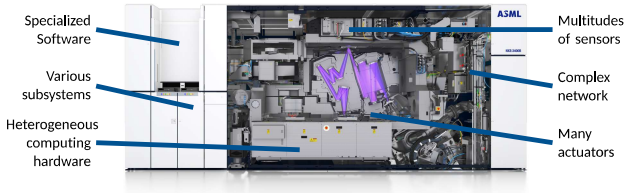
A Novel Approach to Automatic Platform Model Inference

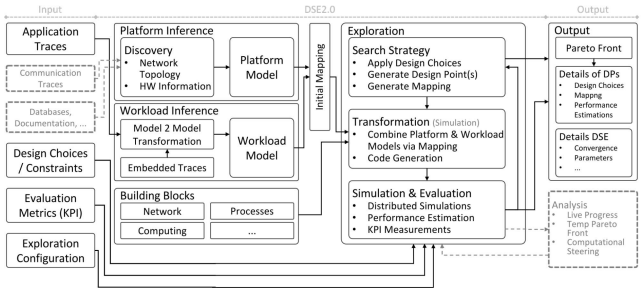
of Complex Distributed Cyber-Physical Systems

Motivation



How can a complex, distributed CPS be automatically modelled with particular consideration for abstraction, speed, and accuracy?

DSE Concept



Challenges

Complex Networks
Dealing with intricate connections and interactions among various system components (i.e. network topology).

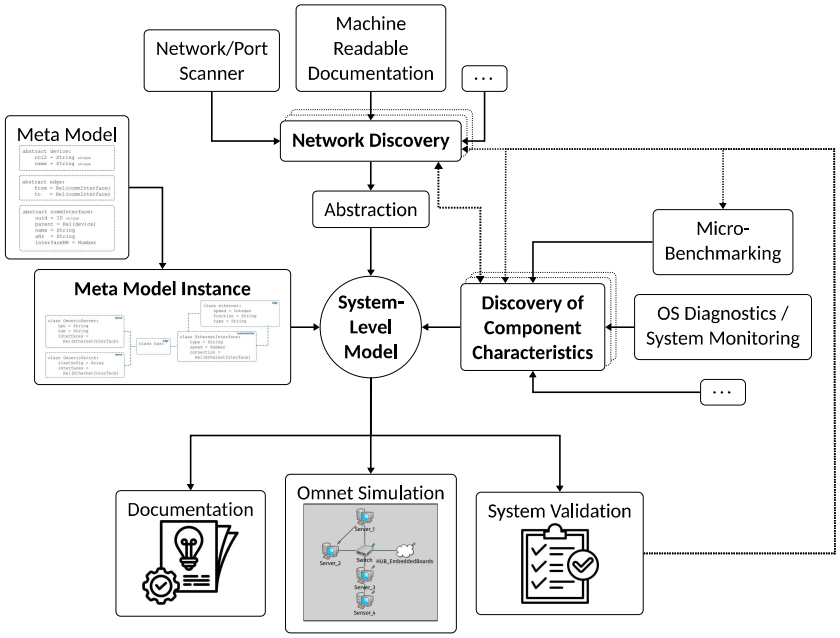
Heterogeneity
Managing diverse hardware/software elements with different specifications, interfaces, and protocols.

Interoperability
Ensuring seamless integration of specialized/proprietary hardware with unique characteristics.

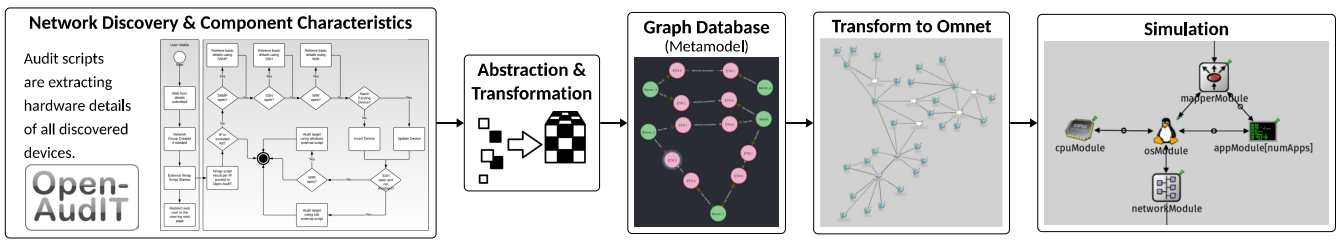
Abstraction/Granularity
Balancing between simplifying the model for efficiency and sufficient detail to represent the system's behaviour and characteristics accurately.

Lifecycle Management
Adapting to evolving machine configurations, diverse hardware vendors, and regularly revised machines to ensure accurate, up-to-date system models.

Automatic Platform Model Inference



DSE2.0 Platform Model Pipeline



Toolchain

Open-AudIT Opmantek

neo4j neomodel

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Universiteit Leiden
ASML
NWO
ESI

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