Important Message for the market
Our position towards system openness for customers

Why this newsletter?
The IEC 61850 is the new standard for communication networks in substations. It covers the entire scope of SA communication, what we today have as process bus, inter bay bus and station bus.
One of the main demands by our customers today is to satisfy this standard. They want to know our position and how we are proceeding in this field.
The reason for this newsletter is to give this info in a concentrated form

IEC 61860 is nearing completion
Three working groups of the IEC Technical Committee number 57 (TC57) conduct this work. The working groups consist of in total 55 people coming from manufacturers, customers and consultants. There is a committed support from both the ANSI and IEC parts of the world.
The output from this work has reached the stage of committee draft for voting. Since the customers who strongly request an open system, have a great influence, in the voting country organizations, a positive vote for the standard is the only logical outcome.

ABB’s participation reflects importance
ABB puts on a common open interface in substation automation with
• 9 members from ABB in the working groups
• 4 of the ABB members are from Switzerland
• 3 of them from ABB Power Automation

ABB and Siemens have agreed to support in future the digital data exchange between instrument transformers and IED/meters according to the point to point interconnection as defined in the future IEC 61850-9-1 standard.
Both companies have agreed on the verification of the interoperability of their corresponding devices until mid of 2001. (Re: CIGRE 2000 Paris)
**Why again a new communication standard**

We have already working solutions today, e.g.
- IEC 60870-5-103 suited for protection info
- DNP 3.0 established on the American markets
- LON as ABB SA standard solution today

However the most important customers require today an open communication such as

- Global interoperability i.e. avoiding local (private) agreements
- Today’s and tomorrow state of the art technology
- Different and changing system philosophies
- Future requirements with rules for extensions
- Engineering and maintenance

None of the above listed solutions can fulfil all this.

UCA (utility communication architecture) made some first steps in this direction used now as important input to IEC61850.

**How does IEC 61850 fulfil this?**

- **Open for different and changing system philosophies.** Some utilities prefer decentralised-, others more centralised solutions. Some prefer a high level of integration of functions in one box, others dedicated devices for each and every function. Therefore, the communication standard has to support the free allocation of functions. Some of today’s solutions make firm assumptions about on which level in the substation a function is allocated and sometimes even in what type of device.

- **Open to easy communication engineering and maintenance.** We define a device by its allocated functions. We define a system as a collection of devices and the communication links connecting them. Therefore, a communication standard must have some means to describe these configuration properties. If such a description is part of the standard the system may be extended and modified over the complete life cycle with any tool using this formal description, also by different and new suppliers. Present solutions offer no real support here. The new standard supports these requirements with the Substation Configuration Language.

- **Open to follow the state-of-the-art in communication.** The standard has to be future-proof by approach. Any technological update (e.g. bit rate, network type) shall have no impact on the application. Many of the today existing solutions have defined communication also on levels that are sensitive to changes and advances in technology e.g.

**What can we do for you already now?**

- With our long experience gained with LON bus applications in substation automation we have also acquired the knowledge which facilitates substantially the application of the new IEC61850
- Based on our active participation we are also able to provide you the most actual information about this standard and its status
- Based on our know-how, both on substation automation and on communication standards we can work out migration scenarios on how to move from substation automation systems with LON to systems with communication according to IEC61850.
- Thus we are able to propose to our customers the best adapted migration scenarios based on their requirements and visions.

**We are your partner for standardized open communication in substations**

For more information please refer to the responsible sales engineer for your country or to substation.automation@ch.abb.com