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# Modelica Design Meeting News

## 21th Modelisax Meeting



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# MCP 32: Selective Model Extension

# Selective Model Extension

## Motivation

- Based on paper by Bürger
  - <http://www.ep.liu.se/ecp/157/029/ecp19157029.pdf>
- Basic idea
  - Inherited classes can not only add components/connections/equations/algorithms, but also remove components/connections
- Reuse existing (example) models (that never have been invented for other future use-cases), e.g.,
  - FMU export
  - Controller replacement continuous-time -> clocked
- Alternatives
  - Conditional components by default
  - Implicit Redeclare by default

# Selective Model Extension

## Discussion

- <https://github.com/modelica/ModelicaSpecification/pull/2329>
- Strong agreement
- Requirements from EMPHYSIS projects
- Syntax: Reuse keyword *break* for backward-compatibility
- Prototype implementation available

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# Brainstorming on Language Clean-up

# Discussion on Language Clean-up

## Motivation

- Modelica language has too many degrees of freedom in expressiveness
- Too complicated language rules
- Bad/obsolete ideas

# Discussion on Language Clean-up

## Detected weak points

- Simplify import statements
  - Start with simplification/unifying in MSL (no *import name.\**, no *import name = path*, *import Modelica.Slunits* instead of *import SI=Modelica.Slunits*, ...)
- Clocked version of the Modelica.StateGraph
  - Have both continuous/clocked-version of StateGraph
  - Transitions of a synchronous state machines
- Deprecate all annotations that have an impact on symbolic processing or simulation results, so only keep documentation, graphical annotations, graphical dialogs etc.
  - Introduce attributes (like in C++, C# etc.) instead
- Simplify look-up rules
- Simplify connector type matching rules

# Discussion on Language Clean-up

## Detected weak points (cont.)

- Deprecate comma-separated variable declaration (*Real a,b;*)
- Deprecate parameter evaluation at translation time. Only constants should be evaluated.
- Deprecate conditional components in records





**Thank you!**