CREATE A DSML: THE SYSML 1.4 USE CASE
AGENDA

- Context
- From the profile to the tooling
- From the tooling to a DSML tool
- Conclusion
• New version of an OMG norm [1]

• Current status in Papyrus:
  - Old framework
  - Forked version
  - Version 1.1 of the norm

• Goal
  - Latest version of the norm (1.4)
  - New Frameworks
    - Palette
    - Element types
    - ViewPoint
    - Expansion

1: http://www.omg.org/spec/SysML/1.4/Beta/
FROM THE PROFILE TO THE TOOLING

BOTTOM UP
MODEL ARCHITECTURE
FEEDBACKS

• Process :
  ▪ Missing a step by step document
  ▪ Too many clicks
  ▪ Missing an official/published generator

• Model too complex :
  ▪ The « diagram element type model »
  ▪ The palette

• It Works !!!
LET'S START THE REAL WORK

TOP DOWN : REFINE THE TOOLING

• Read the specification
• Prune/Improve the Tooling
STEP BY STEP

Requirements → Static profile → Element types

Palette → Graphical element types → New Child Menu

Properties → Viewpoint configuration → Packaging

Requirements → Static profile → Element types

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Properties → Viewpoint configuration → Packaging
The static profile
  - Generated code in src-gen
  - Override the factory
  - Derived feature

Element type
  - Remove unused element
  - Add some elements
    - Init values
    - Create sub elements
• **Style**
  - Create a css for each diagram
  - Display stereotype compartment
  - Hide compartment

• **Property view**
  - Add a constraint in the framework
  - Merge from 1.1

• **Palette**
  - Add UML elements
  - Add new SysML elements

• **Expansion**
  - Add compartment
  - Use new figure
  - Add Port
MODEL ARCHITECTURE WITH EXPANSION FRAMEWORK

- **UML element type**
- **SysML element type**
- **Sysml New Child**
- **UML expansion model**
- **BDD element type**
- **BDD palette**
- **BDD expansion model**

Model → Block
DEMO
FEEDBACKS

• **Tests**
  - Manual
  - Comparison/Testing/Benchmark framework

• **Validation**
  - Validation tool for each meta-model
  - Check missing element type

• **Examples**
  - Demo for common use case [1]
  - Official profiled-DSML example

• **Tooling**
  - Unified

1 : http://jqueryui.com/demos/