

mod_native_file

About

The native file module is designed to make it easy to play sound files where no transcoding is necessary. The default FreeSWITCH sound files are in wav format. Generally, these require transcoding when being played to callers. However, if a native format sound file is available then FreeSWITCH can use it.

This module is useful to play files that are encoded as ulaw, alaw, etc - but only when there is no transcoding path. If unsure use mod_sndfile which is a generic module to play and record various audio file formats.

Formats and File Names

File names need to have the proper extensions. Mod_native_file uses the IANA [naming conventions](#). Please be sure to use those extensions. (Case sensitive?)

Dialplan Examples

When specifying a file to play do not add the file name's extension. FreeSWITCH will pick the correct file.

```
<action application="playback" data="/tmp/hello"/>
```

If you have several files in /tmp then FreeSWITCH will select the appropriate one for the codec in use on the call leg.

```
/tmp/hello.wav  
/tmp/hello.GSM  
/tmp/hello.PCMU  
/tmp/hello.PCMA  
/tmp/hello.G722  
/tmp/hello.G729  
etc...
```

NOTE: the file type for the current codec must be present, otherwise you'll receive an error.

(More to come...)

Script to convert a sound file to specific formats to avoid transcoding

```
wav2freeswitch-converter.sh
```

```

#!/bin/bash
# Version : 0.3
# Author : Mats Karlsson @ Rebtel
# Date : 2006-05-09
# Scoop : Convert voice prompts from wav format to FreeSWITCH (www.freeswitch.org)
#         native formats (using res_convert in Asterisk).
#         Converts to G.729, G.723, G.711 Alaw/Ulaw, and GSM
#
# Requirements:
#     Asterisk 1.4 or 1.6 with res_convert loaded
#     G.729 codec installed in Asterisk
#     Digium hardware transcoder for G.723
#     sox
#
#
# Thanx to Kristian Kielhofner for the help and inspiration to create this script.
#
# Modified by Kristian Kielhofner <kris@krisk.org> to support multiple formats
# more easily
#
# Modified again by Kristian Kielhofner <kris@kriskinc.com> to support FreeSWITCH

#Source directory (where are your files?)
SDIR=/root/fs-native/sounds

#Dest directory (where do you want them to go?)
DDIR=/root/fs-native/conv

# Formats to convert to. Asterisk format:mod_native extension
FORMATS="g729:G729 g723:G723 alaw:PCMA ulaw:PCMU gsm:GSM"

# Convert Wav to SLN and resample wavs to 8KHz that is demanded by Asterisk
# This looks really ugly but I wanted it to work recursively
# But don't resample if we are already 8KHz - TODO: use sox instead of file
# TODO: Support G.722, Siren, CELT, etc

for X in `find $SDIR -iname *.wav`; do
    FNAME=`echo $X | sed -e s,$SDIR,,g`
    DNAME=`echo $FNAME | sed -e s,.wav,.sln,g`
    MKDIR=`dirname $DNAME`
    mkdir -p $DDIR/$MKDIR
    if `file $SDIR/$FNAME | grep -q "8000 Hz"`; then
        echo "Converting $FNAME to sln using sox"
        sox $SDIR/$FNAME -t raw -r 8000 -s -w -c 1 $DDIR/$DNAME
    else
        echo "Converting and resampling $FNAME to sln using sox"
        sox $SDIR/$FNAME -t raw -r 8000 -s -w -c 1 $DDIR/$DNAME resample -q1
    fi
done

for Y in `find $DDIR -iname *.sln`; do
    FNAME=`echo $Y |sed -e s,$DDIR,,g`
    for i in $FORMATS; do
        # Convert SLN to $FORMAT with help of asterisk and convert (see ref)
        FORMAT=`echo $i | cut -d: -f1`
        EXTEN=`echo $i | cut -d: -f2`
        ANAME=`echo $FNAME | sed -e s,.sln,.$FORMAT,g`
        DNAME=`echo $FNAME | sed -e s,.sln,.$EXTEN,g`
        # Asterisk requires the Asterisk-style extension to know format
        echo "Converting $FNAME to $FORMAT using asterisk"
        asterisk -rx "file convert $DDIR/$FNAME $DDIR/$ANAME" > /dev/null
        # Move it to mod_native_file compatible naming
        mv $DDIR/$ANAME $DDIR/$DNAME
    done
done

# Remove Asterisk sln files
# find $DDIR -iname *.sln | xargs rm -f

```

- I've created a [script](#) to convert WAV files to various Mod_native_file formats using sox and Asterisk. It currently supports GSM, PCMU, PCMA, G729, and G723.
- I've also used it to convert the default FreeSWITCH prompts into the file formats above. Files available [here](#).
- Use the included fs_encode program in the bin folder.

```
fs_encode -l mod_speex file.wav file.SPEEX
```

```
Usage: ./fs_encode [options] input output
```

The output must end in the format, e.g., myfile.SPEEX

```
-l module[,module]      Load additional modules (comma-separated)
-f format                fmtp to pass to the codec
-p ptime                ptime to use while encoding
-r rate                 sampling rate
-b bitrate              codec bitrate (if supported)
-v                      verbose
```