What is “COMBINE”?

?

TORUM 740
Power Stream 700

?

TORUM 740
Power Stream 700

Developing standards turns out to be difficult

Need people with diverse set of knowledge & skills

- Scientific needs
- Technical implementation skills
- Practical experience

Need manage multiple phases

- Creation
- Evolution
- Support

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This is just for the specification of the standards, to say nothing of the necessary software and other infrastructure!

Motivations for the creation of COMBINE

Realizations about the state of affairs in late-2000's

- Many efforts overlapped, but lacked coordination
- Efforts were inventing their own processes from scratch
- Many individual meetings meant more travel for many people
- Limited and fragile funding didn't support solid, coherent base

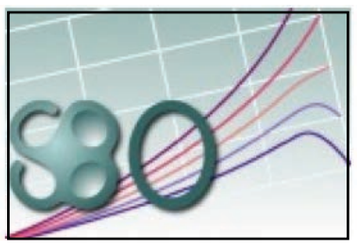
COMBINE = Computational Modeling in Biology Network

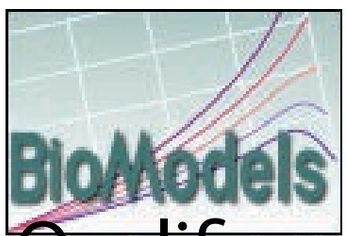
- Coordinate meetings
- Coordinate standards development
- Develop common procedures & tools
- Provide a recognized voice

COMBINE Standards

BioPAX

Associated Standardization Efforts

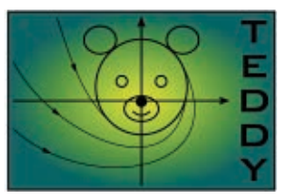




Qualifiers

COMBINE Archive

Related Standardization Efforts



FieldML NuML PSI-MI

GPML MAMO

Standardization efforts represented in COMBINE today

Examples of community organization

Two main annual meetings, plus ad hoc workshops

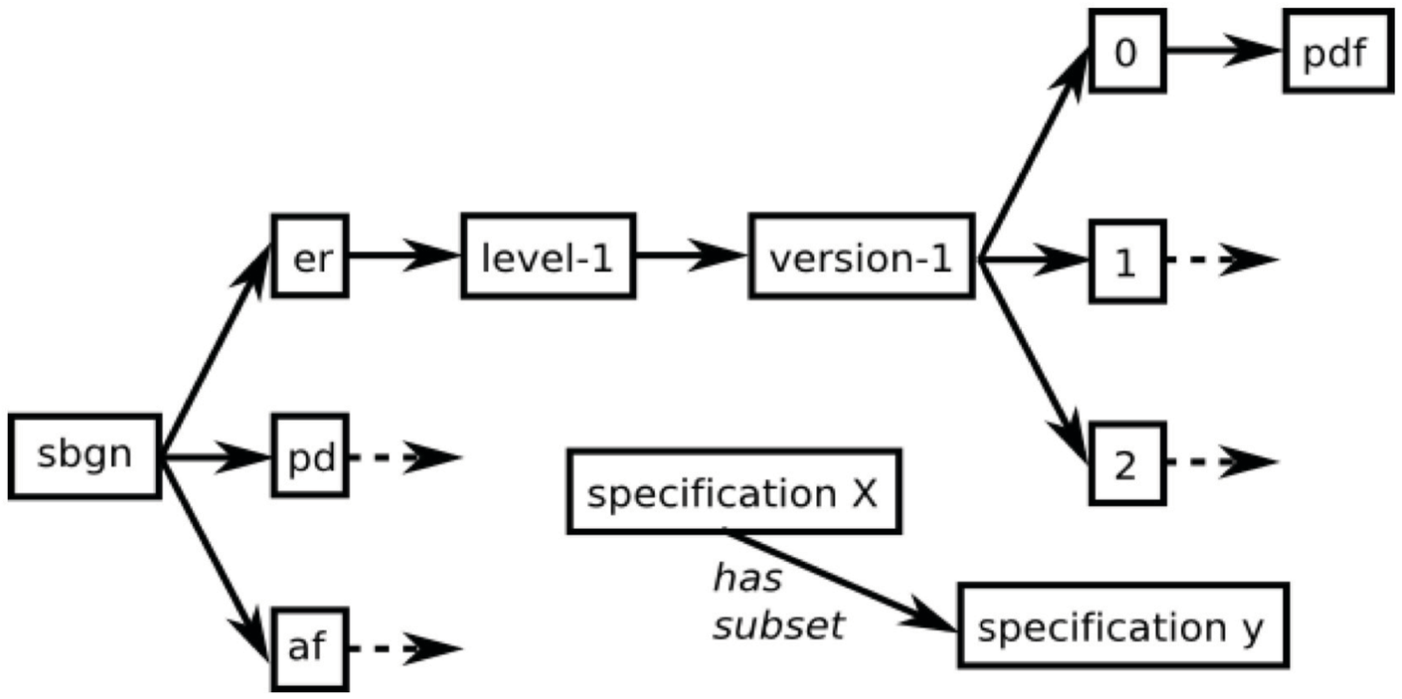
- **COMBINE** meeting: status updates, presentations, outreach
- **HARMONY**: Hackathon on Resources for Modeling in Biology
  - Software development, interoperability hacking
  - Next HARMONY: Wittenberg, Germany, April 20–24

COMBINE 2011, Heidelberg

COMBINE 2012, Toronto

Example of practical infrastructure provided by COMBINE

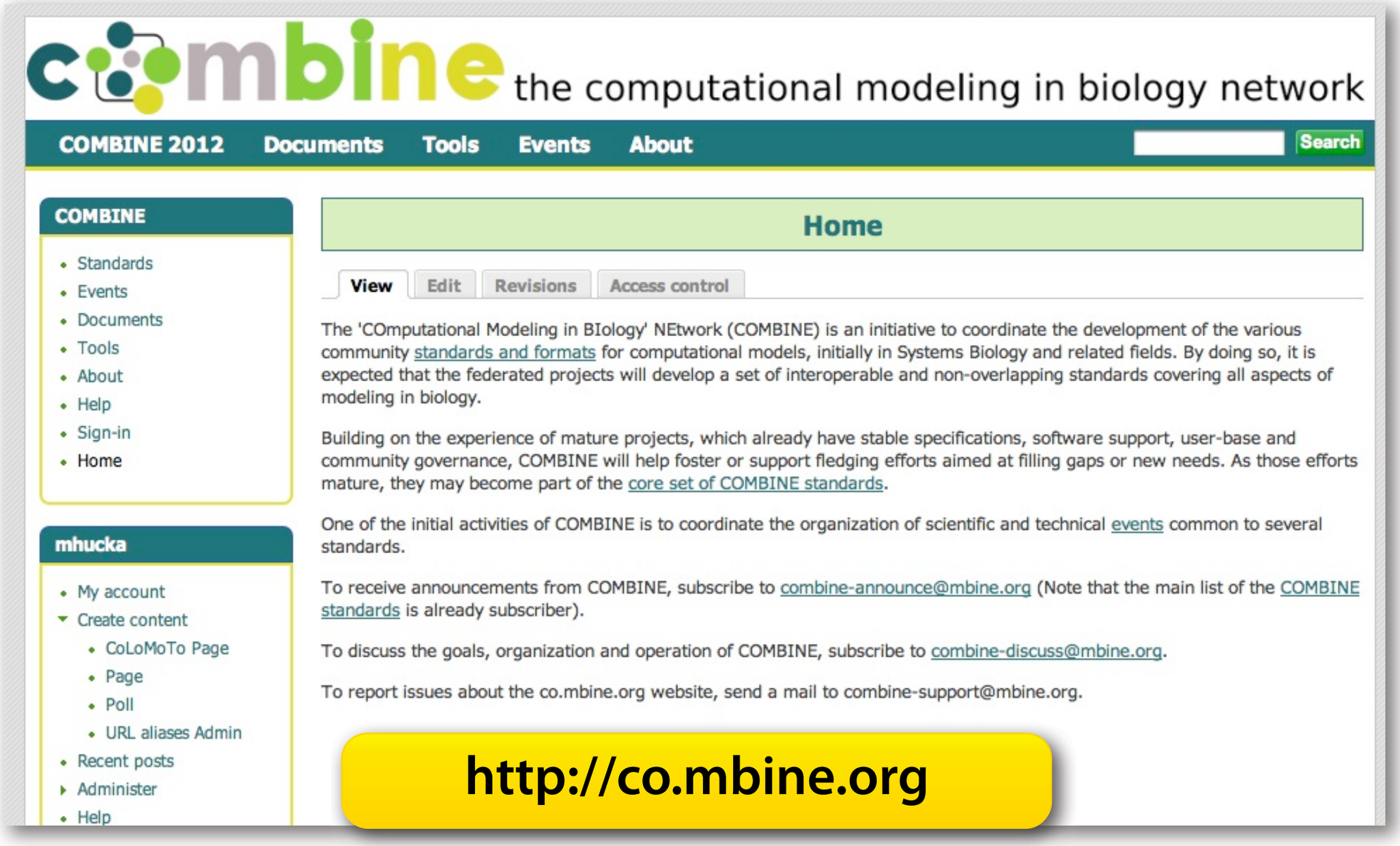
Common URI scheme for specification documents



E.g.: http://identifiers.org/combine.specifications/sbgn.er.level-1.version-1

- Resolves to a page that lists where the specification can be found
  - Actual document can be stored anywhere
- Hierarchical structure

COMBINE is open to all—and COMBINE needs you!



Current coordinators:

- Gary Bader, Martin Golebiewski, Michael Hucka, Nicolas Le Novère, Chris Myers, David Nickerson, Falk Schreiber