Distributech and Transtech 2009

Conference and exhibition on automation, information technology and T&D engineering for the Utility Industry
3-5 February 2009, San Diego (CA, USA)

Observations by Karlheinz Schwarz, SCC

schwarz@scc-online.de

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The DistribuTECH covers automation and control systems, energy efficiency, engineering, demand response, renewables integration, power delivery equipment and water utility technology.

The 19th DistribuTECH and Transtech Conference & Exhibition was held from February 03 to 05, 2009 at the Sand Diego Convention Center in San Diego (California, USA). It is a key event in North America. The event offered many opportunities to electric power system professionals to learn about the latest offerings in technology, share experience with existing solutions and exchange ideas about the challenging future of the power industry. The event was well attended by vendors, utilities, system integrators and other experts. The number of exhibitors has grown since 2008.

The domains covered by the conference and exhibition comprise automation and control systems, information technology, transmission and distribution engineering, power delivery equipment and water utility technology. One crucial focus was on the many facets of the Smart Grids. Many of the three hundred exhibitors offered solutions for smarter or intelligent Grids. The new US government is expected to support alternative and renewable energy and to accelerate rebuilding the whole electric network and to make the power delivery system a Smart Grid. The event showed that many companies and groups are prepared (or waiting) to receive the "Obama Dollars" – to build the system of the future.

DictribuTECH was attended by about six thousand specialists from all over the world.

Some 70 product and service categories with some 4.000 products have been offered. Crucial categories were:

– AMR (with 174 products)

– Meters & Meter Reading Equipment (223)

– SCADA (Supervisory Control & Data Acquisition) (208)

– Communications (248)

– Distribution Automation (235)

– Systems Integration (114)

Some 180 presentations and discussions at the Conference and other sessions demonstrated the focus on the smart Grid, smart metering, communication and information technology:

– Breakfast Roundtable (17 events)

– Panel (16)

– Paper (130)

– Utility University (20 classes)

Ten per cent of the paper presentations discussed the use of IEC 61850 for one or the other application. Interesting papers are:

– Comparison of IEC61850 GOOSE messages and control wiring between protection relays

– Pros and Cons of IP-based Substation Networks

– Pros and Cons of IP-based Substation Networks – Is the Electric Utility ready for IP-based Substation Networks?

– IEC 61850 Process Bus – Challenges and benefits

– CFE - Creating an Open Environment for Real-Time Condition Based Maintenance and Beyond

The Utility University on Monday (02 February) offered full and half-day tutorials on subjects of extreme importance to the industry. Due to the financial crisis the number of attendees dropt down.

Crucial Utility University classes had been:

- Using the IEC 61850 Standard for Communication Networks and Systems in Substations
- Substation Protection, Control, Communications and Data Integration in the New Century
- Substation Automation and Smart Grid: Design Issues, Alternative Approaches and Cyber Security Considerations
- From WAN to LAN and HAN: Communications Fundamentals for AMI and SmartGrid Applications

The implementation and use of IEC 61850 and IEC 61970 (CIM – Common Information Model) is accepted in the whole industry. All major vendors of substation protection, control, and condition monitoring systems are already providing IEC 61850 conformant information exchange and configuration tools, or are in the process to integrate the standards.

One of the new trends is the adoption and implementation of IP-based network infrastructures (often using Ethernet) in substations but also for the whole utility: generation, transmission, distribution, distributed energy resources, and customer sites. The installations are mainly independent of the protocols running on these networks later on. Building the right – and long term stable (!) – infrastructure is one of major investments during the next years. Companies like CISCO, T-Mobil, Motorola and others are prepared to provide huge wired or wireless communication networks for utilities.

Energy utilities are on the cusp of the first real technology change in automation, metering and network technologies for the last 60 years. This change is predicated on the requirement for a robust, reliable, secure and flexible communications network infrastructure that will support existing mission-critical applications as well as the deployment of advanced smart grid technologies."

Security is becoming more evident in the vendor displays and session presentations particularly with respect to the NERC CIP (Critical Infrastructure Protection). There was also a key focus on Advanced Metering Infrastructure (AMI) and Smart Grid; these two are quite different. The AMI vendors specifically mentioned security. Smart Grid applications such as Distribution Automation still little security measures. These systems will "openly" communicate with each other which means security is still an issue.

People are quite optimistic about the future, because most experts expect that implementations of smart grids and intelligent utilities are moving forward – it is a must to survive. There are advanced projects going on, announcements about new co-operations between vendors, utilities and other organizations. Everyone is keeping a close eye on US and European economic stimulus plans, with the potential for billions of Dollars and Euros of investment.

As utilities cut back on travel budgets, vendors seemed to send more people to the conference to improve their chances of capturing whatever business was out there. Many vendors talked to other vendors to figure out potential cooperation or partnership opportunities.

It seems that the technology focus shifts further away from distribution networks – the main focus of the DistribuTech years ago. Now it is smart metering and end-user devices, e.g., home energy management. There was much talk about building automation and even partnerships between utilities and cities for joint projects (e.g., "Smart Grid City", Boulder, Colorado). The trend is for the smart grid – the intelligent utility. Utilities are leaving the isolation. Utilities are more and more forced to interact with other groups across the whole energy value chain and beyond it. That's where the biggest challenges are because it is not where utilities traditionally have had control: the environment, electrical energy efficiency and renewable energies.

The 20th Anniversary celebration of the DitribuTech as the leading grid event is scheduled to be held at the Tampa Convention Center, Tampa, Florida, USA on March 23-25, 2010