Setting the Standard for Automation™

Sneak Peek at the ISA112 SCADA Systems Standard

April 2017

Graham Nasby
ISA112 committee co-chair

Standards
Certification
Education & Training
Publishing
Conferences & Exhibits

What is ISA112?

- ISA112 is a standards committee formed by the International Society of Automation in mid-2016
- **Committee Members:** software vendors, hardware vendors, end users, system integrators, consultants, and government. Currently over 100 committee members.
- **Goal:** Develop a series of ISA standards and technical reports that provide guidance for system design, implementation, operation, and maintenance of SCADA systems for pipelines, water and wastewater, power, oil and gas, and other industries to support the overall integrity and reliability of these systems.

Industry Needs for ISA112

- Need for common terminology for SCADA systems
- Specification for minimum SCADA software requirements
- Suggested I/O interfaces for interfacing with equipment
- Standardized Control Modes: Remote vs. Local, Auto vs. Man.
- Reference architectures for levels of control
- Guidance for applying other ISA standards to SCADA
  - Cyber Security
  - Alarm Management
  - HMI Design
  - Data Storage
  - Designing robust, resilient and redundant systems

Vendor Needs for ISA112

- Need for common terminology for SCADA systems
- Specification for minimum SCADA software requirements
- Suggested I/O interfaces for interfacing with equipment
- Standardized Control Modes: Remote vs. Local, Auto vs. Manual
- Reference architectures for levels of control
- Guidance for applying other ISA standards to SCADA
  - Cyber Security
  - Alarm Management
  - HMI Design
  - Data Storage
  - Designing robust, resilient and redundant systems

System Integrator Needs for ISA112

- Need for common terminology for SCADA systems
- Specification for minimum SCADA software requirements
- Suggested I/O interfaces for interfacing with equipment
- Standardized Control Modes: Remote vs. Local, Auto vs. Manual
- Reference architectures for levels of control
- Guidance for applying other ISA standards to SCADA
  - Cyber Security
  - Alarm Management
  - HMI Design
  - Data Storage
  - Designing robust, resilient and redundant systems

Current Status of ISA112

- June 2016 – committee approved ISA
- August 2016 – initial call for volunteers (40 members)
- Sept 2016 – first meeting held in Newport Beach CA
- January 2017 – committee co-chairs named
  - Graham Nasby, City of Guelph Water Services (Guelph, Ontario)
  - Ian Verhappen, CIMA+ (Edmonton, Alberta)
- April 25, 2017 – monthly conference calls start
- May 5, 2017 – semi-annual meetings begin: Spring & Fall

- 2017 – Table of Contents & Initial Drafts
- 2018 – Document Development / Section Working Groups
- 2019 – Comment rounds
- 2021 – Publication of ISA112

More Information on ISA112

- www.isa.org/isa112/
- Contact the committee co-chairs
  - Graham Nasby
    graham.nasby@guelph.ca
  - Ian Verhappen
    ian.verhappen@cima.ca

The committee is still looking for volunteers from users, vendors, system integrators, consultants, utilities, and government to help with writing, editing and reviewing content.

Standards Committees

- The consensus bodies for standards developed under the SCC/ANSI Essential Requirements.
- Committees have:
  - Title,
  - Scope, approved by the ISA S&P Board,
  - Purpose, approved by the ISA S&P Board.
- Committees consist of:
  - a Chair or two Co-Chairs,
  - members who have a direct and material interest in the subject,
  - members may be voting, alternate, or informational members .
- Membership is not conditional upon ISA membership, or unreasonably restricted for any other reason.
- Membership not dominated by a single interest category. Safety committee membership interest categories are limited to 1/3.
- Minimum of 5 voting members.

Standards Committees

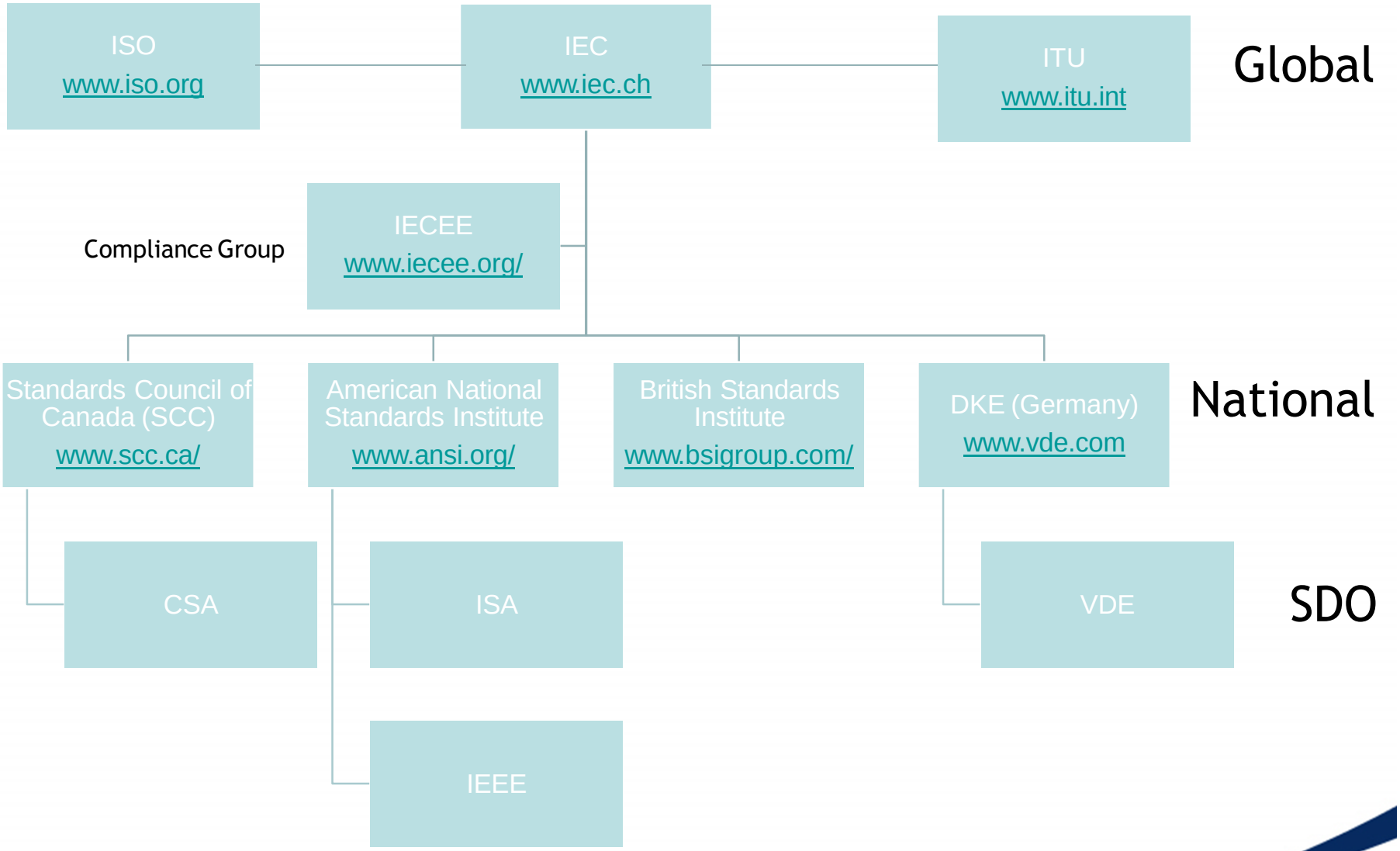
- Member affiliation and interest category shall be disclosed.
- Members shall also disclose the "ultimate parent entity" of his or her affiliation.
- Failure to disclose affiliation or misleading disclosure shall result in loss of any membership privileges and may also result in loss of privileges for such affiliated members.
- Interest categories:
  - General,
  - Architect-Engineer, Engineer-Constructors, Integrators,
  - Testing/Certification/Approval,
  - Regulatory/Government,
  - Producer,
  - User.

ISA, SCC & IEC

- Standards are overseen by SCC (Standards Council of Canada)
- ISA is a recognized Standards Developing Organization, via ANSI, by the IEC (International Electrotechnical Commission)
  - In Canada, SCC (Standards Council of Canada) is member of IEC
  - ISA standards are either used directly (e.g., ISA-18) or indirectly through the IEC/SCC connection (e.g. IEC-62682)
- SCC and ANSI are members of the IEC and ISO
  - Only countries can be made members of IEC/ISO
  - IEC membership can be as P (Participating) or O (Observer)

Standards Council of Canada
Conseil canadien des normes

International Standards Development



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