



GenBroker – Which Communications Channel is Right for You?



APPLICATIONS NOTE

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Description: Guide to determining which channel to use when setting up GenBroker.

OS Requirement: Win 2000 Pro/Server, XP Pro, Server 2003

General Requirement: The need to use GenBroker

Introduction

Setting up GenBroker communications can be an intimidating process the first time you use it, so to make that a little easier this application not will help you choose the channel that's right for you.

GenBroker Communications are configured under Start → Programs → ICONICS Tools → GenBroker Configurator and typically is only configured when your PC is a client for OPC data, security, licensing or aliasing from a remote server running the GenBroker Server.

Configuring Channels

When configuring you channels you should note that only one channel can be the default. The default channel is the one that all ICONICS clients on your PC will use unless otherwise specified by exception. You can specify an exception by adding a node (or IP or DNS name) to a channel other than the default.

For example, if you choose OPC over TCP/IP Direct Channels as your default, and then add "OPCServer1" under OPC Direct GraphWorX32 will talk to OPCServer1 via standard OPC DCOM communications, but to everyone else via TCP/IP. Please read below about the differences between channels.

Direct Channel Details

The direct channels that are predefined in the GenBroker Configurator allow your client to directly connect to servers specified in tag names over that particular channel. This is in contrast to the mediator node channels where we proxy all calls through a specific server.

OPC Direct

This channel is used then the remote servers are installed on a PC that will not be running GenBroker Server. This is the classic OPC communications channel that uses DCOM as the transport layer.

→ Choose this channel to connect to servers that you cannot install GenBroker Server on.

OPC over TCP/IP Direct Channels

This channel is by far the most popular channel as it is the easiest to configure and operates the fastest. This channel operates over TCP/IP on port 38080 by default and acts as an

"always connected" binary data stream between the client and the server. This channel bypasses all networked DCOM communications and is recommended for most users.

→ Choose this channel when GenBroker Server can be used on the server side and you have control over the network setup to ensure that a port can be opened between the client and server.

OPC over SOAP/XML Direct Channels

This channel allows you to communicate through Microsoft Internet Information Server (IIS) which is a standard web server. The benefit of this is that the communications now flow over standard web traffic (port 80) so having to open a port like 38080 as is used in TCP/IP is not necessary.

However, in order for this to work you must have Windows Server 2003 or Windows 2000 Server with IIS installed, as this is the mechanism for sending and receiving data. An additional benefit here is that information on going to and coming from a web server can be encrypted with SSL certificates giving you an added layer of data protection.

→ Choose this channel if your data must pass through firewalls that are not under your control.

OPC over DCOM Direct Channels

This channel allows you to operate over DCOM, but the difference between this and OPC Direct is that GenBroker Server must be running on the server side. With this channel you can use DCOM with worrying about the 6-minute timeout issues or in an environment where DCOM is the corporate policy and your ICONICS installation must comply.

→ Choose this channel when you must use DCOM but have the ability to install GenBroker Server on the server side.

Mediator Channel Details

Mediator channels can be defined by you over any of the transport layers (TCP/IP, SOAP/XML, or DCOM). All calls to the nodes specified under one of these channels (or if the channel is the default) will be mediated (proxied, routed) through the server specified in the channel name.

Mediator Node Channels

These channels are important when you have an environment where your clients don't have a connection to the server, but must go through a proxy such as a firewall, router or edge network PC. It is also important if you want to limit connections to your OPC Server(s) to one remote PC. This will not aggregate the calls, but simply route them all through one network location.

→ Choose this channel when you don't have direct access to the server PCs.