

ECE5658: Operating Systems Design – Paper Critique

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이성우

1. The Linux Scheduler: a Decade of Wasted Cores, EuroSys 2016

- This paper analysis the background into scheduling mechanism in Linux kernel. Also, it disclosed the bugs in Linux scheduling that keeps the core idle. It makes the degradation for some application: 13% higher latency for kernel make, and a 14~23% decrease in TPC-H throughput. Moreover, it explains the background of the scheduler very well. I think this paper can be improved by more analysis on other schedulers and new mechanism of block layer: multi-queue block layer.

2. Arachne: Core-Aware Thread Management, OSDI 2018

- This paper proposed the Arcane which is the thread management in the user level, not in kernel level. It provides application more knowledge over cores and the opportunity to manage the threads. However, it has a disadvantage that it does not provide automatic management method. The users should manage the thread with the information about the threads. Therefore, prior learning is required. It can be improved with the another CPU mechanism such as big.LITTLE.