ECE5658

Critiques - week2

Student info:
Name: Jaeyoun Nam
Student ID: 2014310198
Email: siisee111@gmail.com

1 The Linux Scheduler: a Decade of Wasted Cores

(1) **summary of the paper:** First of all this paper said : "Linux scheduler considered as completed problem, but hidden problem that some idle CPU do not work while runnable jobs are waiting exists". So this paper focused on those bugs in Linux scheduler. This paper not only revealed several weaknesses of Linux scheduler causing performance degradation, but also built new tools to check violation or to visualize scheduling.
(2) **strengths/weakness of the paper:** Paper solves kernel level bugs or problem, that make fundamental increasing performance of various applications.
(3) **any suggestions to improve their idea:** They only listed some bugs and fixes. I have no idea because I don't know much of Linux scheduler.

2 Arachne

(1) **summary of the paper:** *Arachne* is user level thread managing library. It did not modify kernel source code. *Arachne* provides core-aware thread management, so by using *Arachne* balancing can be achieved. On *Arachne*, applications computes core requirements and says that to arbiter, which centrally controls thread distribution and tracking which applications receives core.
(2) **strengths/weakness of the paper:** Its implementation enable fast creation latency and large throughput, and that makes it feasible to use threads for very short-lived task.
(3) **any suggestions to improve their idea:** I wonder that *Arachne* adds one layer(arbiter) but how can it go faster? If it implemented in kernel level, it would be much faster?