Tech Note – IWS Interface for ControlLogix

Introduction

This document describes the interfaces provided in InduSoft Web Studio (IWS) to exchange data with ControlLogix™ PLCs from Allen-Bradley©:

- InduSoft Import Wizard for RSLogix™ 5000 CSV Database: Using this tool, the user can import the tag names and the communication settings from the PLC program. IWS creates not only the tags in the Application Tags Database but also the communication driver worksheet automatically. This interface reduces dramatically the time invested to integrate the SCADA/HMI software with the ControlLogix PLC and reduces (or eliminates) the configuration error (e.g.: misaddressing).

- ABCIP Communication Driver: This driver implements the CIP protocol over Ethernet/IP and exchanges data with the ControlLogix PLC during the runtime, using the tag names configured in the PLC project.

InduSoft Import Wizard for RSLogix 5000 CSV Database

IWS enables you to create or add to a Tags database by importing tags from an external application database, including:
1. Other InduSoft Web Studio databases
2. OPC Server databases
3. CSV databases
4. ODBC databases
5. PanelBuilder Import Wizard
6. **RSLogix 5000 CSV Database (including Allen-Bradley RSLogix CSV files)**

When you select **File → Import Wizard**, an *Import Wizard* dialog displays to walk you through the process of importing tags:
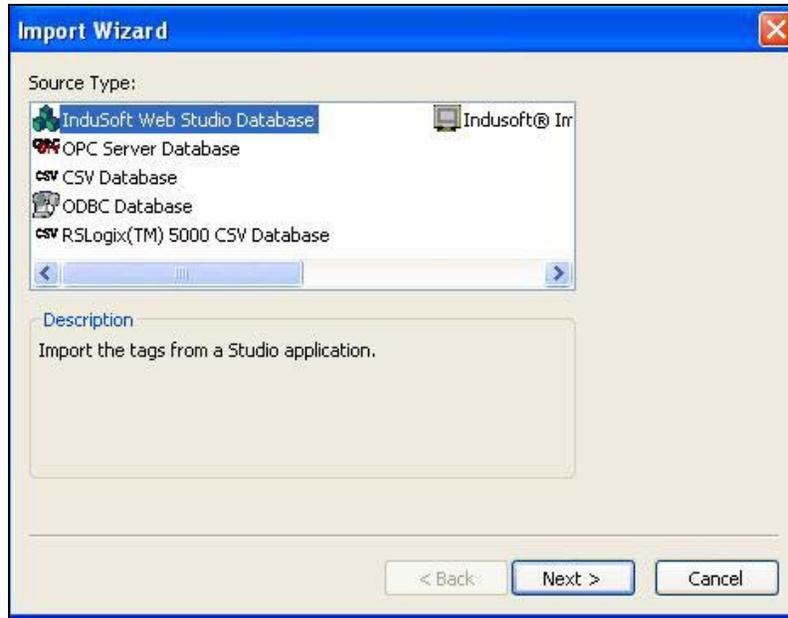
To begin, you must specify the type of database source you are going to use.

☑ Select **RSLogix™ 5000 CSV** from the *Source Type* list, and then click the **Next** button.

☑ When the next *Wizard* screen displays, click a radio button in the *Options* pane to specify one of the following options:
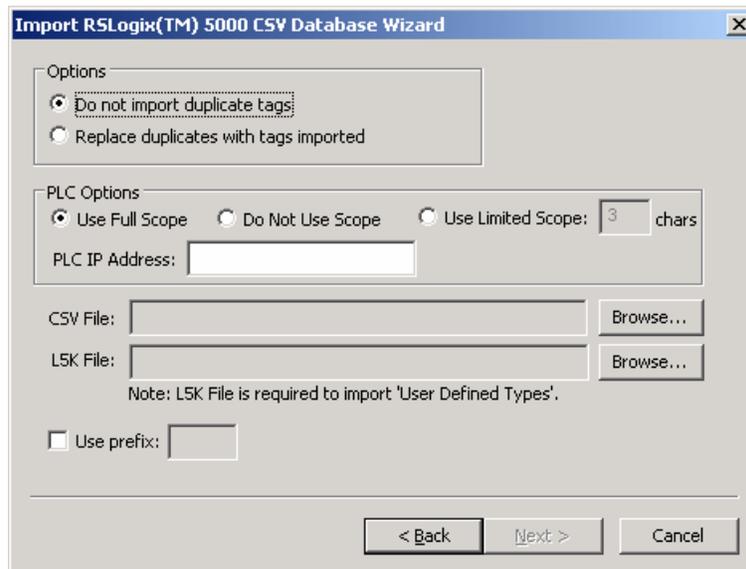
This interface allows the user to import the Tags Database and the communication interface configuration from the ControlLogix/FlexLogix PLC program files, including Allen-Bradley RSLogix CSV files. Before using this interface, you must export the project configuration using RSLogix 5000 programming software:

Tags Database: Open the PLC project with RSLogix 5000 programming software. Right-click on the *Controller Tags* folder, and choose the Export Tags option from the pop-up menu. Make sure to select the **RSLogix 5000 Import/Export File (*.CSV)** option in the *Save as Type* combo-box and the **All Tags in Project** in the *Scope* box. Click the **Export** button to create the CSV file with the Tags Database configuration.

The Import Wizard creates the tags on the Tags Database and creates the communication driver worksheets automatically.

User-Defined Tags: Open the PLC project with RSLogix 5000 programming software. Select **File→Save As** from the main menu. Make sure to select the RSLogix 5000 Import/Export File (*.L5K) option in the *Save as Type* box. Click the **Save** button to create the L5K file with the User-Defined Tags configuration.

✎ **Note:** The Users Guide Manual for IWS describes each one of the fields in this wizard in detail.

After going through the Import Wizard, IWS imports the settings from the PLC program and creates the tags database and the communication driver worksheets automatically. You can run the wizard as many times as you want and import configuration for as many PLCs as you have in your architecture.

ABCIP Communication Driver

The ABCIP driver enables communication between IWS and the Allen Bradley ControlLogix PLC with the 1756-ENET interface for Ethernet communication.

The ABCIP supports routing communication for two levels. Therefore, using this driver, you can exchange data with a ControlLogix PLC directly connected in the rack where the 1756-ENET module is connected, or you can address other PLCs connected to the ControlLogix rack via:
-   1756-ENET: Communication interface for Ethernet/IP protocol.
-   1756-DHRIO: Communication interface for DH+ or Remote I/O (RIO).
-   1756-CNB: Communication interface for ControlNet.

The typical configuration allows IWS to exchange data with the ControlLogix CPU directly connected where the 1756-ENET interface is connected, as illustrated in the following picture:
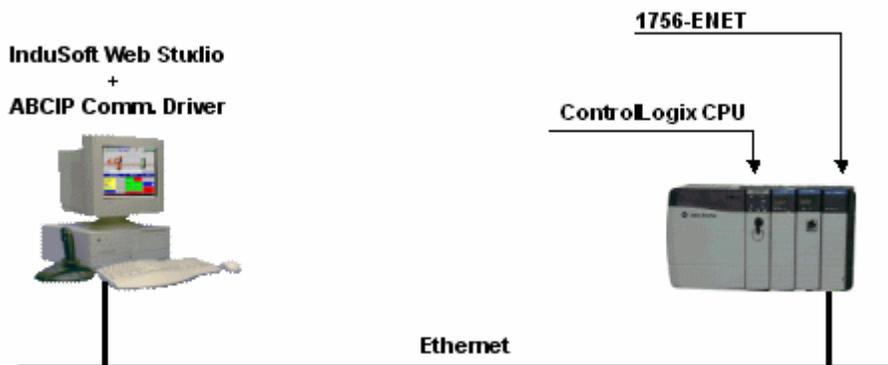
IWS allows you to create platform-independent applications for Microsoft operating systems. Therefore, the ABCIP driver can run under Windows NT/2000/XP or under a WindowsCE device, including embedded controllers powered with the Windows CE operating system:
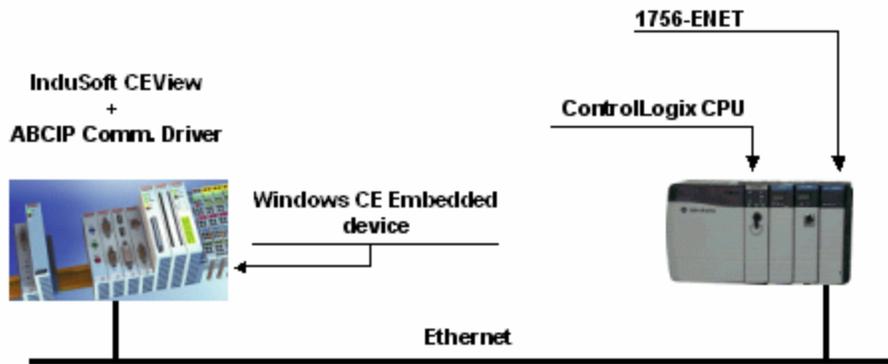
The following picture illustrates the capability of the ABCIP driver to access remote PLCs connected in Ethernet/IP, DH+, RIO or ControlNet networks, via the 1756-ENET interface module:
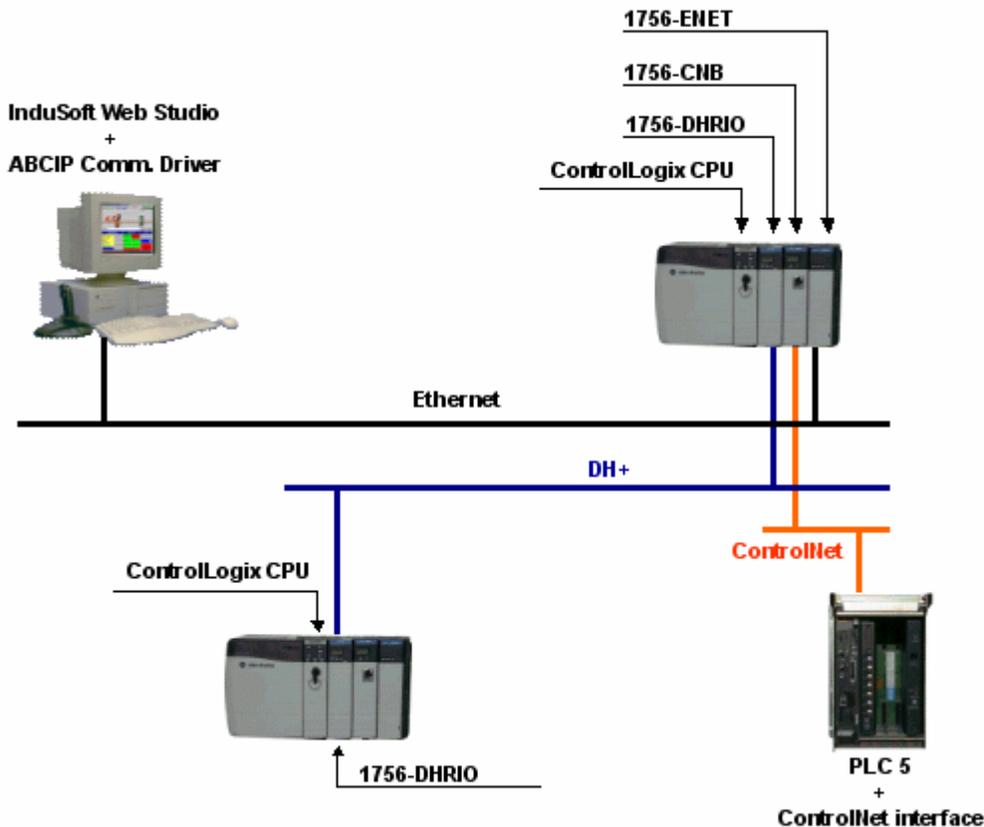
Even when running under the Windows CE operating system, the ABCIP driver supports the routing capabilities to access remote PLCs through the 17-ENET module.

✎ **Note:** When configuring the ABCIP driver in IWS, the user can specify the PLC address on the station field of the worksheets. The ABCIP driver manual (ABCIP.PDF) describes in detail the syntax supported by the **Station** field.

Map of Revision

Revision	Author	Date	Comments
A	Fabio Terezinho	August 6, 2004	▪ Initial Revision