SHIFT
Shared History Instruction Fetch for Lean-Core Server Processors

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Instruction fetch stalls: Major performance bottleneck
Up to 60% of server exec. time
Core

I-History

I-$

Instructions

LLC

I-Miss Coverage

Per-Core History Size
Core

I-History

I-$

LLC

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Core

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Core

I-History

I-$

I-Miss Coverage

Per-Core History Size

LLC

Instructions
Shared History Instruction Fetch

- Preserves performance of per-core history
- At 1/14\textsuperscript{th} of history size

Session 4A, Tuesday @ 11:30am