ALSA
and
Media Controller
ALSA char devices

- **SNDRV_DEVICE_TYPE_CONTROL**
  - "/dev/snd/controlC%i", card->numer

- **SNDRV_DEVICE_TYPE_PCM_PLAYBACK**
  - "/dev/snd/pcmC%iD%i", card->numer, pcm->device

- **SNDRV_DEVICE_TYPE_PCM_CAPTURE**
  - "/dev/snd/pcmC%iD%iC", card->numer, pcm->device

- **SNDRV_DEVICE_TYPE_COMPRESS**
  - "/dev/snd/comprC%iD%i", card->numer, compress->device

- **SNDRV_DEVICE_TYPE_HWDEP**
  - "/dev/snd/hwC%iD%i", card->number, hwdep->device

- **SNDRV_DEVICE_TYPE_RAWMIDI**
  - "/dev/snd/rawmidiC%iD%i", card->number, rawmidi->device
Control Device

- One for each sound card
- Provides access to ALSA controls
  - Can affect muxing
- Does lots of other things too
PCM device

- 0 or more PCM streams per sound card
  - Two types: Capture, Playback
- One PCM device for each stream
- 1 to many substreams for each stream
PCM - Simple Case

- 1 DMA per PCM device
PCM – Half Duplex

- One DMA, multiple PCM devices
- Either capture or playback is active
PCM - Hardware mixing

- One PCM device, multiple DMAs
What changes with ASoC?

- Nothing actually
What changes with ASoC?

- Nothing actually
- At least for the userspace interface
ASoC – DAPM

- ASoC has dynamic audio power management
- DAPM has information about the topology
  - From a power management perspective
  - Dataflow is used for power management decisions