 

Position

IEPD V3.2

Master Document

For

National Information Exchange Model – Maritime (NIEM-M) Domain

NIEM V2.1

18 December 2012

## Record of Changes

| **Date** | **Description** | **Author** |
| --- | --- | --- |
| 15 March 2011 | V 0.1 release | Ross Kim |
| 24 May 2011 | V1.0\_1 – Draft of Track elements and attributes | Daniel Ruiz |
| 25 May 2011 | V1.0\_2 – Internal review changes, corrected content to Track | Daniel Ruiz |
| 31 May 2011 | V1.0\_3 – External review changes, added record of changes and cover page | Daniel Ruiz |
| 30 September 2011 | V2.0 release | Daniel Ruiz |
| 24 February 2012 | V3.0 release | Priscilla Walmsley |
| 26 August 2012 | V3.1 release | Priscilla Walmsley |
| 18 December 2012 | V3.2 release | Priscilla Walmsley |

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# Introduction

The DOD Executive Agent for Maritime Domain Awareness is championing an effort to develop a common, community-defined exchange specification for the sharing of vessel position information and associated access control policy. The vessel position schema is:

* Intended to capture salient information elements that inform analytical and decision-making processes.
* A proposed model for vessel position exchanges within the Maritime Community.
* Based on the National Information Exchange Model-Maritime (NIEM-M).

# About NIEM-M

The National Information Exchange Model (NIEM) provides the basic definitions for the components used in this exchange. Specifically, this IEPD draws from:

* NIEM Core for data components for describing universal objects such as people, locations, activities, and organizations
* The NIEM Maritime Domain for maritime-specific data elements such as more detailed vessel and cargo information.

The NIEM Maritime (NIEM-M) XML vocabulary is a combination of objects that come from NIEM Core, the Maritime domain, and additions via the EIEM and IEPD, described in the next sections.

## Enterprise Information Exchange Model

An Enterprise Information Exchange Model (EIEM) is a NIEM-conformant set of XML schemas and other artifacts. The NIEM Maritime EIEM defines core entities (called Business Information Exchange Components or BIECs) that serve as building blocks that are reused in many maritime exchanges.

The high-level entities defined by the Maritime EIEM are:

* Vessels
* Activities
* Crew and Non-Crew
* CDC Cargo
* Arrivals, Departures and Port Visits
* Interests
* Geospatial Locations
* Positions
* Notices of Arrival
* Voyages
* Metadata

Using an EIEM increases the commonalities among exchanges, which has a number of benefits:

* It makes it easier to develop processes that work across multiple record types, for example to search for vessels, or to represent geospatial positions to an end user.
* It reduces complexity in terms of number of overall elements that need to be supported.
* It decreases the time and cost of maintaining the model because it is simpler and has less overlap.

## Information Exchange Package Documentation

Each IEPD in the NIEM-M family defines a particular XML message, which is the basic unit of shared information. As new requirements are defined, new IEPDs can be created that build on the same EIEM core entities. The architecture is flexible enough to allow an IEPD to extend or restrict the EIEM components.

For example, this Position IEPD defines a Vessel Position message. It uses the definition of Vessel and Position from the EIEM; these are the elements in the exchange prefixed with "mda:". It contains a restricted subset of the EIEM schema that contains only the high-level objects pertinent to Position messages.

In addition, the Position IEPD defines the root element for the exchange, prefixed with "posex:".

# Namespaces

The namespaces listed in the table below are used in the IAN IEPD schemas and instances.

|  |  |  |
| --- | --- | --- |
| **Prefix** | **Namespace Name** | **Origin** |
| nc | http://niem.gov/niem/niem-core/2.0 | NIEM Core |
| m | http://niem.gov/niem/domains/maritime/2.1 | ‌NIEM Maritime Domain |
| mda | http://niem.gov/niem/domains/maritime/2.1/mda/3.2 | NIEM-M EIEM |
| mda-codes | http://niem.gov/niem/domains/maritime/2.1/mda-codes/3.2 | NIEM-M EIEM Code Lists |
| posex | http://niem.gov/niem/domains/maritime/2.1/position/exchange/3.2 | Position Exchange Schema |
| gml | http://www.opengis.net/gml/3.2 | Geography Markup Language (GML) |
| icism | urn:us:gov:ic:ism:v2 | IC-ISM |

# Structure of the Position IEPD

This IEPD is a set of NIEM 2.1-conformant exchange artifacts. It is conformant to the NIEM MPD (Model Package Description) Specification, version 1.1, and uses the file structure recommended by that document. Specifically, the file structure is as follows:

* *mpd-catalog.xml* is a machine-readable list of files included in the IEPD, conformant to the MPD specification.
* *mpd-catalog.xsl* provides a human-readable rendering of the mpd-catalog.xml document.
* *changelog.pdf* lists changes in the IEPD since version 2.0.
* *master-document.pdf* is this document.
* *documentation*
  + *Component Mapping.xslx* is a mapping from the logical models defined in the business case document to the physical XML structure.
* *XMLSamples*
  + *SamplePosition.xml* contains an example XML document that would be considered complete for the exchange.
* *XMLSchemas*
  + *exchange/3.2*
    - *position-exchange.xsd* is the exchange schema that defines the root element.
  + *extension*
    - *external/ISMV6*
      * This folder contains the IC-ISM V. 6 schemas, which are treated as NIEM external schemas.
    - *mda/3.2*
      * *mda.xsd* is the EIEM schema, subsetted appropriately for the Position IEPD.
    - *mda-codes/3.2*
      * *mda-codes.xsd* is the EIEM codelist schema, subsetted appropriately for the Position IEPD.
  + *subset*
    - *wantlist.xml* is the list of components reused from NIEM.
    - *niem*
      * This folder contains the NIEM subset used in the Position exchange.

# Points of Contact

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