

A new milestone in Industrial^{IT}

ABB/IFS partnership ends traditional separation of production and business systems

Ingemar Lidhamn, Pär Björkén

Plant management is evolving faster than ever. Large investments made by plant owners in the 1990s in separate systems for production and administration were soon followed by technological improvements, such as the web interface, OPC (OLE for Process Control) and field buses. Now, the next step is to realize the seamless integration of Distributed Control Systems (DCS) with the full suite of business applications. Such integration has been frequently advocated by industry experts, but until now few tangible examples have been seen, except for the odd customized adaptation as part of an independent project.

A global agreement between ABB and IFS, a pioneer in maintenance software, has resulted in the first standardized integration of DCS and business applications based on the Industrial^{IT} platform of ABB Automation Technology Products and IFS' Business Applications. The partnership further includes training and common product development as well as marketing and sales activities. Within the agreement, ABB acts as a reseller of certain IFS Applications components on a global basis. With over 3000 employees, IFS has an established presence in the Enterprise Resource Planning (ERP) world.

Why integrate?

As manufacturing and process industries increasingly focus on optimizing their business, both internal efficiency and production output are being scrutinized in the effort to improve bottom-line results. In order to present management with a correct, complete and timely picture of a plant's status, allowing them to make better-informed business decisions, new demands are made on the sharing of information across previously divided disciplines of the plant process. Here, dispersed islands of information relating to material ordering, production, process monitoring, resource

planning and maintenance, calls for integration. Hence, seamless integration of information systems for manufacturing, DCS and Business Applications/Enterprise Asset Management (EAM) has become key to the success of such optimization.

The benefits

With production and asset management coming together in an integrated system, user benefits are plenty and evident. In essence, increased productivity is achieved through fewer production stops, both planned and unplanned, as well as reduced lead times on occasions when stops actually occur. Indeed,

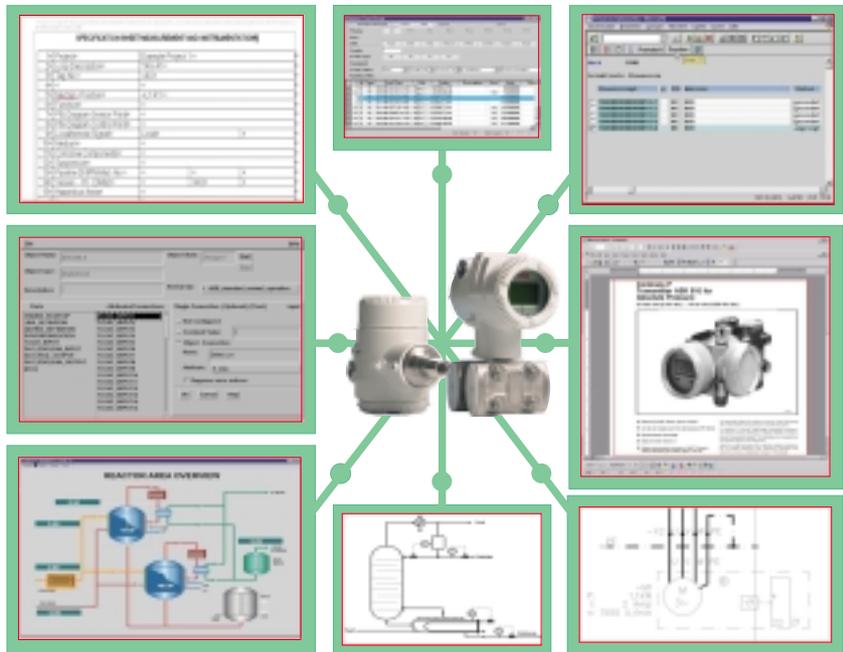
Integration makes it easier to assess maintenance requirements.

seamless integration between plant operation and maintenance systems fulfill a market need to optimize production, which benefits management, operators and maintenance technicians in their daily work.

To quote Lars Krantz, Group Senior Vice President of the ABB Automation Technology Products Division in Zurich: "Although integration has been discussed for a long time on a conceptual basis, plants are all new to actually working with integrated systems. Often, interfaces are still manually connected and orders and production details are entered separately into each system."

Business intelligence

On a management level, integration between ABB's control systems and the IFS business applications fulfills a need to compile information and achieve easy access to data collected directly from the production process. Typically, such data has existed previously, but has been spread across different systems, where it has rested with no opportunities for overview or reporting. Thanks to integration, production data are combined and synchronized with related data from the maintenance system. With access to such consistent data in real time, management can quickly evaluate how the plant is doing and identify problems and opportunities as they occur. Hence, items in production queues can be prioritized accordingly and unused capacity can be avoided. Access to the right information at the right time not only keeps management in control of the



Access to the right information at the right time facilitates decision-making.

running of the plant, but also empowers employees to make the right operational decisions and understand how their work fits into a larger picture.

Preventive maintenance

Moreover, integrating systems allows for true preventive maintenance, instead of traditional calendar-based maintenance

rounds. Since maintenance is carried out based on the real-time status of the equipment, which can be monitored on the computer screen, as much as 80% of pro-active maintenance rounds can simply be avoided. This leaves technicians with more time, so they can respond faster if equipment shows real signs of going down.

Direct error messaging and integrated error handling

As a majority of the costly maintenance rounds can be avoided, the added risk of opening a closed system only to check its status can be limited to a minimum. Here, the earlier calendar-based maintenance rounds of the plant can be compared to a patient who sees his doctor on a regular basis, annually for example. The integrated system, on the other hand, not only enables the plant itself to automatically indicate even symptoms of an error but also to tell its maintenance system how to take care of the problem before it becomes serious. In the analogy above, this is tantamount to the patient calling the doctor for an appointment when surgery, ie repair work, is actually called for. Taking the analogy further, functionality for integrated error messaging and handling can be viewed as a shared and automatic

link straight to the doctor's appointment schedule.

Object-centric overview

From the operator's or maintenance technician's point of view, an integrated ABB/IFS system is perceived as one solution, as all functionality is presented as portlets on the same screen of his workstation. All the functionality needed for the operator's particular role is accessed directly from his portal, no matter if the functionality needed rests in the control system or in a business application, such as the maintenance system. Beside the operator having access to functionality from both production and administration, the information is also presented in the context of the particular object of interest. When evaluating the maintenance needs of a piece of equipment, such as a paper machine, both real-time flow meter

readings, accessed through the ABB control system, and maintenance history data from IFS' maintenance system, are presented in the same object-centric screen view. The simplicity of the user interface allows operators to master both systems as part of their daily tasks.

As data is automatically collected from controls and fed into the business system, both the time-consuming manual data entry and the risk of human error is avoided. However, what is probably most helpful to operators is the fact that they no longer have the extra burden of having to remember to log and report production data manually on a daily basis.

Integration benefits both companies

With full integration in mind, the first stage of the partnership between ABB and IFS encompasses further integration of process control products of the ABB Industrial IT system and the Maintenance Management components of IFS Applications. As part of the global agreement, ABB and IFS expect to deliver five to ten integrated systems during the first year, and increasing numbers in the subsequent years.

"This partnership is fully in line with our Industrial IT strategy", says Lars Krantz. "Working together with IFS, we have seamless integration of their component-based system in our Industrial IT framework architecture, offering our customers in the process and utility sectors a more comprehensive Industrial IT solution."

All data on the same screen, regardless of whether it comes from the production system or the maintenance system





SCA's Ortviken paper mill in Sweden

Pilots already running

Among the very first pilot standardized integration projects are the combined ABB/IFS solutions being used by VISY at its paper mill in Australia and in SCA's Ortviken paper mill in Sweden.

At Ortviken, a team of operators is currently evaluating the pilot installation. The operators continuously log their comments on its function into a survey, upon which the final evaluation report will be based. So far most comments are positive.

"Operators state that one of the main benefits is that they no longer have to switch between systems", comments Leif Pettersson, one of the project managers of the pilot at SCA Ortviken. "If everything works out all right, we hope to be ready to implement the integrated solution on our LWC-1 production line during next year".

Historically, ABB and IFS both have a long track record of successful implementations in the process and utility sectors, some of which have been joint projects. With integration as standard, both vendors can now offer their customers a more comprehensive Industrial IT solution. This leads to competitive advantages over players with less standardized or no connections between production systems and business applications.

The future

In essence, a more intimate strategic relationship between ABB and IFS aims to bridge the traditional gap between manufacturing and administrative systems in plants, which is seen as the next step forward in the quickly developing process and manufacturing industries. Indeed, seamless integration between plant operation and maintenance systems fulfill a market need to optimize production, leading to improved

manufacturing process efficiencies, accurate data collection, increased productivity and less costly down time.

"Initially, the greatest benefits of using an integrated system can be gained by users who need to run their plants around the clock, or those, like power stations, which cannot risk unpredicted stops", Lars Krantz concludes.

Starting with today's standardized integration of process control products of the ABB Industrial IT system and the Maintenance Management components of IFS Applications, the future holds the long awaited total system, integrating all processes from ordering through production to distribution.

Authors

Ingemar Lidhamn

ABB Automation Products AB
Finnslätten
SE-721 67 Västerås / Sweden
ingemar.lidhamn@se.abb.com
Fax: +46 21 148 714

Pär Björkén

IFS AB
Fyrisborgsgatan 1
SE-754 50 Uppsala / Sweden
par.bjorken@ifsab.se