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InTek Hybrid Multi OPC Server

As far as we know until the releasing of this product, InTek Hybrid OPC Server is **the first** OPC Server product **in the world** that capable to **run multi-protocol over single serial communication port/channel**.

The *Serial protocols* that currently supported/developed on InTek Hybrid OPC Server are :

- IEC 60870-5-101
- IEC 60870-5-103
- DNP 3.0 Serial Level 1, 2, and 3
- ABB SPAbus
- Modbus RTU / Jbus
- Modbus ASCII
- EDF HNZ (multi versions)
- KIM-LIPI Micromint
- Rosemount ROC (*Q2 2004*)
- AB DF1 (*Q2 2004*)

(please contact us to find the latest protocols list and development plan, as the schedule may be changed depnd on the project urgentcy)

and all of the above (or combination of several protocols) could be set **to run on single serial port**, such as single Radio channel, one Power Line Carrier channel, etc.

InTek Hybrid OPC Server also supports *Ethernet TCP/IP protocols* such as :
- IEC 60870-5-104
- DNP 3.0 over LAN/WAN
- Modbus TCP/IP
- IEC 60870.6 Tase.2 (*end of Q1 2004*)
- IEC 61850 / UCA.2 (*mid of Q2 2004*)

and support the utilization of Port Server (Serial to Ethernet) for serial communication over Ethernet TCP/IP network.

InTek Hybrid OPC Server featured with *Hot-standby redundancy*, in terms of :
- channel redundancy
- PC/computer redundancy

Facilities for **devices template** (*pre-defined devices with all of its tags*) allow the user to just select that Device without any requirement to define any tags further. Also, the template will include direct collection of the historical log within the device, and the collection could be triggered by a point change and/or periodic regular base. The acquired history log will be directly presented as interpreted data on CSV/text file, or any other required file format.

With this template capability, build-up OPC Server database could be done less than one hour to define hundreds of Devices (that already has a template database).

Currently, InTek Hybrid OPC Server already has a built-in Database/Tags Template and Historical collection for the following IED (Intelligent Electronic Device) :

- Siemens Siprotec series Protection Relay
    . IEC 60870-5-103 Siprotec 7SJ60**
    . IEC 60870-5-103 Siprotec 7SJ61**
    . IEC 60870-5-103 Siprotec 7SJ62**
    . IEC 60870-5-103 Siprotec 7SJ63**
    . IEC 60870-5-103 Siprotec 7UT51**
    . IEC 60870-5-103 Siprotec 7UT61**
    . IEC 60870-5-103 Siprotec 7UM61**
- Schneider MG Sepam 2000
- ABB SPAJ 140C Protection Relay
- PML ION-7xxx series Power Monitor
- HC 6xxx series Power Monitor
- Keltronics ESP (Electrical Submersible Pump) Controller
- Vortex ESP (Electrical Submersible Pump) Controller
- CTI ESP (Electrical Submersible Pump) Controller

(please contact us to find the latest IED devices list and development plan, as the schedule may be changed depnd on the project urgentcy)

The InTek protocols scanner, that is part of the InTek Hybrid Multi OPC Server, capables to acquire directly any of IED's historical/log data, and present it as TXT and/or CSV file, independently to the OPC interface.

Disturbance Log (Fault Recording / Waveform capture) for Siprotec Relays, presented as .TXT file under Logs directory/folder, and could be imported by MS Excel for viewing as waveform graph to trace the fault and occurred time.

Fault recording time and history of event on the Digital Protection Relay could be acquired directly by InTek Protocol scanner.

Max/Min recorder value/time on Digital Power Meter (DPM), as well as the Waveform Capture on Power Quality Meter, are also available to be handled by the InTek Protocol scanner.

For non-RBE (report-by-exception) protocol, such as Modbus, InTek Hybrid OPC Server has a special feature such as :

- Real-Time Poll
- Periodic Poll
- On-Demand Poll - drive by OPC Client

With the facilities to arrange the polling group, user could select and achieve the most efficient polling cycle rate as per their system requirement, for example :

- just select the most important data to be poll as real-time
- assign the regular data to be polled periodically (eg. 5 minutes, 15 minutes, hourly, three times a day, daily, etc.)
- perform on-demand poll whenever they required for any data/tag.

The InTek Hybrid OPC Server also featured with communication analyst, such as :

- data communication (protocol raw-data) log, and could be connected to the off-line InTek Protocol Analyzer for analyst
- number of connected OPC Clients to InTek Hybrid Multi OPC Server, and the count number is presented as an Internal Tag that could be accessed by any OPC Client

A full featured standard installation setup program of InTek Hybrid Multi OPC Server (version 3.00) is available to be downloaded from our web-site :

http://www.integrateknik.com/download/software/InTekOPCSetup.exe

The setup program is the real application with latest version, and only limited by a soft-key license, where with the standard soft-key license, only Modbus RTU protocol module is available to be accessed on demo mode.

To have more available protocols and/or device templates to try-on, the user just need to e-mail us the "*InstallInfo.txt*" file, this file automatically generate after installed the InTek OPC Server program setup and save it in define installation folder, as well as advising which protocols and/or device templates they would like to try and the required trial period.

A new temporary license file will be provided to replace the default demo license, which will allow the user to work with their selected protocols and/or device templates.

The version 3 is included Internal Groups and Internal Tags on each defined Device, that could be accessed by any OPC Client, such as :

00TheServer
    00ServerStatus
        .internal tags
Channel
    AAChStatusXX
        .internal tags
    Device
        DevStats
          .   internal tags
        ProcStats
          .   internal tags
        CommStats
          .   internal tags
        I/O Groups / Tags

00ServerStatus - Server Status, group will have the following internal tags :

Tag Name	Description
ClientActiveCounter	show the Client Status in Redundancy process
OPCScanIndicator	show the State of current InTek OPC in Redundancy process.
ClientCount	represent the number of OPC Client where connected to the InTek OPC
DBVersion	show the version of database file InTek OPC
Active	represent the scanning status InTek OPC

AAChStatusXX - Channel Status, group will have the following internal tags :

Tag Name	Description
ChannelOutOfService	Show the Channel Status of current Channel where value 0 mean Enable on the contrary mean Disable
ChannelOutOfOrder	Show the Port Status of current Channel where value 0 mean Good on the contrary mean Bad

DevStats - Device Status, group will have the following internal tags :

Tag Name	Description
DeviceType	Type of current device, it's used to identify the kind of current device, it's usually use in template device or you can fill the type of device when you create a new device (*See Appendix – Define Device*)
DeviceAddressID	Communication Address of current device
DevInScanning	determining the scanning status of current device. Where value 1 mean the device in scanning on the contrary mean not scanning
RtuOutOfOrder	determining Communication Status of Device. The value 0 showing the communication is Good on the contrary mean Bad
RtuOutOfService	determining the Service Status of Device. The value 0 showing the Device status is Enable on the contrary mean Disable
DevFirmwareRev	It's used to get "Device Firmware Revision" information, this tag is belong to specific protocol / device
FirmwareRev	It's used to get "Firmware Revision" from specific protocol / device
HWStatusFlags	determining the Flag Status of Hardware of specific protocol

ProcStats - Process Status - group will have the following internal tags :

Tag Name	Description
DevControlResult	show the result of device control
ControlResult	show the result of control Tag.
InitStatus	represent the Initial Status for specific protocol
ControlInprogress	show the progress status of control Tag
CommandRequest	It's used to request specific command such as General Interrogation

ComStats - Communication Status - group will have the following internal tags :

Tag Name	Description
LastPollPeriode	Show the last poll period current device in msec
ResetStatsCounter	Command to reset all counter tags in CommStats group
UnrecognizedRespCounter	Number of unrecognized response from device
NoResponseCounter	Number of no response from device
InvalidResponseCounter	Number of invalid response from device
ValidResponseCounter	Number of valid response from device

PollCounter	Number of poll of device
PollStatus	Show the Poll Status of device
LastReplyTime	Show the Date and Time for the Last Reply of device
LastPollTime	Show the Date and Time for the Last Poll of device

Our InTek Hybrid OPC Server has been tested to interface with the following OPC Clients :
- Siemens OPC Scout
- Siemens WinCC
- Siemens PowerCC
- Wonderware InTouch 7.x via Wonderware OPClink
- Citect 5.x via Citect OPC Client I/O Driver
- Intellution iFix 2.x
- DeltaV 5.x via DeltaV OPC Mirror and Matrikon Data Manager
- Matrikon OPC Explorer