

# Software *SCADA Solution*

## Introduction

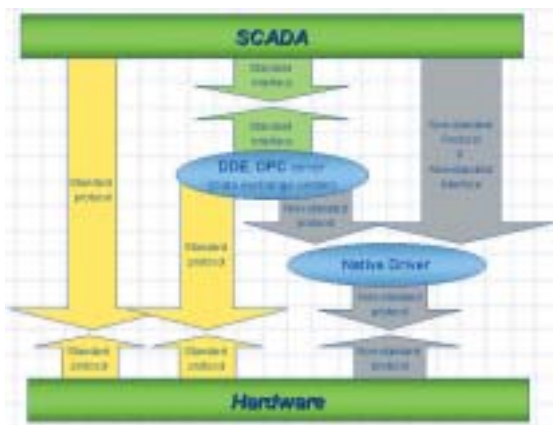
**SCADA** stands for **S**upervisor **C**ontrol **A**nd **D**ata **A**cquisition. It is a production automation and control system based on PCs. It is widely used in many fields: e.g. power generation, water system, oil industry, chemistry, automobile industry. Different fields need different functions, but they all have below features:

- \* Graphical interface
- \* Process simulation
- \* Real time and historic trend logging
- \* Alarm system
- \* Data acquisition and recording
- \* Data analysis
- \* Report generation



Using SCADA software, users can easily integrate many different hardware devices to build a huge system.

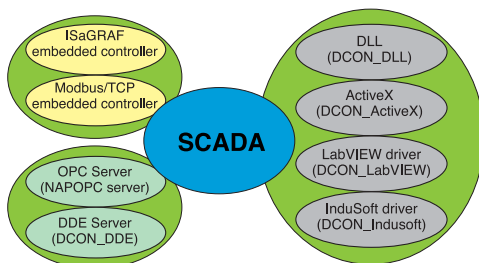
## SCADA software accesses to hardware devices



## Famous SCADA software

Citect, ICONICS, iFix, InduSoft, Intouch, Entity Studio, Entity Live, Entity VLC, Trace Mode, Wizcon, Wonderware, ... etc.

## Resources from ICPDAS





## InduSoft Web Studio

### Main Functions:

- Multi-Function HMI with Graphics, Alarms, Trending, Recipes and Reports.
- Allow to save the HMI in HTML format and export them to Internet Browsers.
- Include more than 150 different protocols for different devices.
- Support Microsoft.NET, OPC(Client & Server), DDE(Client & Server), ODBC, XML, SOAP and ActiveX.
- TCP/IP Client and TCP/IP Server modules to exchange tag values and configure redundancy systems.
- Automatic e-mail support (SMTP).
- Intuitive script language.

### Supported:

- I-7000 series.
- I-8000 series.
- I-87K series.

### Application:

- Environment and facility monitoring.
- Industrial automation.
- Building automation.
- Remote Data Acquisition.

### OS supported:

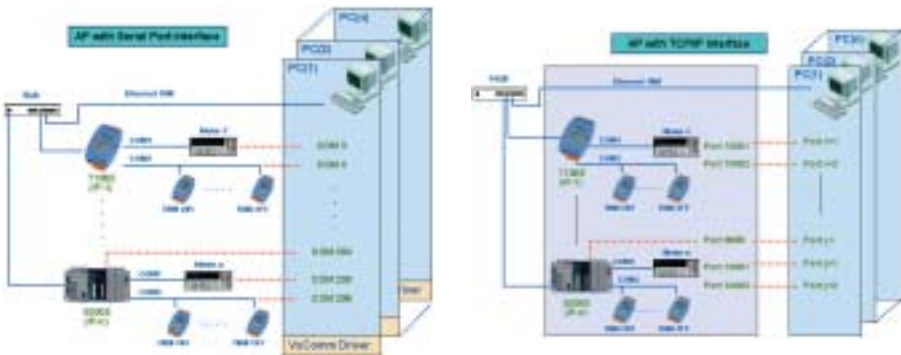
- Windows NT/2000/XP for development.
- Windows NT/2000/XP or Windows CE(v2.12,v3.x and v4.0) and Windows CE.NET operating system for runtime.

Note: Visit "<http://www.indusoft.com/>" for more information.

# Software *VxComm Technique & Xserver*

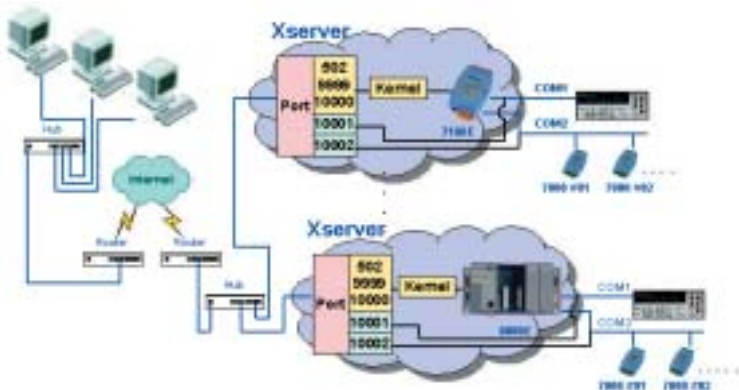
## What is VxComm technique?

VxComm is a technique that stands for "Virtual Communication Port". It provides two software interfaces to access remote COM ports of the 7188E/8000E via the Ethernet, one is serial port interface, and the other is the TCP/IP interface. For the serial port interface, we provide a VxComm driver for Windows OS. It is used to create virtual COM ports to map to the COM ports and I/O module of the 7188E/8000E. After creating virtual COM ports, you can easily upgrade serial devices to with Ethernet communication ability, and the original software only need to link to a virtual COM port. It doesn't need any source code modification.



## What is Xserver?

Xserver is a programmable TCP/IP server template (in C language) for the 7188E/8000E based on the VxComm technique. It has an open and flexible programming architecture. With the help of the Xserver, you can easily develop a powerful embedded controller system with the TCP/IP and serial communication ability.



# Software *DCON Protocol*



## What is DCON protocol?

DCON protocol is a request/reply communication protocol for the I-7000/8000/87K series. It defines a simple ASCII format protocol, like \$AAN, \$AASi6, #AAN, ... ,etc. The hardware interface to access the I-7000/8000/87K series can be divided to:

- \* RS-232: I-8000 MCU with 8K232.exe firmware
- \* RS-485: I-7000/87K and I-8000 MCU with 8K485.exe firmware
- \* Ethernet: I-8000 MCU with 8KE10.exe firmware

Even the I-7000/87K series is not equipped with any Ethernet interface, by using the I-7188E/8000E and the VxComm technique, you can still access the I-7000/87K series via the Ethernet.

Note 1: The I-8000 and I-87K series I/O modules can be plugged in the I-8000 MCU together.

Note 2: When the I-87K series I/O module is plugged in the I-8000 MCU, it uses the same commands as the I-8000 series I/O does.

Note 3: The I-87K series I/O module uses different command when it is plugged in the I-8000 MCU and the 87K expansion unit.

# Software *Utility and Development Tool Kit*



## Modbus Utility

### Main Functions:

- ☐ On-line configuration via Ethernet
- ☐ On-line help
- ☐ Automatically generate register mapping tables
- ☐ Configuration export/import

### Controllers supported:

- ☐ I-8430 -MTCP, I-8431 -MTCP
- ☐ I-8830 -MTCP, I-8831 -MTCP
- ☐ I-7188E -MTCP

### OS supported:

- ☐ Windows 98/NT/2000/XP



## DCON Utility

### Main functions:

- ☐ Configuring modules
  - ☐ Baudrate
  - ☐ Address
  - ☐ Checksum
  - ☐ Power-on value
  - ☐ Safe value
  - ☐ etc.
- ☐ Testing I/O action

### Module supported:

- ☐ I-7000/8000/87K series (with DCON protocol)

### OS supported:

- ☐ Windows 98/NT/2000/XP



## DCON Utility (DOS)

### Main functions:

- ☐ Diagnostic (Source code included)
- ☐ Learning
- ☐ Performance test

### Module supported:

- ☐ I-7000/8000/87K series (with DCON protocol)

### OS supported:

- ☐ DOS



## VxComm Utility

### Main functions:

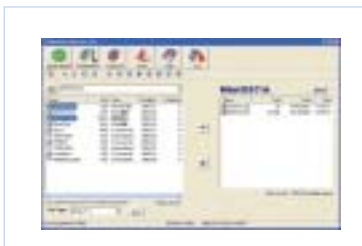
- ☐ Creating Virtual COM ports on PC

### Controllers supported:

- ☐ 7188E/8000E with VxComm technique

### OS supported:

- ☐ Windows 95/98/NT/2000/XP/2003



## MiniOS7 Utility

### Main functions:

- ☐ Download files
- ☐ Update MiniOS7
- ☐ Configures COM port settings
- ☐ Configures network settings

### Controllers supported

- ☐ Support all embedded controllers with MimiOS7 (7188, 7188X, 7188E, 8000, i-View 100..., etc)

### OS supported

- ☐ Windows 95/98/NT/2000/XP

# Software *Utility and Development Tool Kit*



## **DCON\_LabVIEW**

Bundled driver for LabVIEW

### **Module supported:**

☐ I-7000/8000/87K series (with DCON protocol)

### **OS supported:**

☐ Windows 98/NT/2000/XP



## **DCON\_InduSoft**

Bundled driver for InduSoft

### **Module supported:**

☐ I-7000/8000/87K series (with DCON protocol)

### **OS supported:**

☐ Windows 98/NT/2000/XP/CE



## **DCON\_DLL**

DLL library

### **Module supported:**

☐ I-7000/8000/87K series (with DCON protocol)

### **Demo supported:**

☐ VB/VC/BCB/Delphi (Source code included)

### **OS supported:**

☐ Windows 98/NT/2000/XP



## **DCON\_ActiveX**

ActiveX (OCX) component

### **Module supported:**

☐ I-7000/8000/87K series (with DCON protocol)

### **Demo supported:**

☐ VB/VC/BCB/Delphi (Source code included)

### **OS supported:**

☐ Windows 98/NT/2000/XP



## **DCON\_Linux**

Libraries for Linux platform

### **Module supported:**

☐ I-7000/8000/87K series (with DCON protocol)

### **OS supported:**

☐ Linux



## **DCON\_DDE**

DDE server

### **Module supported:**

☐ I-7000/8000/87K series (with DCON protocol)

### **OS supported:**

☐ Windows 98/NT/2000/XP



## **NAOPC Server**

OPC server

### **Module/Controller supported:**

☐ I-7000/8000/87K series (with DCON protocol)

☐ Modbus embedded controller

☐ ISaGRAF embedded controller

### **OS supported:**

☐ Windows 98/NT/2000/XP