

Hardware Pressure on x86

Does the Linux Scheduler Need to Know About Throttling?

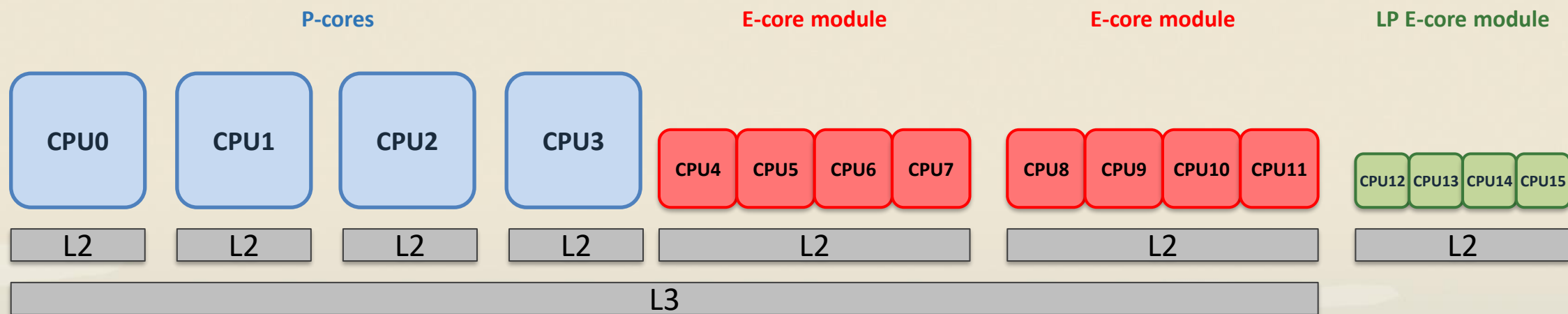


LINUX
PLUMBERS CONFERENCE

PRAGUE, CZECHIA / OCT. 5-7, 2026



System Under Test: CPU Topology

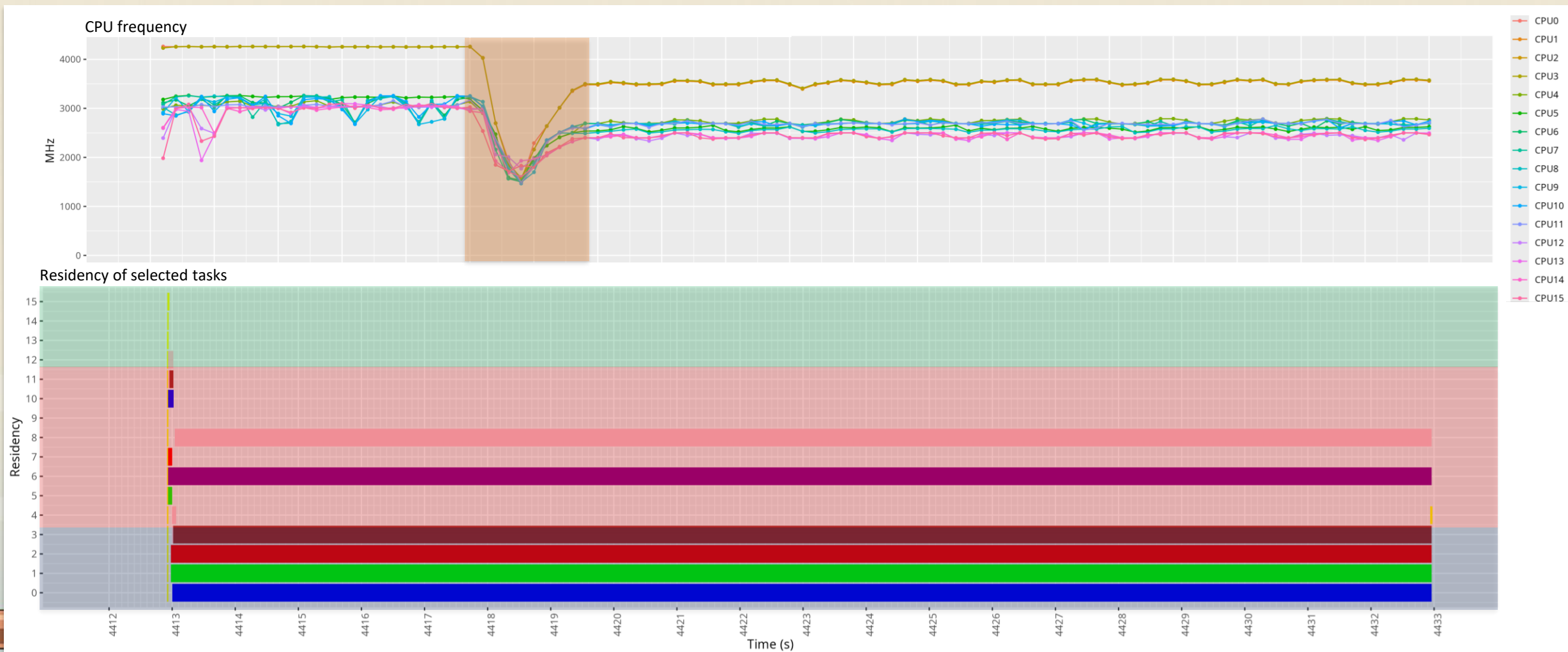


LINUX
PLUMBERS CONFERENCE

PRAGUE, CZECHIA / OCT. 5-7, 2026



Silent hardware pressure

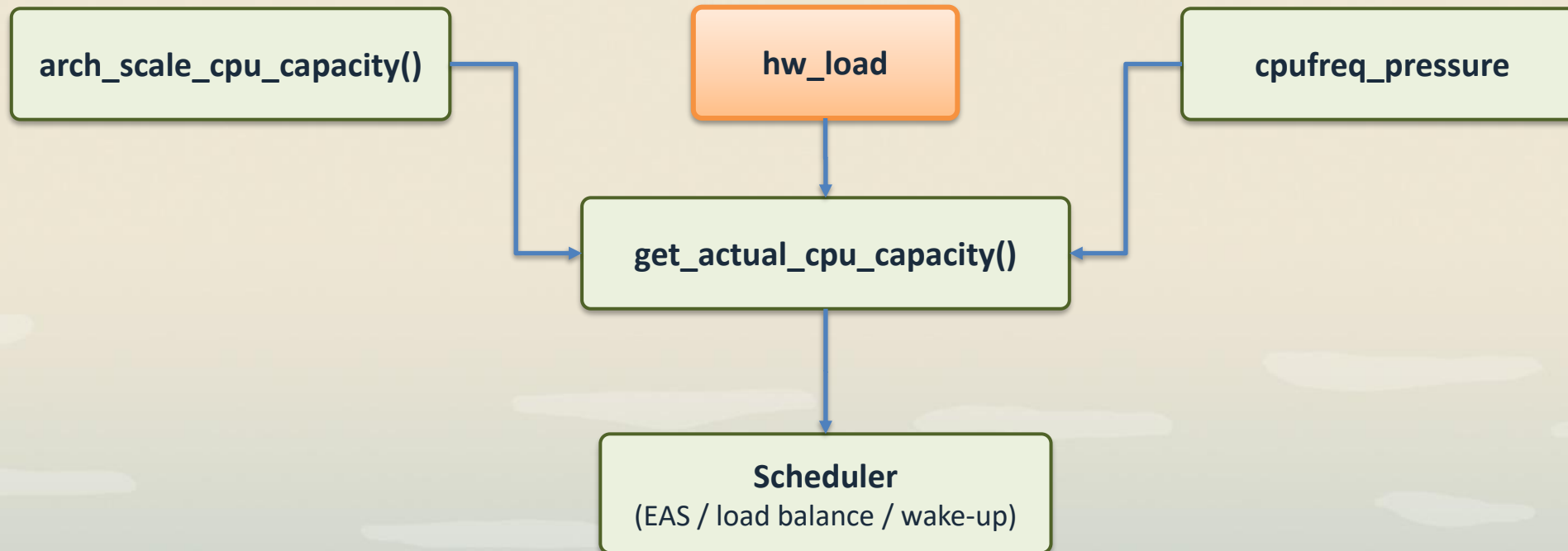


LINUX
PLUMBERS CONFERENCE

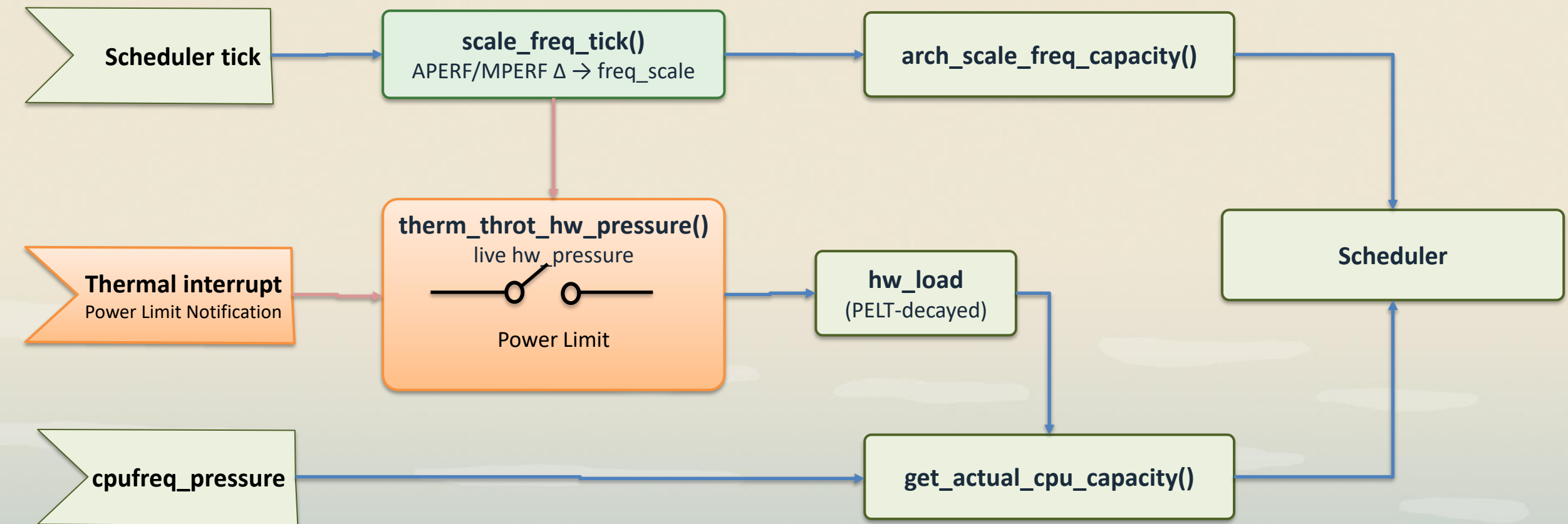
PRAGUE, CZECHIA / OCT. 5-7, 2026



Hardware Pressure



Hardware Pressure for x86

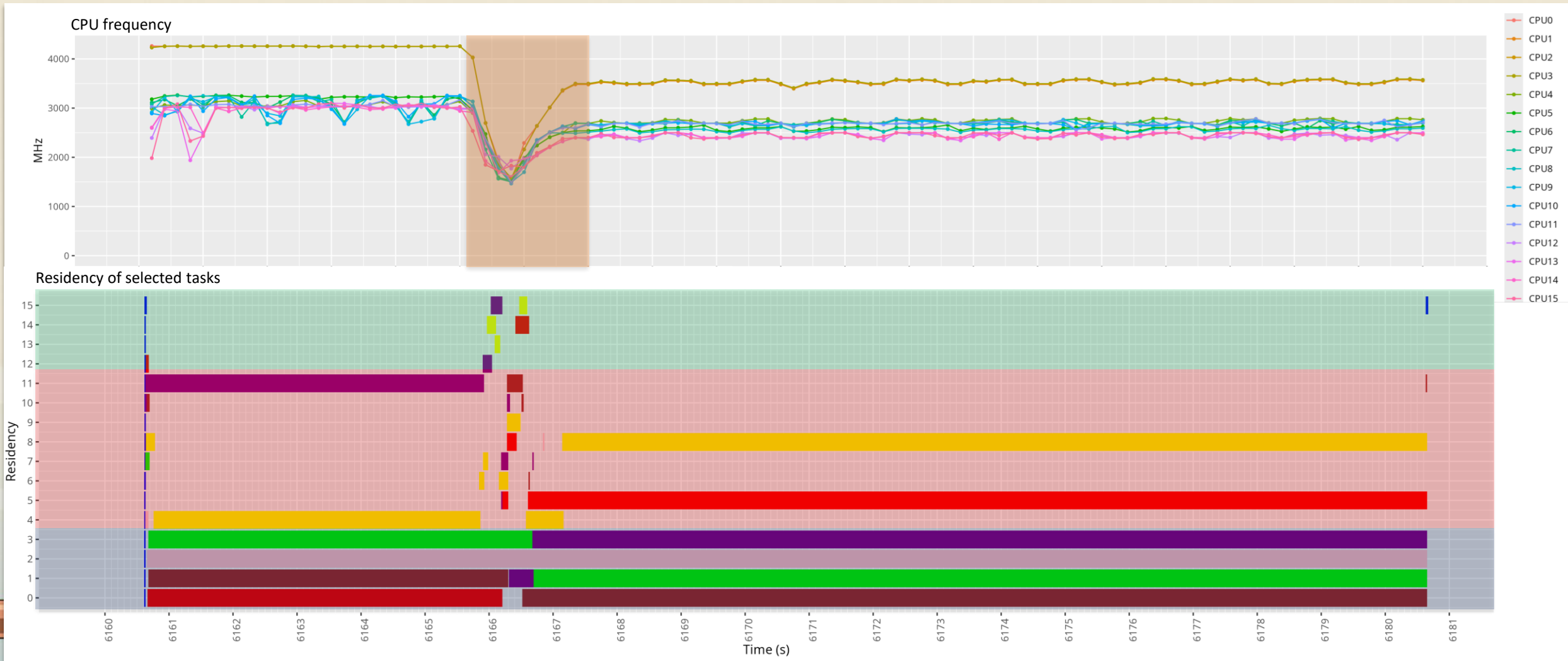


LINUX
PLUMBERS CONFERENCE

PRAGUE, CZECHIA / OCT. 5-7, 2026



Hardware pressure wired-up



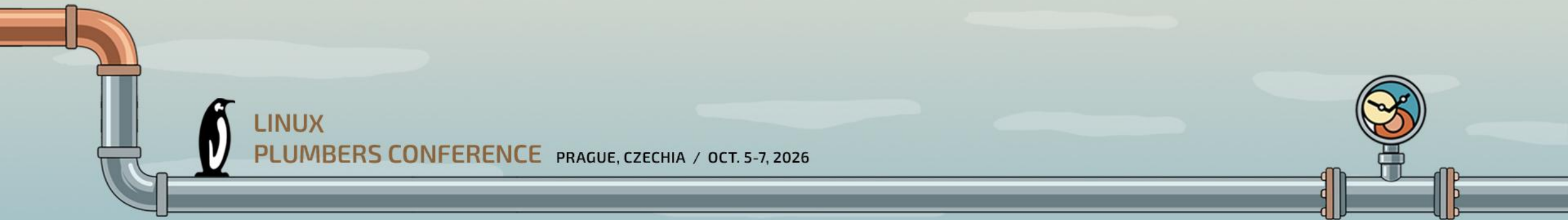
LINUX
PLUMBERS CONFERENCE

PRAGUE, CZECHIA / OCT. 5-7, 2026



Discussion

- ▶ Is this problem worth solving?
- ▶ Does the proposed signal source make sense?
- ▶ Does the integration point make sense?



THANK YOU!



LINUX
PLUMBERS CONFERENCE

PRAGUE, CZECHIA / OCT. 5-7, 2026



BACK UP

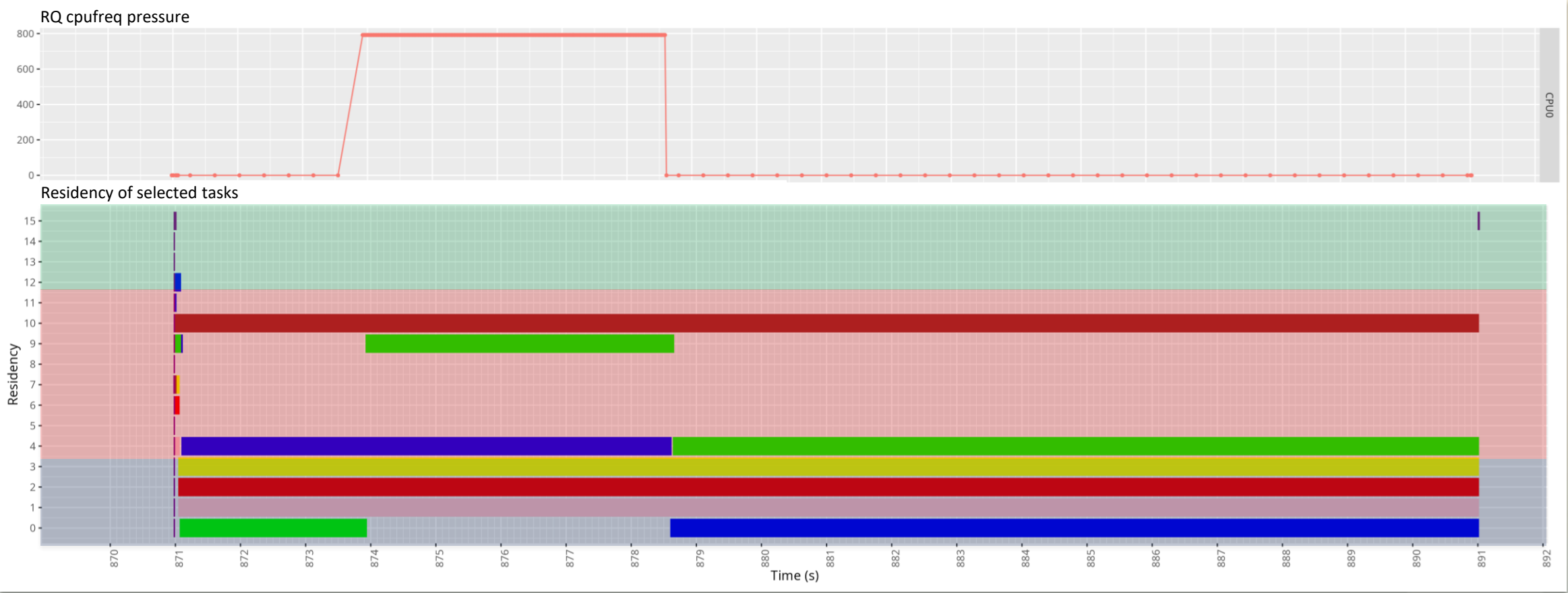


LINUX
PLUMBERS CONFERENCE

PRAGUE, CZECHIA / OCT. 5-7, 2026

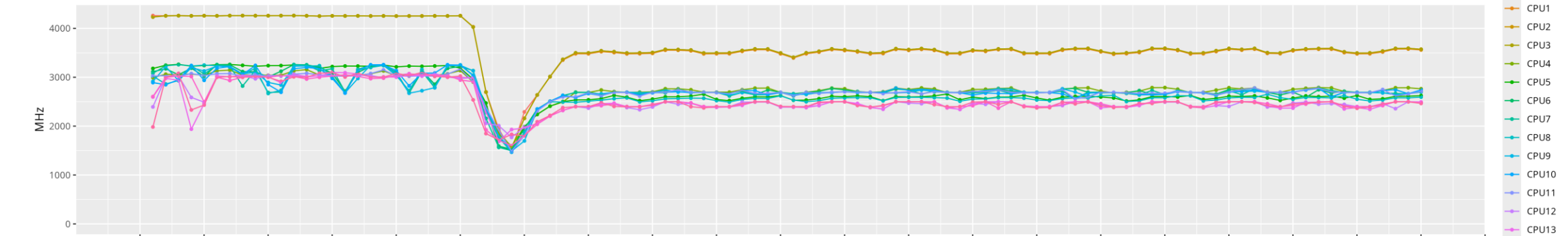


cpufreq_pressure now works on x86 asym_cap

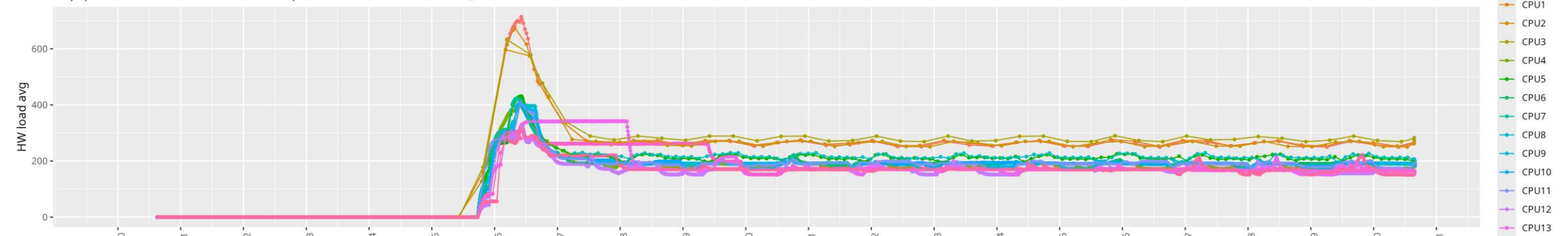


HW load signals

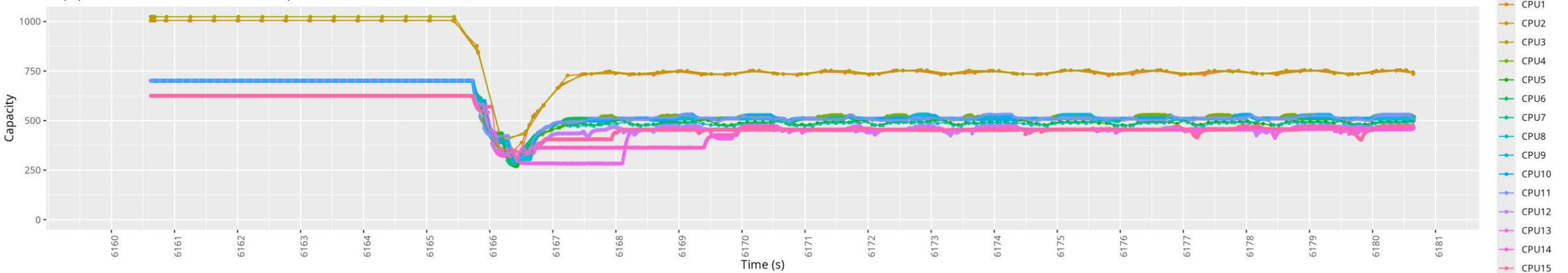
Measured Frequency [MHz]
otcpl-ptl-h-beta-b0-3 7.3.0-rc5-ranerica-hw-pressure+ #3234 SMP PREEMPT_DYNAMIC Thu Oct 1 04:07:36 PDT 2026



HW load avg
otcpl-ptl-h-beta-b0-3 7.3.0-rc5-ranerica-hw-pressure+ #3234 SMP PREEMPT_DYNAMIC Thu Oct 1 04:07:36 PDT 2026



RQ actual capacity
otcpl-ptl-h-beta-b0-3 7.3.0-rc5-ranerica-hw-pressure+ #3234 SMP PREEMPT_DYNAMIC Thu Oct 1 04:07:36 PDT 2026



HW pressure wired-up – Another example



LINUX
PLUMBERS CONFERENCE

PRAGUE, CZECHIA / OCT. 5-7, 2026



Effect on the misfit_load signal

