



# EtherCAT Master

EtherCAT® Master Stack for embedded (real-time) OS

Written in ANSI-C with respect to high performance, small resource usage and core components that are operating system (OS) and CPU architecture independent (real-time) operating systems guaranteeing a cost efficient, fast time replication.

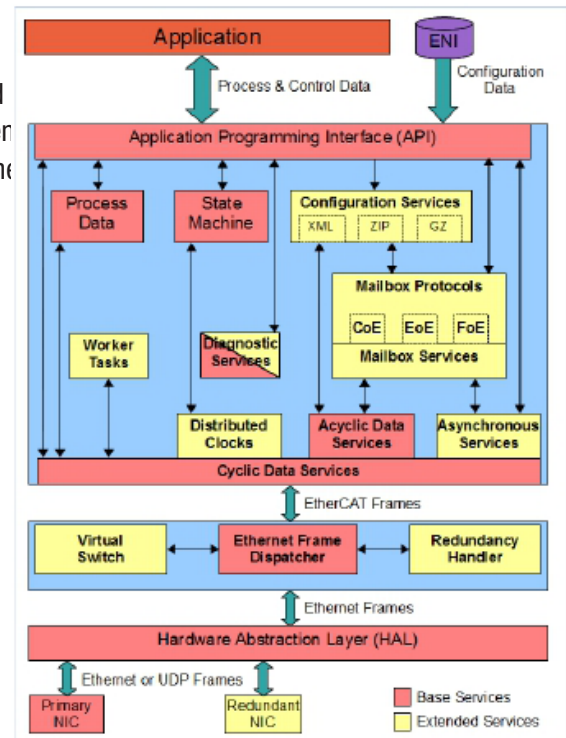
## Key Features:

- Configuration and management of EtherCAT networks with enhanced error detection and diagnostic.
- Cyclic exchange of process data. The EtherCAT® Master or the application can define the cycle
- Mailbox based communication with:
  - CANopen 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 an interface between the application and the EtherCAT master stack.
- Configuration of the master by either standardized XML based EtherCAT® network information (ENI) files (OS independent SLM 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.
- 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.

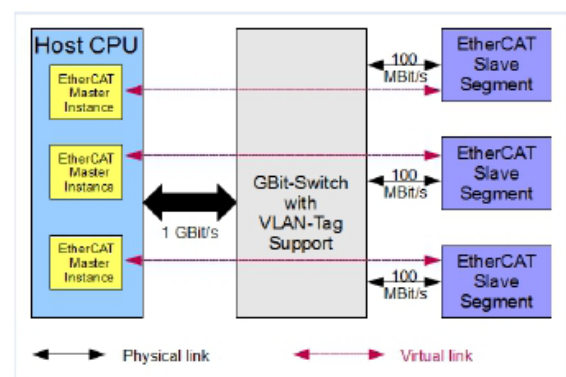
## Applications:

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

# EtherCAT®



Stack Architecture Overview

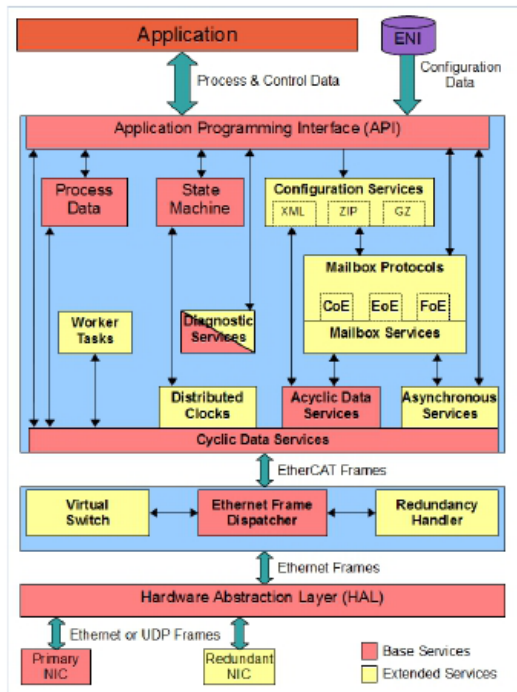


Switch based multi master mode using single NIC

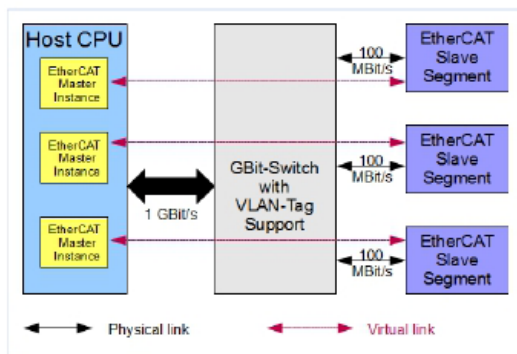
growing with the  
challenge

# EtherCAT Master

## EtherCAT® Master Stack for embedded (real-time) OS



Stack Architecture Overview



Switch based multi master mode using single NIC

For further information please visit  
<http://www.esd-electronics-usa.com/EtherCAT%20Products.html>

### Technical Specifications:

#### Hardware Requirements

Standard Network Interface Controller (NIC)

#### Platform Support:

Operating System and	CPU Architecture
VxWorks 5.4x /5.5x /6.x	X86 / PPC
QNX 6.x	X86 / PPC / ARM
RTX 8.1.2 / 2900 SP1	X86
Linux	X86 / PPC / ARM

### 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.

# EtherCAT®



esd electronics, Inc.  
 Phone: 800-732-8006  
 Fax: 800-732-8093

Web: <http://www.esd-electronics-usa.com>  
 Email: [us-sales@esd-electronics.com](mailto:us-sales@esd-electronics.com)