



National Information Exchange Model (NIEM)

W3C & XBRL Conference

*briefing by Anthony Hoang (DHS OCIO) and Justin Stekervetz (Deloitte)
on behalf of Donna Roy, NIEM Exec. Director*



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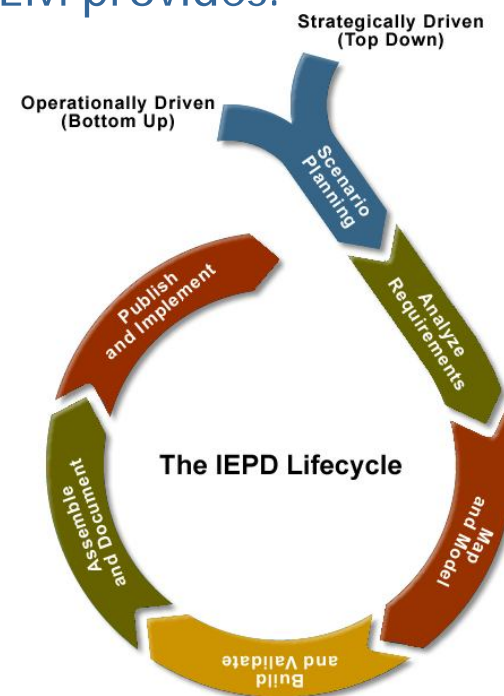
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What is NIEM?

NIEM is a joint DOJ / DHS / S&L program, started in 2005 to promote the standardization of XML information exchanges. NIEM provides:

- A **Common Vocabulary** with terms, definitions, and formats - independent of an individual agency's database management systems



- A **Structured Approach** to developing the reference documentation that expresses the NIEM information exchange's requirements in an implementation ready format – the Information Exchange Package Documentation (IEPD) development process



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NIEM provides a Common Language



Built and governed by the business users at Federal, State, Local, Tribal and Private Sectors

NIEM Infrastructure

- NIEM has several mission based domains
- The data elements within the domains are defined by the respective Communities of Interest (COIs)
- Information relevant across domains is built into a NIEM Core

Domain Governance

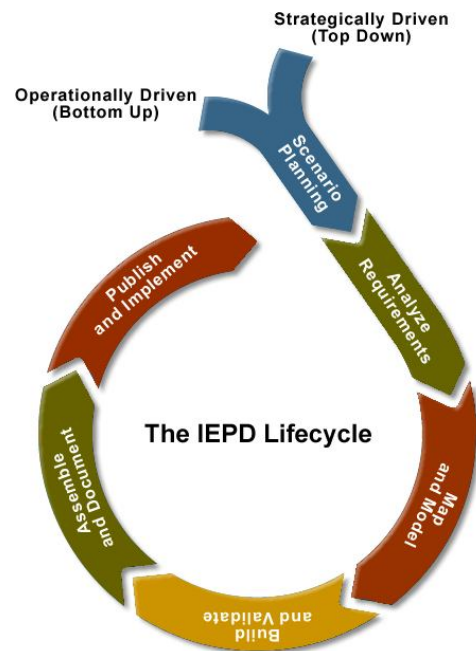
- Each domain has its own stewarding organization comprised of relevant stakeholders to manage updates and minor releases
- The NIEM Program Management Office (PMO) supports cross domain harmonization and maturation of the core for major releases



NIEM provides a Consistent Approach

An **IEPD** is a specification that defines a particular data exchange

- An IEPD must be portable, self-contained, and self-documented
- They must be designed to allow for sharing and reuse
- IEPDs are developed with a core set of artifacts in a prescribed format and organizational structure to allow for consistency



Repeatable, reusable process for business users to document information exchange requirements

IEPD Artifacts Include:

- Domain Model
- Component Mapping Template
- Schemas
- IEPD Main Document:
 - Business Rules
 - Business Requirements
 - Process flows
 - Use Cases



Program Updates



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NIEM 2.1 release (due 30 Sep 2009)

- **Infrastructure Protection**
- **Emergency Management**
(note: EDXL implements NIEM)
- **Immigration**
- **Screening** (people, cargo, conveyance)
- **Maritime**
- **Family Services**
- **Justice** (law enforcement, courts, detentions, case mgmt)
- **Biometrics**
- **CBRN** (currently focused on Rad-Nuc)
- **Intelligence**
- **International Trade**
- **Geospatial** (using GML)



(No changes to NIEM Core)



New NIEM training courses

NIEM Training Course Summaries

NIEM 100	This course provides executives and program and project managers with an overview of NIEM and its governing structure. This course will discuss NIEM's value proposition and organizational benefits, NIEM implementation success stories and NIEM adoption strategies.																																																			
NIEM 101	This course introduces business and technical architects and implementers to NIEM and discusses NIEM's role in information sharing. The role of IEPDs is discussed along with their use in the development of NIEM-conformant information exchanges.																																																			
NIEM 200	This course provides project and program managers with the information necessary to create and manage projects that involve NIEM-conformant information exchanges.																																																			
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● = Required

● = Role Dependent



Looking ahead, key focus areas.

- **Controlled growth**

- Health (primarily biosurveillance & public health alerting)
- Transparency with XBRL (XML Business Reporting Language)
- Cyber (cyber incident management)
- S&L asking for Environmental and Transportation

- **Domain independence**

- via increased self-service/self-management capabilities

- **NIEM tools RFI and architecture**

- Increased tool support & commercial software industry coord.
- DHS tools: IEPD Factory, CAM (Content Assembly Mechanism), DHS S&T-developed Synthetic XML Data Generator

- **Exploratory areas**

- Supporting Web-oriented/ feed-based Architecture per lessons learned from American Recovery & Reinvestment Act (ARRA)
- Maturing NIEM usage in government e-forms applications





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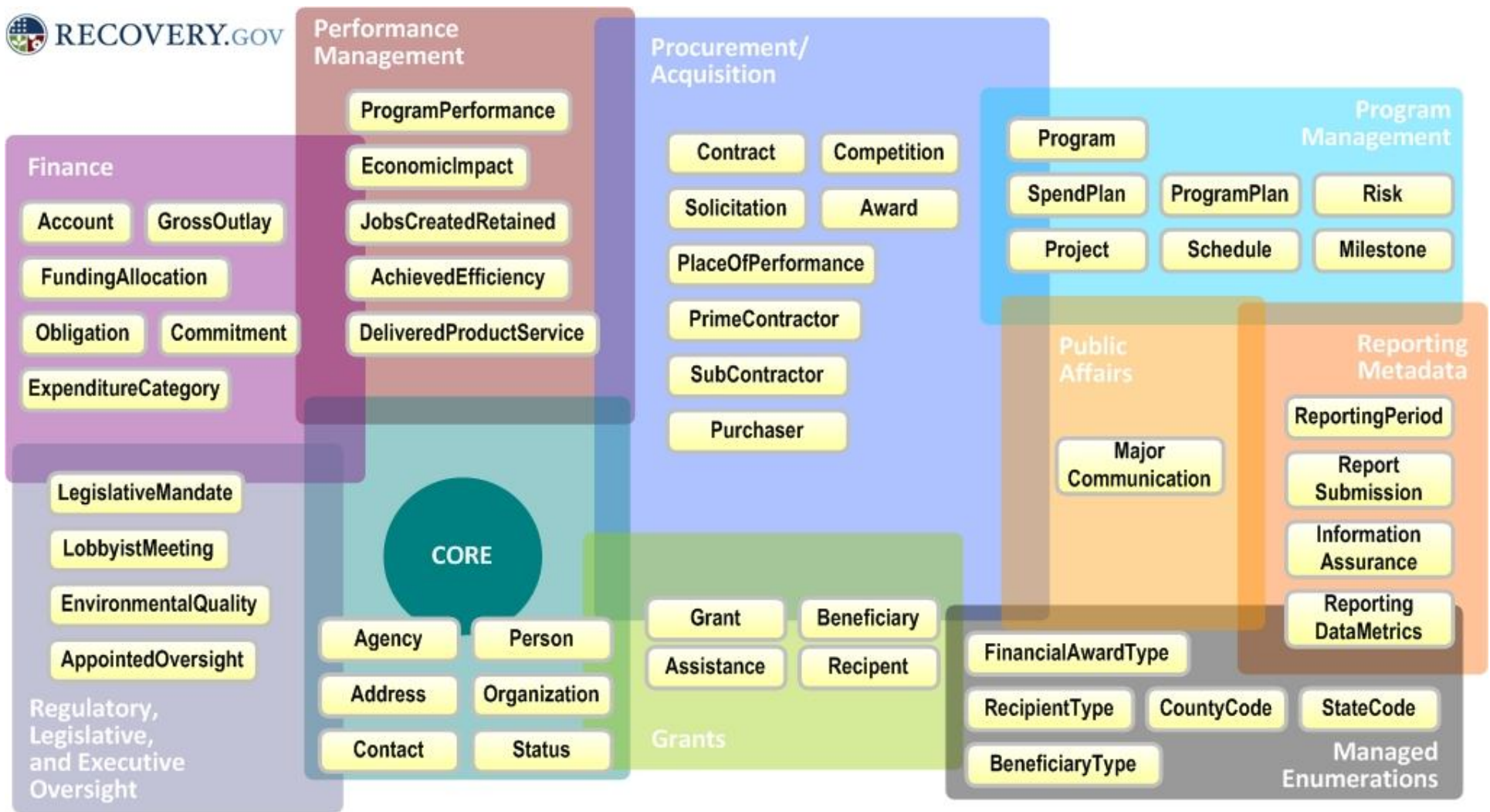
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Recovery Data Report Submissions

- The National Information Exchange Model (NIEM) initiative provides a foundation for information exchange within the Federal, State, Local, and Tribal communities. NIEM's involvement within these communities make it well positioned to maintain the schema structure for Recovery.gov. NIEM's structure and use within the various communities align with the American Reinvestment and Recovery Act of 2009 transparency requirement for reporting financial activity from the Federal level, to State, Local, and Tribal levels.
- NIEM's utilization of XML conforms to Recovery.gov's goal of using open standards. NIEM has a core set of objects that are used as a consistent baseline for the creation of XML schemas, exchange documents, and transactions. NIEM conformance ensures that the basic core set of information is understood and carries a consistent meaning across various communities. NIEM is widely used within numerous federal and state agencies making the model attractive for its use in Recovery.gov's reporting requirements.
- NIEM provides tools to implement its core and structural components for exchange message and transaction creation. Information Exchange Package Documentation (IEPD) Factory is a data modeling tool that supports rapid changes from frequent data requirement changes. NIEM's extensibility allows Recovery.gov participants to quickly adapt to newly discovered requirements.
- The Recovery.gov NIEM compliant XML schema organizes submission types under the core elements described below. These elements identify information, required by the American Recovery and Reinvestment Act (ARRA) of 2009, to enable transparency for the submission of Weekly Financial and Activity Submissions, Funding Notification Submissions, and Recipient Reporting Submissions.



Weekly and Financial and Activity Submission

- The Weekly Financial and Activity Submission schema supports agency requirements for timely reporting established in the Office of Management and Budget's (OMB) Updated Implementing Guidance for the ARRA document. All amounts reported in this submission are cumulative. The Weekly Financial and Activity Submission schema consists of a collection of instances that combine core obligation totals, gross outlays, and action attributes with the Treasury Account Symbol (TAS) subtype. Agencies are also required to document major planned actions and major completed actions performed to date. This includes actions deemed of interest to senior government officials, Congress, and the public.
- The Weekly Financial and Activity Submission schema captures data elements that are reported to the United States Department of the Treasury's Federal Agencies Centralized Trial-Balance System II (FACTS II). FACTS II report submissions occur on a quarterly basis. Information reported in Agency Weekly Financial and Activity Submissions should be reconcilable to the FACTS II report.



Funding Notifications Report Submission

- The Funding Notifications Report Submission schema is designed to support the requirement that Federal agencies provide details on allocations made for each grant, contract, loan, or cooperative agreement under the Recovery Act. This schema is a collection of individual Funding Notification instances. Each instance is comprised of the funding amount, funding face value amount, recipient information, domestic assistance details, the place of performance, obligation totals, and the Treasury Account Symbol assigned to the available funding.
- Agencies are required to submit funding notifications for funding announced through agency communications. Agencies must also provide funding notifications for awards advertised publicly on Government websites such as FedBizOpps.gov, Grants.gov, and GovLoans.gov. Based on the requirements, funding announcements to the press or to Congress should be submitted to Recovery.gov as enough detail is known. All Funding Notification Submissions are cumulative providing complete transparency for agency funding activities.



Recipient Submission

- The Recovery Act requires extensive reporting from recipients of Federal funding. The Recovery Act defines "recipient" as any entity that receives Recovery Act funds directly from the Federal Government (including Recovery Act funds received through grant, loan, or contract) other than an individual and includes a State that receives Recovery Act funds. See Section 1512 of the Recovery Act. These requirements apply to:
- Federal reporting requirements only apply to the prime non-Federal recipients of Federal funding and the sub-awards (i.e. sub-grants, sub-contracts, etc.) made by these prime recipients. They do not require each subsequent sub recipient to also report. All recipients of Federal funds must continue to comply with existing agency and program reporting requirements.
- Recipients receiving awards funded through discretionary appropriations. These reporting requirements only apply to non-Federal recipients who receive funding provided through discretionary appropriations. The reporting requirements do not apply to funding received through entitlement or other mandatory programs, except as specifically required by OMB.
- The prime recipient is required to provide data on each of the sub-awards that it has provided as either sub-contracts or sub-financial assistance (sub-grants, sub-loans). The data fields required for this sub-award transparency and reporting are the same data fields related to "Contract Award-Level Submissions" and "Financial Assistance Award-Level Submissions".



Questions?

- More information
 - <http://www.NIEM.gov>
 - Twitter: @NIEMExecDir
 - Help desk: 1-877-333-5111
- Contact Information
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anthony.hoang@dhs.gov
desk: 202-447-3726
cell: 202-306-7787





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Backup Slides



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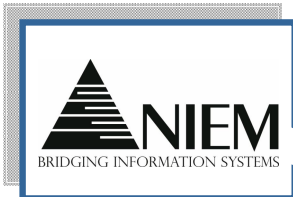
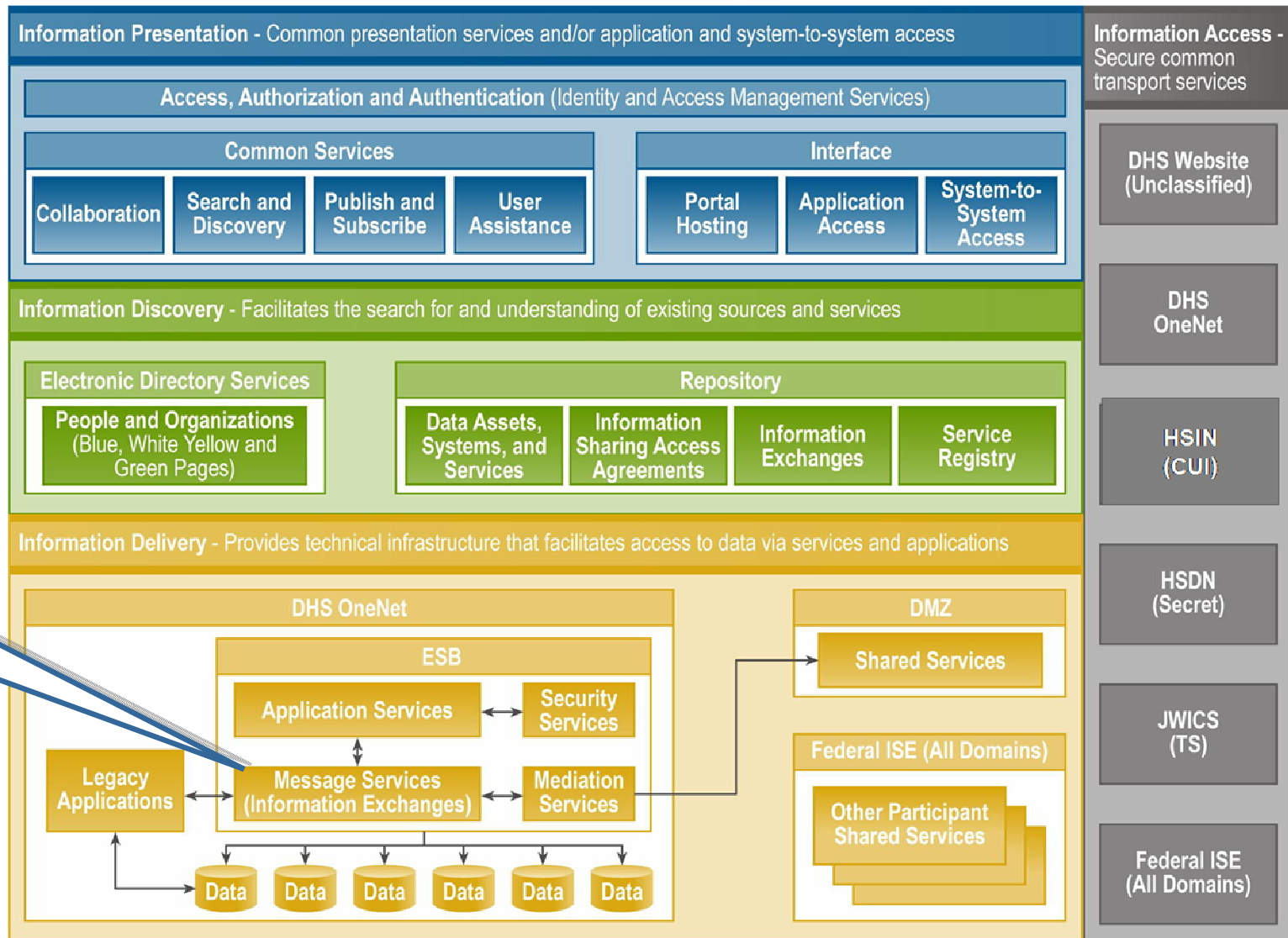
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The DHS Information Sharing Environment (ISE)



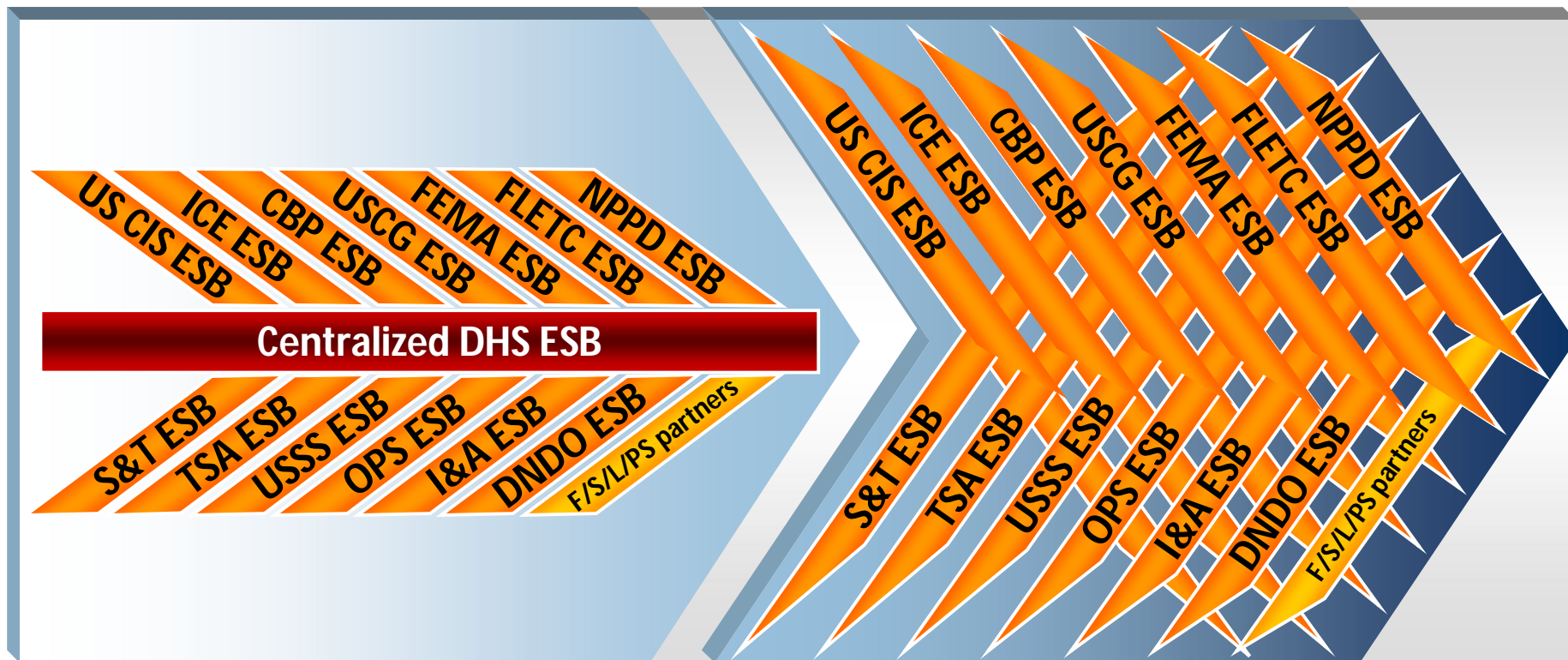
NIEM in the DHS ISE



Background on DHS ESBs

Original strategy: "One DHS ESB"

New strategy: "Interoperable Component ESBs"



*F/S/L/PS - Federal, State,
Local and Private Sector*



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DHS SOA Enterprise Message Header Framework

