

DHS Science and Technology Directorate

Apex Engine: Situational Awareness & Decision Support

Context

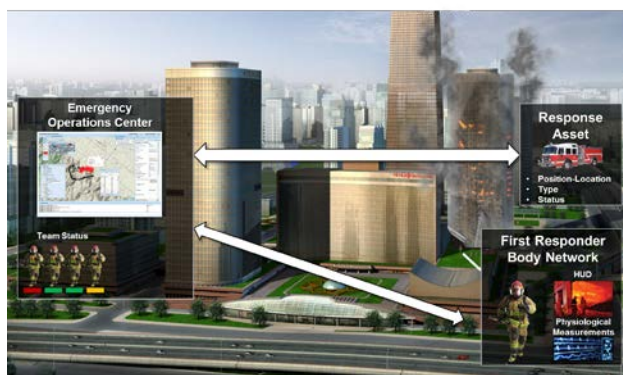
The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) launched a series of high-profile, high-impact Apex programs to look strategically at the nation's security and address future challenges while supporting today's operational needs. Apex Engines were created to meet cross-cutting needs for all Apex programs.

Impact and Vision

Through the Apex Situational Awareness and Decision Support Engine (SANDS-E) the most critical and relevant information will be made available to decision makers in the Apex technology frameworks. The key focus for SANDS-E will be to ensure the right information is received by decision makers in time to make a difference.

Description & Approach

SANDS-E identifies, prioritizes and executes initiatives in technology and information required by Apex programs in the area of situational awareness and decision support. The Engine will provide Apex programs with assured, secure access to essential elements of information, visualization tools and shared situational awareness that enhance the operational effectiveness of first responders. In addition to visualization tools, SANDS-E will support Apex programs with open data standards and exchange, geospatial analytics tools, alerts, warnings and notifications, and other information required for first responders to make effective decisions.

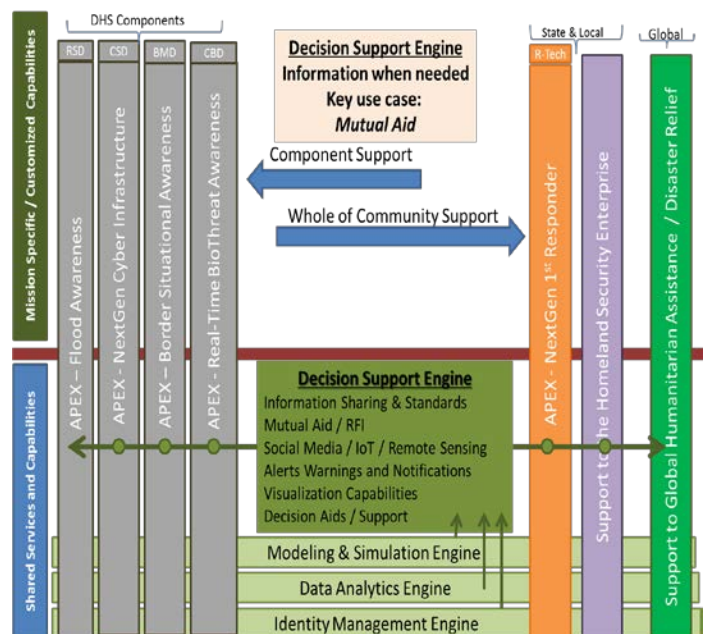


Decision Support to Entire Community

Key Activities

- Work with Apex programs to identify requirements and apply existing capabilities to meet immediate needs.
- Coordinate with other Apex Engines and other S&T organizations to address Apex program needs.
- Assess existing DHS, government off-the-shelf and commercial off-the-shelf solutions to address gaps in existing architectures.
- Work with Apex programs to transition results to operational use.

Through this approach, SANDS-E will provide support across all Apex programs while closely coordinating with other Engines. For example, all Apex programs have the potential need for data exchange standards, visualization and interoperable enterprise architectures. The SANDS-E will work with other Engines to provide secure identity management, access to event and pre-event data to support modeling and simulation tools, which can be accessed and viewed by decision makers through their choice of shared situational awareness environments. This 'whole-of-enterprise' approach maximizes investment, capabilities and subject matter expertise for mission objectives as depicted in the *Mutual Aid* use case diagram below.



Matrixed Engine Approach for Apex Support