

< NIEM >

TM



# AGENDA

- 1. NIEM Impact on Pharmaceutical Drug Monitoring**  
*How do we enable prescription drug monitors to see across state lines?*
- 2. The NIEM Framework and Process**  
*What common services, governance models, processes and tools are provided by NIEM?*
- 3. NIEM and Federal Shared Services**  
*What is the progress of Federal agencies adopting NIEM? How is NIEM supporting shared-service initiatives across agencies?*
- 4. Standards Based Innovation**  
*What mechanisms are in place to allow vendors and standard-developing organizations a voice in defining NIEM tooling requirements for increased adoption?"*

# Real life scenario



# THE NIEM FORMULA FOR SUCCESS

**Identification**  
of large scale,  
complex  
processes

**Creation**  
of the  
standardized  
exchange

**Governance**  
and adoption  
of the  
exchange

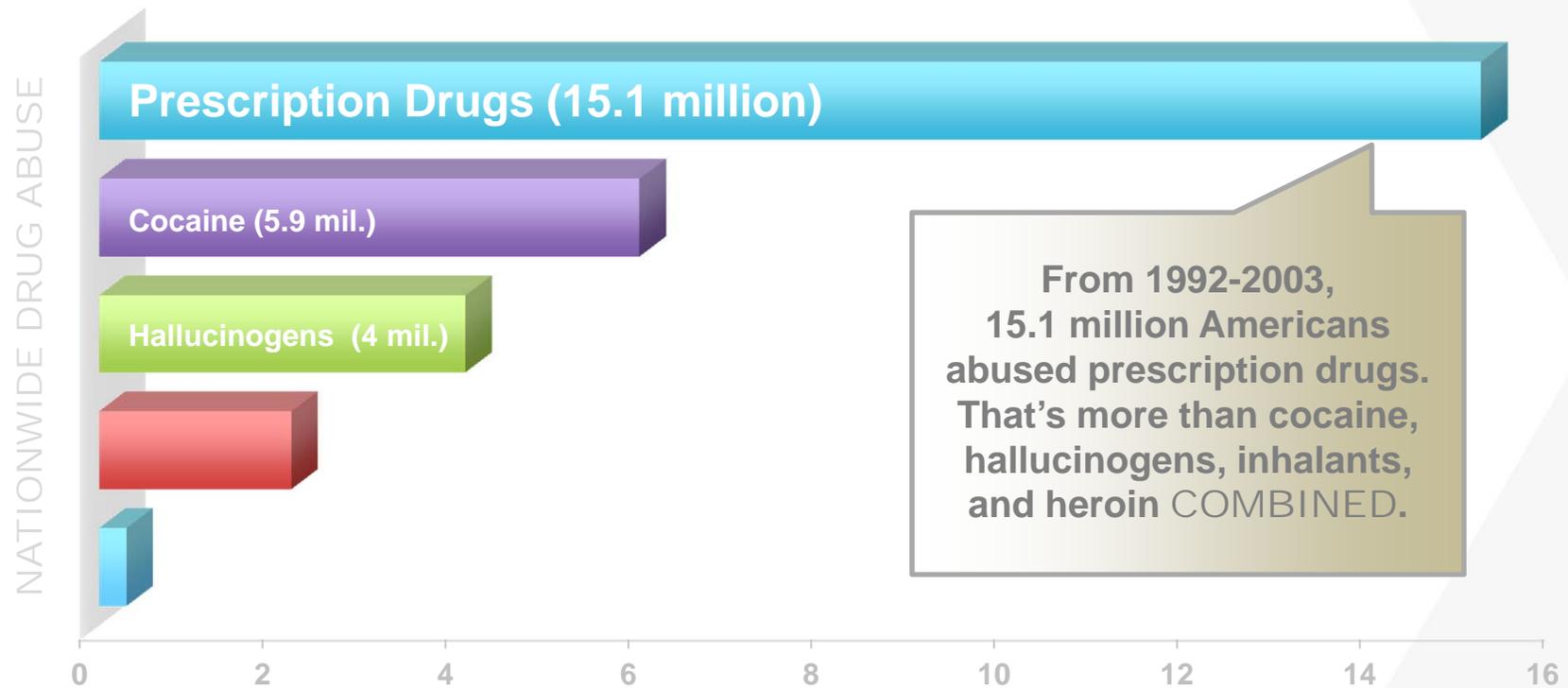
- Selection based on number of stakeholders and potential for reuse
- Complexity increases with numbers of entities involved
- Benefit increases with numbers of implementations

# NIEM IMPACT ON PHARMACEUTICAL DRUG MONITORING

The Standard Prescription  
Monitoring Information Exchange



# NIEM IMPACT ON PHARMACEUTICAL DRUG MONITORING



During the same period, there was a 150% INCREASE in prescriptions written for controlled substances.

**The brand cost of 4 mg of Dilaudid is \$88.94 per 100.  
The street value for the same amount is \$10,000. The demand is REAL.**

# NIEM IMPACT ON PHARMACEUTICAL DRUG MONITORING

**1 in 5 teens are abusing prescription drugs to get high.**

**40% of teens**

believe that prescription drugs are safer than illegal drugs.

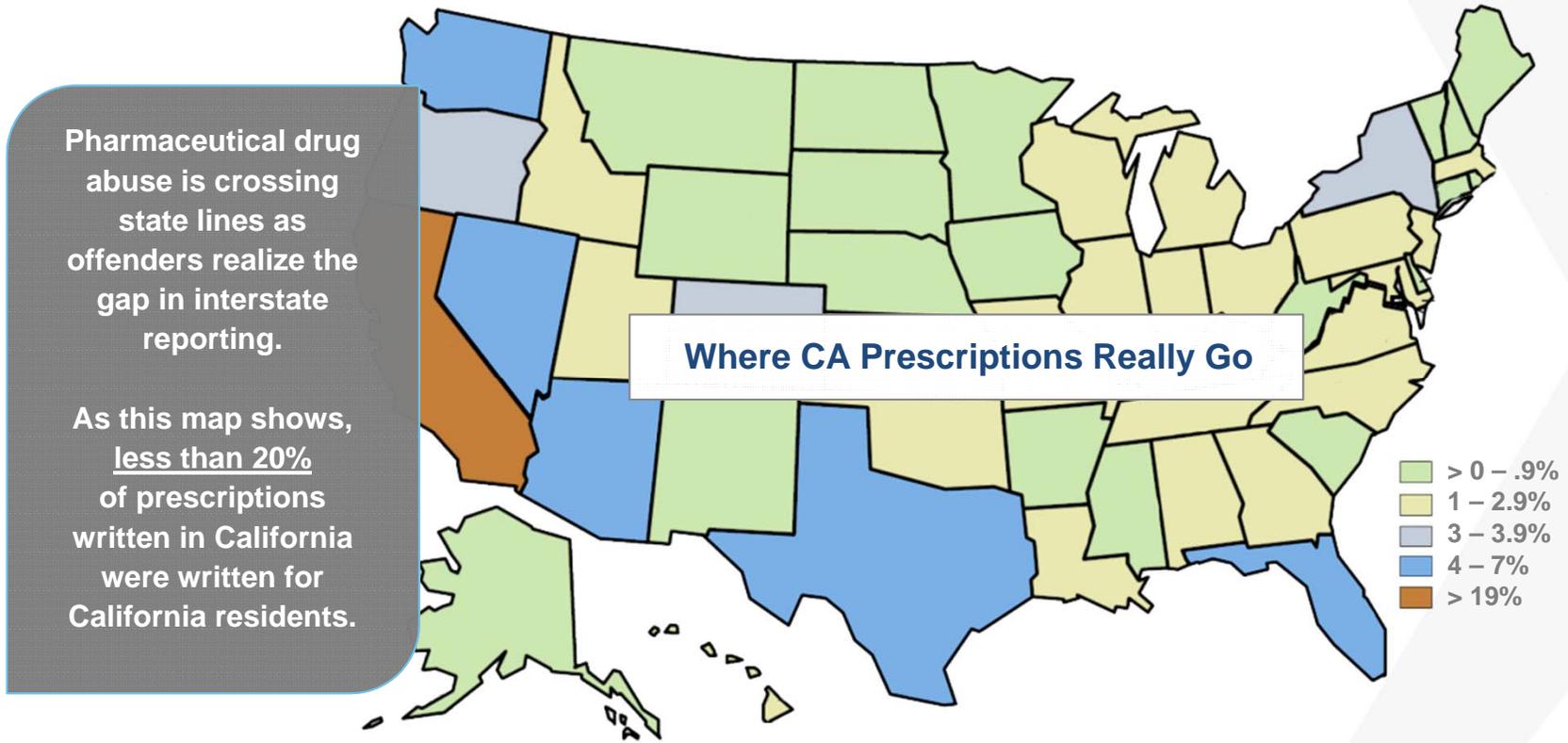
**29% of teens**

believe that prescription pain relievers are not addictive.

“You have young people getting pills for free from the homes of family members and friends.”

- John Walters, former White House drug czar

# NIEM IMPACT ON PHARMACEUTICAL DRUG MONITORING



There are three facets to the problem—misuse, abuse, and **diversion**—and three players—prescribers, dispensers, and patients.

Prescription drug monitoring is the coming together of pharmacy boards, health agencies, and law enforcement to monitor drug diversion.

# NIEM IMPACT ON PHARMACEUTICAL DRUG MONITORING

- As diversion of prescription controlled substances and the abuse involving these drugs continues to escalate, how can we improve interstate monitoring of drug use?
- **How do we enable prescription drug monitors to see across state lines?**

# NIEM IMPACT ON PHARMACEUTICAL DRUG MONITORING

Before NIEM, there was large gap in interstate reporting.

As abuse and diversion escalate, law enforcement and health practitioners need a standardized, scalable solution to share patient drug history.

The Standard NIEM Prescription Monitoring Program Information Exchange assists prescribers, health agencies, and law enforcement in identifying potential abuse and diversion.

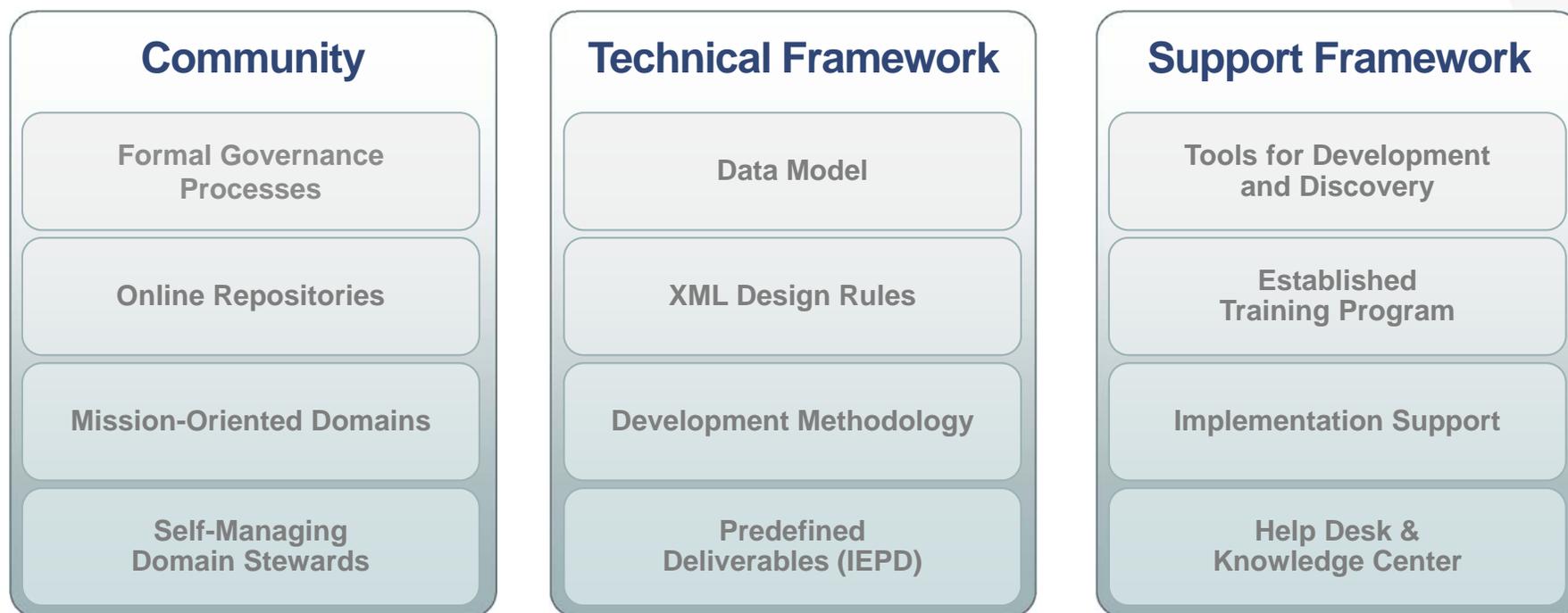




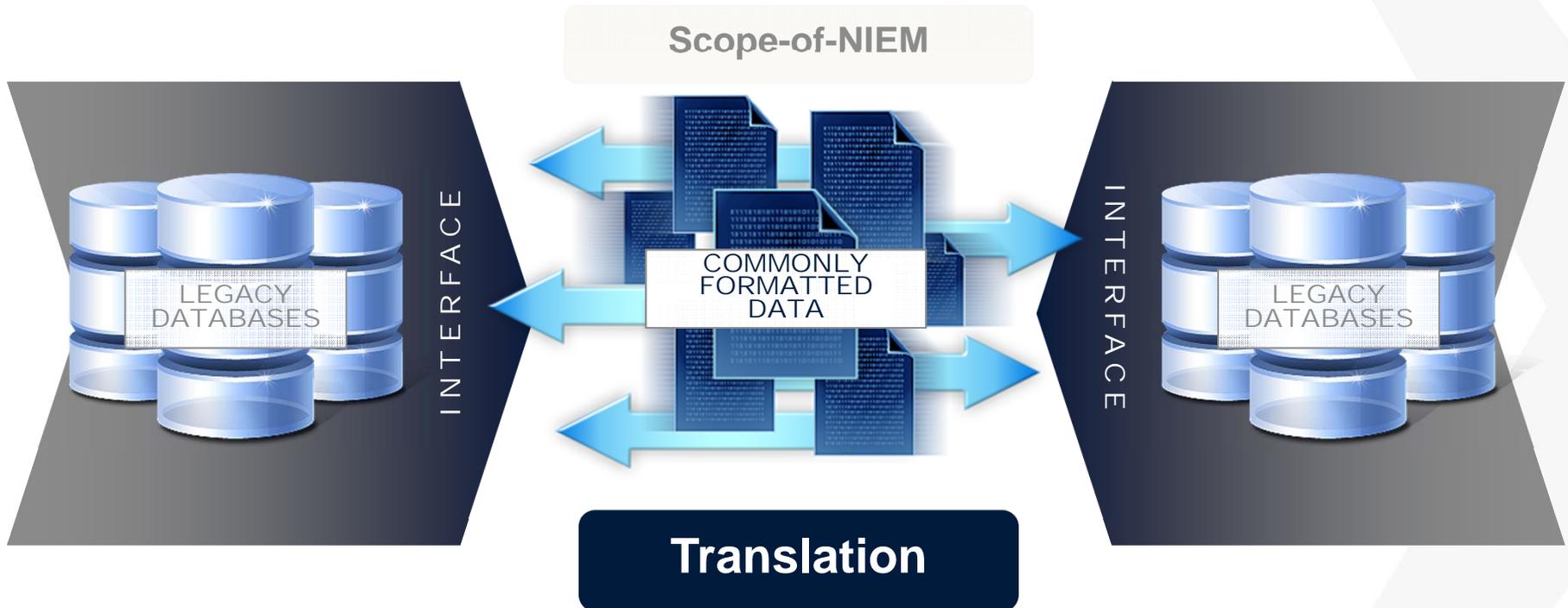
# THE NIEM FRAMEWORK AND PROCESS

# THE NIEM FRAMEWORK

**NIEM connects** communities of people who share a common need to exchange information in order to advance their missions, and provides a foundation for seamless information exchange between federal, state, local, and tribal agencies. Much more than a data model, NIEM offers an active user community as well as a technical and support framework.



# STANDARDIZING DATA MOVING ACROSS SYSTEMS

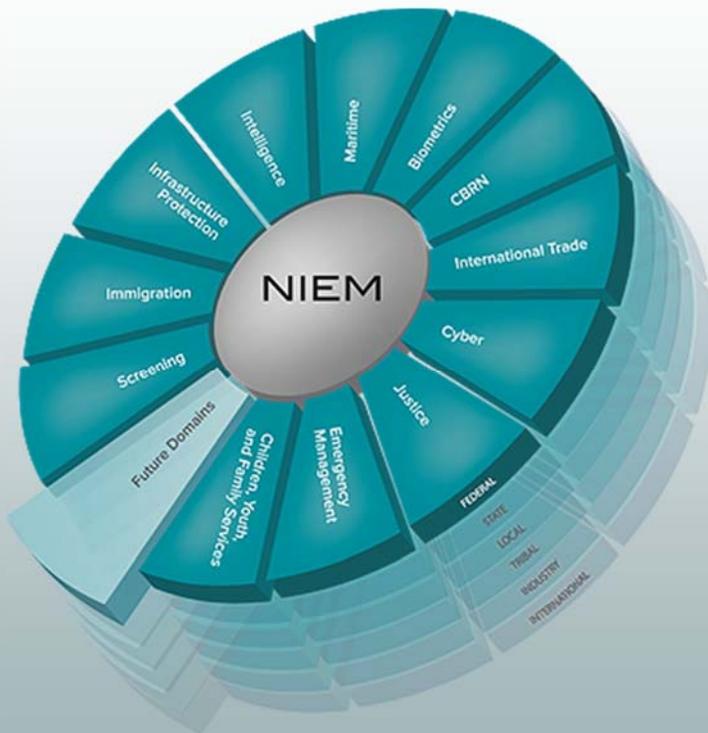


**NIEM intentionally does not address** standardizing data inside legacy systems. NIEM serves as a translation layer (providing a common understanding) between and across disparate systems.

# THE NIEM LIFECYCLES

## Common Language

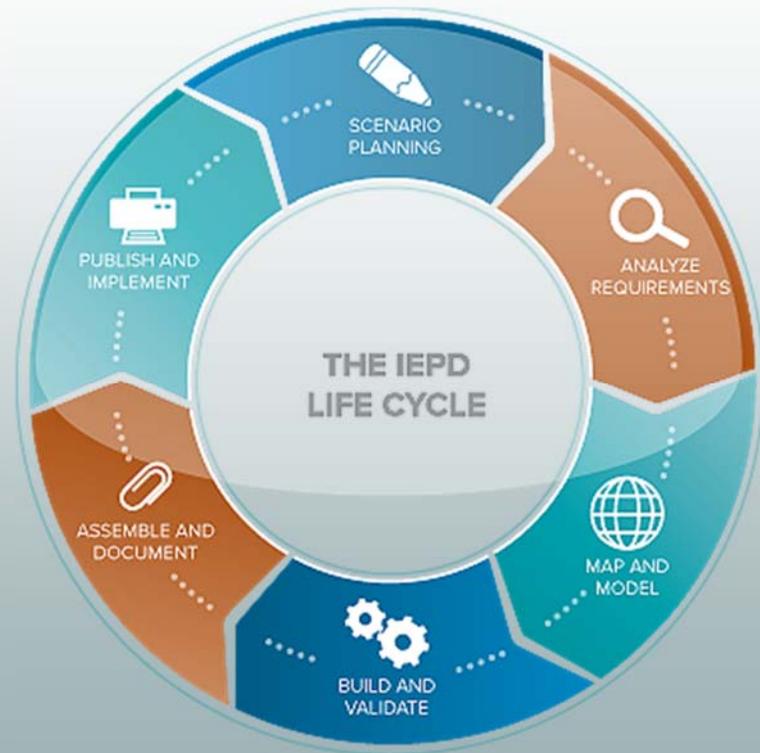
(Data Model Lifecycle)



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

## Repeatable, Reusable Process

(Exchange Specification Lifecycle)

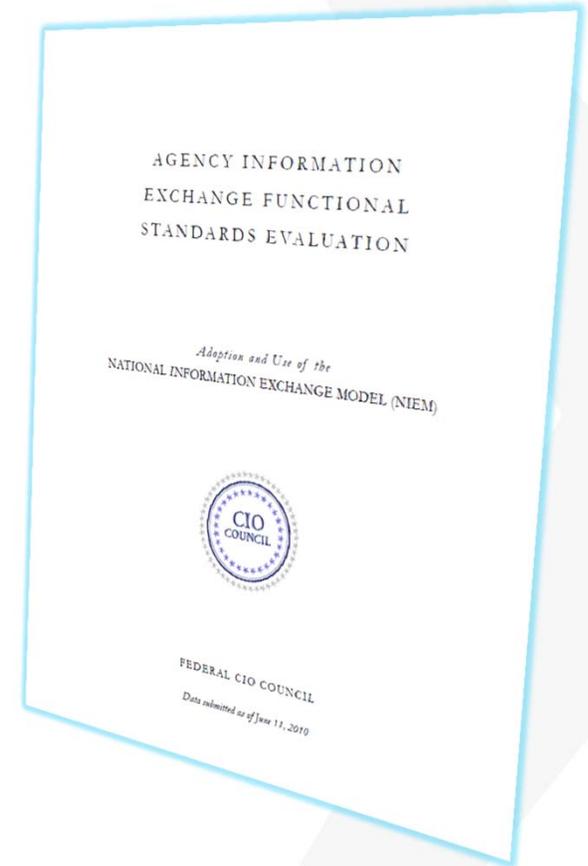


# NIEM AND FEDERAL SHARED SERVICES

# PROGRESS ON FEDERAL NIEM ADOPTION

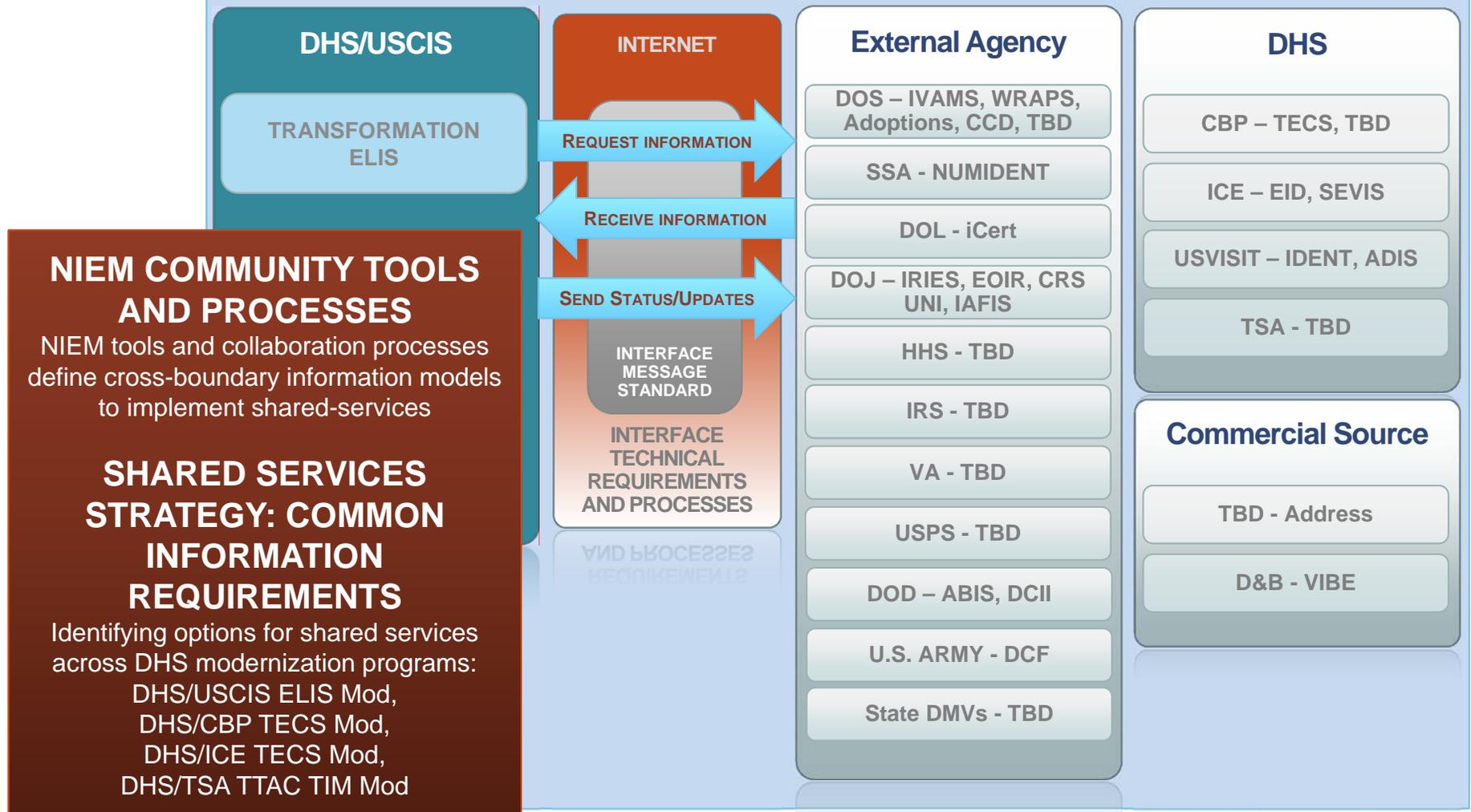
Success of NIEM within the Departments of Justice, Homeland Security, and Health and Human Services has propelled growth of NIEM across the Federal Government

Agency	Use of NIEM	
Department of Agriculture	Committed to Use	Green
Department of Defense *	<b>Committed Use</b> ←	Green
Department of Education	Will Not Use	Red
Department of Energy	Committed to Use	Green
Department of Health and Human Services	Committed to Use	Green
Department of Homeland Security	Committed to Use	Green
Department of Housing and Urban Development	Committed to Use	Green
Department of Justice	Committed to Use	Green
Department of Labor	Committed to Use	Green
Department of State	Further Evaluation Required	Yellow
Department of the Interior	Committed to Use	Green
Department of the Treasury	Committed to Use	Green
Department of Transportation	Committed to Use	Green
Department of Veterans Affairs	Further Evaluation Required	Yellow
Environmental Protection Agency	Further Evaluation Required	Yellow
General Services Administration	Committed to Use	Green
National Aeronautics and Space Administration	Further Evaluation Required	Yellow
National Archives and Records Administration	<b>Committed Use</b> ←	Green
National Science Foundation	Committed to Use	Green
Nuclear Regulatory Commission	Will Not Use	Red
Office of the Director of National Intelligence	<b>Committed Use</b> ←	Green
Social Security Administration	Further Evaluation Required	Yellow
Geospatial Line of Business	Will Not Use	Red
Grants Management Line of Business	Further Evaluation Required	Yellow
Financial Management Line of Business	Will Not Use	Red
Human Resources Line of Business	Will Not Use	Red



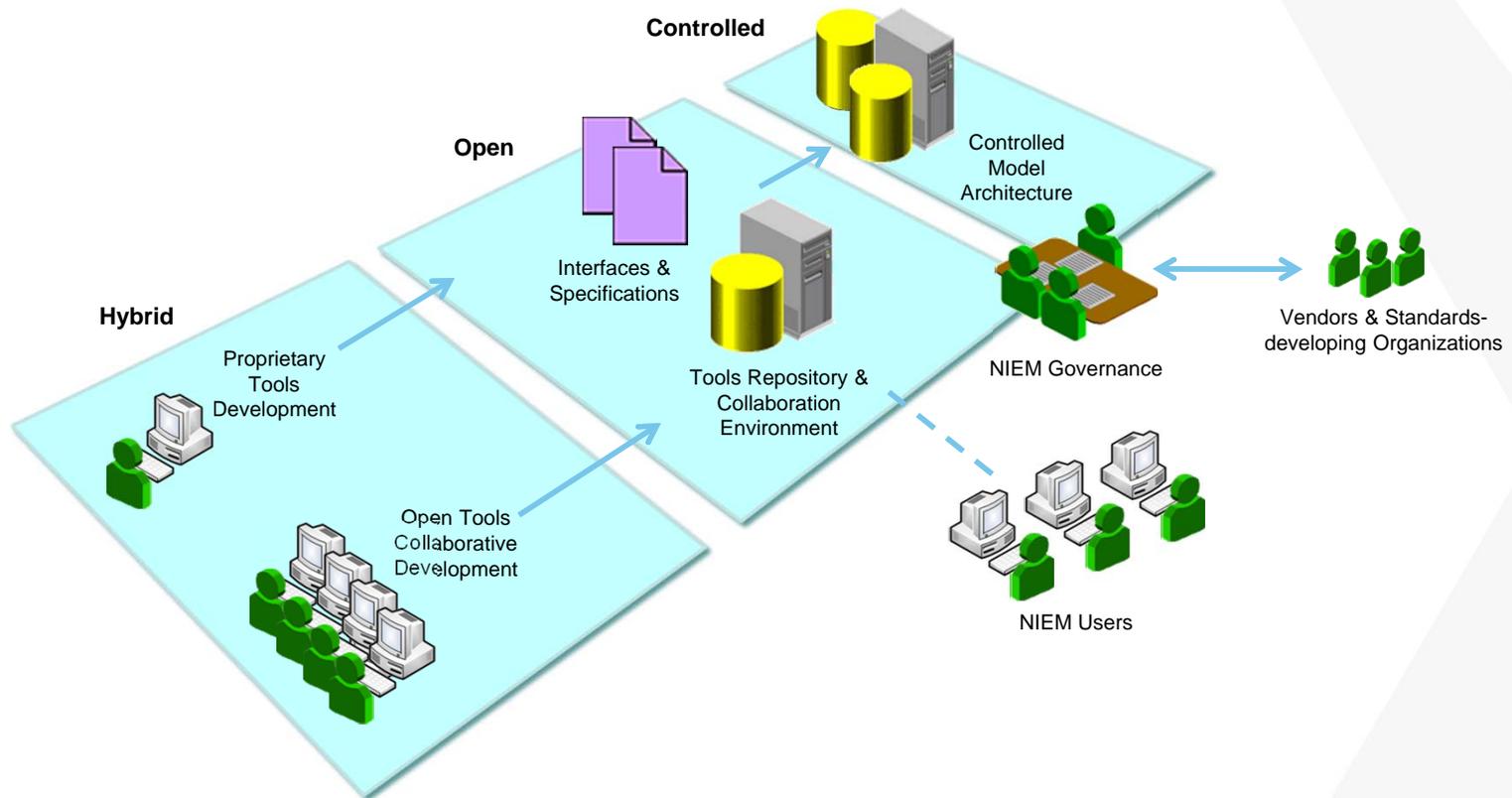
# STANDARDIZED SHARED SERVICES USING NIEM XML WITH DATA PARTNERS

*The DHS USCIS Immigration Transformation Strategy for information exchange provides a cross-agency model for realizing NIEM-based shared-services*



# STANDARDS BASED INNOVATION

# VENDOR ENABLED INNOVATION

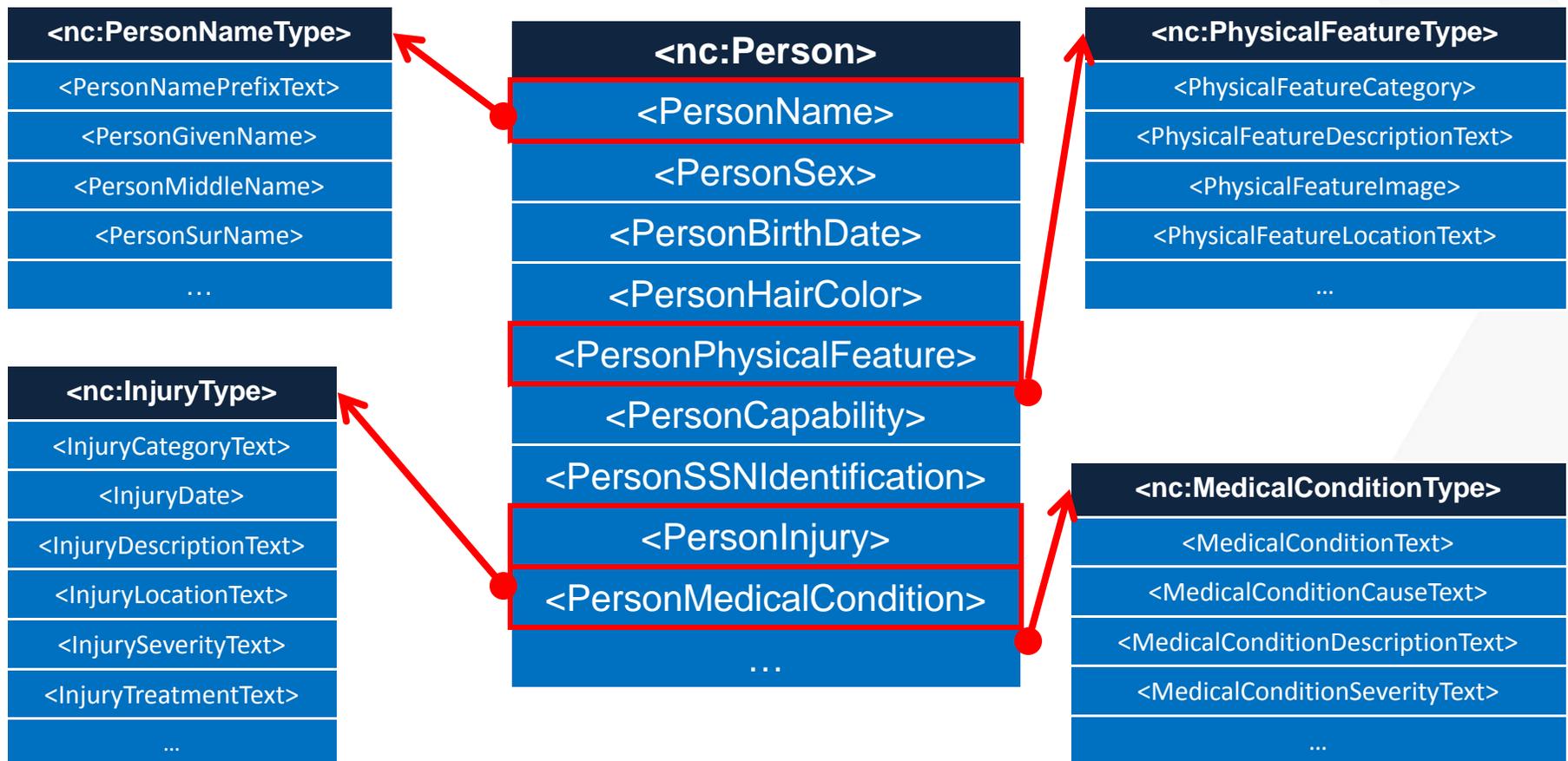


## NIEM Tools Strategy Vision

Community practitioners have relevant, adoptable, and adaptable tools that will improve the efficiency and effectiveness of NIEM lifecycle processes

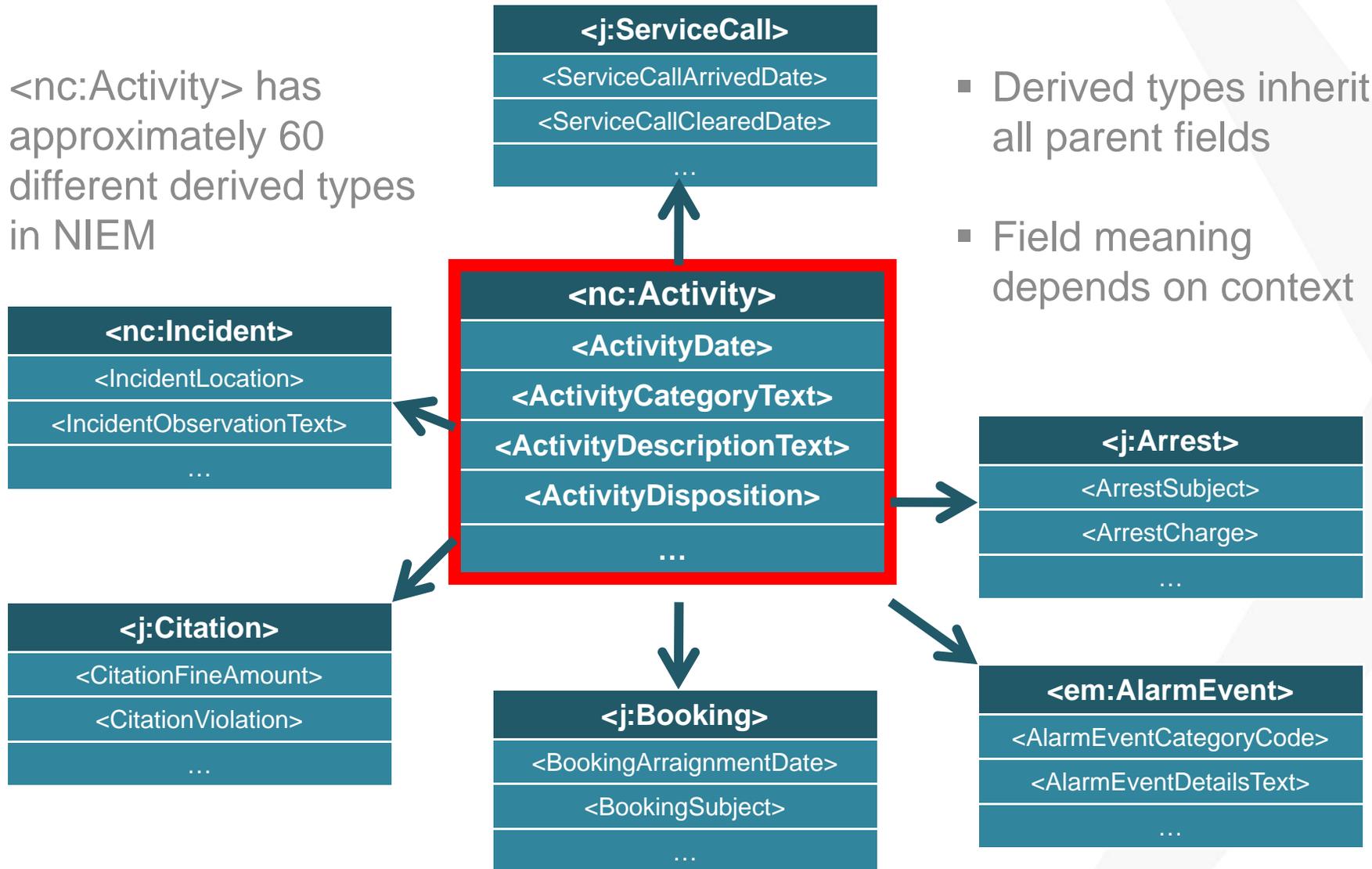
# NIEM CORE COMPONENT – <NC:PERSON>

Approximately 200 discreet fields for Person information across all domains



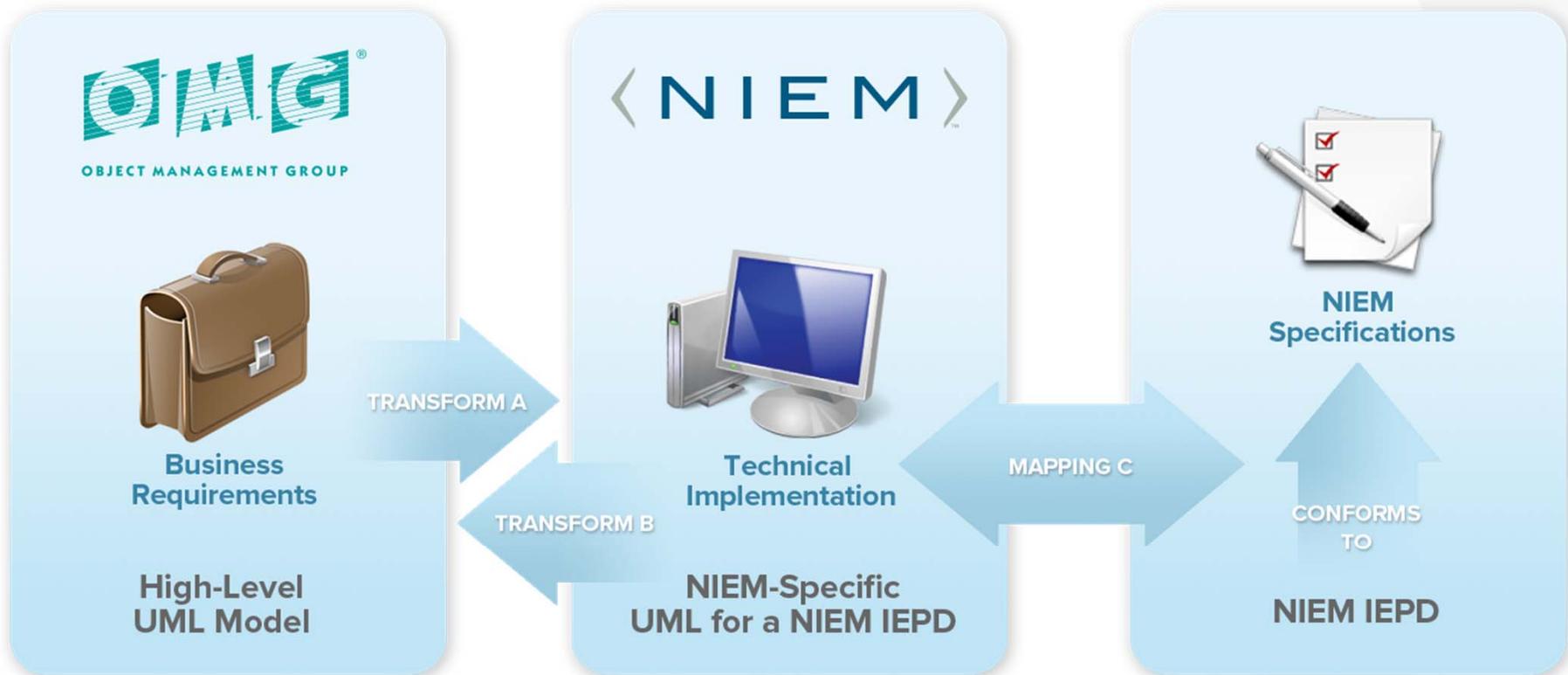
# NIEM CORE COMPONENT – <NC:ACTIVITY>

<nc:Activity> has approximately 60 different derived types in NIEM



- Derived types inherit all parent fields
- Field meaning depends on context

# COLLABORATIVE INNOVATION – UML PROFILE FOR NIEM



< NIEM ><sup>cyber</sup>

< NIEM ><sup>infrastructure protection</sup>

< NIEM ><sup>biometrics</sup>

< NIEM ><sup>emergency management</sup>

< NIEM ><sup>children, youth, and family services</sup>

< NIEM ><sup>justice</sup>

< NIEM ><sup>TM</sup>

< NIEM ><sup>CBRN</sup>

NATIONAL INFORMATION EXCHANGE MODEL

< NIEM ><sup>international trade</sup>

< NIEM ><sup>intelligence</sup>

< NIEM ><sup>maritime</sup>

< NIEM ><sup>immigration</sup>

< NIEM ><sup>screening</sup>

# BACKUP

# NIEM CORE COMPONENTS

Some important, practical NIEM Core components

<b>&lt;nc:Person&gt;</b>
<PersonSexCode>
<PersonBirthDate>
<PersonEyeColorText>
<PersonHairColorText>
...

Has the most fields

<b>&lt;nc:Activity&gt;</b>
<ActivityDate>
<ActivityCategoryText>
<ActivityDescriptionText>
<ActivityDisposition>
...

The most often derived component

<b>&lt;nc:Item&gt;</b>
<ItemName>
<ItemDescriptionText>
<ItemConditionText>
<ItemValue>
...

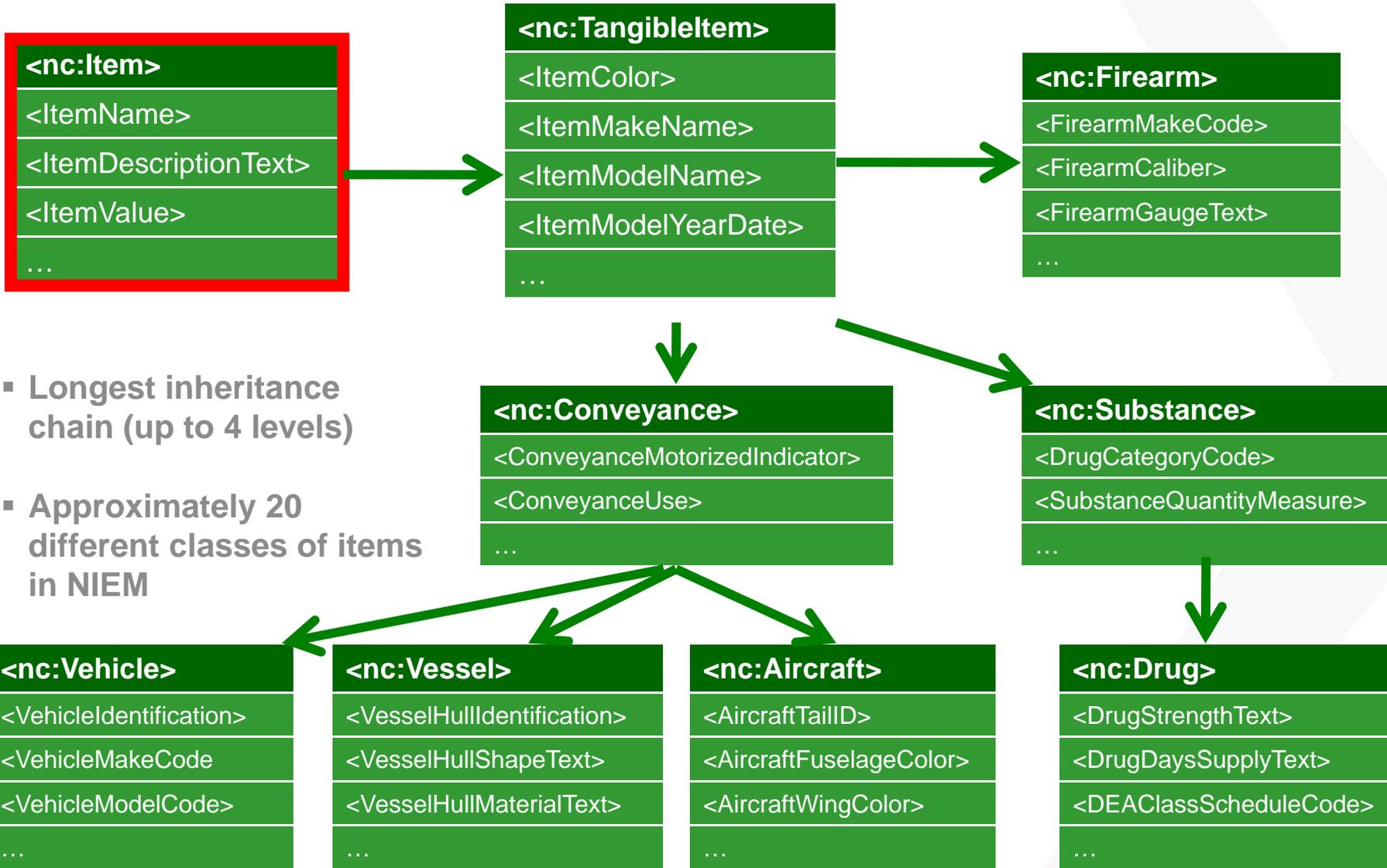
Has the deepest inheritance chain

<b>&lt;nc:Identification&gt;</b>
<IdentificationID>
<IdentificationJurisdictionText>
<IdentificationEffectiveDate>
<IdentificationStatus>
...

<b>&lt;nc:Location&gt;</b>
<LocationDescriptionText>
<LocationAddress>
<LocationCategoryCode>
<LocationName>
...

<b>&lt;nc:Organization&gt;</b>
<OrganizationName>
<OrganizationDescriptionText>
<OrganizationCategoryText>
<OrganizationEstablishedDate>
...

# NIEM CORE COMPONENT – <NC:ITEM>



- Longest inheritance chain (up to 4 levels)
- Approximately 20 different classes of items in NIEM

# NIEM GOVERNANCE

# NIEM GOVERNING STRUCTURE

NIEM's governing structure is comprised of *Federal, State, Local, Tribal and private organizations*

NIEM is jointly managed at an executive level by the Department of Homeland Security (DHS), Department of Justice (DOJ), and Department of Health and Human Services (HHS)



# WHO STEERS NIEM CURRENTLY?

## Founders and Voting Members

- Dept of Justice
- Dept of Homeland Security
- Dept of Health and Human Services

## Ex-Officio Members

- Global Justice Information Sharing Initiative
- Office of Management and Budget
- Program Manager, Information Sharing Environment
- NASCIO

## Partners

- Terrorist Screening Center
- Dept of Defense / Dept of Navy
- Dept of State, Consular Affairs (invited)



# WHO GOVERNS NIEM DOMAINS?

- Justice
- Screening
- Immigration
- Intelligence
- Chem/Bio/Rad/Nuc
- Maritime
- Cyber
- Family Services
- Emergency Management
- Infrastructure Protection
- International Trade
- Biometrics

Domain	Executive Steward
Justice	Global Justice (State & Local)
Screening	DHS Screening Coordination Office
Immigration	DHS/ICE & USCIS
Chem/Bio/Rad/Nuc	DHS/DNDO
Maritime	DOD/DON/MDA
Cyber	DHS/NPPD/CS&C
Family Services	HHS/ACFS & DOJ
Emergency Management	DHS/FEMA, DHS/S&T (state & local)
Infrastructure Protection	DHS/NPPD
International Trade	DHS/CBP
Biometrics	DHS/NPPD, DOJ/FBI, DOD, NIST
*Health	HHS/ONC & HHS/OCIO
*Human Services	HHS/ACFS & NYC/HHS
*Financial (Budget, Planning, Accountability, Grants)	TBD (currently HHS, OMB)

# RECENT DOMAIN STEWARDSHIP AGREEMENTS

DOMAIN	STATUS
Cyber Security	SIGNED
Biometrics	SIGNED
Human Services	EMINENT
Agriculture	PLANNED FOR FY12
Education	FORMING
Federal Financials & Grants Management	FORMING
Health (numerous sub-domains)	FORMING
Management & Budget	FORMING
Energy	EARLY
Transportation	EARLY

# NIEM PROGRAM UPDATES

# FY11 NASCIO NIEM POLICY ISSUANCE



## A Call to Action: Information Exchange Strategies for Effective State Government

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NASCIO

NASCIO represents state chief information officers and information technology executives and managers from state governments across the United States. For more information visit [www.nascio.org](http://www.nascio.org).

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*NASCIO Recommends State Government Adopt the National Information Exchange Model (NIEM) to Enable Government Information Sharing*  
April 28, 2011

The National Information Exchange Model (NIEM) provides a broad range of products and capabilities for planning and implementing enterprise-wide information exchanges. Government effectiveness and citizen centric government services require effective cross line of business collaboration and communication. Use of national standards will avoid redundant investment and unnecessary variation. What is needed is a common discipline for information sharing that is employed by all government lines of business. The National Information Exchange Model (NIEM) exists as that discipline for federal, state and local government.

NASCIO recommends that state government adopt NIEM capabilities as a component of state government enterprise architecture and data management strategy. This brief will provide some of the history and rationale for NIEM, the future of NIEM, success stories and guidance on how to get started. The appendix presents a number of relevant references.

In general, NASCIO recommends that state governments:

- **Learn** how to plan an information exchange and how to employ NIEM.
- **Gain Support** through executive and technical staff briefings.
- **Train** - take advantage of NIEM training – online and on-site.
- **Begin** to use NIEM – leverage NIEM technical support.
- **Grow** staff knowledge, experience and skills through ongoing training and NIEM National Events.
- **Stay connected** to the NIEM site for new developments, additional domains, and continued adoption across government.
- **Promote NIEM** for government interoperability by adopting NIEM as part of State Government Enterprise Architecture, Data Management Strategy and Standards.
- **Incorporate NIEM** into Project Management and Procurement Requirements.
- **Explore and Evaluate** inter-line of business relationships that can enhance or transform agency service delivery.

# KEY FY11 PROGRAM UPDATES

**HHS officially joins DOJ and DHS on the NIEM Executive Steering Council as third strategic partner. NASCIO joins as a key advisor.**

- Michael Carleton, HHS CIO, signed onto NIEM in October 2010
- Will begin establishment of the NIEM Health and NIEM Human Services Domains

## **North America Day**

- With Canada CIO, Corinne Charette, and Mexico CIO, Carlos Viniegra
- DOJ, DHS, HHS and GSA engaged
- Trilateral memorandum signed in July 2011
- Pilots include: Stolen Vehicles exchange and Public Health exchange around Biosurveillance

## **NIEM establishing a Cyber and Biometrics Domain**

- Roberta Stempfley, DHS NCSD Director, established NIEM Cyber in December 2010
- Dave Epperson, DHS NPPD, & Chase Garwood, DHS USVISIT, established Biometric Domain facilitated by NIST in February 2011