

„An unparalleled success story”

No announcement of stations or bays was done without prescribing of IEC 61850



He develops applications, systems and solutions for substation automation: AMA-SYSTEMS, the European partner for the American company SISCO.

PRAXIS PROFLINE: How has IEC 61850 impacted the market since the standard was released?

This is an unparalleled success story which honours all those who have been involved in the standardization work of IEC Technical Committee TC57 and Working Group WG 10. Several milestones in the history of standardization were achieved with IEC 61850. It is the first communication protocol containing the complete naming of function and data elements for electrical systems in generation and T&D.

As a result of the benefits of this standard, the market share is growing in Europe. Since releasing this standard no procurement of stations or bays was done without specifying IEC 61850.

For the investment of new stations Is IEC 61850 only relevant for the investment of new stations or bays?

Naturally, new investments are the best way to start with IEC 61850. Consider also that the

market for renewal of existing legacy systems may not be as large as compared to the market for additional extensions in existing stations and bays which can also be done best with IEC 61850.

In some cases, the management will decide to extend existing systems using the existing technology, as this seems to be the simplest solution. The problem with such decisions is that there is demand for more data out of the process level for more effective operation of electrical networks.

The additional data required to serve this demand will not be available with the existing legacy protocols at an affordable cost. Additionally, without the benefits of IEC 61850 the maintenance and support for the existing legacy protocols will be much more expensive.

Rise into other supply networks

IEC 61850 was developed primarily for application in substation automation in the T&D area of the electric power system. Do you think this standard will find applications into other aspects of the energy supply networks?

Yes. For instance, ICCP/TASE.2 was developed for electrical T&D applications and is also based on MMS (ISO 9506) like IEC 61850. ICCP/TASE.2 is currently an accepted standard in the gas supply/ pipeline control industry. We think the many benefits of IEC 61850 will be valuable in remote heat and hydro applications as well.

In other areas the development of the standard IEC 61400-25 for wind turbines is based mainly on IEC 61850. Take a glance into the control centre of local utilities and see how many different protocols are needed there at the present time. Can you imagine how attractive and cost-saving a single protocol could be for such data links in future? We believe that the advantages of the methodology of IEC 61850 are important enough to be interesting for all the other aspects of energy supply.

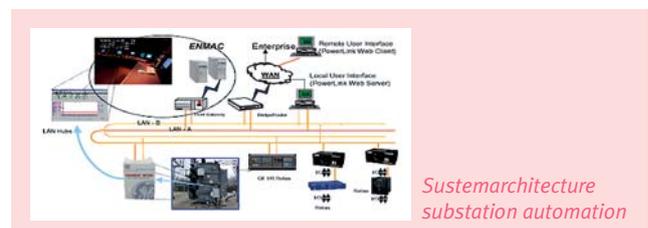
Transparent layer model

The most important advantage seems to be the virtual layered communication model of IEC 61850 – do you agree?



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Sistemarchitecture substation automation



Yes. In addition to the layered model is the value of the strict object orientation and the standardized naming of all the functional and data elements within T&D, which is achieved for the first time in the history of development of protocols.

With this functionality, data and measured values are available in real-time and access to the data

only requires knowledge of the naming convention of IEC 61850 without having to manually verify data addresses. With the method of numeric addressing used by legacy systems this is simply not possible and full manual error checking of addresses is needed. IEC 61850 requires only knowledge of the standard to enable access to data added to existing applications.

Not limited interoperability

Substation and bay-equipment available on the market are usually certified according to IEC 61850 by the UCAIug. What kind of advantages will this lead to?

With certification, all functional elements and object names are proven conformant and will contribute to improved interoperability. With these contents any IED is able to introduce itself on the next level instance. Functions and data provided by an IED can be retrieved by any client application from the IED itself. Thus, configuration and engineering costs are reduced when additions are replacing IEDs in stations.

Core competency

What is the core competency of AMA-SYSTEMS and your plans for the future?

For 18 years now, the focused strategy of AMA has been to

supply and support our European customers with the software products and licenses from our partner SISCO Inc., USA. AMA also develops own gateways in addition to the inter-faces of SISCO's products.

For the seamless and cost effective integration of these products, AMA offers dedicated training and workshops throughout Europe which are complimented with highly qualified technical support. AMA will maintain these activities and try to supplement them in the future with additional services in this market.

Our objective is to keep our good reputation and be the leading company in Europe for questions in theory and practical application of IEC 61850 and ICCP/TASE.2 (IEC 60870-6). To support that, AMA is enlarging consulting activities and expanding our engineering support to work on projects in this field.

CompactPCI & cPCI Express: The marriage of the year

More information: www.praxis-profiline.de

Ten years after being born, the CompactPCI-Bus is about to be joined by its successor CompactPCI-Express. The serial future has begun: the transfer rate has now gone up to four Gigabytes per second, while "hybrid" slots mean that 32-bit cPCI peripheral cards can continue to be used without problem. This safeguards previous investments in the cPCI standard and enables it to be combined with the advantages of the serial PCI-Express bus. Why does the new generation of systems need new connectors that are compatible with the rapid PCI-Express signals? How has the PICMG-managed Compact-PCI Standard 2.0 (currently 2.2) developed? All is revealed in PRAXIS PROFILINE with the help of practical examples.

