TypeFox

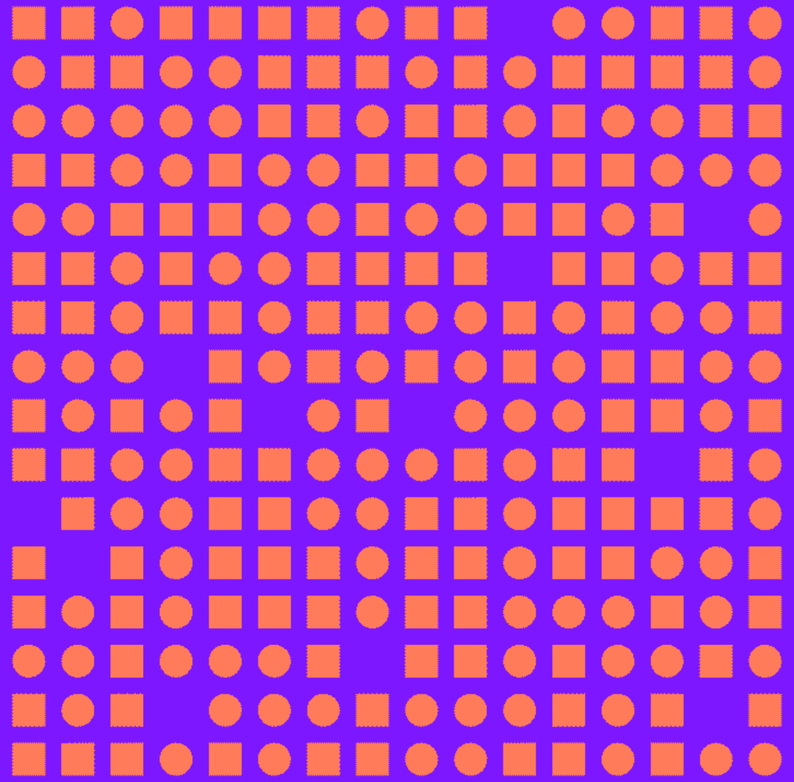


MODELS 2026

Fastbelt: An Architecture for Efficient Language Engineering

Mark Sujew
Steven Smyth

Models'26



What is Fastbelt?



MODELS 2026









Language Engineering Framework

LL(*) parser generator

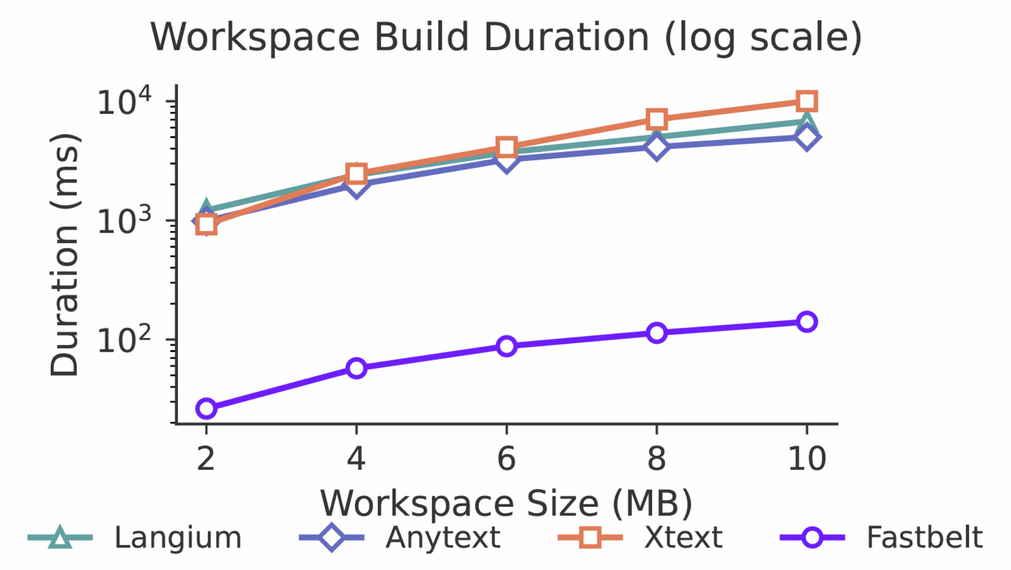
Similar to Xtext & Langium

Focus on performance



Performance Improvements





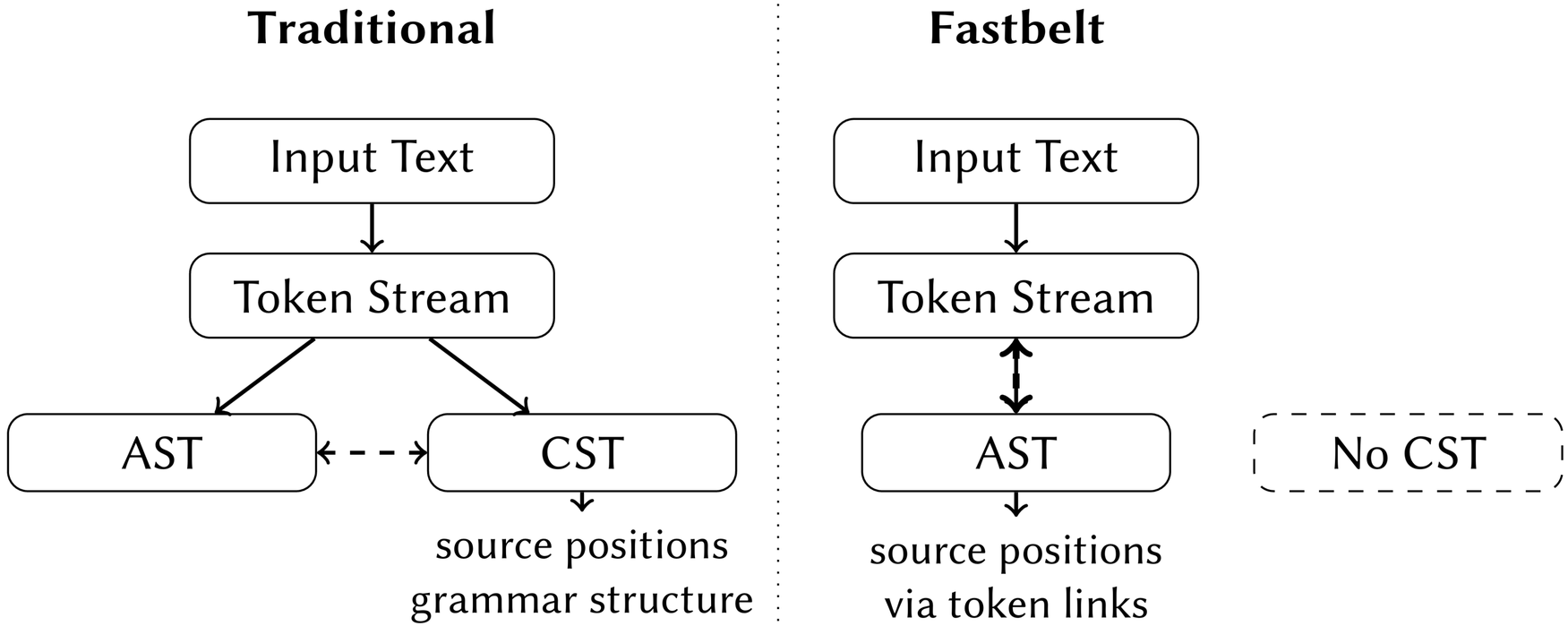
Fastbelt is out-of-the-box up to **50x faster** than comparable frameworks

Retains 20% less heap than Xtext

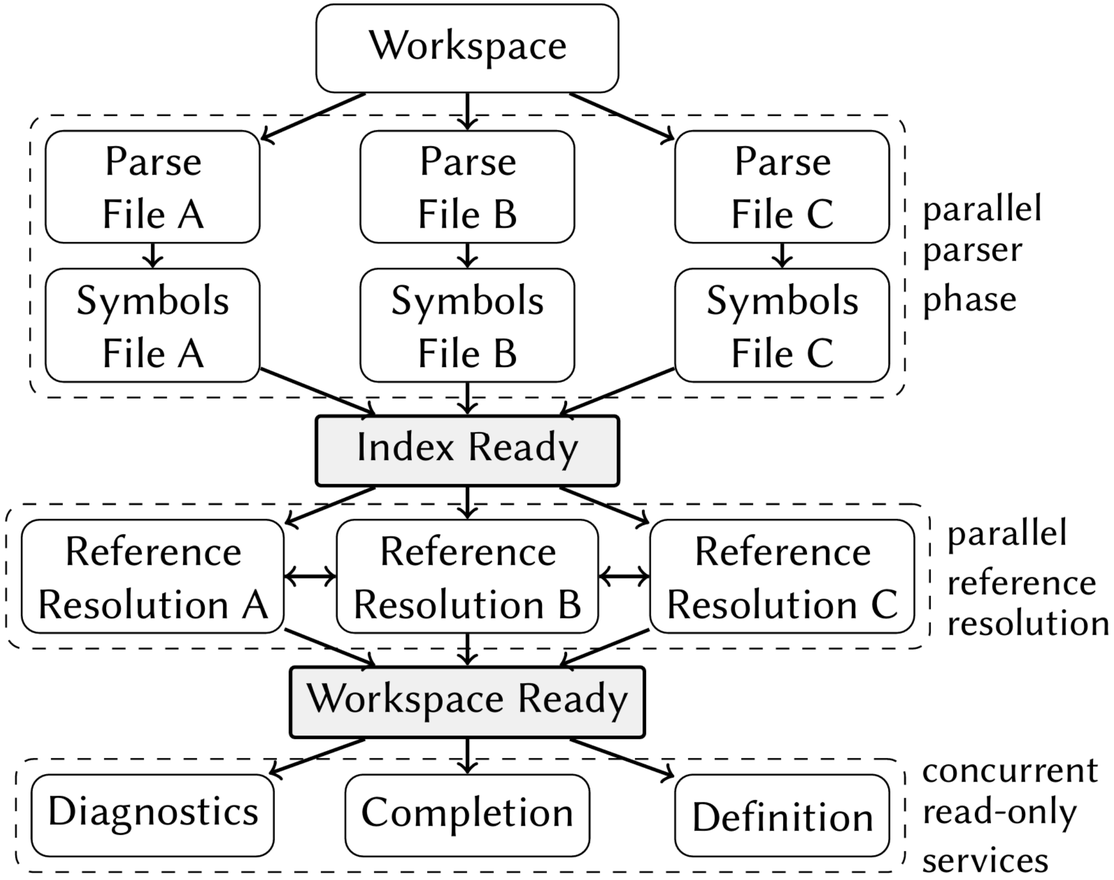
Largest performance gains from reduction of allocations

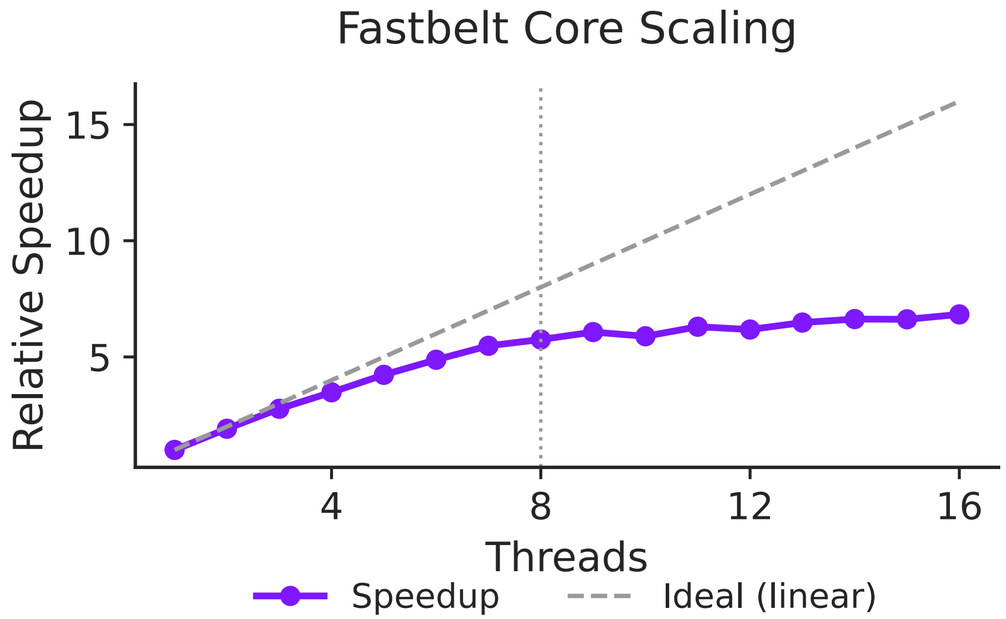
Textual Modeling without a CST





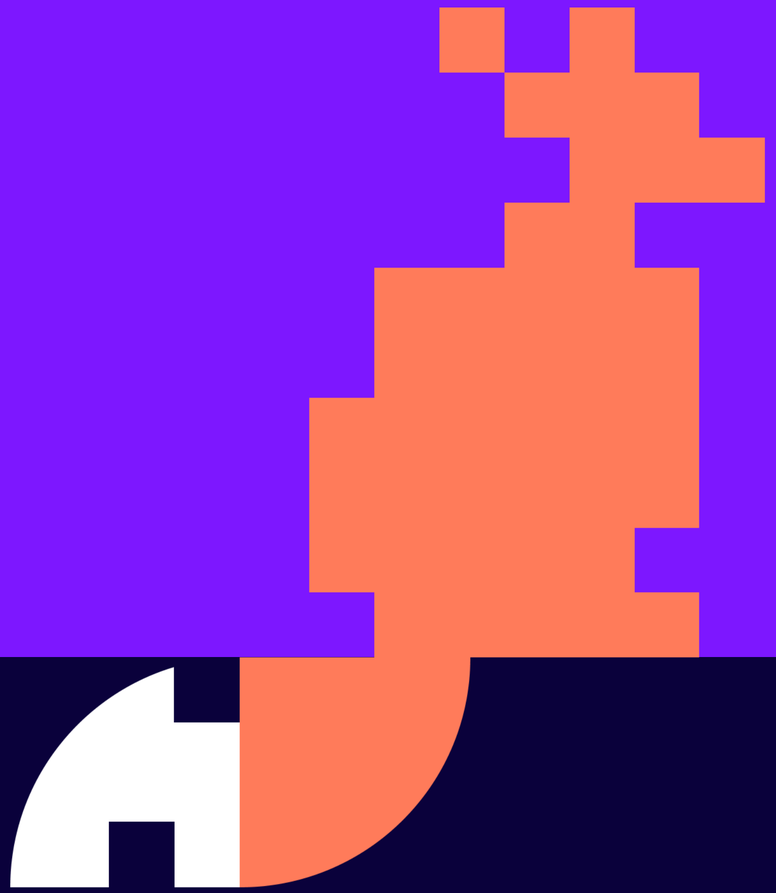
Parallel Workspace Processing





Demo

TypeFox



Questions?