



APROL R 4.0

OPC Server



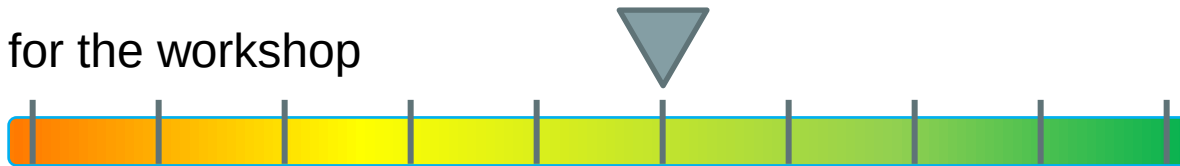
Agenda

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Time	Topic
~ 30 min	OPC and APROL OPC Server Basics
~ 15 min	Installation
~ 2h 30min	Configuration, examples and tests

Aimed level for the workshop



Beginner

Expert



● OPC

- old: OLE for Process Control
- Since 1996: Open Platform Communications

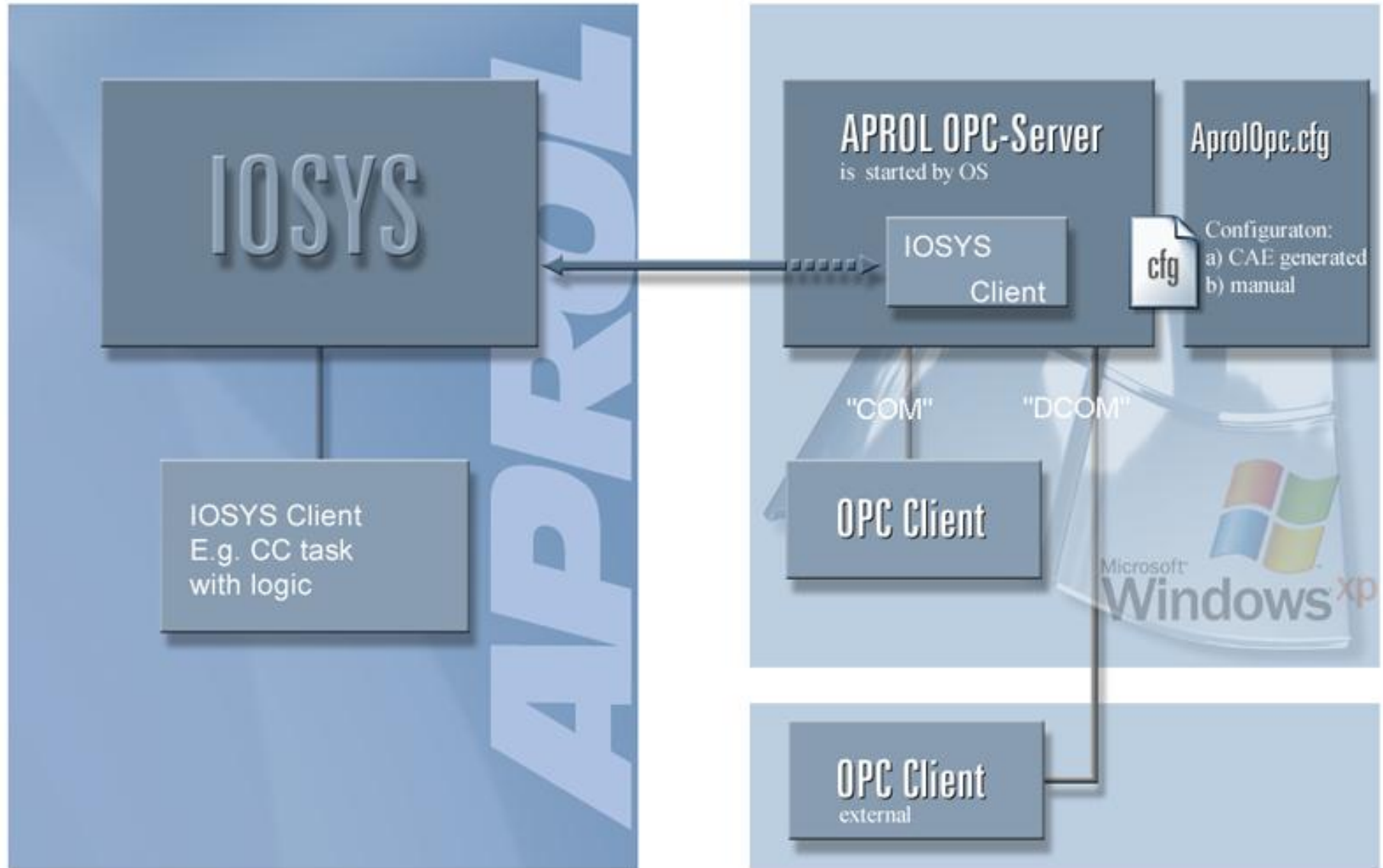


- Standardized software interface
- Communication of data between control devices from different manufacturers
- No additional programming of the interface necessary
- Each value is recorded with timestamp and status
- Usecases
 - Display process data in an Excel spreadsheet
 - Archive data in a database
 - Process data in a production planning system



- Supports Data Access 2.0 specification
- Iosys OPC interface
- Running on a windows based system
 - Windows XP
 - Windows Server 2008
 - Windows 7
- Read and write access to process variables
- Configuration in **APROL**
- Server starts and stops automatically by OPC client
- Read access to 5000 process variables within a second

General: single runtime system





- Run installer
 - APROL <= **R3.6**: OPC Server Version **V3.7.0.0**
 - APROL **R4.0**: OPC Server Version **V4.0.0.1**
- Automatic registration during the installation
- Command for manual registration
 - CMD AprozOPC.exe /RegServer

- [illegible]

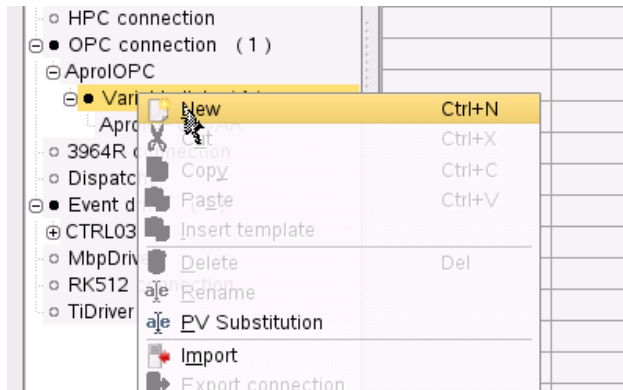
Configuration in **APROL**



Entry	Description
Connection	The name of the connection. This is preset (<i>Apro/OPC</i>) and cannot be changed by the user.
Application	The name of the application is stipulated (<i>Apro/OPC_EXE</i>) and cannot be changed by you.
Configuration file	The configuration file name for the APROL OPC server is stipulated (<i>Apro/OPC</i>) and cannot be changed by you.
System	The system identifier. At the moment, this is only required for creating and formulating the name of an <i>OPC item</i> .
Project	The project identifier. Similar to <i>System</i> , this identifier is currently only required for creating and formulating the name of an <i>OPC item</i> .
losys Host (or IP)	Computer name or IP address of the runtime system (including the port number of the losys). For redundant systems, both computer names and IP addresses must be specified. Entries should be separated by a ",". (e.g. <i>runtime1:0, 10.49.80.80:1</i>).
Connection type (ConnType)	Connection type for one or more OPC servers Normal (Default setting) for one single OPC server Redundant when several OPC servers simultaneously access the losys and interact with the same process variable. In this case, these OPC servers cannot be started on the same Windows computer! (please also see the following information text)
TR [s] / Retry Time	Retry time (TR) in <seconds>. Timeout for failed reconnection attempts (Maximum 3600).
Coding of the target string	As of APROL OPC Server V3.0: When coding the target string, you can select between: <i>Latin1, Chinese (BIG5), Windows (CP1252), Latin2, UTF-8</i>
Description	A description for OPC connection can be specified here.



● Creating OPC Variables



Entry	Description
Variable name	Process variable name. This corresponds to the name of the PV in the APROL losys.
I/O type	OPC variables can be of the types input, output, or bidirectional. Input = write access Output = read access Bidirectional = write and read access
IEC type	Data type of the variables in the APROL system.
OPC Type	Data type of the variables in the APROL OPC server.
Description	Entering a description is optional.



- Config file ArolOPC.cfg
- Necessary for the **APROL** OPC Server
- 2 possibilities of creation
 - Generated by CaeManager (result from the inputs of the OPC connection)
/home/<engin>/ENGINE/EXCHANGE
 - Manually created configuration
- Target directory on the Windows system
 - <Instldir>/cnf/

Configuration file



```
#
# AprotOPC-Server configuration file
# generated by bruggern at 2011.08.09 11:28:23
#

PN: @/Aprot
PD: TR=30 EN=Latin1

PN: @/Aprot/ECamp_Sample          OT=line
PD: CD=iosys
LD: EV=""

PN: @/Aprot/ECamp_Sample/ECamp_Sample  OT=conn
PD: IP=labwork2:0
LD: EV=""

PN: @/Aprot/ECamp_Sample/ECamp_Sample/AprotOPC_InBOOL  OT=pvar
PD: CD=AprotOPC_InBOOL AT=rw
LD: VT=boolean IO=BOOL

PN: @/Aprot/ECamp_Sample/ECamp_Sample/AprotOPC_InBYTE  OT=pvar
PD: CD=AprotOPC_InBYTE AT=rw
LD: VT=i8 IO=BYTE

PN: @/Aprot/ECamp_Sample/ECamp_Sample/AprotOPC_InDATE  OT=pvar
PD: CD=AprotOPC_InDATE AT=rw
LD: VT=u32 IO=DATE

PN: @/Aprot/ECamp_Sample/ECamp_Sample/AprotOPC_InDINT  OT=pvar
PD: CD=AprotOPC_InDINT AT=rw
LD: VT=i32 IO=DINT

PN: @/Aprot/ECamp_Sample/ECamp_Sample/AprotOPC_InDT  OT=pvar
PD: CD=AprotOPC_InDT AT=rw
LD: VT=f64 IO=DT
```



- Install OPC Server on your system
- Create a new OPC connection in APROL
- Create logic using the OPC Gateway variables
- Install OPC Client
 - Matrikon OPC-Explorer
 - Excel Client
- Test connection to the server



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