

## Limiting the Number of Connects to a Node

Many nodes are on limited bandwidth connections and might need connection limitations. The scripts below allow you to modify your extensions.conf file and add a small script to set connection limits for nodes on your Hamvoip server. This also gives you the opportunity to play a very short voice message to the connecting node when the limit is exceeded. Here is the example:

Create a script in `/var/lib/asterisk/agi-bin/count_connects.sh`

```
#!/bin/bash
Links=$(asterisk -rx "rpt xnode $1" | grep NUMALINKS | cut -d "=" -f2)
if [ "$Links" == "" ]; then Links=0 ; fi
echo "SET VARIABLE result $Links"
echo $Links
```

Make this script executable - `chmod 755 count_connect.sh`

### EXAMPLE for basic limits

Then edit the [radio-secure] stanza in `/etc/asterisk/extensions.conf`

```
[radio-secure]
exten => xxxxx,1,AGI(count_connects.sh, "xxxxx")
exten => xxxxx,2,Verbose(Number of direct connections is: ${result})
exten => xxxxx,3,Gotoif($[ ${result} >= Y ]? 80:4)
exten => xxxxx,4,rpt,xxxxx
exten => xxxxx,80,Playback(/root/queue_full,noanswer)
exten => xxxxx,81,Hangup
exten => aaaaa,1,rpt,aaaaa
exten => bbbbb,1,rpt,bbbbbb
```

Add the first 3 lines, the 4<sup>th</sup> you would already have and change the xxxxx to the node number you want to limit on ALL lines. Add the fifth and sixth lines and add node there in place of xxxxx. Change the "Y" to the maximum number of nodes you will accept in line 3.

Line 5 above is optional. If you leave it out be sure to change line 6 from 81 to 80. Line 5 takes advantage of a feature of Asterisk called "early media" or "early audio." There is a very small window between asking for a connect and getting connected or rejected that allows you to play an audio file to the connecting node. The window is about 5 seconds. In the example above the audio file was created in the /root directory and is called queue\_full.ul. In this test case it says "Queue Full use node xxxxx" This message just fits in the available time slot. Users should customize a message that tells users where else to connect or you could say something like "No connections available."

You may have other nodes listed in [radio-secure] shown here as lines 6 and 7 with aaaaa and bbbbb as second and third node numbers. They could also have the same lines added as in the first node in the same way for each node if you wanted connection limits for them also.

When changing the extensions.conf file you must reload it in the Asterisk client - “extensions reload” or restart Asterisk.

If a node tries to connect and the connection limit is exceeded they will get thr playback file if it is used and a “connection failed” message. As soon as the number of connections is reduced below the limit they will connect normally.