

SBVR and MOF XMI

This note summarizes the critical points in Clause 13 of the SBVR 1.0 specification about SBVR's use of UML notation and MOF XMI, and what constitutes an SBVR Interchange file.

Since these are different from the way UML handles these things, it is easy to misinterpret SBVR unless these points are clearly understood and consistently taken into account when interpreting the SBVR specification.

If there are any questions about this, please ask them so that we can share a common understanding of how to correctly relate SBVR to IMM.

Summary

The diagrams in UML notation in SBVR Clauses 7-12 are notations of **SBVR semantics** and *not* UML semantics - they are defined in SBVR to be like a UML profile¹.

SBVR Interchange Files are *not* MOF XMI files. The Interchange File for an SBVR Vocabulary and/or Rules is a "MOF-based SBVR Model" XML file² that uses the "SBVR Metamodel XML Schema" file³ as its XML Schema file.

The transform from SBVR to UML would be from a domain-specific (e.g. EU Rent) "MOF-based SBVR Model" XML file² with SBVR semantics to a standard UML XMI file with UML semantics.

The "SBVR Metamodel XML Schema" files³ are XML Schema (XSD) versions of the "SBVR Metamodel" XMI files⁵.

Correct use of the "SBVR Metamodel" files⁵ in SBVR Clause 15.1 with any UML tool requires a UML Profile to be created to the specification in SBVR Clause 13.2.

Generation of SBVR Files

The rules by which the "MOF-based SBVR Model of SBVR" XML files⁴ are generated from the SBVR Structured English in SBVR Clauses 7-12 are specified in SBVR Clause 13.6 "XMI for the SBVR Model of SBVR".

These same rules can generate the "MOF-based SBVR Model of EU Rent" XML (not XMI) file that the IMM submission team is looking for.

Neither the "MOF-based SBVR Model of SBVR" files nor the "MOF-based SBVR Model of EU Rent" file are yet available as Unisys has not, and now will not, write the code to generate them. I am working on a resolution to this.

The "SBVR Metamodel XML Schema" files³ are generated from the "SBVR Metamodel" XMI files⁵ based on the XMI 2.1 specification⁶.

The code to generate the SBVR.XSD files went to Microsoft with Don Baisley. I am working with OMG management to arrange its availability.

The "SBVR Metamodel" XMI files⁵ are generated from the Terms for Noun Concepts and the Fact Type Forms for Verb Concepts in Clauses 7, 8, 9, 11 & 12 ONLY. No other information from SBVR Clauses 7-12 goes into the "SBVR Metamodel" XMI file.

The code to generate the SBVR.XMI files went to Microsoft with Don Baisley. I am working with OMG management to arrange its availability.

How MOF XMI is used in SBVR

1 A notation for SBVR Semantics

MOF XMI is used as a *notation* for **SBVR semantics** as defined in SBVR Clauses 7-12 and *not* a notation for UML⁷.

¹ SBVR Clause 13.1 paragraph 2; Clause 13.2

² SBVR Clause 13 paragraph 3; Clause 13.1.2 MOF-based SBVR Models; Clause 13.4 Example MOF-based SBVR Model; contents of files referenced in Clause 15.3

³ SBVR Clause 15.2 – references to SBVR.XSD, etc. files

⁴ SBVR Clause 15.3

⁵ SBVR Clause 13.1.1 Metamodels; Clause 15.1 SBVR Metamodel

⁶ SBVR Clause 15.2

For example: in the UML profile for SBVR, the MOF XMI element “class” represents SBVR’s “concept”⁸ and not UML’s “class”. “Concept” in SBVR and the UML metamodel element “class” and are **not** semantic equivalents. There are differences between them that require a transform. For example: intension - the set of characteristics incorporated by a concept – is part of SBVR’s concept of ‘concept’. UML “class” does not include intension as part of its meaning as a metamodel element.

2 MOF XMI is used as a metamodel file only for SBVR itself.

MOF XMI is not used for SBVR vocabularies and/or rules other than those in SBVR Clauses 7-12; e.g. it is not used for EU Rent.

It is not used as an SBVR Interchange File - it contains only the headings in an SBVR Vocabulary and/or rules. The “MOF-based SBVR Model” XML file² serves as the SBVR Interchange File.

3 MOF XMI is extended in anticipation of S-MOF

MOF XMI in SBVR is extended in anticipation of S-MOF to provide two capabilities critical to SBVR⁹:

- Multiclassification: allowing a thing to be an instance of more than one concept
- “Open World” assumption: the assumption that representation of facts in a model does not imply that those are the only facts of a particular type - there are no implications to be taken from what is not represented in a model.

⁷ SBVR Clause 13 first paragraph; Clause 13.3

⁸ SBVR Clause 13.2.2

⁹ SBVR Clauses 13.3.1 and 13.3.2