Combining DTPM with the thermal framework

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Status

**Powercap/DTPM**

**CPUfreq**

**devfreq**

**dev/cpu PM QoS**

**Powercap/DTPM**

**CPUfreq**

**devfreq cooling device**

**Energy Model**

**Userspace**

**User/kernel governors**

**User/kernel governors**
Duplicate code and algorithm

- CPUfreq and devfreq cooling device are doing power computation
  - get requested power
  - set power limit -> compute the performance state -> set the performance state

- DTPM is doing the same math
  - it does have get / set power
Current cooling device managing power and states

- CPUFreq cooling device
- Devfreq cooling device

∑ power

cpu PM QoS

dev PM QoS

state

power

QoS

QoS
DTPM powercap

- cpu PM QoS
- dev PM QoS
- DTPM CPU
- DTPM devfreq
- DTPM
Split the power part to a dedicated device

- cpu PM QoS
  - CPUFreq cooling device
  - state
  - Step wise governor

- dev PM QoS
  - Devfreq cooling device
  - state

- DTPM
  - Power cooling device
  - power
  - Power allocator
Power cooling device

- Generic for any kind of power capable device using DTPM
- Can apply on any device or group of devices (future DTPM power rebalancing)
- Simple: a couple of functions: get / set power
- DTPM returns the effective power limit -> more accurate information for the governor