

Setting up a simple voice messaging system in HAMVOIP

Asterisk has a great deal of possibilities for use with HAMVOIP that are often unexplored. Here I describe a simple radio “voice mail” system using the extended autopatch features and some custom stanza's in the extensions.conf file.

While the function codes can be changed to suit, the example below allows 10 mailboxes numbered 850-859. Here are the commands to record, play, and delete messages -

RECORD

*638x – where x is a mailbox number from 0 to 9

Key in this code, then unkey and wait for the beep, immediately key back up and leave your message. Messages are terminated by unkeying. Messages are limited to 60 seconds but that is adjustable in the record command. Messages are appended until deleted.

PLAYBACK

*648x – where x is the mailbox number from 0 to 9

The selected message is played. If no message exists the voice message will be “NO Messages”

DELETE

*658x – where x is the mailbox number 0 to 9

CODE

In rpt.conf in the [functions] stanza for the first node add the following -

```
63=autopatchup,context=record_message,noct=1,farenddisconnect=1,dialtime=7000,quiet=1 ; Dial Plan Processing
```

```
64=autopatchup,context=play_message,noct=1,farenddisconnect=1,dialtime=7000,quiet=1 ; Dial Plan Processing
```

```
65=autopatchup,context=delete_message,noct=1,farenddisconnect=1,dialtime=7000,quiet=1 ; Dial Plan Processing
```

In extensions.conf add the following -

```
[record_message]
exten => _8x,1,System(/etc/asterisk/local/record_message ${EXTEN} 1)
exten => _8x,n,Wait(2)
exten => _8x,n,Record(/tmp/message${EXTEN}.wav|5|60|aq)
exten => _8x,n,System(/etc/asterisk/local/record_message ${EXTEN})
exten => _8x,n,Hangup()
```

```
[play_message]
exten => _8x,1,System(/etc/asterisk/local/play_message ${EXTEN})
exten => _8x,n,Hangup()
```

```
[delete_message]
exten => _8x,1,System(/etc/asterisk/local/delete_message ${EXTEN})
exten => _8x,n,Hangup()
```

**Create the following three scripts. In this example they are in /etc/asterisk/local
Be sure to make them executable – chmod 755 <name>**

/etc/asterisk/local/play_message

```
#!/bin/bash

if [ ! -e "/tmp/message$1.wav" ]
then
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/silence/2"
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/vm-no"
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/vm-messages"
    exit
fi

asterisk -rx "rpt localplay $NODE1 /tmp/message$1"
```

/etc/asterisk/local/delete_message

```
#!/bin/bash

if [ ! -e "/tmp/message$1.wav" ]
then
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/silence/2"
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/vm-no"
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/vm-messages"
    exit
fi

rm -rf "/tmp/message$1.wav"

asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/silence/2"
asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/vm-deleted"
sleep 1
/usr/local/sbin/speaktext.sh $1 $NODE1
```

/etc/asterisk/local/record_message

```
#!/bin/bash
```

```
if [ -z $2 ]
then
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/silence/2"
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/vm-message"
    sleep 1
    /usr/local/sbin/speaktext.sh $1 $NODE1
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/recorded"
else
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/silence/2"
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/dictate/record"
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/vm-message"
    sleep 1
    /usr/local/sbin/speaktext.sh $1 $NODE1
    sleep .5
    asterisk -rx "rpt localplay $NODE1 /var/lib/asterisk/sounds/beep"
fi
```

NOTES

If you need more than 10 mailboxes you can add a digit – 8xx instead of 8x – which would yield 100 mailboxes from 800 to 899 yet another digit would yield 1000 mailboxes! The extension syntax would be - exten => _8xx, or exten => _8xxx,

It is very important that the syntax is correct when you copy these examples. You should cut and paste them.

The function codes used here are arbitrary but will work assuming you are not already using them for other purposes. 8X could be any combination as it is prefixed and does not clash with any other function code and the 63-65 prefixes could be other codes also. Just as long as you are not using prefix codes that are already defined in your functions. You can generally use the 6x , 8xxx, and A, B, C, D DTMF sequences.

If you change anything in rpt.conf or the extensions.conf file you will need to reload the modules or restart Asterisk.

Message files are stored in a tmp file system meaning they will be gone if the server is rebooted. It would not be a good idea to store them on the SD card as writes should be minimized to it. If you need themessages to survive a reboot files could be stored on a USB stick by changing the path in the above scripts.

There is not meant to be any security here and there really cannot be. Messages are played to anyone listening and users can play anyones message. You could however change the playback and/or delete values to something personal for you if you desire but remember even though tones are muted they are not over the air.

It is generally the intent to only localplay the messages on a private node or repeater. Sounds created in the extensions file and not routed through Asterisk are played globally. This is why playback and the beep created by the record command is suppressed in these examples in the extensions file. Always use Asterisk's

“rpt localplay” to play audio.

Messages are limited to 60 seconds per recording but are appended. This can be changed in the record stanza above if needed. Messages will also be terminated if more than 5 seconds of silence is heard. This can also be changed in the record stanza.

There are many variations on this example but this is a good starting point for a HAMVOIP messaging system. This example uses the \$NODE1 variable which is the node number of your first node and usually primary node so this should work for most. You could hard code a node number in place of \$NODE1. One way to do this would be to add a \$NODE2 variable to the /usr/local/etc/allstar.env file set to the value of the node you are using it on and change the \$NODE1 to \$NODE2 in these scripts.

SUMMARY

This howto will allow you to setup a messaging system on your HAMVOIP node so users can pass voice message to others. Clubs or organizations could assign mailbox numbers to users where a message could be forwarded to others who were not currently available. Something like “Hey all, I will be out of range for the day. Please look for me later this evening.”

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