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DDE Client Driver for OpcDbGateway and SAEAUT UNIVERSAL OPC Server

OpcDbGateway is universal platform enabling integration of complex or easy applications preferably by configuring instead of more laborious programming. SAEAUT UNIVERSAL OPC Server is tool for easy development of dedicated OPC servers. Both products use common configuring and programming practices. **The DDE client driver for these products** *enables to* **integrate functionality of different applications with built-in DDE servers to a complex integrated application**.

Introduction
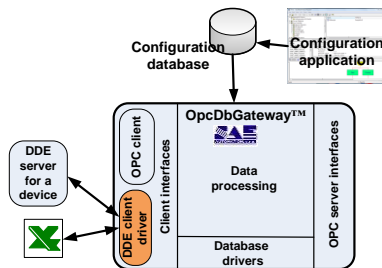
DDE stands for Dynamic Data Exchange. DDE is a method for exchanging information between applications running on the Windows operating system, all the way back to Windows 2 .0. As the first Windows-based HMI software came to market between 1989 and 1991, the developers chose to use DDE to connect the HMI software to their device drivers. The device driver that connected to a PLCs or process equipment ran as a separate application called a DDE Server. The HMI software was a DDE client application that requested and received data from the DDE Server. By having the DDE Server as a separate piece, it was very easy for 3rd parties to create drivers that would work with any HMI or other software application that used DDE. There are still many DDE servers for different devices in use. Excel can function as DDE server as well.

Using DDE client driver together with SAEAUT UNIVERSAL OPC Server enables to use it as OPC DDE Server and to integrate legacy devices with DDE server to different SCADA systems with built-in OPC client. Using it with OpcDbGateway has even much broader usage – connection to databases, a DDE server/OPC client communication, a data visualisation and calculations in Excel (activated by OpcDbGateway as DDE client).
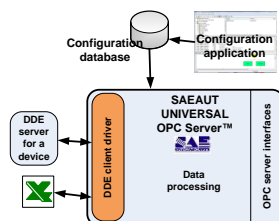
A server primarily waits for other Windows applications (clients) to send commands and then acts upon that command, which can instruct the server to perform a specific function or send data back to the client. A client initiates conversations with the server by asking the server to perform a task. For example, if you need to send data acquired from your OpcDbGateway runtime to a report created in Microsoft Excel, your application acts as the client and Excel acts as the server.

If you communicate to a third-party software package through DDE, you must know what command strings the software understands. This DDE client provides **generic DDE functions** that you can use to send, receive, and execute commands. For information on the actual command strings and format of the data, consult the user manuals of the third-party software package.

Features

- The DDE Client Driver is capable of communicating with any server that supports the standard "CF TEXT" DDE data format
- Addressing uses familiar "Application Name| TopicName ! ItemName" method for DDE server data
- The driver will automatically reconnect when DDE servers are brought back on-line
- A "DDEreconnect" tag is provided to aid in the resolution of DDE communication failures
- This driver uses programmable/configurable ways of communication:
  - "Hot links", where a DDE server passes data to the driver only when the data value has changed. This provides a significant performance advantage over the alternative request/response loop approach since each DDE transaction is relatively time consuming
  - reading of preconfigured group of items from DDE server using request loop approach
  - writing of preconfigured group of items to DDE server using poke loop
  - reading of individual item from DDE server using request – only when the integrated application needs it
  - writing of individual item from DDE server using request - – only when the integrated application needs it
  - execute DDE commands
- All major data types are supported
- High productivity by configuring although thousands of DDE items and, in the same time, high flexibility - different types of DDE functionality can be configured
- **High productivity** by configuring is provided by automatic mapping of DDE items to OPC items and to memory operands (used to interconnect different data sources) and also by possibility to use one three ways of configuring :
  - Browsing of DDE server for available DDE items (if server has this functionality available)
  - Defining index ranges for DDE items (e.g. choosing of [1-1000] enables defining thousand DDE items in one step)
  - Specifically for MS Excel - by choosing of cell's range in a data sheet
- **High flexibility** by configuring - different types of DDE functionality are preconfigured as standard function blocks. It enables to combine DDE functionality with all other configurable or programmable functionality available in OpcDbGateway or SAEAUT SNMP OPC Server
- DDE functionality can be logged to file or database (only in OpcDbGateway) using standard built-in configurable logging functionality of the OpcDbGateway or SAEAUT SNMP OPC Server

Applications

- HMI/SCADA
- MES
- Product Tracking
- Product Identification
- Custom VB, VC++, VB.NET, VS.NET, C# applications