FIA Aalborg – Standardisation session
May 10-11th

Future Internet standardisation challenges landscape
IERC, CASAGRAS2, ETSI perspective

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FIA/FISA/FISTAND speaker context

- IERC, FIInES, CASAGRAS2, ETSI, IoT/FI/M2M perspective
- IERC Survey on IoT Std Requirements & Priorities feedback and analysis
- FI-PPP CONCORD and FI-PPP Std WG (FI-WARE), SIENA, myFIRE, MOSQUITO...
- Plan to link this session outcome with 18-22 June 2012 IoT week: IERC, CASAGRAS2 Closing event & EC review, EC IoT EG (IoT Mandate), BUTLER, iCore, IoT6, EU-China EG...
Foreword

• Standardization is a voluntary cooperation among industry, consumers, public authorities and other interested parties for the development of technical specifications based on consensus

• Standardization complements market-based competition, typically in order to achieve objectives such as the interoperability of complementary products/services, and to agree on test methods and on requirements for safety, health, organizational and environmental performance

• Standardization also has a dimension of public interest

• Standard makers should be close to standard users/implementers
Technology Management versus Innovation Management

- Basic Research
- Applied Research
- Technology Management
- R&D Management
- Innovation Management
- Pre-Development
- Experimental Development
- Concepts, Technology
- Concepts, Prototype, Demonstrator
- Production & Market Introduction
- Technique
- Product and Process Development
Implementation phases

• From idea to **proof-of-concept prototype**
  – Feasibility
  – Experimentation

• From proof-of-concept prototype to **product prototype**
  – Core functions of commercial product
  – Testing

• From product prototype to **demonstrator**
  – Scaling
  – Ready for trials to get customer/end-user feedback
  – Testing

• From demonstrator to **commercial product**
Future Internet standardization challenges teaser

- Projects “turnover”, Architectures, Use Cases, Surveys, Position Papers, Research-Development-Innovation to Standardization work, Std Landscape, Pre-standardization.. and impact?
- Research Clusters, ETPs, Books, Strategic Research Roadmaps, Coordination, Concertation...
- Workshops, Meetings, External Advisory Boards, Cluster Std WG or activity chains...
- Fragmentation and need for Industrial impact?
  - Good example=GSM
  - Good candidate=M2M/IoT
Attempts to address it in **FIA/FISA/FISTAND**

• Be central reference for pre-standardization activities of EC ICT research projects
  – Accelerate pre-standardization actions and increase overall efficiency
  – Raise mutual awareness, defragment and synergize
  – Centralize in one unique place important information for stakeholders: Industry, SDOs, EC...

• Give indication to proposers on:
  – EC priorities and domains
  – SDO / pre-standardization in SDO activities
  – Ongoing projects actions and deliverables

• Allow exchange between EC clusters and projects
  – *Quid about Future Networks, Cloud, FI-PPP, Clusters and FIA exchanges?*

• Build collaborations between industry and projects
• Detect standards gaps / overlaps
• Link with regulation
FIA/FISA/FISTAND follow-up

On-line presence:
- Wiki available
- Contact points advertised
- List of pre-standardisation approaches in standards development organisations

Services
- Guidelines (best practices) for pre-standardisation
- Success stories from projects
- Identification of current ongoing (pre-) standardisation among the FIA projects
- Identification of standardisation needs/demands
- Brokering services for the FIA projects, matching interest with need/demand/wishes for (pre-) standardisation

Enough?

- Set-up on-line public repository
  - Undergoing standardisation activities in projects
  - Existing reports (projects deliverables)
  - Recommendation and approaches for (pre)standardisation from SDOs
- Launch standards brokerage
  - Identification of standardisation needs/demands
  - Matching interest with need/demand/wishes
Closing the standardisation gap: « multi-plan » perspective

Future Internet (Highlights)

Standardization
Regulation
Deployment

Industry from FI PPP

FN & Mobile
Summit

Service
Wave

IoT

Celtic
Event

Eureka
(Celtic &
ITEA)

X-ETPs FI

eMobility

NEM

NESSI

ISI

EPOSS

Built on D. Bourse (Alcatel Lucent) presentation – FIA Valencia 2010
## By example (detailed in this WS)

<table>
<thead>
<tr>
<th>By example</th>
<th>W3C</th>
<th>3GPP, OMA</th>
<th>ETSI</th>
<th>IETF/IRTF</th>
<th>IEEE</th>
<th>Other</th>
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<td>CORE (CoAP)</td>
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<td>OGC, AspireRFID, Global Senso Networks</td>
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<td>ISO/IEC, OASIS, ECMATC32</td>
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IERC Activity Chain AC06 “Pre-normative and/or pre-regulatory”

IERC: BUTLER, CALIPSO, CASAGRAS2, CONET, ebbits, ELLIOT, ICORE, IOT.EST, IOT@Work, IOT-A, IOT-I, OPEN-IOT, PROBE-IT, SMART SANTANDER, SMARTAGRIFOOD, SPRINT, IOT6, OUTSMART and FIWARE... working with: ETSI/ITU-T, CEN/ISO, CENELEC/IEC, IETF, IEEE, W3C, OASIS, OGC... ZigBee Alliance + oneM2M: ETSI (Europe), ARIB (Japan), TTC (Japan), ATIS (USA), TIA (USA), TTA (Korea), CCSA (China)

Related to EU Regulation Mandates

• M441: Smart Metering, M490: Smart Grid, future IoT mandate, M453: ITS...

• In CASAGRAS2 we have GISFI to represent IoT Standards in India; ETRI for Korea; CESI for China; YRP/UNL for Japan; AIM UK
How can we improve that?

• Feeding back standard activities conducted by industrial stakeholders into projects
• Co-organising industrial workshops and project progress dissemination
• Focussing on useful standards related to
  – Interoperability testing, coexistence, compatibility involving applications or pilots/trial
  – Performance, optimization, quality (QoS, QoE), trust, safety, privacy, governance, security.
  – **Not only** pre-standardisation!
Future Internet standardisation Challenges?

- Standards for Interoperability, quality and security
- Neutral Position obligation and need for positions/choices => ad hoc process
- Building communities around consensus
- Too many initiatives and standards development organisations/Fora => selection and coordination
- Research risk sometime to be too far from Industry and Innovation / market?
  - But M2M has demonstrated a timely liaison from research to standards and to industrial stakeholders
Thank you

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FIA context of FIA/FISA/FISTAND

FIA work toward:

• Vision, challenges, scenarios and roadmaps for FI research.
• The development of pre-normative principles, concepts, design, architectures, recommendations and functional specifications of key FI system components and their interfaces
• The development and maintenance of a consolidated calendar of events
• Steering the FIA community towards a higher degree of coordination and integration of the FI research actions by improving communication and collaboration between participating communities and improving the visibility of research results.
Standards vs research gap

Traditional standardisation process not necessarily well adapted for research

- Short term agenda
- Focus on current work items/roadmap
- Generally solution oriented
- Tactics
- Regulation

Requirements from research on standardisation models
- Pre-standardisation work
- More lightweight
- Open to academic participants
- Should allow a design based on the iterative/“spiral” model

Standardisation bodies adapting their processes to capture these requirements
- IRTF/ISOC, ETSI ISG, ITU-T Focus Group, IEEE-SA Industry Connections Program
- It is also possible to incubate research ideas with the traditional standardisation process
  - Generally leads to the creation of dedicated Working Group with requirements/use cases and architecture definition in scope