OPC Evaluation

DCS/DAQ meeting

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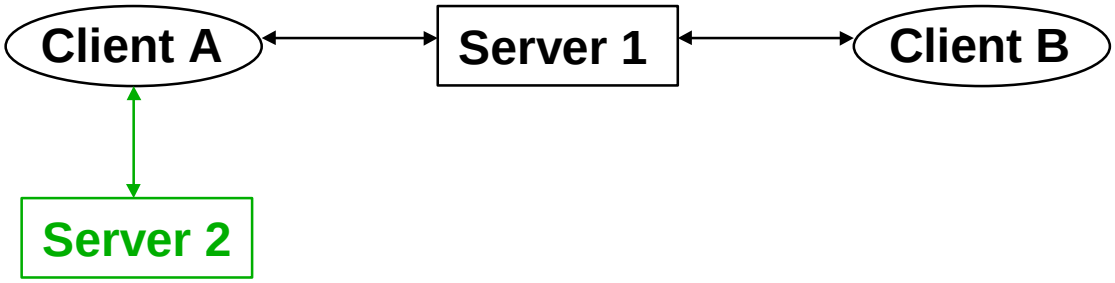
Introduction

- OPC = fundation of 168 companies (National Instrument, Siemens AG, Shneider…)
- OPC specifies an interface between :
  - a program and a device
  - 2 programs

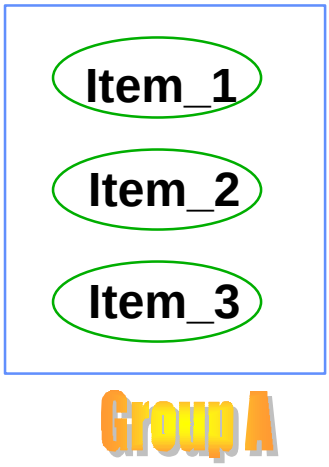
  based on COM/DCOM.
- Evaluation to use this interface in an ECS.

OPC concepts

- **Servers and Clients**

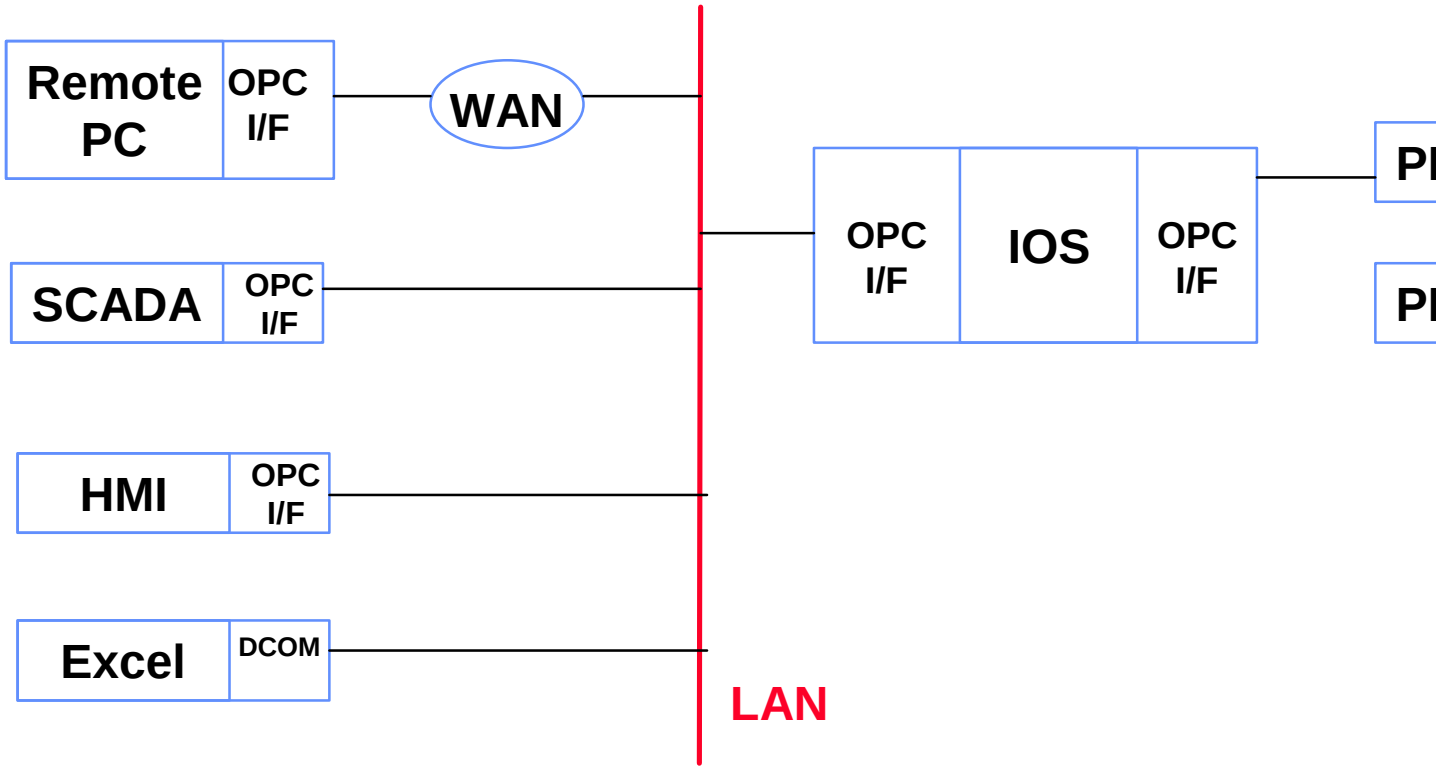


- **Items and groups**
  - **Ex. Of item :**
    HV level of a power supply.
  - **Client can browse the server for items.**



OPC for what

- **To build an ECS with already existing components.**



Why OPC?

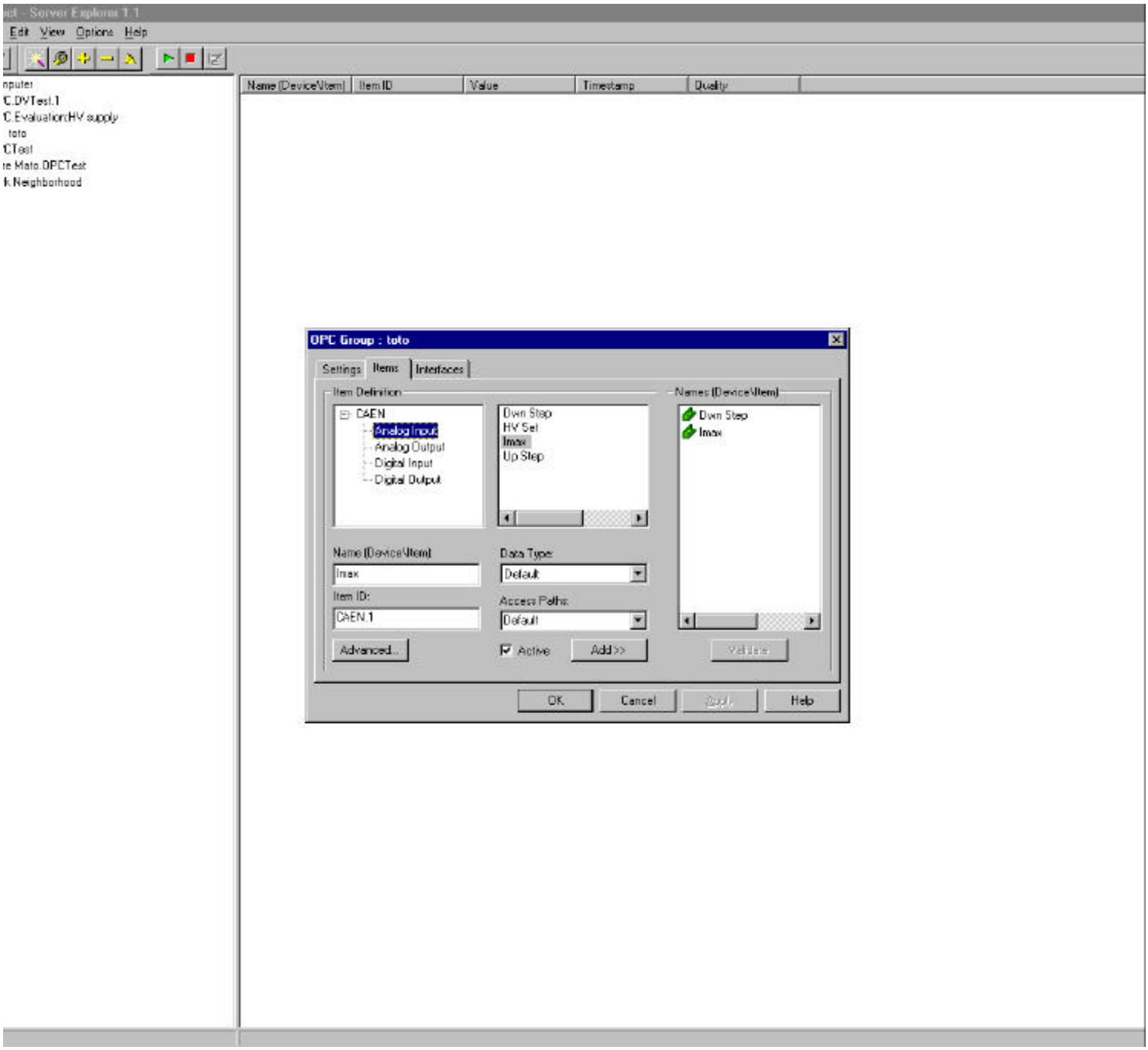
- **Not have to rebuild what already exists in the market.**
- **Able to customize the parts we need**
  - **e.g. an I/F for a home made electronic card.**
- **Used widely by industrial :**
  - **Siemens S7 PLC,**
  - **Bridgeview,**
  - **Citec.**

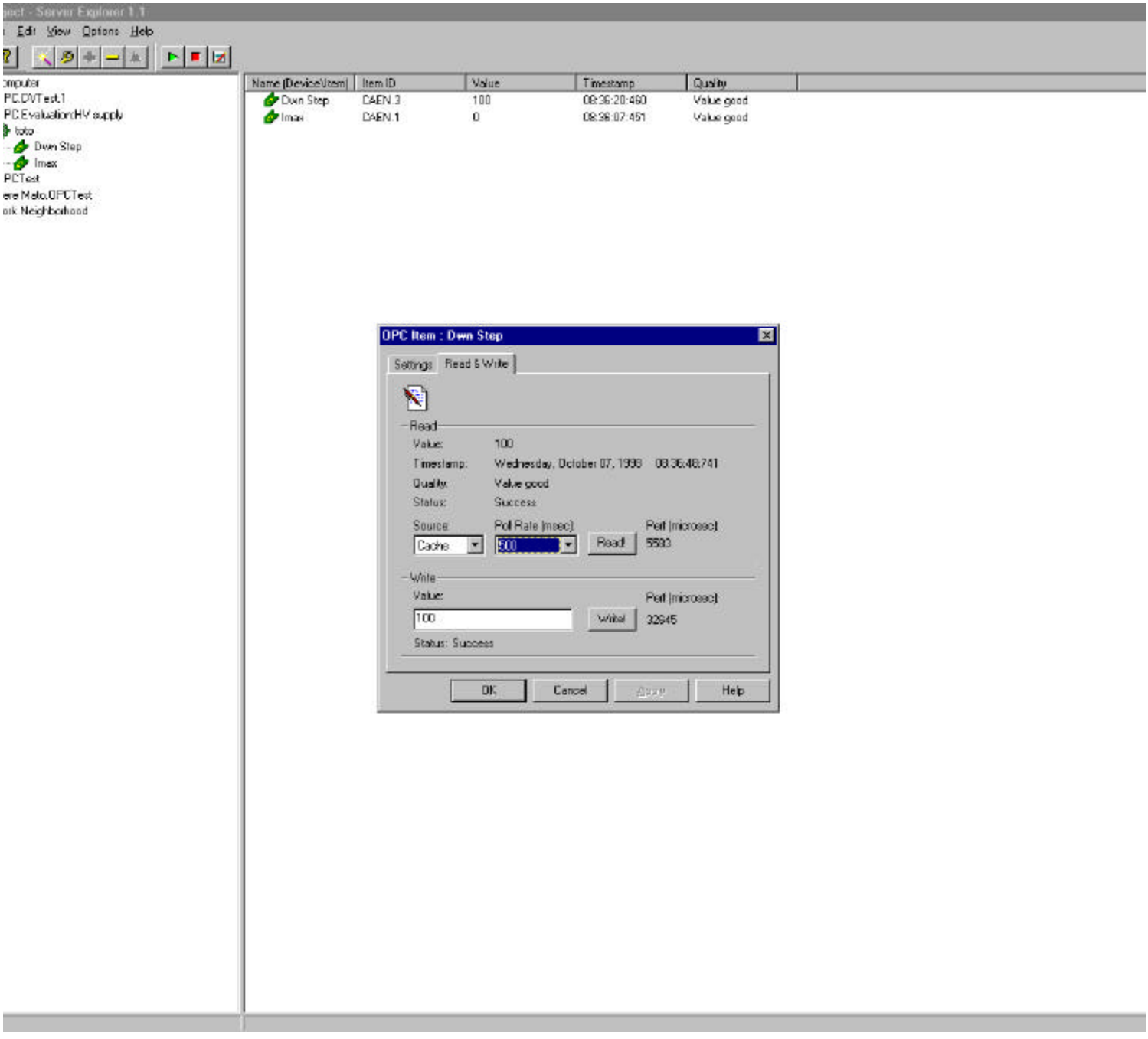
OPC Evaluation

- We need to evaluate OPC to have an objective idea of it.
- This evaluation will be made in the JCOP context.
- Evaluate to :
  - investigate applicability of OPC in our ECS,
  - understand the benefits and the limitions,
  - check the interoperability between different vendor products,
  - have an hand-on experience.

An custom server example

- **Writing an OPC server for CAEN HV Supply (H.S. CAENET).**
  - **Using a National Instrument kit**
    - **source code canvas**
    - **explorer.**
- **This work is for :**
  - **evaluating the easyness of OPC server writing,**
  - **evaluating the performance of a such OPC server,**
  - **I/F'ing HV supplier with commercial products (Citec) evaluated by the JCOP group.**


Edit View Options Help
Name (Device\Item)
Item ID
Value
Timestamp
Quality
OPC Group : toto
Settings
Items
Interfaces
Item Definition
CAEN
Analog Input
Analog Output
Digital Input
Digital Output
Dwn Step
HV Set
Imax
Up Step
Names (Device\Item)
Dwn Step
Imax
Name (Device\Item)
Imax
Item ID:
CAEN.1
Data Type:
Default
Access Paths:
Default
Advanced...
Active
Add>>
Validate
OK
Cancel
Apply
Help


Edit View Options Help
Name [Device\Item]
Item ID
Value
Timestamp
Quality
Dwn Step
CAEN.3
100
08:36:20:460
Value good
Imax
CAEN.1
0
08:36:07:451
Value good
OPC Item : Dwn Step
Settings
Read & Write
Read
Value: 100
Timestamp: Wednesday, October 07, 1998 08:36:48:741
Quality: Value good
Status: Success
Source
Poll Rate (msec)
Perf (microsec)
Cache
500
Read
5593
Write
Value:
Perf (microsec)
100
Write
32945
Status: Success
OK
Cancel
Apply
Help

Conclusion

- We’re at the begining of this work
- We will make you know the results
- the OPC evaluation will have to drive to an evaluation report.