CALgrafix – Networking and OPC

CAL Controls

CALgrafix is an OPC based product that incorporates charting, logging, controller configuration and alarm functions within a single easy to use Windows™ based package.

What is OPC?

OPC is an interfacing standard based on Microsoft®'s OLE/DCOM technology. What this means, is that a standard has been developed for interfacing between networks of instrumentation or control devices and software based applications. In the past, software developers had to create a specific device driver for a device to run with their application, therefore, one device may have a number of drivers written by producers of different applications.

In **Fig 1**, it can be seen that for the applications running, four different drivers are required to interface with the device networks. In some cases conflicts will occur as two drivers try to access a network at the same time. If further applications were added from another manufacturer then additional drivers would be required, creating a much more complex system leading to an increased possibility of incompatibility problems.

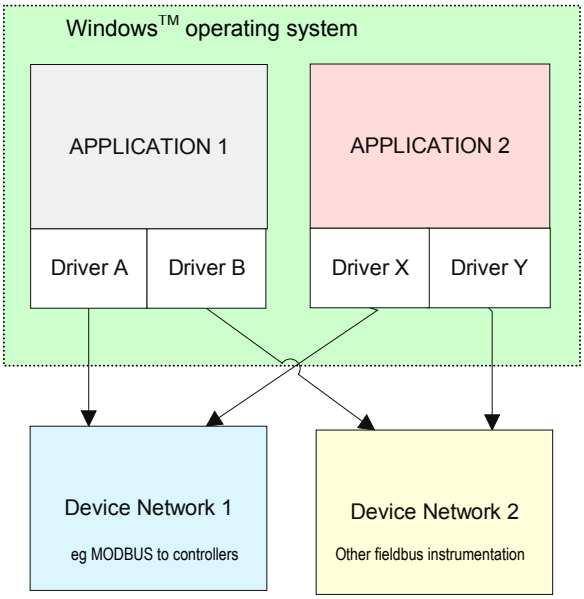

Fig 1 – Non OPC based network

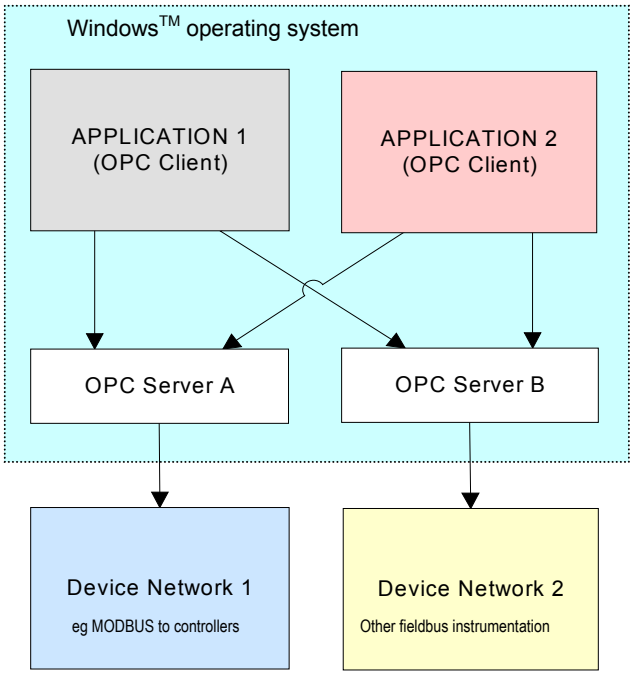

Fig 2 –OPC network example

OPC technology eliminates the need for different drivers for the same device network. Many software applications are now written to comply with the OPC standard and are referred to as OPC based clients. The software link between the device networks and OPC based clients is known as an OPC server. The OPC server is generally specific to one device or a range of devices from a single manufacturer but they differ from other drivers, as they allow connection of device networks to any OPC based client.

In **Fig 2**, it can be seen that for the two applications running, that only two OPC servers are required to interface with the device networks. If additional OPC clients are required, no additional servers are needed. The result is a simpler system with compatibility that is assured.

OPC™
OLE for Process Control

What are the advantages of OPC?

- *You can choose the best client that suits your process.*
- *A number of clients can be run on a PC network accessing any OPC server without software conflicts occurring.*
- *A single client can access a number of OPC servers, thus increasing the number of networked devices/instruments*

Overall OPC provides improved connectivity and networking options at a reduced cost

Further information on OPC is available from the OPC Foundation website at www.opcfoundation.org

Clients and servers are not restricted to a single PC or HMI. Clients running on different PC's can access the same OPC server across a PC network using DCOM.
An example is shown in **Fig 3**.

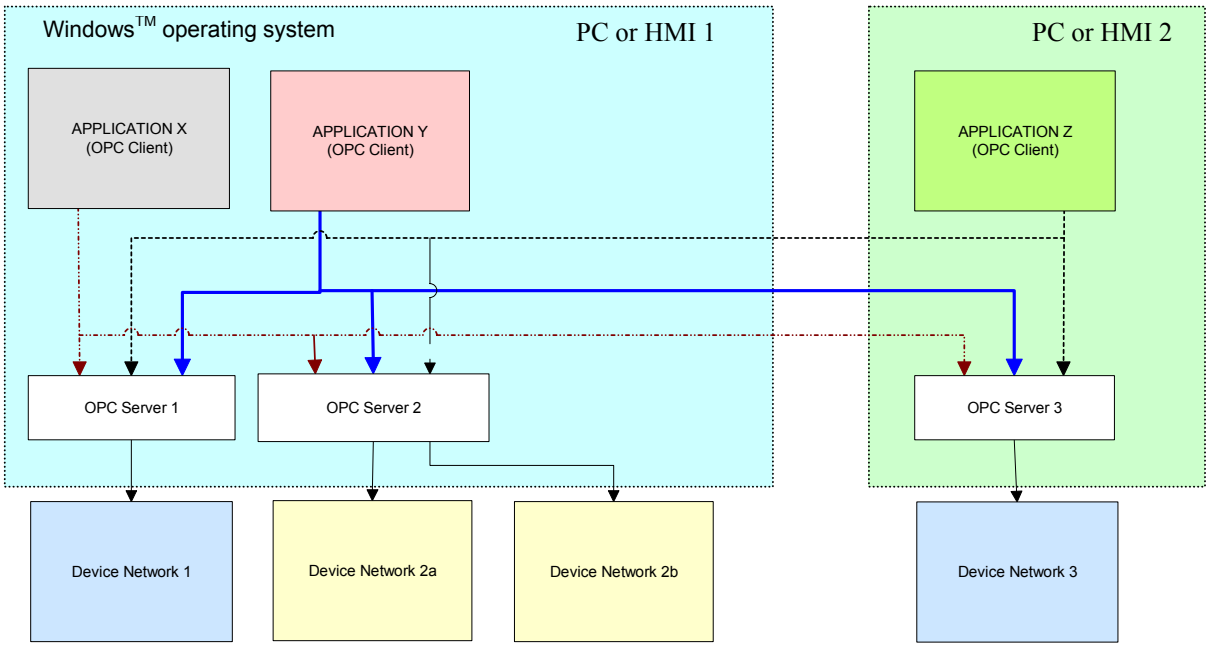

Fig 3

CALgrafix and OPC Licenses

CALgrafix Standard

CALgrafix standard incorporates a single user license that allows connection to a single RS485 network of up to 128 controllers. Standard version is compatible with CAL's 33/93/9400 and 9500P ranges of temperature and process controllers.
No additional controller networks, third party product networks or CALgrafix clients can be added.

CALgrafix Professional

CALgrafix professional incorporates a Calgrafix client license and a CALopc server license that permits connection to multiple RS485 networks of up to 128 controllers. Additional distributed controller networks can be added by purchasing additional CALopc server licenses. Third party OPC servers can also be added to work in conjunction with CALgrafix

CALopc

A CALopc server license allows a network of CAL's temperature or process controllers to connect to third party clients or additional networks of controllers when used with CALgrafix professional.

CALgrafix Client

The CALgrafix Client license can access CAL OPC servers or third party OPC servers .

	License includes		Additional Licenses		
	CALgrafix Client	CALopc server	CALgrafix Client	CALopc server	3rd Party OPC server
CALgrafix Standard	1	1	No	No	No
CALgrafix Professional	1	1	Yes	Yes	Yes
CALgrafix Client	1	0	Yes	Yes	Yes
CALopc server	0	1			

Further information on OPC is available from the OPC Foundation website at www.opcfoundation.org

CAL Controls Ltd
Bury Mead Road, Hitchin, Herts, SG5 1RT, UK
Tel +44 (0) 1462 436161
Fax +44 (0) 1462 451801
e-mail sales@cal-control.co.uk
www.cal-controls.com

CAL Controls Inc
1117 S. Milwaukee Av, Libertyville, IL60048, USA
Tel (847) 680-7080
Fax (847) 816-6852
e-mail sales@cal-control.com
www.cal-controls.com