

Master's Thesis

Aging-Aware Linux Governor

Technology scaling and elevated temperature on the chip accelerate aging mechanisms on transistors. As a result, transistors become slower and that leads to increase the delay of the processor and eventually timing errors might occur. To avoid timing errors induced by aging, chip designers add timing guardband to the clock delay of the processor. That, however, prevents exploiting the real speed of the processor.

The goal of this work is to propose a Linux governor that is able to use the real capabilities of the processor while at the same time minimizing aging effects.

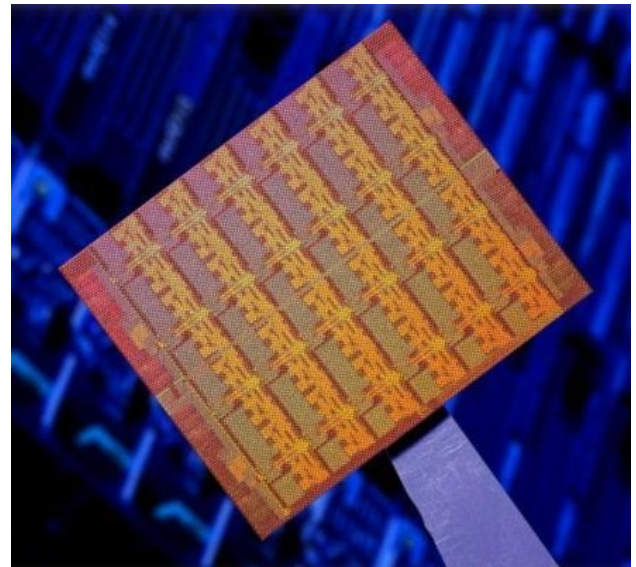
In this work we want first to study and analyze the existing governors of Linux. Based on such analysis, a new governor can be proposed to avoid the limitations of the original governors and provide new features that fulfill the goal of this work.

Skills acquired with the thesis:

- Well understanding of aging effects
- Learning research basics
- Technical writing

Skills required for the thesis:

- Programming skills in C/C++
- Experience with Linux



[Src: Intel]

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