Smart Metering industry approach for aligning standardization requirements and national security demands

Thomas Weisshaupt
Chair Privacy & Security group

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ESMIG – the European Smart Metering Industry Group

- is the European industry association that provides knowledge and expertise on Smart Metering and related communications at a European level.
- ESMIG’s members are the leading companies in the European Smart Metering market (meter manufacturing, software, installation, consulting, to communications, data management and system integration).
- member companies cover all aspects of Smart Metering, including electricity, gas, water, and heat measurement;
- by giving support to the European Union and its member states as well as through co-operation and partnerships with relevant stakeholders, the Industry Group aims to assist in the development of national and European-wide introduction, rollout and management of Smart Metering solutions;
- is located in Brussels and registered under Belgian law (aisbl);
- is registered in the European Transparency Register ([71326222148-95](https://www.eufonderie.de)).
About ESMIG – the members
The Challenge: Security initiatives across Europe

Current national and EU-driven activities:
- BSI (DE)
- CESG/DECC (UK)
- NL Government/DSO
- ...
- TFSG EG2
- ERNCIP
- M490 SGIS
- M441

Reason for action:
- Fragmented → multiple requirements / certification schemes
  → different SPD/TOE ???
- Uncertainty → slow adoption & investment security
  → governance and liabilities
- Cost increase → upfront cost rise per country
  → delay in roll-outs
- National Interest → variety of market designs
  → integration if existing results
M441 and M490

- M441 mandate – Smart Metering
  - SM-CG
  - Interoperability, reference architecture, standards
  - 1st report 2010, 2nd 2011, last 2012

- M490 mandate – Smart Grids
  - SG-CG
  - Interoperability, reference architecture, standards
  - Sustainable standardisation process
  - Privacy & Security (toolbox)
  - 1st report 2010 (JWG), new drafts 2011, last 2012
The SMCG reference architecture

Metering End Device (E / G W H)
- MID requirements
  - Metrology
  - Display
  - Additional functions

Home Automation End Device
- Simple external consumer display
- Home automation functions

Local Network Access Point (LNAP)
- G1
- C
- M
- L

Neighbourhood Network Access Point (NNAP)
- G1
- G2
- N

AMi Head End System
- H1
- H2
- H3
Detailed SG-CG structure

Mandate Scope

Smart Grid Coordination Group (former JWG)

EC Level

EC Reference Group

SG-CG Level

Steering Committee

Further Tasks

• Report 2.0
• Liaisons
• Promotion

TC Level

M/441 M/468

First Set of Standards Team

Process Team

Architecture Team

Security Team

New joint WGs Existing WGs

New joint WGs Existing WGs

New joint WGs Existing WGs

New joint WGs Existing WGs

coordination

• NIST
• JISC
• China
• Etc.
We intend to reach a multi-stakeholder, European wide approach for identifying (technological and economic) security and privacy risks coming with the deployment and operations of a smart metering system in order to be able to derive appropriate requirements and countermeasures based in smart meter/grid use cases.

This contributes to ensure interoperability and a commonly implemented certification scheme for Products and Systems in Smart metering as initial Smart Grid deployments.

A harmonized approach also facilitates lifting economies of scale and shall support any potential market models and facilitates notification of legislation on EU-Level.
SGIS Toolbox
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MS Risk Assessments

Goal of the initiative

1. AMI Use Cases (ESMIG development)
2. Information, Assets, Actors, Interests, steps (Standards, M441)
3. Mapping of Risks with Domains and Zones per use case step (ongoing activity of SGIS and ESMIG)
4. Determine Risk impact levels/Likelihoods
5. Derive appropriate set of privacy and security requirements for system components and crosscheck with national security problem definition/security requirements
6. Roadmap to European certification scheme/needs for all components of a smart metering system
7. Pilot the certification approach in selected member states
8. Mutual recognition within EU and beyond
1. The general security level of general ICT COTS certified products needs to be raised **without severely impacting price and timely availability** of these products.

2. To support that goal, **the level of standardization has to be increased by building Technical Communities (TC) developing collaborative Protection Profiles ("cPPs") and supporting documents, in order to reach reasonable, comparable, reproducible and cost-effective evaluation results.**

3. **Mutual recognition** should be based on the achievable common level of the cPPs.

4. TCs should be defined and cPPs should be developed for all product classes where **multiple manufacturers provide individual STs for similar products.**

5. **Whenever applicable, cPPs should be applied instead of individual STs.** The application of STs should be reserved for cases where cPPs do not exist or are not applicable and CCRA mutual recognition should be limited to EAL 2.

6. The **CC will be maintained** as the **toolbox used by the TCs to develop the cPPs.**

* Excerpt published Sept 20 2012
ESMIG proposes to facilitate the foundation of a steady working group (TC) to define the statement of work with the goal to facilitate certification pilot in national certification schemes.
ESMIG project proposal: Alignment to create a TC with support of min 1 Certification Body and as many stakeholders as possible
Next steps

- Perform exercise with Network Operators on grid operation Use Cases (3, 4 July)
- Discuss SGIS approach for SM-CG Smart Metering Use Cases and certification (11 October)
- Improve the SGIS toolbox based on results from workshops
- Define a European reference set of P&S Requirements for Smart Metering (Q1 2013)
- Define certification approach (Q1 2013)
- Perform certification pilots (Q3+Q4 2013)
Thank you for your attention

For more information

Willem Strabbing, Managing Director
Howard Porter, International Alliances Director
Zoi Mylona, Marketing and Operations Officer
Nicolle Raven, Policy Officer

European Smart Metering Industry Group
Boulevard A. Reyers 80, B-1030 Brussels, Belgium  DDI: +32 2 706 8271
Email: secretariat@esmig.eu

www.esmig.eu