Protocol Software Stacks
EtherNet/IP Scanner and Adapter

Ethernet Protocol Stacks are the most open, powerful and cost-effective solutions for customers who want to embed EtherNet/IP protocol into industrial controllers and field devices.

Promoted by ODVA, EtherNet/IP is an Ethernet-based networking solution for industrial automation. EtherNet/IP protocol capitalizes on the advantages that industrial Ethernet brings to the automation environment.

Features and Benefits

| Complete Ethernet/IP Scanner and Adapter development kits (stacks) | Quickly embed EtherNet/IP protocols for both controller (Scanner) and device (Adapter) applications; reduce costs and time-to-market |
| No hardware and OS dependencies | Easy implementation on a large range of hardware system platforms or software operating systems |
| OEM engineering console software (EIP-CT). This tool is protected by a USB dongle and can be customer branded | Quickly create configuration files to initialize the stack and perform commissioning and diagnostic of connected devices |
| Sample applications with source codes are provided | Facilitates easy and quick implementation |
| Successfully tested with ODVA conformance tool | Delivers a robust and conformant EtherNet/IP implementation |
| Stack training, technical support and engineering development for both hardware and software design available | Supports successful system design, implementation and development |

Applications

Industrial automation manufacturers
- Controllers (PLC), PC-based controllers (Soft PLC)
- I/O devices, sensor/actuators, vision systems, displays
- Process instruments
- Drives
- Network interfaces (PC card, gateways)
- Industrial Ethernet switch

Machine builders
- All types of complex machines having Ethernet connectivity (e.g. packaging, textile, printing, etc.)

Robot manufacturers
- Robot tooling
- Robot controller
- Robot monitoring

Industrial PC manufacturers
- Machine control
- Process control
- Industrial manufacturing
- Warehouse and logistics

Supervision software edition
- Monitoring of process control
- Diagnostic tools

Non-automotive transportation
- Vehicle infrastructure (railways, subways)
- Cranes
- Agricultural equipment

Electronic manufacturers
- Ethernet connectivity
- Product bundling

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Protocol Software Stacks
EtherNet/IP Scanner and Adapter

Specifications

**BASIC CHARACTERISTICS**
Conform to ODVA specifications EtherNet/IP (vol 1-3.16, vol 2-1.17)
CIP Features
- Implicit messaging (I/O process data)
- Explicit messaging (configuration and diagnostic)
- Extensive Client/Server messaging support
- Fully compatible with EtherNet/IP conformance test suite CT14
- Stack Resolution: Timing resolution in microseconds
- Supported objects according to CIP Standard
  - Identity Object
  - Message Router Object
  - Assembly Object
  - Connection Manager Object
  - TCP/IP Interface Object
  - Ethernet Link Object
  - QoS Object
  - Any user objects

**COMMON CHARACTERISTICS**
- Hardware Compatibility: 32-bit and 64-bit processor (Intel, PowerPC, ARM, SH4 already validated)
- Supported Operating System: Any OS real-time or not (Windows, VxWorks, Linux, etc.)
- Hardware Compatibility: Supports Motorola and Intel memory systems
- Stack Implementation:
  - Single or multi task
  - Socket based or UDP optimization
- Code foot print (estimate but highly customizable)
  - 200 kB for Adapter
  - 400 kB for Scanner

**SDK PACKAGE**
- ANSI C source code
- Electronic documentation
- Implementation example on several operating systems (Win32, Win64, VxWorks 6.4/6.6/6.8, Linux)
- EDS sample
- STC sample for ODVA conformance tool
- Sandbox application for testing SDK API
- EIP Trace to log messages from target platform on a Windows host
- EIP Tool to access CIP objects
- EIP-CT EtherNet/IP Configuration Tool

**ETHERNET/IP CONFIGURATION TOOL (EIP-CT)**
- Windows (32-bit & 64-bit): XP, Vista, Seven, 2008 Server
- Generate Scanner stack configuration files
- EDS device library management
- Adapter commissioning (Automatic device detection, online actions, etc.)
- Support of modular device like Rockwell FlexIO and PointIO devices with chassis & module management
- Integrated diagnostic
- OEM customization
- USB dongle protection
- Used by ODVA during plug fest interoperability tests

Ordering Information

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<td>EtherNet/IP Scanner and Adapter SDK</td>
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Support / Training Information

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Stacks also available from Molex: CIP Safety Scanner and Adapter, PROFINET IO-Controller and IO-Device, PROFINET MRP, PROFINET OEM Engineering Console, PROFINET Services (training and engineering support)

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www.molex.com/link/stacks.html