

OPC Easy Connect Suite

OPC Middleware to simplify OPC Connectivity!



OPC Easy Connect

- *OPC Easy Connect* is the name of a whole suite of OPC middleware products, designed to assist you in using OPC clients and servers in automation projects
- The *OPC Easy Connect* suite simplifies and optimizes setup, commissioning and use of OPC clients and servers

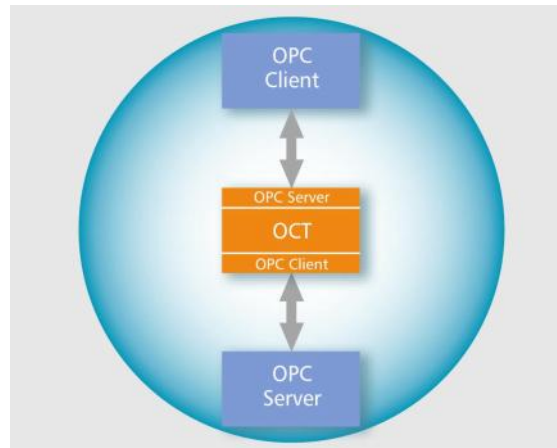


OPC Easy Connect

- The *OPC Easy Connect* suite includes products that simplify communication between OPC clients and OPC servers
 - bridge (gateways between the OPC Specifications, e.g. DA and XML-DA, DA 1.0 and DA 3.0, client-client or server-server gateways)
 - enable (OPC data exchange without DCOM)
 - collect (concentration of multiple data sources in one OPC server)
 - optimize (optimizing the access of multiple clients to the same data)
 - secure (restriction of access to OPC server)
 - record (data logging)

OPC Easy Connect

- The *OPC Easy Connect* suite is implemented as one component with OPC client and server interface
- The *OPC Easy Connect* can be used as application (executable), InProc DLL or as service



Inproc server

- Best performance
- Can only be used locally

Outproc server

- Worse performance
- Remote access

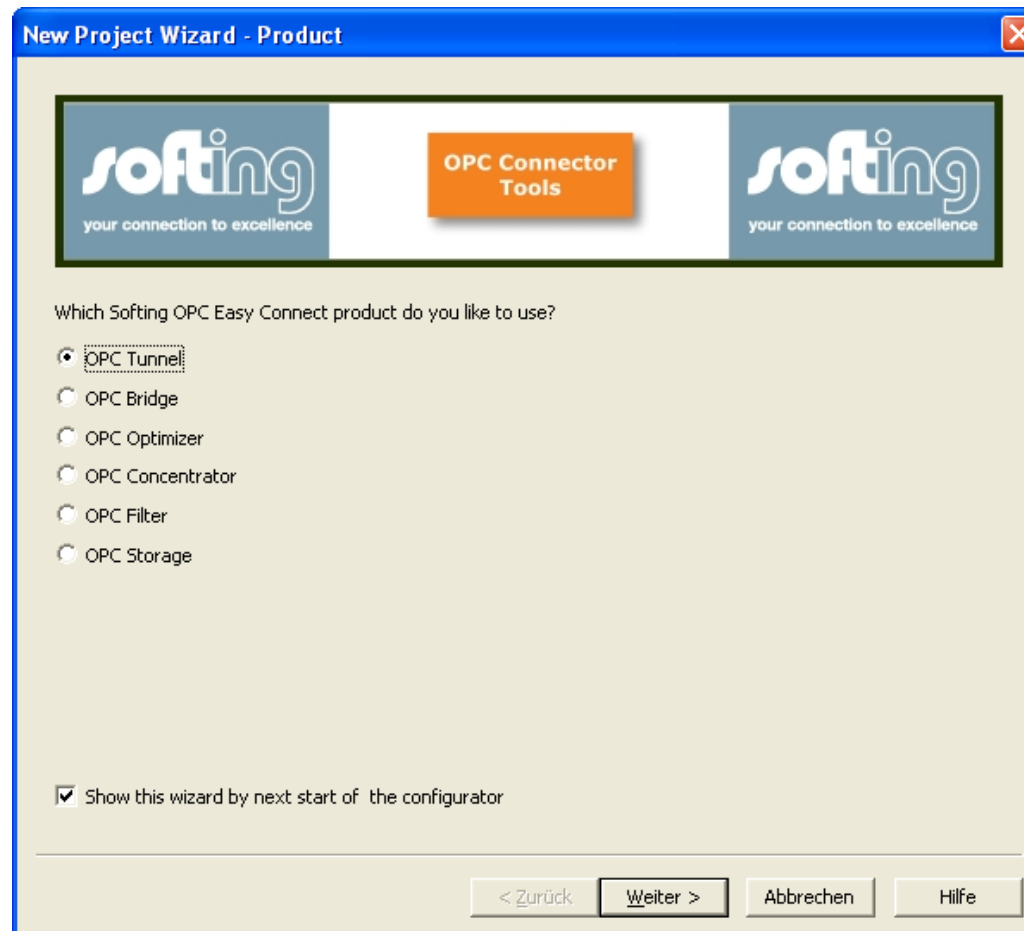
Service

- Performs like an outproc server
- Complex commissioning processes can be shifted to system boot phase

- The *OPC Easy Connect* suite provides a Web Server interface for visualization of process data, status and diagnostic information with a standard Web browser

OPC Easy Connect

- The *OPC Easy Connect* Wizard provides easy and quick getting started.



OPC Tunnel

- Do you or your clients fight with DCOM settings, too?
- Don't you either want to open your computers for unauthorized access from the outside like OPC over DCOM?
- Is it important to you that the interruption of your OPC connection is recognized in less than a second?
- Do you want to connect your OPC client application to remote OPC servers beyond firewall boundaries?



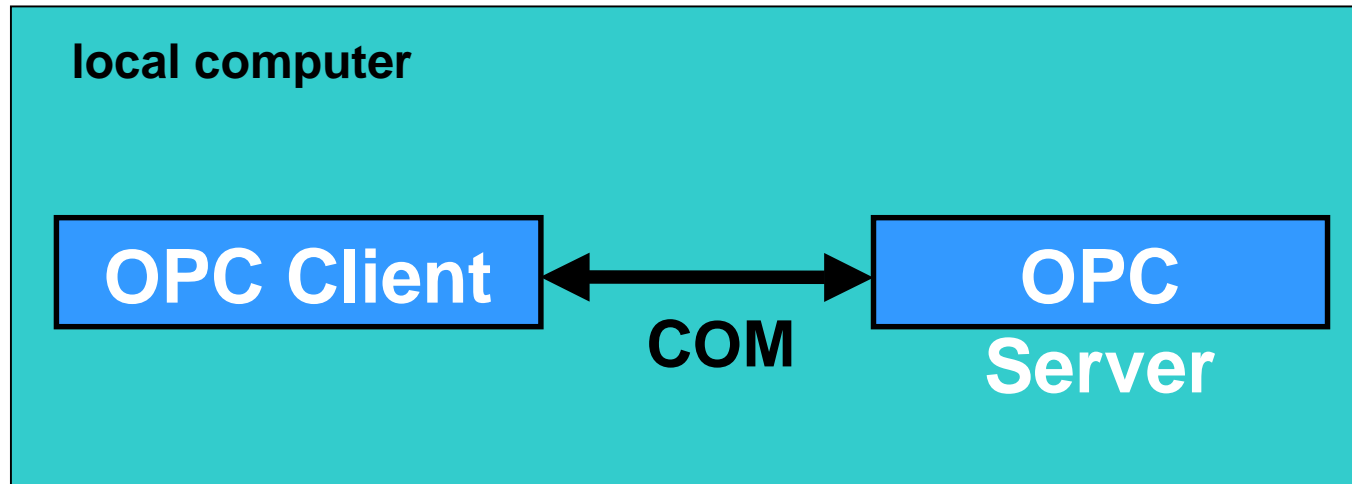
OPC Tunnel, the safe and easy way to a network-spanning OPC communication.

Handling of DCOM Problems ↴

- DCOM „Bypass“
 - tunneling of OPC data and services

OPC, COM and DCOM

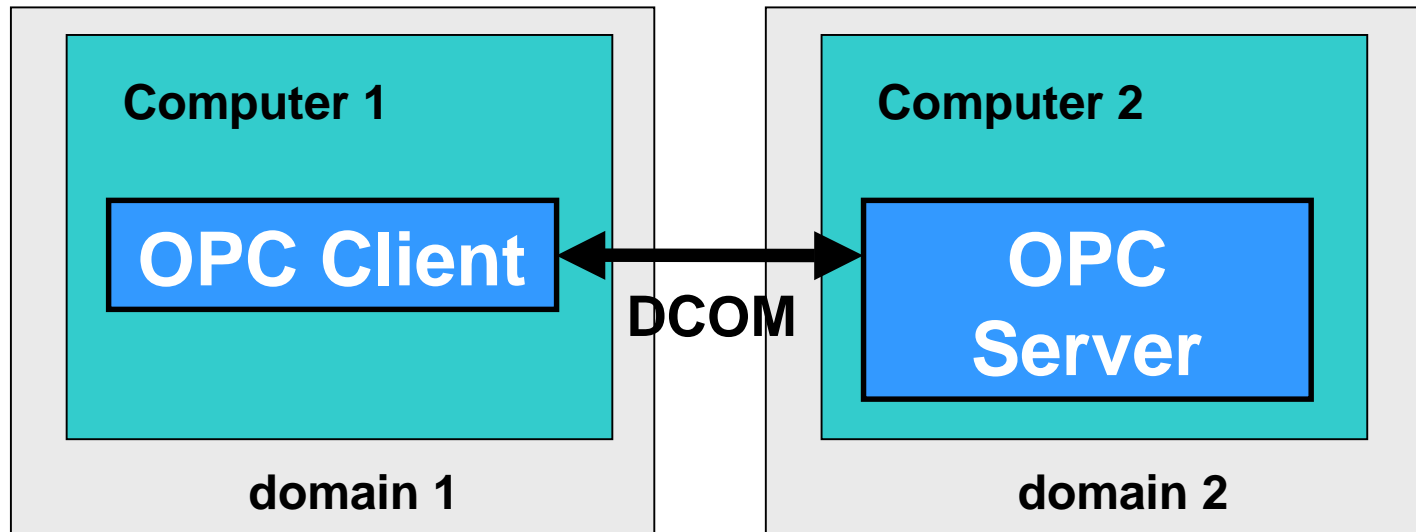
local OPC client and server connection:



- trouble-free commissioning
- high-performance
- no security or network configuration
- Plug&Play => success of OPC

OPC, COM and DCOM

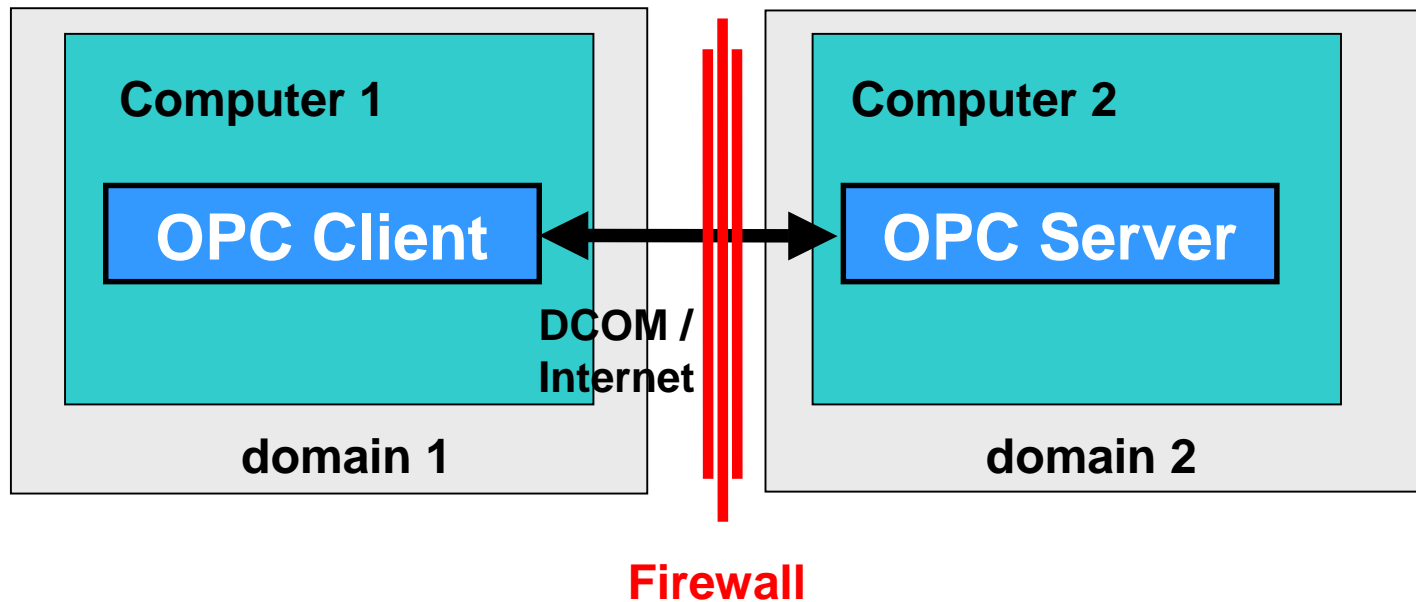
OPC client and server connection in LAN / WAN:



- transparent access, high-performance, time-out problem
- security critical (DCOM settings: authentication off and access for all or same username and password)
- incompatible with system administration policy

OPC, COM and DCOM

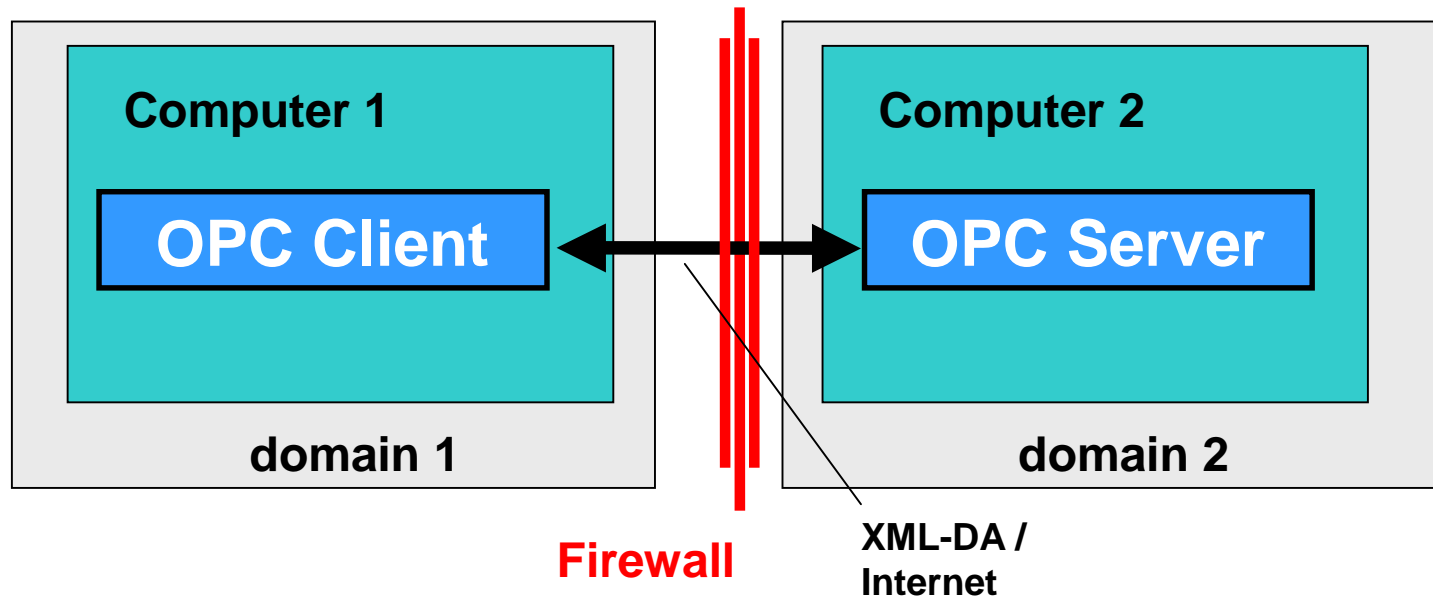
OPC client and server connection **beyond firewall boundaries:**



- not possible with DCOM (address mapping, several open ports required e.G. 135 !)

OPC and XML / Web Services

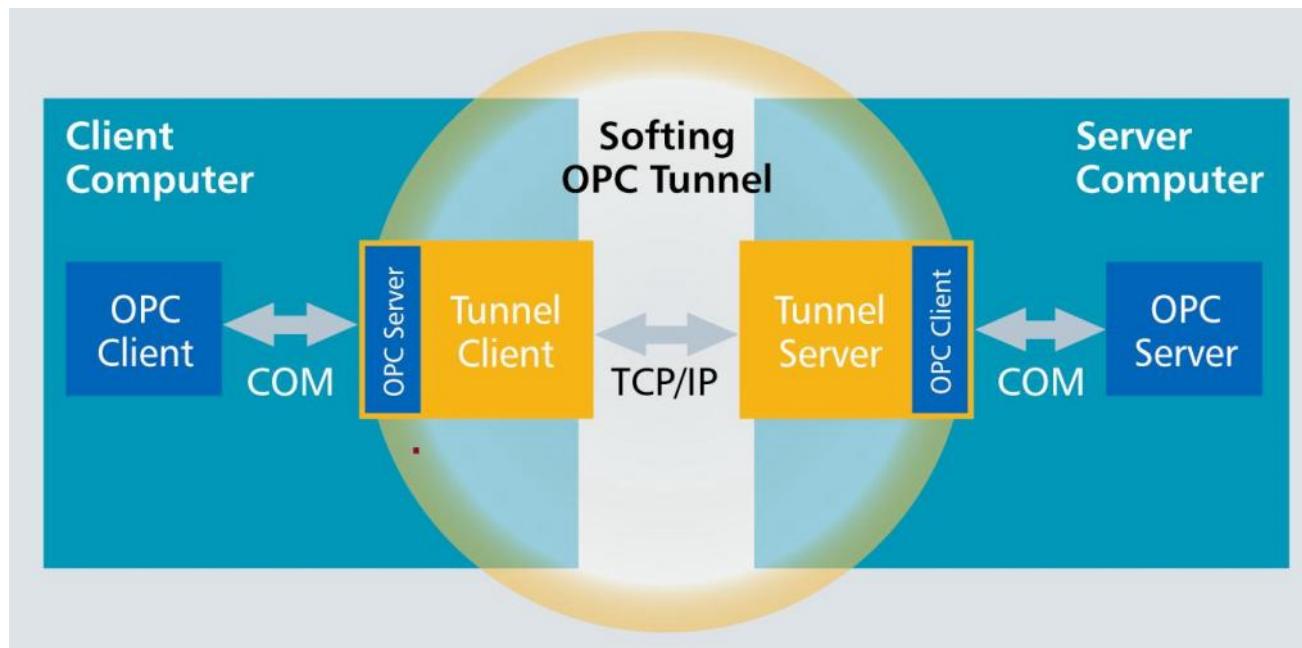
OPC client and server connection in Lan, Wan and via Internet:



- possible
- but: no high-performance
- so far only few products available

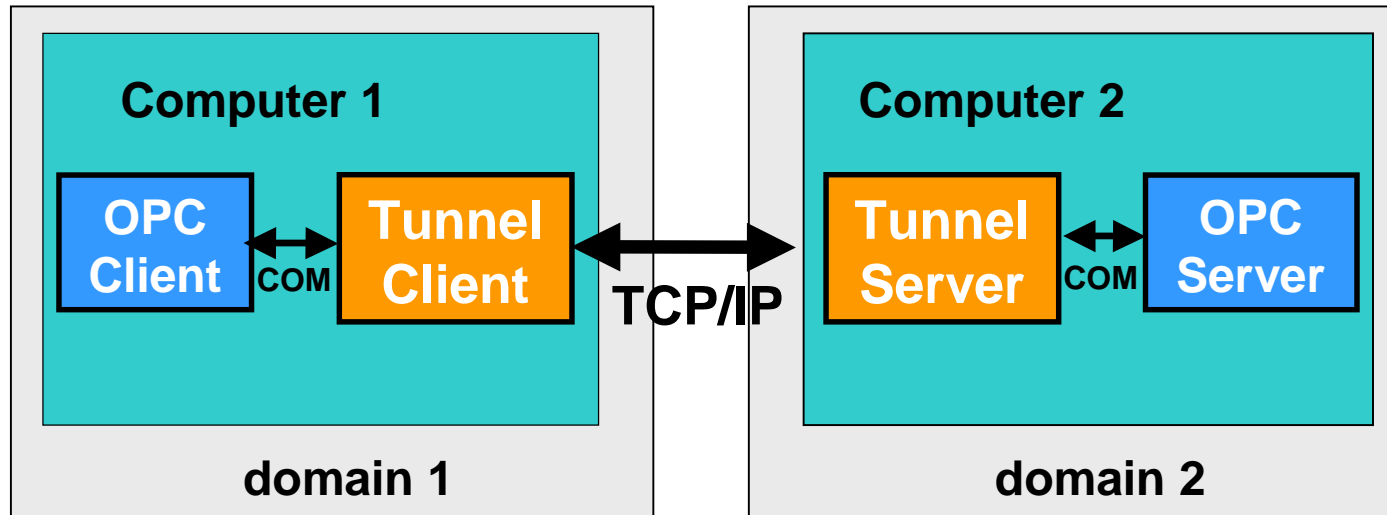
OPC Tunnel

Softing's *OPC Tunnel* enables a safe, secure method of network spanning OPC communication while eliminating the problems associated with configuration of DCOM security settings.



Use Case: Standard

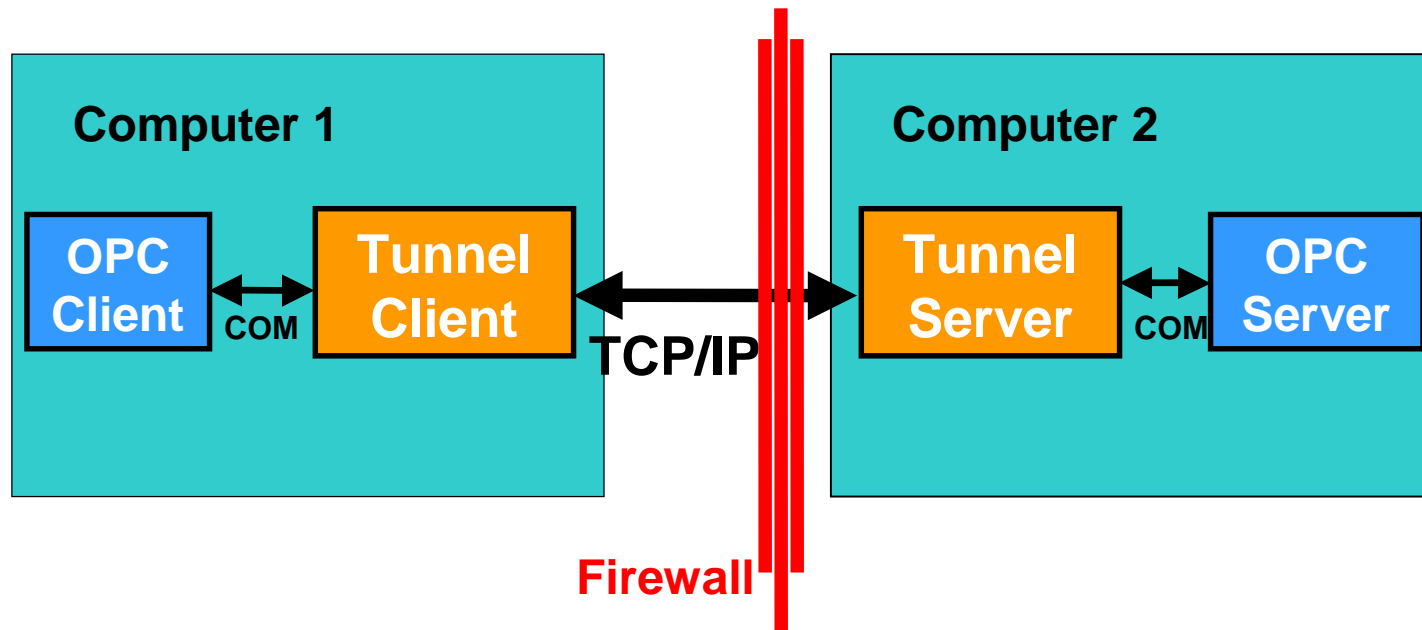
OPC client and server connection in LAN or WAN:



- „standard“ – point-to-point connection
- one OPC client, one OPC server
- in the same or in different domains

Use Case: Internet

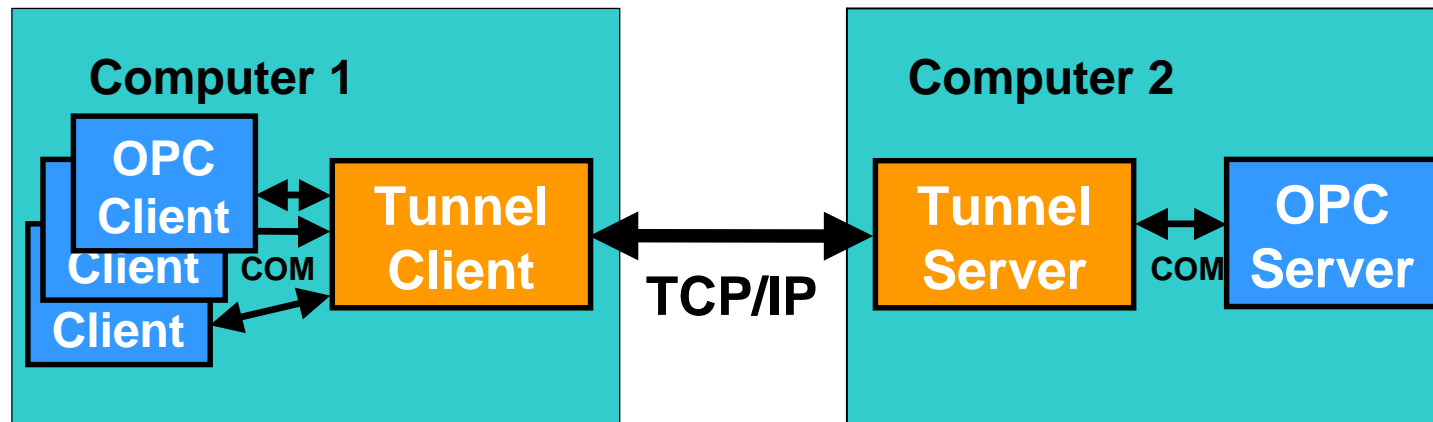
OPC client and server connection across firewall boundaries:



- like „standard“
- only IP address and port have to be configured:
- `tpda://<name or IP address>:<IP Port>`

Use Case: multiple OPC Clients

Multiple OPC clients and one OPC server:



- like „standard“
- one connection to the Tunnel Client for each OPC client
- the optimizing functionality of the *OPC Optimizer* is being used as well (no additional license required)

Key Data for OPC Tunnel

Benefits:

- *Time savings:*
it only takes minutes to set up OPC communication for networked applications
- *Flexibility:*
OPC communication beyond firewall boundaries
- *Access Protection:*
the computers do not need to be opened up for unauthorized access from the outside, unlike OPC via DCOM; the office network and the automation network can be safely separated
- *Safety:*
one-second communication monitoring provides fast detection of aborted communication sessions

Key Data for OPC Tunnel

Benefits:

- *Reliability:*
 - OPC Tunnel automatically reconnects OPC links after aborted communication sessions
 - *Information:*
Monitoring tools, activated during runtime provide an excellent overview on all relevant activities in your system. It only takes a few minutes to set up communication for networked applications.
- ⇒ End the waste of time with the DCOM intricacies when using OPC products!

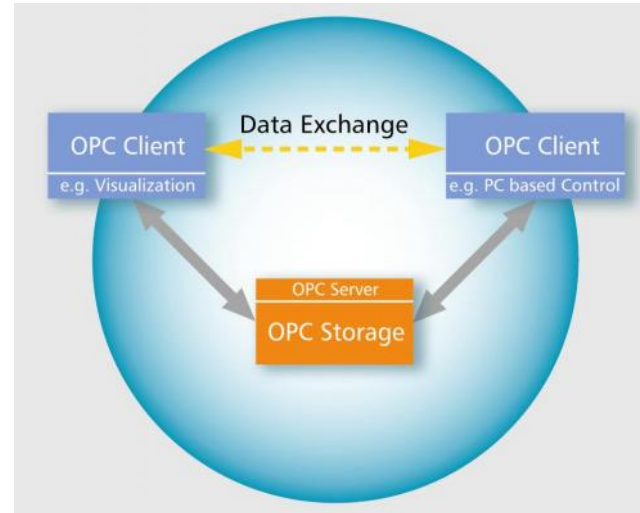
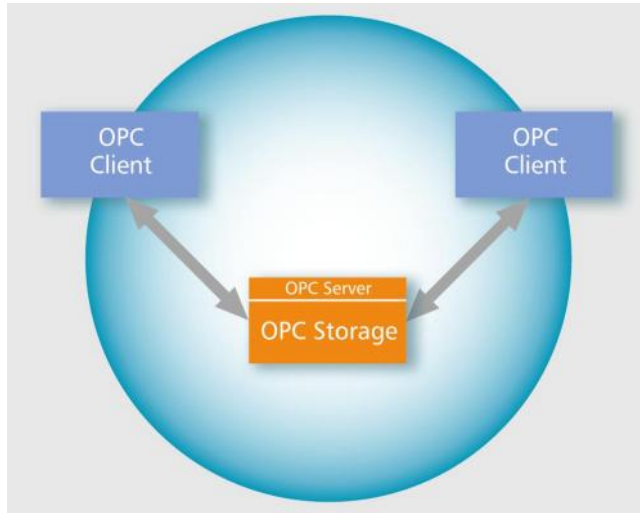
OPC Storage

- Do you want to exchange data between two OPC clients?
- Do you want to test your OPC client?
- Do you need an OPC server simulation?



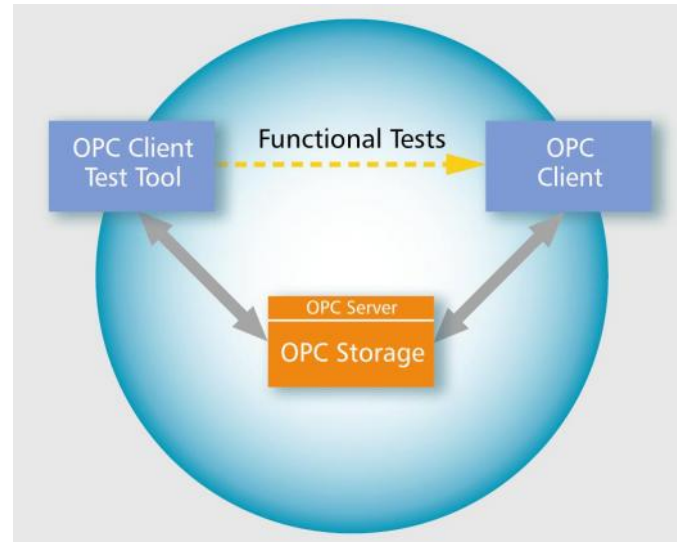
OPC Storage works like an intelligent data storage with OPC interface, which can receive configurable OPC items from an OPC client and pass them through to another OPC client.

OPC Storage – Use Case 1



- HMI/SCADA systems, Soft PLCs or any other applications with OPC client interface only, are able to exchange data between each other by using *OPC Storage*.
- OPC clients with control functionality (e.g. CitectSCADA) can actively transfer data to other OPC clients (e.g. WinCC).

OPC Storage – Use Case 2 (1/2)



- *OPC Storage* can simulate any configured data and thus can be used as an OPC Server „clone“ to test any OPC client. By configuration any OPC server with a defined OPC namespace can be emulated – without any hardware or process interface equipment!

OPC Storage – Use Case 2 (2/2)

- Class-ID and namespace of the OPC storage can be configured.
Read and write test data sequences can be controlled by any OPC client.
- OPC Storage allows writing of quality and time stamp of each item, e.g. for the simulation of errors.
- Live check of the connection by heartbeat and watchdog
- Static and dynamic namespace

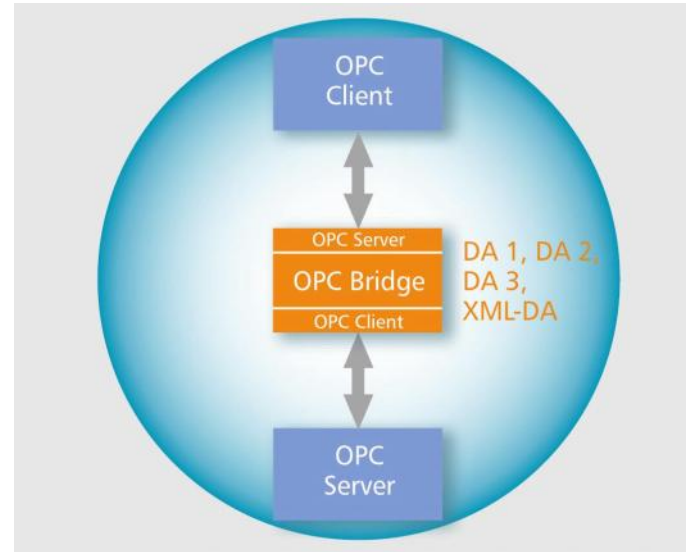
OPC Bridge

- Do you want to connect your DCOM OPC product installed on a Windows PC with a XML-DA OPC product installed on a Windows or Linux PC?
- Do you want to connect a Data Access V1.0 or 2.0 product with a Data Access V3.0 product?
- Do you want to make your server OPC compliant?



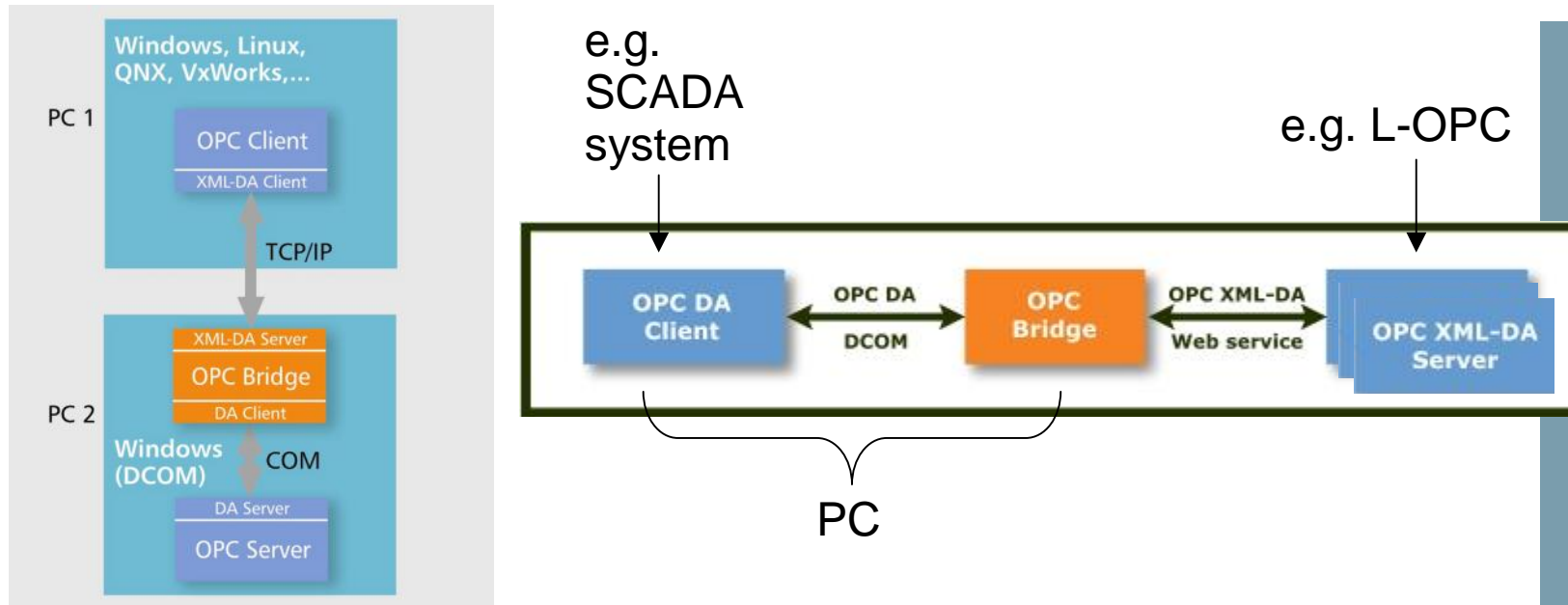
With the OPC compliant *OPC Bridge* you can extend any OPC Data Access Server or Client by an OPC XML-DA interface.

OPC Bridge – Use Case 1



- Like an “OPC Gateway”, the *OPC Bridge* connects clients and servers, which have implemented different OPC versions (DA 1.0a, DA 2.0x, DA 3.0, XML-DA, OPC UA (planned)).
- Outdated OPC server implementations, e.g. DA 1.0 become OPC compliant by the help of the *OPC Bridge*!

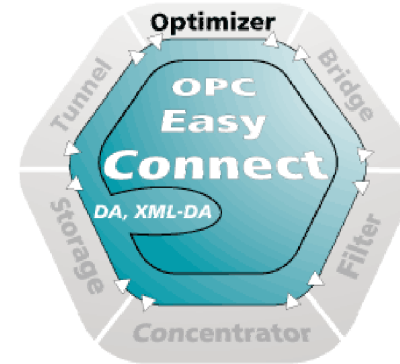
OPC Bridge – Use Case 2



- The *OPC Bridge* enables OPC communication beyond firewall boundaries
- Connects Windows with different operating/embedded systems via OPC XML-DA

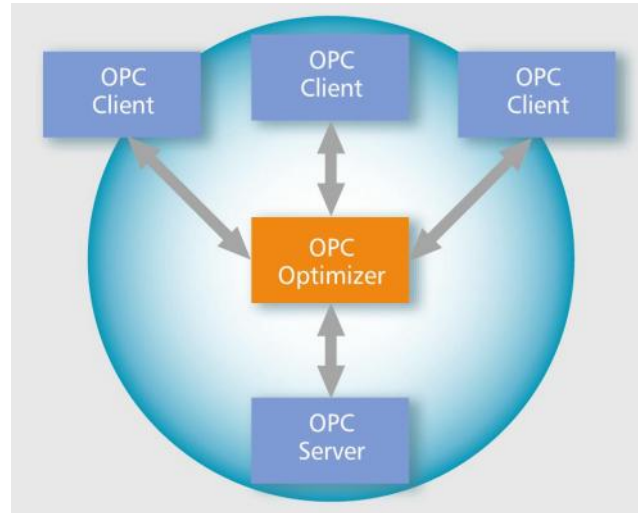
OPC Optimizer

- Do you want to optimize the performance of your OPC connection?
- Do you have several OPC clients connected to one OPC server?
- Do you have performance problems with your OPC server serving several clients at the same time?
- Does your OPC client create an unnecessary number of OPC groups, that consumes too much of the CPU power and slows down the OPC communication?



The *OPC Optimizer* optimizes the access of multiple OPC clients to data of one OPC server (many-to-one).

OPC Optimizer



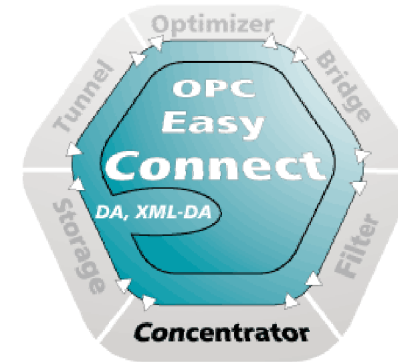
- By using *OPC Optimizer* the communication load in your OPC server is being minimized and the OPC over-all performance is being maximized.
- The number of OPC groups, that are being applied in the OPC server is being minimized.
- OPC requests from multiple OPC clients are being centralized and optimized regarding their required update rate.

OPC Optimizer – Use Case

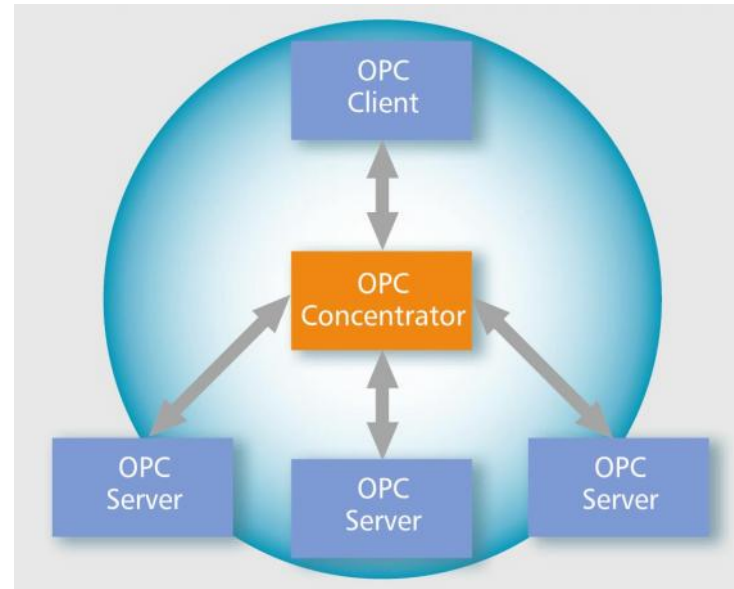
- *OPC Optimizer* can be configured in such a way that the OPC server does not have to read data from the device until the data has reached a specific time → optimization of the entire data traffic, unloading the CPU.
- As from *OPC Easy Connect* version 1.40 it will be possible to configure a determined update cycle independently of the OPC clients (a lot of OPC clients set the standard update rate to the value „0“ – for some OPC servers this causes unnecessary stress and failures respectively).

OPC Concentrator

- Do you want to simplify the connection between your OPC client and many different OPC servers?
- Do you want to realize a high-performance connection between your OPC clients and a lot of OPC servers at the same time?
- *OPC Concentrator* combines several OPC servers in one server and consolidates the namespaces and OPC items of multiple OPC servers in one namespace.



OPC Concentrator – Use Case



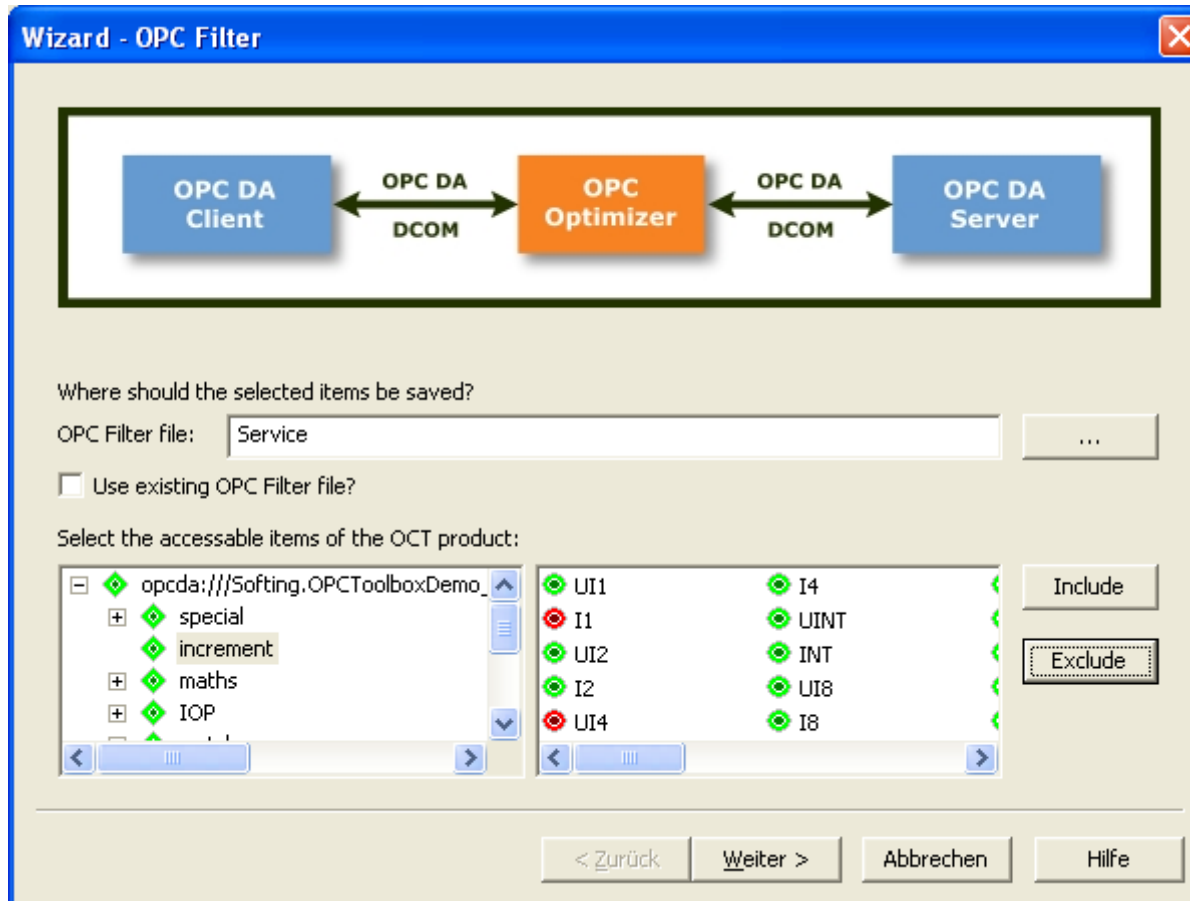
- Relieves when projecting visualization applications
- Facilitates the management of large systems
- By usage of the *OPC Concentrator* the namespaces of different OPC servers can be harmonized, that way OPC servers can be exchanged without effect on the client application.

OPC Filter

- Do you want to restrict access to data on your OPC server?
- Do you want to harmonize the name spaces of several OPC server of different vendors or simplify access to a complex name space?
- The *OPC Filter* lets you restrict access to data on an OPC server, hide individual items, rename items and control access rights.



OPC Filter



With the *OPC Filter's* wizard, complete nodes of an OPC server's name space can be hidden (excluded).

Thank you for your interest!

www.softing.com