Generation of Functional Mock-up Units from Causal Block Diagrams

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Different models in different formalisms

Problems:

• Exchange models
• Exchange solvers
• Co-simulation
**FMI**[^1]

Solution: Functional Mockup Interface

- *FMI for Model Exchange*
- *FMI for Co-Simulation*

Model Exchange
Co-Simulation
Functionals Mockup Unit

FMU consist of:

• Compiled C program
• XML file
Project[2]

From Causal Block Diagrams:

• Replace every integrator and derivative
• Flatten the hierarchical CBD
• Optimize CBD
• Generate C-code + XML file
• Compile FMU

Questions?