[OPC Application Case Studies - 03]

OPC links ERP software to Industrial Automation

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[APPLICATION]

Enterprise Resources Planning (ERP) Software

[DESCRIPTION OF THE APPLCATION]

Industrial & Financial Systems (IFS) - 3000 employees - is selling and installing ERP-software (Maintenance, Production, Manufacturing, HR, Finance, Distribution, etc.) in 35 countries around the world. We have developed an OPC-Client that makes it possible for us to seamlessly integrate data between the ERP applications and the industrial automation environment.

This integrated flow of data, which begins with an Internet-based purchase order and goes all the way through production, offers many new possibilities.

We can, for example, carry out maintenance based on real time data. An alarm on the automation side automatically creates a work order on the ERP side. A service interval is then carried out based on real time operational hours. Users are also able to optimize the scheduling of what to manufacture - based on the actual order stock, the material on hand and the real time status of the plant (maybe some parts are standing still). This information is then sent directly to the automation side.

This opens a way to manufacture customized, small series, with a clean data flow all the way from the customer to the production line.

A customer can design and put his purchase order in an Internet site. The purchase order will be stored in IFS order stock. Together with other orders (and data from other parts of IFS system) a manufacturing schedule will be created and transferred to the SCADA system on the

automation side. If something happens during the production, a work order will be sent to repair so that the production is in operation as soon as possible again.

When you have a good data flow between the ERP side and the automation side, there is really no end to the possibilities.

In late November we showed this solution at a fair (Scanautomatic, G?teborg, Sweden) in an interplay with Siemens. We showed the data flow live and we successfully managed maintenance based on incidents in the automation equipment.

[EXPLANATION OF WHY OPC WAS CHOSEN]

For IFS the main focus was to find a communication standard that was widely accepted and that would work for communication with many different suppliers of automation equipment. OPC was the only standard that met these demands.

The COM/DCOM technology used in OPC matched our platform for external communication (IFS eConnect) and made it quite smooth to develop an OPC-Client adapter on our side.

Another important issue was that we could use different SCADA-systems as gateways. Most SCADA-systems today act as OPC servers. This makes it possible to read/write data without having to deal with the different industrial buses. We can ask for data as a OPC-client (compare SCADA client) and wait until the OPC-server (compare SCADA server) has brought us the data.

There is traditionally an aversion (often entitled) from the automation side to let the administrative systems get into the data flow of the automation side. They are afraid of interference in the production. With OPC technology we are acting as any SCADA client - which makes the automation people more relaxed. The intensity of the extra data flow (bus load) brought in by the demands of the ERP-system is in these connections (ERP - Automation) is quite low. An ERP-system can in most cases sample data every 10 minutes and still find it speedy.

OPC is supported by every main vendor on the automation side and is using a technology that is familiar also for ERP people. OPC was for IFS the only standard that could be chosen.

[SUMMARY OF HOW OPC WAS INSTALLED & THE BENEFITS RECEIVED AS A RESULT]

We developed our OPC Client inside IFS R&D in G?teborg, Sweden, with some support from Siemens Hotline in N?rnberg. The OPC client is designed with 3 main set up steps. In the OPC client IFS defines the tag name and the sample rate, IFS defines the rules on when the data should be stored in the ERP database e. g. every 24 h and every time an interval is passed, etc. IFS also defines the layout of an XML-file depending on the subscriber in the ERP side and the key for storing the data. It looks a bit different in the other direction.

The benefit has so far been (it was presented just a month ago) incredible. Three main vendors on the automation side have come forward with suggestions for co-operation, a number of customers have shown interest in participating in projects of this kind. IFS is quite convinced that this integration (between the ERP side and the automation side) in the industrial environment is a big business arena for the future

Source: OPC Foundation

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