

Sensor Standards Harmonization for Sensor Information Flow

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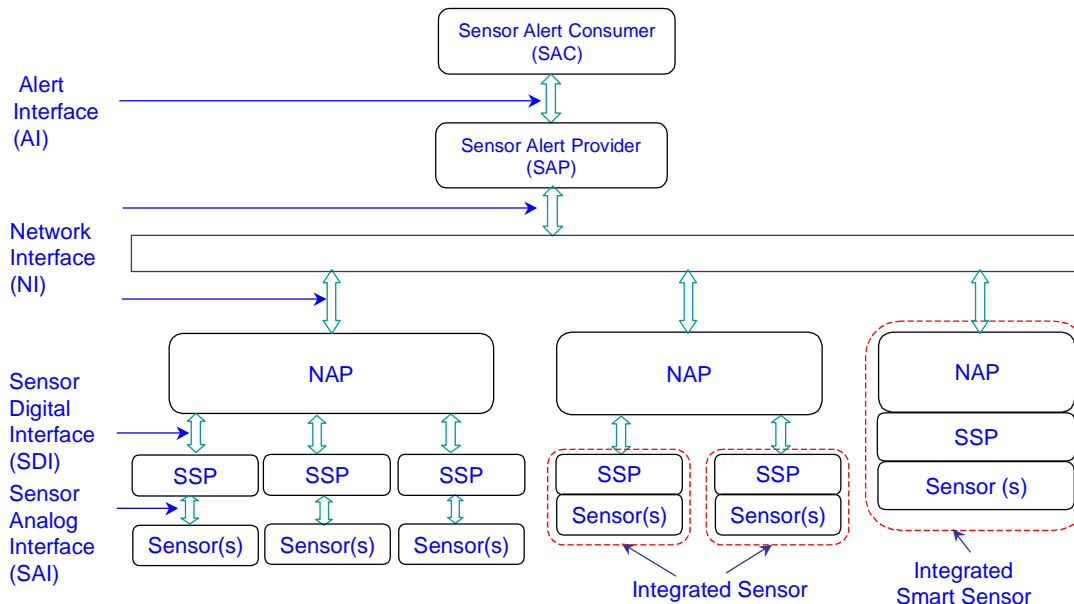
Gaithersburg, MD



Purpose of Project

- ❑ Investigate the standards landscape that will enable wireless or wired sensors to be easily deployed
- ❑ Evaluate standards that will allow for seamless interchange of sensor data to applications that require such data
- ❑ Examine the necessary components of an automated alert system based on sensor data

Sensor Alert System Architecture



*NAP: Network Application Processor
SSP: Sensor Signal Processor*

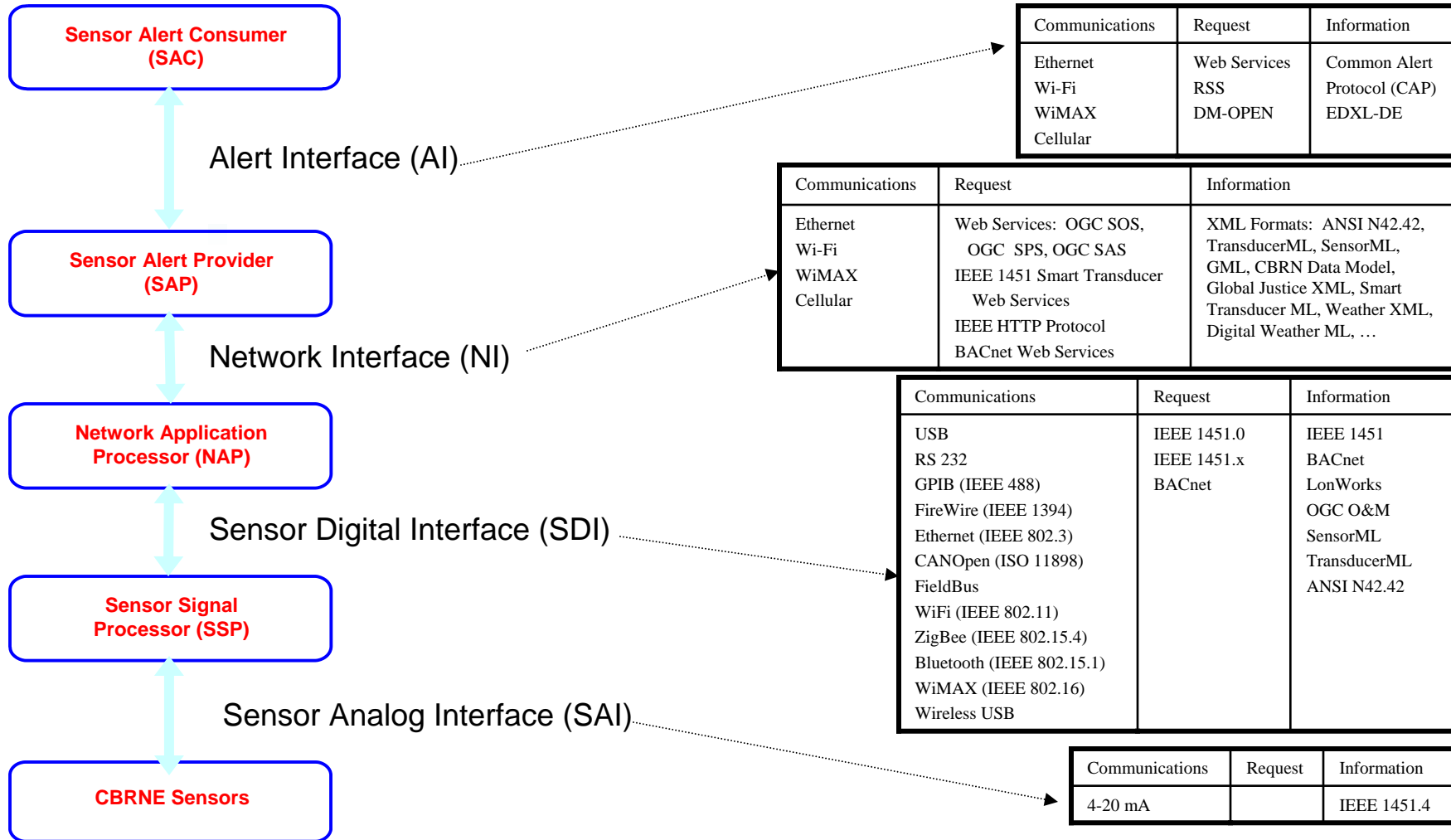
Three options are shown for sensor configurations, owing to the fact that some manufacturers may package several functions into a single sensing product while others may specialize in a particular aspect of the sensing process.

Across each interface, standards will assist in ensuring interoperability.

These standards can be classified as:

- **Communications:** physical connections and signal structures
- **Request:** methods to ask each sensor for information
- **Information:** data structures for transmitting messages from sensors

Existing Interface Standards

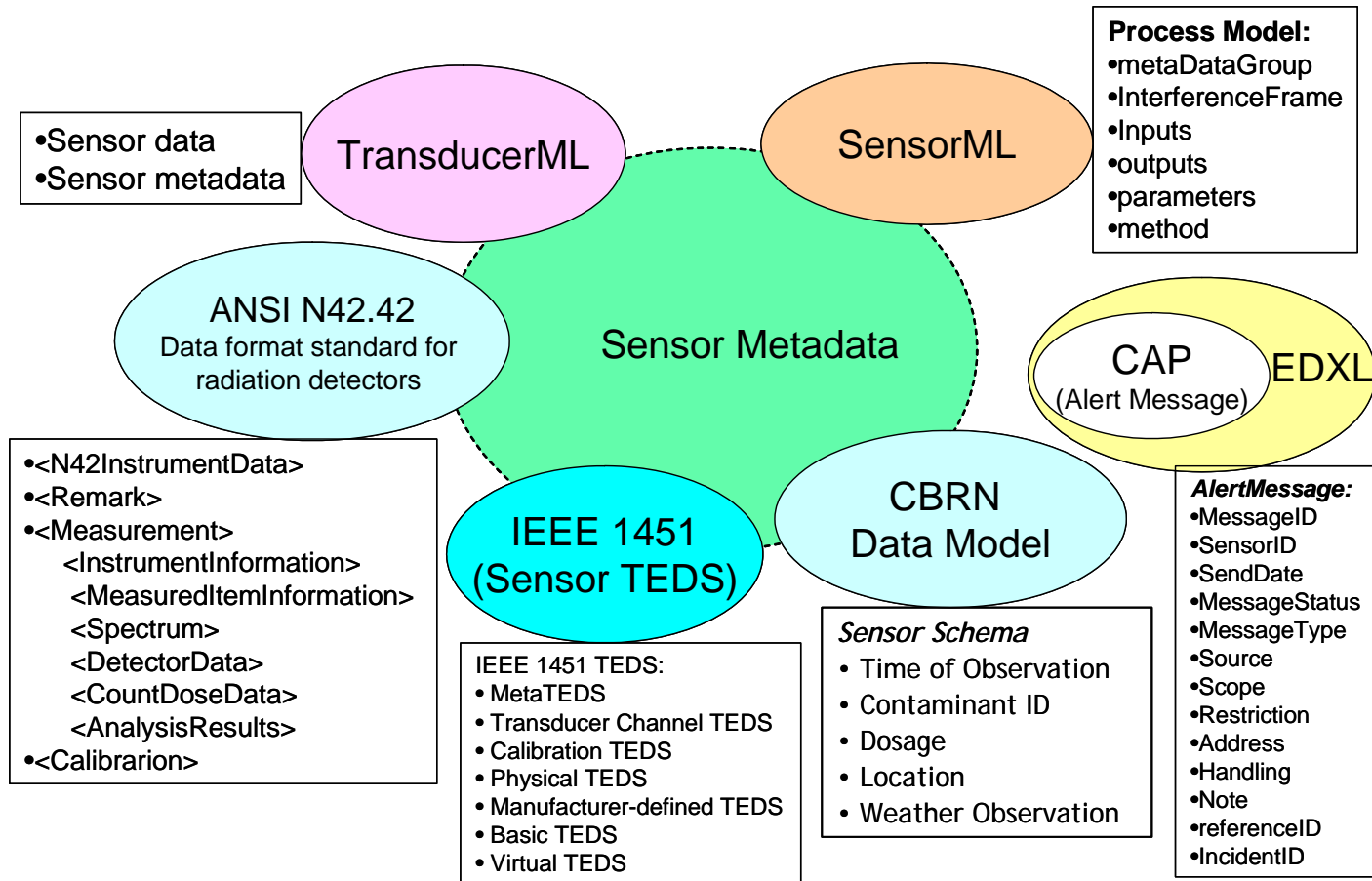




Sensor Standards Harmonization Working Group

- 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
- A major goal of the SSHWG is to identify opportunities to frame the harmonization of sensor-related standards to meet the needs of the community and to provide opportunities for collaborative demonstration of standards implementation.

Sensor Standards Harmonization



Harmonization Approaches

- Challenge is to overcome:
 - Syntactic Conflicts: “Temperature” vs. “temp.”
 - Semantic Conflicts:
 - “Calibration Date” : when sensor originally calibrated?
 - “Calibration Date”: date of last calibration?
- Approaches to move towards harmonization
 - Service Oriented Architecture
 - Translators
 - Ontology approach to resolve conflicts

Working Group

- Quarterly Meetings
- New participants are encouraged to attend to share thoughts on standards of importance to integrate sensor data into applications
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