



Design and Control

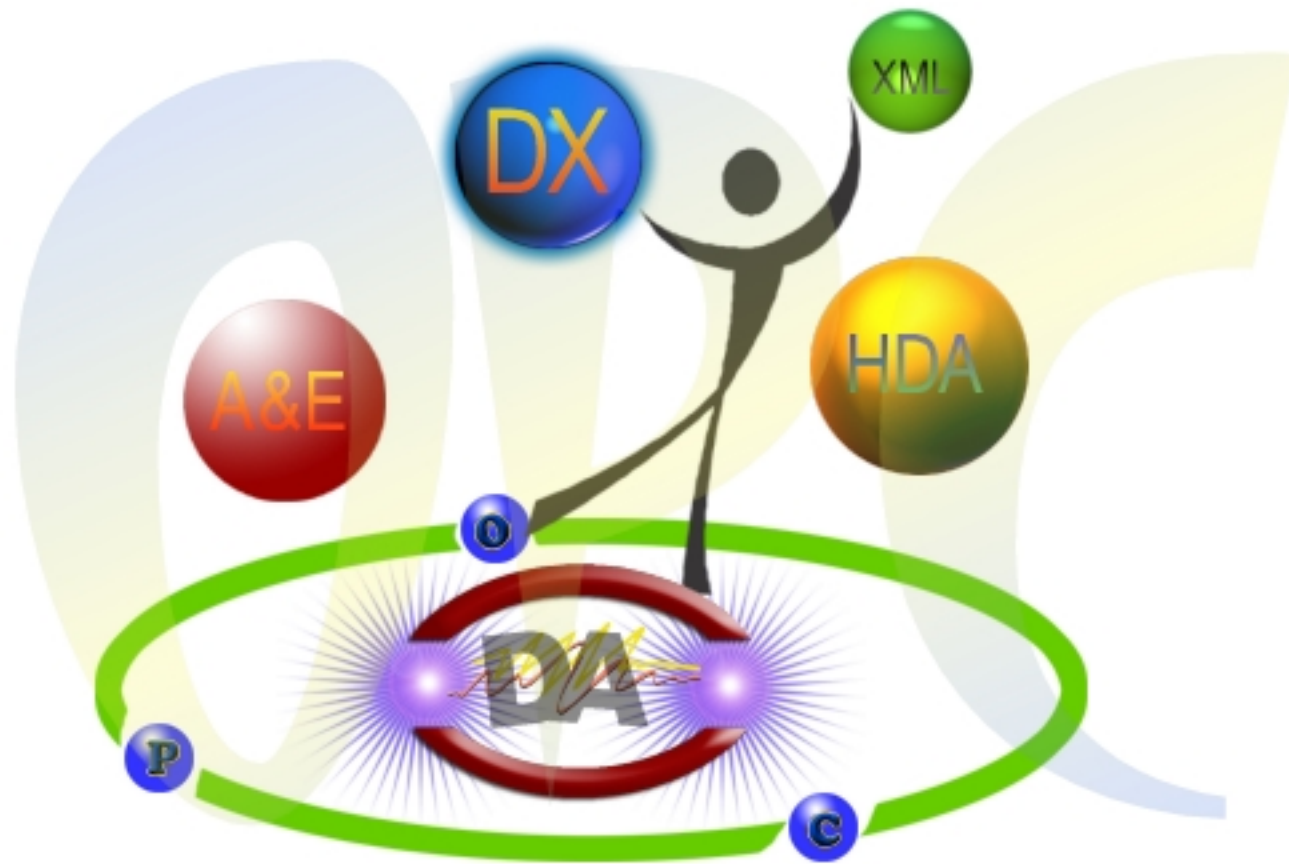
Dynamic Positioning Data Using OPC Data Exchange Standard

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Dynamic Positioning Data Using
OPC Data Exchange Standard

OPC Specifications

The most important **OPC Specifications**

- [OPC Data Access Specification - data read/write](#)
- [OPC Alarms and Events Specification - Events monitoring](#)
- [OPC Historical Data Access Specification - History data access](#)
- [OPC Batch Specification - Batch process data](#)
- [OPC Security Specification - Security policy](#)
- [OPC Data eXchange\(DX\) Specification - data exchange interface](#)
- [OPC and XML Specification - OPC and XML integration](#)

OPC Data Access Specification

OPC DA (Data Access) is the oldest **OPC Foundation** specification. It defines an interface between clients and servers for real-time data access.

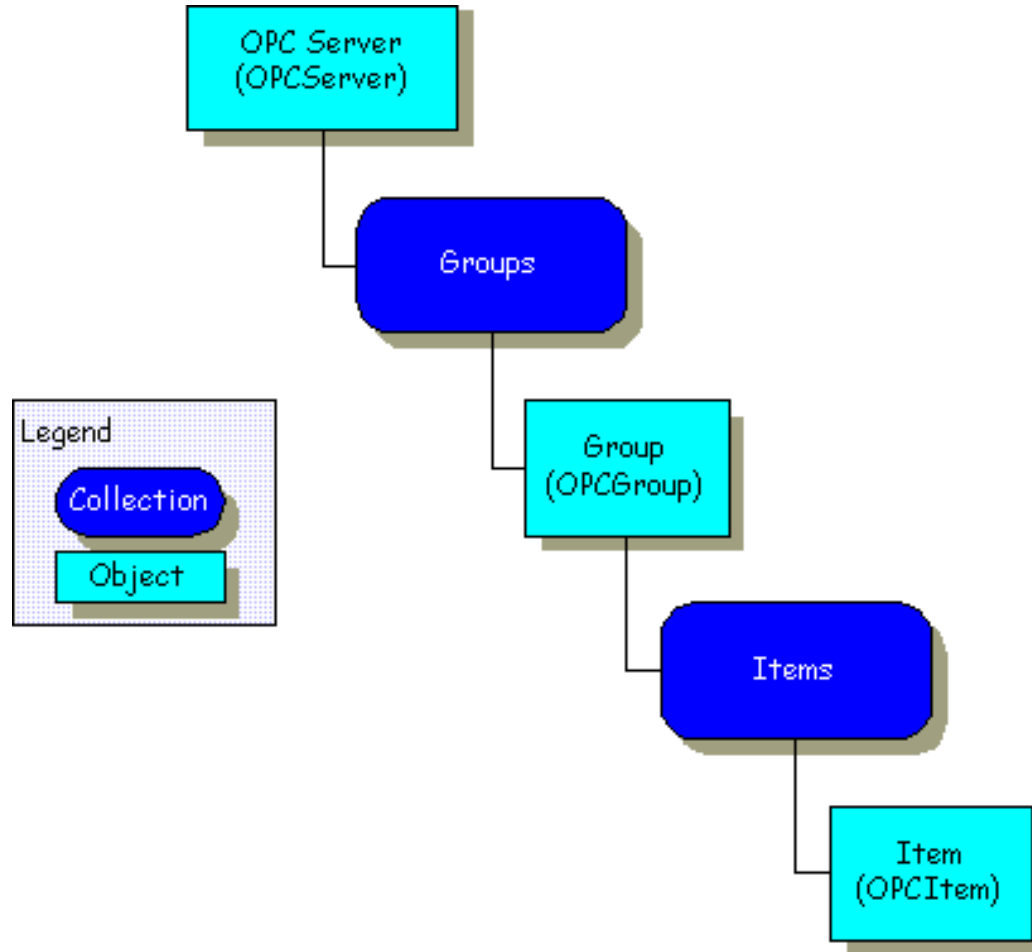
OPC DA consists of four basic objects: **OPC Server**, **OPC Client**, **OPC Group** and **OPC Item**.

- [OPC Server](#)
- [OPC Client](#)
- [OPC Group](#)
- [OPC Item](#)

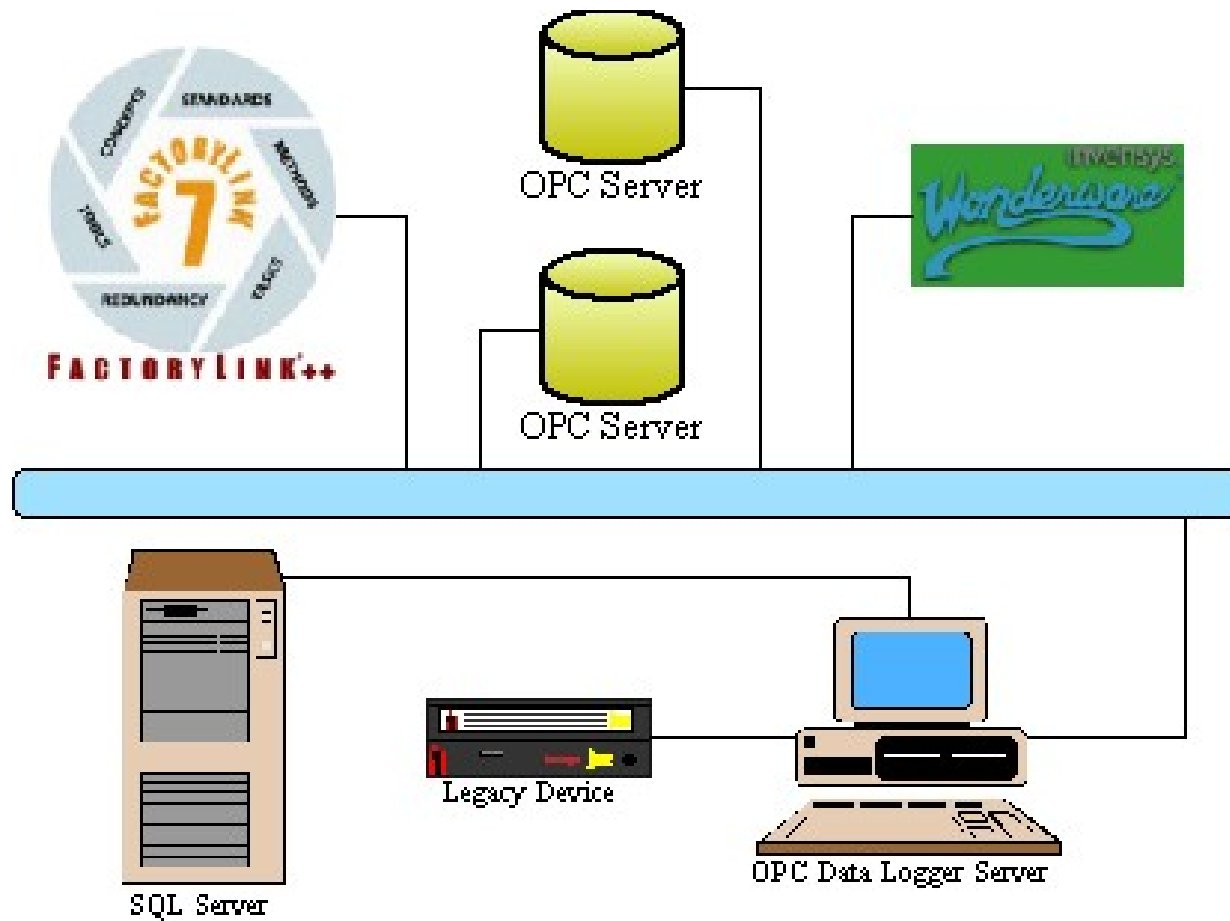
OPC DA GROUP OBJECTS

- **OPC Group** objects are containers of **OPC Item** objects. They define some characteristics of a group of items like:
 - Update rate
 - Active state
 - Deadband
 - Communication type
 - Share type

OPC DA Hierarchy



OPC Logger Overview



ShermanEng OPC Logger

The screenshot displays the ShermanEng OPC Logger application interface. The main window is titled "ShermanEng OPC Logger" and contains a menu bar (File, Logging, View, Help) and a tree view on the left labeled "Server & Groups". The tree view shows a hierarchy: OCSTK.DA.Sim.32 > Group > SimulatedData.Ramp, SimulatedData.Random, SimulatedData.Signal, SimulatedData.Step, SimulatedData.Sine, and Group1 > Dynamic.Analog Types.Double, Dynamic.Analog Types.Int.

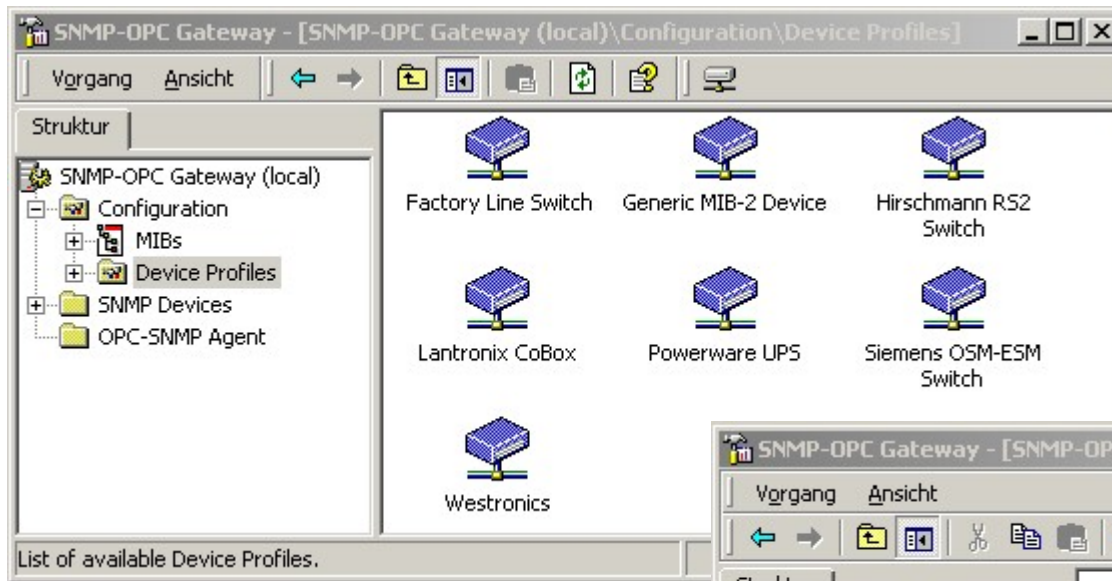
On the right side of the main window, there is a table titled "Item List of Group" with the following data:

Item Name	Value	Quality	TimeStamp	Error
SimulatedData.Ramp	60	GOOD	10/13/2006 11:48:40 AM	
SimulatedData.Random	23152	GOOD	10/13/2006 11:48:40 AM	
SimulatedData.Signal	True	GOOD	10/13/2006 11:48:40 AM	
SimulatedData.Step	40	GOOD	10/13/2006 11:48:40 AM	
SimulatedData.Sine	0.4999999999993044	GOOD	10/13/2006 11:48:40 AM	

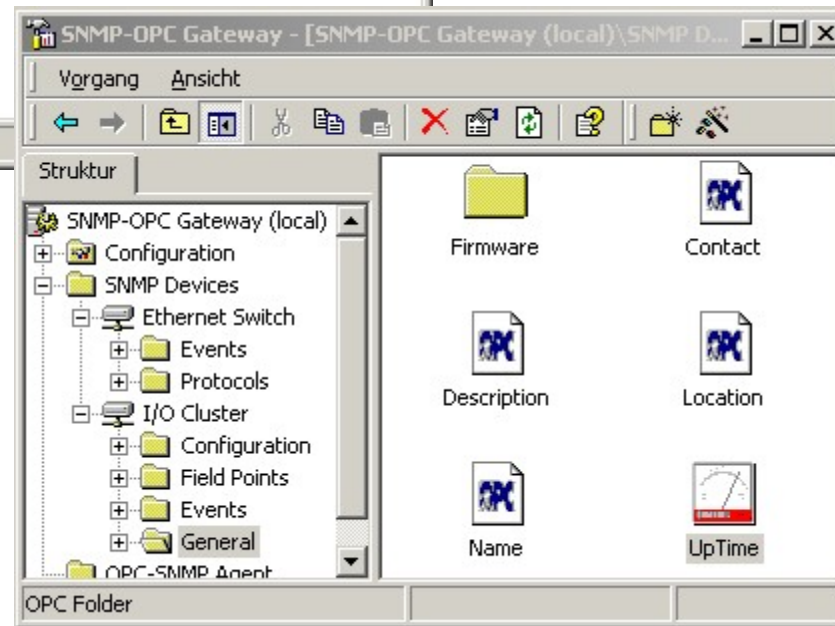
Two dialog boxes are overlaid on the main window:

- Edit Group Information**: This dialog has several fields: "Trigger Group" (checked), "Group Name" (text box containing "Group"), "Update Rate" (text box containing "1000" followed by "ms"), "Dead Band" (text box containing "0" followed by "%"), and "Active" (checked). At the bottom, there are two buttons: "Define a trigger to start group logging" (disabled) and "Define a trigger to stop group logging" (disabled). "OK" and "Cancel" buttons are at the very bottom.
- Define a trigger to start group logging**: This dialog has an "Item" dropdown menu (selected "SimulatedData.Ramp"), an "Operator" dropdown menu (selected "="), and a "Value" text box. "OK" and "Cancel" buttons are at the bottom.

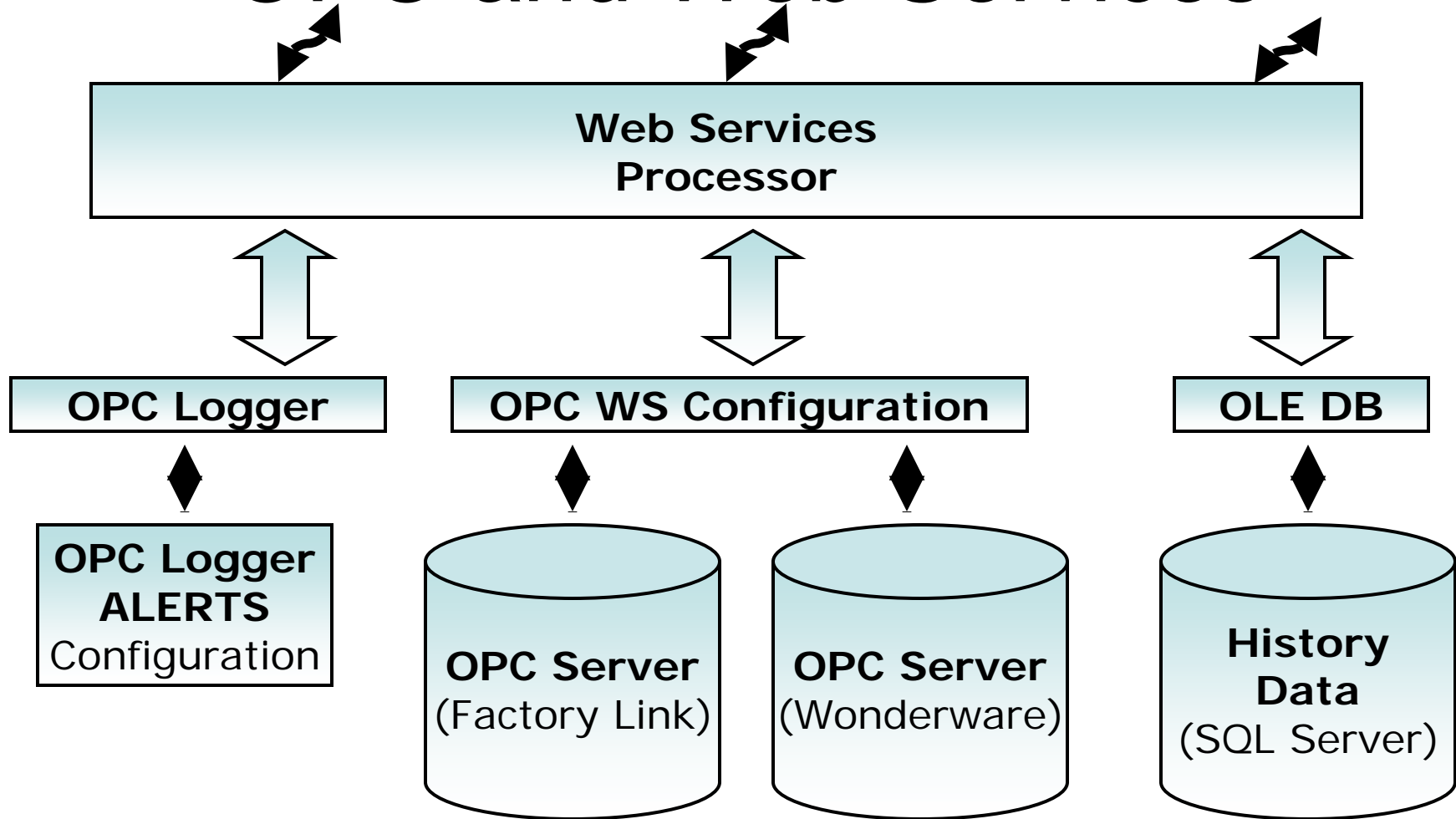
SNMP OPC Server



An SNMP-OPC Server component makes your existing HMI/SCADA system a network-management system.



OPC and Web Services



Web Portal OPC Integration

We want to query against multiple systems, and vessels to analyze operational and maintenance discrepancies and abnormalities. We also want automated data pumps to facilitate various reporting across vessels, systems, departments, and employees. We want to control access to which data and applications accessible to whom – partners, employees, customers. In addition, we want it to be easy to set up, configure, and use.“

- A single point of access to all resources associated with designated domain
- Federated access to all data sets and repositories, aggregated and categorized
- Collaboration technologies that bring people together
- Personalized secure interaction with the portal services
- Integration with Applications and workflow systems