

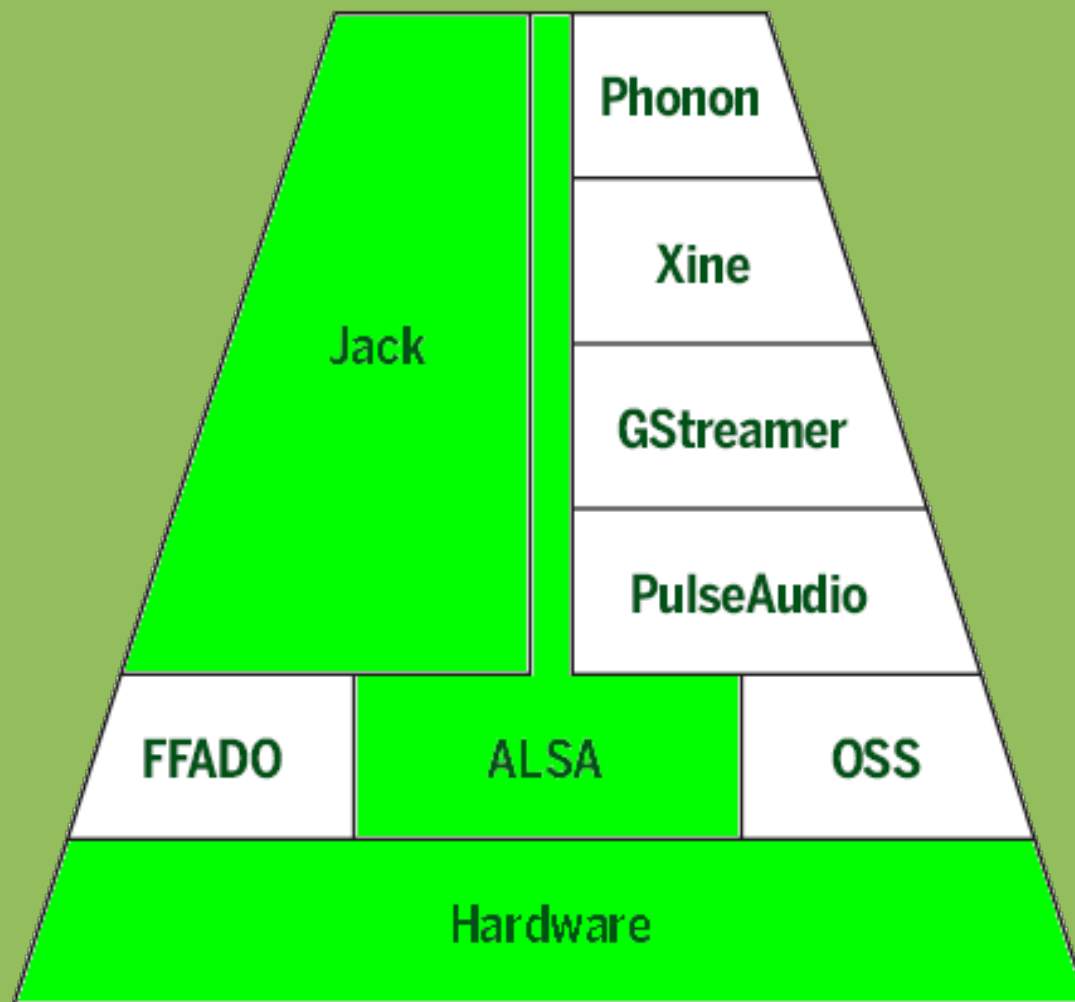
# Intro

- Jeremy Jongepier
- AutoStatic – <http://linux.autostatic.com/>
- Cyso – <http://cyso.com/>
- Linux systeembeheer

# Linux audio ecosysteem

- Hardware
- ALSA driverstack
- JACK Audio Connection Kit sound daemon/server

## Linux audio ecosysteem



## Hardware: audio interfaces

- Onboard: audio jack, HDMI
- USB1.1, USB2.0
- I2S (codec)

# ALSA

- Advanced Linux Sound Architecture
- Kernel driverstack voor geluidskaarten
- USB, PCI(e), SoC (ASoC, Alsa Socket on a Chip), FireWire (WIP)

# JACK Audio Connection Kit I

- 'Pro audio'
- Zeer lage latency
- Uiterst flexibele routing
- Uitgebreide configuratie

## JACK Audio Connection Kit II

- Juiste permissies (realtime scheduling)
- Instellingen (buffer, frames, sample rate etc.)
- Audio en MIDI routing
- JACK Transport

## Software

- Sequencers/Samplers: Hydrogen, seq24, LinuxSampler, drumkv1/samplv1
- Softsynths: Yoshimi/ZynAddSubFX, amSynth, WhySynth, synthv1
- Amp sim: guitarix, rakarrack
- Tools: jack\_\*, aconnect, mididings
- Session management: aj-snapshot, Bash



## Plugin frameworks

- LV2
- DSSI
- LADSPA
- LinuxVST

## MIDI

- ALSA MIDI
- JACK MIDI
- a2jmidid
- USB, GPIO
- Mixers ,keyboards, drumpads

# Systeemconfiguratie I

- Kernel: Preemptible Kernel (Low-Latency Desktop) of Fully Preemptible Kernel (RT)?
- Daemons en processen
- CPU frequency scaling
- Overclocking
- Bestandssystemen

## Stelselconfiguratie II

- Timers: `snd-hrtimer`
- Real-time priorities
- USB driver tweaks: `dwc_otg.speed=1`
- Netwerk driver tweaks: `smc95xx.turbo_mode=N`
- Geheugenverdeling: `gpu_mem`
- <http://wiki.linuxaudio.org/wiki/raspberrypi>