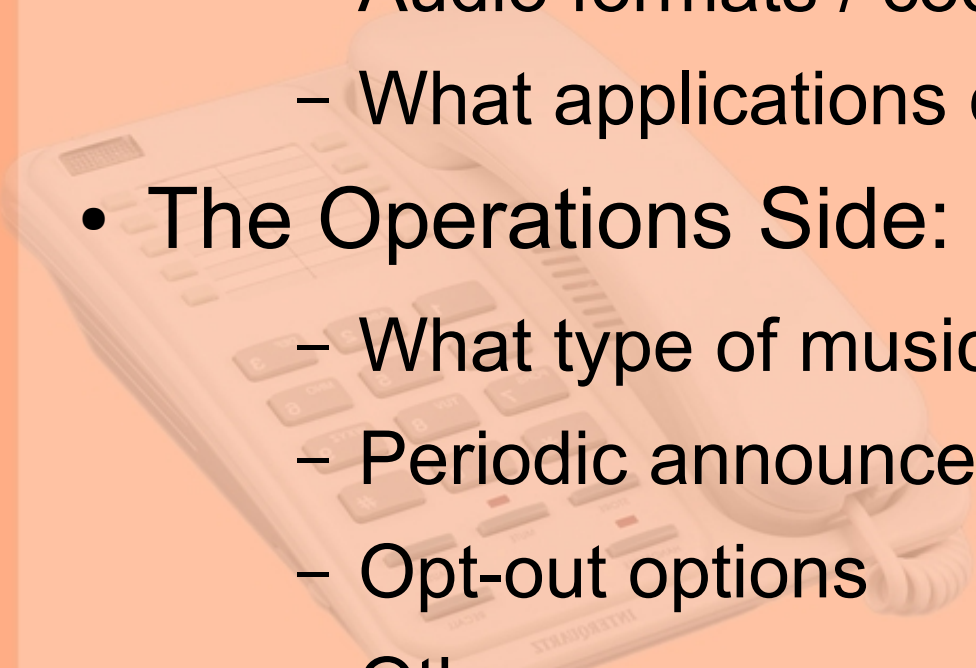
Asterisk MoH Modes

- **"files"** - A set of audio files to play in a directory on the local server, any format Asterisk has the ability to play can be used

- **"custom"** - Uses an outside application to stream audio from a local audio playing program, or from an outside service over the internet

- **"mp3"** - options(mp3, mp3nb, quietmp3, quietmp3nb) – Uses MP3 audio files on the local server to stream audio to Music-on-Hold. Default is quietmp3 if not defined
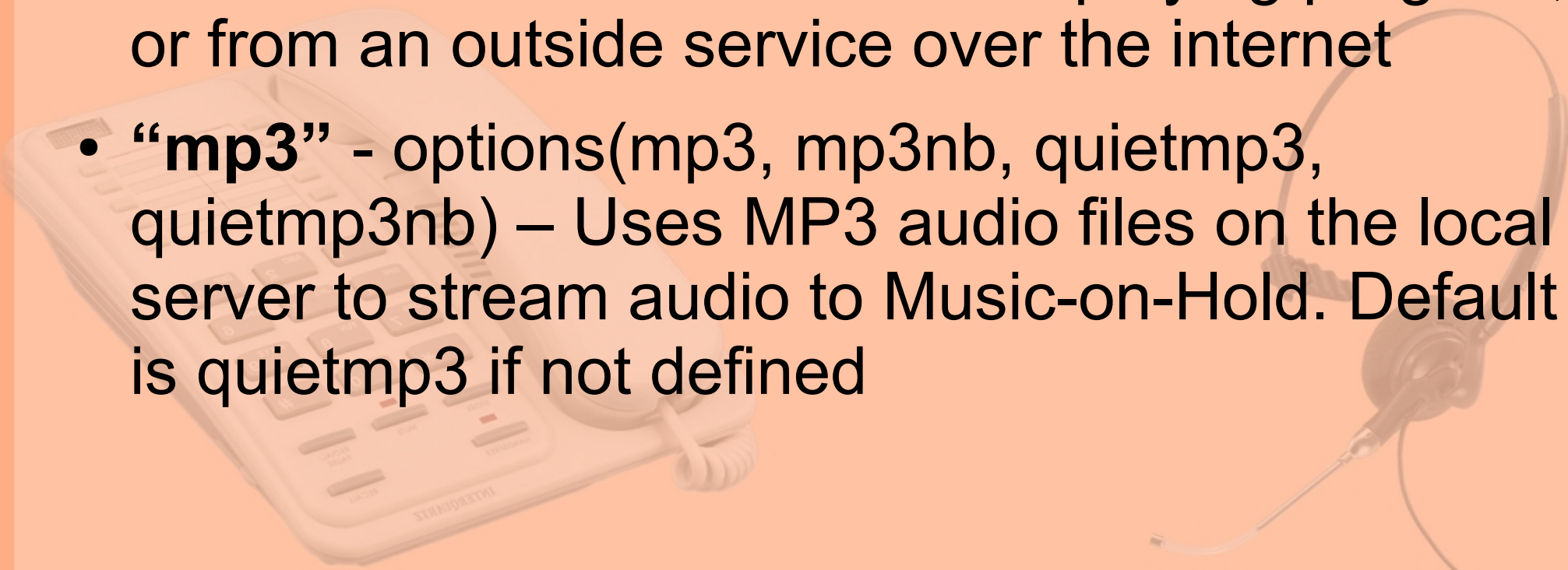
How To Set Up Music-on-Hold

- /etc/asterisk/musiconhold.conf

```
[default]
mode=files
directory=/var/lib/asterisk/moh

[quietmp3]
mode=quietmp3
directory=/var/lib/asterisk/quietmp3

[manual]
mode=custom
directory=/var/lib/asterisk/mohmp3
application=/usr/bin/mpg123 -q -r 8000 -f 8192 -b 2048 --mono -s
```

- Reload - "moh reload" in the Asterisk CLI or on the Linux CLI:
  asterisk -rx "moh reload"

asterisk 1.4 MoH patch:http://download.vicidial.com/asterisk-patches/moh-alpha-sort-1.4.26.2.patch
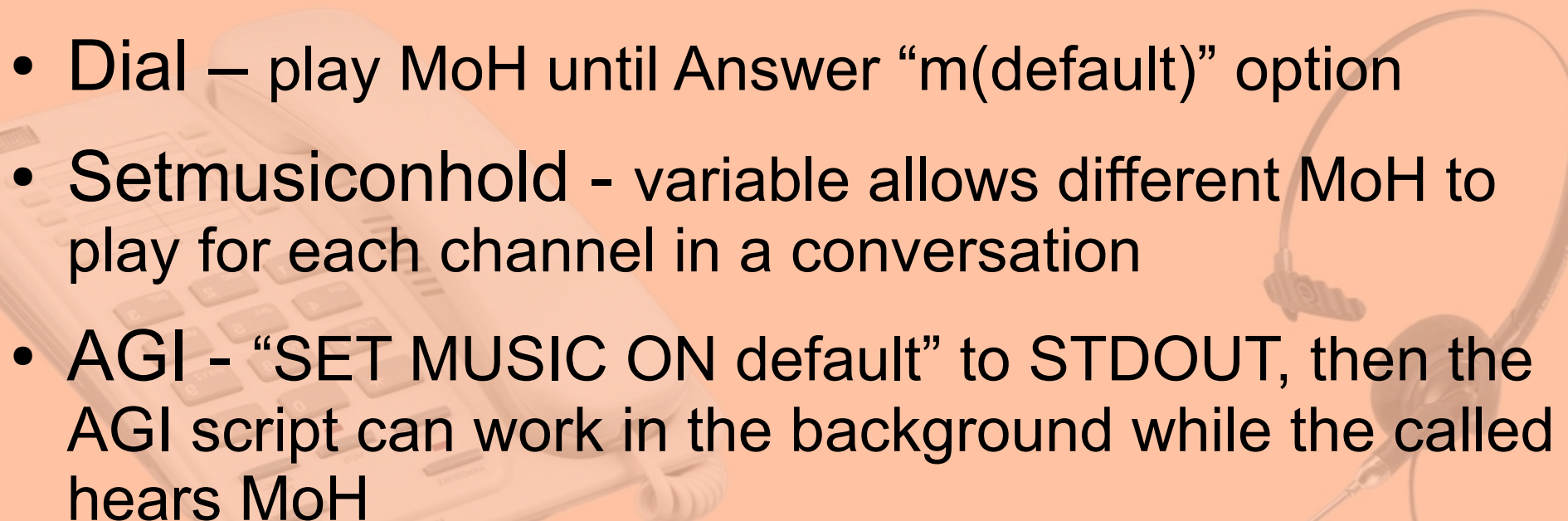
Version Changes 1.0 → 1.8

- 1.0.X
  - Local mp3 files only, steaming difficult
- 1.2.X
  - Any Asterisk audio codec allowed
- 1.4.X
  - Default format changed to WAV
- 1.6.X
  - Added "cachertclasses" option for one instance
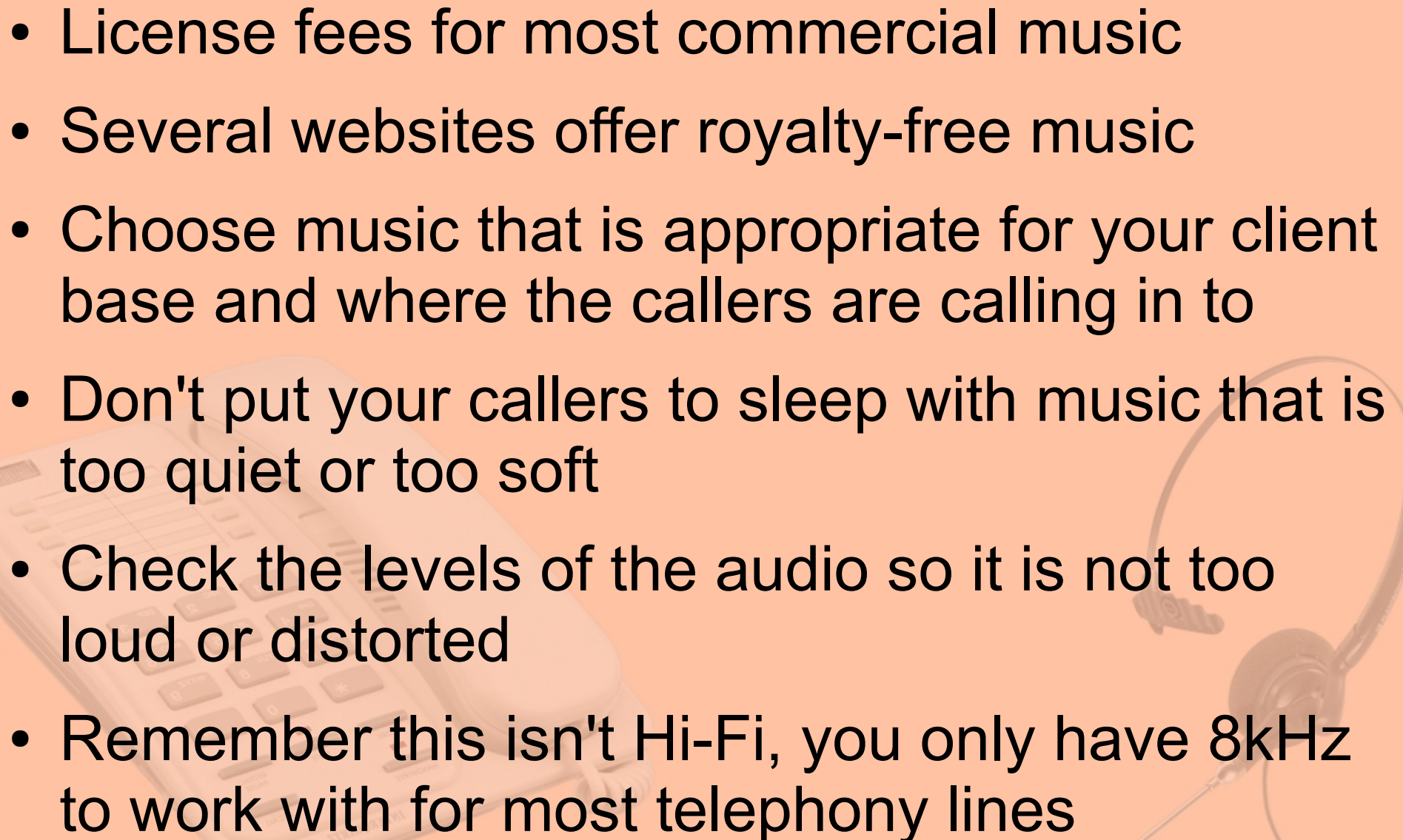- 1.8.X
  - Bugfixes mostly
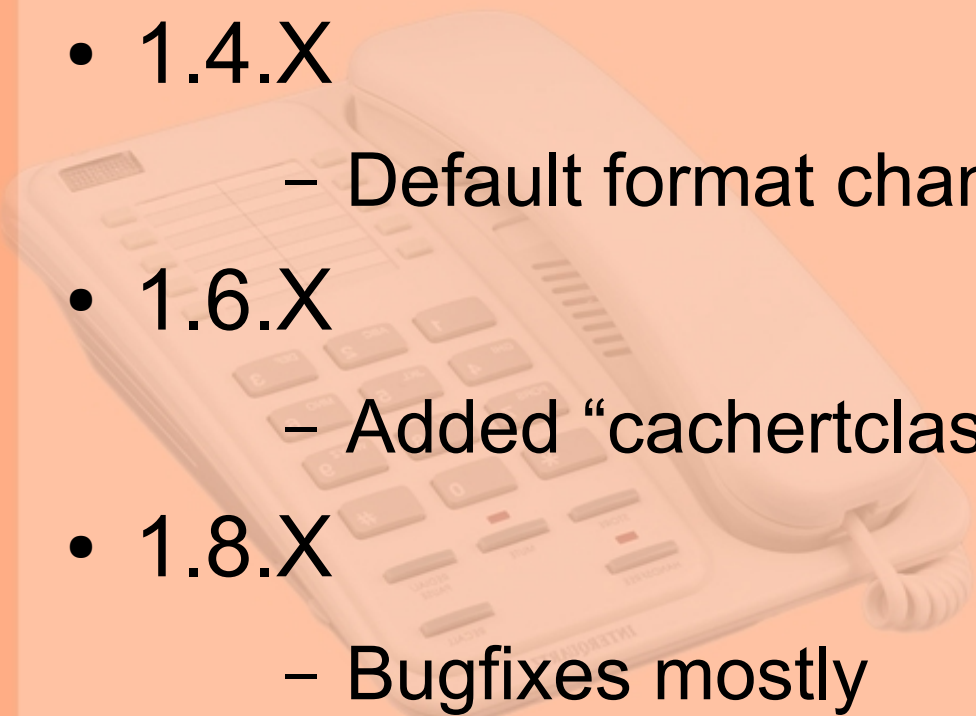
Audio / Codec formats

- When using "files" mode, any codec that is available in Asterisk can be used in Music-on-Hold
  - Multiple codec versions of the same filename allowed: (file.wav, file.gsm, file.ulaw, file,g729, ...)
  - If the channel in MoH is using the same codec as the file, then no transcoding is done
  - G729a channel to G729a MoH uses no licenses
  - Use Asterisk to convert files to G729a
    rasterisk -x "file convert /tmp/sound.gsm /tmp/sound.g729"

- Default file format is:
  16bit, 8kHz, mono, PCM, .wav file extension

What Applications Use MoH?

- General Dialplan - "exten => s,1,musiconhold(default)"

- Queues and Agents – For both agents waiting for calls and callers waiting to be sent to an agent

- Meetme – For single-participant conferences

- Dial – play MoH until Answer "m(default)" option

- Setmusiconhold - variable allows different MoH to play for each channel in a conversation

- AGI - "SET MUSIC ON default" to STDOUT, then the AGI script can work in the background while the called hears MoH

What Type of Music to Use

- License fees for most commercial music

- Several websites offer royalty-free music

- Choose music that is appropriate for your client base and where the callers are calling in to

- Don't put your callers to sleep with music that is too quiet or too soft

- Check the levels of the audio so it is not too loud or distorted

- Remember this isn't Hi-Fi, you only have 8kHz to work with for most telephony lines

Periodic Announcements

- Configuration in Queues: queues.conf –
  periodic-announce = thank-you-message
  periodic-announce-frequency = 60 ; every 60 seconds

- Do not play the message too frequently

- Adjust the frequency of the message depending on how long on average your callers are waiting

- Do not have too long of a periodic message, less than 10 seconds is optimal, more than 30 seconds is too long
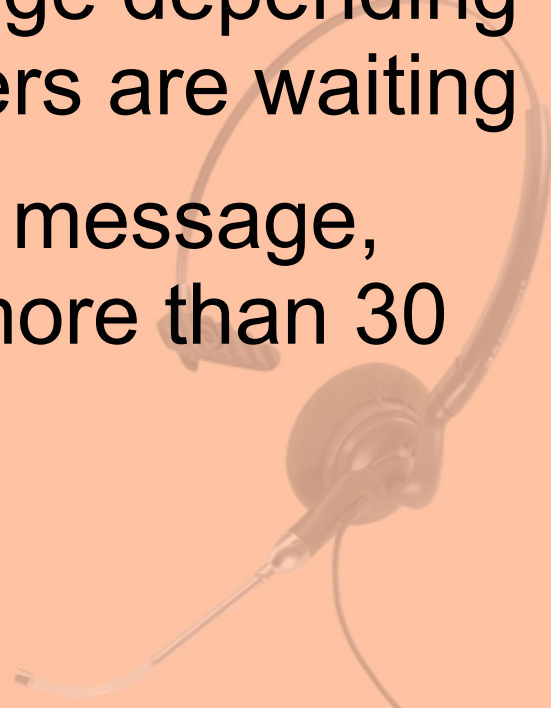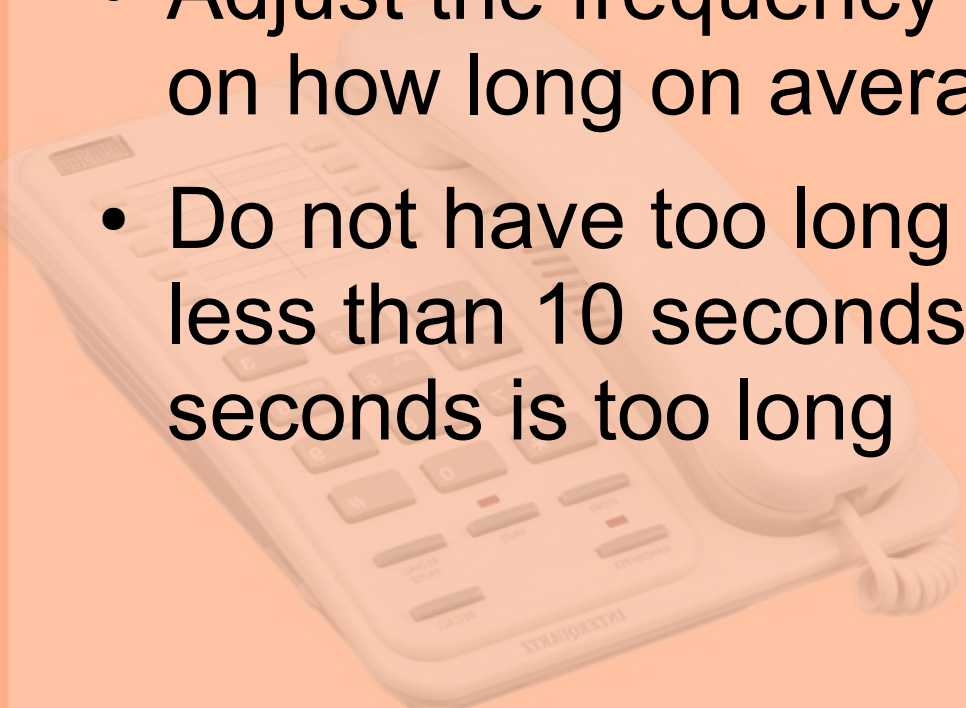
Periodic Announcements: Dynamic

- Play position(place-in-line): queues.conf -
  announce-position = yes|no
  announce-frequency = 60 ; every 60 seconds

- Play Estimated Hold Time: queues.conf -
  announce-holdtime = yes|no|once
  announce-round-seconds = 5 ; round time to nearest 5 sec
  announce-frequency = 60 ; (same as with position above)

- In both of these you can override the default static prompts that play

- Estimated hold time can be very inaccurate if there are few agents in a queue, or if there are very few calls that come into the queue

Opt-Out Options

- Give callers the option of leaving hold to go to:
    - Voicemail
    - Different destination(another queue)
    - Callback list
- Play the place-in-line or estimated-hold-time which can lead to more callers choosing opt-out
- Give option of moving forward in line if moving to a different queue
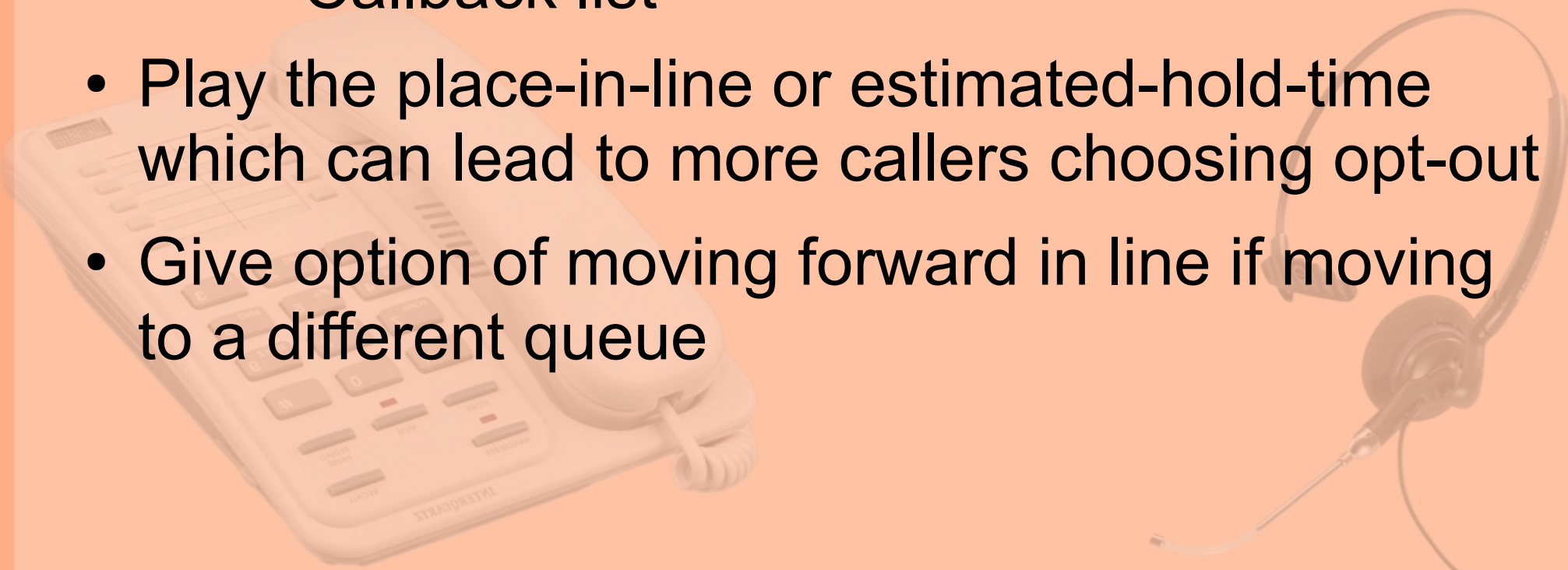
Opt-Out Options: Voicemail Setup

- Make sure to mention the option in the Music-on-Hold class, or in the periodic message:
"If you would like to leave a message, press 1"

- In queues.conf, set the dialplan context with the options you want to be allowed to the caller:
context=optionscontext

- Then in extensions.conf you set up that context:
[optionscontext]
exten => 1,1,Voicemail(u101)

- In voicemail.conf, set the specifics on this mailbox:
101 => test,101 Sales Mailbox,sales@testing.com,,|delete=yes

Opt-Out Options: Other Queue

- Make sure to mention the option in the Music-on-Hold class, or in the periodic message:
"We have just released our super-widget-builder version 2.0, if you would like more information on this press 2. If you listen to this information, we will move up your place in line"

- In queues.conf, set the high_priority queue to a higher weight than the standard queue:
weight=0   ; for the standard queue
weight=2   ; for the higher priority queue

- Then in extensions.conf you add that context:
[optionscontext]
exten => 2,1,Queue(high_priority)

Opt-Out Options: Callback List

- Make sure to mention the option in the Music-on-Hold class, or in the periodic message:
  "If you would like us to call you back later, press 3"

- If using pure Asterisk, here is a detailed walk-thru of all of the many steps that you need to do to set this up:
  http://www.asteriskguru.com/tutorials/callback.html

- In call center packages like ViciDial and OrderlyQ, you can set this feature up in the web GUI
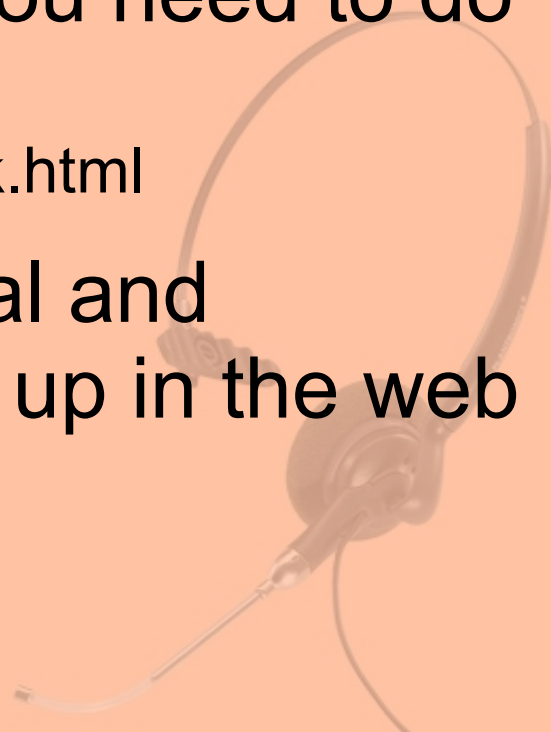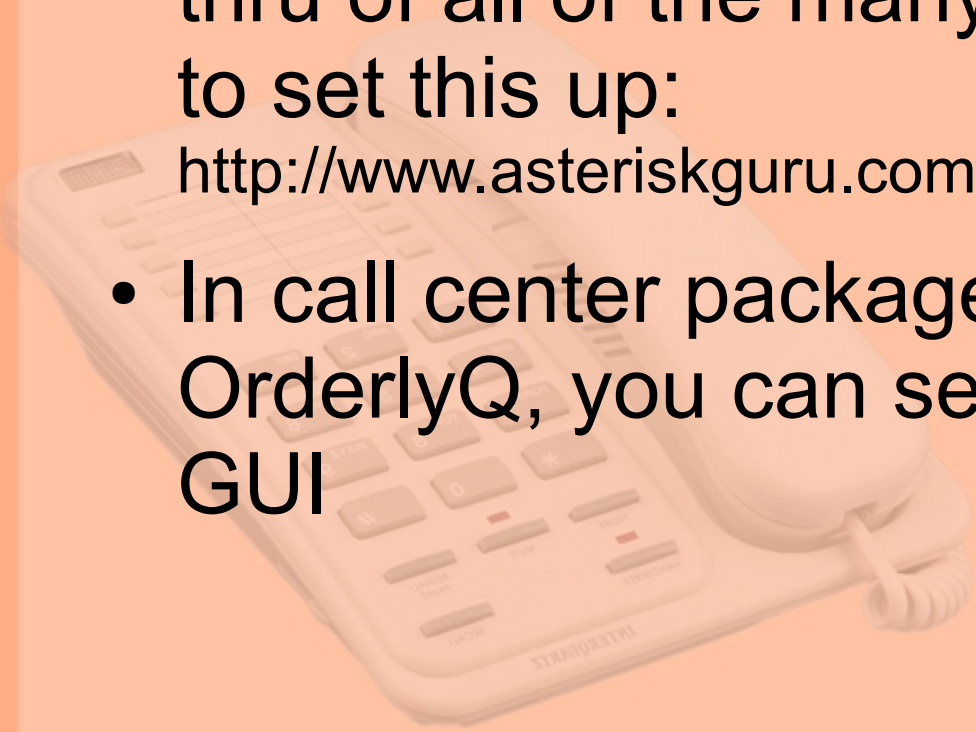
Other Uses for Music on Hold

- In a sales function, the agent puts a customer on hold to hear a promotional message as a part of their sales process:
  "Our new super-widget-builder-extender will help you assemble twice as many widgets per hour, ask your agent about one when they come back on the line..."

- In a support or shipment tracking function, telling the caller to go to a website for information may fulfill their needs quicker than talking to an agent:
  "If you need to download new drivers, or you would like to check on the status of an order, you can do that right from our website at www.superwidget.com"

Thank you!

For more information, go to:

http://www.vicidial.org