PYRAMIDSOLUTIONS

NetStaX™

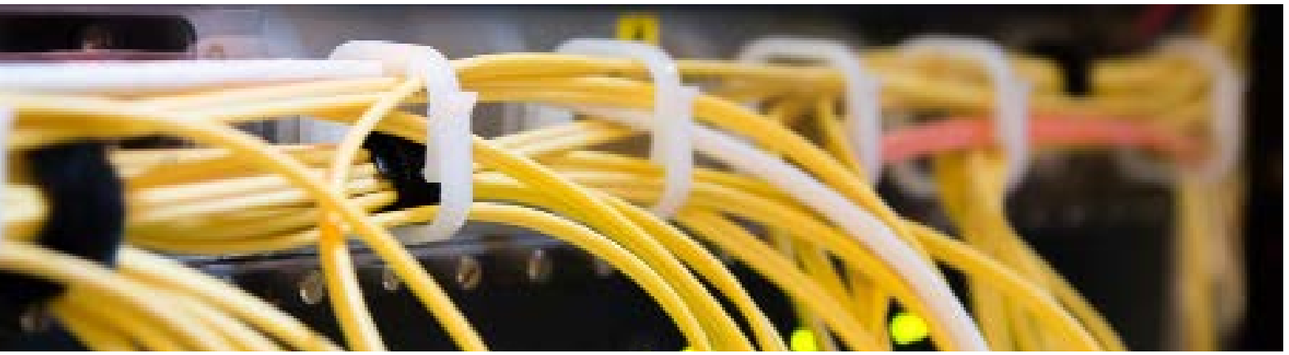
EtherNet/IP Scanner DLL Kit - EIPS

KIT OVERVIEW

OUR NETSTAX ETHERNET/IP SCANNER DLL KIT PROVIDES THE FOLLOWING FUNCTIONALITY AND FEATURES:

- Enables EtherNet/IP Scanner (and Adapter) Class functionality
- Class 1 (I/O) implicit connection client (originator) and server (target)
- Class 3 (connected) explicit message client and server
- UCMM (unconnected) explicit message client and server
- Reads and writes Rockwell PLC tags (single or multiple)
- Allows connection configuration via the API or the network via the Connection Configuration Object (CoCo)
- Supports multiple NICs (physical or virtual)
- Provides a rich set of standard objects
- Enables the creation of user-defined objects
- Is scalable to manage device resources
- Provides a logical and manageable API

EtherNet/IP



Resource Utilization and Management:

- All resources initialized at startup
- No dynamic memory or thread allocation
- Stack runs on a single thread
- Dynamic registration of additional objects for client application processing

Platform, OS, TCP/IP Stack Compatibility and Portability:

- Microsoft Windows 7 through 11 (32 and 64 bit DLLs included)
- Compatible with Windows WinSock TCP/IP stack
- Compatible with Visual Studio Windows/.NET with C++, C#, and VB.NET examples provided
- Compatible with standard PC/laptop Ethernet ports
- Has been used successfully across a wide range of Windows PC/laptop platforms and applications

Supports Objects and Functionality:

- Message router
- Connection manager
- Port
- Modbus translator
- Ethernet link
- TCP/IP
- Connection configuration object
- Assembly
- Identity
- Custom objects*
- File object
- Class 0 support
- Energy object
- CIP Security**
- LLDP

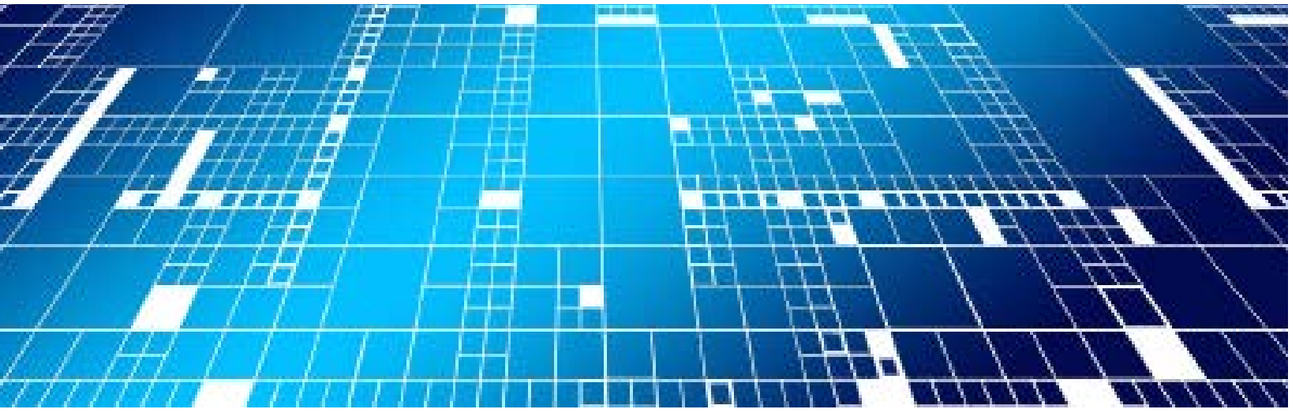
* Users can create additional objects using EIPS object templates as a starting point

** Requires the EIPS-SECURE option and an SSL library that you supply

ADDITIONAL FEATURES INCLUDE:

- Tested with ODVA CT20*
- Supports TCP/IP object
- Supports Ethernet link object
- Supports Assembly object
- Customize the number of connections, requests, etc. from build time parameters
- Supports “Big 12” diagnostics
- Full support for dynamic assemblies
- EIPS-SECURE option feature updates
- EIPS Scanner DLLs (32 & 64bit) with C++ function call API, C# API, and COM API for using the EIPS stack with Windows and .NET applications
- A Scanner Class example application executable with source code that demonstrates use of the EIPS’s Scanner Class API and functionality
- EIPS Getting Started, Software Reference manuals
- Application notes and code examples that demonstrate specific stack features (in C++, C#, and VB.NET)
- Example STC file to edit for use with your product when pre-conformance testing
- Example EDS file

* To test the latest EIPS stack, we create a pseudo-device and run the latest ODVA conformance software against the pseudo-device.



PERFORM FUNCTIONS, SUCH AS:

- Start the stack
- Establish an event callback
- Allocate a NIC
- Instantiate assembly instances (if operating as an Adapter)
- Populate your product’s Identity Object
- Originate an implicit or connected explicit connection
- Check connection status
- Originate an unconnected explicit message
- Respond to an external connection
- Consume data from a connection
- Produce data on a connection
- Process an object request
- Stop the stack

Note: The above is an example subset of the EIPS APIs.

DEFINING YOUR DEVICE

When you define your device, you determine what application objects are needed to interface to the outside world for data exchange and configuration.

The EIPS ships with a set of standard objects, but by using the included object templates, you can create your own application objects as well. You can include these when compiling your target code and then instantiate at runtime.

You also determine what connections your device needs to originate and any assembly instances your device needs to expose and instantiate at runtime. These features are controlled by your application code based on the configuration of your device.

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DEVELOPMENT LIFE CYCLE

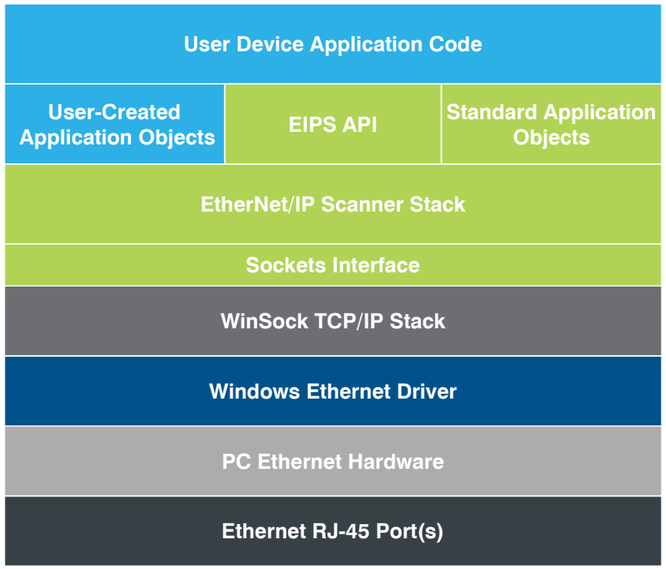
1. LICENSE AND INSTALL EIPS AND TOOLS (EIPSCAN)*
2. SETUP YOUR VISUAL STUDIO DEVELOPMENT ENVIRONMENT (Begin Development)
3. REFERENCE THE APP NOTE EXAMPLES
4. DEVELOP APPLICATION OBJECTS FROM EIPS OBJECT EXAMPLES
5. DEVELOP APPLICATION CODE
6. TEST FUNCTIONALITY OF YOUR DEVICE USING EIPSCAN
7. PRE-TEST CONFORMANCE AND INTEROPERABILITY WITH ODVA CT TEST**
8. GO TO THE ODVA LAB FOR CONFORMANCE TESTING
9. GO TO THE ODVA INTEROPERABILITY PLUGFEST
10. SHIP YOUR PRODUCT

* Important! You need to have a Vendor ID and the CIP & EtherNet/IP Specs from ODVA as required by their "Terms of Usage"

** The ODVA CT Test software is available separately from ODVA as a 12-month subscription

*** EIPScan and EDITT are separate tools sold by Pyramid Solutions

ETHERNET/IP SCANNER DEVICE HIGH-LEVEL ARCHITECTURE



NetStaX EtherNet/IP Scanner Development Kit

User-created application objects are developed using the object templates provided with the kit.

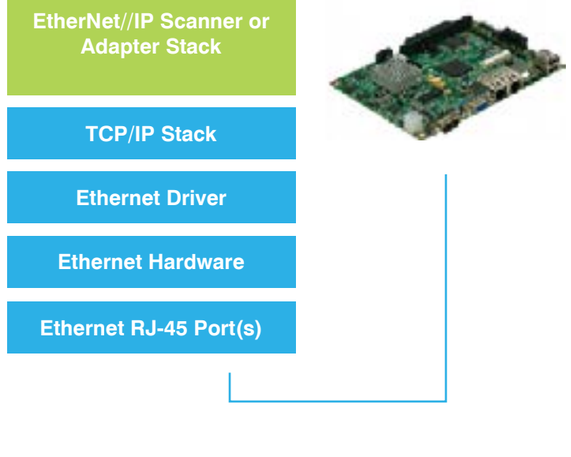
Assembly instances are dynamically allocated by the device application code at runtime from the assembly object's pre-allocated resources.

PYRAMID SOLUTIONS PROVIDES THE FOLLOWING SERVICES:

- EtherNet/IP and EIPS kit training
- Assist in the requirements and design of your EtherNet/IP product
- Expert consulting – design, development, testing and troubleshooting
- Development s EtherNet/IP and EIPS kit training ervices – from getting you started to full turnkey development
- Configuration and test tools development
- Pre-conformance and pre-interoperability testing
- Attendance of the ODVA lab test or remote support
- Extended support

Whether you are looking for a partner to develop your EtherNet/IP product or want to do it yourself, we have services options that will benefit your project and accelerate your product to market.

Contact us today to see how we can help.



Pyramid Solutions Product & Services Options

* Rockwell Automation provides AOP services and Pyramid Solutions prepares the device properly

IF YOU HAVE QUESTIONS PLEASE VISIT:

PyramidSolutions.com

248-549-1200

IF YOU ARE LOOKING FOR SUPPORT FOR YOUR EXISTING NETSTAX PRODUCTS CONTACT:

productsupport@pyramidsolutions.com

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