SAND2011-9365P

Standard Unified Modeling, Mapping & Integration Toolkit (SUMMIT)

Program Review Q1FY12

December 20, 2011

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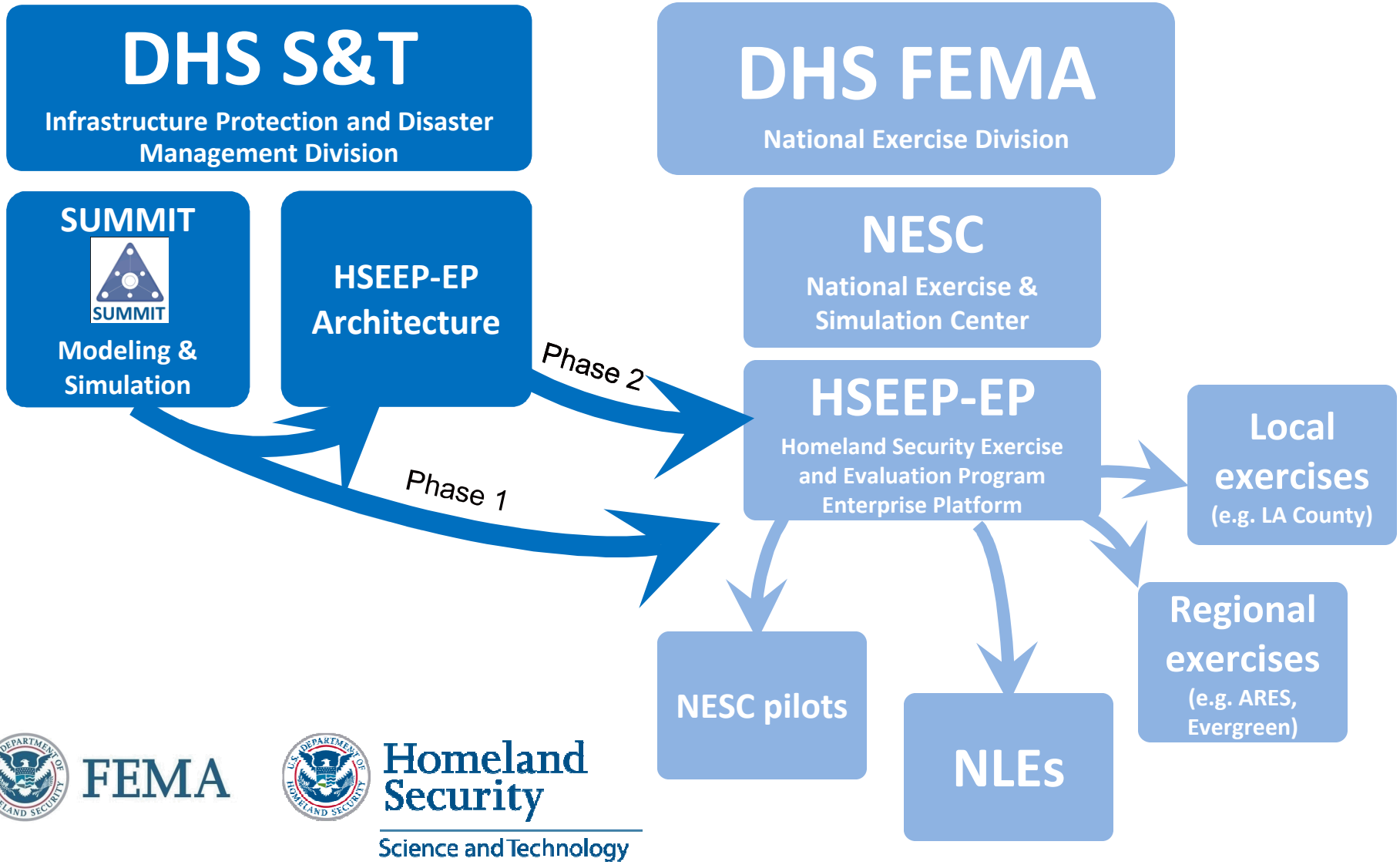
Principal architect

Sandia National Laboratories

Technology Development for HSEEP-EP



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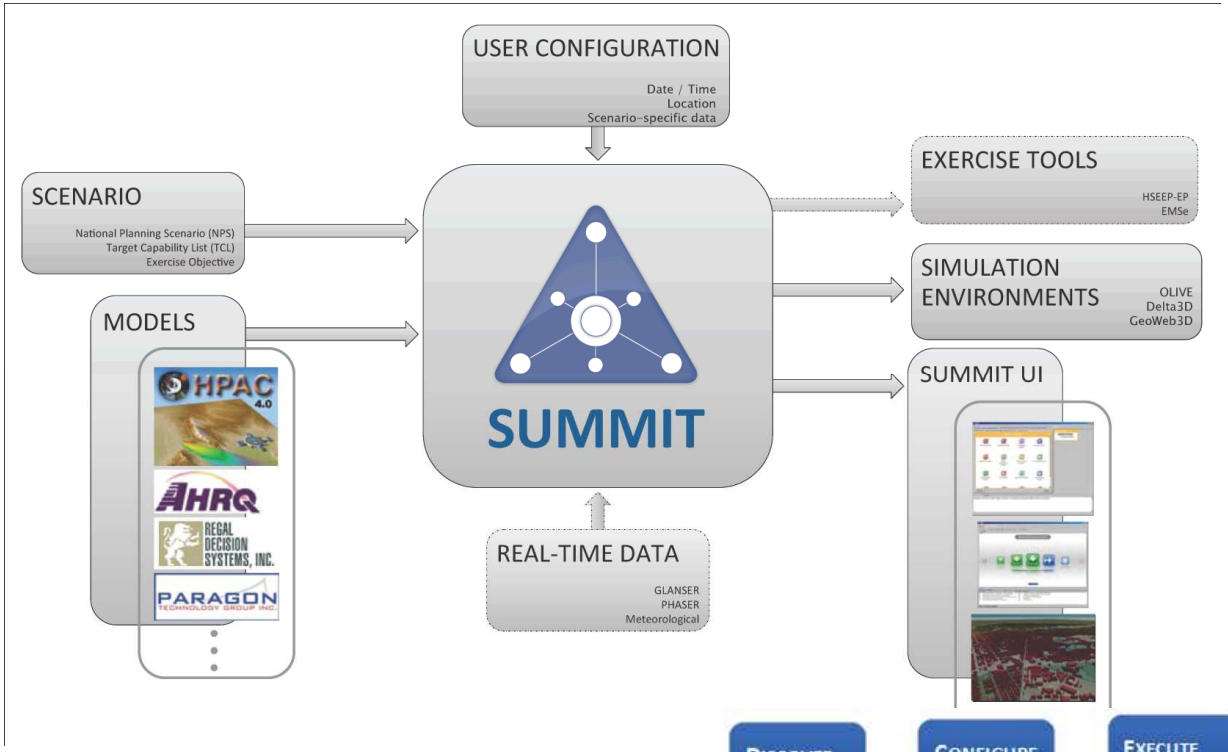
Modeling & Simulation (M&S) for exercises

Mission Need: The emergency preparedness community needs reliable access to, and ability to generate science-based information and data that supports evolving emergency planning, exercises and response operations, and that is consistent, readily interpretable, secure, and easy to share.



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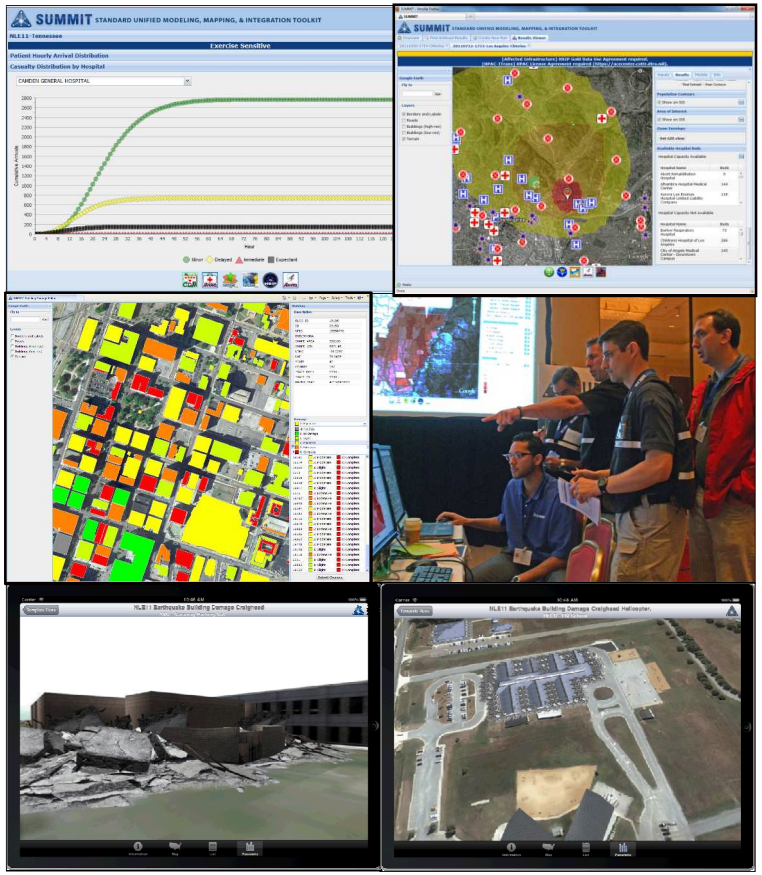
Project Outcomes

- NESC will provide M&S support to HSEEP users as a NESC service to federal, regional, and state/local exercises.
- M&S will provide science-based, quantifiable data and information across the exercise planning lifecycle.
- SUMMIT transition will serve as a model for DHS S&T transition to NESC.

Deliverables

- Seed implementation of SUMMIT
- NESC M&S support (pilots) to federal, regional, and state/local exercises.
- Strategic and Tactical Transition plans
- Requirements for final implementation of SUMMIT/M&S in HSEEP-EP
- Business process for providing M&S to NESC customers



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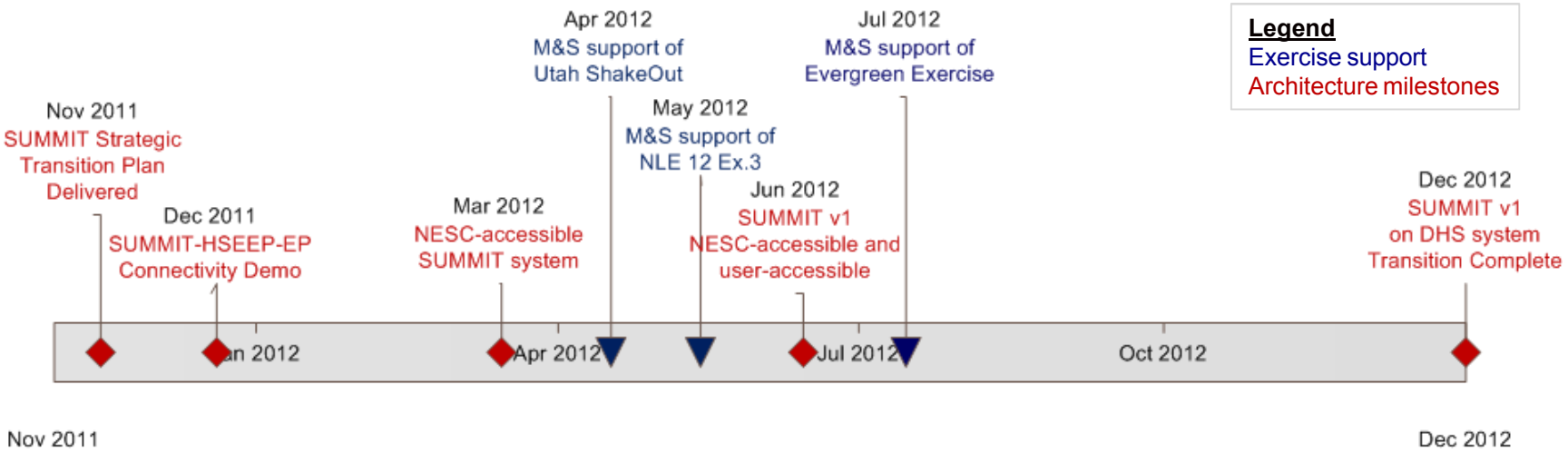
SUMMIT Schedule & Milestones



Ongoing transition activities that will occur throughout 2012:

- C&A
- Architecture testing
- Training

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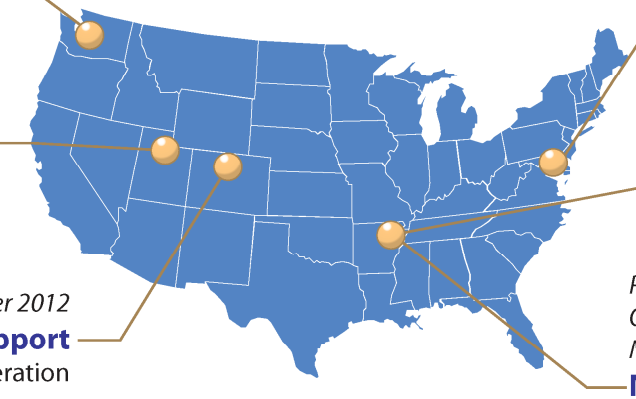
Current Status

M&S Tool Development & HSEEP-EP Integration

- Developed the SUMMIT Integration Plan into HSEEP-EP, SUMMIT Strategic Transition Plan for NESC
- Demonstrated initial integration of SUMMIT into HSEEP-EP
- Testing SUMMIT Software Developers Kit (SDK) with model owners and commercial software partner
- Completing development of cascade SUMMIT architecture
- Initiated tactical transition discussions with NESC
- [with MIT/LL] Developing use cases for game-changing M&S insertion into HSEEP

M&S Exercise Support



Seattle, WA July-August 2012
Evergreen Exercise Scenario Support
SUMMIT ground truth data generation and visualization

Salt Lake City, UT April 2012
Utah ShakeOut Exercise Support
SUMMIT ground truth data generation and visualization

Denver, CO November 2012
WARRP Scenario Support
SUMMIT scenario data generation

National Capital Region May 2011
NLE 11 Scenario & Master Control Cell (MCC) Support
SUMMIT ground truth data generation and visualization 3D client- Jonesboro building damage in virtual environment

Jonesboro, AR May 2011
NLE 11 Portable Visualization (iPad) Pilot
iPad - virtual building damage on-scene

Pulaski County (Little Rock), AR; Jonesboro, AR; Shelby County (Memphis) TN, DeSoto County, MS
May 2011
NLE 11 Scenario Adjudication Pilot
Adjudication tool - modification of building damage

Challenges and Mitigation

Challenge	Mitigation
Transition to FEMA-approved hosting environment • Security • Software approval	early engagement, customer involvement, engagement with CIO
Model integration & transition • Model acquisition/wrapping • Data handling	Model Acquisition Strategy, dedicated NESC efforts, MOUs/SLAs
End-user acceptance and use	Training and support under M&S service line

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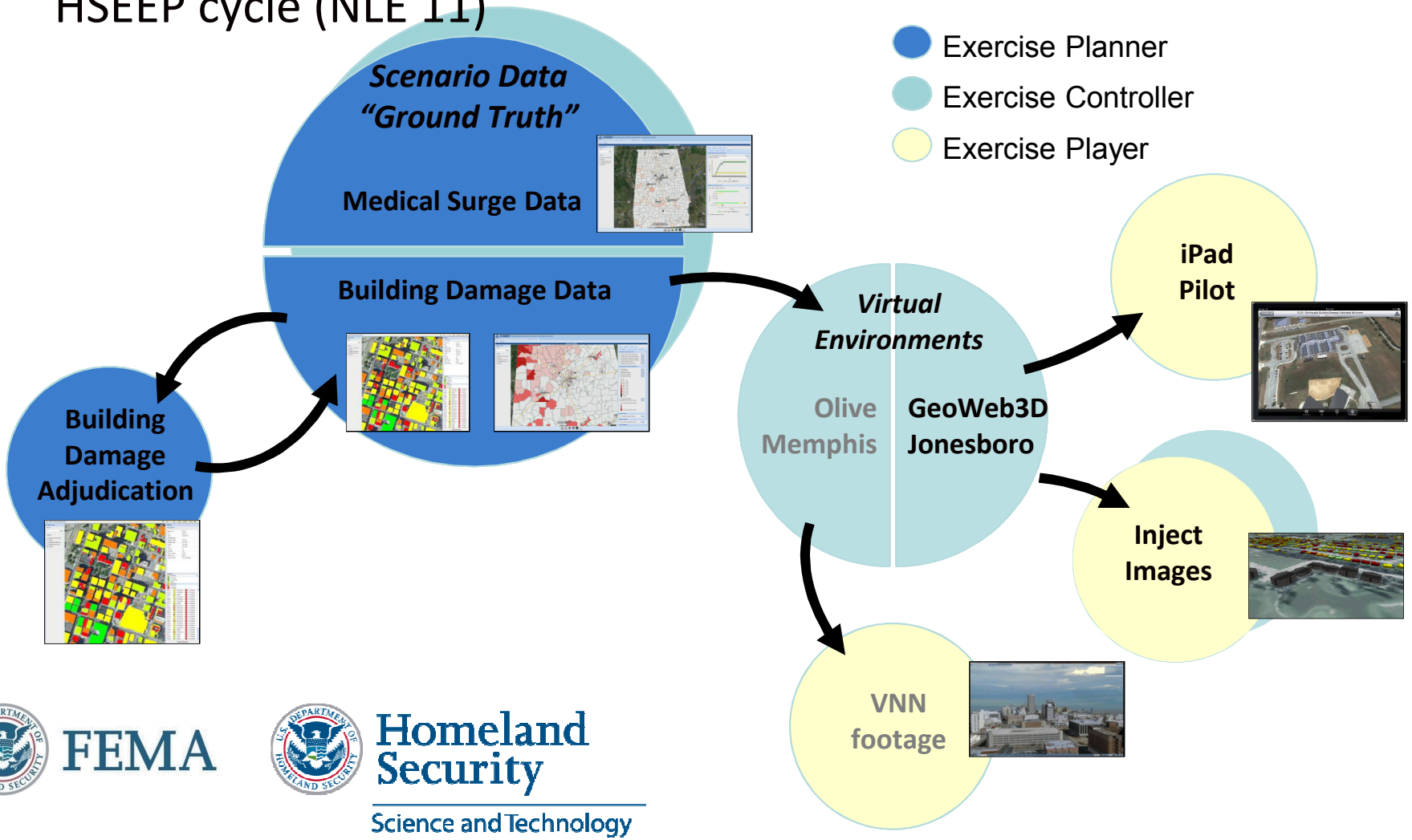
SUMMIT Major Accomplishments

- Demonstrated M&S value across exercise roles and throughout HSEEP cycle (NLE 11)



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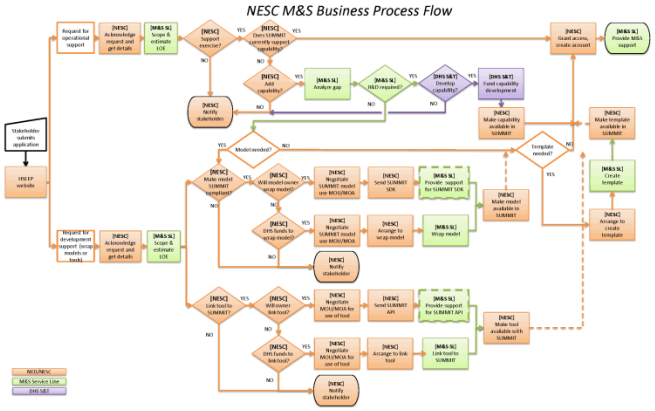
SUMMIT Major Accomplishments

- Demonstrated initial integration of M&S (SUMMIT) into HSEEP-EP architecture (via Web Services API)

- Developed NIEM conformance standard
  - First approved and authorized exchange for HSEEP-EP program

- Identified NESC M&S process flow and aligned it with service lines



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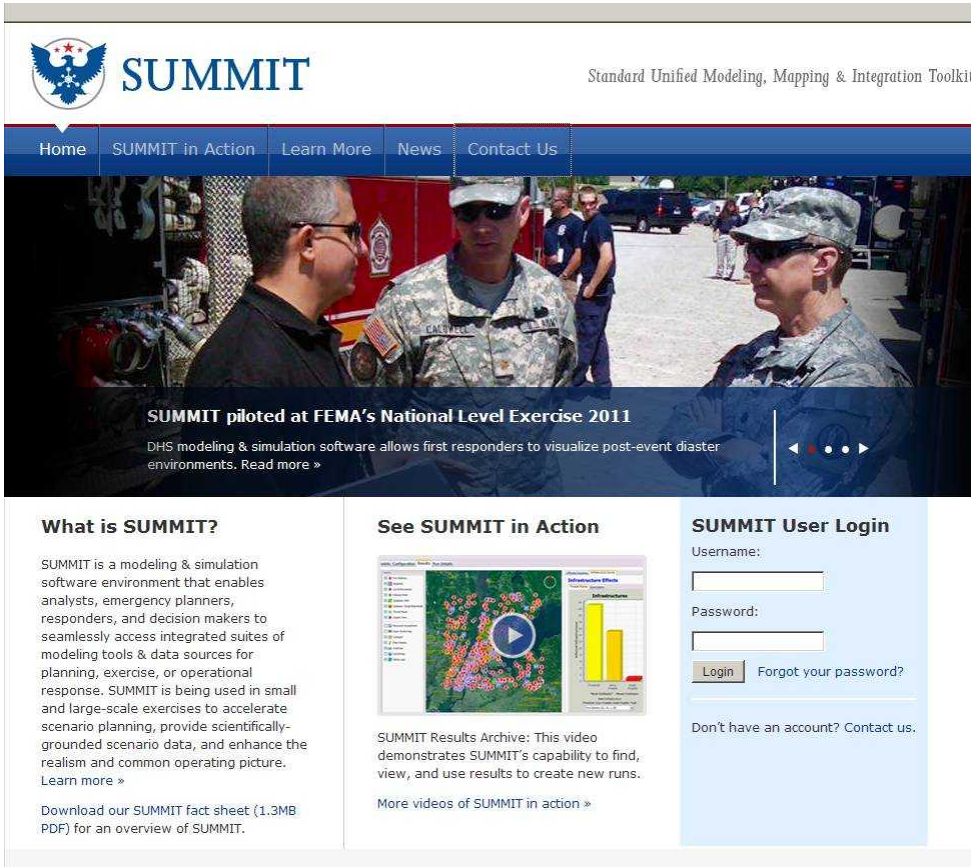
SUMMIT Major Accomplishments

- Developed initial SUMMIT end-user base, with
  >100 registration requests

  https://dhs-summit.us



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