EtherCAT Master

EtherCAT® Master Stack for several (Real-Time) OS

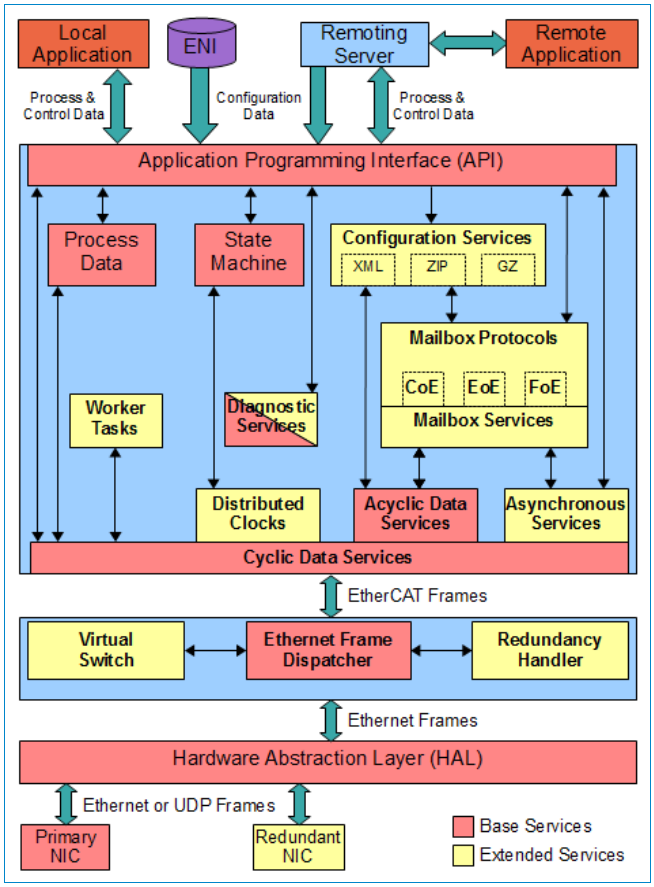
The EtherCAT Master Stack is written in ANSI-C with respect to high performance, small resource usage and scalability. The core components are operating system (OS) and CPU architecture independent. An adaptation to many prevalent (real-time) operating systems is available from stock which guarantees a cost efficient fast time-to-market integration into a custom application.

Key features

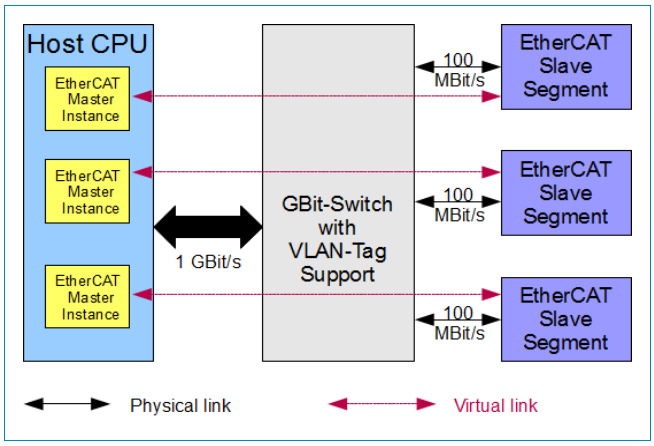
- *Configuration and management of EtherCAT networks with enhanced error detection and diagnostic.*
- *Cyclic exchange of process data. The cycle can be defined by the EtherCAT master or the application.*
- *Mailbox based communication with:*
  - *CAN application protocol over EtherCAT (CoE) with support for Service Data Object (SDO) upload/download, SDO information services and CoE emergency messages.*
  - *Ethernet over EtherCAT (EoE)*
  - *File over EtherCAT (FoE)*
- *Sophisticated API common to all implementations as interface between the application and the EtherCAT master stack.*
- *The master can either be configured with standardized XML based EtherCAT network information (ENI) files (OS independent XLM parser included) or via the API if the OS doesn't support a file system. ENI configuration files may reside in ZIP/GZ archives.*
- *Allows application defined asynchronous communication in parallel to the cyclic data exchange (e.g. read an EtherCAT slave EEPROM).*
- *Built-in detailed diagnostic and profiling functions.*
- *Support for cable redundancy with 2nd Network Interface Controller (NIC) to handle single fault malfunctions (cable break, damaged plug, EMI, slave breakdown) without communication interruption or data loss.*
- *Support for Distributed Clock (DC) based slave synchronization with initial calculation of delay compensation parameter.*
- *Support for multi master mode to address independent slave segments via several physical NICs or via a VLAN tag enabled Ethernet switch with a single NIC.*
- *Support to handle binary EtherCAT Slave Information (ESI) EEPROM data.*
- *EtherCAT Master Class B according to ETG.1500.*
- *The well defined OS layer and interface to the NIC facilitates a simple adaption to platforms not yet supported.*
- *Comes with a comprehensive manual and example application in source code.*

Applications

Easy and fast integration of EtherCAT Master support into industrial control and automation systems, testbed systems or production control.



Stack Architecture Overview



Switch based multi master mode using single NIC

Technical Specifications:

Hardware requirements:
Standard Network Interface Controller (NIC)

Platform support:	
Operating System:	*CPU Architecture:*
VxWorks 5.4.x / 5.5.x / 6.x	*x86 / PPC*
QNX 6.x	*x86 / PPC / ARM*
RTX 8.1.2 / 2900 SP1	*x86*
Linux	*x86 / PPC / ARM*
Windows XP/Vista/7 (32-Bit)	*x86*

Order information:	
Designation	*Order no.*
EtherCAT Master, single license	*P.4500.xx*
EtherCAT Master, project license	*P.4501.xx*
EtherCAT Master demo version for Windows XP/Vista/7	*P.4502.01*

Please contact esd for platform specific order number details or further supported platforms.

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