

Sensor Standards Harmonization Working Group Report

Summary of Sensor Standards Harmonization Working Group Meeting

March 14, 2006

National Institute of Standards and Technology
Gaithersburg, Maryland

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Purpose

- Provide a forum for industry, academia, and government to exchange information and improve understanding of the various sensor-related standards programs being advanced by various standards development organizations, and
- Identify opportunities to frame the harmonization of sensor-related standards to meet the need of the community

Attending

- Over 30 participants representing staff and members of several key standards organizations, government organizations, academia, and industry

- IEEE TC 9

- OASIS

- OGC

3eti	CapWIN
DHS	DNDO
DRS C3 Systems	DoJ
ESensors	Freescale Semiconductors
George Mason University	L3-Titan
Microsoft	NGA
NIJ	NIST
MSAIC	Sandia Labs
Smart Sensor Systems	Oak Ridge National Labs
OASIS	OGC
SPAWAR	

Summary

- Presentations
 - Sensor Standards Harmonization Effort
 - “Net-ready” CBRN Sensors
 - A National Effort on Emergency Data Distribution
 - Report of the Sensor Standards Harmonization Technical Group
- Discussion / identification of issues, opportunities, and potential next steps for consideration by all involved

Presentations and summary are made available at the NIST website:

http://iee1451.nist.gov/membersonly/SSH_WG_Meeting_March-14-2006/

For login - userid: 1451mem , password: 1451member

Harmonization Issues and Opportunities (1)

- A common sensor protocol should be able to handle a wide range of conops and use cases.
- Uses cases
 - DHS has published 15 scenarios from which use cases can be derived. This work should be considered as a resource for standards organizations to jointly develop test and validate sensor standards.
 - Sponsors of sensor standards work should consider supplying a concise, consistent set of use cases to standards to facilitate standards harmonization
 - Standards organizations are using use cases now, but a common set will encourage further convergence.
- Sensor data and information Sharing
 - How will data be shared?
 - Will data be available to those who need it (regardless of security clearance level)?
 - Disconnection between state/local/regional and federal data systems.
 - Jurisdictional security is an issue; it is under review.

Harmonization Issues and Opportunities (2)

- **Joint Testbeds** (e.g. IEEE 1451, OASIS, OGC) need to be developed, and implemented to accelerate standards development, facilitate joint testing and validation, and identify gaps. Funding should be identified to leverage near term testbed activities.
- Government should **specify relevant sensor standards in procurements**. This will accelerate market provision of plug-and-play systems, which will lower maintenance costs and allow for easier upgrades than proprietary systems.
- Government agencies need to **include relevant sensor specifications in their procurements** for sensor hardware and software systems.
- Government should **encourage standards organizations to collaborate** on advancement of sensor and related standards based frameworks needed to meet mission needs.
- Provide cooperating standards organizations with a common set of use cases, along with access to sensor assets for testing and prototyping. The need is imminent, and quick examples of urgent use cases are necessary.
- Interoperability demonstrations are a way to show that system is functional – from lower level sensor network to higher level application layer.

Harmonization Issues and Opportunities (3)

- The Sensor Standards Harmonization Working Group will come to agreement on initial set of standards to articulate to government and industry.
- Gap analysis:
 - Consistent, accurate methodology for defining “location” in content objects of EDXL payload (OGC standards may offer the solution)
 - Based on results from joint testbed activities, affirm standards capability and identify gaps for further work (e.g. prioritization/tasking of sensors/actuators)
 - Two sets of sensor standards are needed:
 - Within sensor systems (IEEE 1451)
 - Between sensor systems (OASIS and OGC offer standards solutions for this environment)
- Action:
 - Conference call to discuss next major testbed, a convergence of geospatial building of information models, emergency management, OGC Sensor Web Enablement, CAP, EDXL, CBRN data model, and IEEE 1451.
- Next meetings at NIST:
 - June 20, technical group meeting
 - June 21, working group meeting