

IMPLEMENTATION GUIDE

NATIONAL INFORMATION EXCHANGE MODEL | NIEM.gov

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Introduction

The National Information Exchange Model (NIEM) is the result of a collaborative effort to produce a set of common, well-defined data elements used for data exchange development and harmonization.

[NIEM is a reference model](#). It is not a rigid standard that must be used exactly as it is in its entirety. NIEM was designed as a core set of building blocks that are used as a consistent baseline for creating exchange documents and transactions across government. While an XML schema rendering of the entire model exists, it is not a requirement for conformance that this entire schema be used for validation. Nonetheless, there are several informal conformance requirements.

The goal of NIEM conformance is for the sender and receiver of information to share a common, unambiguous understanding of the meaning of that information. Conformance to NIEM ensures that a basic core set of information (the NIEM components) is well understood and carries the same consistent meaning across various communities. The result enables a level of interoperability to occur that would be unachievable with the proliferation of custom schemas and dictionaries.

These conformance rules serve as guidelines for any agency utilizing NIEM to implement their information sharing exchanges. Grantees that are developing inter-agency XML-based exchanges must comply with the special condition language contained in the grant, and follow the associated NIEM implementation guidelines outlined below.

For more information about the Global Justice XML Data Model (GJXDM), its relationship to NIEM, and additional applicable implementation guidelines, please visit [GJXDM Archive](#).

Conformance Rules

The rules for NIEM conformance are as follows:

1. Instances must validate against the set of [NIEM reference schemas](#), or within the [Subset Schema Generation Tool](#) (SSGT), available in the [tools catalog](#). Schemas conformant to NIEM must import and reference the NIEM schema namespaces (i.e. Core, Justice, International Trade, Maritime, etc.).
2. If the appropriate component (i.e. XML type, element, attribute, etc.) required for an [Information Exchange Package Documentation](#) (IEPD) exists in the NIEM data reference, use that component. Do not create a duplicate component of one that already exists.
3. Be semantically consistent. Use NIEM components in accordance with their definitions. Do not use a NIEM element to encapsulate data other than what its definition describes.

Commented [DC1]: Links to "Current Release" page.

Commented [DC2]: Links to "SSGT" in the "Tools Catalog."

Commented [DC3]: Links to "Tools Catalog."

Commented [DC4]: Links to "Exchange Development Resources" under "IEPD Lifecycle."

4. Follow the [IEPD Lifecycle](#) and define all required artifacts as required by the [Model Package Description \(MPD\) Specification](#).
5. Adhere to the [NIEM Naming and Design Rules \(NDR\)](#) to ensure correct, consistent schema development.

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Assistance in Developing NIEM-Conformant Schemas

Guidance on the proper development of conformant exchange schemas is provided in part by the NIEM MPD Specification and NIEM NDR.

In addition to document support, tools are also provided to help simplify conformance when developing exchanges. SSGT along with others, is built to ensure conformant subsets and development without requiring implementers to have detailed knowledge of the formal NDR. The NIEM IEPD Lifecycle and other best practice models for developing exchanges take full advantage of these tools to help ensure consistent design and development.

Additional Remarks about Conformance

Information Exchange Packages (IEPs) and IEPDs that define them conform to NIEM; systems do not. The way data is labeled or used in one system does not impact NIEM conformance. Conformance depends upon how data is packaged as XML for an information exchange to be shared between two or more systems.

Use of some components of the NIEM to exchange information with other agencies does not guarantee conformance to NIEM. Users should be careful to avoid violating conformance Rule 2, listed above. An information exchange either conforms to NIEM or it does not.

Grant Recipient IEPD Registration Requirements

To support government-wide information sharing, all recipients of grants for projects implementing information exchange capabilities using XML technology are required to use NIEM in accordance with these Implementation Guidelines. Grantees are further required to assemble, register, and make available without restriction all IEPDs and related artifacts generated as a result of the grant to the component registry. Assembly of NIEM IEPDs within NIEM-provided tools is optional. However, NIEM IEPDs must be assembled in accordance with and adhere to the conformance rules specified above.



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