# Submission-related material

## Submission Introduction

The NIEM-UML-3 submission team is pleased to present a revised submission to the “UML Profile for NIEM 3” Request for Proposal gov/14-03-01.

The IPR mode for this submission is Non-Assert.

Clause 0 of this document contains information specific to the OMG submission process and is not part of the proposed specification. The proposed specification starts with Clause 1. All clauses are normative unless otherwise specified.

## Submission Team

### Submitters

* Model Driven Solutions, cory-c@modeldriven.com
* Office of the Program Manager for Information Sharing Environment (PM-ISE) [www.ise.gov](http://www.ise.gov)

### Government Stakeholders

* NIEM Program Management Office (PMO), and the NIEM Technical Architecture Committee (NTAC)
* Office of the Secretary of Defense

### Contributors

* Adaptive
* Escape Velocity
* Everware-CBDI
* Georgia Tech Research Institute (GTRI)
* Hidden Symmetry Ltd
* SEARCH
* TethersEnd Consulting

## Resolution of Requirements

### Mandatory requirements

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| 6.5.1.1 Proposals shall specify a PIM profile constrained to limit the set of representable constructs to those allowed by the NIEM specifications. | The PIM profile is a modified version of the NIEM 1 PIM profile, altered to account for NIEM 3 changes. |
| 6.5.1.2 Proposals shall specify a MPD profile to specify the MPD metadata, content and technology choices required to parameterize the QVT transformations. | The MPD profile is a modified version of the NIEM 1 MPD profile, altered to account for NIEM 3 changes. |
| 6.5.1.3 Proposals shall specify a PSM profile providing stereotypes that enable NIEM technical modelers – or NIEM schema modelers – to model the technical aspect, i.e. XML schema specifics, of an MPD. | The PSM profile is a modified version of the NIEM 1 PSM profile, altered to account for NIEM 3 changes. |
| 6.5.1.4 Proposals shall specify QVT transformations from UML models using the PIM, MPD and PSM profiles to the set of artifacts required in a conformant MPD. | The QVT transformations are a modified versions of the NIEM 1 QVT transformations, altered to account for NIEM 3 changes. |
| 6.5.1.5 Proposals shall utilize the PIM, MPD and PSM profiles to model at least one existing NIEM IEPD and demonstrate the resulting transformation to a NIEM-conformant IEPD. | The enclosed PET example demonstrates a valid NIEM-UML IEPD. The resulting transform capability has not yet been implemented thus the resulting transform is not included. |
| 6.5.2.1 Proposals shall include UML models of the NIEM Version 3 reference schema namespaces [NIEM-RN] (or vocabularies) using the PIM; each UML model shall contain a package representing a NIEM namespace. | NIEM-UML representations of all NIEM reference models are included and made a normative part of this OMG specification. |
| 6.5.3.1 Proposals shall, wherever practical, reuse elements from the UML Profile for NIEM Version 1.0 PIM profile and provide for forward compatibility of models developed based on the profile. | The version 1.0 profile has been reused to the maximum extent possible with only minor changes to the PIM as required by the NIEM-3 NDR. Areas of difference are primarily in augmentations with added capabilities such as vocabularies. The MPD profile is substantialy different due to the revised MPD conformance specifications. |
| 6.5.3.2 Proposals shall discuss the relationship between the UML Profile for NIEM, Version 1.0 (aligned to NIEM 2.1) and the UML Profile for NIEM Version 3 and the conversion process users would be expected to follow. | At the PIM level the profiles are largely compatible but the refence models are different and not compatible. The UML IDs of cooresponding reference model elements are not the same. The conversion process is tool implementtinon specific and not defined by this specification. |
| 6.5.3.3 Requirements outlined in sections 6.5.1 through 6.5.3 shall conform to normative NIEM specifications referenced in section 6.4. | The specification is extensively cross-referenced to the normative final NIEM 3 specifications. |

### Non-mandatory features

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| 6.6.1 Proposals may include a provisioning profile and mapping to other exchange formats such as RDF Schema (http://www.w3.org/standards/techs/rdf#w3c\_all). | No additional mappings are specified. |
| 6.6.2 Proposals may specify a “reverse engineering” OMG-QVT mapping from a NIEM-conformant MPD to UML models that conform to the NIEM-UML profiles. | QVT transforms for reverse engineering are included and were utilized to produce the UML reference models. |
| 6.6.3 Proposals may specify a transformation from the UML Profile for NIEM, Version 1.0 (aligned to NIEM 2.1) and the UML Profile for NIEM Version 3 conformant models. | Transforming a model from NIEM 2.1 to 3.0 is not included in this specification. Tool implementations and/or open source resources may provide this capability but the algorithum is not specified. |
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## Resolution of Discussion Issues

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| 6.7.1 Proposals shall discuss the relationship of NIEM-UML with other on-going and related NIEM standards, the existing NIEM specifications and the NIEM process. |

The NIEM-UML process followed the development of NIEM-3 and has made adjustements as needed to match the resulting NIEM-3 specifications. This specification is compliant with the NIEM specifications as published on NIEM.gov as of January 31, 2015.

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| 6.7.2 Proposals shall discuss the relationship of NIEM-UML with other on-going exchange standards efforts, including but not limited to the Structured Threat Information Expression (STIX) and EDXL. |

As part of the OMG operational threat and risk RFP response the NIEM-3 reference models are being mapped via an intermediare conceptual model to STIX and EDXL. This process has no direct impact on NIEM-UML but utilizes NIEM-UML models.

Dicussions have progressed within the OMG and with other national bodies, including Japan and the UE, on utilizing or mapping to NIEM outside of the U.S.. Additional preliminary discussion is ongoing with reference to a “Federated International Information Sharing Model” (FIISM) which has suggested a unifying model that abstracts above national concerns, technology frameworks and natural langues using a conceptual model. NIEM would be a primary contributor to such a model which would be at a higher level of abstraction than NIEM-UML.

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| 6.7.3 Proposals shall discuss their relationship with other relevant standards including but not limited to the Unified Profile for DoDAF/MODAF (UPDM) 2.1. |

After discussions with the UPDM team, changes have been proposed in UPDM such that NIEM-UML models will be compatible with the next revision of UPDM. No changes are required in NIEM-UML.