

Process networking

Achieving business objectives with non-proprietary development and integration services

A major portion of process communications at a large oil refinery in southwest England has been migrated to the OPC Data Access (DA) standard.

By Uwe Steinkrauss*

The new system provides transparent, non-proprietary transfer of data from programmable logic controllers (PLCs) to the Supervisory Control and Data Acquisition System (SCADA) and the Distributed Control System (DCS). Essential controllers are linked with redundant DA clients.

Selected data points are allocated to quality control and collection of operational data in real time via the SCADA's OPC-DA server. The event/alarm system was changed throughout the refinery to OPC Alarm & Events (AE). System-specific user interfaces (AE clients) show the local operator only the alarms that are relevant for that particular segment.

Historical data are transmitted from the DCS via OPC Historical Data Access (HDA) to an HDA client for trend analysis. Neural networks process the historical data to generate forecasts for certain values, providing a basis for timely inter-

vention in the production process. Above the SCADA and DCS level, frequent use is made of non-Windows operating systems. This makes it considerably more difficult to achieve uniform connectivity.

Despite the fact that there is a significant need for standardized interfaces in this area, there are few standardized solutions, proprietary interface adaptations or enhancements to existing products.

Universal Architecture (UA) combines all OPC interfaces into one service and defines them using the Web Service Description Language (WSDL), providing the basis for a protocol and platform independent implementation.

The example of the oil refinery above clearly shows the type of services that are needed to achieve successful, OPC-based communication solutions.

Feasibility studies and on site consulting

Following an on-site evaluation of the requirements, a comprehensive communications strategy is developed for the entire plant or for individual sub-systems. This analysis is used to design an optimized solution, which is scrutinized in practical testing. Timely support from system specialists during the planning and implementation phase fa-

cilitate quick implementation of the solutions that have been developed. In-depth knowledge of the specific system components is re-

tained experience. Practical applications are presented to explain technologies and trends to project leaders and decision-makers.

Ascolab GmbH provides all the consulting and software services that users need to manage their industrial communications needs.

quired to address specific issues such as system modernization and modification as well as connectivity to old systems. Product integration and the provision of software components and interface modification are included in the core Human Machine Interface (HMI/SCADA) services.

Interfaces above the production level in particular require project-specific software development and enhancements to standard software, so that essential information can be supplied to the Manufacturing and Execution systems (MES) and the Enterprise Resource Planning systems (ERP).

Software maintenance and knowledge transfer

The final aspect of the service package is initial commissioning and troubleshooting as well as long-term maintenance of the communication software. On-site training is provided to pass on know-how and lessons learned in prac-

tical handling is explained to software developers and administrators, and examples are used to reinforce the knowledge gained. Information relating to fault identification and correction is presented to project planners and service personnel. Training on the "real thing" is more effective, the expertise is retained longer and know-how is transferred in a practical environment. Membership in the OPC Foundation and intensive involvement in OPC Compliance Test Tool (CTT) activity ensure that the company maintains in-depth knowledge of current and future communication standards.

Regardless of the industry involved, Ascolab delivers tailored solutions designed to meet customer requirements and connect products from different manufacturers in the best possible way. It provides software interfaces, data links and communication applications for the entire data flow right up to the management level.



Uwe Steinkrauss is
Business Manager
at Ascolab GmbH in
Erlangen

<http://www.ascolab.com>

