Standards Harmonization for Sensor Information Flow

Kang Lee, Steven Fick, William Healy, Al Jones, Eugene Song
National Institute of Standards and Technology
Gaithersburg, MD USA

The National Institute of Standards and Technology (NIST) is examining standards that will enable sensor data and information derived from sensors to be easily made available to the range of applications that require it. One such focus application is an alert system based on these data that could automatically determine threats and notify the pertinent parties. Two components of this effort will be discussed. First, we propose an architecture for moving information from the sensor level to applications, and for then sending alerts based on these sensor data. The proposed architecture will serve as a framework for classification of existing standards for moving data, and for identification of gaps such as requirements for data translation. The standards that have been examined cover communication protocols, request protocols, and information protocols (sensor data models) that are critical in exchanging data. Secondly, we have organized a Sensor Standards Harmonization Working Group (SSHWG) which provides a forum for standard development organizations (SDO) and sensor user communities to work together on interoperability issues to enable the movement of data and information from the sensor level to applications. The standards will be discussed in hopes of identifying missing elements that impede data movement from the sensors to DoD or DHS applications.