



WinCON Based Hydrological Monitoring System

With the ever present concern over sustainable water supplies, it is no surprise that the United Nations Earth Summit has been carefully focusing means to accurately monitor the earth's natural resources. With fresh water being an absolute necessity for the preservation of every society across the globe, it is no surprise that the UN and other regulatory governing bodies, are interested in constantly monitoring the supply of fresh water on hand. By implementing hydrologic monitoring stations on both a national and international level, governments across the globe are capable of tracking and projecting water consumption for a given population at any time. With this in mind, these systems become invaluable for water resource management, river dredge planning, and disaster prevention in policies.

ICP DAS Co. Ltd. was recently approached by several governing bodies, to design and implement a multitude of high accuracy hydrologic monitoring systems, for implementation on a national level. With high accuracy, and long term reliability in mind, ICP DAS chose to implement the latest generation of programmable automation controllers; the WinCON W-8746-1500, for the ultimate in both powerful process control and boundless data acquisition capabilities. With the W-8746 in place, users could effectively implement a robust control and data acquisition solution; enabling real time trending, graphing, complete database integration, web-enabled access, and a user friendly interface. Although the solution was primarily based around the WinCON PAC, ICP DAS surmised that there were a multitude of stipulations surrounding the application, which would have to be met, in order for the installation to retain a completely modular and universal nature.

Single station system stipulations:

- ModBus communication protocol for modularity/universal architecture
- Full duplex hard-wired or wireless connection at all times
- Remote accessibility through any standard web-enabled device
- NVH and environmental resilience
- Compact hardware footprint, versatile mounting options
- Standardized interface, with a recognized operating system
- Redundant back up & watchdog capabilities
- MYSQL database creation and maintenance capabilities

Figure 1: Data Transfer Infrastructure

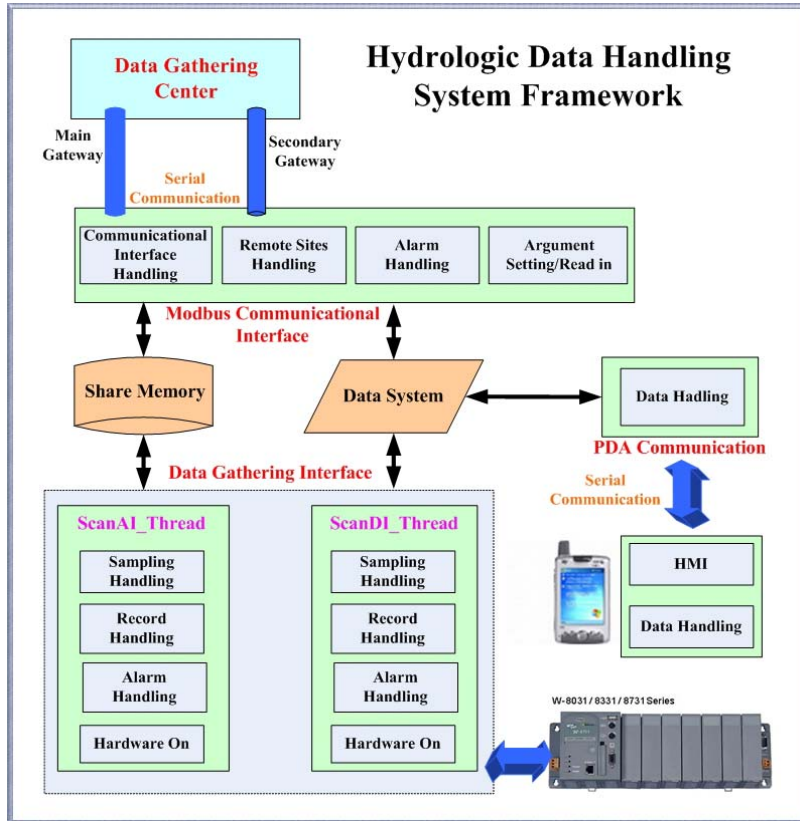
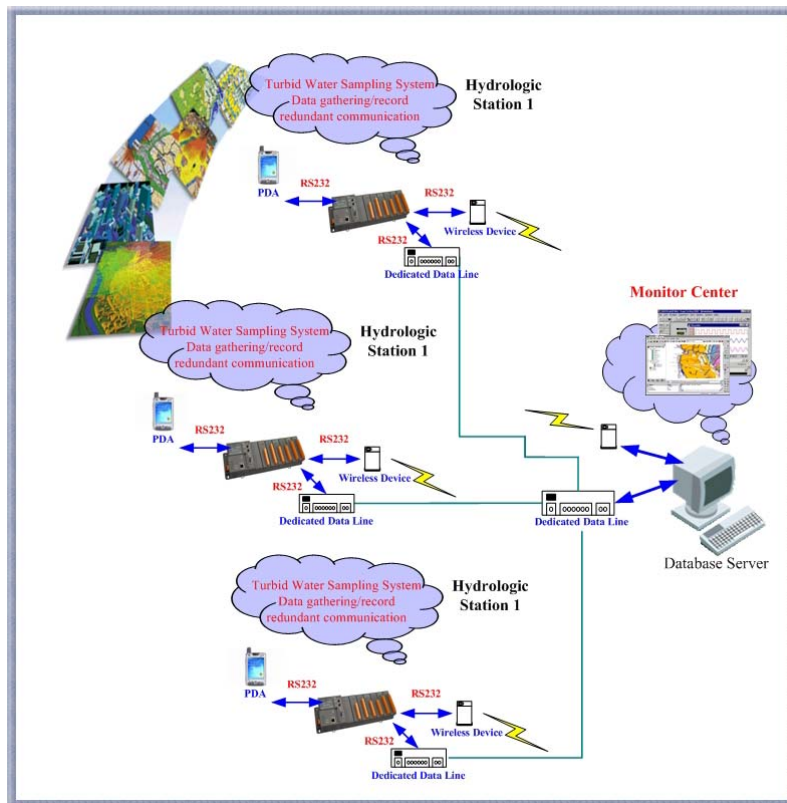


Figure 2: System Process Infrastructure



WinCON Based System Features

1. Remote, web based access through any standard web enabled device, via Indusoft web-ready HMI package. Users can obtain real time information, trends, graphs, and data logs, in a secure web-based environment.
2. Systems are networked to function as redundant back-ups of one another; enabling system resilience to hardware failure and power outages.
3. Multiple communication interfaces (Ethernet, RS-232, ModBus, etc), allows WinCON to communicate with other PACs and PCs regardless of protocol changes.
4. WinCON controller accepts time protocol command.
5. Supervisors can control and monitor WinCON control functions either locally or from a remote location.
6. Commercial-off the shelf I/O program ensures that users can constantly update or change their controller to custom suit their application!