Setting the Standard for Automation

ISA Wilmington Delaware
Section

The Sensor
May   2008

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Upcoming Events

May 27   Section Meeting at ACE
June 24   WISA Picnic at Chestnut Run

May 27, 2008
Secure OPC Architecture
Steve Pearlstone of Matrikon
5:30 PM at ACE in Newark

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How to Create a Secure OPC Architecture

Steve Pearlstone of Matrikon

OPC systems include OPC Servers and OPC Clients. OPC Servers represent the largest risk out of all the components because they typically have direct access to devices and data. While it is fairly trivial to introduce an OPC Client to an unsecured point in a system, it is much more difficult to install and configure an OPC Server to interface with plant resources. Therefore, this presentation will concentrate on securing OPC Servers from unauthorized OPC Client access and restricting authorized OPC Clients to only the functions necessary.

WISA Welcomes Back!

Charles Grannum

WISA Welcomes Back!

President's Message

By Bill Balascio

Hello again everyone, I hope that your spring is going well and that you have so far survived allergy season with only a coat of yellow dust on your car. I have not been so lucky myself, but at least I managed to pull through in order to enjoy this year's edition of the Shrimp Boil.

It was nice to see some new faces, and while some may call me an optimist, I would like to think that it could be a trend. We are in the home stretch for the year, with two more "fun only" events and one more regularly scheduled section meeting – which figures to be both fun and informative. Our guest speaker for this month is from Canada, and I think that we should do our best to welcome him with our largest audience of the year.

I'll leave a detailed description of that meeting to our May meeting flyer, but Steve Pearlstone of Matrikon will speak on "How to Create a Secure OPC Architecture", which is a topic that should interest a wide audience.

The first of the two remaining fun events that I would like to see you at is our annual picnic, which will have a new venue this year – DuPont's Chestnut Run pavilion. We hope that this location will be more convenient for a number of you and that you can take the time to join us. This is the time of year when we traditionally turn over the section to a new Executive Committee of officers. Come see if there are any surprises this year.

Hamburgers, hot dogs, soda, and fermented beverages await!

Construction & Design Division

Dedicated to supporting engineers, designers, and builders, the Construction and Design Division (CONDES) supports the development of industry standards for the use and installation of instruments, systems, and automation in construction facilities.

CONDES is organized within the Industry and Sciences Department of ISA. A membership in the Construction and Design Division will expand your views of the developing Standards and Recommended Practices, and help you establish liaisons with other standards-making organizations.

Within the industry, members work to promote Construction Management, Constructability, Commissioning of Systems, and Total Quality Management (TQM) techniques, while recognizing the responsibility and accountability of Builders, Designers and Engineers to users and to the general public.

The Early Sparks of Electrical Control
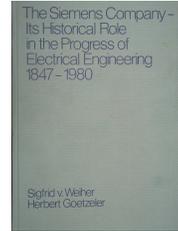
The Siemens Company – Its Historical Role in the Progress of Electrical Engineering 1847-1980 by
Sigfrid von Weiher and Herbert Goetzeler
The Bradley Legacy by John Gurda
BB (Boring)
Reviewed by Nick Sands

Not long after the discovery of electricity, young geniuses started to develop interesting devices to put it to work. Two geniuses were Weiner Siemens and Lynde (pronounced 'Lined') Bradley. Through innovation, perseverance and the support of their brothers, and others, these men would change the world through automation. Werner Siemens started in 1847 as related in The Siemens Company – Its Historical Role in the Progress of Electrical Engineering 1847-1980, written by Sigfird von Weiher and Herbert Goetzeler. The story of Lynde Bradley is related in The Bradley Legacy, written by John Gurda.

In 1847, thirty year old Werner Siemens began work on his first electrical invention, a dual telegraph pointer, and co-founded the Siemens & Halske Telegraph Construction Company. Early successes included the Berlin-Frankfurt telegraph line and the Prussian telegraph system. Brother Carl moved to Russia and won the contract for the Russian state telegraph system. Brother Wilhelm moved to Britain and was able to win the contract for the first undersea cable between Sardinia and North Africa. Werner also designed transformers, dynamos, and electric motors. By 1888 Werner was made a noble by the Kaiser and had founded the Imperial Institute of Physics and Technology.

By 1819, Siemens supplied telephone systems, lighting systems, electrical systems, railways systems, airplanes, airships, cars, motors, and x-ray machines, mostly from the corporate headquarters outside Berlin, known as Siemensstadt. 40% of the company was lost in the aftermath of World War I, including the factories in Russia. Siemens slowly recovered along with the rest of Germany and grew under Carl Friedrich von Siemens. The Third Reich used the capability of Siemens in the Second World War and 80% of the company was lost with the war. Post war, Siemens made anything they could to help Germany, from shovels to ovens. The company headquarters was moved to Munich because Siemensstadt was in East Germany. The company focused on communications, electrical, and computer technology, growing to almost 32 billion DM in 1980.

As a sixteen year old high school student, Lynde Bradley received the first of many patents for an electrically operated wind vane. He later dropped out of school to build and sell x-ray machines with his physics teacher. Younger bother Harry worked as an assistant. In 1901 he started his own company to build speed controllers for electric motors, financed by family friend Dr. Stanton Allen.

Standards & Practices: ISA98
Personnel Certification Standards
By Nick Sands

The ISA98 committee is chaired by previous ISA President Lowell McCaw and develops standards, recommended practices and technical reports for the development of certification processes and the identification of criteria to certify competency for personnel involved in specific aspects of instrumentation, systems, and automation work. These certification processes and criteria address personnel qualifications based upon education, experience, training and job performance.

The purpose of these standards, recommended practices, and technical reports is to provide the instrumentation, systems, and automation technology industry the bases (recognized processes and criteria), to establish personnel qualifications for instrumentation, systems and automation practitioners, in such areas as the Committee may determine are needed, (e.g., instrumentation, controls, and similarly titled technicians).

Steve Pearlstone of Matrikon

Steve Pearlstone is an OPC Global Solutions Architect with MatrikonOPC and has over 3 years of OPC Technical Consultation, Support, Network Analysis and Training experience. Steve holds a BSc Electrical Engineer with specialization in process control and is a registered APPEGA Engineer in Training.

Shrimp Boil Report
By Mike Morkun

The WISA shrimp boil was a success as it is every year. Joe Gunn and Mike Scott did an outstanding job with the shrimp. Applied Control Engineering was a great host. The sponsorship by the Friends of the Shrimp and Boil Buddies is appreciated.

Beyond beverages and shrimp, this traditional event gives many friends an opportunity to catch up. Several ISA books were awarded as door prizes.

Thanks to the many folks that helped with the shrimp boil.

WISA Trivia Question?

For what company does Steve Pearlstone work ?

Email your answer to
WISA newsletter editor Nick Sands
At nicholas.p.sands@usa.dupont.com

Win an ISA shirt.

WISA Thanks the Friends of the Shrimp

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Computer Technology Division

The Computer Technology Division is concerned with all concepts relating to the means of data acquisition including scanning and logging equipment, transducers and readout systems; data processing, data storage and transmission, information theory, and digital and analog computers: data utilization for control including techniques of automation. Technical areas of interest to members include: development and reporting of HMI, Real Time, and Historical Dbases, Interface Design, Networking, Higher Level Programming Languages, Object Models, and year 2000 solutions.

The Computec Division endeavors to provide its members with comprehensive technical information to aid them in their profession. Some of the benefits that our members enjoy include:

Newsletters (3 or 4 per year). These newsletters contain valuable technical papers and updates on division activities.

an E-mail list server. This tool provides an effective way for members to interact with each other an help each other with challenging technical issues.

Technical Symposia. COMPUTEC sponsors the yearly Industrial Communications Symposium and others throughout the year. Members enjoy reduced registration fees for the Industrial Communications Symposium and other COMPUTEC sponsored events.

The Early Sparks of Electrical Control Continued…

The early years were difficult and it was not until 1910 that the Allen-Bradley company was formed. In 1912, Allen-Bradley sold automatic starters and switches, speed regulators, crane controllers, and battery chargers. WWI dramatically increased demand and the young company bought its first building in Milwaukee, destined to become a landmark. The economy cycled in the postwar years, but a line of components became standard equipment as the radio swept across the US. The great depression and unionization were challenges in the 1930s. WWII was an even greater challenge, as Allen-Bradley provided many electrical components. In the 1950s, numerical-control devices were made, replaced in the late 1960s with programmable electronic controllers. Sales grew to $950 million in 1984. In 1985, the company was purchased by Rockwell for $1.65 billion.

The history of these great companies, the great men that worked for them, and the technologies they developed will be interesting to some, but perhaps boring (BB) for others. The availability of these books varies. The Siemens Company… is difficult to find. The Bradley Legacy is available for about $20.

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