# PipeWire

## Wim Taymans
## November 2019

Red Hat

# What is it

Multimedia sharing and processing engine

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# PipeWire

App

GStreamer  VLC  App1  App2  Session Manager

ALSA  libpulse.so  libjack.so

libpipewire

JACK  Wayland

PipeWire Daemon

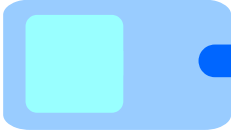V4l2  bluetooth  alsa  vulkan  va-api  DRM

Kernel

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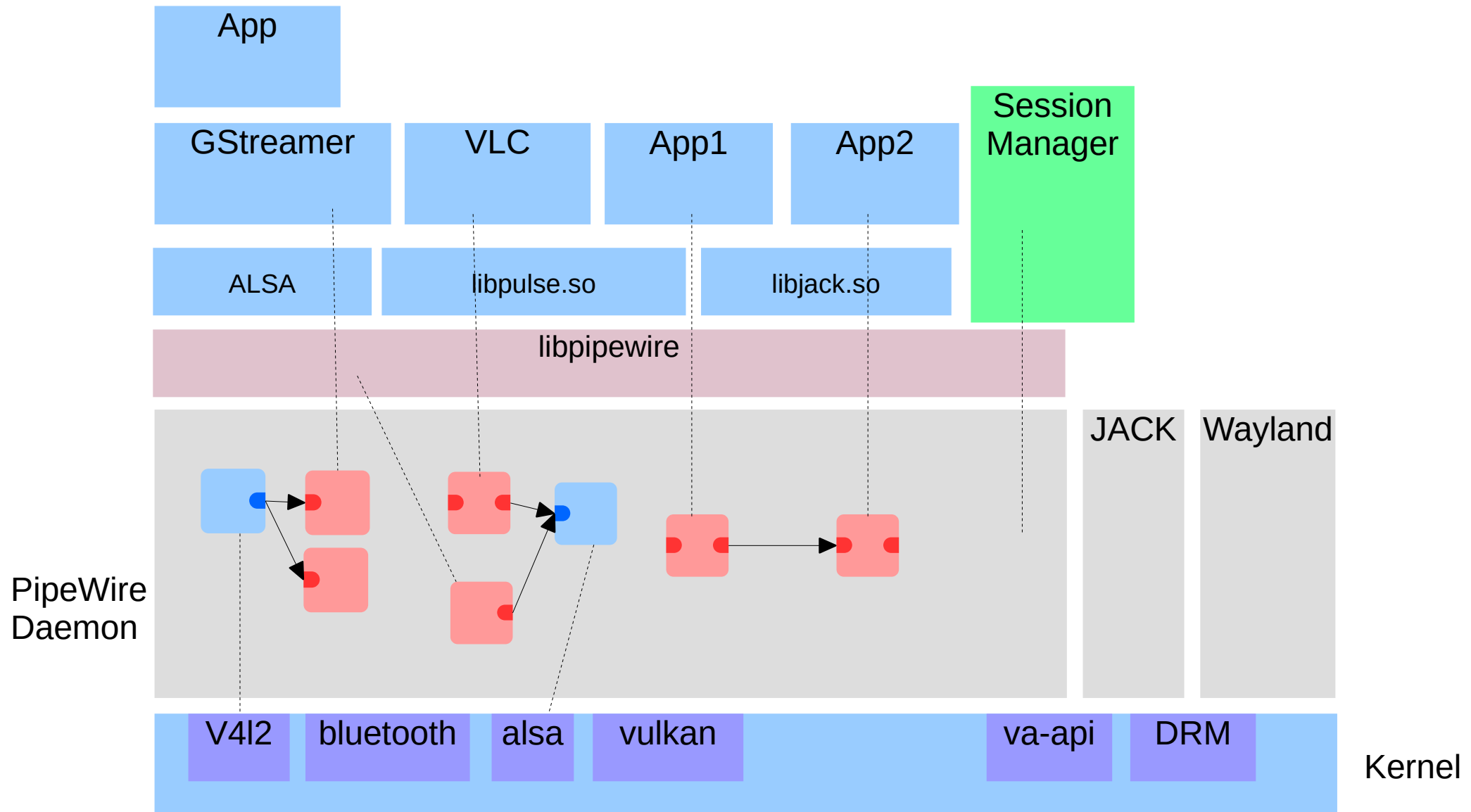
# API support

# Device slaving

# Transport

# Midi

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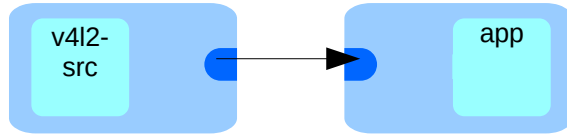
# Video with vulkan
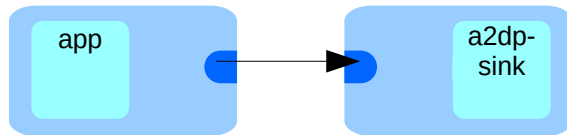
# Node configuration

- stream/sink/source with adapter
  - Profile: How this internal format is exposed on the node
    - Passthrough: do nothing, no conversion

    - Convert: do some conversion, sample rate, format

    - split: split channels into float32 mono

    - merge: merge channels from float32 mono
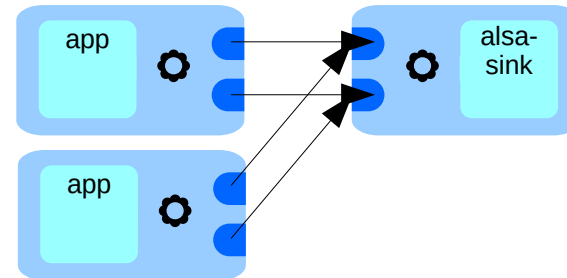
# Some configurations
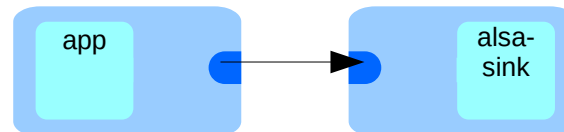
- Video (passthrough)



- AAC passthrough to bluetooth
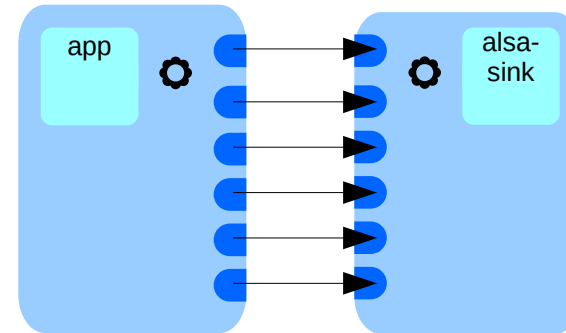


- General audio playback
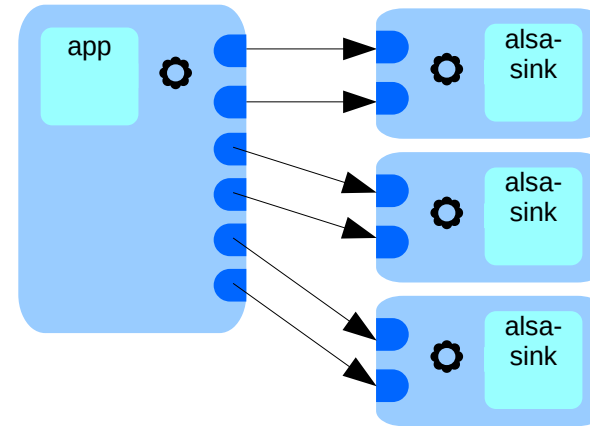


- Exclusive access audio

# Some more configurations

- Multichannel

  - Internal format 5.1

  - Encode to AC3/DTS...
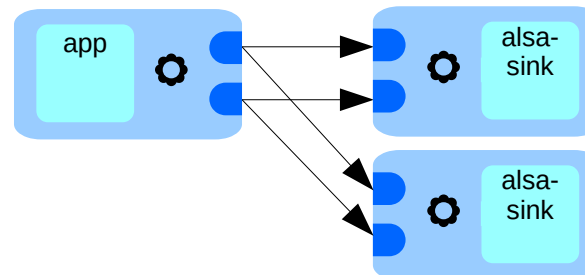
  - Dolby PLII

  - ...

# Some configurations

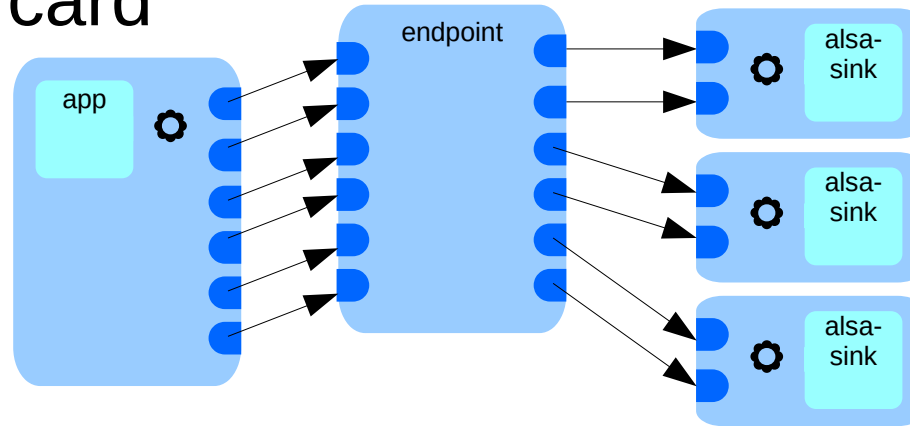- Multichannel multi card
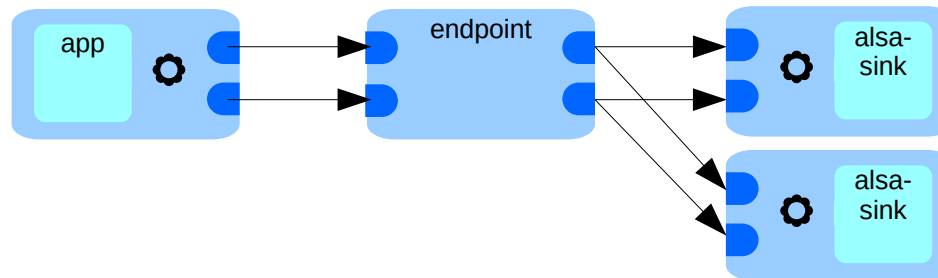
- Multi card

# Session manager

- Does quite a bit but not exactly complicated

    - Manage devices, settings, profiles

    - Rules to link nodes, formats,...

- We going to provide session API

    - Concept of endpoints inputs/outputs to hide equalizers and filters, complex sinks etc

    - Volumes per endpoint (role)

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# Some configurations

- ## Multichannel multi card

- ## Multi card

# Future plans

- More session policy (compressed formats, …)
    - Implement missing pulseaudio features
        - See https://github.com/PipeWire/pipewire/wiki/TODO
- Server side buffer split
    - Run client at desired latency, less frequent wakeups
- Video path/effects…
- Filter API
- Stability

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http://pipewire.org
https://github.com/PipeWire/pipewire


Questions?

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