

Graphical modelling

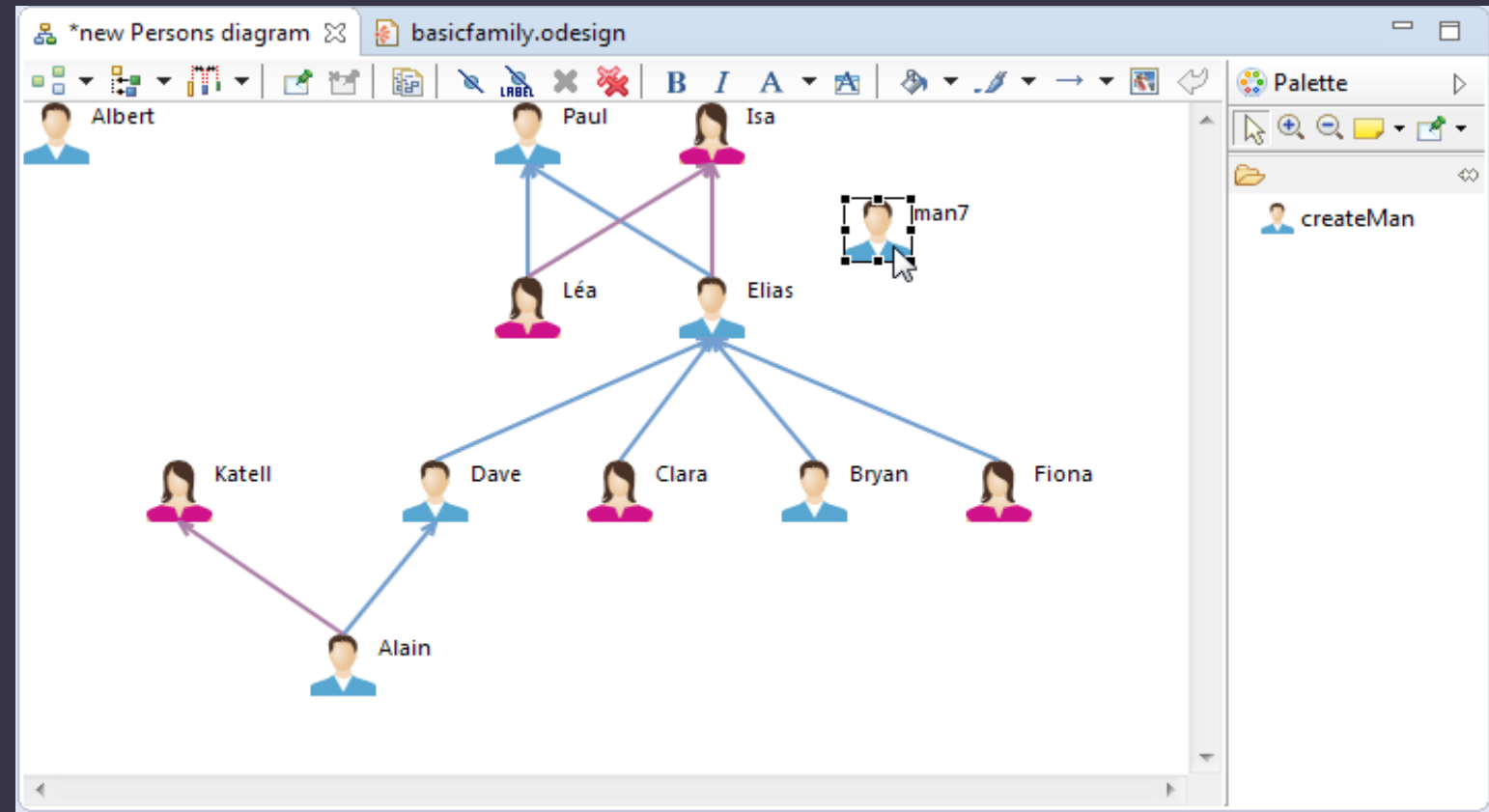
THE SIRIUS FRAMEWORK

0. Overview

1. Introduction
2. Sirius architecture
3. Features and capabilities
4. Comparison
5. Case study

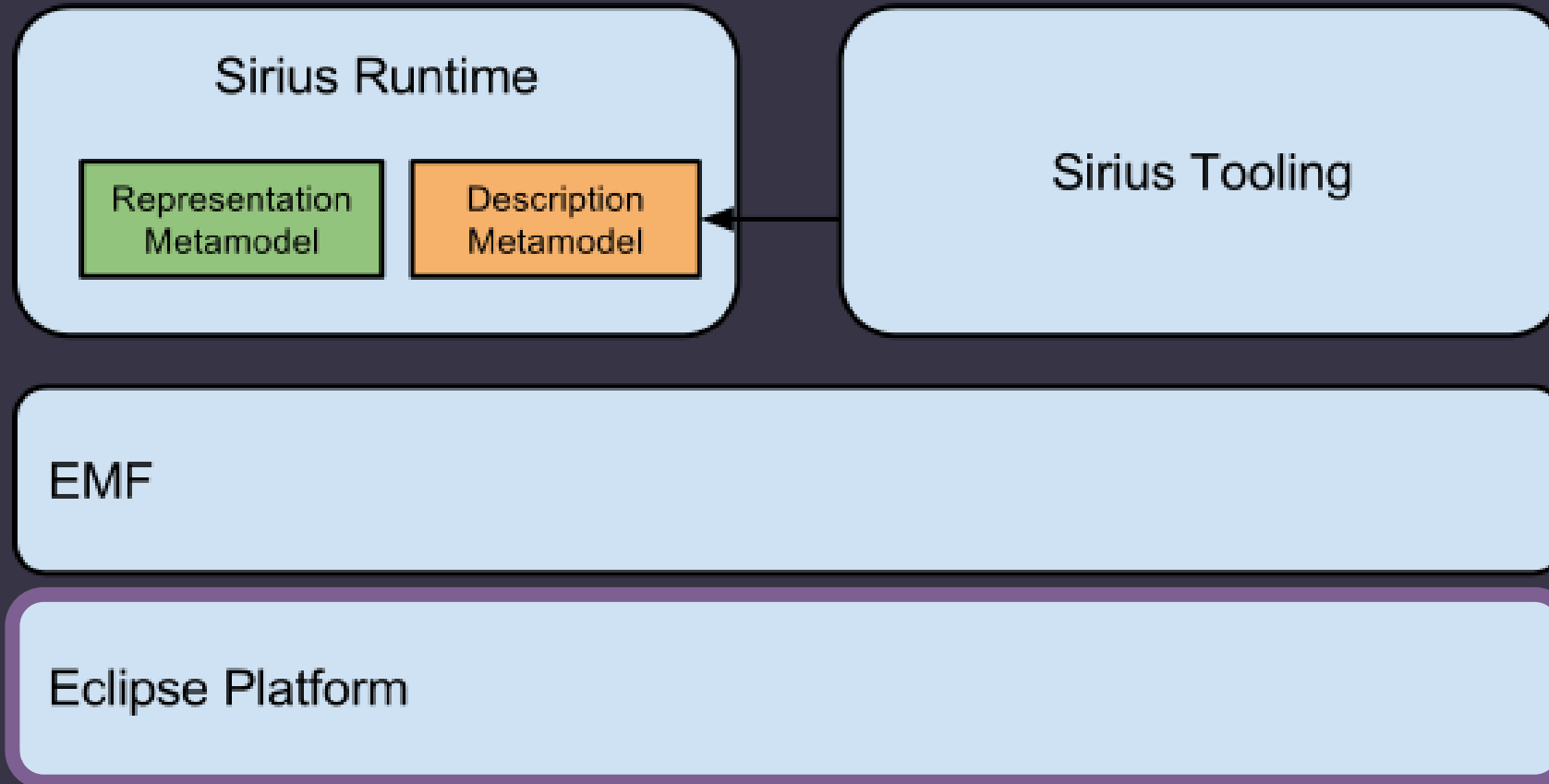
1. Introduction

Sirius¹



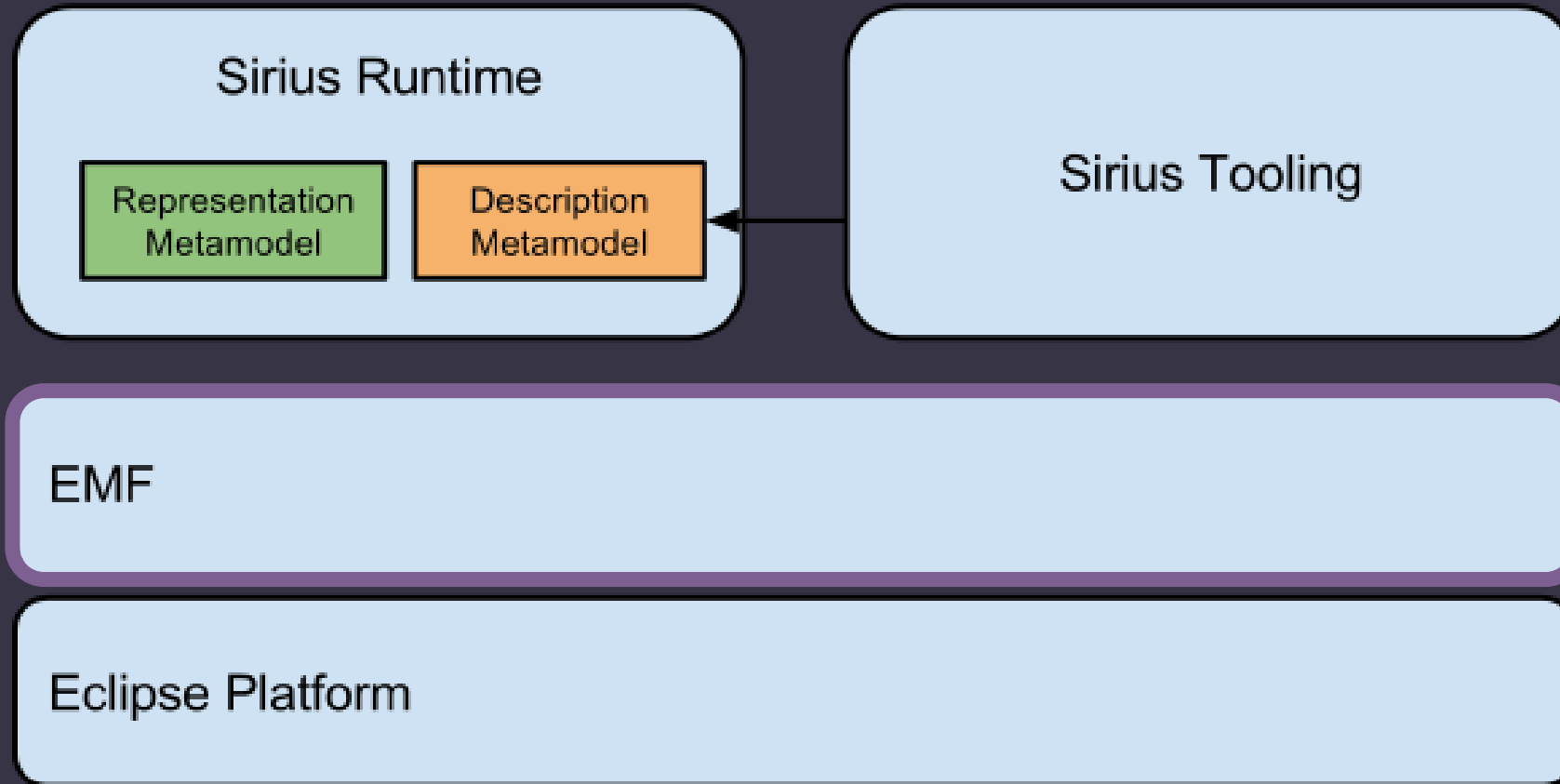
1. <http://www.eclipse.org/sirius/>

2. Sirius architecture



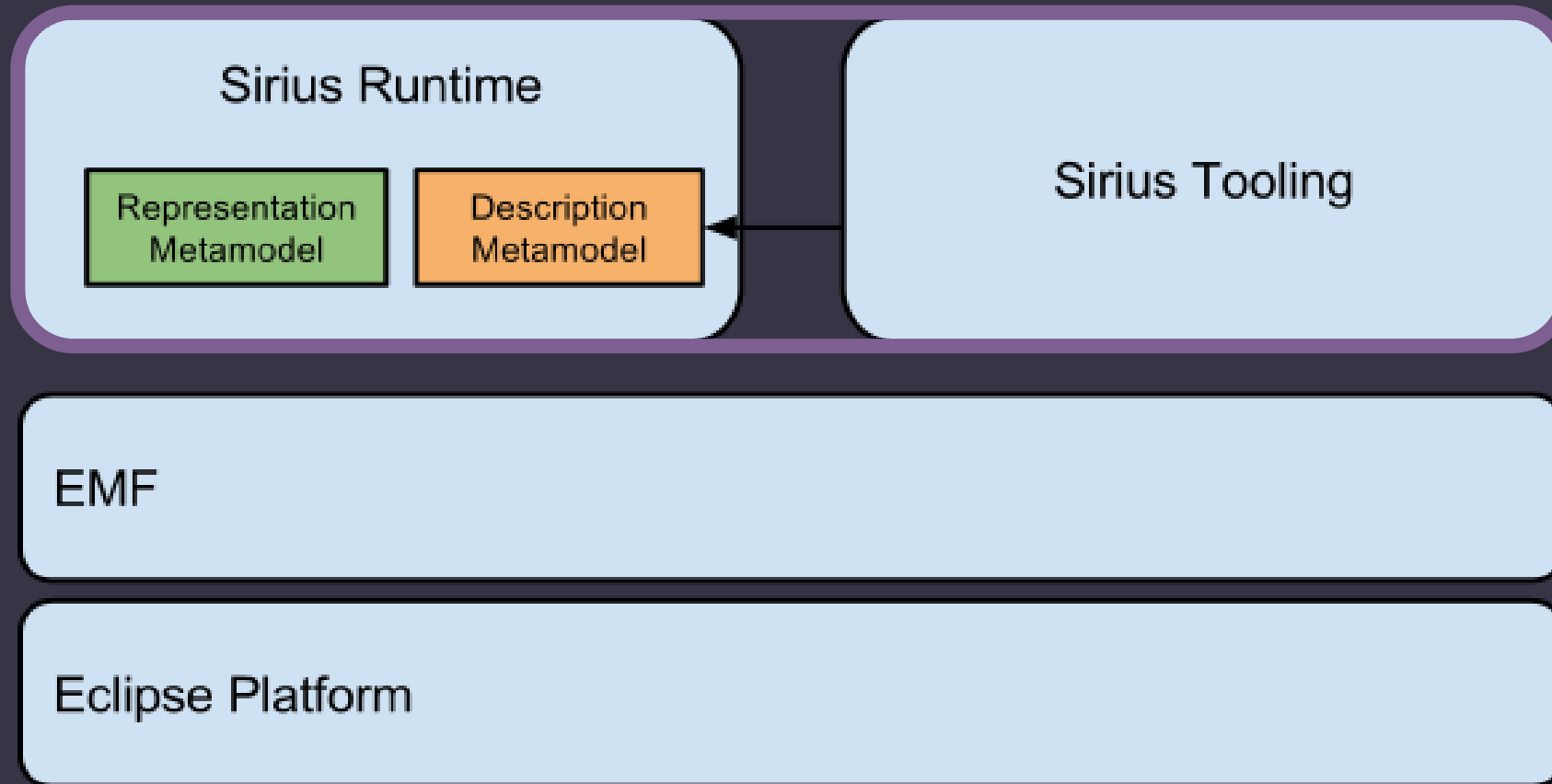
2. https://www.eclipse.org/sirius/doc/developer/Architecture_Overview.html
3. <https://www.eclipse.org/forums/index.php/t/1070145/>

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3. Features and capabilities

Built in representations⁴:

Diagrams

Sequence diagrams

Tables

Trees

Properties view

4. <https://www.eclipse.org/sirius/doc/specifier/Sirius%20Specifier%20Manual.html>

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4. <https://www.eclipse.org/sirius/doc/specifier/Sirius%20Specifier%20Manual.html>

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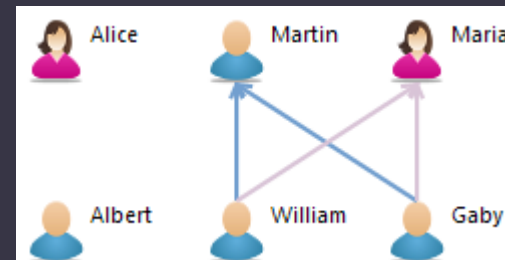
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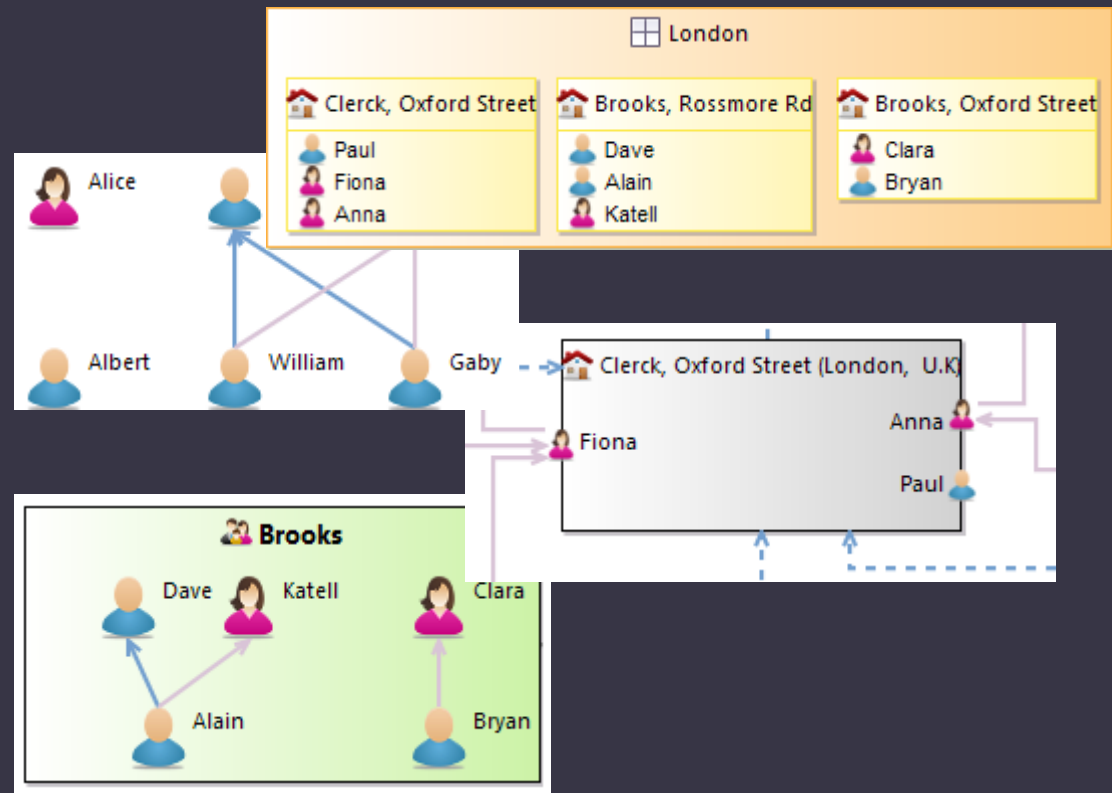
Properties view



4. <https://www.eclipse.org/sirius/doc/specifier/Sirius%20Specifier%20Manual.html>

3. Features and capabilities

Diagrams Layers
Styling
Tools
Filters
Validation



5. <https://www.eclipse.org/sirius/doc/specifier/diagrams/Diagrams.html>

3. Features and capabilities

Built in representations⁴:

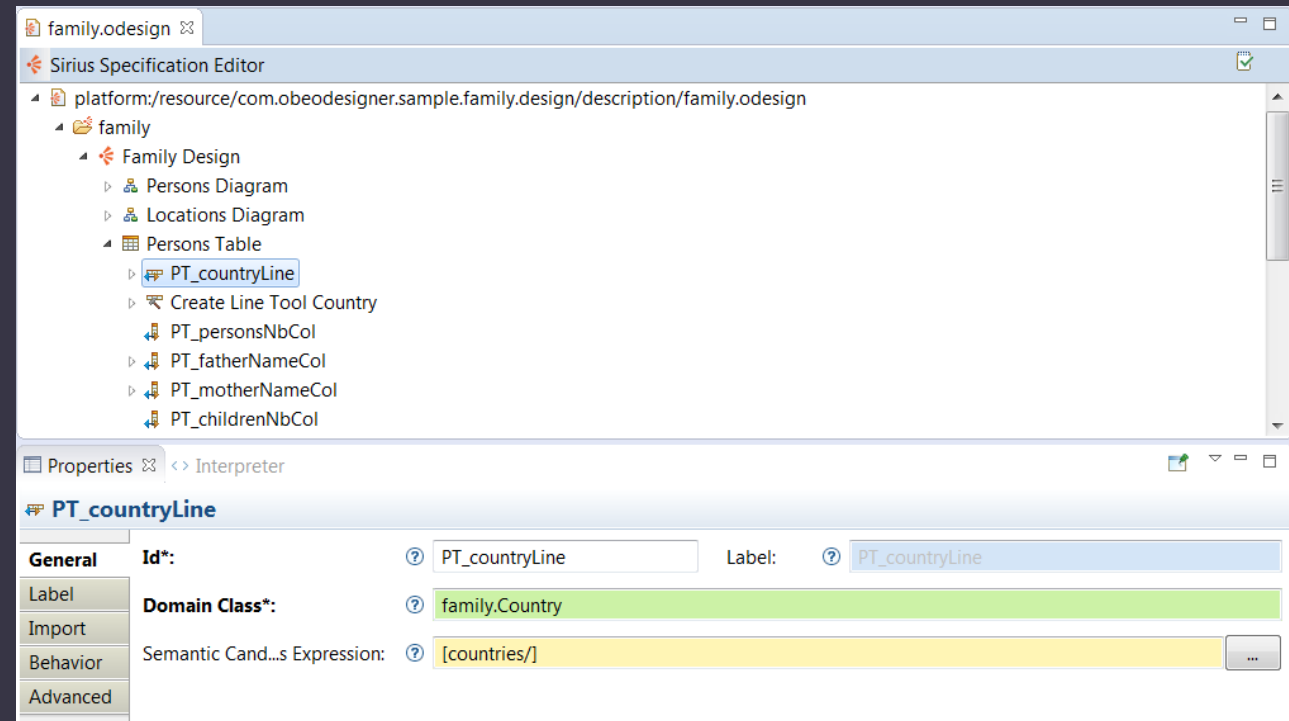
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4. <https://www.eclipse.org/sirius/doc/specifier/Sirius%20Specifier%20Manual.html>

3. Features and capabilities

Tables Edition Tables
Cross Tables

	Paris (France)	Berlin (Germany)	Chicago (U.S.A)	Los Angeles (U.S.A)
Smith John			X	
Smith Jane			X	
Johnson Mary				X
Johnson Earvin				X
Dupont Jacques	X			
Dupont Michelle	X			
Doe John				
Dupont Marc	X			
Dupont Pierre				
Smith Jack				

	Nb persons	Father	Mother	Nb children
France	3			
Paris	3			
Dupont House	3			
Dupont Jacques				1
Dupont Marc		Dupont Jacques	Dupont Michelle	0
Dupont Michelle				1
Germany	0			
Berlin	0			
U.S.A	5			
Chicago	3			
Smith House	3			
Smith John				1
Smith Jack		Smith John	Smith Jane	0
Smith Jane				1
Los Angeles	2			
Johnson House	2			
Johnson Earvin				0
Johnson Mary				0

6. <https://www.eclipse.org/sirius/doc/specifier/tables/Tables.html>

3. Features and capabilities

Built in representations⁴:

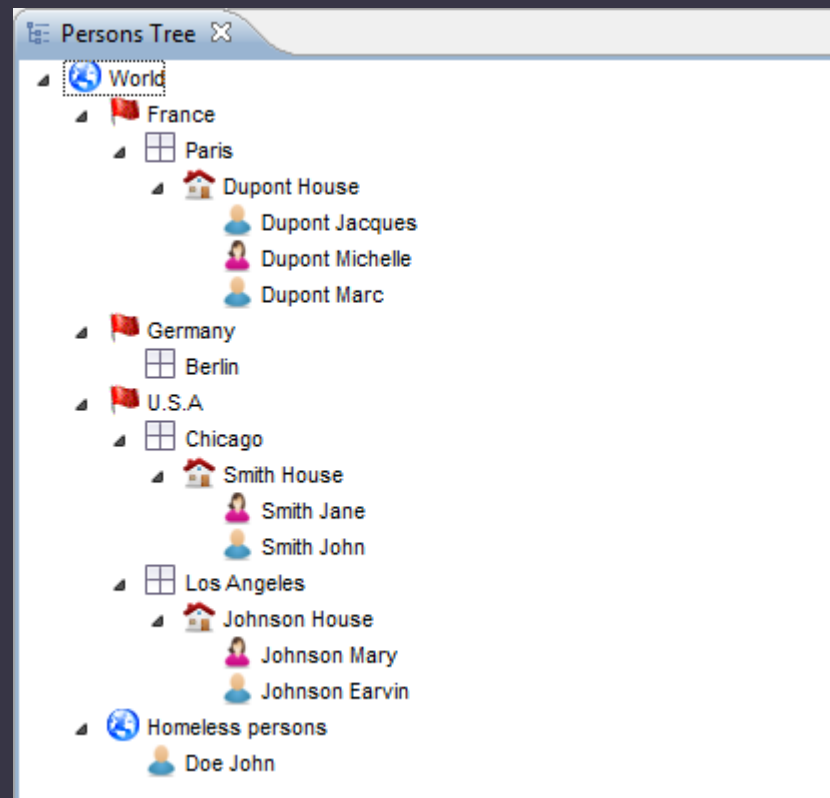
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4. <https://www.eclipse.org/sirius/doc/specifier/Sirius%20Specifier%20Manual.html>

7. <https://www.eclipse.org/sirius/doc/specifier/trees/Trees.html>

3. Features and capabilities

General overview:

The screenshot displays a software interface titled "Countries" with a toolbar at the top. The main content area is organized into three hierarchical levels:






- Homeless persons** (Left sidebar):
 - Doe John
 - Dupont Pierre
- France** (Green box):
 - Paris** (Orange box):
 - Dupont House** (Yellow box):
 - Dupont Jacques
 - Dupont Michelle
 - Dupont Marc
- Germany** (Green box):
 - Berlin** (Orange box):
- U.S.A** (Green box):
 - Chicago** (Orange box):
 - Smith House** (Yellow box):
 - Smith Jane
 - Smith John
 - Smith Jack
 - Los Angeles** (Orange box):
 - Johnson House** (Yellow box):
 - Johnson Mary
 - Johnson Earvin

On the right side, there is a **Palette** window with a **Tools section** containing the following items:






- Country
- City
- House
- Select persons

4. Comparison

Sirius

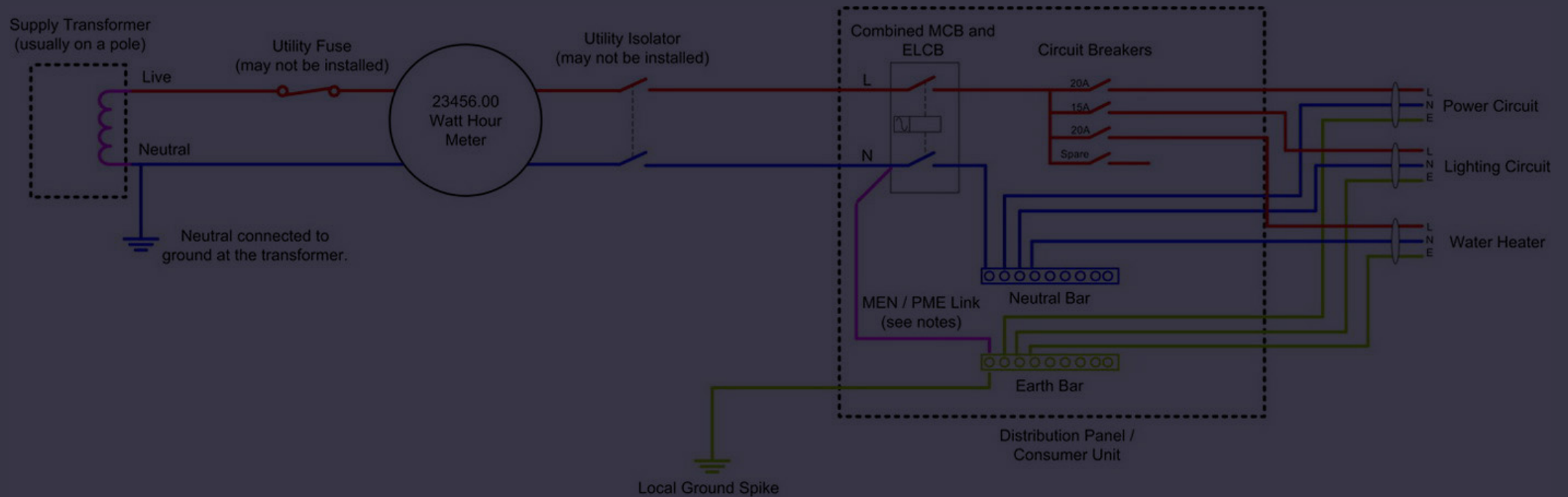
-  Eclipse
-  Can draw on many Eclipse plugins
-  Extendable because of API
-  Fast way to edit
-  Higher entry point

AToMPM

-  Node.js
-  Standalone bootstrapped
-  Extendable with models
-  Uncommon shortcuts / Custom UI
-  Easy first steps

5. Case study

Electrical systems



5. Case study

Electrical Systems

Elements

Cables

Switches

Lights

Junction boxes

Sockets

...

5. Case study

Electrical Systems

Sirius?

Suitable for multiple views, representations

Balanced use of Sirius capabilities

Requirement checking possible

5. Case study

Electrical Systems

A.R.E.I^{8,9,10,11}

8. http://economie.fgov.be/nl/consument/Energie/Elektriciteit/Controle_installations/#.WFG-xlxyxlx
9. <http://www.werk.belgie.be/defaultTab.aspx?id=593>
10. http://www.belgium.be/nl/huisvesting/bouwen_en_verbouwen/normen_en_veiligheid/elektrische_installaties
11. <http://www.epc-platform.be/files/arei-beknopt-vincotte.pdf>

5. Case study Electrical Systems

A.R.E.I

Cable colors

Short circuit

Allocated distribution point per wire

Fuse amperage

...

8. http://economie.fgov.be/nl/consument/Energie/Elektriciteit/Controle_installations/#.WFG-xlxyxlx
9. <http://www.werk.belgie.be/defaultTab.aspx?id=593>
10. http://www.belgium.be/nl/huisvesting/bouwen_en_verbouwen/normen_en_veiligheid/elektrische_installaties
11. <http://www.epc-platform.be/files/arei-beknopt-vincotte.pdf>

5. Case study Electrical Systems

Model transformations and code generation

Simulator

Optimization

6. Summary

Sirius built on top of existing structure

Extensive list of features

Comparison of tools

Case study: Electrical systems