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How to Deal With Your IT Legacy? Reverse Engineering with MoDisco...

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How to Deal With Your IT Legacy? Reverse Engineering with MoDisco...



Hugo Brunelière
Frédéric Madiot

INRIA / AtlanMod team
Mia-Software

Overview

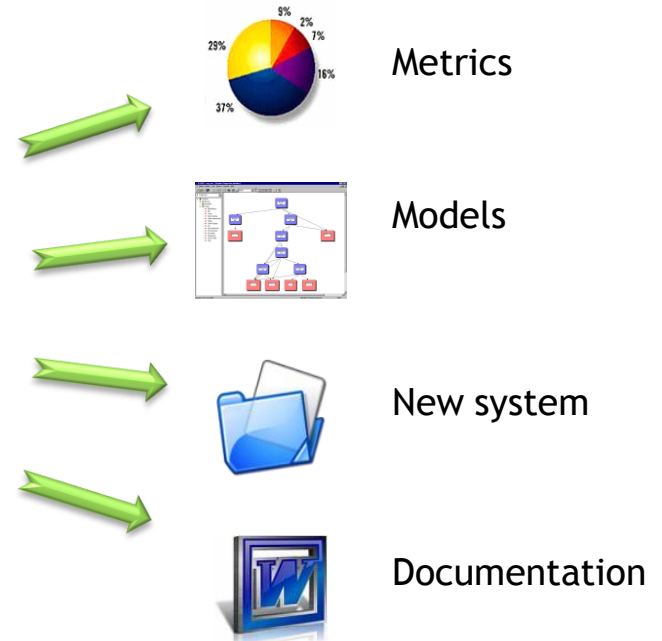
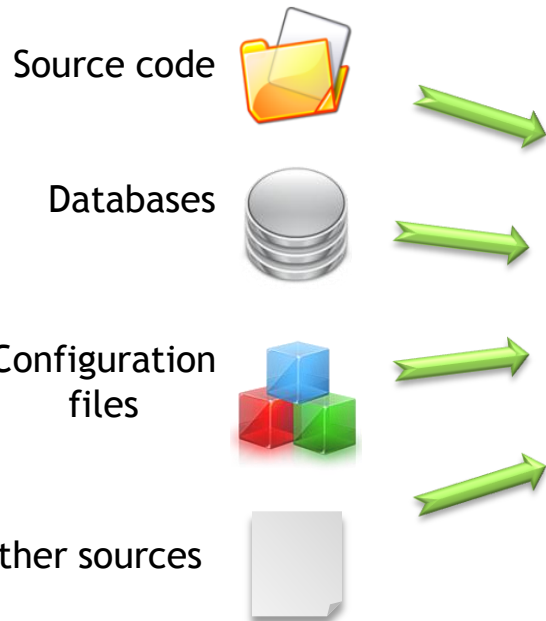


a **Model-Driven** platform
for **Software Modernization** projects

Support multiple
Legacy Technologies

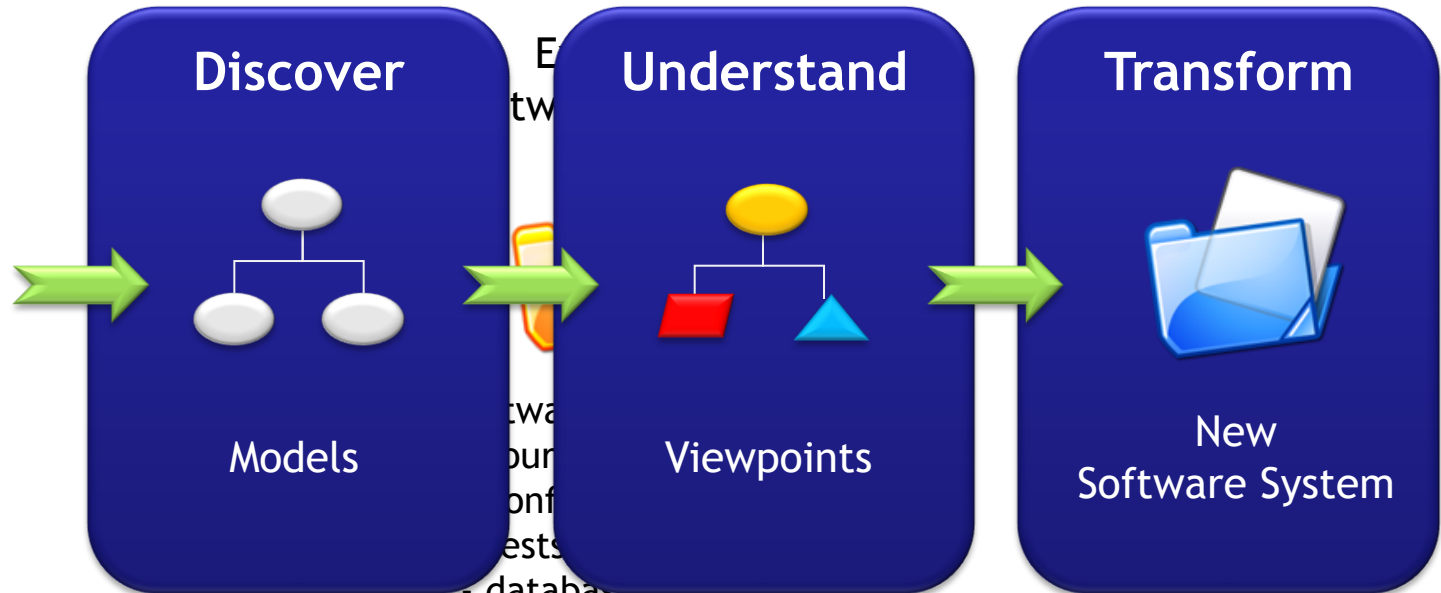
Support multiple
Modernization Scenarios

Support multiple
Outputs

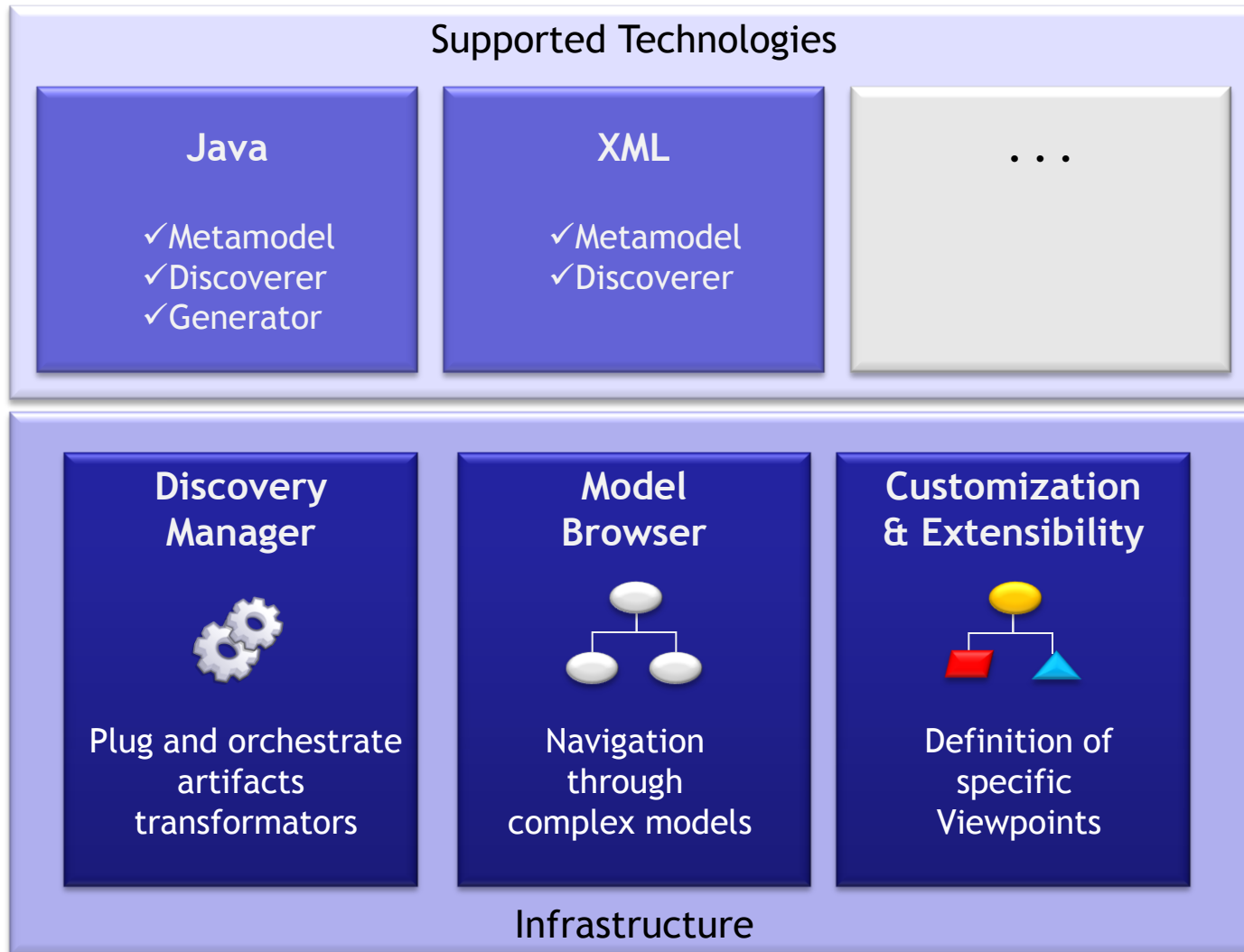


Approach

Models to represent and manipulate
artifacts of existing systems



Architecture



Legacy applications in Java ?



From the moment one writes a line of code, it becomes legacy, and that legacy accumulates (Grady Booch)

- Samples



- LinkedIn > 1M lines of java code
- Texas Health (TIERS application) > 2.5M lines of java code
- CruiseControl > 5M lines of java code
- Eclipse (Galileo) > 24M lines of java code
- SAP (NetWeaver) > 24M lines of java code (255k classes)

- Continuous evolution

- JDK versions x Frameworks x Design Patterns

Complex models ?



Java metamodel :

- 126 types
- 173 references

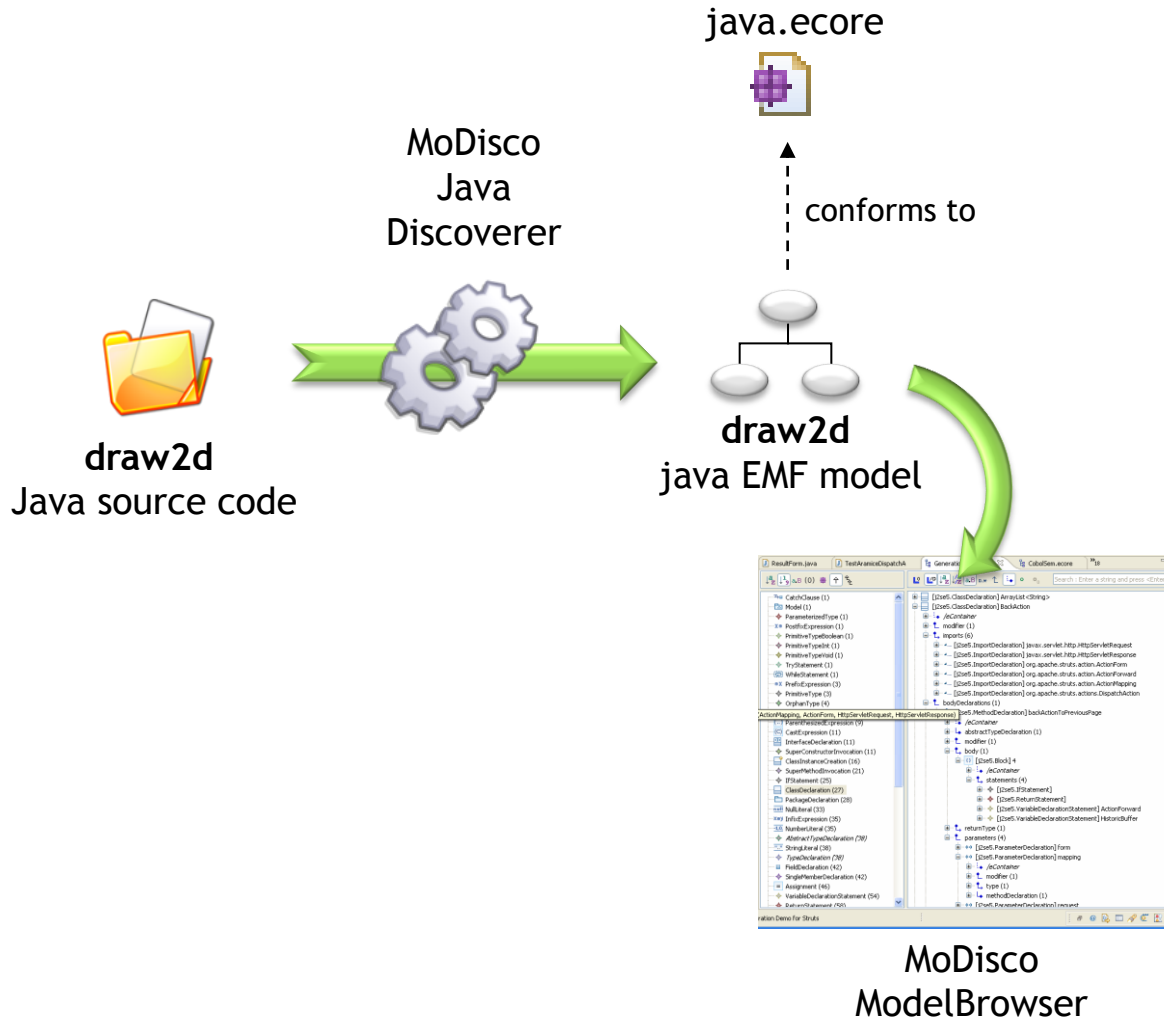
Example :

Java model of **draw2d** :

- org.eclipse.draw2d
- org.eclipse.draw2d.tests

447 Java classes \Rightarrow **144 374** nodes !

MoDisco Demo



Find Patterns in your Models !



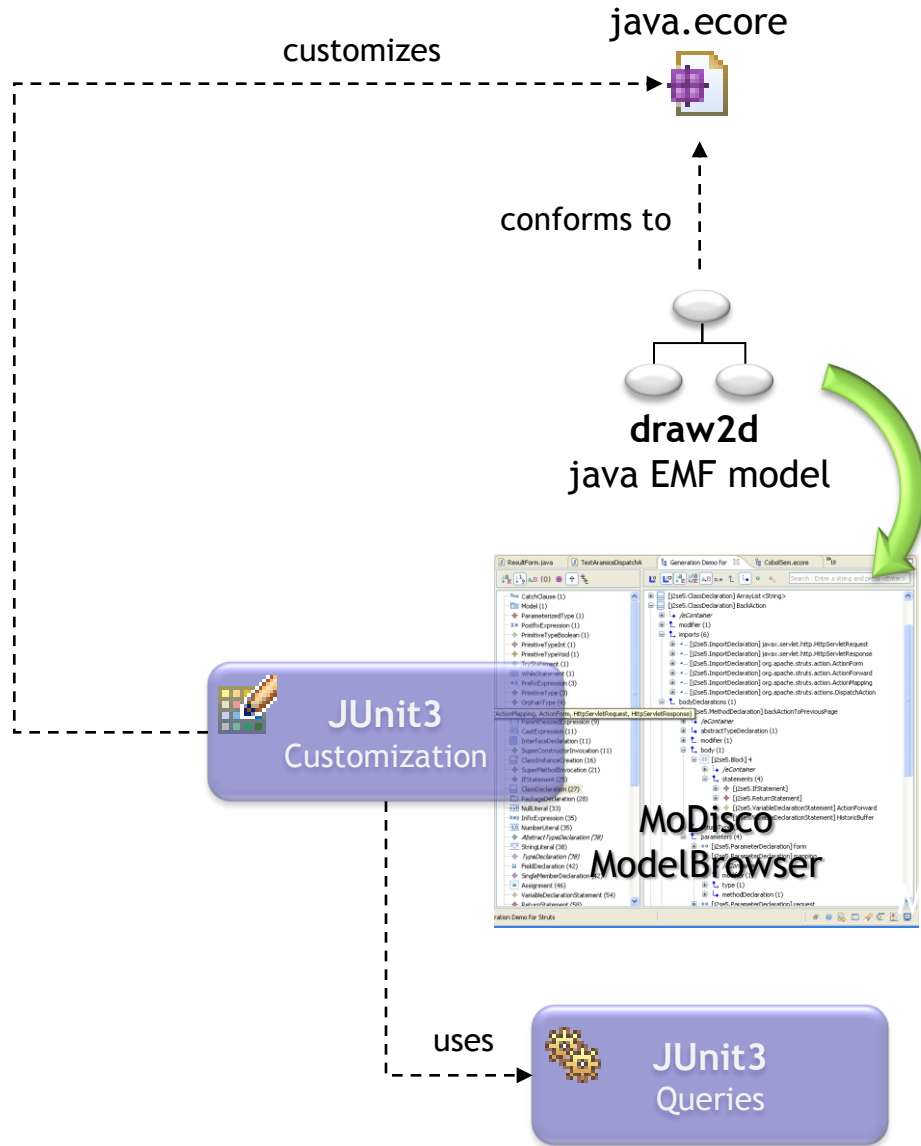
Define and dynamically plug
your own
Facets & UI Customizations

Example

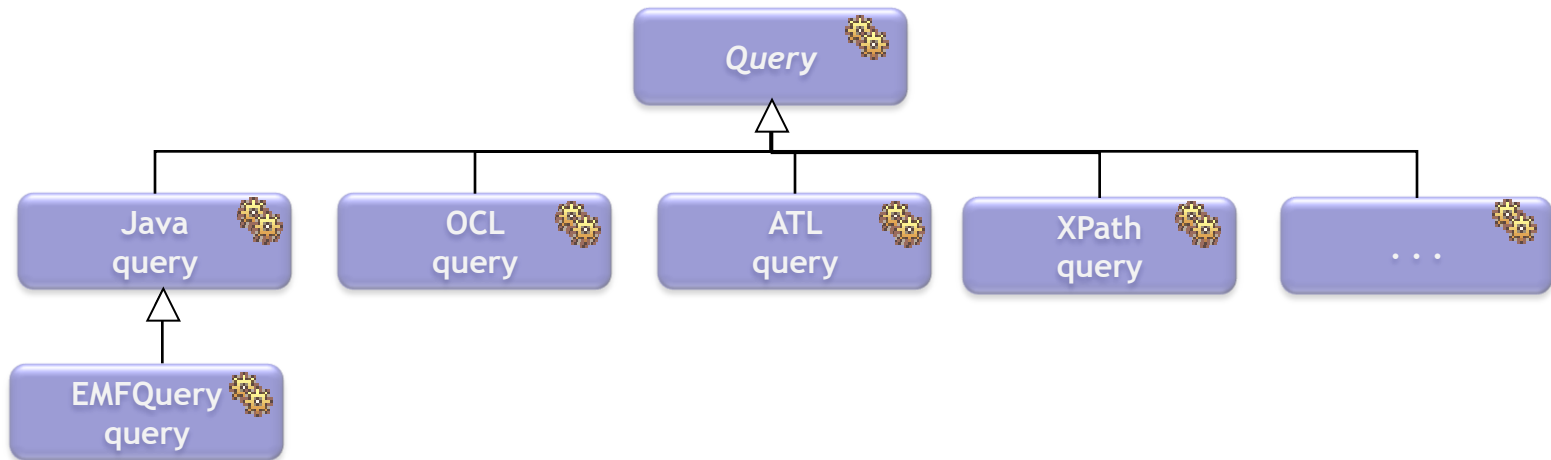
Decorate the Java model of
org.eclipse.draw2d.tests
To highlight **JUnit** patterns:

- Test suite
- Test case
- Test

MoDisco Demo

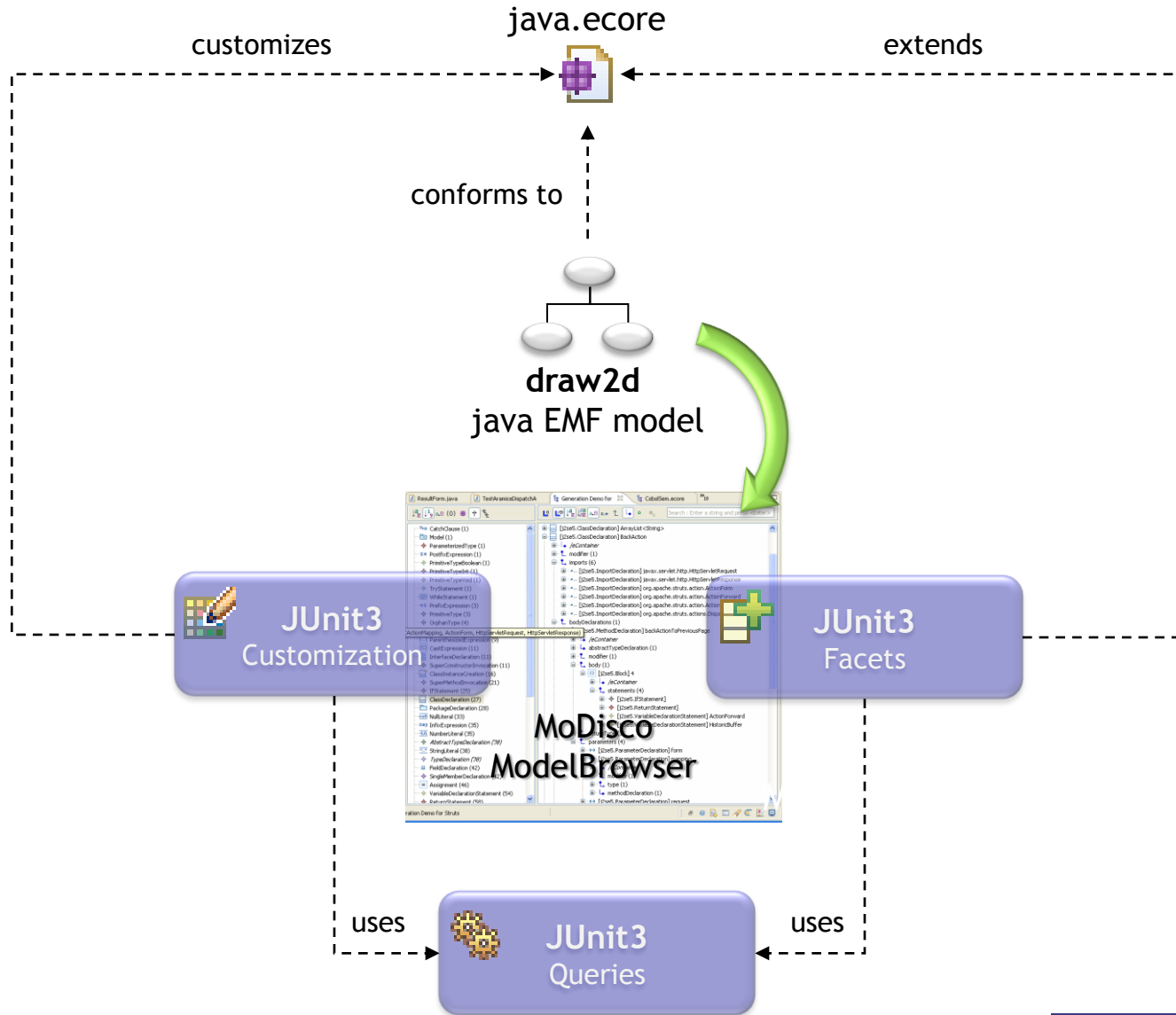


MoDisco Demo

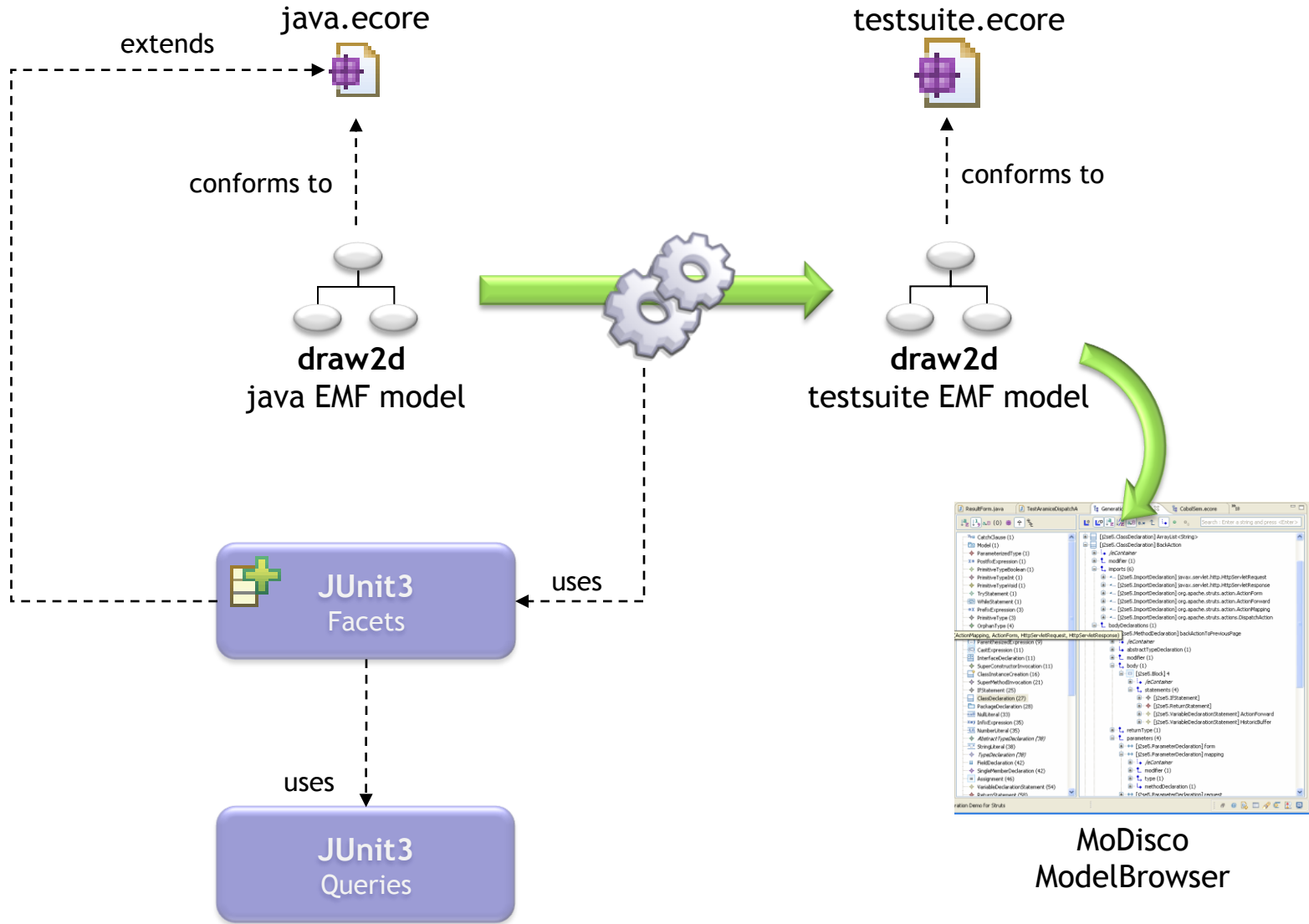




MoDisco Demo



MoDisco Demo

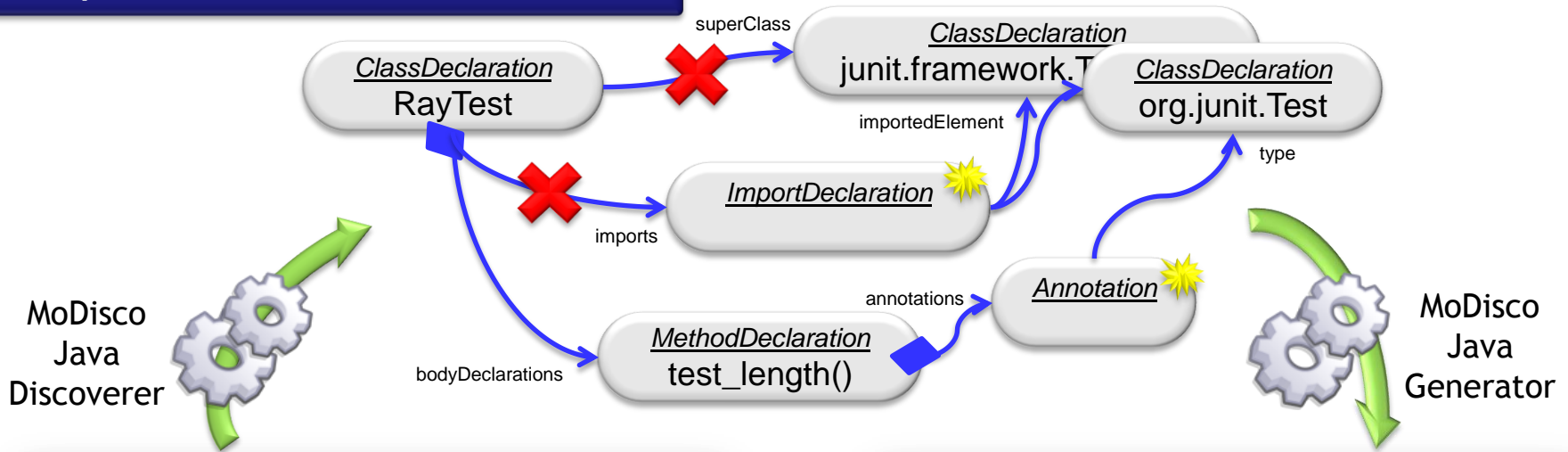


MoDisco ModelBrowser

Transform and Regenerate ...



Example : from JUnit3 to JUnit4



```
package org.eclipse.draw2d.test;

import junit.framework.TestCase;
import org.eclipse.draw2d.geometry.Ray;

public class RayTest extends TestCase {

    public void test_length() {
        testLengthValues(3, 4, 5);
        testLengthValues(0,
            Integer.MAX_VALUE,
            Integer.MAX_VALUE);
    }
}
```



```
package org.eclipse.draw2d.test;

import org.junit.Test;
import org.eclipse.draw2d.geometry.Ray;

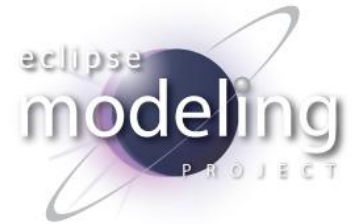
public class RayTest {

    @Test
    public void test_length() {
        testLengthValues(3, 4, 5);
        testLengthValues(0,
            Integer.MAX_VALUE,
            Integer.MAX_VALUE);
    }
}
```

Who is involved in MoDisco ?



- The MoDisco team
 - 6 committers
 - 1 from INRIA
 - 5 from Mia-Software
 - Several regular active contributors
- Supported by the OMG (ADM TF)
 - Reference implementations of standards from the
 - Architecture Driven Modernization Task Force
 - KDM (Knowledge Discovery Metamodel)
 - SMM (Software Metrics Metamodel)
- Supported by the European Commission
 - Project initiated by INRIA in the context of
 - the MODELPLEX IST-FP6 European Project





Questions ?

www.eclipse.org/gmt/modisco

MoDisco Downloads




MoDisco	Eclipse	Java
0.8	3.8 (Helios)	5.0
0.7	3.5 (Galileo)	5.0

Latest Releases

>> [0.7.1 \(2009/10/12\)](#)  OK ✓

0.8.0 Stable Builds

>> [0.8.0M6 \(2010/03/16\)](#)  OK ✓

>> [0.8.0M5 \(2010/02/01\)](#)  OK ✓

>> [0.8.0M4 \(2010/01/19\)](#)  OK ✓



Questions ?

www.eclipse.org/gmt/modisco

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