HWIOPC Server Technical Overview Specification

Overview

The HWIOPC Server (**H**oney**W**ell **I**nstruments) provides a means of bridging data between Honeywell redundant HC 900 controller systems and SCADA applications resident on local or remote computers via OPC protocol.

Features summary

- Supports redundant Ethernet links for HC900 C70R redundant controllers
- Automatic switchover to redundant network on link fail detection, approx. 6 secs (Connect Time + 3 sec)
- Tag Import for all HC900 parameters using a single configuration report file (.csv)
- System tags for active comm. and redundant network status detection
- Digital Signal Tags / Variables converted to Boolean data types
- PID Mode support for Honeywell software (Vista R400, Experion, EBI)
- Supports dynamic OPC address space configuration
- OPC test clients for OPC interface checkout
- Browse address space or copy/paste for adding tags to client database
- Real-time monitor of communication between OPC Server and its clients
- Diagnose the events of OPC Server
- Detailed Log information

OPC compliance

- Complies with OPC DA 2.0.5 Specification
- Compatible with OPC DA 1.0 and 2.0 Client

Models / Products supported

- 900SRV5-0001 – supports redundant Ethernet networks for HC900 redundant controllers (C70R) and single networks (C50, C30, C70R)
- 900SRV4-0001 – supports single networks only for HC900 controllers (C30, C50)

Honeywell OPC Client connectivity

- PlantScape Vista R400, Windows 2000/XP Professional
- Experion PKS R201/R210, Windows 2000 Server
- EBI R300.1, Win 2000/XP
- Specview32

OPC Server Address Space Parameters

Item: Max. Number
- Device Groups: 255
- Controllers per Device Group: 255
- Tags per Controller: 10000

PC / OS Requirements

- Processor: 1 GHz or higher, Pentium III
- Memory: 256 MB RAM minimum
- Hard Disk: 20 MB of Free Hard Drive Space
- Operating System: Windows 2000 SP4, Windows XP Professional SP2, DCOM installed.
- Display Resolution: capable of 1024 x 768 pixel resolution and 65 K colors
- Network Interface Card:
- With HC900 C70R – 1 or 2 10/100M, 802.11 compatible NIC
- With HC900 C50, C30 – 1 or 2 10/100M, 802.11 compatible NIC
- Network Protocol: TCP/IP

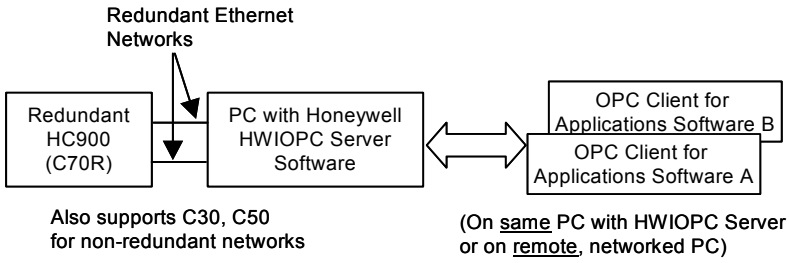

Figure 1 Basic HWIOPC Interface architecture

Components of HWIOPC Software

.The four main components of HWIOPC are

- OPC Server
- OPC Client
- HC900R Driver
- HTSL Logger.

See Figure 2. These are described below.

1. OPC Server

This component consists of the parts below.

- **HWIOPC Server**, runs as a background service supporting HC 900 controller systems, including C70R, C30 and C50. This OPC Server follows OPC DA v2.05A protocol and also compatible with OPC DA v1.0A protocol.
- **OPCServer Monitor**, an application used to start/stop the service above. It starts automatically after the computer is started, and appears as a clock image in the taskbar.
- **OPCUtility**, used to configure the address space of the OPC Server by importing points via HC Designer export files to the server's address space (Figure 3), to manually add points to the server, to query the information of OPC clients connecting with OPC Server, to monitor the internal value of device tag and the real time value of OPC items, and to diagnosis events occurring in OPC Server. It can also export all tags information in the address space of OPC Server.
- **HTSLProductRegister**, a tool used to register OPC Server.

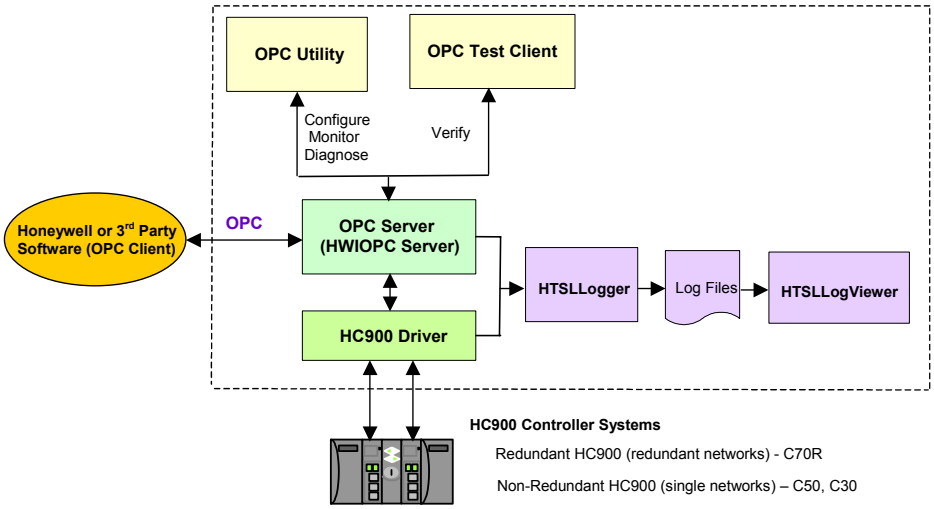

Figure 2 HWIOPC components

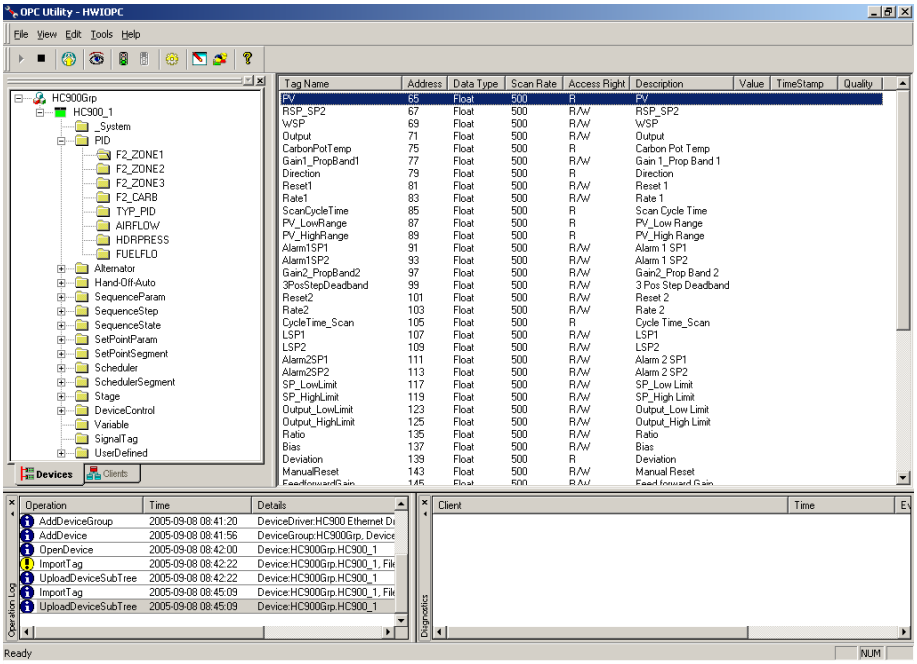

Figure 3 OPC Utility – Imported HC900 Tag Database

Components of HWIOPC Software (cont'd)

2. OPC Client

This component contains two OPC test Clients, OPC Client (VC) and OPC Client (VB). See Figure 4.

OPC Client (VC) connects with OPC Server through a custom interface allowing the user to browse the address space of the server and create custom groups. The OPC Client (VB) connects with OPC Server through an automation interface with OPC tags entered manually. These OPC clients test the interface to the OPC Server, verify the address space configuration of the OPC Server, display syntax structures and data types along with live data values plus allow write operations to assist in setting up other PC applications.

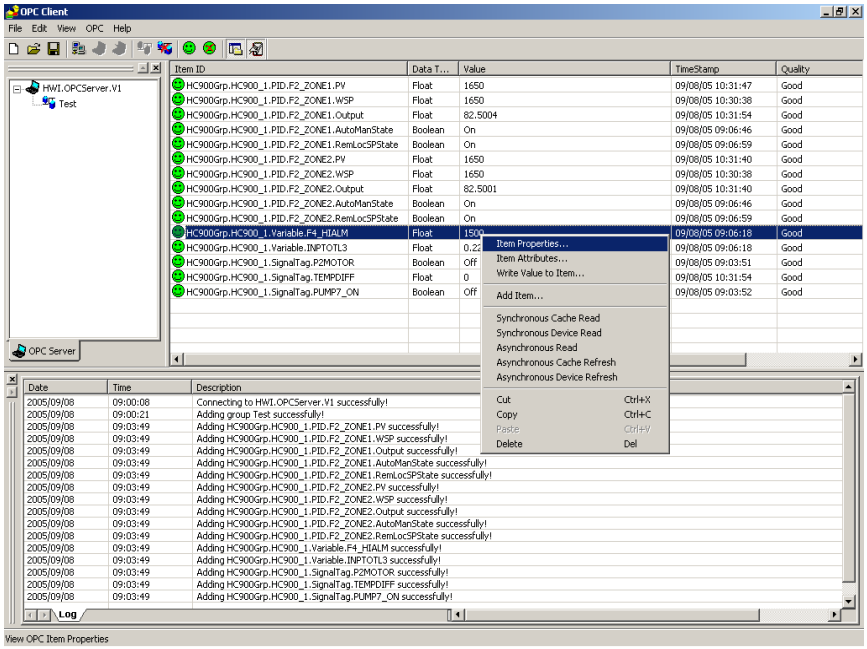

Figure 4 OPC Test Client (VC) – Supports Read/Write Actions

3. HC900R Driver

A dynamic link library that provides connectivity to both redundant and single Ethernet networks for the HC900 via Modbus TCP/IP.

4. HTSL Logger

The component contains the following.

- **HTSLLogger**, a background service implemented as a COM Server and used to store the log of OPC Server and Device Driver events to disk files.
- **HTSLLogViewer**, a tool used to display and classify log messages in log files recorded by the HWIOPC Server and device driver.

Tag Import for HC900

See Figures 3 and 5. After creating a device (controller), you can import all tag groups and tags with their tag names into the address space of OPC Server for the device from a CSV file exported by HC Designer 3.0 for the corresponding controller. During the Import function, you can select the method for dealing with tag name duplication and tag Modbus address duplication, including Overwrite, Co-exist and Retain, useful for edits or additions. After import, an import log file records the importing results for each point in the imported file and any error messages.

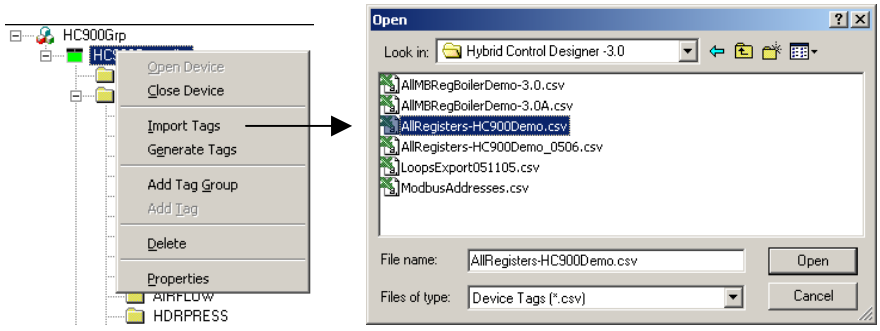

Figure 5 Tag Import

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