

# NIMS Standards and Product Evaluations



**DMIS/OPEN  
Special Interest Group**

**November 2007**

**NIMS Support Center**

# What is the NIMS Support Center?

- **A Cooperative Agreement** for implementation of a NIMS Support Center (NIMS SC).
- **Partners:** U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA), Incident Management Systems Division (IMSD) and the Justice & Safety Center, Eastern Kentucky University (EKU).
- **Core Team:** Eastern Kentucky University (EKU), Science Applications International Corporation (SAIC), and G&H International Services, Inc. (GHIS).
- **Purpose:** The NIMS SC provides IMSD with tools and services that contribute to the implementation of NIMS across the country.





# FY 2006 Recommended Standards

- According to NIMS (draft, June 2007), “[s]tandards appropriate for NIMS users will be designated by the National Integration Center (NIC) in partnership with recognized standards development organizations.”
- Standards Objective – Identify and recommend standards that support NIMS implementation through evaluation and practitioner review.
- Practitioner Working Group (PWG) identified and recommended five (5) standards to IMSD in FY 2006 as guidance for NIMS implementation.
- January 2007 – IMSD issued *NIMS Alert*, recommending:
  - NFPA 1561 – Standard on Emergency Services Incident Management System.
  - NFPA 1600 – Standard on Disaster/Emergency Management and Business Continuity Programs.



# 2007 Standards Evaluation Process

Phase (Months)	Key Tasks
Phase I (January)	<b>Identify focus areas</b> – PWG identified information sharing, training and plan development.
Phase II (February – March)	<b>Identify existing standards</b> for each focus area.
Phase III (April – July)	<b>Screen and evaluate standards</b> based on criteria including relevancy or traceability to NIMS.
Phase IV (August)	<b>Recommend standards</b> to the IMSD based on results of the evaluation and subjective factors.

# FY 2007 Focus Area – Information Sharing/ Information Management



- Technical and non-technical standards, including voice and data exchange and end user/operator standards.
- The NIMS SC identified 30 standards for the Master List using the American National Standards Institute (ANSI) Homeland Security Standards Database and other sources.
- A Technical Working Group (TWG) was established to identify standards for evaluation.
- 15 standards were identified for thorough evaluation.



# FY 2007 Recommended Standards

1. ANSI INCITS 398-2005: Information Technology – Common Biometric Exchange Formats Framework (CBEFF)
2. IEEE 1512-2006: Standard for Common Incident Management Message Sets for Use by Emergency Management Centers
3. NFPA 1221: Standard for Installation, Maintenance and Use of Emergency Services Communications Systems
4. OASIS Common Alerting Protocol (CAP) v1.1
5. OASIS Emergency Data Exchange Language (EDXL) Distribution Element v1.0



# NIMS SC Product Evaluation Capabilities

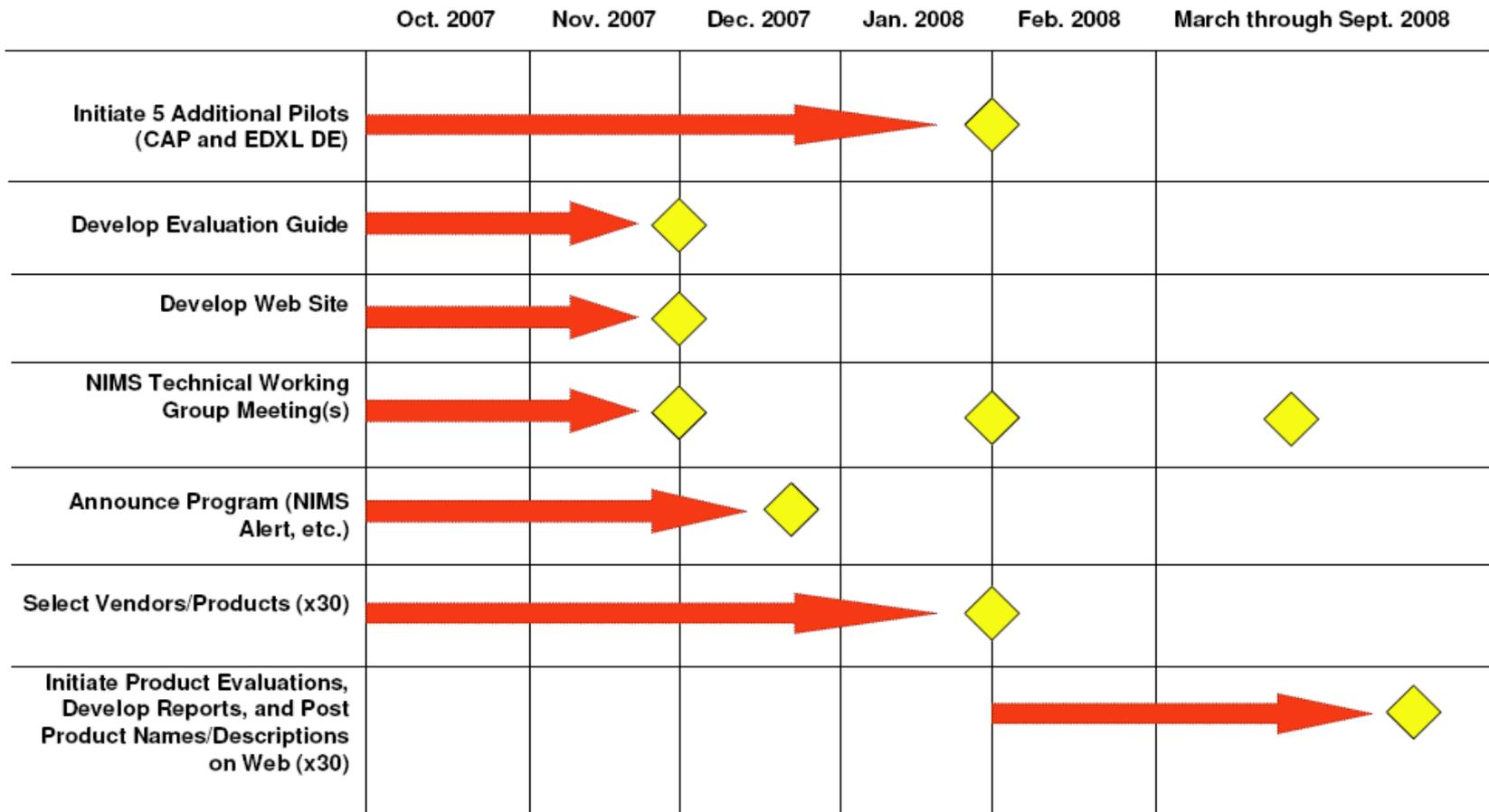
- Independent, objective assessments of hardware and software to assist in the implementation of the National Incident Management System (NIMS).
- Equipped to evaluate Data Management products that support emergency managers and responders in decision-making prior to and during an incident:
  - a) Vulnerability Analysis, Hazard Forecasting, and Consequence Assessment
  - b) Intelligence and Analysis
  - c) Physical and Cyber Security, Access Control, and Surveillance
  - d) “Back Office” Collaboration
  - e) Incident Management
  - f) Communication and Network Infrastructure
- Emergency Response and Management Subject Matter Experts evaluate systems in simulated real-world conditions.
- Test Engineers verify system capabilities and adherence to standards in laboratory environment.
- Dynamic infrastructure can be modified to meet new evaluation needs.



# Evaluation Activities

- Phase I (FY 2006)
  - Developed infrastructure and evaluation processes.
- Phase II (FY 2007)
  - Conducted five (5) pilot evaluations.
  - Developed Common Alerting Protocol (CAP v1.1) test procedures.
- Phase III (FY 2008)
  - Full program implementation: Anticipate 35 evaluations.
  - Announce program.
  - Develop web site.
  - Technical Working Group established.
  - Develop EDXL-Distribution Element (DE) test procedures.
  - Incorporate additional EDXL Standards in coordination with DHS Office of Interoperability and Compatibility (OIC):
    - EDXL-Hospital Availability Exchange (HAVE)
    - EDXL-Resource Messaging (RM)

# Tentative Implementation – FY 2008





# Program Benefits – Vendors

- No cost to participate although evaluations require vendor support for initial planning calls, logistics coordination, training support, etc.
- Identification of capabilities and areas for product improvements in an Evaluation Report:
  - Incorporation of NIMS concepts and principles.
  - Adherence to Common Alerting Protocol (CAP) standard.
  - Adherence to EDXL-DE standard.
  - Adherence to other standards as they are approved/adopted.
- Exposure to government officials and other users through a dedicated NIMS Product Evaluation web site. (*Tentative*)

# Program Benefits – Practitioners

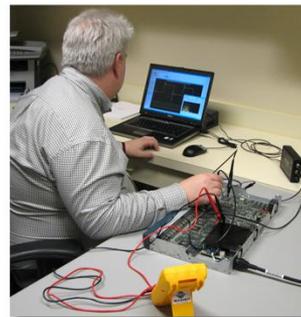
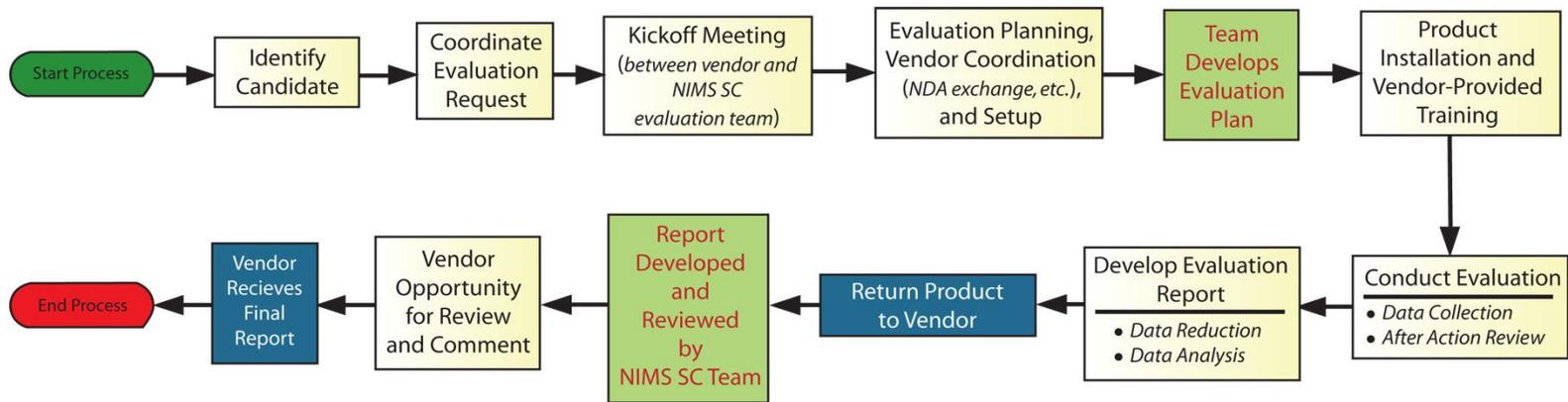
- A list of product descriptions and key capabilities based on results from an objective evaluation. This information will be shared through a dedicated web site.
- Technical standards and criteria to reference when purchasing hardware and software off-the-shelf or when developing original products (e.g., request for proposals).



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# Product Evaluation Process

## Product Evaluation Process



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# NIMS Concepts and Principles

- Applicability to Emergency Support Functions.
- Scalable to local, regional, and national incidents/events.
- Implementation factors (time and training).
- Resource Management (e.g., FEMA typed resources).
- Hazards (all-hazards philosophy).

Criteria	Emergency Support Functions Applicability	Scalability	Implementation		Resource Management	Hazards	Evaluation Score
Criteria Sub-Elements			Time	Training			
Sub-Element Scores	-	-	#	#	-	-	-
Criteria Scores	#	#	#		#	#	#



# Common Alerting Protocol (CAP v1.1)

- Generate CAP Alert with multiple information, resource, and area segments by completing all required and optional elements exposed on user interface.
- Extract XML message either directly or through Servlet interface.
- Determine if the message is well formed and valid against the CAP applied schema.
- Verify XML structure, mandatory CAP standard elements, optional elements (if used), cardinality of elements, and conditional rules.
- Verify proper identification of required and optional elements on the user interface.
- Verify transaction (both send and receive) between DMIS and System under evaluation.

# Post-Evaluation Activities

- Analysts develop report summarizing results.
- Opportunity for vendor review and response.
  - Response included as an appendix to final report.
- NIMS SC submits final report to vendor and IMSD.
- Opportunity for follow-on regression test after period of corrective action, if necessary.
- Products that meet the standards and NIMS criteria will be identified on web site.
- Continuous program and process improvement through a post-evaluation hot wash, vendor questionnaire, etc.





# NIMS SC – Contact Information

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