

Iax.conf

wiki.allstarlink.org

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1 Iax.conf

Legacy Version - This page is about a legacy version of AllStarLink. See ¹

The iax.conf configuration file controls defines how to register a node with the Allstar link node assignment authority, and assigns a context incoming connections receive so that statements in extensions.conf can direct the connection to the correct local node. iax.conf contains two sections relevant to app_rpt. The [general] section, and the [radio] section.

¹ https://allstarlink.github.io/config/iax_conf/

2 [general]

Obsolete - This page has obsolete information that is likely no longer relevant and will be deleted.

The [general] section sets up the global configuration for iax.conf, and also is used to hold the register statements for each node defined on the system. A register statement looks like this:

```
register=2000:1234567@register.allstarlink.org
```

A separate register statement is required for every node number hosted on the computer. In other words, if you have 2 nodes hosted on the computer, then 2 register statements will be required.

The format for the register statement is:

```
register=node:password@register.allstarlink.org
```

- **node** is your assigned Allstar link node number
- **password** is your Allstar link password for the above node number

3 [codecs]

In addition to register statements, the permitted codecs for outgoing connections are also defined in the [general] stanza of `iax.conf`. The way codec definitions work is we first disallow all of them with a `disallow=all` statement, then we define the codecs we wish to permit with `allow` statements. The suggested outgoing codecs are defined in this example:

```
disallow=all
allow=gsm
allow=g726aal2
allow=ulaw
```

The statements above only allow GSM, ADPCM, and ULAW codecs to be used for outgoing connections. This is the suggested contents of the [general] stanza to be included in `iax.conf`

```
[general]
bindaddr=0.0.0.0
disallow=all
allow=gsm
allow=g726aal2
allow=ulaw
jitterbuffer=yes
forcejitterbuffer=yes
dropcount=2
maxjitterbuffer=4000
maxjitterinterps=10
resyncthreshold=1000
maxexcessbuffer=80
minexcessbuffer=10
jittershrinkrate=1
tos=0x1E
autokill=yes
delayreject=yes
iaxthreadcount=30
iaxmaxthreadcount=150
```


4 [radio]

The [radio] stanza controls the types of codecs which can be used, how they are selected (or negotiated) and the context to call in extensions.conf when an incoming connection occurs from a remote node. The suggested [radio] section for iax.conf should look like this:

```
; Incoming radio connections
```

```
[radio]
type=user
disallow=all
allow=g726aal2
allow=gsm
codecpriority=host
context=radio-secure
transfer=no
```

Let's now pick the above configuration apart. The configuration allows incoming connections only (type=user), and only ADPCM and GSM codecs (disallow=all, allow=g726aal2, and allow=gsm). The order of selection (negotiation) is determined by this machine (codecpriority=host), and is in the order specified by the allow statements (ADPCM first, GSM second). The context to call in extensions.conf is radio-secure (context=radio-secure). And call transfers to external systems are disallowed (transfer=no)

Adding support for another codec is fairly straightforward. For example, if we want to allow the use of the ulaw codec on incoming connections all that would be required is to add an allow=ulaw statement to the [radio] stanza so it looks like this:

```
[radio]
type=user
disallow=all
allow=ulaw ; added
allow=g726aal2
allow=gsm
codecpriority=host
context=radio-secure
transfer=no
```

Now the system will try to negotiate a ulaw connection first, ADPCM second and GSM last.

A final note about codec selection. There are quite a few codecs in Asterisk to choose from, but ulaw, alaw, GSM and ADPCM should only be used, the rest of the standard Asterisk codecs (speex, ilbc, lpc10, etc) should be avoided. The ulaw and alaw codecs have the best audio quality, followed by ADPCM, and lastly GSM, Bandwidth used is in the reverse order to audio quality. GSM uses the least bandwidth, and alaw/ulaw the most. Here is a quality versus bandwidth trade off table:

CODEC	AUDIO QUALITY	BANDWIDTH (including IP and Ethernet headers)
ADPCM	good	55 kbps
GSM	mediocre	36 kbps
ULAW	best	87 kilobits per second (kbps)

4.1 [iaxrpt]

This stanza is a special section for connecting through IAXRpt, a Windows "soft phone".

- Setup/Download IAXRpt ¹

4.2 Contributors

- KK9ROB²
- N8EI³
- VE7FET⁴
- This page was last edited on 3 July 2025, at 23:28.

1 https://wiki.allstarlink.org/wiki/Setup/Download_IAXRpt

2 <https://wiki.allstarlink.org/index.php?title=User:KK9ROB&action=edit&redlink=1>

3 <https://wiki.allstarlink.org/index.php?title=User:N8EI&action=edit&redlink=1>

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¹ Chapter 6 on page 17

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Version 3, 29 June 2007

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