

Architecture and Design – Modernizing the Public Alert and Warning System

In 2004, the Department of Homeland Security (DHS) and the Federal Emergency Management Agency (FEMA) approached Booz Allen Hamilton to improve public alert and warning systems in conjunction with the Federal Communications Commission; National Oceanic and Atmospheric Administration; and other federal, public, and private partners.

Strengthening Our Emergency Response Systems

FEMA envisioned a public emergency notification system that supported a balance of personnel, infrastructure, transmission platforms, languages, and technologies to effectively alert and warn the American people in times of war, terrorist attack, natural disaster, or other hazards to public safety and well-being.

Our Architecture & Design (A&D) Mission Engineering® (ME) team sprung into action, performing analysis and developing recommendations and requirements in support of the Integrated Public Alert and Warning System (IPAWS) program. Leveraging proven Booz Allen methodologies, our team performed the Community Analysis and Operational Analysis phases of ME to complete a system-level concept of operations (CONOPS) document and related systems engineering artifacts. Next, our practitioners implemented the

Systems Analysis phase to create system-level requirements specification documents for six individual projects, each with specific mission and technological challenges. These projects included: (1) XM Satellite Radio, (2) Broadband Global Area Network, (3) Emergency Alert System, (4) Geo-Targeted Alerting System, (5) National Digital Emergency Alert System (DEAS), and (6) State DEAS.

Helping FEMA and Citizens Prepare to be Ready for What's Next

Booz Allen's ME team is working with DHS, FEMA, and other partners to modernize the IPAWS "system of systems" using the Booz Allen-developed, system-level CONOPS, IPAWS community model, and multi-dimensional process decompositions to document the mission-focused requirements of key stakeholders in preparation for attending hearings before the Senate Appropriations Committee and meetings with the Vice President's Office. The results provided by ME on the IPAWS program are actively being leveraged fully across multiple projects, systems, and tools, demonstrating the reusability and depth of the ME process. The ME methodology also was integrated into the DHS system development life cycle and used as the unifying framework for all system engineering documentation.

Over the years, IPAWS has continued to evolve and is now composed of national-level “all-hazard” warning system and support elements that provide one message over as many mediums as possible to people with special needs and in multiple languages.

“The IPAWS program perfectly exemplifies how the ME team continues to mature its expertise and applies it to newer areas in the firm like systems engineering and integration,” said Carolyn Winters, IPAWS program ME engagement lead.

The A&D team plans to continue expanding its capabilities and services by linking internal IT and other external functional team services and intellectual capital to the common “architecture stack,” composed of network, database, software, security, business, and other technology layers. This effort will enable staff to access architectural information residing anywhere, firmwide.

The A&D leadership team has ambitious plans for the next year as they plan to link ME to almost every area of Booz Allen where IT services and functions are practiced. This additional linkage highlights ME as a major competitive differentiator in the public sector.

About Booz Allen

Booz Allen Hamilton has been at the forefront of strategy and technology consulting for more than 90 years. Providing a broad range of services in strategy, operations, organization and change, information technology, systems engineering, and program management, Booz Allen is committed to delivering results that endure.

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