AutoTSN

**Automated configuration and verification for flexible Time-Sensitive Networking**

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AutoTSN

Objective
The global vision of the project is to facilitate and accelerate the integration of Time-Sensitive Networking (TSN) in application domains with the following requirements:

- low architectural complexity
- less configuration and verification effort
- guaranteed timing
- safety mechanisms
- plug&play capabilities
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Challenges and Technical goals

• Modelling and design of complex TSN network architectures covering:
  • Topology (physical layer)
  • Data flow (application layer)
  • Timing and safety requirements (physical and application layer)

• Automated Configuration and Verification:
  • Automated network model analysis
  • Generating of system-wide constraints (ISO/OSI layers)
  • Automated schedule synthesis
  • Overcoming the challenge of long synthesis time for large-scale networks (important for reconfiguration at run time)
  • Analysis of the model unsatisfiabilities (constraints with conflicts)
  • Auto-generated recommendations for network model correction
  • Fast and automated formal timing analysis
  • Data-centricity and Plug&Play concepts for TSN
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What We Can Offer
AutoTSN

Industrial and Academic Partners

- Industry 4.0
- Automotive/Aerospace
- Healthcare

Economical impact

- A modular modeling platform for TSN
- Low-cost network management and verification
- Acceleration of developing innovative and critical distributed applications

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Expected Duration

36 months