

created for easy and fast integration

910-0002 Rev.3.00

Overview

The PIS-10 IEC 61850 software has been created as a **true** IEC 61850 software stack for easy integration of IEC 61850 client or server functionality on your product.

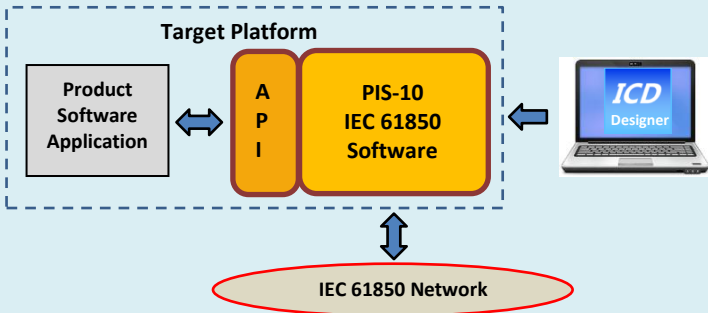
The PIS-10 software covers all the main features of the IEC 61850 standard such as MMS communication, GOOSE Publisher / Subscriber and Sampled Value Publisher and Subscriber. All these functions are self-contained in the PIS-10 software.

Our software has been packaged for rapid deployment as ANSI C **source code** allowing the porting to any commonly used operating system.

As second option the IEC 61850 software is delivered as easy to use linkable or dynamic libraries tailored to various target platforms.

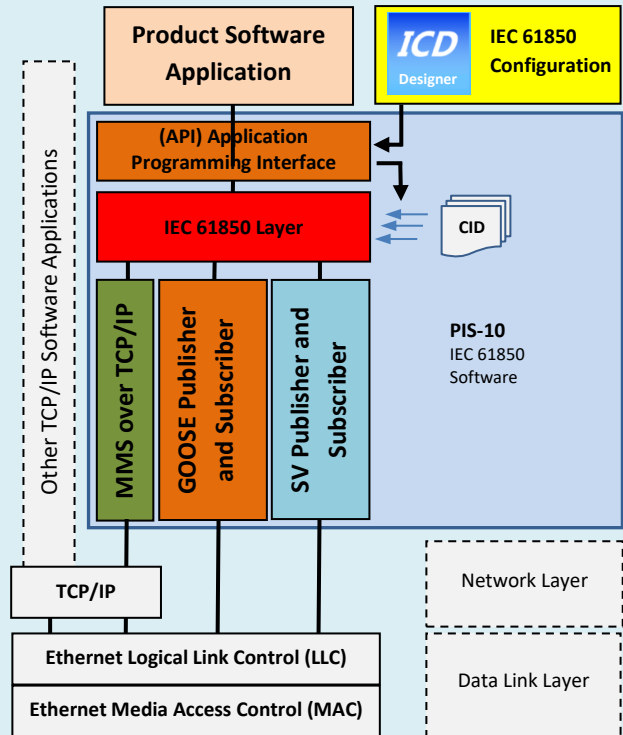
Our flexible licensing system caters for your product specific implementations and also for unlimited company usage of the source code or target specific libraries.

An easy to use application programming interface (**API**), common to both the source code and library products, combined with the **ICD Designer** configuration tool, simplifies the development process allowing significant reduction in the “time-to-market” of your product.



IEC 61850 Features

Basic Exchange	Association, Abort, Release
	GetServerDirectory
	GetLogicalDeviceDirectory
	GetLogicalNodeDirectory
	GetDataValues
Data Set	GetDataDirectory/GetDataDefinition
	GetLogicalNodeDirectory(DATA-SET)
Buffered and Unbuffered Reporting	GetDataSetValues
	GetDataSetDirectory
	GetURCBValues
	Optional Fields
	Trigger Conditions
Substitution	General Interrogation
	Buffering Events (buffered Reports)
	SetDataValue
GOOSE and Sampled Values	GetDataValue
	Publisher
Controls	Subscriber
	Direct Control, SBO Control
File Transfer	Enhanced Direct Control, Enhanced SBOControl
	Supported by Client and Server



Application Programming Interface Features

All API functions provided are identical across all target platforms and operating systems. This feature allows easy porting to any target platform.

The API is based on CALL and CALLBACK functions, which are grouped into:

- PIS-10 Stack Management
- PIS-10 Stack Support Functions
- IEC 61850 Data Attributes Access Functions
- IEC 61850 Control Functions

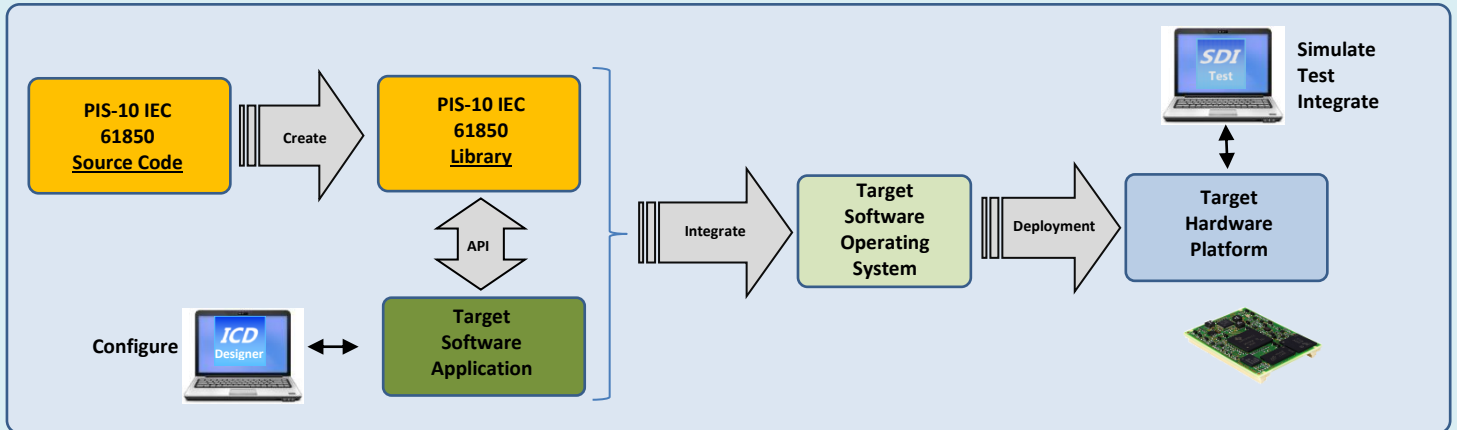
Only three PIS-10 stack management function calls are required to create an IEC 61850 server or client, load a CID (Configured IED Description) configuration file and start the IEC 61850 application.

Initiating IEC 61850 communication requires only simple update, read or write call functions.

The PIS-10 IEC 61850 software stack executes IEC 61850 behaviour and functions as specified in the CID configuration file loaded. As programmer no in depth IEC 61850 specific knowledge is required.

Developing IEC 61850 Products with PIS-10 Source Code Library

The PIS-10 IEC 61850 software allows the streamlined and simplified IEC 61850 integration in easy to follow steps.



PIS-10 IEC 61850 libraries are ready to use software libraries, tailored to a number of software operating systems. The PIS-10 IEC 61850 source code is portable ANSI C code suitable for almost any operating system.

PIS-10 IEC 61850 Software integration training and project specific workshops are offered by SystemCORP Energy.

Supported Operating Systems

The PIS-10 IEC 61850 software allows the deployment to almost any operating systems. The most popular operating systems are:

- Standard and Real-Time **Linux** for embedded systems
- Linux **Ubuntu** and **Debian** for X86 architecture
- **Windows™** operating system for X86 architecture
- **QNX** on embedded systems
- **VxWorks** on embedded systems

Propriety and other open real-time operating systems such as **eCos** and the **Beck-IPC RTOS** are also used frequently with our IEC 61850 software.

To assist during the implementation of IEC 61850 the IEC 61850 API User Manual is available online.

Online Help and Links

<http://www.systemcorp.com.au/support/iec61850-api-manual/>

<http://www.systemcorp.com.au/products/tools/icd-designer/>

<http://www.systemcorp.com.au/products/tools/rapid-sdi/>

Hardware Target Platforms

A variety of different processor types and computer platforms are being used with the PIS-10 IEC 61850 software. This also includes SoC (System on Chip) assemblies:

- **X86** Architecture based computers
- **ARM 7, 11** based SoC
- **Intel 80186** and **Intel Atom** 64 bit processor families
- Freescale **Power PC**
- ARM **CORTEX M4**
- **Raspberry PI** and **BeagleBone**

As part of our service we consult on the suitability of operating systems and verify hardware platforms specifications.

Supporting Tools

SystemCORP Energy provides the **ICD Designer** tool for IEC 61850 client and server configuration specially tailored to be used with the PIS-10 product.

We also offer the IEC 61850 client/server simulation and test tool **RaPID SDI**.

Contact

SystemCORP Energy Pty Ltd
15/50 William Street, Beckenham WA 6107
Tel: +61 8 6245 2100
Email: info@systemcorp.com.au

www.systemcorp.com.au

