Linux and Intel: Active State Power Management (ASPM), TPAUSE and More

By *Roy Schestowitz*
Created *21/05/2020 - 11:40pm*
Submitted by Roy Schestowitz on Thursday 21st of May 2020 11:40:19 PM Filed under Linux [1]

- **Linux Systems Will Save More Power As Kernel Removes Disabled ASPM**[2]

    Active State Power Management (ASPM) is an enhancement of Peripheral Component Interconnect Express (PCIe) that saves a lot of power by setting a device in idle state. The Linux kernel has also enabled ASPM support for the PCI Express interface.

    Now it seems like removal of a few lines of code that were ignored for the last 12 years can bring more power saving to some Linux system. Kai-Heng Feng from Canonical reported a bug for disabled ASPM L1 on TI PCIe-to-PCI Bridge. While pushing the patch to Linux, he also stated that disabled ASPM on the device prevents the Intel SoC from entering deeper Package C-State like PC8.

- **Linux 5.8 Prepped To Make Use Of TPAUSE Instruction With New Intel CPUs**[3]

    TPAUSE is the new instruction supported by Intel's Tremont microarchitecture and beyond. TPAUSE allows for an optimized state that can provide low wake-up latency compared to existing delay mechanisms. With Linux 5.8, the kernel will begin making use of TPAUSE where supported.

    The Timed Pause instruction already saw patches for enabling new instructions like TPAUSE and UMONITOR/UMWAIT back for Linux 4.19. But now queued in x86/timers ahead of the upcoming Linux 5.8 cycle are the changes for the kernel to actually begin making use of TPAUSE for more power efficient suspension of execution. TPAUSE supports modes of low-latency but with less power savings or aanother state for greater power savings but with longer

wake-up latency. That is configurable via an MSR while the default behavior is the greater power savings.

-

[Intel Corporation CEO Bob Swan](#) [4]

After my reinstatement following a won suit, I returned to Intel. Immediately after my return begins a continuous workplace mobbing by my managers towards me.

With the support of the human resources, which will give me disciplinary measures on the basis of facts built artfully by Intel, with the support of a complacent Intel?s works council.

Intel proceeds with the systematic falsification of my work results, and the sabotage of all my work activities. it?s a long-term preparation work for my layoff in October 2018.

My complaints and my requests to stop the workplace mobbing to Intel?s guarantee bodies, the legal department, the personnel department, the general manager of Intel Deutschland GmbH Christin E, have been totally ignored.

So I decided to write to Intel?s new CEO, Bob Swan.

The first email receives no reply. The second email within a few months is equally ignored.

In my emails, I briefly describe workplace bullying and sabotage that I?ve been subjected to for almost a year.

These are short emails, no excuse for him, the CEO will not have much time to read my emails.

I offer to provide evidence of what I say. Offer that will not interest Intel CEO Bob Swan, who will never react to my emails.

[...]

What about Intel?s Code of Conduct someone could ask?

Intel?s code of conduct, is a mere statement of beautiful ethical and moral principles, which serves to advertise externally the image of an Intel company attentive to ethics and morals.

In reality, the code of conduct is very far from a company (Intel Mobbing Company) that has derailed towards an abyss of immorality, which manages to make a mess of any recognized ethical principle.

Intel Corporation is a company that denies fairness and legality. Who scoffs at the laws, because he knows only one law, those of the strongest.

The question remains: does Bob Swan, CEO of Intel Corporation, with his smiling face and friendly bald head, know of this rot inside Intel Corporation?

[Linux](#)