

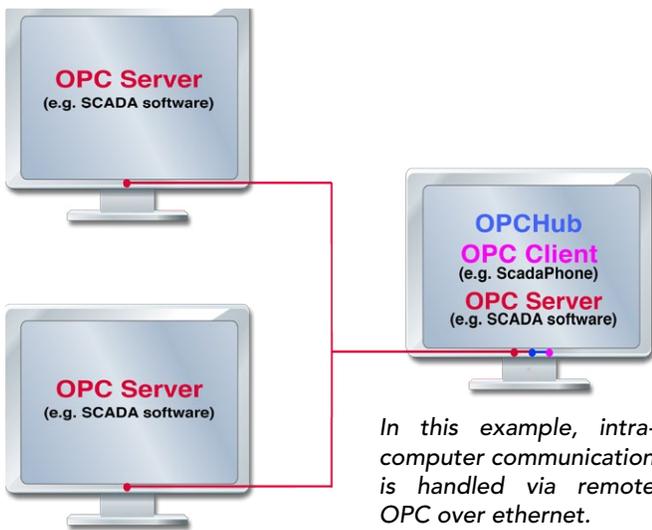
- Facilitates Communications between multiple OPC Servers.
- Acts as OPC Server and OPC Client simultaneously.
- Supports a simplified network communication protocol TTP (by ScadaTEC).
- TTP provides a means for bypassing windows DCOM configuration issues.

# OPCHub Overview

OPCHub is a Windows based communications application for use in conjunction with SCADA applications that support OPC-DA communications. The purpose of OPCHub is to facilitate communications between multiple OPC servers by maintaining a centralized list of tags that are obtained from an unlimited number of local or remote OPC Server applications. This centralized list (within OPCHub) can in turn be read by local or remote OPC Client applications. OPCHub acts as an OPC Server and an OPC Client simultaneously. This flexibility enables a multitude of configurations to meet virtually any need.

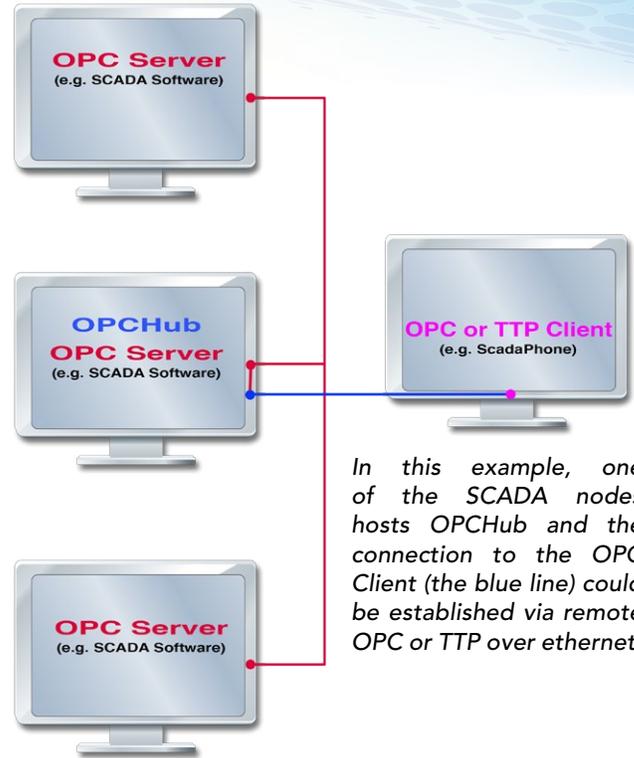
In addition to OPC communication (which relies upon Windows COM and DCOM), OPCHub also supports a simplified network communication protocol named TTP (Tag Transfer Protocol); TTP was developed by ScadaTEC to provide a means for bypassing Windows DCOM configuration issues. TTP can be used to link OPCHub to other ScadaTEC applications (such as other installations of OPCHub, ScadaPhone, ScadaLogger, ModbusTagServer, etc...).

Here is a basic configuration showing OPCHub collecting data from 2 remote OPC Servers and one local OPC Server and then making the data collected from all 3 servers available to an OPC client application (such as ScadaPhone):

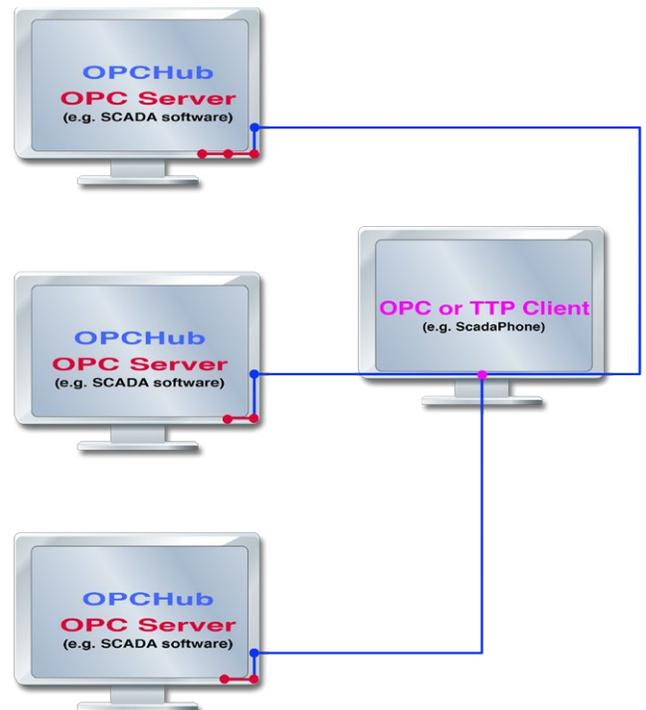


Another basic configuration could handle situations where a ScadaPhone OPC or TTP client may need to

reside on a separate computer:



If there are multiple OPC Servers on multiple SCADA nodes, it becomes more efficient (in terms of network traffic load) to install OPCHub on each remote node and use TTP to propagate the data back to the client:



## OPCHub Error Reporting

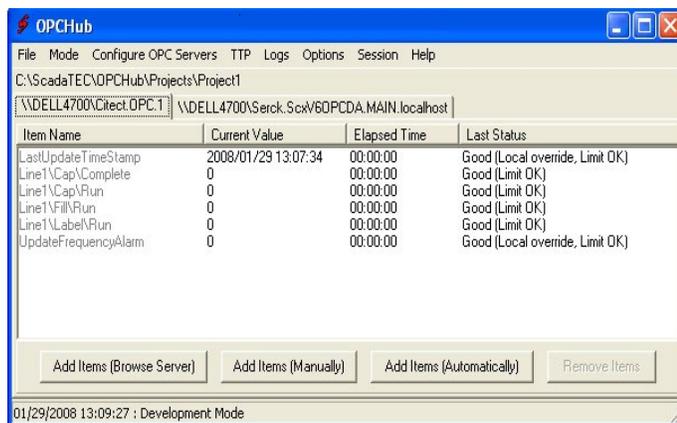
In addition to providing flexible interconnection between OPC/TTP clients and servers, OPCHub has built-in features to report loss of communications via onscreen color changes and automatically configured tags. For each server that OPCHub is connected to, there is an automatically defined tag that can be used as an alarm bit to report loss of communication. The automatically defined tags are in the following format:

### \\ServerName\UpdateFrequencyAlarm

The time threshold for the onscreen color changes and the Update Frequency Alarms is configurable under OPCHub's Options menu. If the time threshold is set to five minutes, and OPCHub has been unable to read any valid data from a particular OPC Server for five minutes or more, that server's Update Frequency Alarm bit will change to TRUE. This value can be monitored by alarm reporting software such as ScadaPhone so that system operators can be notified of communications failures as soon as they are detected.

## OPCHub Configuration

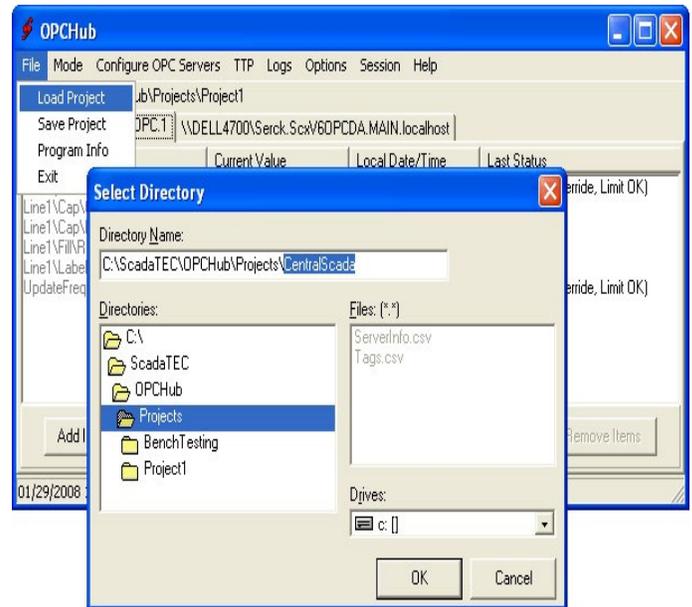
OPCHub's design strives to present an intuitive, easy to understand user interface. The main window consists of a standard Windows tab control where each tab represents a server to which OPCHub is connected:



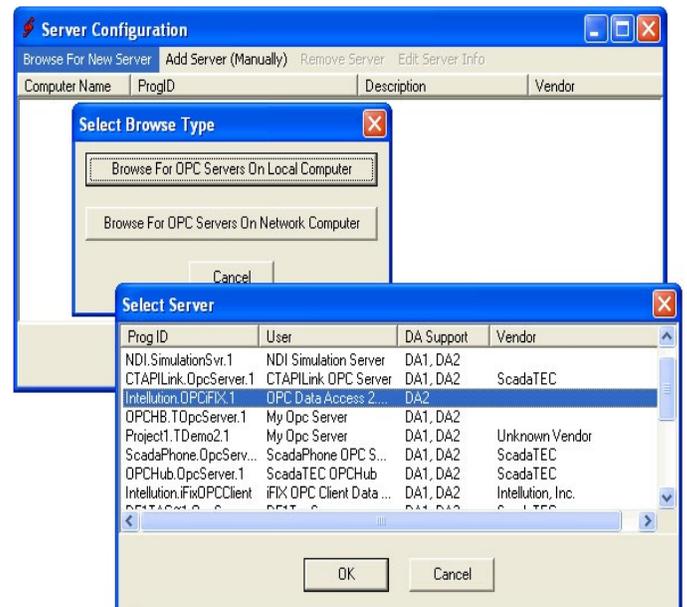
The list box below the tabs shows all of the tags OPCHub is configured to read from the selected server. Configuration details are stored as project folders. This allows system integrators or large system managers to organize different setups for different systems into separate folders on the hard drive and easily switch between projects. Initially, OPCHub will start in Development mode with a default project folder:

### C:\ScadaTEC\OPCHub\Projects\Project1

To create a new project, simply click **File | Load Project** and enter a new folder name where prompted: After the project folder has been selected or created,

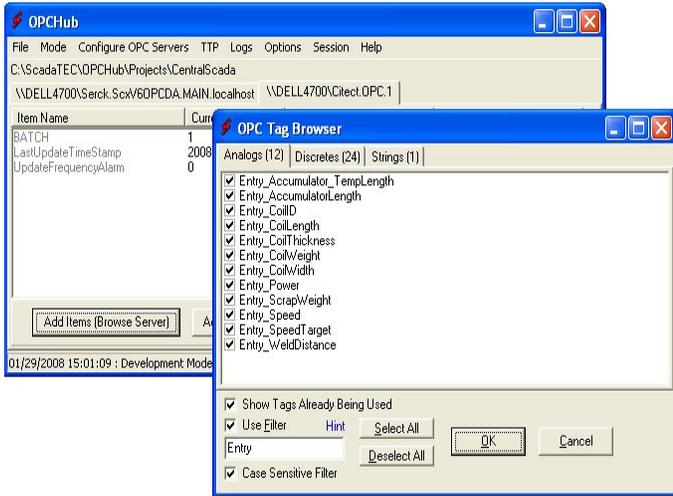


the next configuration step is to configure the server connections. To do this, click the **Configure OPC Servers** menu item from the top menu bar on the main window. OPCHub's Server Configuration feature has convenient



browsing capabilities to assist in the selection of available OPC servers. After the desired servers have been specified, the next step is to browse for the tags you wish to monitor with OPCHub.

In the preceding image, the \\DELL4700\Citect.OPC.1 tab is selected, so clicking the **Add Items (Browse Server)**



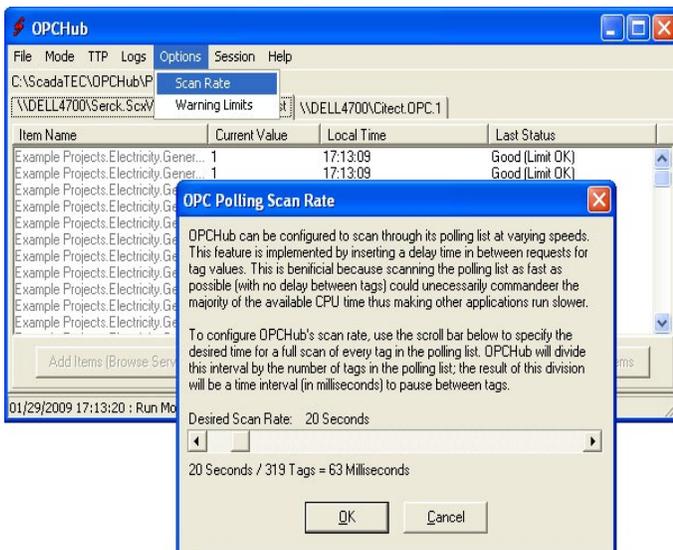
button initiated a browse of the Citect server. Note that the tags obtained by the browser are organized by data type to assist in the selection process; furthermore, the **OPC Tag Browser** employs a filter which can also be used to narrow down the list to aid in tag selection.

After the browsing is complete, OPCHub is ready to be placed in Run mode to commence polling. Setting up connections to TTP servers is equally easy.

## OPCHub Run Mode Features

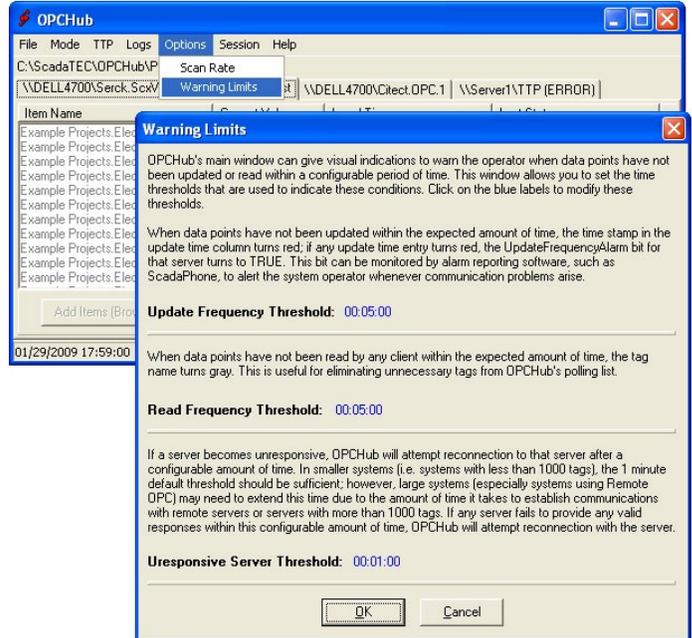
When OPCHub is placed into Run mode, a polling list consisting of every tag from every server is scanned repeatedly. The frequency of polling can be modified by adjusting the **Scan Rate** settings available from the **Options** menu:

Other Run mode settings can be reached from the **Options | Warning Limits** menu item:



## OPCHub Logging

OPCHub maintains multiple logs to track system activities. These logs can be displayed by clicking the desired items on the Logs pull down menu:



## OPCHub Console Security

While in Run mode, OPCHub prevents unauthorized operators from modifying sensitive settings that could adversely impact performance. When a sensitive operation is attempted, a Supervisor Login window appears. The Supervisor Login window offers the option

