NATIONAL INFORMATION EXCHANGE MODEL (NIEM)

Road to NIEM Adoption | V1.0

⟨NIEM⟩

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1   Introduction

The NIEM Engagement Process (NEP) was developed as a method for organizations interested in or currently has incorporated NIEM in their information sharing and exchange activities. The NEP provides the participants with the opportunity to understand the necessary capabilities and needs for successful NIEM adoption. The tools created for the NEP are designed to support conducting a self-evaluation assessment that calculates NIEM readiness. Once an organization has performed the assessment, the NEP provides a proposed approach for NIEM adoption which is described in this document. This Road to NIEM Adoption is intended to help organizations prepare, adopt, and continuously engage their community with NIEM and the NIEM processes outside of their organization.

1.1   Background

NIEM makes it possible for (government) organizations to share critical data; and as a result, people are empowered to make informed decisions that improve efficiency and advance and fulfill organizational missions. NIEM allows for the agile creation of commonly understood methods of data exchange in the rapidly changing world of IT.

As interest in NIEM continues to grow, a structured framework is needed to help organizations assess the value of applying NIEM to their information sharing and exchange activities and develop a NIEM adoption strategy based on their specific capabilities, needs, and priorities. To address this need, the NIEM PMO developed the NEP.

The NEP provides an approach for organizations to explore the use of NIEM for their information sharing and exchange activities. The process is intended to help an organization evaluate the potential costs of NIEM and develop a tailored NIEM adoption strategy. The flexibility of the process enables it to be applied to a wide range of organizations with varying capabilities, needs, and technical environments.

2   Road to NIEM Adoption

The final step in the NEP is to develop a tactical plan for NIEM adoption. The results gathered when following the NIEM Interview Framework, NIEM Readiness Assessment, and NIEM Cost Model provide organizations with the necessary information for designing an action plan for future implementation of NIEM processes.

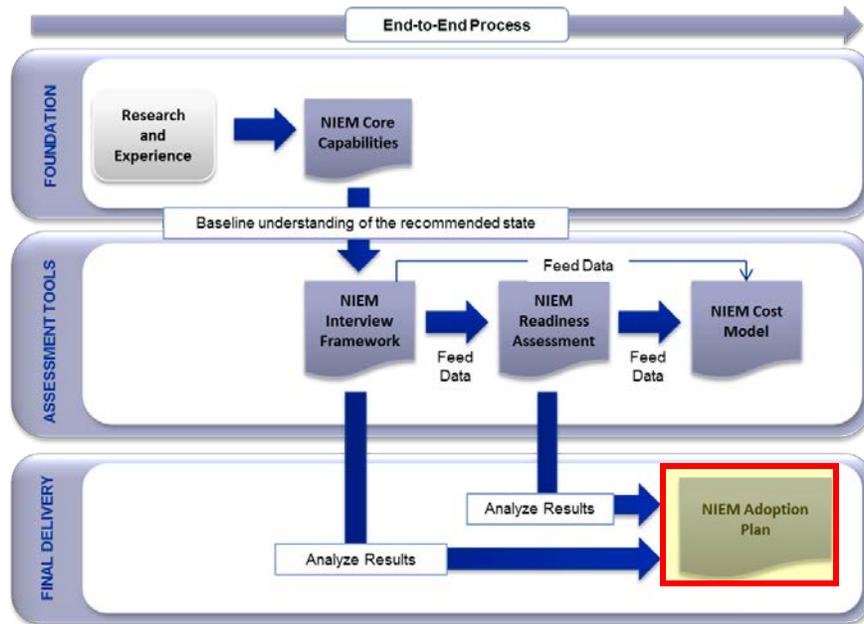The graphic below shows the entire NEP method and

Figure 2.1 – NEP Method and Tools

2.1 Proposed NIEM Adoption Plan

The figure below indicates steps that outline an adoption plan upon completion of the NEP. These steps have been designed as a high level plan for exchange activities who have scored in the "**Ready**" category after completing the **NIEM Readiness Assessment.** Those exchange activities of high priority or scoring just under the "**Ready**" (below 90%), are deemed capable with minimal growth needed against the NIEM core capability indicator ratings. The action plan phases are detailed in the following sections.
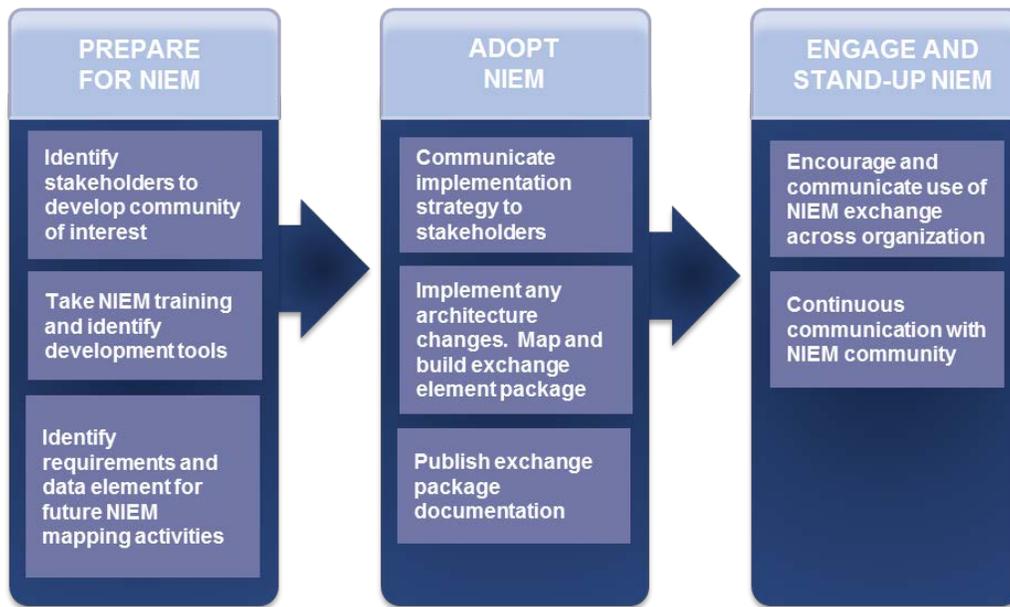
Figure 2.2: High-level NIEM Adoption Plan

Although it is recommended for organizations to consider the exchange activities that scored in the **"Ready"** category, it is encouraged that organizations attempt to further develop the areas scored as **"Capable"** to reach a more established level in accordance with the NIEM Core Capabilities and Indicators.

2.2   Prepare for NIEM

In preparing to adopt NIEM for a desired exchange activity, the suggested adoption plan includes relevant community stakeholder identification, targeted NIEM training based on assigned tasks to execute, and NIEM requirements with mapping of desired elements.

Phase	Description
Develop Community of Interest	Identify information sharing and exchange activity stakeholders to develop and understanding of NIEM use and agree on exchange process enhancements.
NIEM Training and Tools	Participate in available training (e.g., web-based, classroom) that is role based for each attendee. See Appendix A.
NIEM Requirements	Define requirements needed for developing a common exchange for all stakeholders involved in the exchange process.

2.3   Adopt NIEM

This phase describes the communication and execution of NIEM implementation strategy and exchange modeling for an information exchange activity.

Phase	Description
Communication of implementation strategy to relevant stakeholders	Communicate to stakeholders NIEM implementation strategy that includes design and execution of a common and reusable information exchange format.
Map and model information exchange	Identify elements required to develop information exchange package documentation. All elements will be mapped to specific data components for information exchange execution.
Publish information exchange package	Publish information exchange package in a NIEM repository (e.g., IEPD Clearinghouse) for other stakeholders to search and discover for reuse.

2.4   Engage and Stand-Up NIEM

This phase requires for all resources to assist in solidifying the exchange process and rolling out the baselined procedures for the NIEM conformant exchange. After successfully communicating specification changes and implementing a NIEM exchange, an organization should encourage the reuse of the exchange process and begin to expand beyond initial exchange partners.

Phase	Description
Encourage NIEM reuse for stakeholder groups	Develop an understanding/agreement (e.g., Memorandum of Understanding) with current and/or potential exchange partners that define usage agreements, sharing agreements and or minimum security requirements to assist with attaining common exchange format reuse.
Continuous communication with NIEM community	Engage with NIEM community and continuously communicate NIEM process execution to leverage lessons learned and implementation best practices.

Appendix A – NIEM Training Courses

The table below illustrates a list of NIEM training courses along with a description of the course and intended audience.

COURSE TRACK ASSIGNMENT	EXECUTIVE MANAGERS	PROJECT MANAGERS	ARCHITECTS	IMPLEMENTERS
Depending on the specific role of a course participant within an organization, individual classes may be added or removed to the curriculum track based on their specific needs. ● REQUIRED courses for target audience ● OPTIONAL course based on role	Executives, Program Managers, System Business Owners — The goal is to educate executives, program managers and system business owners on the emergence and importance of NIEM as an information sharing best practice in order to increase discovery, reusability and adoption.	Project Managers, Program Managers — The goal is to educate project and program managers on the best practices for successful implementation of NIEM to make certain that their projects are conformant to NIEM standards, while promoting the adoption of NIEM throughout their organization.	Business and Technical Architects — The goal is to educate architects on the technical foundation of NIEM in order to design and develop NIEM-conformant information exchanges within their organization.	Information Exchange Designers & Implementers — The goal is to educate information exchange designers and implementers on the technical concepts specific to NIEM and the steps necessary for the creation, discovery and reuse of NIEM-conformant information exchanges.
NIEM 100 Introduction to NIEM (2 hours*)	●	●		
NIEM 101 Technical Introduction to NIEM (2 hours*)			●	●
NIEM 200 NIEM Lifecycle for Program and Project Managers (4 hours*)		●	● (optional)	
NIEM 300 IEPD Discovery and Development (3 hours*)		● (optional)	●	●
NIEM 301 NIEM Advanced Technical Concepts (8 hours*)				●
NIEM 302 Construct and Validate an IEPD (4 hours*)				●
NIEM 303 Publish and Implement an IEPD (3 hours*)		●	●	●

Figure A.1: NIEM Training Courses

Appendix B – Communications Framework

Communications Channels for Outreach

The following table lists the communication channels that are available:

Communications Channel	Description	Communication Use
Email	Directory of agencies currently in communication via email.	Targeted distribution to select recipients
Organization Website	The organization website serves as the information center for all information exchange initiatives.	Broad, public distribution
Live Meetings	Live presentations to discuss updates and enhances for information exchange activities.	In-person high contact communication
NIEM Website	The NIEM.gov website serves as the primary communications mechanism for the NIEM PMO to store and share NIEM knowledge and connects those interested in using NIEM.	Broad, public distribution
NIEM Social Media Outlets	Outputs for NIEM processes and engagements to increase community awareness.	Broad, public distribution

Table B.1: Communications Channels