



Sampling-based Steal Time Accounting under Hardware Virtualization

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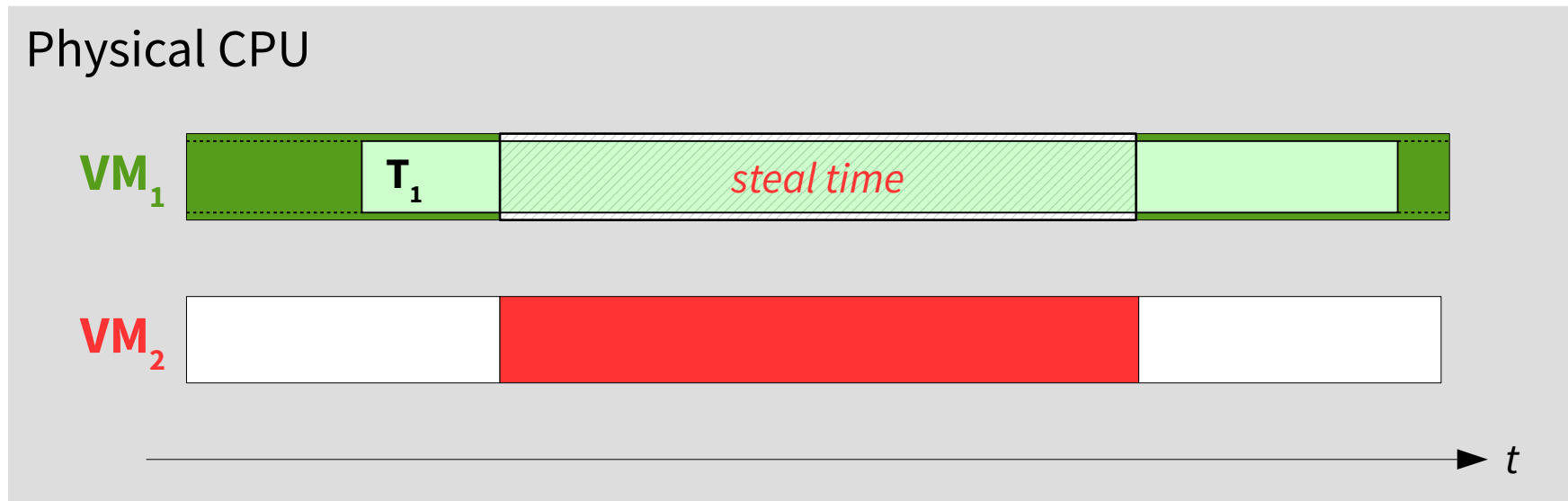
dynatrace

JKU

JOHANNES KEPLER
UNIVERSITY LINZ

Steal Time

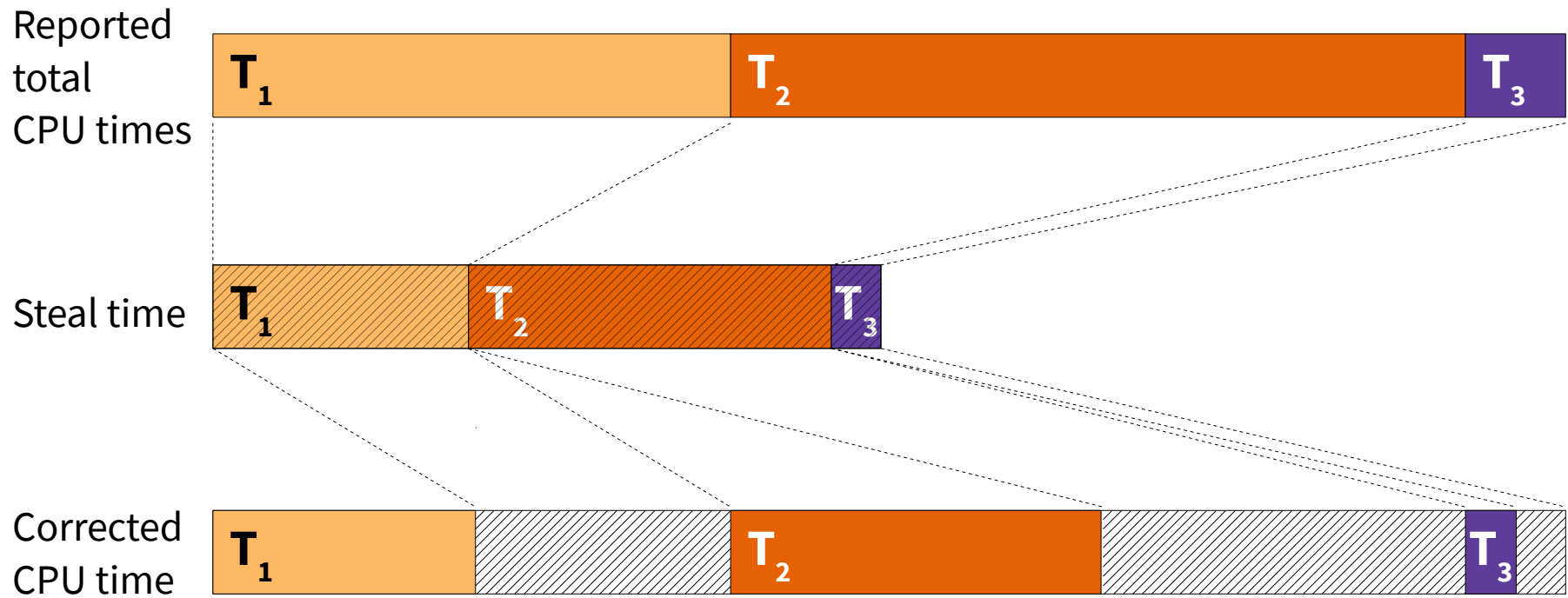
Hypervisor must suspend virtual CPUs:



Goals:

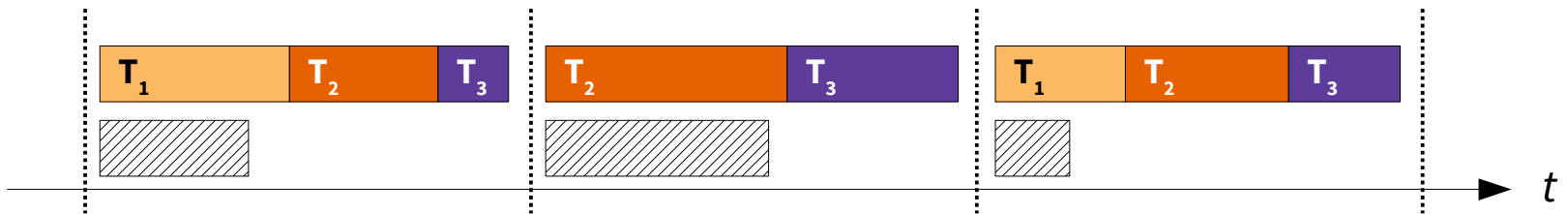
- get per-thread steal time and adjusted resource usage
- within VM, unmodified hypervisor and guest OS

Steal Time Accounting Approach



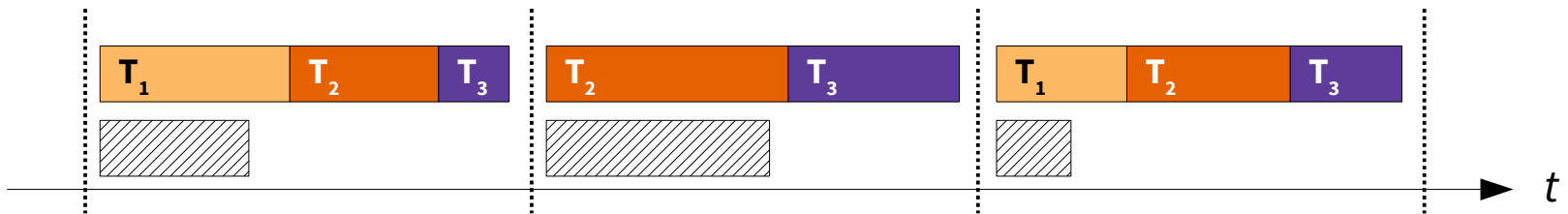
Aspects

Hypervisor suspension changes over time

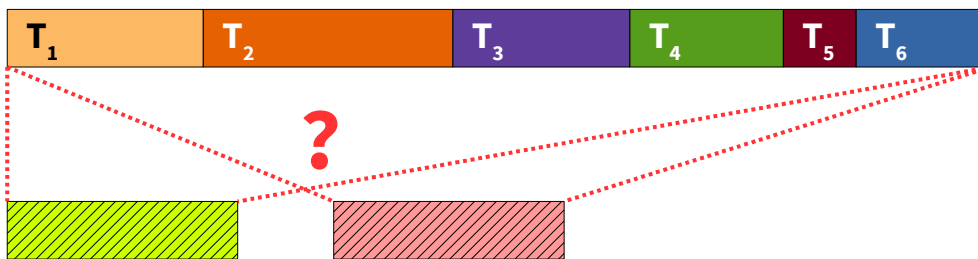


Aspects

Hypervisor suspension changes over time

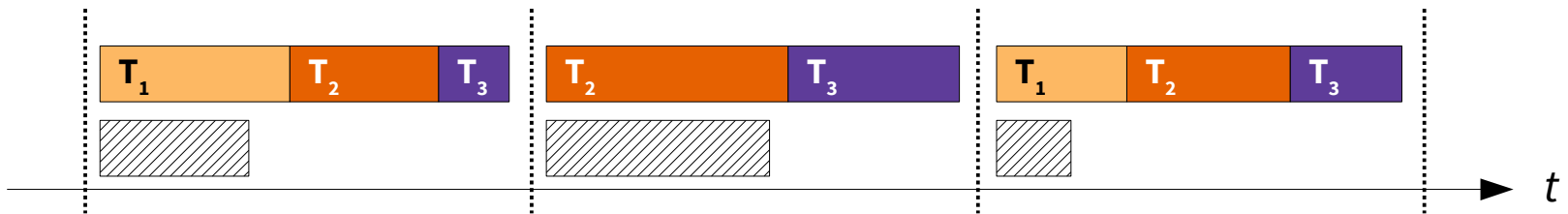


Multiple virtual CPUs

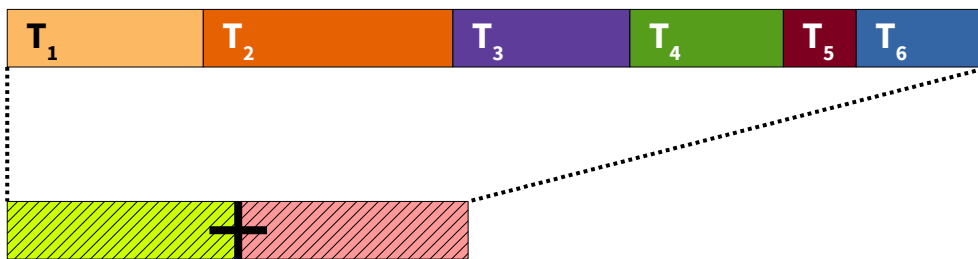


Aspects

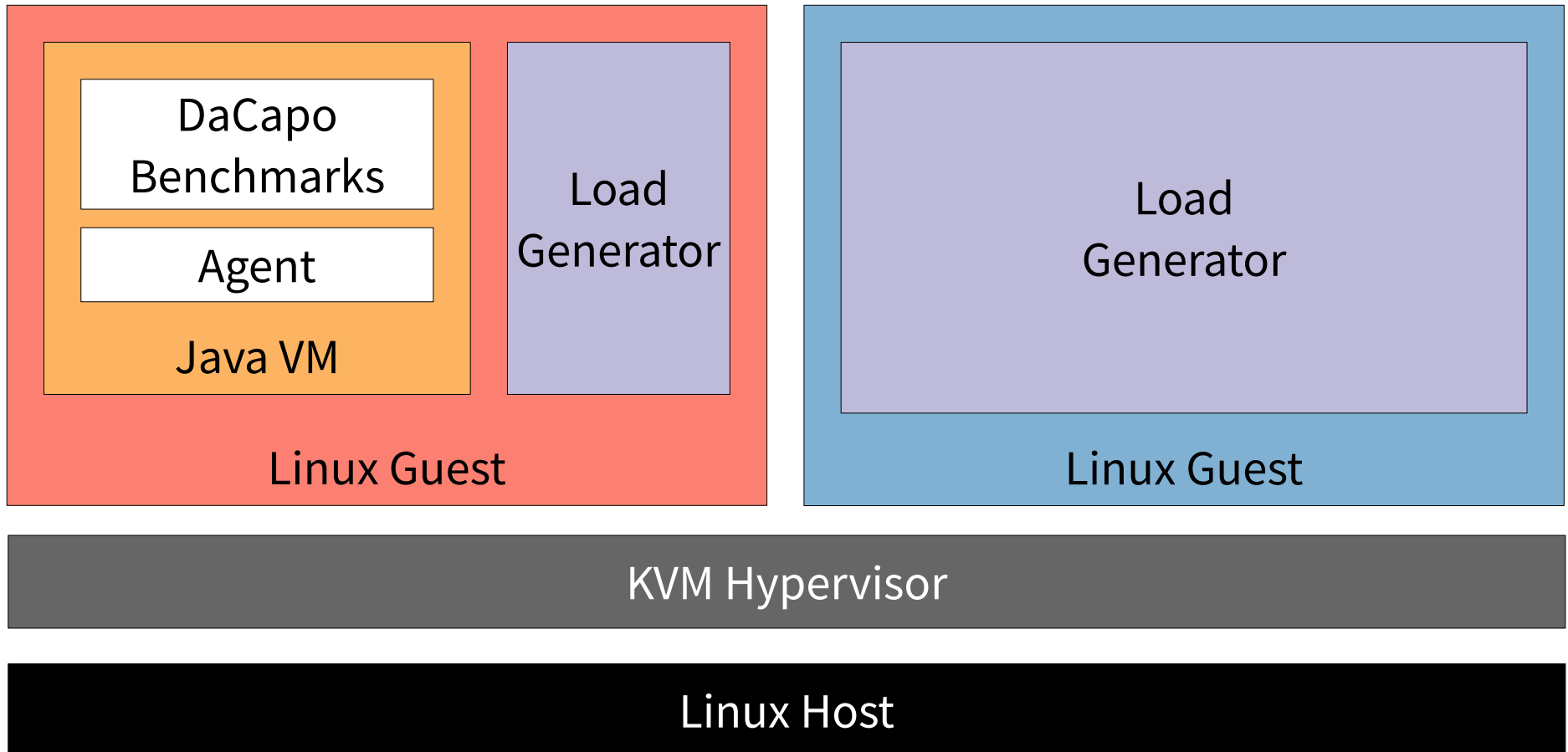
Hypervisor suspension changes over time



Multiple virtual CPUs

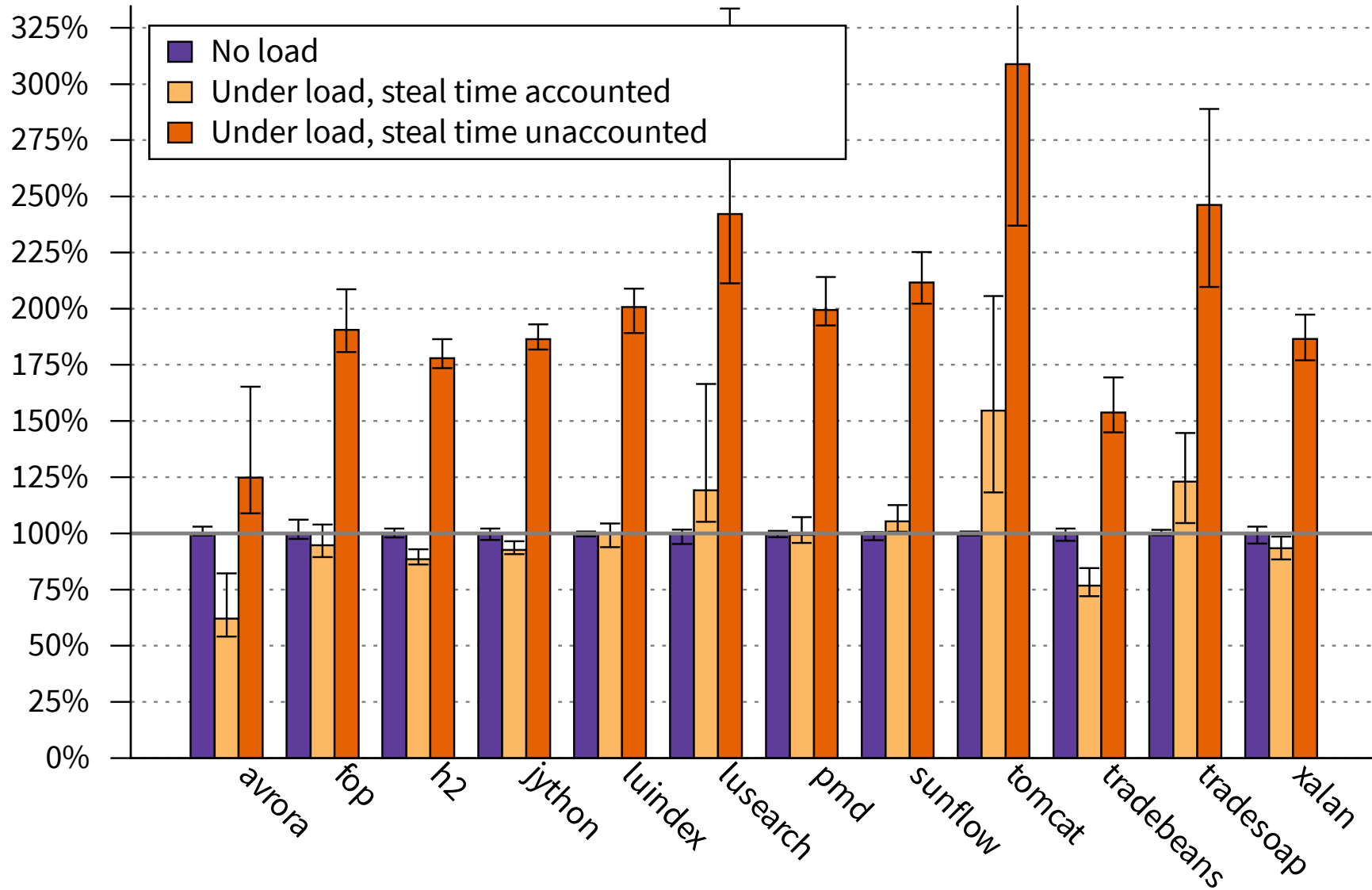


Experimental Evaluation



Compensation of Steal Time

DaCapo 9.12 benchmarks



Questions

