the SBML layout and render extension - recent updates

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the SBML layout extension

Glucose

Pi

ATP

ADP

Glucose_6_phosphate

bounding box

text

curve
the SBML layout extension - recent updates

Application A

Application B
the SBML render extension

- defines a number of primitives
The SBML render extension

- use primitives to create more complex shapes (styles)
The SBML render extension

- assign style to layout element

layout bounding box ➔ render style

render

result

SOS

Grb2

active
the SBML layout and render extension - recent updates

the SBML render extension

▶ rendered diagram
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updated webpage

http://otto.bioquant.uni-heidelberg.de/sbml/

SBML Layout Extension

This page was set up for the documentation of the extension to SBML we proposed a few years back. This extension tries to cover the inclusion of layout information of biochemical networks in sbml files.

We try to update this page as the development of this specification progresses.

Specifications
News
Software downloads
Examples

Specifications (goto top)

specification for the SBML layout extension (last updated 04/25/2005)
specification for the SBML render extension (last updated 10/29/2009)

News (goto top)

10/29/2009

I finally had the time to finish some things that have been sitting on my harddisk for a while.

First, there is a new updated version of the render extension specification. It contains a lot of clarifications and updates as well as some minor changes that are supposed to make implementations easier.

You can download the new version of the render extension specification here.

In addition to an updated specification, I have updated the XSLT stylesheet that can be used to create SVG drawings from SBML layout and render information.
updated render specification

- updated due to feedback and from issues found during implementations

- changes since last version:
  - updated information on render information in SBML Level 3 documents
  - new examples in appendix
  - general documentation improvements
  - ... (see change log in spec)
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current layout and render implementation

- layout extension already part of libsbml
- render extension as separate patch against libsbml 3.4.1
  - it works
    - can read only SBML Level 2 files with layout annotations
    - sparsely documented
    - C++ only (no language bindings)
    - not enough unit tests
new libsbml 4 patch

- patch against libsbml 4.1.0
- support for layout and render information in SBML Level 3 documents
- updated API (more consistent with libsbml API)
- all classes and methods are now documented
- many new unittests (126)
- language bindings for Java and python with unittests
improvements to XSLT stylesheet

- XSLT stylesheet
- additional user options
- SBML document
- XSLT processor
- SVG document
improvements to XSLT stylesheet

- support for layout and render information in SBML Level 3 documents
- general bugfixes
testcases

- systematic testcases for features in the render (and layout) extension
- some complex examples that combine many of the features
- written in C++ using the layout and render classes from patched libsbml
- each test for SBML Level 2 as well as SBML Level 3

→ helped testing the libsbml patch as well as the XSLT stylesheet
OpenGL based renderer

- written in C++
- OpenGL (1.5) based
- Qt4 based GUI demo application (obsolete)
COPASI implementation

- layout support available for some time
- new COPASI version uses libsbml 4.1.0 with patch
  → (preliminary) support for SBML Level 3 files
  → support for render extension (import, export, load & save)
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