CellML Specification 2001/03/02
Overview

This section of the CellML.org website contains the formal specification of CellML^{TM}. The development team is still working on several important aspects of CellML. Therefore, the current specification should be regarded as preliminary. Large changes to the overall structure of CellML are very unlikely — changes are more likely to be relatively small refinements to existing elements, due to issues brought to light as more example models are defined in CellML. In addition, several improvements are planned for future versions of CellML. These include mechanisms for component re-use, the use of ontologies, and the incorporation of algorithms into CellML documents.

The CellML specification can be viewed as one large document in either HTML[1] of PDF[2] formats, or viewed in the following managable sections:

- **Fundamentals** — This section explains concepts used in all other sections of the specification, such as the definition of a valid CellML name and the use of XML namespaces in CellML.

- **Model Structure** — This section describes how models are organised in CellML. It includes an explanation of the use of a network of components to define a model and a discussion of variables in CellML.

- **Mathematics** — This section describes how to define mathematical equations and algorithms in CellML models.

- **Units** — This section explains the requirements for units in CellML and details how a modeller can define arbitrary sets of units.

- **Grouping** — This section explains how a model can be organised into logical encapsulation and geometric containment hierarchies by grouping components.

- **Reactions** — This section introduces the CellML syntax that makes it possible to define the chemical expressions that make up reaction/pathway models without resorting to MathML.

- **Metadata** — This section describes how to define metadata and associate it with models, model components, and other CellML elements.

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[1]http://www.cellml.org/public/specification/20010302/cellml_specification.html
[2]http://www.cellml.org/public/specification/20010302/cellml_specification.pdf