Summary of Sensor Standards Harmonization Working Group (SSHWG) Meeting

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Gaithersburg, Maryland

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Purpose of SSHWG

- 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 (SDO).

- Identify opportunities to frame the harmonization of sensor-related standards to meet the need of the community, and

- Provide opportunities for collaborative demonstration of standards implementation.

SSHWG Meeting Summary-1

- SSHWG was formed on 12/13/05. We have had quarterly meetings.
- Sensor requirements, interfaces, data formats, models, and standards were discussed and examined to establish a standards-based framework for interoperable sensor networks and emergency data distribution:

  - **DHS Sensor Requirements** – described by DHS Science and Technology Directorate
  - **ANSI N42.42** – ANSI data format standard for radiation detection devices,
  - **IEEE 1451** – IEEE suite of standards on smart transducer interface for sensors and actuators that brings transducer and TEDS data/information to the network,
  - **SensorML** - OGC standard on Sensor Model Language to describe sensor process model and process chains in terms of input, output, and parameters,
  - **TransducerML** – OGC standard on language for exchanging streaming transducer command & status data,
  - **Common Alert Protocol (CAP)** – OASIS standard on data formats for the exchange of emergency alerts and notifications among emergency agencies and public systems,
  - **EDXL-DE** – OASIS specification describes a standard message distribution framework for data sharing among emergency information systems using the XML-based Emergency Data Exchange Language (EDXL),
  - **CBRN Data Model** – data model leverages works on SensorML, IEEE 1451.X series, CAP, EDXL, etc.

SSHWG Meeting Summary-2

- **SensorNet** – ORNL's architecture and implementation of a sensor network based on IEEE 1451 and data center concept,
- **Ontology** – was explored as tool to harmonize sensor-related standards,
- **Semantic WiKis** - a website was created to show harmonization of these sensor-related standards using Semantic Wikis,
- **Demonstration of Semantic Wikis** – held in the web.
- **Testbed and implementation demonstrations** - are determined to be good ways to show that standard-based systems are functional and interoperable.
- **OWS4-SWE** – OGC demonstration of standards-based solutions for getting sensor information to web applications,
- **MASINT Standards Working Group** - found commonality between MASINT/Common Sensor Metadata Harmonization and Sensor Standards Harmonization Working Group activities,
- **DNDO Communications Architecture Working Group** – presented architecture functional requirements and its logical data model, and its outreach to standards bodies,

SSHWG Meeting Summary-3

- **OWS5 –** calling for a participation in an OGC OWS5 baselining and implementation demonstration, which will take place in Jan /Feb 08,
- **Net-Centric Common Sensor Interface** - Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) presented its Common CBRN Sensor Interface (CCSI) and found match between CCSI architecture and Service-oriented Architecture (SoA) based on web-service definition language are very similar to those of IEEE 1451.
- **Address REAL DHS Customer Needs** - presented requirements from the DHS Integrated Product Team (IPT) processes and to identify sensor types for specific applications and associated standards.

- Presentations are made available at the NIST website:
  http://ieee1451.nist.gov/membersonly/
- For login - userid: 1451mem password: 1451member

- Proposed date for the next meeting:

  Date: Oct 16, 2007 at NIST

  Time: 9:30 a.m. to 3 p.m.

  Location: Bldg 101, Lecture Room D