



LEADING  
COLLABORATION  
IN THE ARM  
ECOSYSTEM

# Linux Audio: Recent Advancements

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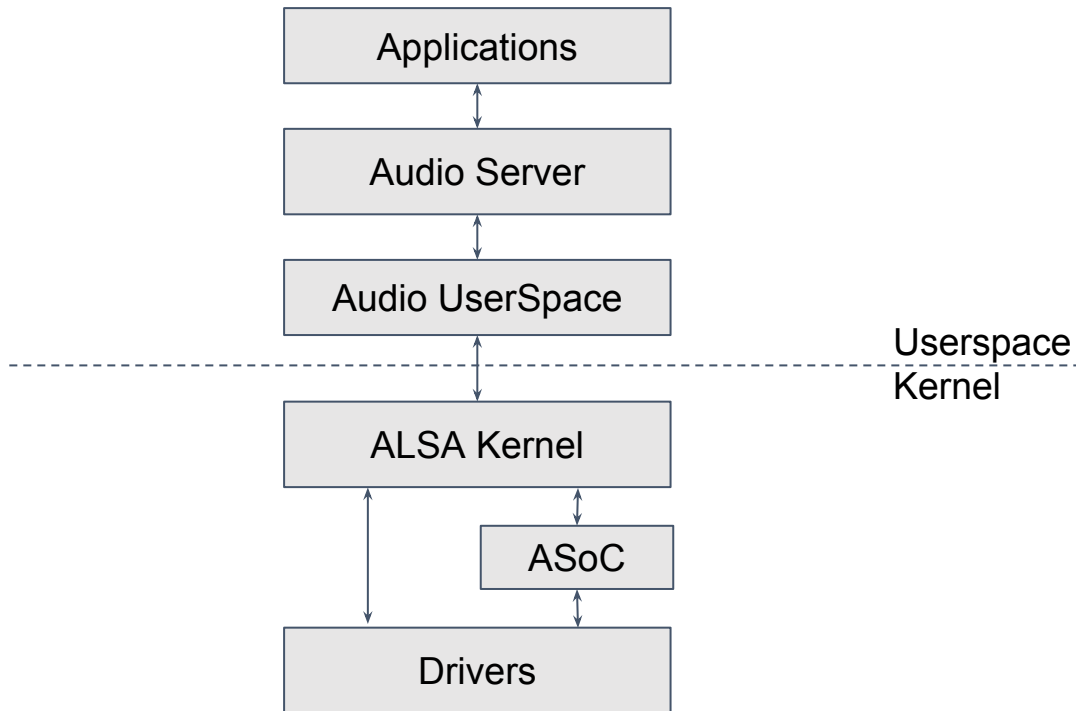
DevConf.in'18



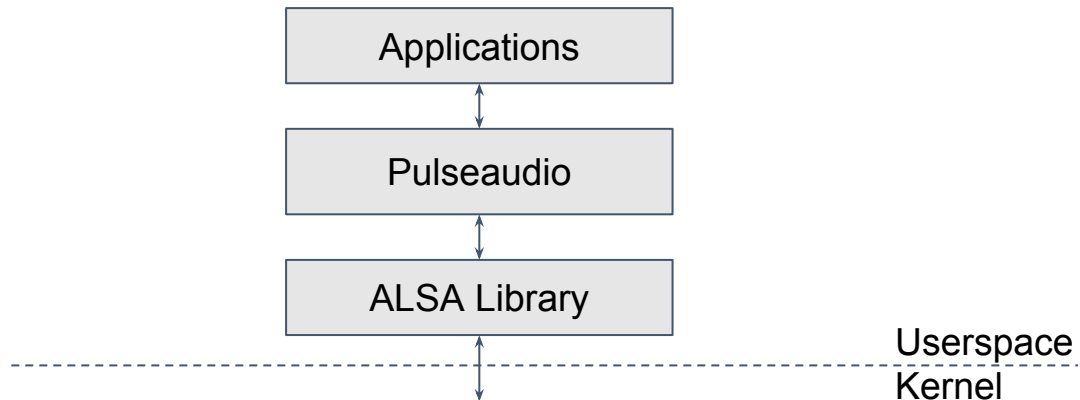
# Agenda

- Audio Userspace review
- ALSA Advances
  - Topology
  - SOF
  - Componentization

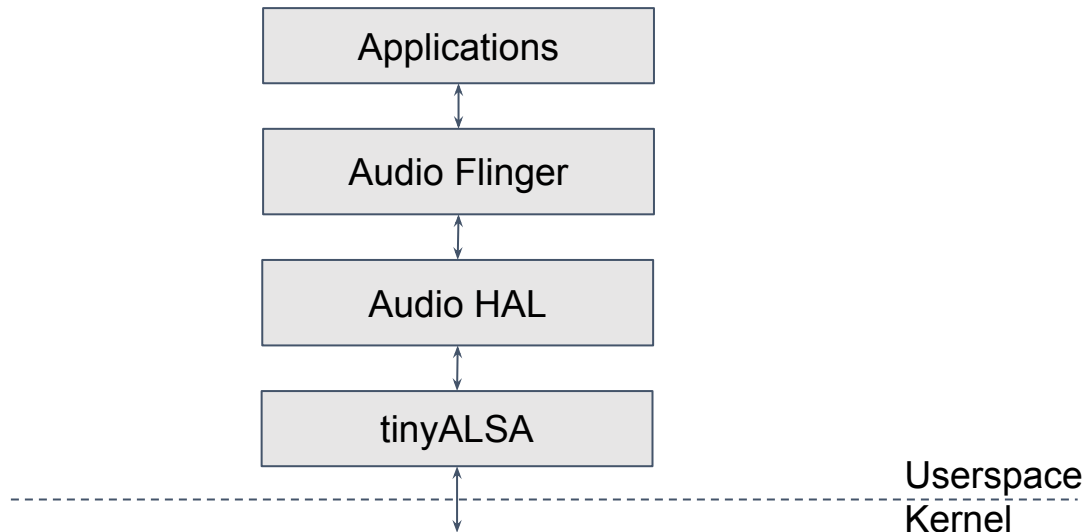
# Audio Stack



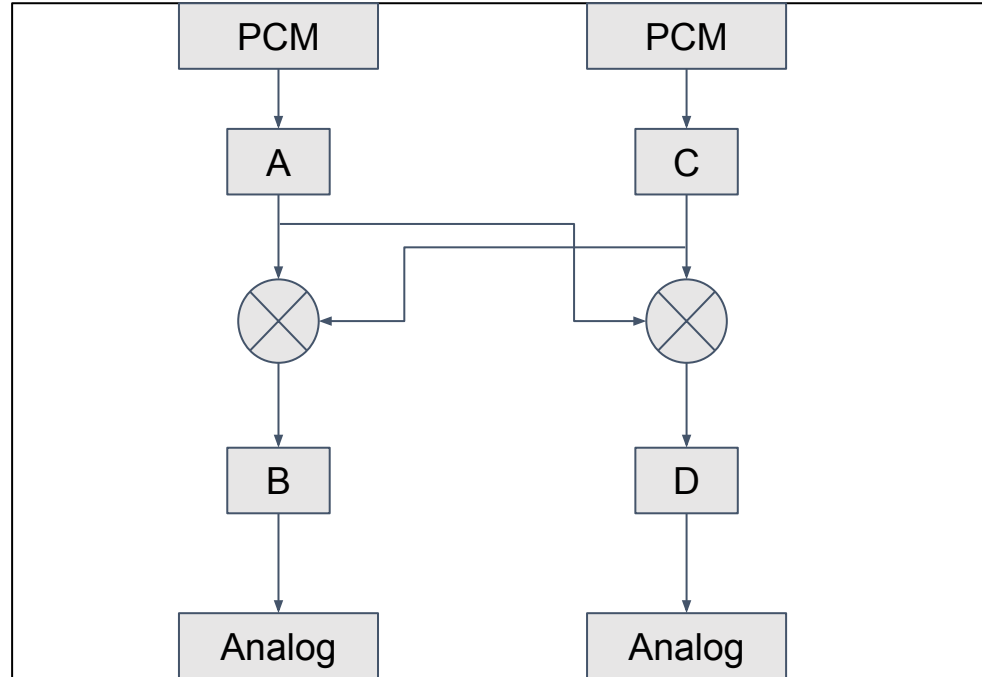
# Desktop Audio Stack



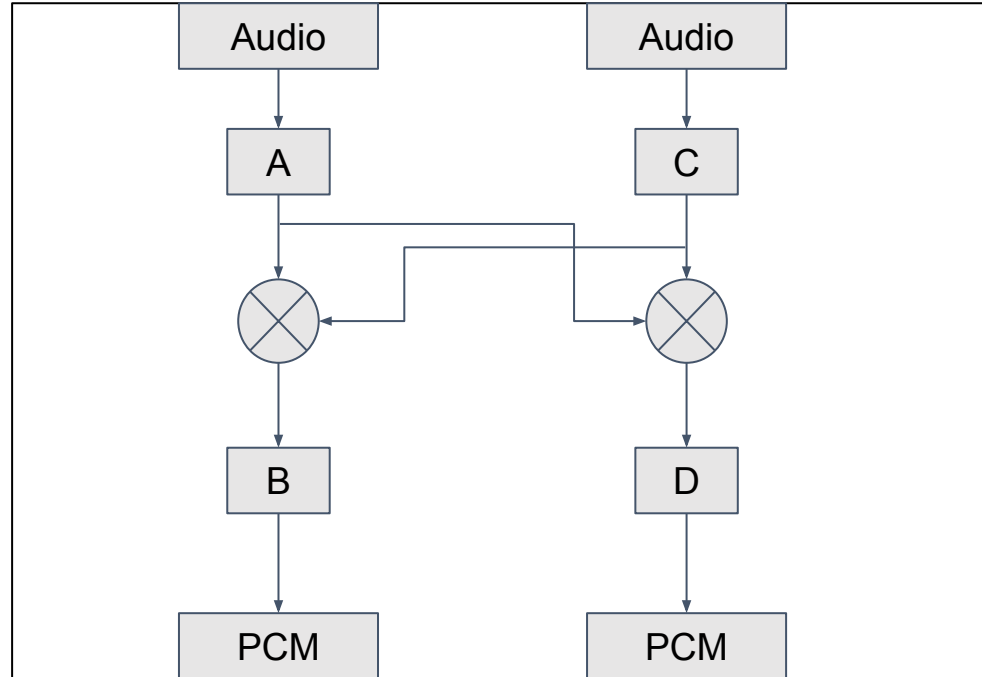
# Android Audio Stack



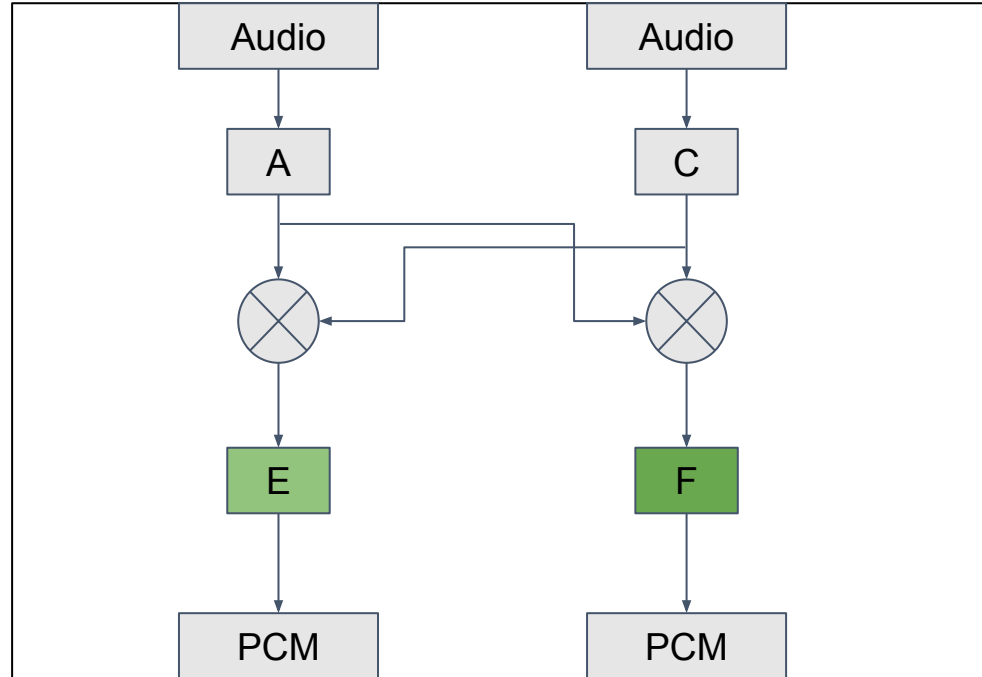
# Topology: Codec - Fixed



# Topology: DSP - Static



# Topology: DSP - Dynamic





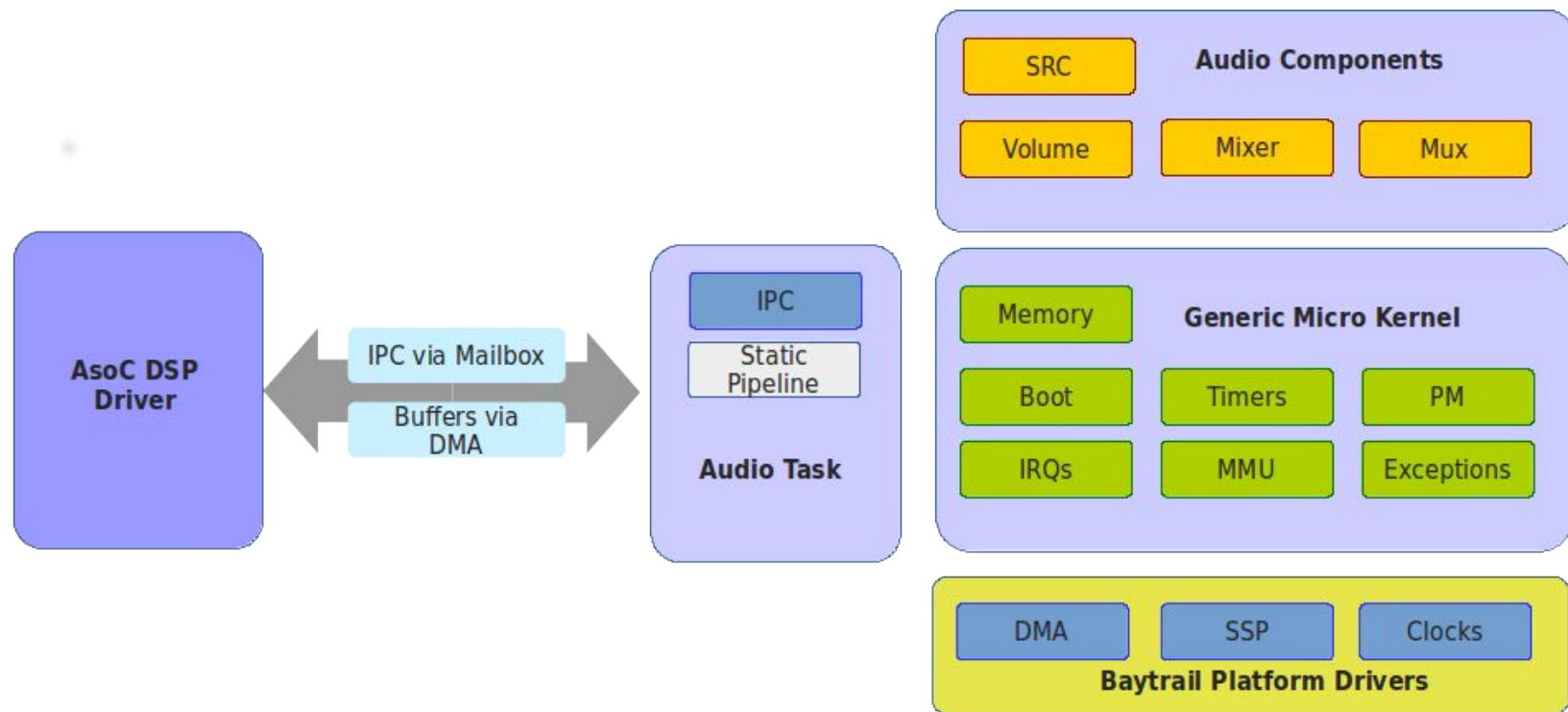
# Topology

- Specify topology : configuration file
  - UCM syntax
- Build using *alsatplg* tool
  - Part of alsa-utils
- Binary output, Kernel loads at boot
- Parse, instantiate DSP graph in Card
- Informs driver, callbacks

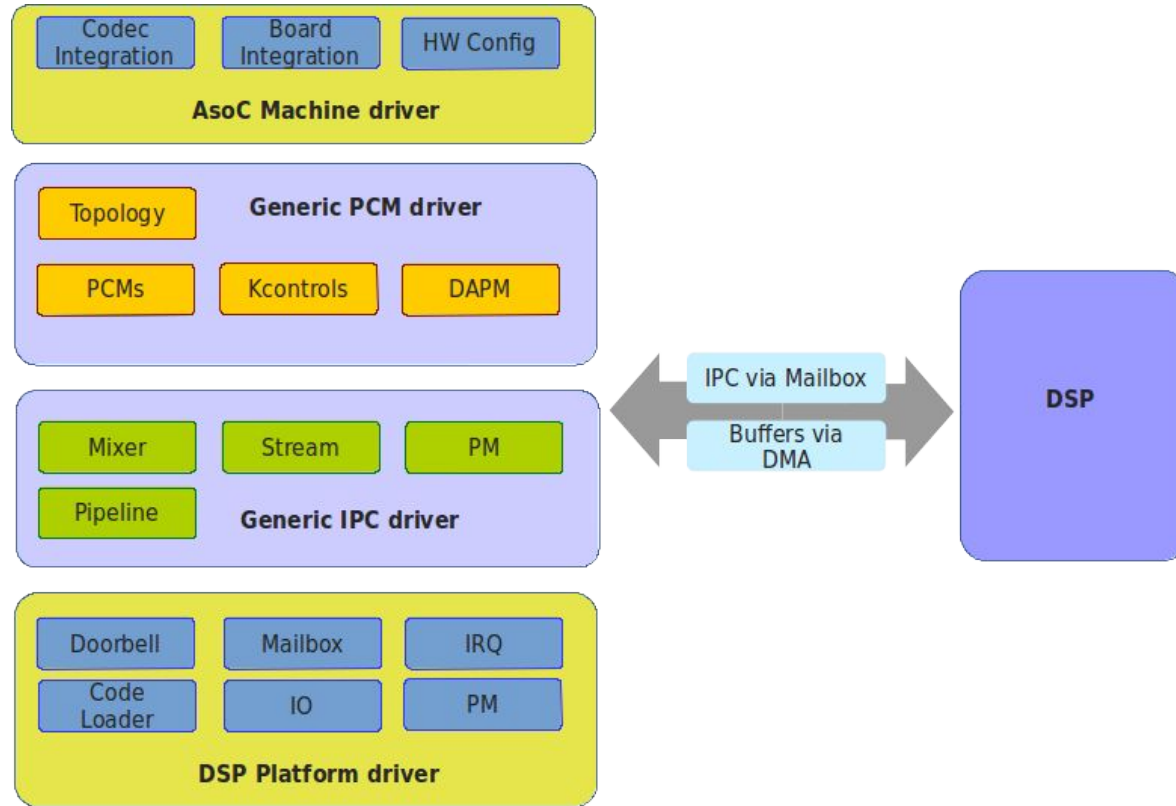
# Sound Open Firmware (SOF)

- “Open Source” Firmware!!
- Supports Tensilica arch, now.
- Supported on Intel platform, can be ported to others
- SDK and QEMU emulator available
- Linux Foundation Project: <https://www.sofproject.org/>  
<https://www.alsa-project.org/main/index.php/Firmware>

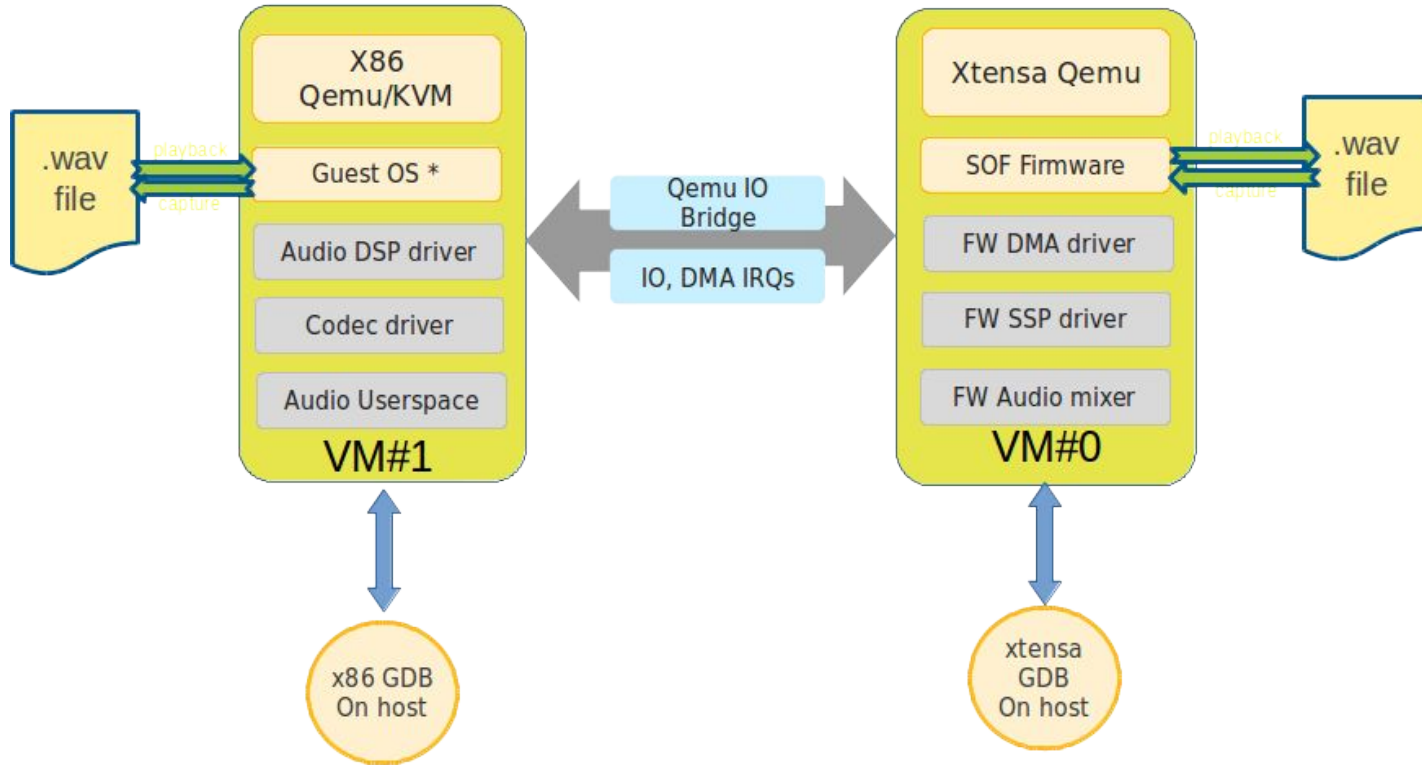
# SOF Arch



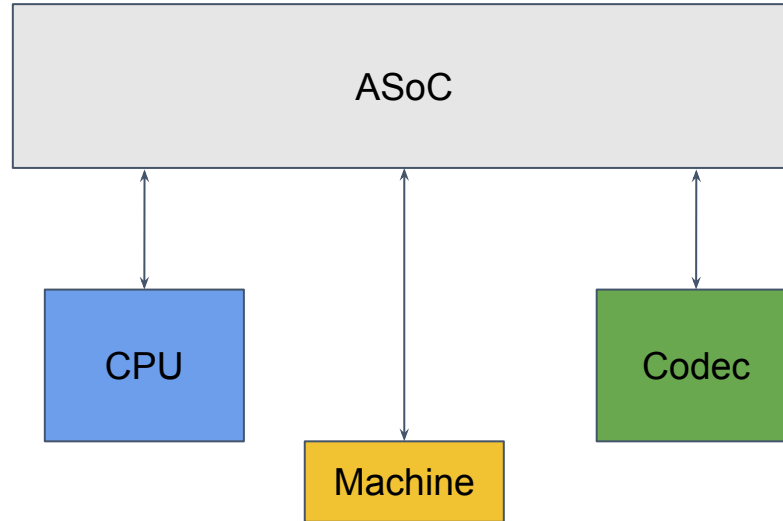
# SOF Drivers



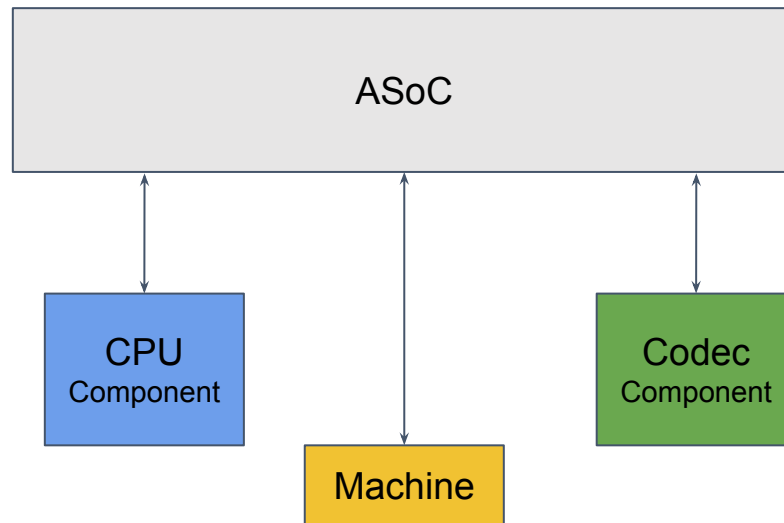
# SOF Emulator



# ASoC Componentization



# ASoC Componentization





Thank You

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