

ROMULUS: Domain Driven Design and Mashup Oriented Development based on Open Source Java Metaframework for Pragmatic, Reliable and Secure Web Development



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CSMR - 18th March, 2010



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Introduction



•7FP ICT-2007.1.2. Consortium:

	GESFOR	ES 	Coordinator, J2EE, OWASP
	ASSET	IT 	SME, Metaframework Product
	LIFERAY	DE 	SME, Portal Product
	UPM	ES 	R+D Soft. Engineering
	IMOLA	IT 	SME, J2EE, JBI
	DERI	IE 	R+D Semantic web
	ICI	RO 	R+D Soft. Engineering

Why Romulus



PROBLEM

Java web development is the leading trend in Europe with more than 1M qualified developers

- Java Enterprise Edition provides more than 900 **industry driven specifications**
- Robust, scalable and proved technology BUT...
- There are problems in its **productivity**
- Need of new methods such as Ruby on Rails

Not as productive
as desirable.
Solution:

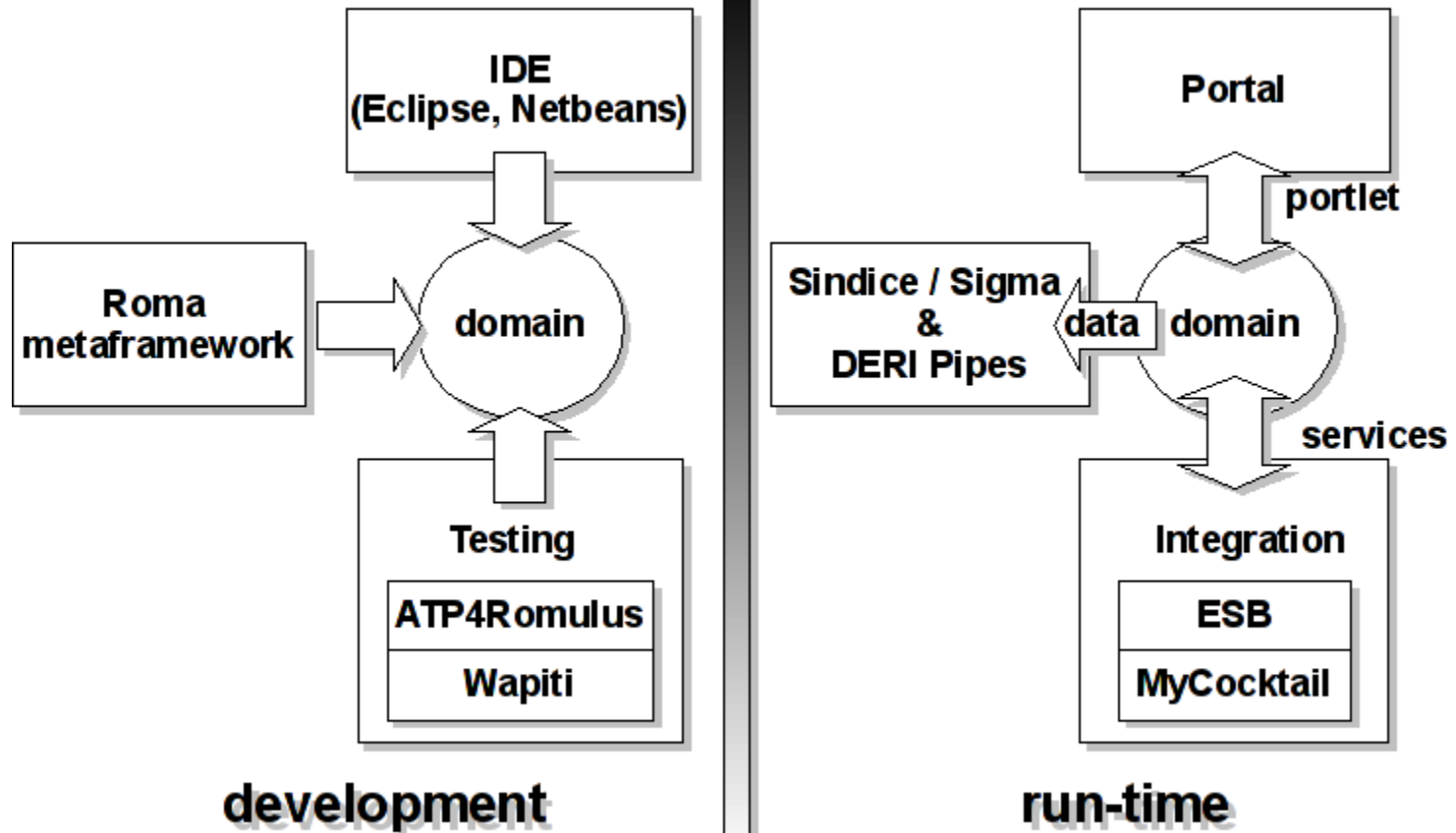


Romulus Objectives

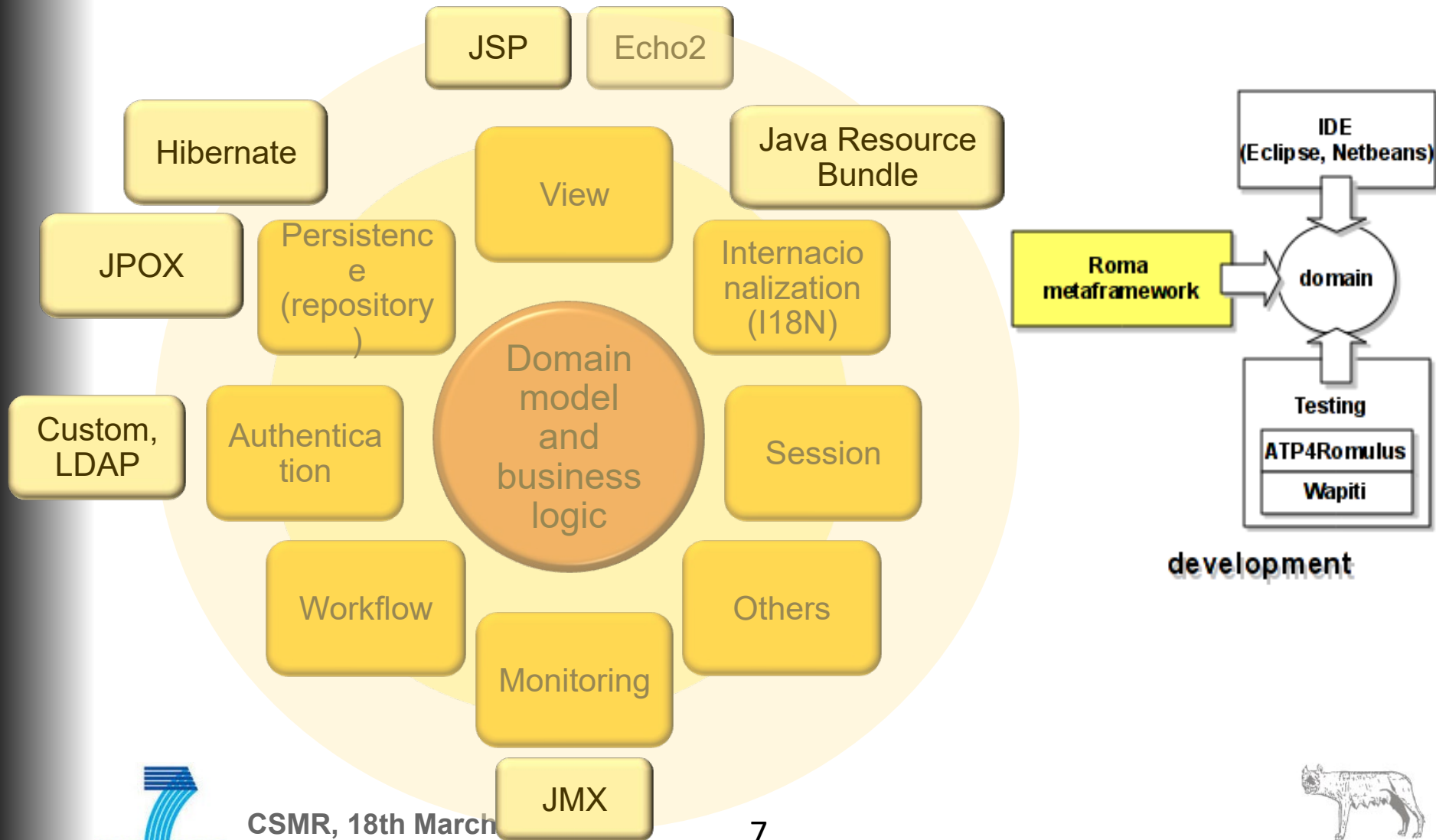


- Researching on novel methods for increasing **productivity** and **reliability** of **Java-based web development**
 - Provide methods and tools for **Domain Driven Design** based on a **Metaframework**
 - Extend domain description with **soft goals** and provide automatic generation of **functional**, **load** and **security tests**
 - Integrate **mashups** in the development cycle
 - Provide bias for seamless **balance** of server and client scripting technologies

Results: The Romulus Approach



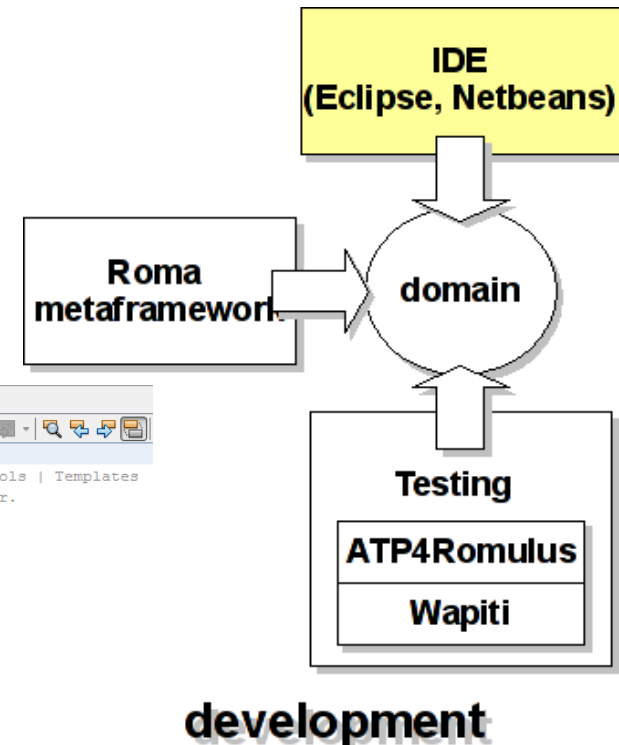
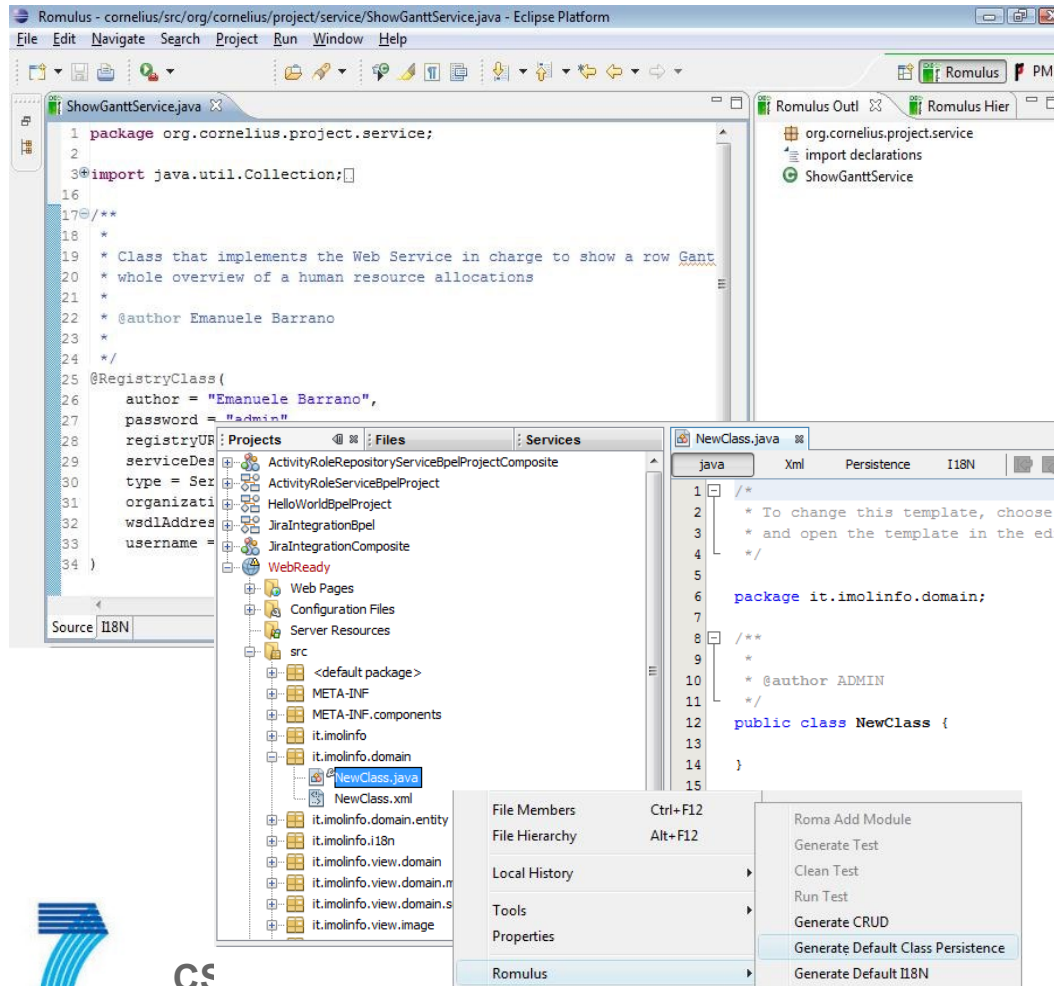
Roma Metaframework



IDE Tools: IDE4Romulus



• Integration with Eclipse and Netbeans



ROMULUS

Testing: ATP4Romulus



ATP4Romulus

- Functional/structural testing: JUnit/TestNG
- Web flow testing: HtmlUnit/Selenium
- Performance/load testing: JMeter/JUnitPerf
- Interaction with database: DBUnit

HtmlUnit

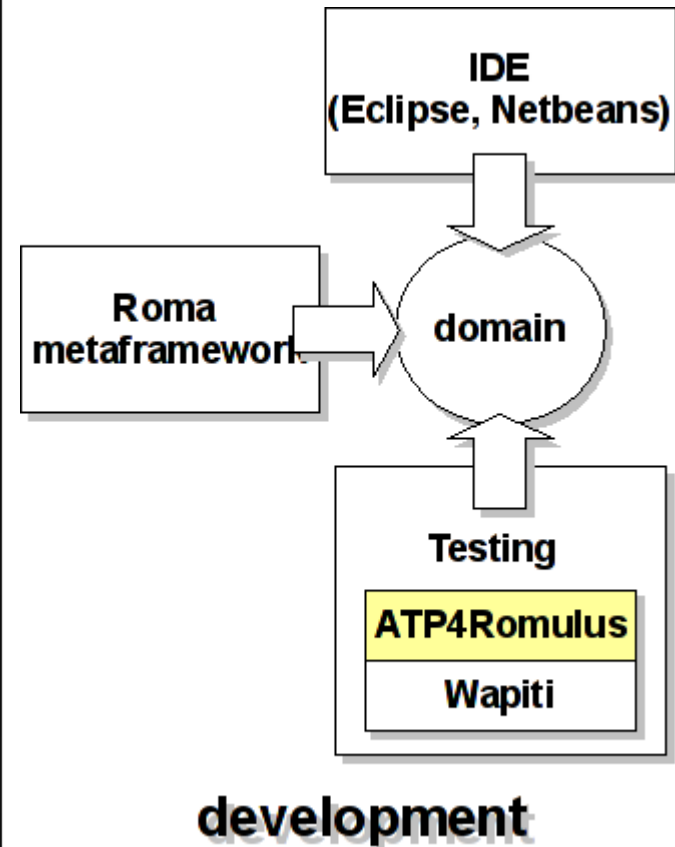
JUnit

dbUnit

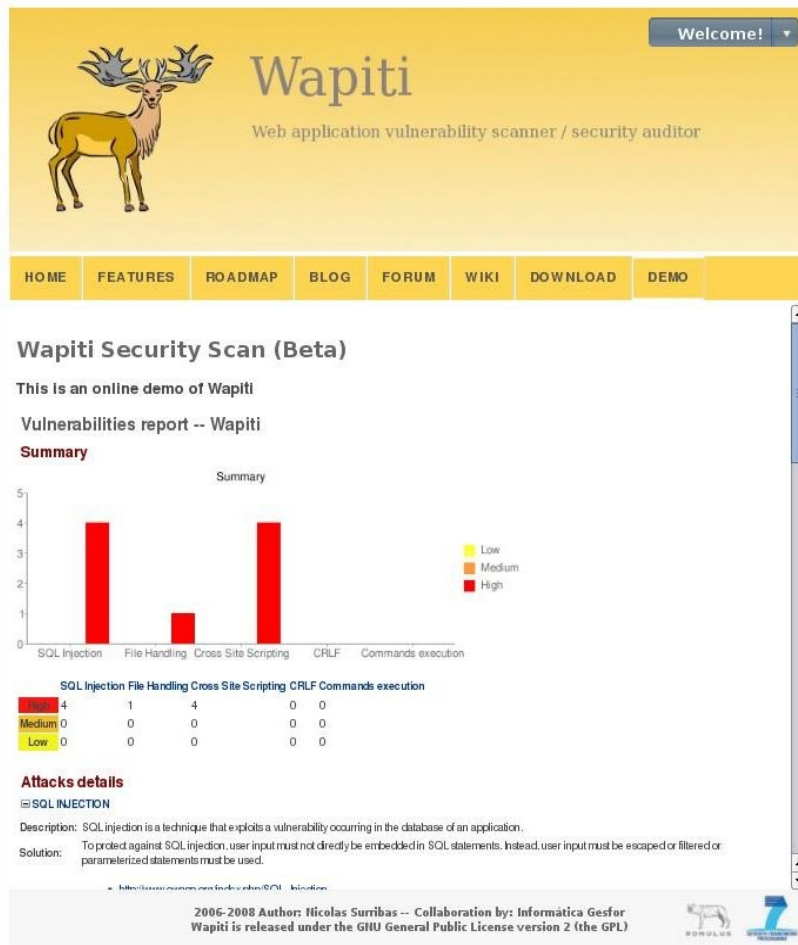


TestNG

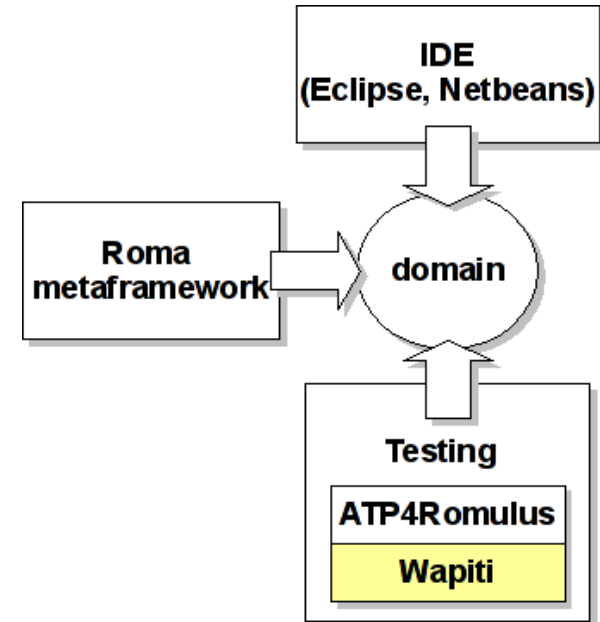
Apache JMeter



Testing: OWASP Wapiti



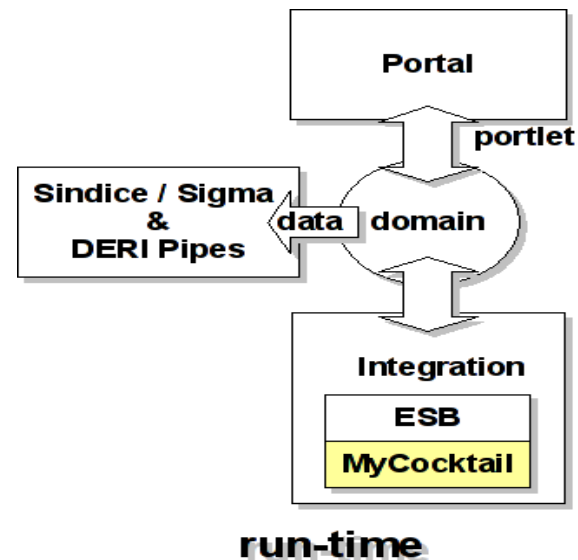
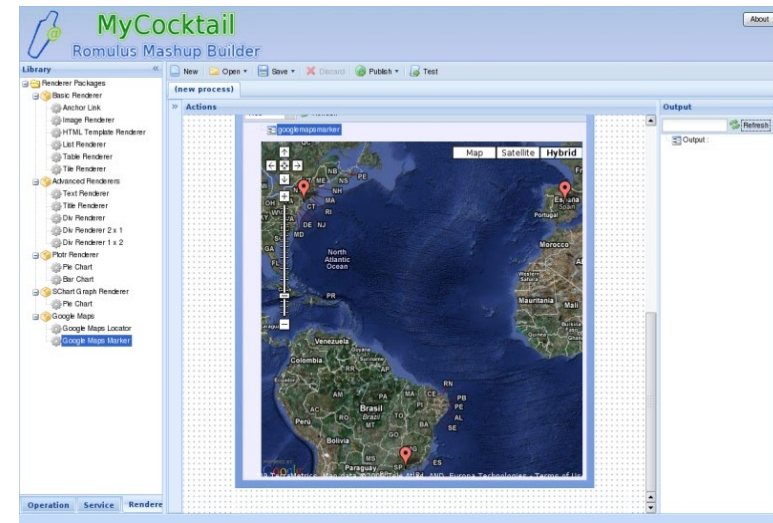
- Security auditor
- Black box testing
- Accepted and integrated in OWASP
- Extensible
- Integrated with Roma



MyCocktail: Mashup Builder

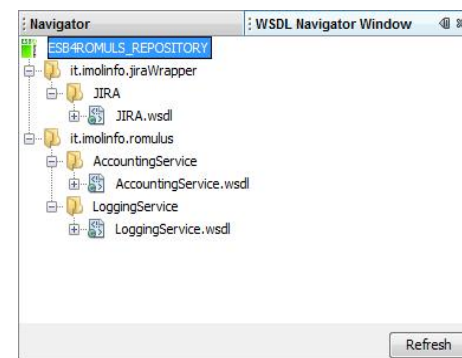
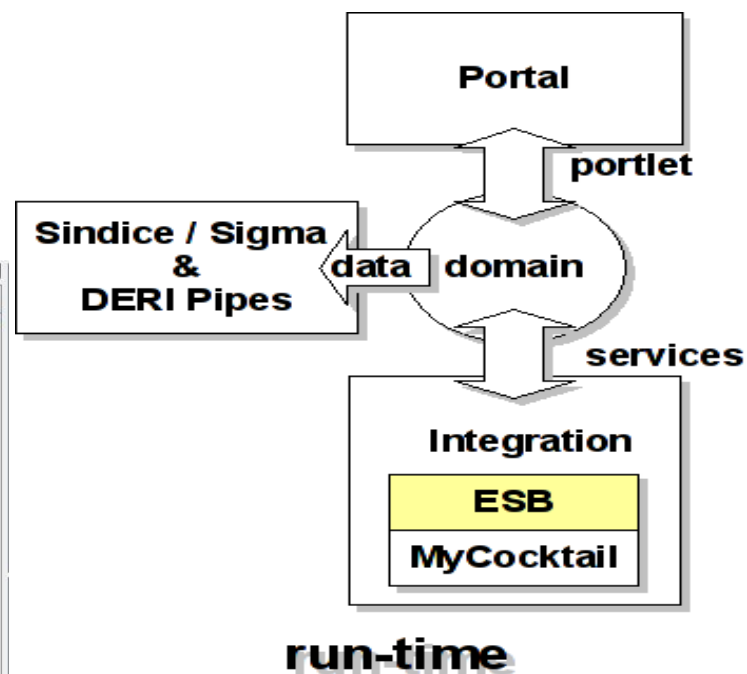
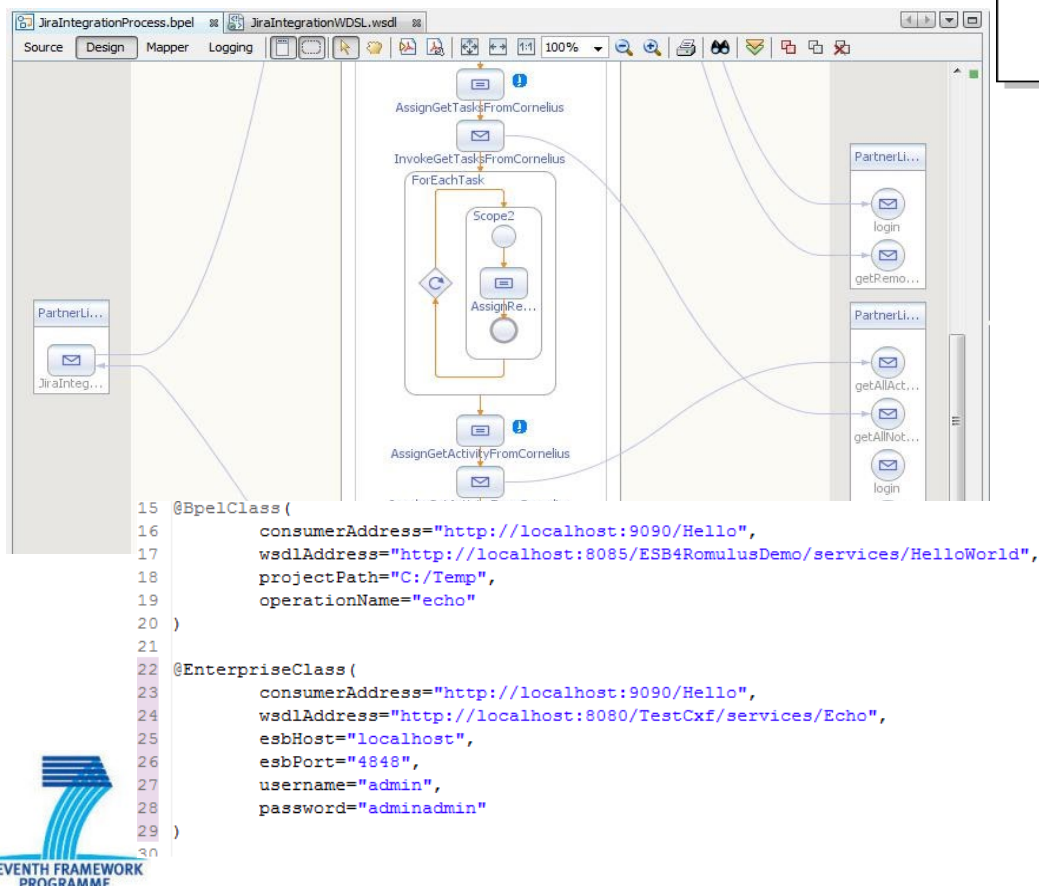


- Client-side Mashup Builder
- Integrates most popular mashups (Flickr, Google Maps, Delicious, ...)
- Exports mashups as JavaScript, HTML, Google Gadgets or Netvibes Gadgets
- Roma apps can be “mashed up” automatically

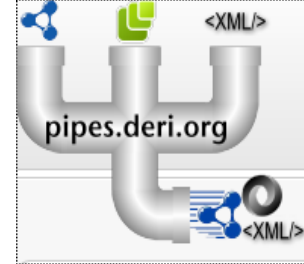


Enterprise Mashups

- JBI compliant
- Integrated with Apache CXF
- Integrated SOAP/Rest Registry



DERI Pipes: Semantic Mashups

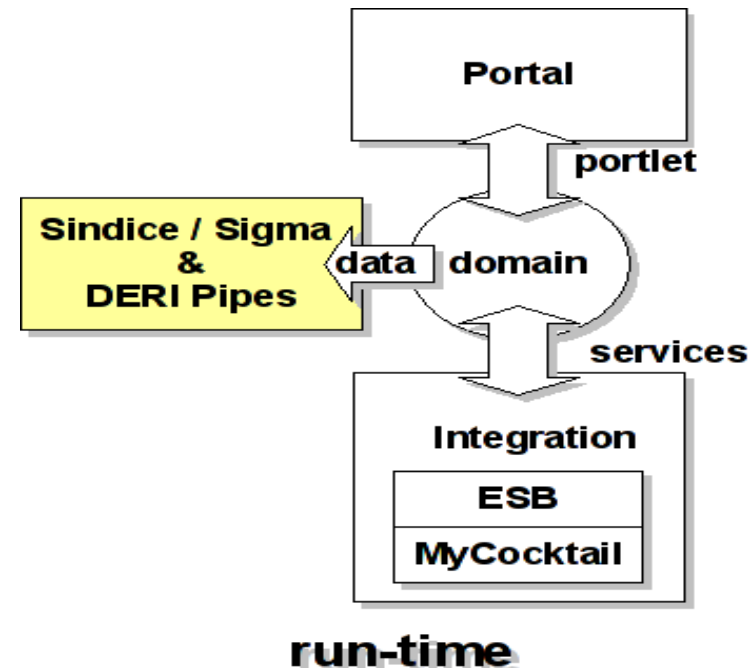


human interactions



software artefacts

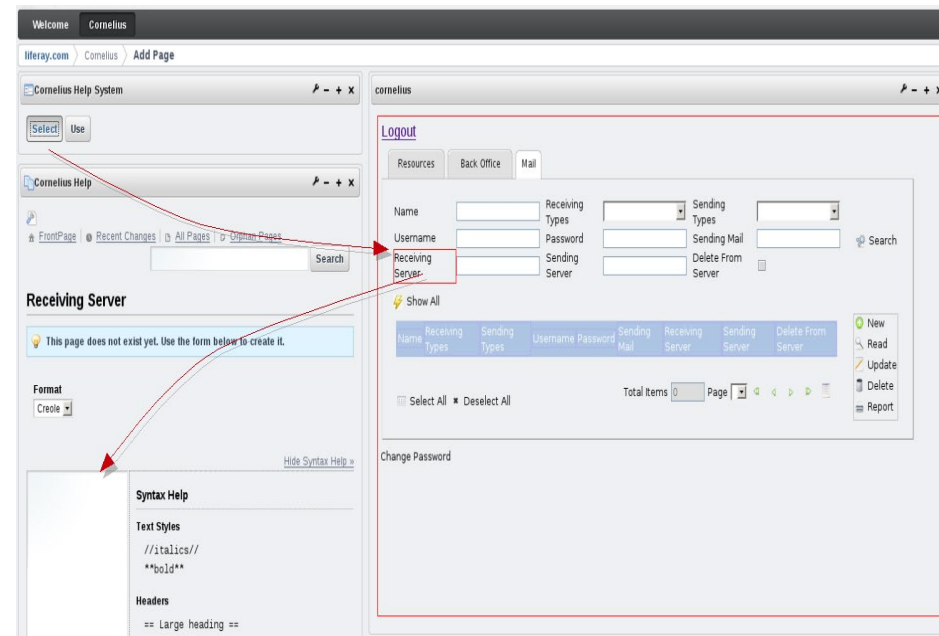
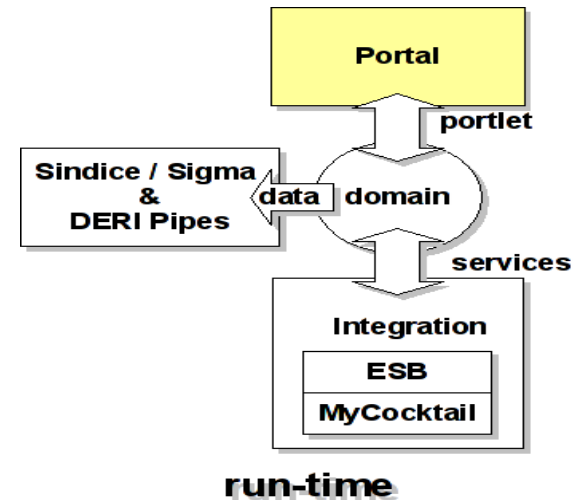
- Integrates the software assets from multiple projects
- Bug Tracker Systems
- Project Management tools
- Java Source code
- Wikis
- Discussion boards



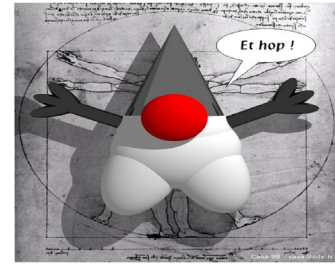
run-time

Portal

- Roma built-in JSR-168 portlet integration
- Portal services integration
- Ability to integrate widgets and export portlets as widgets
- Facility for composing application by 'copy&paste' interface with scripting technology



Romulus Suite

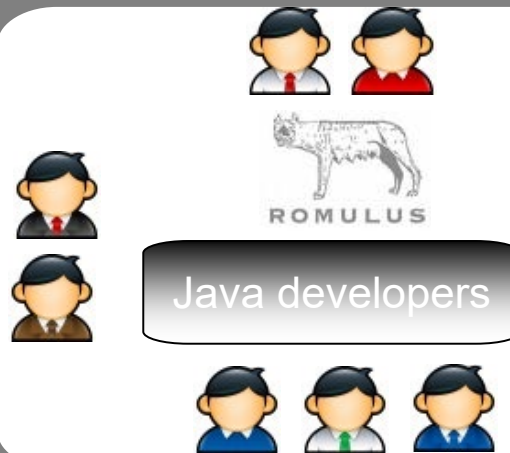


EndUser
Applications

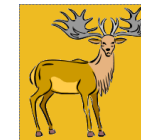
Community
needs



Productivity
needs



Security
needs



Reliability
needs



Mashup
needs

Enterprise
needs



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Conclusions



- Within Romulus project time frame, most of the objectives of the project have been fulfilled
- Many open-source communities created or updated for Java web development
- Big effort in integration, due to the fact that different tools and methods has been developed by different partners
- Romulus approach provides an easy way to create and evolve web applications using new trends on software engineering such as DDD or mashup development

Thanks for your attention!

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