

Tail Calls for Wasm

Proposal update

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Recap

Support proper tail calls

...for languages

...for implementation techniques

Property: unbounded sequence of tail calls
do not blow stack

Implementation may “amortise”,
i.e., finitely many tail calls use stack space

Proposal Overview

return_call <*funcidx*>

return_call_indirect <*tableidx*> <*typeidx*>

Previously Open Issue

Distinguish types of tail callers or callees?

AI: Microsoft to do measurements

Guarantee cross-module tail calls?

Previous conclusion: wait for impl feedback

Proposal Status

prose spec : ✓

formal spec : ✓

interpreter : ✓

tests : ✓

promote to Stage 3?

Implementation Status

V8 : ☐

SpiderMonkey : ☐

JSC : ☐

Chakra : ☐

Remaining steps

Implementations