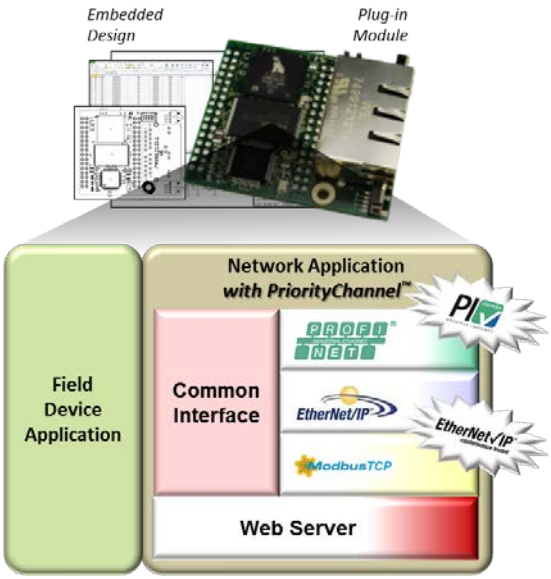
RapID™ Platform – Developer Solution

Customizable, 2-Port Connectivity Solution

Integrate any Field Device application with PROFINET, EtherNet/IP or ModbusTCP using the *RapID Platform Developer Solution*



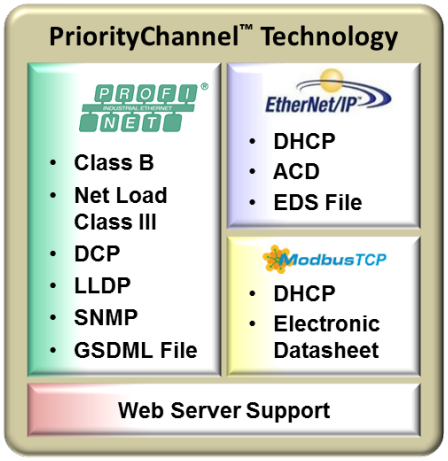
The *RapID Platform Developer Solution* contains the necessary hardware, software and software development environment to integrate a Field Device with **PROFINET**, **EtherNet/IP**, and **ModbusTCP**. The hardware can be integrated into a Field Device either as a module or embedded directly into the Field Device circuit card. The software encapsulates the Industrial Ethernet protocols into a Network Application that provides a Common Interface API to the Field Device Application. **This API allows the Field Device Application to remain the same regardless of which Industrial Ethernet protocol is used.** The software development environment, Network Application software (with the Common Interface API), and protocol stacks are provided **free of charge with no royalties or hidden fees.**

For EtherNet/IP, the Network Application is certified by ODVA and has received **Plugfest Conformance Test** endorsement. For PROFINET, the Network Application is certified by PI to **Class B** and passes **Net Load Class III**, the highest achievement possible for Class B Field Devices. These certifications and network conformance tests ensure your Field Device will operate problem-free with any EtherNet/IP or PROFINET controller and will never disconnect from the network.

Reliable, Real-Time Network Performance

The *RapID Platform Developer Solution* incorporates **PriorityChannel™ technology** – a revolutionary technology that eliminates the effects of network traffic and ensures reliable, real-time network performance. PriorityChannel gives your device a significant competitive advantage, extremely low jitter, and a reliable connection that will not disconnect even with >95% network loading.

For PROFINET, Class B support includes the Discovery Control Protocol (DCP) that provides basic device configuration facilities. The Link Layer Discovery Protocol (LLDP) is used so controllers can identify devices attached to the network and understand the overall network topology. DCP and LLDP work together so devices can be easily added or removed from the network. Simple Network Management Protocol (SNMP), along with the required Management Information Bases (MIBs), is used to support network configuration and diagnostics. For EtherNet/IP, support includes Dynamic Host Configuration Protocol (DHCP) and Address Conflict Detection (ACD). Together these two protocols ensure seamless integration, allowing devices to be easily added or removed from the network.



Example GSDML and EDS files are provided so they can be tailored to describe the exact features of the final Field Device product to either a PROFINET Controller or EtherNet/IP Scanner.

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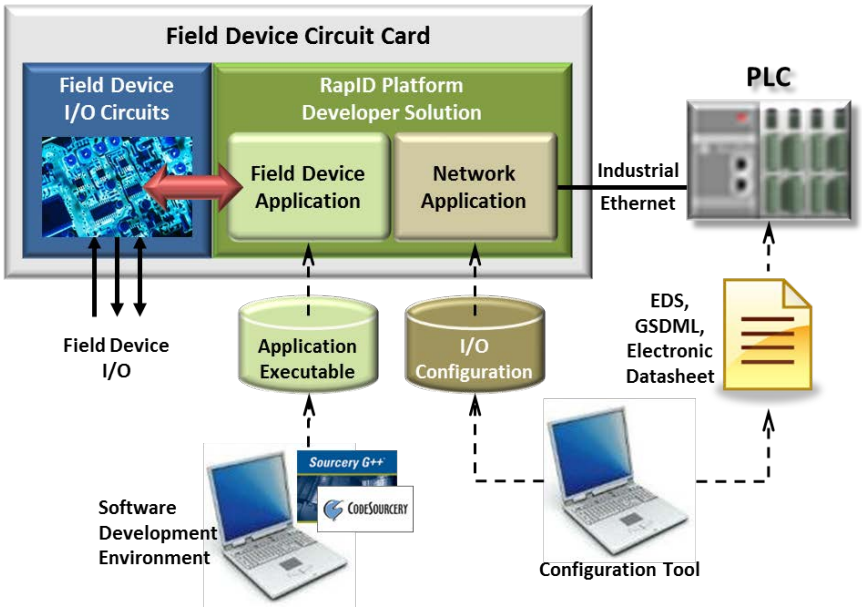
Everything you need

The *Developer Solution* provides everything you need to design an Industrial Ethernet interface into your Field Device and get your product to market quickly. As shown in the diagram, Field Device I/O can interface directly to the *Developer Solution* processor or through custom I/O circuits. The Field Device Application software is hosted on the *Developer Solution* processor using the Mentor Graphics Eclipse-based Software Development Environment. Innovasic provides example code to make the software development effort straightforward.



Communicating Field Device I/O over the Industrial Ethernet protocol is via a Common Interface API that allows the Field Device Application software to remain unchanged regardless of which protocol is used. A Configuration Tool allows you to download the I/O configuration to the Network Application software. Any configuration can be easily incorporated into the example EDS, GSDML, or ModbusTCP Electronic Datasheet provided by Innovasic. To ensure your product gets to market as fast as possible, this complete end-to-end Field Device development is supported by Innovasic's world class Application Support Team.

Easy Evaluation, Fast Product Development

The *RapID Platform Developer Solution Development Kit* allows you to design an Industrial Ethernet interface into your Field Device product. The development kit contains a baseboard and all the cables required. The baseboard provides breakouts necessary to monitor signals and connect external circuitry. Documentation is provided that allows you to perform all of the steps necessary to quickly set-up and run an application example with a PLC or PLC simulator. A 2-port Industrial Etherent module is sold separately. After you complete the application example, you will see how straightforward it is to configure your hardware for your Field Device's actual I/O and to tailor the application software to your Field Device's actual application.

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