



NIEM Human Services Domain Process Document

Human Services Domain
Version 1.6
March 21, 2017

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Office of Child Support Enforcement
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1. Introduction

On October 25, 2010 the U.S. Department of Health and Human Services (HHS) joined the U.S. Department of Justice (DOJ) and the U.S. Department of Homeland Security (DHS) as the third primary federal sponsor of the National Information Exchange Model (NIEM) program. The goal of the HHS is to develop a framework for interagency cooperation and interoperability to support common eligibility determination, information sharing across programs and agencies, improved delivery of services, prevention of fraud, and better outcomes for children and families. This framework will consist of business, information, and technology models to guide programs, states, and localities in the efficient and effective delivery of services.

One of the key initiatives for HHS is the creation of two new NIEM Domains: one for Health, and one for Human Services. As defined by NIEM, a Domain refers to "a business enterprise broadly reflecting the agencies, units of government, operational functions, services, and information systems that are organized or affiliated to meet common objectives." The Administration for Children and Families (ACF) has been tasked to develop the Human Services Domain (HS Domain). In addition, ACF will coordinate and collaborate with the Centers for Medicare and Medicaid Services (CMS) and Center for Consumer Information and Insurance Oversight (CCIIO) in development of the complimentary NIEM Health Services Domain.

1.1 Goal and Objectives

The goal of the NIEM Human Services Domain Process Document is to provide a compendium of requirements, processes, and best practices in the development and maintenance of NIEM-compliant content for Human Services data exchanges. Where applicable, this document will reference additional, more detailed documentation.

The objectives are to provide the Human Services community with a single, standardized methodology for NIEM-related activities. This document leverages processes and requirements already in place in the NIEM community, as created by the NIEM Project Management Office, including the NIEM Business Architecture Committee (NBAC) and the NIEM Technical Architecture Committee (NTAC). It also establishes additional practices specifically for the Human Services Domain.

1.2 National Information Exchange Model (NIEM)

NIEM is designed to develop, disseminate, and support enterprise-wide information exchange standards and processes that can enable jurisdictions to effectively share critical information in emergency situations, as well as support the day-to-day operations of agencies nationwide. NIEM is a working and collaborative partnership among key governmental agencies, operational practitioners, technologists, systems developers, solution providers, standards bodies, and other stakeholders at all levels of government and across the broad landscape of the justice, public safety, and homeland security enterprise.

NIEM, which uses the Extensible Markup Language (XML) standard as a foundation, enables information sharing, focusing on information exchanged among organizations as part of their current or intended business practices. The NIEM exchange development methodology results in a common semantic understanding among participating organizations by using data formatted in a semantically consistent manner. NIEM will standardize content (actual data exchange standards), provide tools, and manage processes.

1.3 Administration for Children and Families (ACF)

ACF, within HHS, is responsible for federal programs that promote the economic and social well-being of families, children, individuals, and communities. ACF programs aim to achieve the following:

- Families and individuals empowered to increase their own economic independence and productivity;
- Strong, supportive communities that have a positive impact on the development of children and their quality of life;
- Partnerships with front-line service providers, states, localities, and tribal communities to identify and implement solutions that transcend traditional program boundaries;
- Services that are planned, reformed, and integrated to improve needed access;
- A strong commitment to working with vulnerable populations including people with developmental disabilities, refugees, and migrants, to address their needs, strengths, and abilities; and
- The reliability, availability, and interoperability of both emergency and non-emergency communications are of paramount concern to ACF.

1.3.1 The Office of the Assistant Secretary

The Office of the Assistant Secretary (OAS) under ACF oversees a number of NIEM projects and the Interoperability Initiative.

1.3.1.1 Interoperability Initiative

ACF has taken the initiative to promote interoperability. Interoperability refers to the ability of two or more systems or components to exchange information and to use the information to make better decisions. The term is often used in a technical engineering sense and also in a broader sense, taking into account social, political, and organizational factors that impact performance. [ACF's Interoperability Initiative](#) website consists of news containing the latest information about data sharing and

interoperability at for ACF; interoperability initiative resources; information about the NIEM and the Human Services (HS) Domain, and a repository of HS Domain Information Exchange Packet Documentation (IEPD) files.

1.3.1.2 The National Human Services Interoperability Architecture

The [National Human Services Interoperability Architecture \(NHSIA\)](#) proposes a framework to facilitate information sharing, improve service delivery, prevent fraud, and provide better outcomes for children and families. NHSIA also brings together pieces from other architecture models such as the Federal Enterprise Architecture (FEA). NHSIA consists of seven Viewpoints examining architecture from different business and technology perspectives. They are Overview Viewpoint, Project Viewpoint, Information Viewpoint, Capability Viewpoint, Business Viewpoint, Systems Viewpoint, and Infrastructure Viewpoint. NHSIA offers a foundation for common understanding, interoperability, standards, and reuse. Objectives include establishing a common vocabulary, providing a business and technical framework, promoting sharing and reuse, encouraging data exchange standards development, developing standard data structures, and improving operational efficiency and effectiveness.

1.3.1.3 Interoperability Toolkit

The [Interoperability Toolkit](#) is a compendium of interoperability documents designed to help state human services agencies connect with their health counterparts and maximize Affordable Care Act benefits.

1.3.1.4 ACF Confidentiality Toolkit

ACF developed this [ACF Confidentiality Toolkit](#) to help jurisdictions successfully navigate the delicate balance between privacy and security with the delivery of efficient and effective services. The ACF Confidentiality Toolkit analyzes, explains and aids states and local jurisdictions in the navigation of a number of federal laws that impact the implementation of human services. Embedded throughout are sample documents from across the country from which jurisdictions using the Toolkit can borrow freely.

1.3.2 ACF Human Services Federal Agency Participants

Within ACF, the Office of Child Support Enforcement (OCSE) has been assigned responsibility for managing and implementing the tasks associated with the NIEM Human Services Domain.

1.3.3 State, Local, and Tribal Partners

ACF and the Office of the Child Support Enforcement partners with state, tribal and local governments and others to promote parental responsibility so that children receive support from both parents even when they live in separate households. In addition, ACF works with partners in the private sector as part of its on-going interoperability efforts.

2. NIEM Human Services Domain Overview

The NIEM Human Services (HS) Domain was officially established by the Department of Health and Human Services (HHS) and recognized by the NIEM Executive Steering Council in March 2012 to support information sharing and promote interoperability between and beyond Human Services organizations and federal, state, local, and tribal agencies. ACF has been authorized by HHS, the Office of the Chief

Information Officer (OCIO) of HHS to be the NIEM HS Domain steward. ACF is responsible for establishing the NIEM HS Domain, which promotes interoperability between organizations in the human services sector. As the HS Domain steward, ACF governs the NIEM HS Domain and supports NIEM PMO on NIEM HS Domain-related issues.

2.1 HS Domain Purpose

Effective information sharing is critical to the success of a coordinated human services system. The purpose of the NIEM HS Domain is to support information sharing and promote interoperability between and beyond social service providers at the federal, state, tribal, and local levels. The NIEM HS Domain tools and processes will also serve as a reusable resource for new exchange development efforts so that content can be modeled in an agile but interoperable manner.

2.2 HS Domain Goals and Outcomes

This section describes the goals of the NIEM HS Domain and the outcomes of achieving the goals.

2.2.1 Goals

The NIEM HS Domain has established the following goals:

- Set up a domain stewardship agreement and manage the HS Domain governance structure.
- Create a technical infrastructure for domain management activities including technical development, testing, review, and deployment of the HS Domain contents to the NIEM data exchange model.
- Promote human services information sharing between federal, state, local, and tribe entities.
- Expand the NIEM core data exchange model by harmonizing them with the NIEM HS Domain data exchange model.
- Manage and govern the NIEM HS Domain data exchange model.
- Collaborate with NIEM PMO and ensure that the NIEM HS Domain is following NIEM best practices and conforming to NIEM requirements.

2.2.2 Outcomes

Once the NIEM HS Domain is established and used actively, the following outcomes are expected:

- Harmonized release of the data elements into the NIEM HS Domain data exchange model at regular intervals.
- HS information sharing between federal, state, local, and tribal partners using the NIEM HS Domain contents.
- Publication of new HS information exchanges as they are submitted and/or developed.
- The NIEM HS Domain data exchange model forms a strong foundation for future information exchanges and demonstrate re-use thus reducing the incremental cost of implementing new information exchanges.

2.3 NIEM Human Services Domain Workgroup

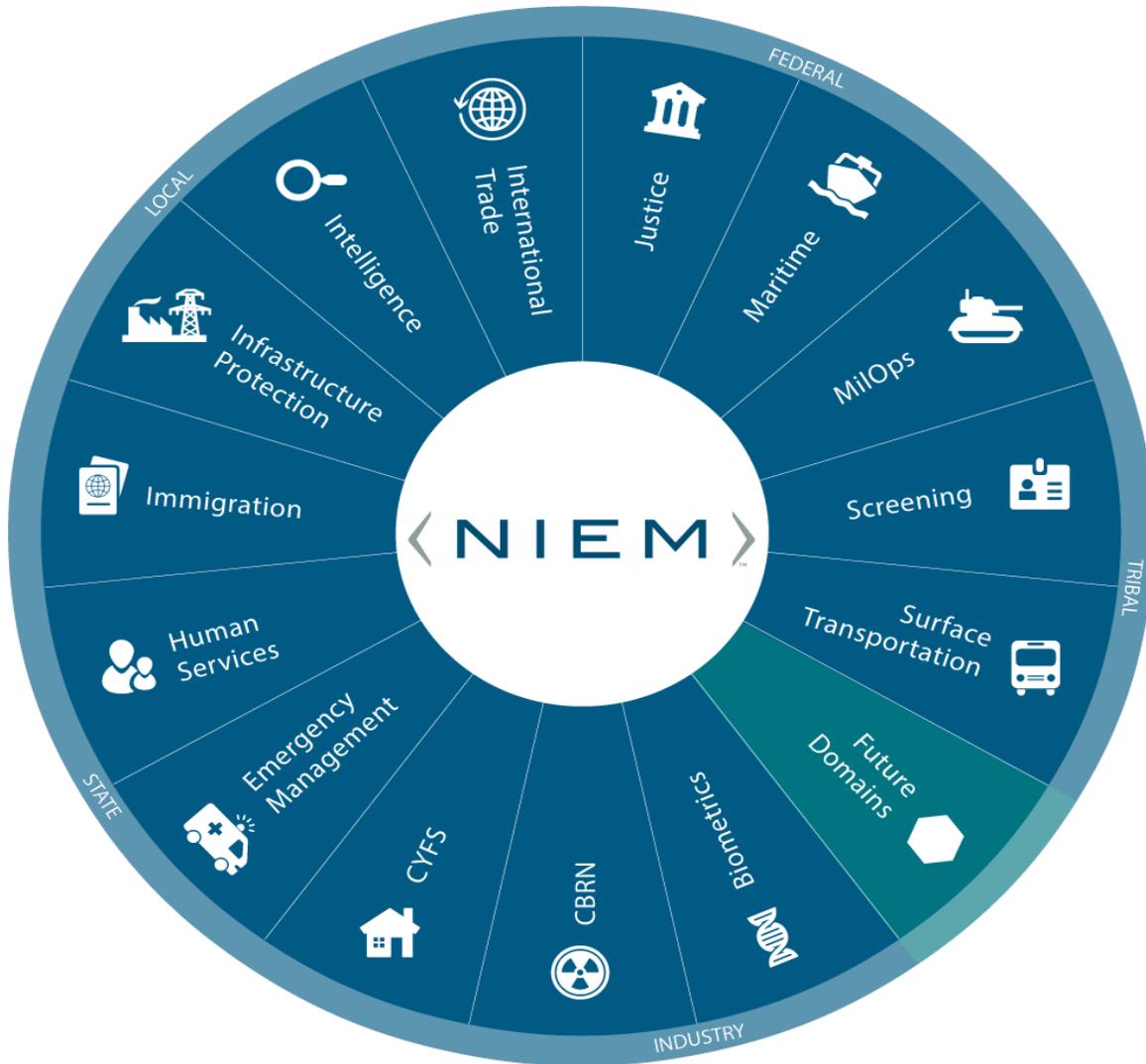
The NIEM Human Services Domain Workgroup consists of participants representing federal, state, local, and tribal human services communities of interest (COI) that provide the breadth and depth of knowledge and opportunities to develop seamless data exchanges. HS Domain Workgroup was established in early 2015 to provide a combination of programmatic, policy, business, and technical expertise in creating standardized data exchanges for the HS Domain by adopting the National Information Exchange Model (NIEM). The Human Services Domain Workgroup extends to the overall NIEM community, including state participants, Human Services associations, the NIEM Project Management Office (PMO), and other Domains. Examples of topics that were shared in the workgroup include but are not limited to: HS Domain data model approach; privacy/confidentiality in data exchange; data harmonization; use of UML tool to build IEPDs; and federal and state data exchange projects.

3. NIEM Activities – Domain Model and Human Services Domain Model

3.1 The NIEM Domain Model

The NIEM model defines terms, definitions, and relationships for data being exchanged. The NIEM model provides common, agreed-upon terms, definitions, formats, and relationships independent of how information is stored in individual systems.

It consists of two related components, NIEM core and individual NIEM Domains. NIEM core consists of data elements that are commonly understood and defined across Domains, such as person, activity, document, location, and item. It is governed jointly by all NIEM Domains. NIEM Domains contain mission-specific data components that build upon NIEM core concepts and add additional content specific to the community supporting that mission. A NIEM Domain represents both the governance and model content oriented around a community's business needs. A NIEM Domain manages their portion of the NIEM data model and works with other NIEM Domains to collaboratively to identify areas of overlapping interest. Future Domains are added to NIEM as necessary, based on an established business need.



(NIEM Model image from <https://www.niem.gov/about-niem>)

3.2 Human Services Domain Data Model

3.2.1 Development of the Model

Existing Information Exchange Package Documentation (IEPD), described in Section 4, were used as the initial content of the HS Domain data model. The HS Domain data model was developed using UML (Universal Modeling Language) with a top-down approach. The UML will also include a data glossary of Human Services terms populated from the various Human Services Domain communities of interest. The HS Domain data model will follow NIEM guidelines as well as the OCSE naming and definition guidelines (describe in Section 5).

Content of the HS Domain data model is intended for suitable reuse of data at federal, state, local, and tribal levels. The content will include well defined names and descriptions, reuse from NIEM core, and the harmonized data elements from the Children, Youth, and Family Service (CYFS) Domain.

Below is an example of a data element, *CaseType*, within the HS Domain data model represented by the UML object diagram.



3.2.2 Maintenance of the Model

The HS Domain data model will be managed by the Domain steward. As new content is created, it will be added to the model. All updates to the model will be done using UML. The XML schemas needed for publishing to NIEM will be generated from the UML. Members of the HS Domain Workgroup may provide input on new and revised content to the model. The HS Domain Workgroup members will conduct a review and approval process to the new content presented. Once changes and updates are implemented, they become part of the Domain data model. Updates will be in line with NIEM major and minor release schedules (schedules are subject to change by NIEM PMO).

3.2.3 Children, Youth, and Families Services Domain

3.2.3.1 Overview

The Children, Youth, and Families Services (CYFS) domain contains data elements useful in exchanges among child support enforcement, child welfare, juvenile justice, and courts. The CYFS domain was developed in conjunction with DOJ who has funded the National Center for State Courts to manage the domain. The NIEM PMO has decided to retire the CYFS domain and incorporate its model into the HS domain. The HS Domain will then manage the contents of the CYFS domain as part of Human Services.

3.2.3.2 Current status of the CYFS Domain

There is no governance or stewardship of the CYFS domain at this time. No new content is being developed or submitted.

3.2.3.3 CYFS Domain transition to the HS Domain

The NIEM PMO has determined the CYFS Domain will be merged into the Human Services Domain.

- The goal is to have CYFS transition completed for NIEM 4.0.
- CYFS content will be harmonized with HS and other domains.
- Judicial justice community will join HS Domain COI.

4. NIEM Exchange (IEPD)

4.1 What is an IEPD?

To use NIEM, you normally build an IEPD—or Information Exchange Package Documentation. An IEPD defines a recurring message in XML and is built to satisfy information exchange business requirements. A developer builds an IEPD by incorporating the necessary NIEM core and Domain model content. The developer may also extend that content as needed to account for information requirements that are not yet addressed in NIEM.

IEPDs are developed to provide the business, functional, and technical details of the information exchange through predefined artifacts. From a technical perspective, an IEPD is a set of XML schema documents that define instance XML documents which, in turn, will tag and carry the data and information to be exchanged. For example, when you want to exchange "person" data and its related attributes, you will leverage (essentially reuse from a NIEM release) XML schema components that define the "person" related tags and structures. From the business perspective, an IEPD provides documentation such as business scenarios and other aspects of the business requirements for the exchange, including a catalog of its content, a change log, a conformance assertion, etc. In addition, reusing existing IEPDs that meet or can be easily adapted for similar business requirements is encouraged, and can save time and money.

With a core set of artifacts in a prescribed format and organizational structure, this allows for consistency. IEPDs are designed to be shared and reused in the development of new information exchanges through publication in IEPD repositories.

4.2 The IEPD Lifecycle

The IEPD Lifecycle is the process for creating a NIEM compliant IEPD in six phases.



4.2.1 Scenario Planning

During the Scenario Planning Phase, you complete the initial tasks associated with defining an information exchange.

4.2.2 Analyze Requirements

During the Analyze Requirements Phase, you define the business rules and requirements for the information exchange.

4.2.3 Map and Model

During the Map and Model Phase, an Exchange Content Model is created which represents data objects for the information exchange. The data objects from the Exchange Content Model are then mapped to objects in NIEM.

4.2.4 Build and Validate

During the Build and Validate Phase, the XML schema documents that will define the exchange XML instances are created and validated for conformance.

4.2.5 Assemble and Document

During the Assemble and Document Phase, you prepare and package all related files for the IEPD into a single, self-contained, portable archive file (i.e. a ZIP file).

4.2.6 Publish and Implement

During the Publish and Implement Phase, you implement the information exchange and publish the IEPD to an online repository for reuse. After an IEPD is published, it is the responsibility of the owner of the IEPD to maintain and update it if revisions are made.

4.3 IEPD Artifacts

In order to be NIEM compliant, the IEPD must contain certain elements or artifacts as defined by the NIEM Technical Architecture Committee (NTAC). In addition, there are other elements that are optional. The table below summarizes the artifacts. (*) designates the elements that are optional.

IEPD Artifact	Description	File Type Examples
Exchange Files (normative XML)		
Subset schema	Subset of the full NIEM schema; a compressed directory of schemas (to distinguish from other schema sets)	xsd

IEPD Artifact	Description	File Type Examples
Wantlist*	User requirements (distinguishes user data components required by the user from components that they depend on for conformance); generated by and uploaded to the Schema Subset Generator Tool (SSGT); this is an open spec; the SSGT is not required to create a Wantlist (though it is easier).	xml
Exchange schema	Base document schema that defines the xml root element, generally named after the IEPD itself; AKA document schema, reference schema, root schema.	xsd
Constraint schema*	Constraints for separate constraint validation path; a compressed directory of schemas (to distinguish from other schema sets)	xsd
Extension schema	Specification for extended components; separate local namespace; components not contained in NIEM	xsd
Sample XML instance	Example instance; may be multiple; may reference optional style sheet	xml
Sample style sheet*	Example style sheet for display of instances; may be multiple	xsl
Documentation		
Master documentation:	May include purpose, business requirements, what, when, why, how to, etc.; need guidelines for Master Documentation content; the following indented items are possible documents that can be contained with the Master Documentation or broken out as individual files.	txt, doc
Business requirements (create template)	itemized descriptions; may also contain business rules (update definition to state the purpose of the data exchange, list of data elements with descriptions, and any transmission protocol rules)	txt, doc
MOUs*	Memorandums of Understanding among participating agencies	txt, doc
Endorsement letters*	documentation from professional or governmental organizations that confirm support; refer to <i>Endorsement</i> in metadata	txt, doc
Methodology and Tools	Used to build IEPD; may contain URLs or references to tools, methodology, documentation	txt, doc
Testing and conformance	Description and results of validation and conformance testing performed; may include testing output or products	txt, doc
Domain model *	Domain model in standard open format (xmi, vsd, zargo) and standard open graphic (jpg, pdf, etc.); likely a Unified Modeling Language (UML) model	vsd, xmi, zargo, jpg, pdf, etc.
Use case model *	Use case diagram for the IEPD in standard open format and standard graphic; likely UML	vsd, xmi, zargo, jpg, pdf, etc.

IEPD Artifact	Description	File Type Examples
Business rules*	May be: (1) plain or structured English, (2) written into master documentation, (3) Schematron or other formal business rule language, (4) generated by a development tool	xml, txt, doc
Mapping (to NIEM components)	Mapping of domain components to NIEM components; tagged with constraints (i.e. cardinality, etc.); prefer Component Mapping Tool	xls, csv
Extended components	Components created because they were not in NIEM; may be part of mapping spreadsheet; include structure and definitions of new components; prefer Component Mapping Tool (CMT)	xml, xls, csv
Human Service Domain Compliant	Template* All required documentation is included in the IEPD.	
PII/Confidentiality/Security content	Template* Follows the ACF Confidentiality Toolkit (Matrix)	
Data quality*	Requirements for the quality of data should be defined, Guidelines for Data quality (OCSE)	
Change log	Record of cumulative changes from previous IEPD versions; initial IEPD simply records its creation date	xml, txt, doc
Catalog Files		
Catalog	List of artifacts in the IEPD; machine readable; open, portable format; browser displayable	xml, xhtml
Metadata	All metadata registered with the IEPD	xml, xhtml

4.4 IEPD Maintenance

HS Domain recommends that the developers of the IEPDs are responsible for revisions, updates, maintenance, and Section 508 compliance¹ of the content of the IEPDs. The updated IEPDs need to be submitted to the HS Domain POC for publication to the [IEPD repository](#) on the ACF Interoperability website. The [NIEM website](#) provides technical resources and trainings to assist developers in their process of IEPD development. Upon request, technical support through HS Domain can be provided to the developers if needed.

5. Standards

5.1 NIEM Conformance vs. Compliance

The three types of conformance defined by NIEM are the following:

1. NIEM XML schemas conform to the NIEM Naming and Design Rules (NDR).
2. NIEM XML instances conform by correctly validating to NIEM-conforming XML schemas, with additional conformance rules specified by the NIEM NDR.

¹ For details on Section 508 Compliance, refer to section 5.4 of this document.

3. NIEM Information Exchange Package Documentation (IEPD) conforms to the NIEM IEPD Specification, which requires that their XML schemas and instances are NIEM conforming.

The NIEM PMO specifies that an IEPD conforms to NIEM under the following conditions:

1. Each XML schema within the IEPD adheres to all rules in the NIEM NDR for this schema's conformance target class (i.e., subset schema rules, extension schema rules, exchange schema rules, or constraint schema rules).
2. Each XML sample instance within the IEPD adheres to all rules in the NIEM NDR for XML instances.
3. The IEPD itself adheres to the NIEM IEPD Specification (including required files, packaging, metadata, etc.). This requires its schemas and sample instances conform to the NIEM NDR.
4. If an existing NIEM component matches the business semantics required by the IEPD, then that component is used by the IEPD, either directly or as the basis for derived components. That is, the IEPD does not unnecessarily duplicate NIEM components.
5. Each NIEM component that is used by the IEPD, either directly or as the basis for derived components, is used in a manner consistent with the component's structural definition and business semantics. That is, the IEPD preserves semantic and structural consistency.

There are subjective factors in applying these rules that require diligent consideration by the organization(s) developing the IEPD. The NIEM Conformance document states the following:

“NIEM does NOT define compliance because the term implies enforcement and the existence of an official certification process that verifies conformance or level of conformance. A formal certification process is envisioned, but does not yet exist. Therefore, compliance to NIEM is currently undefined and has no meaning” (NIEM Conformance, 2008).

For further guidance on NIEM conformance, please request a copy of the NIEM Conformance document by emailing the Human Services Domain POC at interoperability@acf.hhs.gov.

5.2 Human Services Domain Guidance

5.2.1 Data Elements Naming Conventions and Controlled Vocabulary

Human Services Domain developed a document called the [Data Element Naming Conventions and Controlled Vocabulary](#). The document details the process of creating standardized data element names and definitions for use in Human Services Domain and for inclusion in the OCSE Data Standards Registry (DSR). Standardizing data element names and definitions reduces ambiguity and provides context for reuse of data elements. The Data Element Naming Conventions and Controlled Vocabulary is a guide for subject matter experts (SMEs) during the naming process of new data elements for data exchanges.

5.2.2 Data Definition Guidelines

Human Services Domain developed a document called the [Data Definition Guidelines](#). The document establishes a set of guidelines for creating data definitions for data elements within the HS Domain. Good, or sound, data definitions enable:

- The seamless exchange of electronic data both within the HS Domain and with external agencies
- The integration of systems which use the same data elements
- A common understanding of data across the domain

Establishing these guidelines supports the HS Domain strategic plan for timely and accurate data exchanges. Data definitions define data elements in a non-technical way that is clear to both technical and business users. A good data definition indicates the purpose of the data element and when or where it is used. Well-defined data has a positive impact on organizations productivity, development costs and data quality.

5.2.3 Data Harmonization Procedures

The [Data Harmonization Procedures](#) is a document that details the process to standardize the attributes of data elements selected for use in HS Domain for inclusion in the OCSE Data Standards Registry (DSR). Standardizing data elements reduces ambiguity and provides consistency. Data harmonization is the first step in the process of developing data standards. The data harmonization process begins by taking an inventory of all current data assets within the Human Services community and prepares the data elements to be administered.

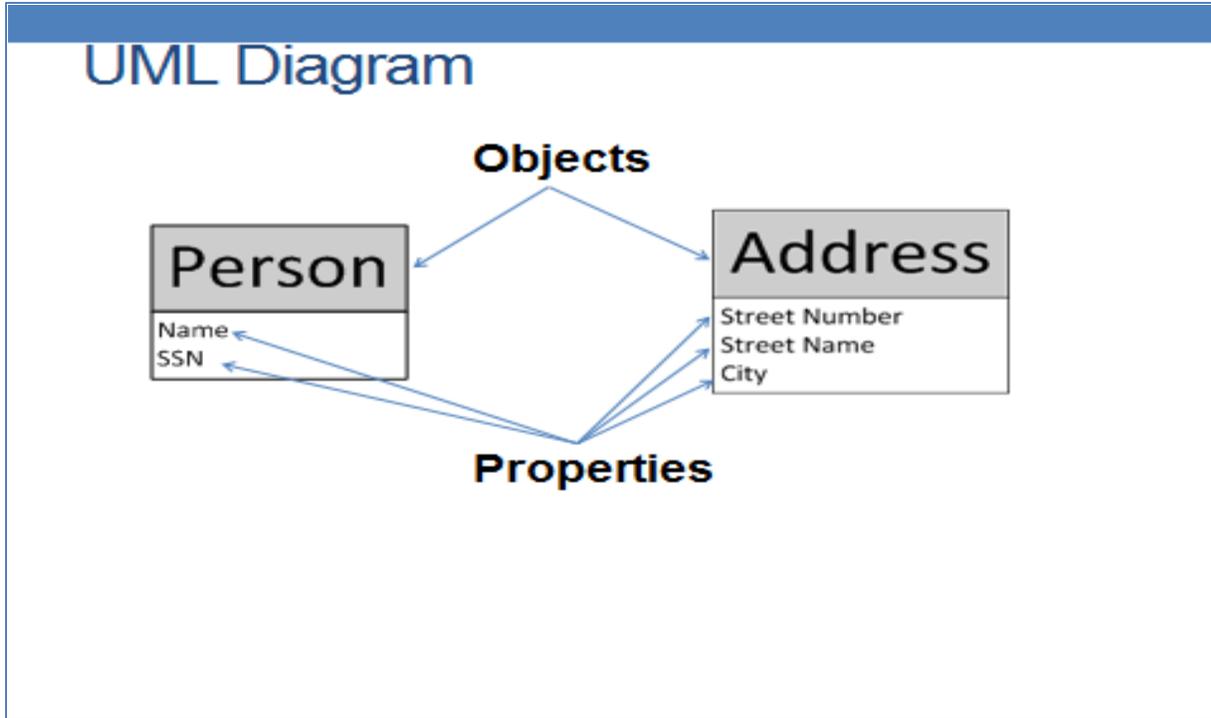
5.3 Unified Modeling Language (UML)

Unified Modeling Language (UML) is a general-purpose, developmental, modeling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system. In September 2013, the Object Management Group (OMG) Board of Directors officially finalized the Unified Modeling Language (UML) Profile for NIEM (or NIEM-UML) as an OMG specification. NIEM-UML is an extension of a subset of UML that is specific to NIEM. NIEM-UML, when implemented in a tool, generates 100% NIEM-conformant information exchanges and provides a visual representation of those exchanges that is understandable to both technical and business users. This enables organizations to align their information exchanges with their business requirements.

Benefits of using UML

- Easier for business users to visualize the data by providing a less technical interface for business users
- Easier to edit and maintain data objects and elements
- Development tools generate the XML directly from the UML
- Developers can choose from any open source tools such as CAM-tool, Freemind, Sparx, Microsoft Office Suite, etc.

Below is an example of a UML diagram. These objects are modeled as UML objects (Person and Address) and included the object attributes or properties (Name, SSN, Street Number, Street Name, and City).



5.4 Confidentiality

Confidentiality and privacy remains an important and ongoing topic in the Human Services Domain. There are laws and statutes in place to protect individuals and ensure the information being shared is released only when necessary.

The Administration for Children and Families (ACF) developed the [Confidentiality Toolkit](#) to help jurisdictions successfully navigate the delicate balance between privacy and security with the delivery of efficient and effective services. The Confidentiality Toolkit analyzes, explains and aids states and local jurisdictions in the navigation of a number of federal laws that impact the implementation of human services. Embedded throughout are sample documents from across the country from which jurisdictions using the Toolkit can borrow freely.

5.5 Section 508 Compliance

The Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), August 7, 1998, requires that when Federal agencies develop, procure, maintain, or use Electronic and Information Technology (EIT), they shall ensure it is accessible to people with disabilities. For Section 508 purposes, Web Accessibility is the important factor. The Web Accessibility Initiative (WAI) describes Web Accessibility as follows:

"Web accessibility means that people with disabilities can use the Web. More specifically, Web accessibility means that people with disabilities can perceive, understand, navigate, and interact with the Web, and that they can contribute to the Web." (WAI, 2005).

For standards, guidance, and tips on Section 508 compliance, please visit the following websites:

- [HHS Web Policies & Standards](#)
- [HHS Section 508](#)
- [Section 508](#)

6. Roles and Responsibilities

6.1 Interoperability Manager

- Provide oversight and management to all ACF Interoperability Initiative projects
- Review and approve the Interoperability Project Charter
- Review and approve all additions or modifications to the Interoperability Initiative website
- Provide oversight to the HS Domain project and assist in coordination with the NIEM Health Domain governance board
- Review and approve this HS Domain Project Charter and the Operations and Maintenance Plan
- Review and approve all process documents associated with the Interoperability Initiative and NIEM HS Domain
- Champion the HS Interoperability Initiative and HS Domain project and raise awareness at executive levels
- Serve as the ultimate authority responsible for the Interoperability Initiative project
- Review high level project plans and reports and offer recommendations for changes and improvements
- Participate in NIEM HS Domain Workgroup
- Make day-to-day project management decisions for the project based upon ACF priorities

6.2 HS Domain Steward

- Provide guidance and directions to the NIEM HS Domain Workgroup and associated tiger teams
- Ensure robust and effective development of the NIEM HS Domain governance structure to support NIEM
- Provide management and oversight to the NIEM HS Domain technical staff to meet the NIEM or domain requirements
- Provide prioritization on the HS technical issues to the HS technical staff
- Ensure that the NIEM HS Domain stewardship operates in accordance to the NIEM HS Domain charter
- Provide leadership to staff in planning and conducting meetings, drafting, and reviewing documents, etc.
- Assign tasks to committee and subcommittee members and establish deadlines and milestones for their completion
- Manage the activities of the NIEM HS Domain
- Promote the NIEM HS Domain at public events

- Prioritize the program goals and tasks as they relate to the NIEM HS Domain effort
- Report status and progress as necessary to the ACF Interoperability Manager

6.3 HS Domain Point of Contact (POC)

- Facilitate stakeholder participation in the development of the NIEM HS Domain
- Serve as the official liaison and representative for the NIEM HS Domain in all matters when dealing with the NIEM PMO leadership and executive sponsors
- Provide regular NIEM HS Domain updates to the Domain Steward, NIEM PMO, and other interested parties
- Work with the Interoperability Manager to ensure NIEM content on the Interoperability Initiative web page is up to date
- Manage content on the public and community pages at NIEM.gov, including access rights to the community page

6.4 Data Architect

- Provide the technical guidance, tools, and methodologies to implement the business requirement with the NIEM HS Domain
- Ensure all content in the NIEM HS Domain appropriately conforms to a NIEM-compliant architecture, Data Element Naming Conventions and Controlled Vocabulary, and best practices
- Advise the HS Domain Steward and NIEM PMO on the establishment of a functional, self-services domain that will facilitate broad-based use and implementation of NIEM
- Document all processes and guidance for the creation, review, and maintenance of NIEM HS Domain content

6.5 Federal, State, Local, and Tribal Representatives

- Participate in the NIEM Human Services Domain Workgroups, tiger teams, and ad hoc committees
- Participate in other project activities and tasks, as assigned

7. IEPD Development Tools

Human Services Domain uses the UML approach to help enforce a design discipline using a controlled vocabulary and standard schemas as well as document standards for business requirements, development, and testing. The following subsections list the IEPD development tools currently used in the HS Domain for development of NIEM conformant data exchanges. The IEPD development tools are not required but are strongly suggested by the Human Services Domain.

7.1 Sparx Systems Enterprise Architect with Schema Composer

Sparx Systems Enterprise Architect is a tool suite that allows the developers to model, design, simulate, prototype, build, test, manage, and trace data models. When using a tool such as Sparx for designing data models and schemas, it is best to begin with a glossary and a controlled vocabulary. Although NIEM provides a resource of predefined schemas, the names, definitions and semantics (meaning) of

the data change when put into a specific data exchange, starting with a standard such as NIEM and then using uncontrolled terms defeats the purpose of standardization and reaching common understanding of the data. HS Domain uses the project glossary as a resource to ensure consistency in the use of business terms. Utilities within UML that impose naming rules and the use of a controlled vocabulary would be helpful to ensure ongoing consistency in the semantics of data.

7.2 Microsoft Excel

Developers can choose to use an open source Excel import and export to / from Sparx utility. With Excel, developers can import classes, attributes, and a glossary and export classes and attributes for review.

7.3 CAM-TOOL

Content Assembly Mechanism (CAM) is an editor building and deploying information exchanges and Open Data APIs using XML or JSON with SQL. The CAM toolkit provides an intuitive approach using a WYSIWYG visual structure editor to dramatically simplify the process of developing and managing XML business information exchanges and schema. This gives developers control, insights and analysis that are needed for consistent, interoperable and reliable exchanges. Please use a search engine to research and utilize an open-source CAM-TOOL.

7.4 FreeMind

FreeMind is a free mind mapping application written in Java. It provides extensive export capabilities and runs on Microsoft Windows, Linux, and Mac OS X. FreeMind allows the user to edit a hierarchical set of ideas around a central concept. The non-linear approach assists in brainstorming new outlines and projects as ideas are added around the mind map. Please use a search engine to research and utilize an open-source Freemind application.

Appendix A: Glossary of Terms

Acronyms	Description
ACF	Administration for Children and Families (Department of Health and Human Services)
APHSA	American Public Human Services Association
CAM	Content Assembly Mechanism
CB	Children’s Bureau (Administration for Children and Families)
CCIIO	Center for Consumer Information and Insurance Oversight
CMS	Center for Medicaid and Medicare Services (Department of Health and Human Services)
COI	Communities of Interest
CYFS	Children Youth and Family Services
DHS	U.S. Department of Homeland Security
DOJ	U.S. Department of Justice
DSR	Data Standards Registry
EIT	Electronic and Information Technology
FNS	Food and Nutrition Service (Department of Agriculture)
HHS	Department of Health and Human Services
HS	Human Services
IEPD	Information Exchange Package Documentation
NHSIA	National Human Services Interoperability Architecture
NIEM	National Information Exchange Model
NDR	Naming and Design Rules
O&C	Outreach and Communications
OCIO	Office of the Chief Information Officer
OCSE	Office of Child Support Enforcement (Administration for Children and Families)
OMB	Office of Management and Budget
OMG	Object Management Group
P.L.	Public Law
PMO	Project Management Office
POC	Point of Contact
SME	Subject Matter Expert
SNAP	Supplemental Nutrition Assistance Program (Department of Agriculture)
TANF	Temporary Assistance to Needy Families
UML	Unified Modeling Language
WAI	Web Accessibility Initiative
XML	Extensible Markup Language

References

ACF Interoperability website - <https://www.acf.hhs.gov/about/interoperability>

ACF Confidentiality Toolkit -

https://www.acf.hhs.gov/sites/default/files/assets/acf_confidentiality_toolkit_final_08_12_2014.pdf

ACF Interoperability Toolkit -

http://www.acf.hhs.gov/sites/default/files/assets/acf_toolkit_july_2012_final.pdf

HHS Web Policies and Standards - <https://www.hhs.gov/web/policies-and-standards/index.html>

HHS Section 508 - <https://www.hhs.gov/web/section-508/index.html>

Human Services Domain Data Element Naming Conventions and Controlled Vocabulary -

https://www.acf.hhs.gov/sites/default/files/assets/naming_conventions.pdf

Human Services Domain Data Definition Guidelines -

https://www.acf.hhs.gov/sites/default/files/assets/data_definition_guidelines.pdf

Human Services Domain Data Harmonization Procedures -

https://www.acf.hhs.gov/sites/default/files/assets/data_harmonization_procedures.pdf

National Human Services Interoperability Architecture (NHSIA) - <http://www.acf.hhs.gov/nhsia-definition>

NIEM website – <https://www.niem.gov/>

NIEM Conformance – contact Human Services Domain POC for guidelines.

NIEM Human Services Domain Information Exchange Domain Documentation (IEPD) Repository-

<https://www.acf.hhs.gov/niem-human-service-domain-iepds>

Section 508 - <https://www.section508.gov/>