

2024  
DESIGN AND VERIFICATION™  
**DVCON**  
CONFERENCE AND EXHIBITION  
**EUROPE**  
MUNICH, GERMANY  
OCTOBER 15-16, 2024

# Making Code Generation Favourable

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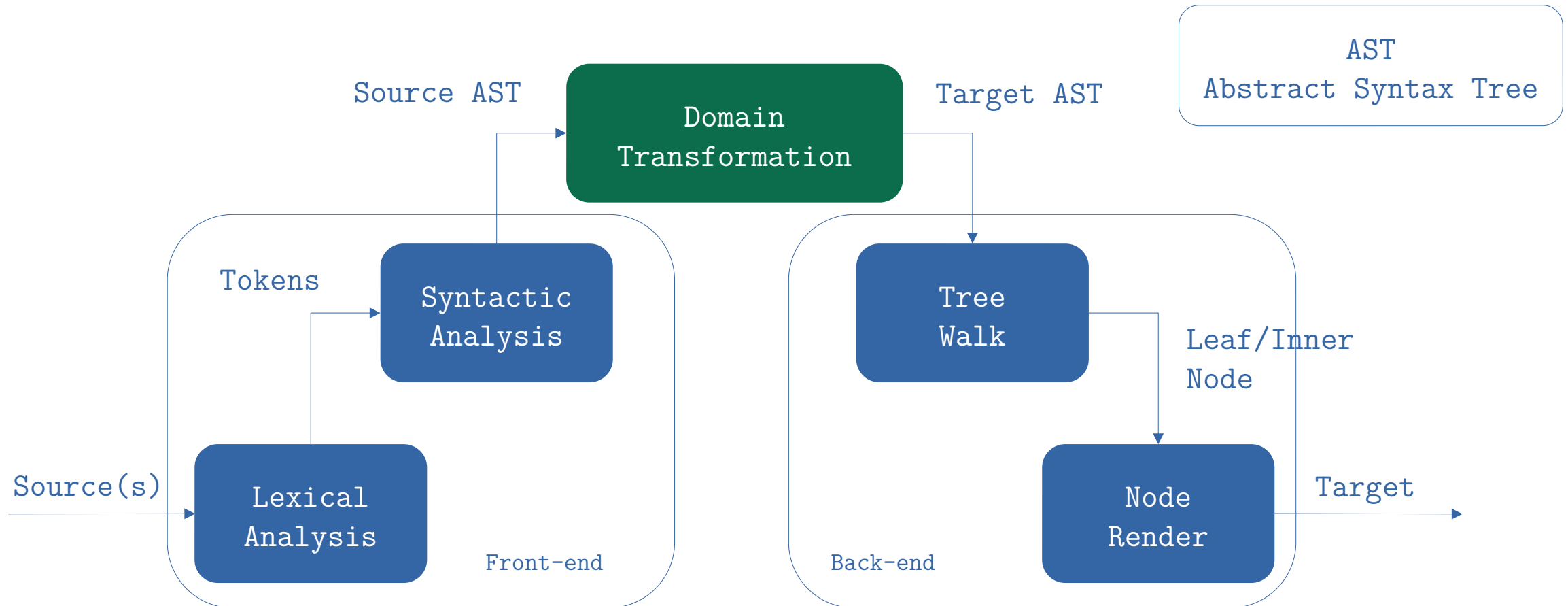
**SIRUCO**



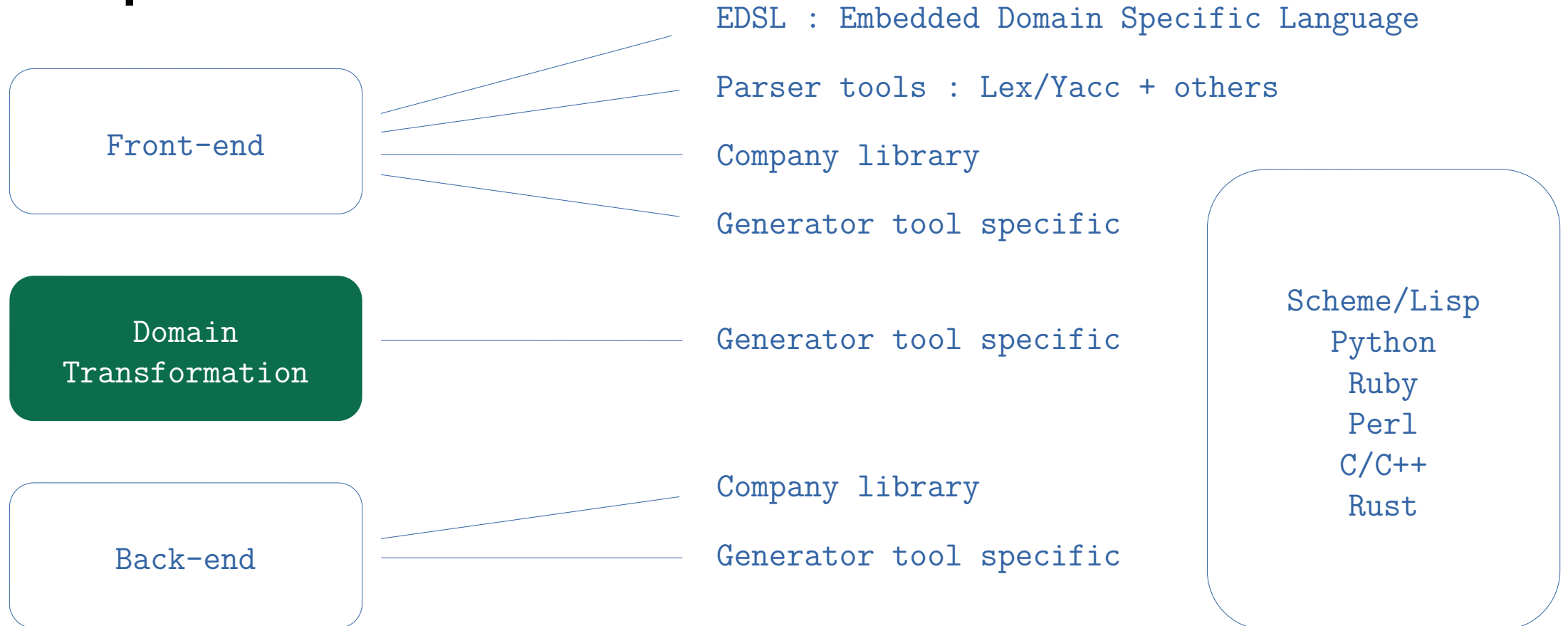
# Introduction

- Code generator: source → target
- Source description: Domain Specific Language (DSL)
  - Type of the design
  - Parameters of the design
  - Other inputs/files
- Correct, optimized RTL code
- Used for repeated patterns in designs

# Language transformation



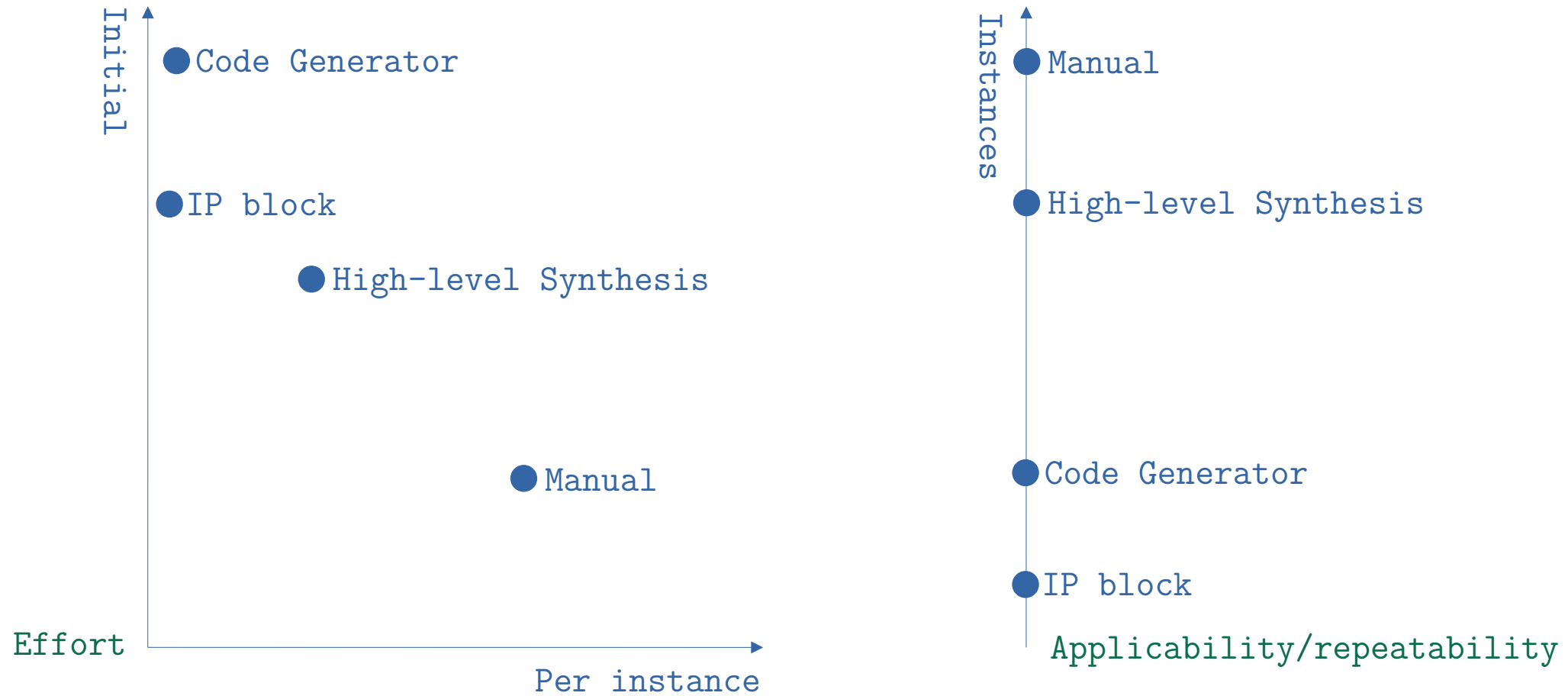
# Implementation



# Opportunities

- Typical:
  - Hierarchy Modules
  - Control and Status Register (CSR) blocks
  - Communication blocks
  - Digital Signal Processing blocks
  - Primitive Modules
- Design specific:
  - Repeated design units
  - Repeated design patterns/rules

# Methodology landscape



Conceptual diagrams

# Key points

- Identify repeating design units and patterns
- Formalize/simplify design documentation (tables, lists)
- Make front-end and back-end libraries available
- Start small/simple and create usable results quickly
- Rinse and repeat, make it part of your DNA

THANK YOU!

Questions?