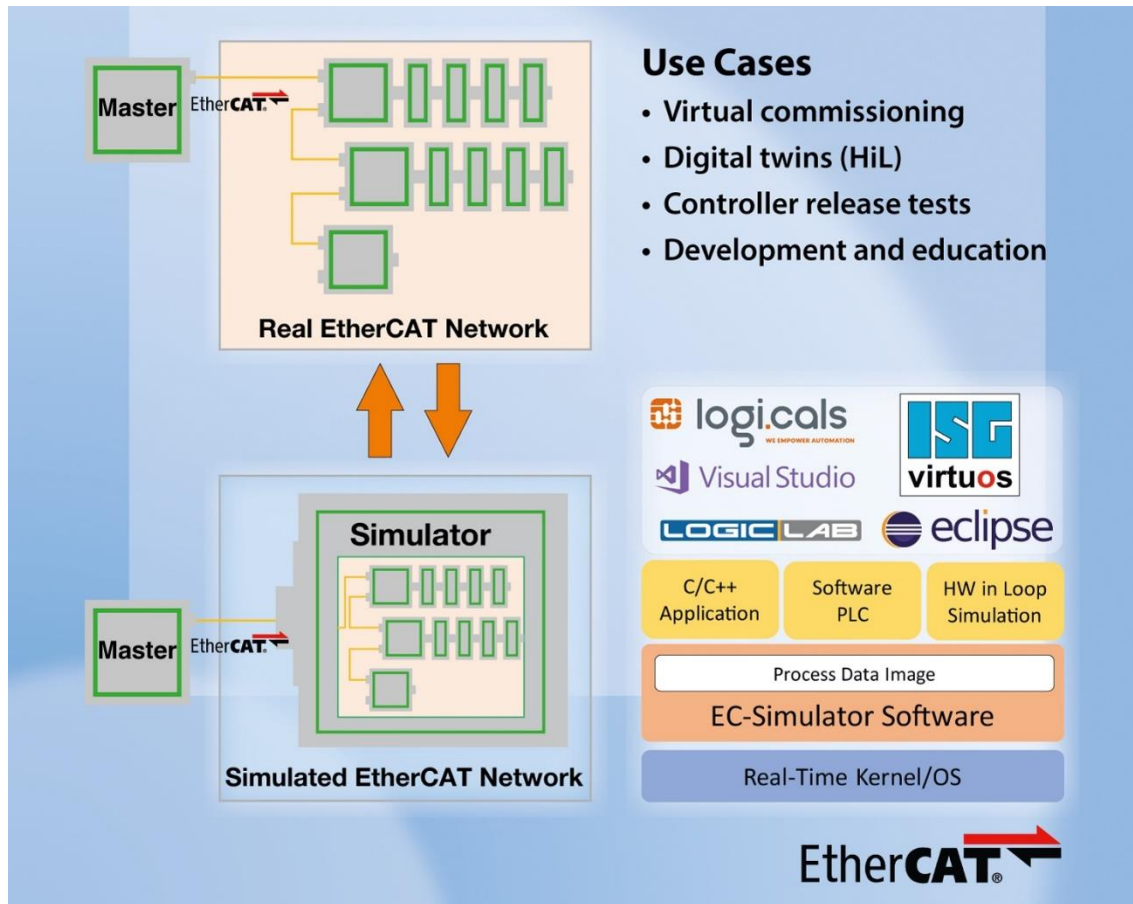


EtherCAT® Network Simulation

Run an EtherCAT controller with a simulated network



Overview

The EC-Simulator virtualizes EtherCAT® networks by simulating the EtherCAT® slave devices in order to run EtherCAT Master applications without real EtherCAT® slave hardware available.

The EtherCAT® simulation is provided on a physical network adapter or virtually, e.g. to realize a completely simulated machine setup.

Configuring the simulation instance is seamless using the ENI file of the real network.

Reaction to Process Data, SDOs, Slave Stack interaction, etc. can be programmed using C/C++ or .NET opening the EtherCAT data to various other engineering, testing or virtualizing tools like ISG Virtuos®.

Use Cases

- Virtual commissioning: Test and optimize the application at an early stage of the engineering, even without any real existing hardware. Test error scenarios which are dangerous and/or lead to damages
- Digital twins with Hardware in the loop (HiL) simulation
- EtherCAT control system release tests: Test extended scenarios, e.g., simulate topology changes. Simulate slave errors Simulate huge networks
- Software development and education

Features

- Support for acontis EC-Master
- Mirrored process image
- Slaves with and without mailbox
- Mailbox protocol CANopen over EtherCAT (CoE)
- PDO configuration and assignment commands via CoE
- Support for all mailbox initialization commands
- Basic object dictionary
- Support for distributed clocks



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