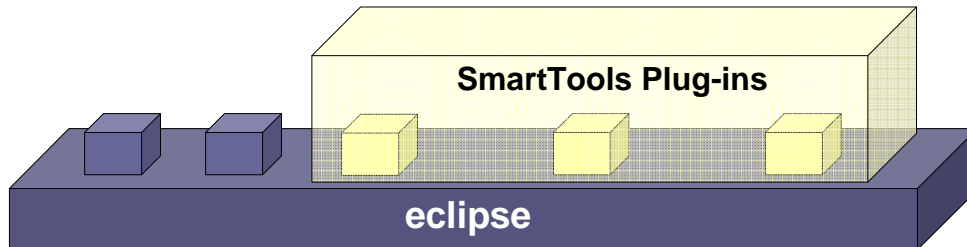


Eclipse Plug-ins Factory

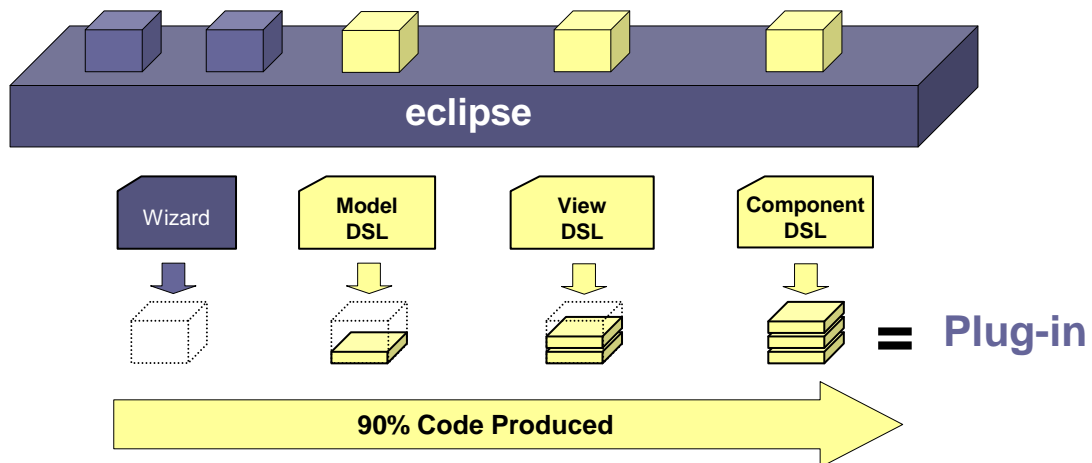
Instantiation of the SmartTools approach

1 Distribution of SmartTools into the Eclipse IDE



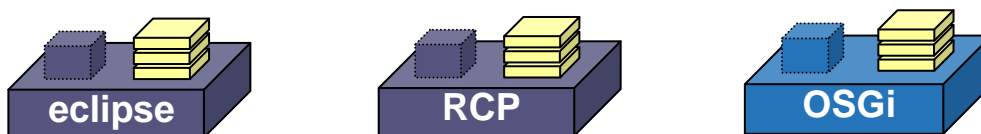
2 Plug-ins Factory: Model-Driven Engineering

MDE

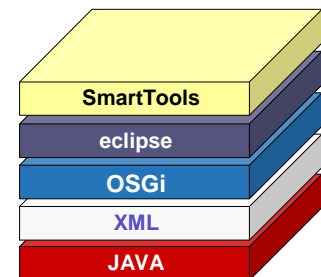


3 Quick Products: Plug-ins, RCPs, Bundles

SOA



4 Technologies: 100% Open Source!



Smarttools

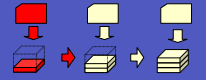
INSTITUT NATIONAL
DE RECHERCHE
EN INFORMATIQUE
ET EN AUTOMATIQUE

INRIA
SOPHIA ANTIPOLIS

<http://www-sop.inria.fr/smartool/eclipse>

ABSINT - Abstract Syntaxe

Model



DTD
(XML.dtd)

ABSINT
(XML.absynt)

XSD
(XML.xsd)

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Generated from abstract specification -->
<!-- Name: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
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<!-- DTD: -->
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<!-- DTD: -->
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<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
```

```
Root is Top;
Operator and type definitions {
  Top = document(Element root);
  Element = element(attrs: ElementString[] children:
  ElementString = string as Java.Lang.String;element:
  Attr = attr();
}
Attribute definitions {
  REQUIRED name as Java.Lang.String in element, attr;
  REQUIRED value as Java.Lang.String in element, attr;
}
```

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Generated from abstract specification -->
<!-- Name: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
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<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
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<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
```

```
public class Visitor extends TraversalVisitor {
  // Constructors
  public Visitor() {
  }
  public Visitor(Visitor parent) {
  }
  public Visitor(Visitor parent, VisitorGenerator generator) {
  }
}
```

DSL

Visitor
(XMLVisitor.java)

GENERATION

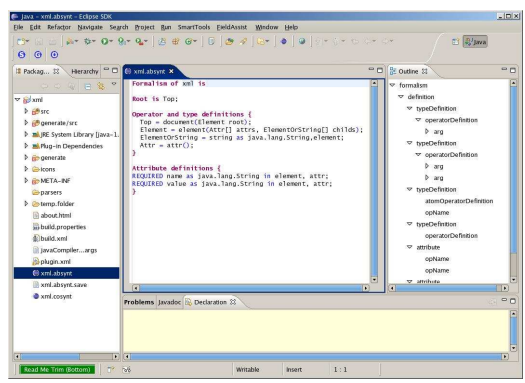
```
public class Visitor extends TraversalVisitor {
  // Constructors
  public Visitor() {
  }
  public Visitor(Visitor parent) {
  }
  public Visitor(Visitor parent, VisitorGenerator generator) {
  }
}
```

```
public class Visitor extends TraversalVisitor {
  // Constructors
  public Visitor() {
  }
  public Visitor(Visitor parent) {
  }
  public Visitor(Visitor parent, VisitorGenerator generator) {
  }
}
```

Model

DSL

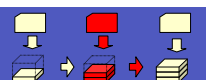
(XML.dtd, XML.xsd)



ABSINT - Plugin

COSYNT - Concrete Syntaxe

View



COSYNT
(XML.cosynt)

```
Root is Top;
Operator and type definitions {
  Top = document(Element root);
  Element = element(attrs: ElementString[] children:
  ElementString = string as Java.Lang.String;element:
  Attr = attr();
}
Attribute definitions {
  REQUIRED name as Java.Lang.String in element, attr;
  REQUIRED value as Java.Lang.String in element, attr;
}
```

DSL

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Generated from abstract specification -->
<!-- Name: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
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<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
<!-- DTD: -->
```

```
Component class: XmlContainer
Facade class: XmlFacade
Formal class: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
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Parameter: XmlFacade
Parameter: XmlFacade
```

View 1

View n

xsl **xsl**

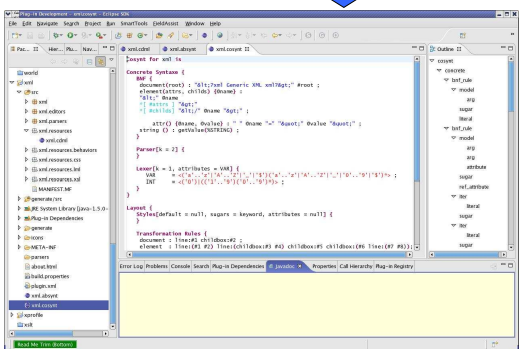
GENERATION

```
Component class: XmlContainer
Facade class: XmlFacade
Formal class: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
Parameter: XmlFacade
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Parameter: XmlFacade
```

Model

xsl **Parser**

GENERATION

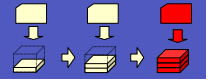


COSYNT - Plugin

Concrete Syntaxe

CDML – Component Description

Component

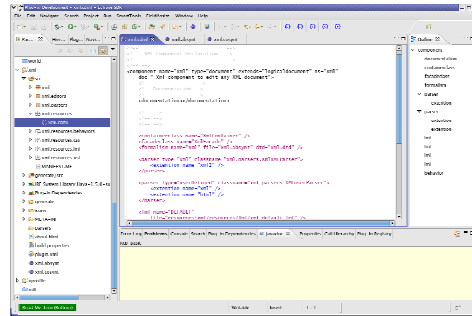


CDML
(XML.cdml)

```

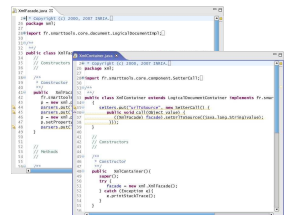
<?xml version="1.0" encoding="ISO-8859-1"?>
<cdml xmlns="http://www.inria.fr/soa/2007/08/01/CDML" >
  <component id="org.eclipse.ui.views.console" >
    <name>Console</name>
    <description>The console view</description>
    <provider class="org.eclipse.ui.views.console.ConsoleView" >
      <method>createWidget</method>
    </provider>
    <requires id="org.eclipse.ui.views.console.console" >
      <type>org.eclipse.ui.views.ConsoleView</type>
    </requires>
  </component>
</cdml>
    
```

DSL



CDML - Plugin

Container



GENERATION

Facade

```

import org.eclipse.ui.views.console.ConsoleView;
import org.eclipse.ui.views.console.ConsoleViewProvider;
import org.eclipse.ui.views.console.ConsoleViewDescriptor;

public class ConsoleViewProvider implements ConsoleViewProvider {
    public ConsoleViewDescriptor createDescriptor() {
        return new ConsoleViewDescriptor();
    }
}
    
```

Activator

SmartTools / OSGi

SOA

Configuration

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<cdml xmlns="http://www.inria.fr/soa/2007/08/01/CDML" >
  <component id="org.eclipse.ui.views.console" >
    <name>Console</name>
    <description>The console view</description>
    <provider class="org.eclipse.ui.views.console.ConsoleView" >
      <method>createWidget</method>
    </provider>
    <requires id="org.eclipse.ui.views.console.console" >
      <type>org.eclipse.ui.views.ConsoleView</type>
    </requires>
  </component>
</cdml>
    
```

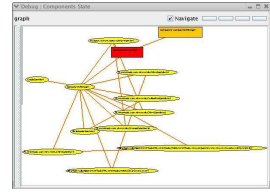


Services

Component Manager

OSGi

SmartTools



```

<?xml version="1.0" encoding="ISO-8859-1"?>
<cdml xmlns="http://www.inria.fr/soa/2007/08/01/CDML" >
  <component id="org.eclipse.ui.views.console" >
    <name>Console</name>
    <description>The console view</description>
    <provider class="org.eclipse.ui.views.console.ConsoleView" >
      <method>createWidget</method>
    </provider>
    <requires id="org.eclipse.ui.views.console.console" >
      <type>org.eclipse.ui.views.ConsoleView</type>
    </requires>
  </component>
</cdml>
    
```

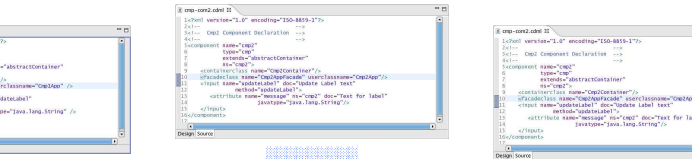
SmartTools / Eclipse / RCPs

SOA

Configuration

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<cdml xmlns="http://www.inria.fr/soa/2007/08/01/CDML" >
  <component id="org.eclipse.ui.views.console" >
    <name>Console</name>
    <description>The console view</description>
    <provider class="org.eclipse.ui.views.console.ConsoleView" >
      <method>createWidget</method>
    </provider>
    <requires id="org.eclipse.ui.views.console.console" >
      <type>org.eclipse.ui.views.ConsoleView</type>
    </requires>
  </component>
</cdml>
    
```



Services

Component Manager

OSGi

Eclipse RCP

