## General

This specification defines the vocabulary and rules (see Clauses 7 through 21) for documenting the semantics of business vocabularies and business rules for the exchange of business vocabularies and business rules among organizations and between software tools.

This specification is interpretable in predicate logic with a small extension using modal operators. It supports linguistic analysis of text for business vocabularies and business rules, with the linguistic analysis itself being outside the scope of this specification.

## Applicability

The SBVR specification is applicable to the domain of business vocabularies and business rules of all kinds of business activities in all kinds of organizations. It provides an unambiguous, meaning-centric, multilingual, and semantically rich capability for defining meanings of the language used by people in an industry, profession, discipline, field of study, or organization.

This specification is conceptualized optimally for business people rather than automated processing. It is designed to be used for business purposes, independent of information systems designs to serve these business purposes:

* + - Unambiguous definition of the meaning of business concepts and business rules, consistently across all the terms, names and other representations used to express them, and across the natural languages in which those representations are expressed, so that they are not easily misunderstood either by “ordinary business people” or by lawyers.
    - Expression of the meanings of concepts and business rules in the wordings used by business people, who may belong to different communities, so that each expression wording is uniquely associated with one meaning in a given context.
    - Transformation of the meanings of concepts and business rules as expressed by humans into forms that are suitable to be processed by tools, and vice versa.
    - Interpretation of the meanings of concepts and business rules in order to discover inconsistencies and gaps within an SBVR Content Model (see 2.4) using logic-based techniques.
    - Application of the meanings of concepts and business rules to real-world business situations in order to enable reproducible decisions and to identify conformant and non-conformant business behavior.
    - Exchange of the meanings of concepts and business rules between humans and tools as well as between tools without losing information about the essence of those meanings.

## SBVR Specification Files

This specification provides that SBVR Terminological dictionary and Rulebook content is exchanged among organizations and between software tools in “SBVR Content Model” files (see 23.2.2). The full SBVR Vocabulary (see Clauses 7 through 21) for documenting the semantics of business vocabularies and business rules is contained in the “SBVR Content Model for SBVR” file (see 23.2.1), which is an example of an SBVR Content Model exchange document.

The MOF/XMI XML Schema for SBVR Content Model exchange documents (e.g., sub clause 25.4) is the “SBVR XMI XML Schema” file (see Clause 23 Intro and 25.3). This SBVR XMI XML Schema is serialized from the SBVR MOF Metamodel file based on transform rules in Clause 23 and the OMG XMI Specification.

This specification also provides an “SBVR XMI Metamodel” file (see sub clauses 23.1 and 25.2) that is a serialization of the SBVR MOF Metamodel generated from the SBVR Vocabulary content of Clauses 7 through 21 based on transform rules in Clause 23 and Annex A.

## Terminological Dictionaries and Rulebooks

The capability has two major areas of support:

* + - SBVR Terminological Dictionary: the business vocabulary part of an SBVR Content Model. As with all kinds of dictionaries, it contains business data content that defines terms and other representations, including definitional business rules.

Dictionaries in general are not metamodels. Dictionaries have no metamodel levels. All terms in a dictionary - including the terms that define the dictionary content itself - are at the same level. Dictionaries are easily and naturally extendable, as happens all the time in the culture. This is also true for SBVR Content Models.

* + - SBVR Rulebook: an SBVR Content Model that includes behavioral guidance. It comprises an SBVR Terminological Dictionary and business data content that defines elements of guidance, including behavioral business rules.

An SBVR Content Model documents the meaning of terms and other representations that business authors intend when they use them in their business communications, as evidenced in their written documentation, such as contracts, product/ service specifications, and governance and regulatory compliance documents. Such documents are the authoritative source for the content of an SBVR Content Model.

## Usage of an SBVR Content Model

Concepts in an SBVR Content Model can have as members in their extension only things that are in the real or planned world of the organization. The extension of each of these concepts never contains anything in the SBVR Content Model. The terms and other representations in an SBVR Content Model name and describe the concepts.

SBVR Content Models focus exclusively on defining meaning and the expressions that represent meaning. They do not concern themselves with or contain assertions of the truth-value of propositions. Such concerns and assertions are outside the scope of SBVR and belong to the domain of data and rules enforcement. While putting business vocabulary in a published SBVR Business Vocabulary and business rules in a published SBVR Rulebook is often used by organizations to communicate that, in fact, this vocabulary is the vocabulary in use and these rules are the rules in force, such assertions are outside the scope of the SBVR specification and SBVR Content Models. For example, an organization could propose rules in a rulebook that are never put into force. SBVR Content Models therefore do not contain any kind of business data except business vocabulary and business rules content.

While this specification contains the SBVR XMI XML Schema (see Clause 25.3) for interchanging the documentation of business vocabulary and business rules content, the SBVR MOF Model, the SBVR XMI Metamodel and the SBVR XMI XML Schema are not metamodels for any form of data model, message model, business information, or model designed for reasoning over business information. A transformation is required to bridge from an SBVR Content Model to a data model, message model, business information, model for reasoning over business information, or any other IT system model.

An SBVR Content Model provides all the business semantics needed as input to such transformations by IT staff into information system designs, using a combination of decisions from system architects and Platform Independent Model designers together with software tool function. By use of URIs, SBVR Content Models can provide the business intent of any data element for which business vocabulary has been defined.

## For SBVR Tool Vendors

The SBVR XMI Metamodel file is provided as part of this specification (see 25.2). The SBVR XML Schema file is also provided as part of this specification (see 25.3).

SBVR tools generate and process SBVR Content Model exchange documents that validate according to the “SBVR XMI XML Schema” file of sub clause 25.3. The “SBVR Content Model for SBVR” file of sub clause 25.4 can be used as an example SBVR Content Model exchange document.

The “SBVR XMI Metamodel” file of sub clause 25.2 is a machine-readable metamodel that may be employed in the development of SBVR tools.

# Conformance

## General

This specification defines conformance for software that implements the specification and for an SBVR Content Model exchange document. Conformance of software is defined in terms of:

* + - the nature of its use of SBVR (*see sub clauses 2.2 and 2.4*), and
    - its support for SBVR concepts that are defined in clauses of this specification and implemented in the SBVR MOF Metamodel as specified in Clause 23 (*see sub clause 2.3*).

## Types of conformance

There are three distinct types of conformance for this SBVR Specification. These are listed below. Unless otherwise stated, these types of conformance are independent.

1. *Abstract syntax conformance*. A tool demonstrating SBVR Abstract syntax conformance provides a user interface, reports and/or an API that enables instances of SBVR concepts that are implemented in the SBVR XMI Metamodel to be created, read, updated, and deleted. User interfaces and reports shall use the representations for these SBVR concepts as specified in Clauses 8 through 21, and APIs shall use the representations for SBVR concepts as specified in Clauses 23 & 25. The tool must also provide a way to validate the well-formedness of the content in SBVR Terminological Dictionaries and Rulebooks based on Definitions and Definitional Rules specified in the SBVR Vocabulary (*Clauses 8 through 21*).
2. *Terminological Dictionary and/or Rulebook interchange conformance*. A tool demonstrating SBVR Terminological Dictionary and/or Rulebook interchange conformance can import and export conformant SBVR Content Model Exchange Documents in the SBVR XMI XML Schema file for all valid SBVR Terminological Dictionaries and Rulebooks (*see sub clause 2.4 for details*). Terminological Dictionary and/or Rulebook interchange conformance implies SBVR Abstract syntax conformance. A conforming SBVR tool shall be able to load and save SBVR Content Models in the SBVR XMI XML Schema format (*sub clause 25.3*).

it, transformation of SBVR Terminological Dictionaries to UML Domain Logical Data Models or ODM/OWL Domain Reasoning Models, or transformation of SBVR Rulebooks to executable rules. The normative specification for SBVR semantics includes Clauses 8 through 21, 23, & 24. SBVR Semantics conformance implies SBVR Abstract syntax conformance.

## Conformance Claim Requirement to Specify SBVR Concepts Supported

For all types of conformance support for every SBVR concept that is implemented in the SBVR XMI Metamodel is optional. All claims of conformance must specify which SBVR concepts are supported for each of the three types of conformance. With every claim of conformance, a table must be provided with this information in this format:

|  |  |  |  |
| --- | --- | --- | --- |
| **SBVR Concept implemented in the SBVR XMI Metamodel** | **Type of Conformance** | | |
| **Abstract syntax** | **Terminological Dictionary and/or Rulebook interchange** | **Semantics** |
| (*show SBVR term, name, or verb concept wording for concept supported*) | *show “Unser Interface” and/ or “Reports”, or “Not Supported”* | *show “Producer” and/or “Processor”, or “Not Supported”* | *name the supported demonstrable way(s) to interprets SBVR semantics* |

A software tool supports an SBVR concept if and only if all of the following hold:

* + - The software tool uses the representations specified in SBVR for that concept as specified under *SBVR Abstract syntax conformance*. It may use other representations of the same concept for other purposes, including other forms of exchange documents.
    - The software tool interprets the specified representation of the concept as having the meaning given by the Definition of that concept in this specification, and interprets instances of the concept in Terminological Dictionary and Rulebook content as having the associated characteristics.
    - No Necessity concerning that concept that is given in this specification is violated by any Terminological Dictionary or Rulebook content maintained by the software tool nor in any SBVR Content Model exchange document the software tool produces.

**Note:** The requirement to interpret an instance as having the associated characteristics should not be taken to mean that a conforming processor to use any elaborate reasoning to determine characteristics that may be implied by the facts provided, even when those implications are stated as Necessities in SBVR. The intent of the requirement is that what the tool does with the instance is consistent with the SBVR interpretation of the facts provided.

Use of Reference Schemes given in this specification is recommended, but not required.

The Note, Example, and Dictionary Basis subentries of the SBVR Vocabulary entries in this specification are purely informative. All other elements are to be understood as giving the meaning and required characteristics of the concept. The vocabulary entry also specifies the representation of the concept that is used in this specification, while Clauses 23 and 15 specify the representation of the concept in exchange documents conforming to this specification.

meaning, and the representation of that meaning in other exchange documents are not concerns of this specification.

## Terminological Dictionary and/or Rulebook Interchange Conformance

### General

This sub clause defines conformance for an SBVR Content Model exchange document, for software that produces SBVR Content Model exchange documents, and for software that processes SBVR Content Model exchange documents.

An exchange document that conforms to this specification (an “SBVR Content Model exchange document”) shall be an XML document that uses the SBVR XMI XML Schema as its XSD (*see sub clause 25.3*). The exchange document shall identify its document type as the XML Schemas specified in sub clause 25.3 by using the URI for that schema specified in sub clause 25.4.

The content of the SBVR Content Model exchange document shall not contradict any Necessity in the SBVR Vocabulary (*Clauses 8 through 21*). However, no concept is closed in the SBVR XML Schema (*see sub clause 25.3*). A conforming SBVR Content Model exchange document need not include all of the content in a Terminological Dictionary or Rulebook. No Necessity should be interpreted as a requirement for inclusion of any given fact in the SBVR Content Model exchange document.

#### EXAMPLE

There is a rule that every statement expresses exactly one proposition. An SBVR Content Model exchange document that includes that a given statement expresses two different propositions is not conformant. But a conforming document can include a statement without relating the statement to a proposition, even though the proposition necessarily exists.

**Note:** If a use of SBVR for exchange between tools requires that certain kinds of facts be fully represented in the exchange document, the SBVR XML Schema can be extended for that purpose by adding the facts that particular concepts are closed or particular verb concepts are internally closed (*see Clause 23*).

An exchange document that conforms to this specification may include representations of instances of any SBVR concept that is included in the SBVR XMI Metamodel as specified in Clause 23.

**Note:** Not every conforming processor will support all of the concepts that can appear in a conforming SBVR document. Every conforming processor, however, is required to accept every conforming document (*see sub clause 2.4.3*).

For an XML exchange document that involves multiple namespaces, conformance to this specification is only defined for that part of the exchange document that uses the SBVR namespaces defined in this specification.

**Note:** The document type of a conforming XML exchange document need not be SBVR XML schema defined in sub clause 25.3; but the document’s XML Schema shall include the SBVR XML Schema as a subordinate namespace. Similarly, the SBVR XML Schema permits items like ‘definitions’ to have formal representations defined by other XML Schemas.

### Conformance of an SBVR Producer

A software tool that conforms as an SBVR producer shall produce exchange documents that conform to this specification as specified in 2.4.1.

specification.

For a conforming SBVR producer, a claim of conformance shall identify the SBVR concepts for which it can produce representations of instances (*see sub clause 2.3*).

**Note:** As indicated in 2.4.1, an SBVR producer may produce instances of concepts not defined in SBVR as well. In such a case, the SBVR fact model would be only a part of the exchange document.

An SBVR producer shall support (as defined in 2.3) all of the SBVR concepts for which it makes a claim of conformance.

An SBVR producer shall not convey in the exchange document the intent of an SBVR concept by using a representation that is not specified herein.

### Conformance of an SBVR Processor

A software tool that conforms as an SBVR processor shall accept any exchange document that conforms to this specification as specified in 2.4.2. The interpretation it makes of any fact contained in the exchange document depends on whether the software tool supports the concepts associated with that fact (*see below*).

**Note:** Accepting a valid exchange document is distinguished from rejecting the document as not processable and using none of the information in it. A tool can accept a document and nonetheless discard much of the information in it. Accepting is also distinguished from supporting instances of concepts found in the exchange document, which refers to interpreting all facts about instances of the concept properly into the internal models and functions of the tool (*see sub clause 2.3*).

Every SBVR processor shall be able to accept representations of facts about instances of all SBVR concepts for which a conformance claim of support is made. Every SBVR processor shall be able to accept the SBVR Content Model exchange documents listed in sub clause 25.4.

**Note:** Depending on what the SBVR processor actually does with the SBVR Content Model exchange document, there may be SBVR concepts for which there is no valid use in the function of the tool (*see sub clause 2.3*). For example, a tool that converts an SBVR Content Model exchange document to some other modeling language or rules language may find that there are SBVR concepts that have no image in the target language. In such a case, the proper support for the SBVR concept may be to do nothing with it.

When an SBVR processor encounters a representation of an instance of a concept for which conformance is not claimed (including concepts that are not SBVR concepts), the processor may choose to do any of the following:

* + - * ignore the instance;
      * support the instance, and the SBVR concept it instantiates;
      * interpret the instance via internal concepts that are not SBVR concepts per se.

An SBVR processor may, but need not, provide a warning when it encounters a representation of an instance it does not support.

The following normative documents contain provisions which, through reference in this text, constitute provisions of this specification. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply.

* + - * Berners-Lee, T., R. Fielding, L. Masinter. IETF RFC 2396: *Uniform Resource Identifiers (URI): Generic Syntax,*

August 1998.

* + - * International Organization for Standardization (ISO) : ISO 639-2. *Codes for the Representation of Names of Languages, Part 2*: Alpha-3 Code. Library of Congress, 2002.
      * International Organization for Standardization (ISO) : 1087-1. *Terminology work — Vocabulary — Part 1: Theory and Application*
      * *Meta Object Facility (MOF) Core Specification, v2.4.2*

<(>4.2 [https://www.omg.org/spec/MOF/2.4.2/PDF).]( https://www.omg.org/spec/MOF/2.4.2/PDF).)

* + - * *MOF 2.4.2/XMI Mapping Specification, v2.4.2*

<(> https://www.omg.org/spec/XMI/2.4.2/PDF).

* + - * International Organization for Standardization (ISO) : ISO 6093. *Information processing - Representation of numerical values in character strings for information interchange*. 1985.
      * *OMG UML 2 Infrastructure, v2.4.1*

[(](http://www.omg.org/docs/formal/07-02-04.pdf)) [https://www.omg.org/spec/UML/2.4.1/Infrastructure/PDF).]( https://www.omg.org/spec/UML/2.4.1/Infrastructure/PDF).)

* + - * *The Cambridge Dictionary of Philosophy*, 2nd ed. Cambridge University Press, 1999.
      * *The New Oxford Dictionary of English*.
      * *The Oxford Dictionary of English*.
      * *Unicode 4.0.0 specification* : Glossary [(ht](http://www.unicode.org/versions/Unicode4.0.0/b1.pdf))t[p://www.unicode.org/versions/Unicode4.0.0/b1.pdf).](http://www.unicode.org/versions/Unicode4.0.0/b1.pdf))

# Terms and Definitions

For the purposes of this specification, the terms and definitions given in the normative reference and the following apply.

#### SBVR

shorthand for Semantics of Business Vocabulary and Business Rules

#### Business Vocabulary

vocabulary that is under business jurisdiction

#### Business Rule

rule that is under business jurisdiction

#### SBVR Content Model

XML document that uses the SBVR XMI XML Schema ((Clause 25.4) and contains SBVR Terminological dictionary and Rulebook content

#### SBVR Content Model for SBVR

SBVR Content Model that contains the SBVR Vocabulary in Clauses 7-21 *(see Clause 25.4)*

#### SBVR MOF Metamodel

MOF model that is generated, as the metamodel for SBVR Terminological Dictionary and Rulebook content, from some of the terminological entries in SBVR Clauses 7 through 21 by the transformation specified in Clause 23

#### SBVR XMI Metamodel

Serialization of the SBVR MOF Metamodel *(see Clause 25.2)*

#### SBVR XMI XML Schema

XMI XSD for SBVR that is a serialization of the SBVR MOF Metamodel according to the rules in the XMI specification *(see Clause 25.3)*

#### Terminological Dictionary

collection of representations including at least one designation or definition of each of a set of concepts from one or more specific subject fields, together with other specifications of those concepts

#### Vocabulary

set of designations (such as terms and names) and verb concept wordings primarily drawn from a single language to express concepts within a body of shared meanings

note that this specification does not use the word “vocabulary” to refer to a dictionary or to any other sort of collection of terminological data

# Symbols

FL The indicated term is to be interpreted in formal logic. Terms without this symbol are not interpreted in formal logic.

For the purpose of visualizing entries in the SBVR Vocabulary, Annex C describes a non-normative interpretation of the figures in Clauses 7-21 and of figures in Annex G. Other non-normative notations used in Clauses 7 through 21 are explained in Annex A.

# Additional Information

## How to Read this Specification

This specification describes a vocabulary, or actually a set of vocabularies, using terminological entries. Each entry includes a definition, along with other specifications such as notes and examples. Often, the entries include rules (necessities) about the particular item being defined.

The sequencing of the clauses in this specification reflects the inherent logical order of the subject matter itself. Later clauses build semantically on the earlier ones. The initial clauses are therefore rather ‘deep’ in terms of SBVR’s grounding in formal logics and linguistics. Only after these clauses are presented do clauses more relevant to day-to-day business communication and business rules emerge.

This overall form of presentation, essential for a vocabulary standard, unfortunately means the material is rather difficult to approach. A figure presented for each sub-vocabulary does help illustrate its structure; however, no continuous 'narrative' or explanation is appropriate.

### About the Annexes

For that reason, the first-time general reader is urged to start with some of the non-normative Annexes, which do provide full explanation of the material, as well as context and purpose.

fundamental concepts and approach of SBVR.

* + - * Annex F, The Business Rules Approach, explains the core ideas and principles of business rules, which underpin SBVR’s origin and focus. This short Annex is strongly recommended for readers who are unfamiliar with this area.

Good preparation for reading the specification is becoming familiar with the notation (non-normative) used to present the entries.

* + - * Annex A, SBVR Structured English, provides comprehensive explanation in that regard.
      * Annex B, SBVR Structured English Patterns, explains how to verbalize terminological entries.
      * Annex C, Use of a business-friendly notation to visualize the connections between SBVR Vocabulary entries.

General practitioners will find the following sections of significant interest.

* + - * Annex G, EU-Rent Example, provides a comprehensive case study, with a robust vocabulary and set of business rules fully worked through. Examples from EU-Rent are used widely in both the specification and Annexes to provide on- going commonality.
      * Annex H, The RuleSpeakR Business Rule Notation, presents a widely-used, business-friendly syntax for expressing business rules.
      * Annex I is superceded by Annex C.

Object-Role Modeling (ORM)-related Annexes:

* + - * Annex J, The ORM Notation for Verbalizing Facts and Business Rules, provides an introduction to the ORM approach. ORM contributes heavily to the theoretical underpinnings of SBVR, and represents some of the best practices in fact- based vocabulary and rule development.
      * Annex L, ORM Examples Related to the Logical Foundations for SBVR, provides supplemental ORM material further clarifying the normative material, Logical Foundations for SBVR.

For those specialists and researchers interested in standards and/or in the formal logics underpinning of SBVR, the following material is of special interest.

* + - * Annex K, Mappings and Relationships to Other Initiatives, addresses where and how SBVR fits with other software and standards initiatives.

For practitioners interested in a methodology supporting SBVR, used productively in industry for over 30 years, the fact- oriented approach NIAM2007 offers interesting advice.

* + - * Annex M - a Conceptual Overview of SBVR and the NIAM2007 Procedure to Specify a Conceptual Schema.
      * Annex D, Additional References, provides supplemental sources relevant to the formal underpinnings of SBVR.

NOTE: The SBVR Annexes in the table below are now published as stand-alone documents at the URIs shown solely for convenience and ease of use. The fact that they are published as separate SBVR specification documents makes no change to their status as part of the SBVR specification, or the way in which they can be updated under OMG Policies and Procedures.

|  |  |  |
| --- | --- | --- |
| **Annex** | **Document number** | **URI** |
| E - Overview of the Approach | dtc/16-08-25 | http://www.omg.org/cgi-bin/doc?dtc/16-08-25 |
| F - The Business Rules Approach | dtc/16-08-48 | http://www.omg.org/cgi-bin/doc?dtc/16-08-48 |
| G - EU-Rent Example | dtc/16-08-26 | http://www.omg.org/cgi-bin/doc?dtc/16-08-26 |
| H - The RuleSpeak® Business Rule Notation | dtc/16-08-27 | http://www.omg.org/cgi-bin/doc?dtc/16-08-27 |
| I - Concept Diagram Graphic Notation | dtc/16-08-28 | http://www.omg.org/cgi-bin/doc?dtc/16-08-28 |
| J - The ORM Notation for Verbalizing Facts and Business Rules | dtc/16-08-29 | http://www.omg.org/cgi-bin/doc?dtc/16-08-29 |
| K - Mappings and Relationships to Other Initiatives | dtc/16-08-31 | http://www.omg.org/cgi-bin/doc?dtc/16-08-31 |
| L - ORM Examples Related to the Logical Foundations for SBVR | dtc/16-08-30 | http://www.omg.org/cgi-bin/doc?dtc/16-08-30 |
| M - A Conceptual Overview of SBVR and the NIAM2007 Procedure to Specify a Conceptual Schema | dtc/16-08-32 | http://www.omg.org/cgi-bin/doc?dtc/16-08-32 |

### About the Normative Specification

The rest of this document contains the technical content of this specification.

The **SBVR Vocabulary** in Clauses 7 through 21 contains the SBVR terminological entries organized in focused topics that cover the subject filed of this specification: business vocabularies and business rules. Clauses 7 through 25 provide the foundation for the SBVR MOF Metamodel which is generated from Clauses 7 through 21 based on the transformation specified in Clause 23.

Clause 7, the **Vocabulary Registration Vocabulary,** provides names and definitions for the vocabularies presented in the SBVR specification and of other vocabularies referenced by the SBVR specification.

As background for this specification, all readers are encouraged to first read Clause 8, which introduces the Semiotic/ Semantic Triangle. It is the theoretic basis for the rest of the specification.

Clauses 8 through 21 provide the terminological entries that comprise the **SBVR Vocabulary**. Parts of this vocabulary are intended for business people for use in business to communicate about:

* + - * Business vocabularies, especially in Clauses 9 through 17 and 19 to 20.
      * Business rules, especially in Clauses 16 through 20.

Clause 21 provides the terminological entries for the way that SBVR formulates the semantics of definitions and rules. It is not a vocabulary for business people but, rather, for those who work with the detailed specification of the meaning of business words and statements.

Clause 22 is an index of terminological entries in Clauses 8 through 21.

Clause 23 specifies how the SBVR MOF Metamodel is generated from the terminological entries in the **SBVR Vocabulary**

and the **Vocabulary Registration Vocabulary** (Clauses 7 through 21).

Clause 24 presents the formal logics and mathematical underpinnings of the SBVR XML Metamodel. A concept in Clauses 8 through 21 marked with the symbol ‘FL’ is mapped to a formal logics concept in Clause 24.

Clause 25 lists supporting documents, such as an SBVR XMIXML Schema (XSD) for the SBVR MOF Metamodel.

the Structured English is interpreted such that SBVR is specified in terms of itself.

Much of the material in Parts II and III is illustrated by examples in the annexes, especially Annex G.

The clauses in this specification are organized in a logical manner and can be read sequentially. Short, highly-descriptive headings have been chosen with a focus on the essential subject matter, rather than on mechanics or underlying assumptions. The goal is to keep the topics as reader-friendly and unbiased as possible.

However, this is a reference specification and, as such, is also structured to support reading in a non-sequential manner. Consequently, extensive cross-references are provided to facilitate browsing and search.

## Acknowledgements

The following companies submitted and/or supported parts of this specification:

* Adaptive
* Automated Reasoning Corporation
* Business Rule Solutions, LLC
* Business Rules Group
* Business Semantics Ltd
* Fujitsu Ltd
* Hendryx & Associates
* Hewlett-Packard Company
* InConcept
* LibRT
* KnowGravity Inc
* MEGA
* Model Systems
* Neumont University
* Perpetual Data Systems
* PNA Group
* Sandia National Laboratories
* The Rule Markup Initiative
* Unisys Corporation
* X-Change Technologies Group

# Dictionaries and Rulebooks

This part contains the SBVR terminological entries that are the foundation for the SBVR MOF Metamodel. The clauses of Part II address focused topics that are of interest to different audiences.

Clause 7, the Vocabulary Registration Vocabulary, provides names and definitions for the vocabularies presented in the SBVR specification and of other vocabularies referenced by the SBVR specification. Clause 8 introduces the Semiotic/Semantic Triangle. It is the theoretic basis for the rest of the specification.

Clauses 8 through 21 provide the terminological entries that comprise the SBVR Vocabulary. Parts of this vocabulary are intended for business people for use in business to communicate about:

* Business vocabularies, especially in Clauses 9 through 17 and 19 and 20.
* Business rules, especially in Clauses 16 through 20.

Clause 21 provides the terminological entries for the way that SBVR formulates the semantics of definitions and rules. It is not a vocabulary for business people but, rather, for those who work with the detailed specification of the meaning of business words and statements.

Clause 22 is an index of terminological entries in Clauses 8 through 21.

Part II uses SBVR Structured English to express the SBVR terminological entries. Annex A describes how the Structured English is interpreted such that SBVR is specified in terms of itself. Although the Structured English is non-normative, its use in Clauses 7 through 21 has a normative interpretation described in sub-clause 23.6. Examples are in natural language and use no particular notation except where noted.

Much of the material in Part II is illustrated by examples in the annexes, especially Annex G**.**

The primary subjects of the **SBVR Vocabulary** fit between two other relevant subject areas described below.

1. **Expression** – things used to communicate (e.g., sounds, text, diagrams, gestures), but apart from their meaning — one expression can have many meanings.
2. **Representation** – the connection between expression and a meaning. Each representation ties one expression to one meaning.
3. **Meaning** – what is meant by a word (a concept) or by a statement (a proposition) – how we think about things.
4. **Extension** – the things to which meanings refer, which can be anything (even expressions, representations, and meanings when they are the subjects of our discourse).

Following are examples of how some things, like “driver,” cross through each subject area.

|  |  |  |  |
| --- | --- | --- | --- |
| **Extension** | **Meaning** | **Representation** | **Expression** |
| The actual drivers of motor vehicles | Concept ‘driver’ — how we think of drivers, what characterizes them | Designation of the concept ‘driver’ by the signifier “driver” | The character sequence “driver” |
| Definition of the concept ‘driver’ as “operator of a motor vehicle” | The character sequence “operator of a motor vehicle” |
| The actual City of Los Angeles, California – a real place | Individual noun concept ‘Los Angeles’ — how we think of that city, what distinguishes it from other places | ‘Los Angeles’ as a designation for the individual noun concept of ‘Los Angeles’ | The character sequence “Los Angeles” |
| For each car that is out of service, its actually being out of service | Characteristic applicable to a car, what is meant by a car being out of service | Verb concept wording ‘car is out of service’ as a template for the characteristic with ‘car’ being a placeholder | The text “car is out of service” |
| The actual state of affairs of it being obligatory in the EU- Rent business that it not rent to a barred driver | Proposition — the meaning of the statement “EU-Rent must not rent to a barred driver” | The statement, “EU-Rent must not rent to a barred driver,” having the proposition as its meaning | The character sequence “EU-Rent must not rent to a barred driver” |

Another subject area of this vocabulary is reference schemes, which are ways people use information about something to identify it. For example, a city in the United States is identified by a name combined with the state it is in. The state is identified by its name or by a two-letter state code.

Representations provide a reference scheme for concepts and propositions because they are always tied to exactly one expression and to exactly one meaning. On the other hand, a single expression can have multiple meanings, a concept can have multiple expressions, a thing can be an instance of many concepts, and a proposition can be meant by many equivalent expressions.

A single representation can be tied to many speech acts, or to a single speech act, depending on how its expression is identified. For example, if the expression is a text or a sequence of words independent of any particular act of writing or speaking, the representation is independent in the same way. Conversely, if the expression is identified as belonging to a specific speech act, then the representation is tied to that speech act also.

Because it is a general concept, it is necessarily a situational role and is not a verb concept role.