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Install & Configure

1. **Warning:** the suggested version to use is **4.x** since there are known issues with **5.1** (which is closed source). - Download link for old version no longer found
2. **Buy** or download a [free trial voice](#) from [Cepstral](#). Each voice comes with the library, so the **SDK is not needed**.
3. `cd /opt`
4. For x64 do
5. `wget`
http://www.cepstral.com/downloads/installers/linux64/Cepstral_Allison-8kHz_x86-64-linux_6.0.1.tar.gz
6. For i386 etc. do
7. `wget`
http://www.cepstral.com/downloads/installers/linux32/Cepstral_Allison-8kHz_i386-linux_6.0.1.tar.gz
8. `tar xvzf Cepstral_Allison-8kHz_x86-64-linux_6.0.1.tar.gz`
9. `cd Cepstral_Allison-8kHz_x86-64-linux_6.0.1`
10. or
11. `tar xvzf Cepstral_Allison-8kHz_i386-linux_6.0.1.tar.gz`
12. `cd Cepstral_Allison-8kHz_i386-linux_6.0.1`
13. `./install.sh`
14. Follow prompts (recommended add: `export SWIFT_HOME=/opt/swift` to your FS user profile)
15. Add `/opt/swift/lib` (if you chose the default install) to end of file `/etc/ld.so.conf`
16. run `ldconfig`
17. Define `SWIFT_HOME` to point to install root (e.g. `export SWIFT_HOME=/opt/swift`)
18. Edit `modules.conf` and uncomment the line: `asr_tts/mod_cepstral`
19. Build FreeSWITCH
20. Enable `mod_cepstral` in the `modules.conf.xml` file by uncommenting `<load module="mod_cepstral"/>`

You can also use a Cepstral voice with a language other than english without editing any files. `<lang>` is the voices language, i.e. `de` or `fr`. Just add two links in `$$SWIFT_HOME/lib`:

1. `libceplang_en.so -> libceplang_<lang>.so.4.2`

2. libceplex_en.so -> libceplex_<lang>.so.4.2

Examples

Dialplan

You should now be able to use something similar to the following in your dialplan

```
<action application="speak" data="cepstral|david|Please hold while we connect you to the confere
```

Javascript/Python

```
session.answer()
session.speak("cepstral", "William", "Hello from FreeSwitch")
```

Gotchas

- Do *not* load mod_cepstral and mod_flite at the same time! (Symbol collision)
- If you dont use the default install dir (/opt/swift) you will need to modify src/mod/asr_tts/mod_cepstral/Makefile
- You must define an environment variable SWIFT_HOME in the shell where you run fs, otherwise you won't hear any audio.
- Using a 16khz voice and 0.03 for RTP Packet Size (Sipura Setting), it will sound horrible. Workaround: modify RTP Packet Size to 0.02 in Sipura config, under Advanced/SIP section.
- If audio gets cut off at the beginning, try using

```
<break time='1s' /> tags
```

as a workaround.

- 's get stripped out from strings run through FreeSWITCH's code to chop strings of the form alble into bits. Use "s instead if, for example, you want to pass something like

```
<prosody rate="fast">Hello there.</prosody>
```

to Cepstral.

- If you find that the volume of your TTS is much higher (or lower) than that of the sound files, try decreasing the volume using the 'volume' tag with Cepstral's SSML. For example, this will lower the TTS volume significantly:

```
<prosody volume='15'>This is pretty softly spoken.</prosody>
```

Mod_cepstral

The '15' in the above example means 15% of default volume.

- For other SSML tricks check out the [examples](#) on Cepstral's support site.

Windows Build

In order to compile mod_cepstral.c under Visual Studio C++ you must ensure the Cepstral SDK is installed on your build machine. The SDK is not free. You can, however, obtain an eval copy Contact Cepstral Support with subject line "Cepstral Windows SDK".

Once the SDK is installed you'll need to make sure mod_cepstral is selected to be compiled (not on by default). Right click the Freeswitch solution from the Solution Explorer in VS and select Configuration Manager. Scroll down until you see mod_cepstral and select the Build flag.

In addition you need to verify the following properties for mod_cepstral.c (right click mod_cepstral from the Solution Explorer on the left hand side and select "properties").

1. Additional Include Directories (from C/C++, General): This path should be set to "C:\Program Files\Cepstral\sdk\include"
2. Additional Library Directories (from Linker, General): This path should include "C:\Program Files\Cepstral\sdk\lib\windows" and "C:\Program Files\Cepstral\sdk\lib\winnt". Between Cepstral 4.2 and 5.0 these paths changed.

Finally, you'll need to make sure the the Cepstral bin path is part of the Windows PATH environment variable as the Cepstral dlls are installed in this directory (C:\Program Files\Cepstral\bin). Without this path mod_cepstral.dll will not initialize during Freeswitch startup.

Cepstral 5.1 under Ubuntu

Here is how it worked under Ubuntu 8.04: First, disable mod_flite as they are incompatible.

Then set environment var export SWIFT_HOME=/opt/swift

Check if /opt/swift /lib/libswift.so.5 link exists. If not provide a symbolic link from the actual libswift.so library.

create a file /etc/ld.so.conf.d/swift.conf with the following content

```
# Swift default configuration
/opt/swift/lib
```

Run:

```
ldconfig
```

This worked with actual sources Rev. 10438 (End of Nov 2008). Previous sources had a bug in apr lib.

FAQ

When selecting a different voice in session.speak it defaults to original voice.

Please make sure you use the correct name in your session.speak. In the /opt/swift/voices/ you will be able to see the names you should use. (e.g. Allison-8kHz, Callie-8kHz, David-8kHz, Diane-8kHz, Marta-8kHz, Miguel-8kHz, William-8kHz)

Common error is to just type session.speak("cepstral","Allison" when it should be session.speak("cepstral","Allison-8kHz"

How do I install a license purchased from cepstral?

run the following command "swift --reg-voice" and answer the questions

Your Name, Company (if applicable), Voice (e.g. Miguel-8kHz), License

Can I use a 16khz "desktop voice"?

Q: Can I use a 16khz "desktop voice" or do I have to use an 8kz telephone voice?

A: You can use a 16kz voice and freeswitch will re-sample automatically to 8khz as needed. Bear in mind this will add to your cpu overhead, so an 8khz voice is better from a performance perspective.

libswift.so.4: cannot open shared object file: No such file or directory

Try manually adding the /opt/swift/lib directory to /etc/ld.so.conf or /etc/ld.so.conf.d/ and run ldconfig.

See Also

- [FreeSwitch Dependencies](#)
- [Session speak](#)
- [mod_unimrcp](#)
- [Sounds callie](#)