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QUARTERLY NEWSLETTER FOR THE BIOMETERICS DOMAIN

NIEM

Editor's Note

Welcome to your National Information Exchange Model (NIEM) newsletter. This publication provides Domain members with situational awareness of the latest features and related news of the Biometrics Domain, and enhances the exchange of intelligence and information across the Domains. Domain members represent the full range of operations that deal with the gathering, analysis, fusion, and dissemination of biometrics intelligence. Our readers represent a broad audience of decision makers, stakeholders, and practitioners of the NIEM Biometrics Domain. This newsletter presents notable changes and current work in the Biometrics Domain. This specific issue covers topics such as the upcoming NIEM Release 4.2, the outcome of the NIEM Business/Technical Architecture Committees (NBAC/NTAC)/NIEM PMO face-to-face, and the DHS research on a DNA Store, Match, and Share Prototype.

Best of NIEM 2018 Awards
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About the NIEM Biometrics Domain

The NIEM Biometrics Domain is a data model of agreed upon terms, definitions, and formats. It supports information sharing and promotes interoperability between mission-based organizations engaged in activities such as homeland security, national defense, border management, immigration benefits, and global law enforcement through the joint development and alignment of Extensible Markup Language (XML) Biometric Standards. The NIEM Biometrics Domain was launched in July 2012 under the stewardship of the Office of Biometric Identity Management (OBIM) within the Department of Homeland Security (DHS) National Protection and Programs Directorate. OBIM recently transitioned to the DHS Management Directorate.

About the NIEM Release 4.2

NIEM 4.2 is an upcoming minor release and incorporates updates to Domains, including Biometrics, Emergency Management, Human Services, Justice, Military Operations, and a new Statistics Domain. As of January 3, 2019, the NIEM version 4.2 schedule is available at https://github.com/NIEM/NIEM-Releases/wiki/Upcoming-Release.

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The Biometrics Domain operates under the oversight of its executive committee, which includes:

Chair: John Boyd (OBIM)
Co-Chair: Jennifer Stathakis (DOJ/FBI)
Co-Chair: William Graves (DoD)
Ombudsman: Diane Stephens (NIST)

NIEM Management Transition

Mr. Rory Kinney announced the DoD Chief Information Officer (CIO) has accepted NIEM management responsibilities from DHS. The DoD CIO will chair the NIEM Executive Steering Committee (ESC) and is looking to extend ESC membership to senior leaders from all NIEM domains. The Joint Staff J6 will perform NIEM Management Office (MO) duties, formerly called the Program Management Office (PMO).

For additional information on any topics discussed, please contact the NIEM Biometrics Domain Team at: OBIMFuturesIdentityNIEM@ice.dhs.gov

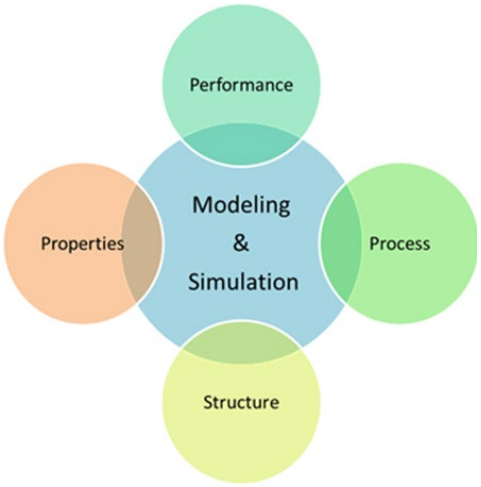
INTEGRAL Consulting Services, Inc.

Biometrics Domain Release 4.2

DHS OBIM is working towards proposing changes to the existing Biometrics Schema under Release 4.2 to include components to support the modality of DNA. These proposed changes are drawn from recent DHS research on DNA related technologies. OBIM is currently compiling a list of artifacts related to DNA that will be posted onto the NIEM Github (https://github.com/NIEM) for the NIEM Biometrics Community to review and harmonize as necessary across Biometrics Domain partners. Anticipated changes to the Biometrics schema include the addition of new attributes and modification to existing attributes. Additions include:
"Instrument Type (a data type for instrument information);"
"MatchNotificationContact (a person who should be notified if matches are found);"
"BiometricCollectionPerson (a person who collected evidence for potential biometric sample);"
"BiometricCollectionOrganization (an organization or agency responsible for the collected evidence for potential biometric sample);" and "BiometricCollectionDate (a date and time where the evidence is collected for potential biometric sample)."

Integrated Architecture, Modeling, & Simulation

DHS OBIM is implementing processes and a model-based systems engineering (MBSE) tool to deliver comprehensive project models capable of supporting OBIM's architecture, engineering, and performance analysis. The model(s) will be shared across OBIM and will establish a baseline in the understanding of OBIM business processes, system design patterns, and architectures. Furthermore, OBIM can leverage these models to identify opportunities, risks, and design decisions. Modeling and Simulation, as an OBIM practice, will ensure essential capability requirements are applied to their design, development, and use, while ensuring acceptance criteria are defined and approved.



The entire initiative is executed in three phases:

Phase 1. Planning and Process Definition phase will focus on the selection of tools, standards, and plans for modeling.
Phase 2. Legacy System Decomposition and Project Modeling Pilot phase will focus on the creation of the initial critical components of the overall model.
Phase 3. Implementation phase will focus on the expansion of the initial model to cover and integrate all aspects of engineering and architecture.

Movement

Created with input from the NIEM community, Movement provides a user-friendly interface, smarter search results, and a streamlined way to build Java Script Object Notation (JSON) Schema in support of exchanges. Movement is open source so the community who inspired its creation can contribute to it. Currently the JSON Schema output is under development since a NIEM JSON schema solution is in progress and expected to be incorporated into the tool soon.

NIEM Java Binding Tool

This tool is an open source Java tool that uses Maven and Java Architecture for XML Binding (JAXB) to implement NIEM-based exchanges. The functions within the tool can generate consistent bindings to Java objects for NIEM schema subsets and extension schema documents. Because binding generation is part of the build process, this tool has the potential to facilitate and simplify ongoing development by automatically generating bindings when an Information Exchange Package Documentation (IEPD) is updated.

NIEM PROMOTES:
Collaboration, Consistency, Development, & Support

JSON & Linked Data

Efforts are made to incorporate JSON and Linked Data into NIEM. JSON is increasingly utilized by critical exchange partners as a preferred data exchange format instead of XML. The NIEM Program is developing tools and training to utilize JSON.

DHS OBIM's Concept Prototype Environment

The newly established Concept Prototype Environment (CPE) is a collaborative effort between the OBIM Futures Identity team and the DHS Science and Technology (S&T) Directorate. The CPE will provide a secure environment, including cloud, that supports biometric capabilities research and development with concrete deliverables that leverage best-of-breed corporate and academic expertise. CPE allows a project to be quickly and effectively evaluated based on essential criteria identified by the program at defined points in its life cycle. CPE mitigates the risks of time and cost, providing a better chance for more projects to reach production. OBIM's future mission strategies for biometric identification are going to depend on these technologies to be evolvable and applicable across a broad range of use cases.

Promote NIEM and spread the word!

The more that people talk about NIEM, the stronger our community grows. Help us supercharge NIEM outreach and overall awareness of NIEM within your community by using the resources below to help explain what NIEM is, how it works, and more.

https://www.niem.gov/about-niem/outreach-resources

NTAC Update

The NIEM Biometrics Domain is currently supporting the NTAC who had their NTAC face-to-face and briefed the following NTAC 2018 achievements and 2019 work activities:

- Completing the NIEM Naming and Design Rules 4.0, NIEM Code List Specification 4.0, and support for JSON.
- Working towards a simplified way to specify IEPDs as an alternative to the existing Model Package Description (MPD) Specification.
- A NIEM JSON technical specification supporting NIEM conformance using JSON instead of XML.
- To better identify NIEM technical architecture needs, a Github issues repository (issue tracker) has been created. The NIEM MO, NBAC, and NTAC are defining the business process for the NBAC to provide business needs to the NTAC.

FYI: Best of NIEM 2018 Awards

Mr. Luvisia Molenje received the "Best Overall" award for the U.S. Citizenship and Immigration Services work with the American Association of Motor Vehicle Administrators to exchange driver's license information to support both motor vehicle and immigration law enforcement requirements.

Dr. Christopher Carrino received the "Measurable Impact and Results" award for the U.S. Census Bureau work to exchange census data between more than 50 Federal, State, and local census data collection systems.

Mr. Rodney Rourk, Ms. Sandy Freiter, and Mr. Paul Denning received the "Cross-Boundary Collaboration" award for the DoD's Security Equipment Integration Working Group work to standardize Force Protection Systems Physical Security Equipment Information Exchanges.

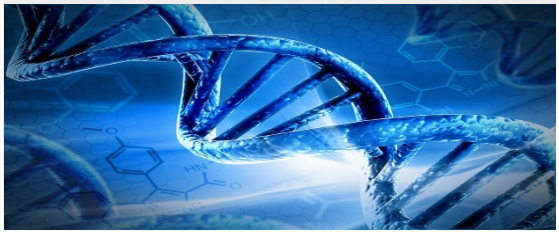
Mr.Thomas Krul received the "Supporting an Efficient and Effective Government" award for Canada's demonstration of the Trusted Information Exchange Services to exchange maritime security information between North Atlantic Treaty Organization mission partners.

DNA Store, Match, and Share Prototype

DHS OBIM has developed a prototype DNA Store, Match, and Share solution and will leverage rapid DNA capabilities developed by DHS S&T. This prototype, if operationalized, could provide biological identification and relationship (kinship) testing and support identify fraud use cases. DNA as a biometric modality in the prototype demonstrates additional capabilities to accelerate its mission in biometric identification. Especially unique is the power of DNA to determine familial relationships. The addition of DNA profiling to the DHS biometric portfolios would substantially enhance verification and identification options across relevant DHS Components. Unlike other biometric modalities, DNA is less susceptible to alteration, manipulation, or obstruction. For example, acid cannot be used to remove DNA, as is possible with fingerprints. DNA has the highest and most accurate identity verification percentage (99.99%).

Standards activities include:

- DHS OBIM, as the NIEM Biometrics Domain steward, is working with NIST to standardize and extend the DNA common model for NIEM and ANSI conformance.
- OBIM supports the implementation of DNA operations by defining use cases with technical guidance on changes necessary to interface and import profiles from rapid DNA instruments and laboratories.



Upcoming NBAC Monthly Teleconference:

- **February 28th, 1:00pm–2:00pm**
- **March 28th, 1:00pm–2:00pm**