

PD L1V2.0 CHANGELOG

Main modifications

New glyphs:

- Equivalence operator
- Annotation
- Submap terminal (were implicit)
- Empty set (replace Source and Sink)
- Subunits (were implicit)

Changes in glyphs:

- State variable: ellipse to stadium
- Simple chemical: circle to stadium

Changes in semantics:

- Process identity is now set to "instance"

Changes in the structure of the specification:

- Arcs section was broken into three new sections: Flux arcs, Modulation arcs, Logic arc
- Referring to other nodes and arcs section was moved towards the end of chapter 2
- Encapsulation section was moved towards the end of chapter 2

Changes in the style of the specification:

- Container, label and auxiliary units entries have been homogenized throughout the specification
- Figures have been redrawn with SBGN-ED, and homogenized throughout the specification
- Connectivity has been added for all nodes under the form of Incoming arcs and Outgoing arcs entries

Main modifications section by section

1 Introduction

- 1.1 SBGN levels and versions
- 1.2 Developments, discussions, and notifications of updates
- 1.3 Note on typographical convention

2 Process Description Glyphs

- For all glyphs:
 - homogenized the text (container, label and auxiliary units entries)
 - redrew all figures with SBGN-ED

- For all nodes:
 - added Incoming arcs and Outgoing arcs entries
- Added new subsection Annotating nodes and arcs
 - 2.1 Overview
 - 2.2 Controlled vocabularies used in SBGN Process Description Level 1
 - 2.2.1 Entity pool node material types
 - 2.2.2 Entity pool node conceptual types
 - 2.2.3 Macromolecule covalent modifications
 - 2.2.4 Physical characteristics
 - 2.2.5 Cardinality
 - 2.3 Auxiliary Units
 - Added two new subsections: Subunits and Submap terminal
 - 2.3.1 Glyph: Unit of information
 - 2.3.2 Glyph: State variable
 - Rewrote the standfirst
 - Rewrote the label entry
 - 2.3.3 Glyph: Clone marker
 - 2.4 Entity pool nodes
 - 2.4.1 Glyph: Unspecified entity
 - 2.4.2 Glyph: Simple chemical
 - 2.4.3 Glyph: Macromolecule
 - 2.4.4 Glyph: Nucleic acid feature
 - 2.4.5 Glyph: Multimer
 - Added text to the standfirst
 - Added Table 2.8 showing the different glyphs
 - 2.4.6 Glyph: Complex
 - 2.4.7 Glyph: Source and Sink
 - Replaced by Empty set
 - 2.4.8 Glyph: Perturbing agent
 - 2.4.9 Examples of complex EPNs
 - 2.5 Referring to other Nodes
 - Moved this section towards the end of the document
 - 2.5.1 Glyph: Tag
 - Rewrote standfirst
 - 2.6 Defined sets of entity Pool nodes
 - 2.6.1 Glyph: Compartment
 - 2.7 Encapsulation
 - Moved this section towards the end of the document
 - 2.7.1 Glyph: Submap
 - Rewrote standfirst
 - Rewrote text explaining the examples
 - Rewrote caption of figures
 - 2.8 Process nodes
 - For all glyphs:
 - Removed Origin and Target entries

- 2.8.1 Glyph: Process
- 2.8.2 Glyph: Omitted process
- 2.8.3 Glyph: Uncertain process
- 2.8.4 Glyph: Association
- 2.8.5 Glyph: Dissociation
- 2.8.6 Glyph: Phenotype

2.9 Arcs

- Split this section into three new sections: Flux arcs, Modulation arcs, Logic arc
- 2.9.1 Glyph: Consumption
 - Moved to new section Flux arcs
- 2.9.2 Glyph: Production
 - Moved to new section Flux arcs
- 2.9.3 Glyph: Modulation
 - Moved to new section Modulation arcs
- 2.9.4 Glyph: Stimulation
 - Moved to new section Modulation arcs
- 2.9.5 Glyph: Catalysis
 - Moved to new section Modulation arcs
- 2.9.6 Glyph: Inhibition
 - Moved to new section Modulation arcs
- 2.9.7 Glyph: Necessary stimulation
 - Moved to new section Modulation arcs
- 2.9.8 Glyph: Logic arc
 - Moved to new section Logic arc
- 2.9.9 Glyph: Equivalence arc
 - Moved to section Encapsulation
 - Rewrote standfirst

2.10 Logical operators

- Added a standfirst
- Added new subsection Equivalence operator
- For all glyphs:
 - Removed Origin and Target entries
- 2.10.1 Glyph: And
 - Rewrote the definition
- 2.10.2 Glyph: Or
 - Rewrote the definition
- 2.10.3 Glyph: Not
 - Rewrote the definition

3 Process Description Language Grammar

- 3.1 Overview
- 3.2 Concepts
- 3.3 The conceptual model
 - Figure 3.1:
 - Removed Sink and Source

- Added Empty set
- Added Equivalence operator
- Added Submap terminal
- Table 3.1:
 - Removed Sink and Source
 - Added Empty set
 - Added Equivalence operator
 - Removed "Subunits" from Complex and Complex multimer entry
 - Changed Process entry to "instance"

3.4 Syntax

3.4.1 Node connectivity

- Table:
 - Removed Sink and Source
 - Added Empty set
 - Added Equivalence operator
 - Added Submap terminal

3.4.2 Containment definition

- Table:
 - Removed Sink and Source
 - Added Empty set
 - Added Equivalence operator
 - Added Submap terminal

3.5 Semantic rules

- Added new subsection Equivalence operator at the end

3.5.1 EPNs

3.5.2 Process Nodes

- Reversible processes subsection:
 - Removed rule 2 on sinks

3.5.3 Cloning

- Table 2.3:
 - Removed Sink and Source
 - Added Empty set
 - Added Equivalence operator
 - Removed Additional rule in Process entry

3.5.4 Compartment spanning

3.5.5 Submaps

4 Layout Rules for a Process Description

- Redrew all figures with SBGN-ED

4.1 Introduction

4.2 Requirements

- 4.2.1 Node-node overlaps
- 4.2.2 Node-edge crossing
- 4.2.3 Node border-edge overlaps
- 4.2.4 Edge-edge overlaps

- 4.2.5 Node orientation
- 4.2.6 Node-edge connection
- 4.2.7 Node labels
- 4.2.8 Edge labels
- 4.2.9 Compartments
- 4.3 Recommendations
 - 4.3.1 Node-edge crossing
 - 4.3.2 Labels
 - 4.3.3 Avoid edge crossings
 - 4.3.4 Branching of association and dissociation
 - 4.3.5 Units of information
- 4.4 Additional suggestions

5 Acknowledgments

- Added subsection Level 1 Release 2.0
 - 5.1 Level 1 Release 1.0
 - 5.2 Level 1 Release 1.1
 - 5.3 Level 1 Release 1.2
 - 5.4 Level 1 Release 1.3
 - 5.5 Comprehensive list of acknowledgments
 - Updated the list

Appendices

- Added a new Appendix "Examples of use of the equivalence operator"

A Complete examples of Process Description Maps

- Redrew all images with SBGN-ED

B Reference card

- Updated with new glyphs

D Issues postponed to future levels

E Revision History

- To be updated