CISTER - Research Center in Real-Time & Embedded Computing Systems

Mixed-criticality Scheduling with Memory Regulation

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Motivation

COTs Multicore Platforms

Issue — Contention over shared resources

Result — Low predictability
Pessimistic bound for WCET
Low resource utilization

Requirement — Scheduling isolation

State of the Art

Vestal´s model

- 2 criticality level model
- 2 modes
- Better resource utilization

Ekberg & Yi´s technique

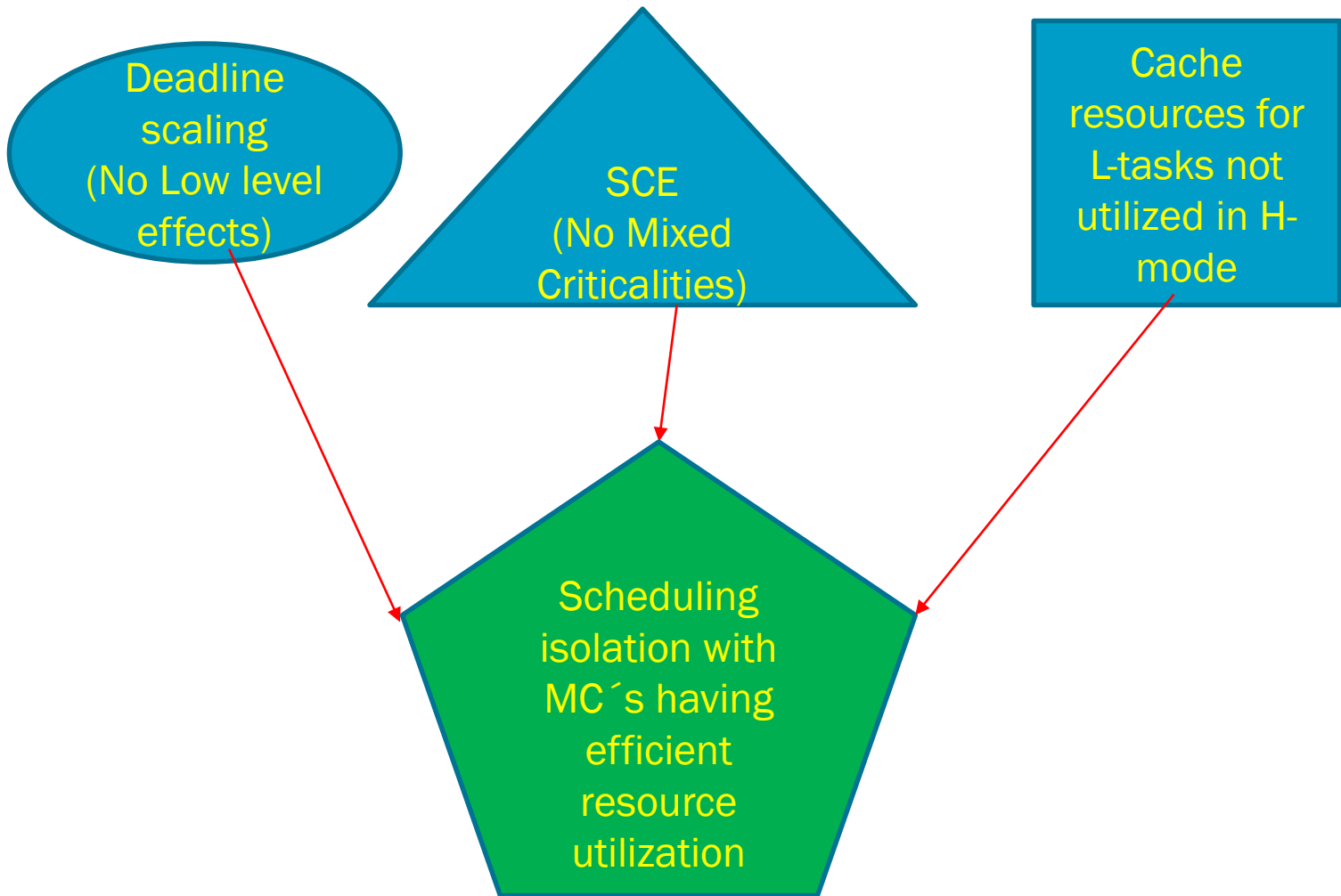- Scheduling technique
- Deadline scaling

Mancuso et al.

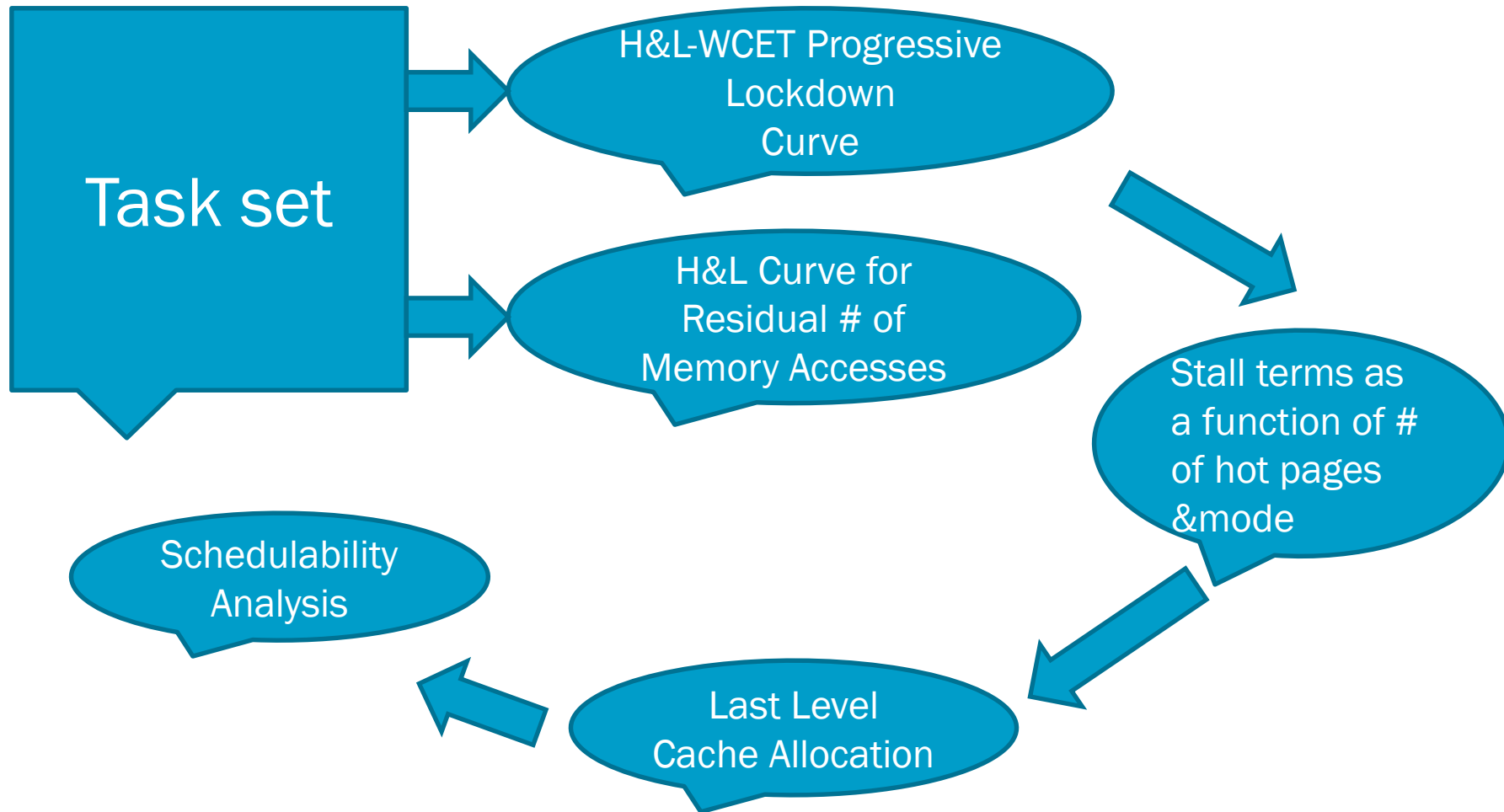- WCET Estimation
- Multicore systems using SCE

SCE model

- SCE for scheduling isolation
- Cache & DRAMs

Proposed Work

Implementation

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Further details

- Poster session

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