Latest NIEM Information (1)

A) Claim: NIEM is not compatible with IC's Enterprise Data Header (EDH), Trusted Data Framework (TDF), and IC Information Security Marking / Need to Know standards:

Response: NIEM specifically built in the capability for ISM and NTK attributes to be included on all elements in a NIEM message. NIEM data may incorporate banners and headings required by IC standards, and NIEM data may be included in envelops and other messages defined by groups not affiliated with NIEM. Two independent Open Geospatial Consortium (OGC) engineering test bed events validated no conflict between these IC standards and NIEM. The report is available at: **https://portal.opengeospatial.org/files/?artifact_id=55342**

B) Claim: NIEM is not interoperable with NGA's geospatial standards

Response: NIEM is fully compatible and interoperable with geospatial standards mandated by NGA including OGC and Intelligence Community (IC) standards: The IC security specifications have been successfully tested with NIEM and demonstrated in the OGC testbed events Geo4NIEM 1 and 2. The report is available at: **https://portal.opengeospatial.org/files/?artifact_id=65419**

Latest NIEM Information (2)

C) Claim: The NIEM "person" data element is used differently across the NIEM functional domains causing interoperability challenges

Response: NIEM has a single "Person" data element for all 15 functional domains to use in common. It resides in the NIEM Core. Each functional domain is able to extend off this single data element to meet their unique data needs – adding hair color or medical attributes for example. Extending off the common Core term allows interoperability across the domains.

D) Claim: NIEM uses the "venetian blind" approach

Response: NIEM reference schemas use the "Garden of Eden" approach, a combination of the Venetian Blind and Salami Slice design patterns. NIEM schemas are intended to specify the mandatory and optional content of a message or information resource and to define the meaning of that content. The Garden of Eden pattern is optimal for that purpose and for NIEM's goal of promoting data definition reuse. If this pattern is inconvenient for another purpose, developers are free to transform NIEM schemas to a more suitable pattern.

Latest NIEM Information (3)

E) Claim: COTS software does not use NIEM

Response: A vast array of COTS software and free-and-open-source (FOSS) tools work with NIEM and some have created additional NIEM specific modules to include: Xerces, Saxon, XML Spy, Oxygen, Cameo MagicDraw, Sparx EA, Crossflow CDX ExchangeBuilder, etc. Because NIEM is based on accepted and widely used industry standards, it is actually difficult to find an XML-based tool that will not work with NIEM. Any software that implements the Biometrics NIST standard ANSI/NIST-ITL 1-2011 is using NIEM as this standard is based on NIEM.

F) Claim: NIEM is expensive to implement

Response: Total cost of NIEM implementation as compared to other customized exchange development has resulted in as much as a 72% cost savings. The use of NIEM's established model, processes and standardized exchange development approach NIEM has consistently demonstrated a cost savings to programs in both the development and maintenance of exchanges. Sharing data between systems requires development of data exchanges, NIEM has repeatedly proven less expensive than custom built and competing alternatives.

BACKUP SLIDES

Claim: NIEM is Not Compatible with IC's Standards

Claim: NIEM is not compatible with IC's Enterprise Data Header (EDH), Trusted Data Framework (TDF), and IC Information Security Marking / Need to Know standards:

NIEM is compatible with all these standards and has been independently tested by two OGC engineering test bed events .

NIEM is designed to be able to reuse external standards that do not conform to NIEM rules.
NIEM facilitates secure information exchange by providing the definitions, relationships, and structure by which data is shared among domains and communities of interest.
NIEM allows you to tag data with security and privacy, however, other technologies are required upon exchange implementation to enforce security and privacy rules.
NIEM allows the use of metadata to describe specific requirements in regard to information security and the handling of sensitive privacy-protected information.

- Including this metadata allows systems that implement NIEM to automatically enforce rules that govern the use, protection, dissemination, and access controls for data being shared.
- This has been put to use in the Intelligence community, which established the Intelligence Community Information Security Marking (IC-ISM) as a standard for classified information.
- NIEM provides support for existing versions of Intelligence Community Security Marking (IC-ISM), Need-to-Know (NTK) and Trusted Data Format (IC-TDF) metadata attributes

NIEM does not dictate how agencies handle privacy issues.
Consult with your organization's privacy standards.

Claim: NIEM is Not interoperable with NGAs Standard

B) Claim: NIEM is not interoperable with NGA's geospatial standards

The **Geo4NIEM Part 2 Testbed** produced the following **findings**, which were shared during the OGC meetings held during June 2015:

With reasonable effort it is possible to combine NIEM, IC security specifications, OGC Web Service components and GML-aware clients to support information exchange with authorized users.

- This is a huge step forward toward enabling first responders, law enforcement, emergency management, military support and the intelligence community to collaborate real time without compromising access controls.
- Access control engines can work with NIEM/IC data encoding, with or without a services framework.

Implementing such a data exchange requires extra work, compared to a typical exchange of features that conform to the GML Simple Features profile.

- This level of effort is not greater than encodings already in OGC, where a community of interest has defined a standard GML application schema for exchanging geographic data.

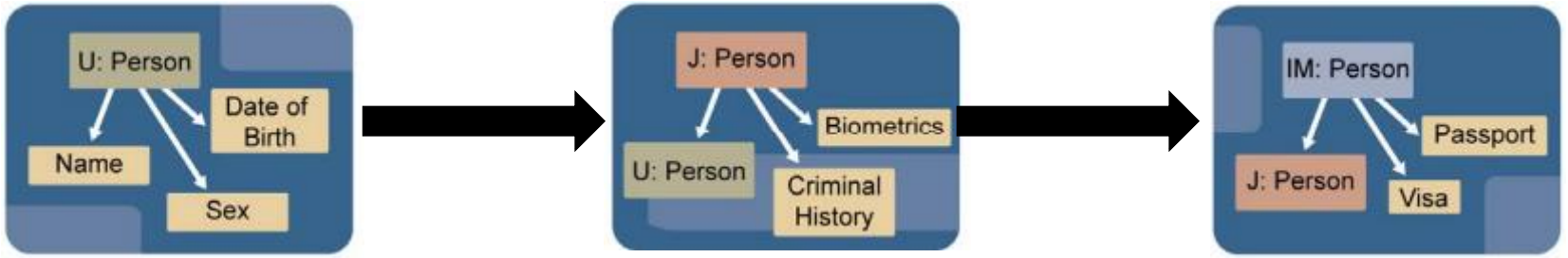
Careful IEPD design can simplify the exchange implementation, reducing the technical overhead required to broadly implement secure information exchanges and emerging collaborative partnerships.

An engineering report summarizing the findings and recommendations of Geo4NIEM Part 2 is available online:
https://portal.opengeospatial.org/files/?artifact_id=65419

Claim: Elements Used Differently Causes Interop Issues

C) Claim: The NIEM "person" data element is used differently across the NIEM functional domains causing interoperability challenges

Response: Component Reuse, is a core interoperability feature of NIEM. Each domain can extend universal elements for its own use, and person may have different attributes within these other domains. In the below example, the person component used in core, identified as U:Person, is extended by addition of other components in the justice domain forming J:Person, and J:Person is similarly extended to IM:Person for use in Immigration exchanges.



Claim: NIEM is Expensive to Implement

Recovery.gov Actual Results (costs)

The scope of the Recovery.gov effort included the development of three NIEM exchanges to be used across 100 additional systems. The cost model estimated an overall cost savings of $12,537,875 (72%) for the use of NIEM over custom XML development in Recovery.gov.

Development of 3 IEPDs	NIEM	Custom XML	Savings	% Savings
Initial Exchange **(X)**	$278,950	$268,400	($10,550)	(4%)
Additional Exchange (no re-use) **(Z)**	$211,188	$250,400	$39,212	16%
IEPD Re-use across 100 systems	**NIEM**	**Custom XML**	**Savings**	**% Savings**
Re-use of the three exchanges across one systems **(Y)**	$41,800	$166,500	$124,700	75%
Re-use of the three exchanges across 100 systems (100*Y)	$4,180,000	$16,650,000	$12,470,000	75%
Total Cost (develop 3 exchanges and re-use across 100 systems)[2]	**$4,881,326**	**$17,419,200**	**$12,537,875**	**72%**

[1] The Recovery.gov effort included the development of three IEPDs (one initial exchange [X]; and two additional exchanges with no re-use [Z])

[2] This accounts for the cost develop the three exchanges (X+Z+Z) and reuse them across 100 additional systems (100*Y). The high degree of savings (72%) is largely due to the high number of systems consuming the exchanges