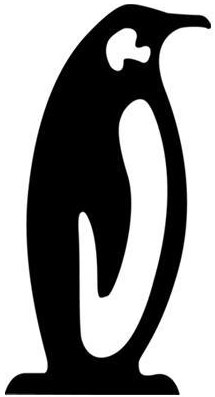

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Thermal framework issues and limitations

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Recent step-wise governor changes (v6.10)

- 042a3d80f118 : Move passive polling management to the core
  - before : based on mitigation on / off in step-wise governor
  - after : based on trip crossed which includes hysteresis in core
  - impact : performance drop due to hysteresis in the equation
  - workaround : set hysteresis to zero but bouncing mitigation effect (too many interrupts)

- 529038146ba1 : gov_step_wise: Go straight to instance->lower when mitigation is over
  - before : cooling effect decremented when below the mitigation trip point until zero
  - after : cooling effect reset when crossing the trip point the way down
  - impact : temperature overshoot scenario when full utilization
  - workaround : nothing yet
- Proposal: more thermal physics, adaptive hysteresis and a new time based governor

Thermal zone vs suspend/resume

- Thermal zone is suspended before the monitored device which continues to produce to the heat without monitoring
  - impact : risk of thermal runaway
  - workaround : re-enable monitoring after suspend_prepare

- Proposal : why not just remove suspend / resume ?
  - monitoring is always needed even with the system suspended
  - interrupt driven will wake up suspend2idle, no need to suspend the tz
  - polling mode is rare, we can set an kconfig option to prevent stopping at suspend

FUSE trip point

- For the same SoC, a thermal zone can have different trip points depending on the configuration, the process or the binning
    - Problem : a device tree describes statically the trip points for the same SoC
    - Different vendors proposed different solutions
    - Proposal : extend the thermal-of.c to read the fuse data in the device tree but specify an extensible or versioned format to describe the thermal characteristics

LPC 2025 - Overview

Conference Details

The Linux Plumbers Conference is the premier event for developers working at all levels of the plumbing layer and beyond.

Taking place on Thursday 11th, Friday 12th and Saturday 13th of December, this year we will be both in person and remote (hybrid). However to minimize technical issues, we'd appreciate most of the content presenters being in-person.

The in-person venue is the Toranomon Hills Forum, Tokyo, Japan

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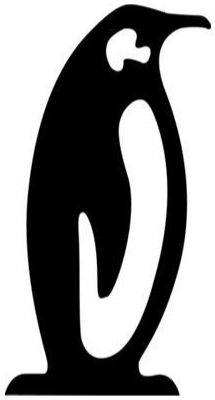

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