

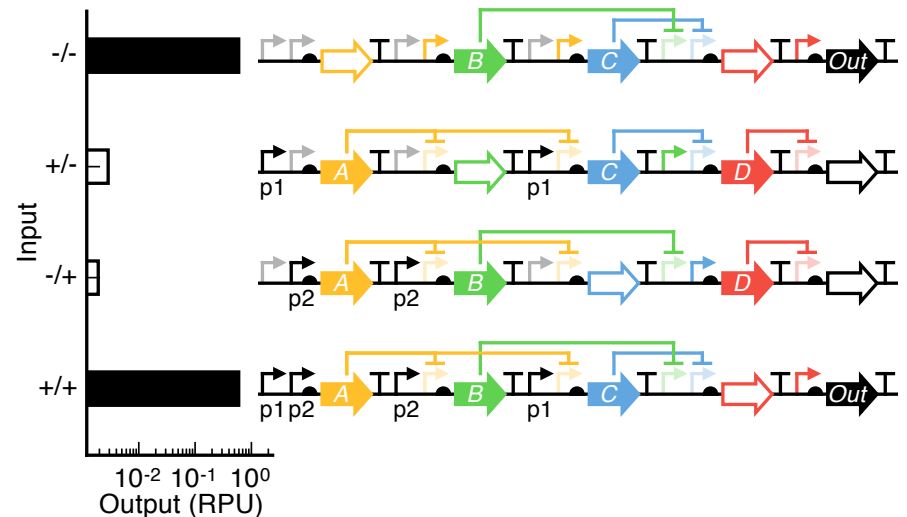
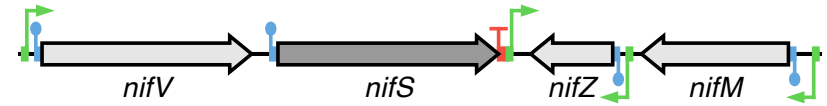
DNAplotlib



Programmable and customizable
visualization of genetic designs

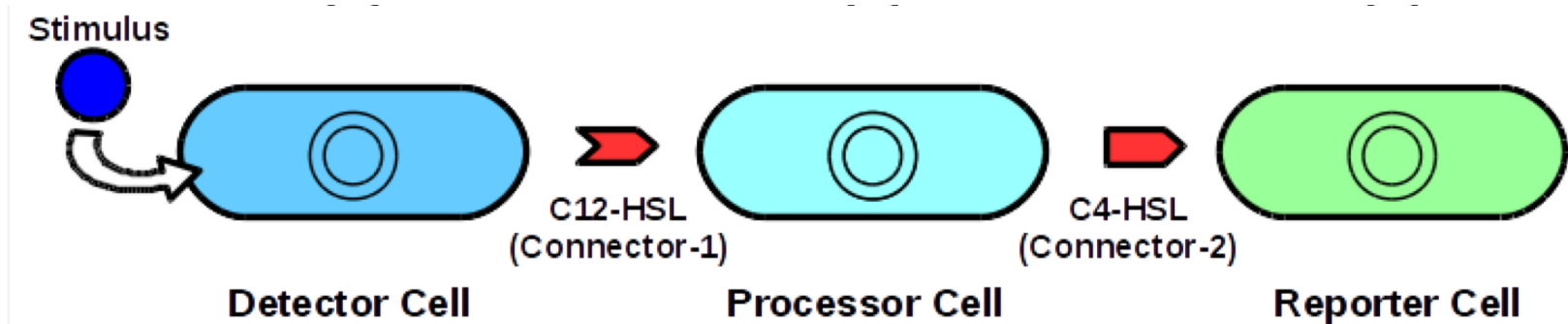
Plans for HARMONY:

- SBOL2 input (Sunwoo Kang, GSoC)
- Parametric SVG glyph library
- Advanced layout and routing

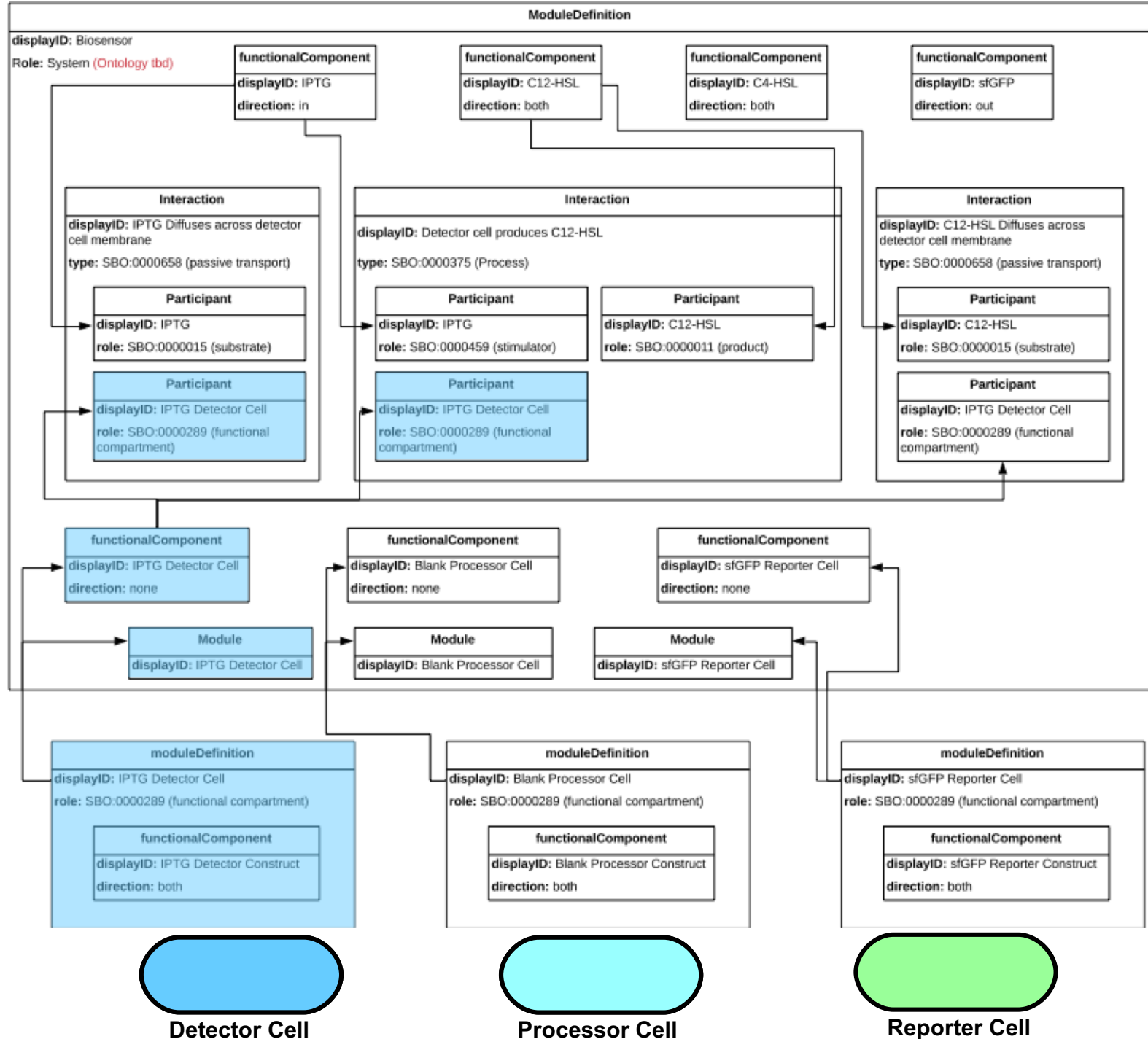


Capturing Multicellular Systems in SBOL

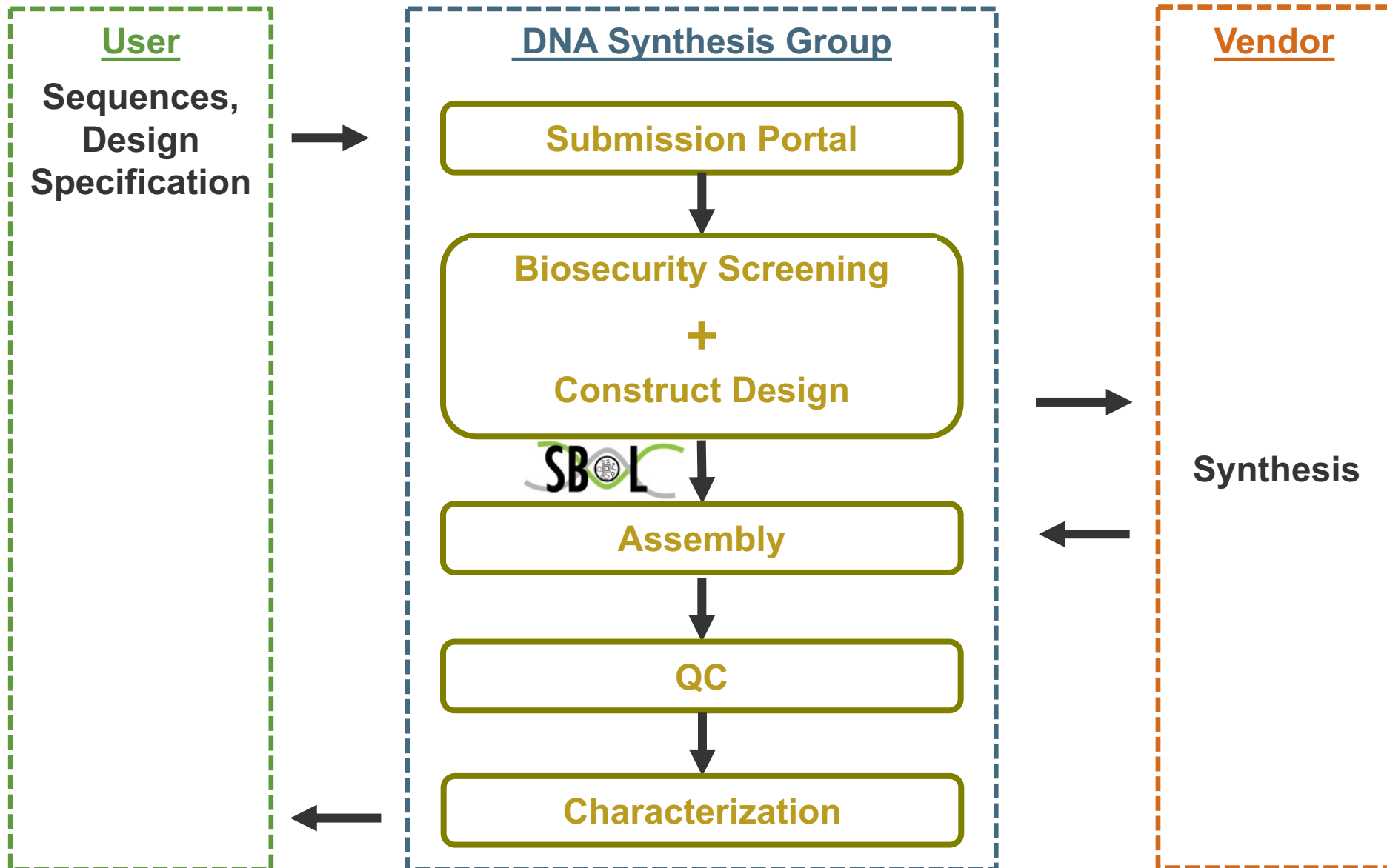
- Synthetic multicellular systems are becoming popular in synthetic biology
- Need to capture information about these systems



Species, proportions, interactions, spatial configuration



DOE JGI – DNA Synthesis Production Pipeline



Exchanging Build Instructions using SBOL

Construct Design



<https://boost.jgi.doe.gov>

Synthesis, Assembly, QA/QC



SynTrack

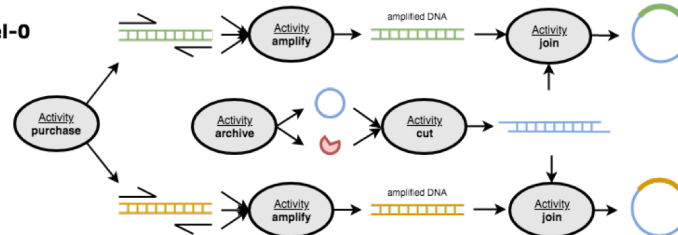
Reference	Length	1898_1075539_ANXWB	1898_1075539_ANXUW	1898_1075539_ANXUG	1898_1075539_ANXSW	1898_1075539_ANXTT
Rob_VioA	1301	578	3	1375	2448	2334
Rob_VioB	3075	3	599	957	2394	3
Rob_vioE	648	462	5625	886	1570	2
Rob_vioD	1207	4	3	3	3	3
Rob_vioC	1365	544	2	3	3	3



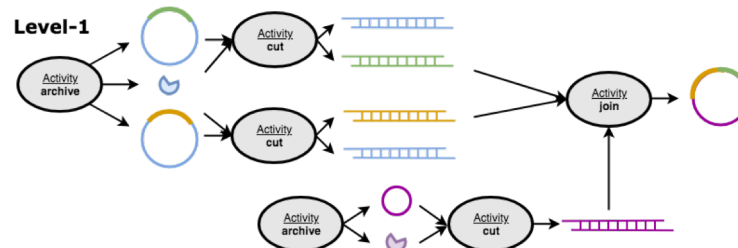
QA/QC using NGS Sequencing



Level-0



Level-1



CropML: A declarative Metalanguage for semantic and modular representation of Crop Models

Cyrille Ahmed MIDINGOYI (PhD Student, INRA)

Supervisor: Pierre MARTRE (INRA, LEPSE)

Frédéric GARCIA (INRA, MIAT)

Christophe PRADAL (CIRAD, AGAP)

Oxford, from 18 to 22nd June 2018

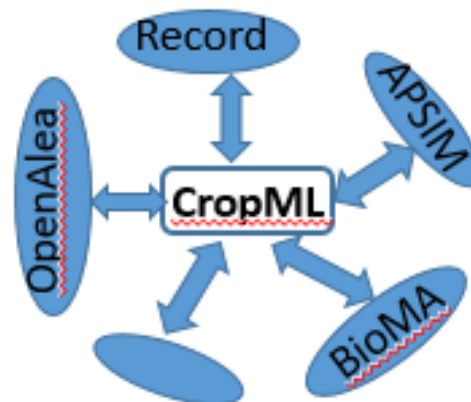
A standard in Crop Models Community

7

Agricultural Models Exchange Initiative



Need A standard for exchange Crop Models



CropML: Declarative metalanguage based on XML for describing crop models (component and model composite as workflow)

combine Standards!!!

Good standard formalism for describing equations in declarative form

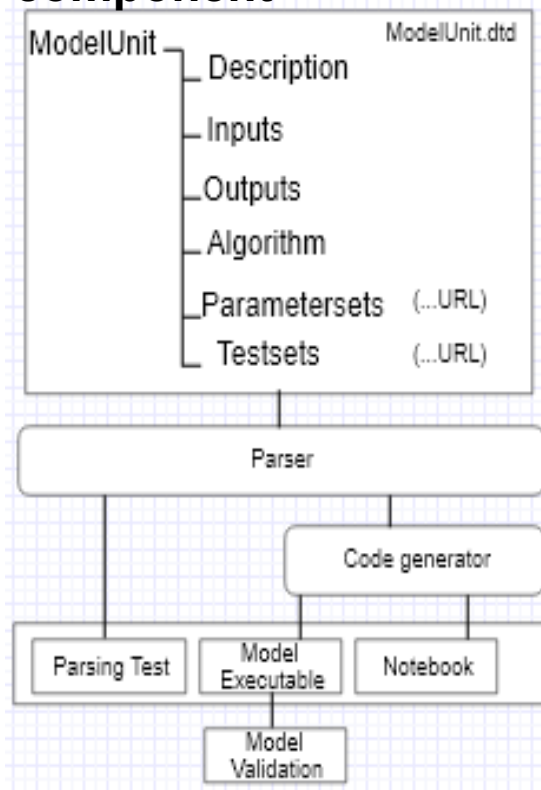
In Crop Models

- Imperative programming
- No mathematical formalism for describing a component
- Equation of finite differences

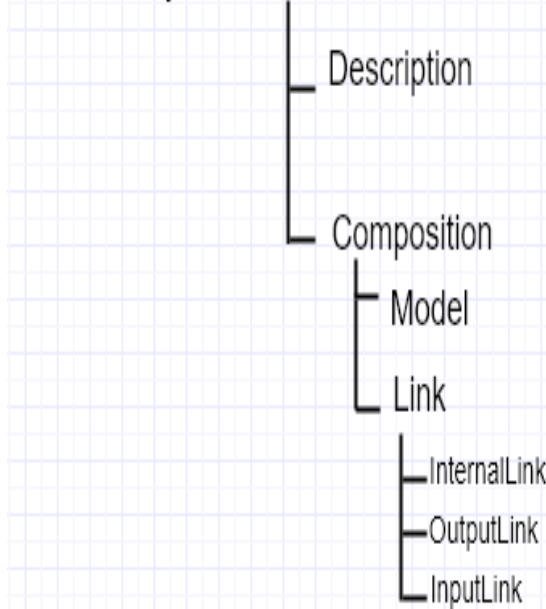
CropML structure

8

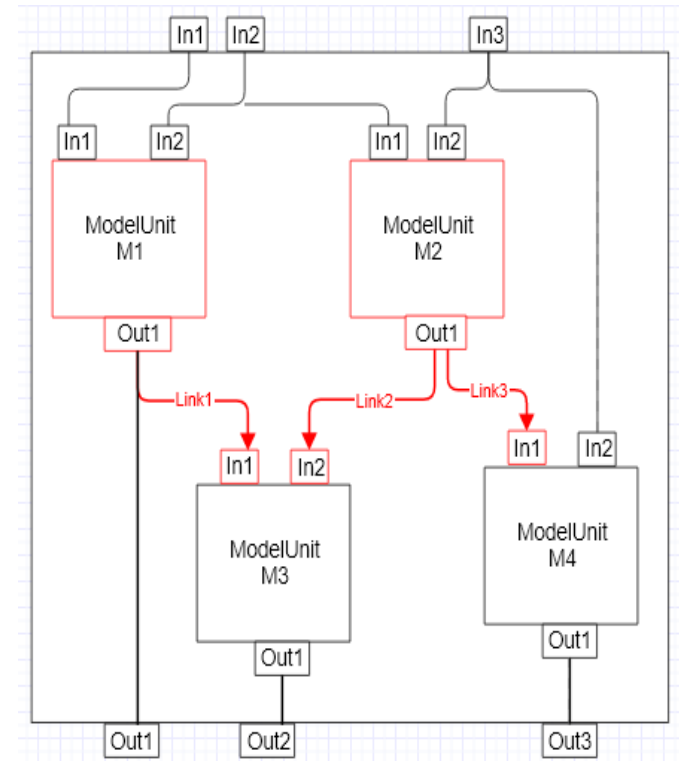
A model unit or a component



ModelComposition



A model Composite



Need to be inspired on Combine conceptual methodologies

- Hierarchical declarative structure
- Link to some ontologies
- Code Generation

Thanks





libCellML



Create and manipulate



Print and parse



Validate against the specification



Resolve imports



Units consistency



Generate executable code

Introducing the BioModels REST API

Mihai Glont,
Senior Software Engineer

<https://www.ebi.ac.uk/biomodels>

s/SOAP/REST/g

- New BioModels API: <https://wwwdev.ebi.ac.uk/biomodels/docs/>
 - SOAP endpoint will be decommissioned soon after HARMONY 2019, on 31 May 2019
 - Workshops to help you migrate to the new API:
 - Wednesday 20 June 2018, 11am BST
 - HARMONY 2019
- Goals for this week:
 - Try the new API: <https://wwwdev.ebi.ac.uk/biomodels/docs/>
 - Ask questions: biomodels-developers@lists.sourceforge.net
 - Give feedback: <https://tinyurl.com/bioModelsHarmony18>