

Roadmap of Developers Community and Tools

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Introduction

The Tools chapter in FI-WARE provides a collaborative development environment supporting the Future Internet Application developers to work efficiently and easily with the Generic Enablers available in the available FI-WARE Instances (e.g. FI-WARE testbed) and to enable the developers of Generic Enablers to find the proper open specifications.

You can learn more about the Tools Chapter by reading [the Developer Community and Tools Technical Description](#). Following is a description of the Technical Roadmap planned for the chapter, which will be developed through subsequent releases of the FI-WARE Platform.

Rationale

Provided the basic assumptions derived from the contractual obligations and the technological constraints, Tools Chapters started since the beginning direct interactions with the other chapters within FI-WARE, the UC projects and colleagues within the respective companies.

In this respect we prepared questionnaires from where we have identified the main functionalities of the Development Community Environment. From this initial input we have provided a preliminary list of functionalities and asked for a prioritization of these to colleagues in our respective companies having the profiles identified for the DevComE adoption.

This approach led to the definition of the set of functionalities for the first release but since it is an iterative process, the roadmap will be updated taking into account further requirements as the needs of the FI-PPP stakeholders (i.e. UC projects) increases in time while their awareness on the respective scenarios and GEs adoption increases. In this respect, additional requirements have been circulated and point-to-point conference call have been arranged to better define the roadmap for the coming years.

First Major Release (3Q 2012)

Following is a description of the major features that will be supported in the first major release of FI-WARE DevComE. These features will be implemented by the following functionalities reported by tool:

DevComE basic framework

FusionForge Connector

- tasks/tickets repository connection configuration (to a specific forge instance)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1195&group_id=15&atid=202
- query and list of tasks and tickets

- https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1196&group_id=15&atid=202
- https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1199&group_id=15&atid=202
- add and update tasks and tickets (standard fields)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1197&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1198&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1200&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1202&group_id=15&atid=202
- enable the context-view with tickets attachments
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1203&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1204&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1205&group_id=15&atid=202

CDE Management

- create a FusionForge project, remotely
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1314&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1604&group_id=15&atid=202
- delete a FusionForge project, remotely
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1315&group_id=15&atid=202
- manage a FusionForge project, remotely
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1606&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1772&group_id=15&atid=202
- create a FusionForge user, remotely
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1613&group_id=15&atid=202

Collaborative tools

Search, selection, test, validation and configuration of already existing tools.

- Collaborative Editing - Eclipse Communication Framework (3rd party integration)

- configure a jabber account
- chat with your team members
- share a file with a team member
- real-time edit a shared file
- https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1323&group_id=15&atid=202
- https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1373&group_id=15&atid=202
- Wiki Edit support (3rd party integration)
 - write local wiki files
 - popular syntaxes supported (i.e. mediawiki)
 - “outline view” to navigate the page structure
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1418&group_id=15&atid=202
- Source Code Management (3rd party integration)
 - save source code in a common repository
 - atomic commits
 - trunk, branch, tag support
 - clients available for all operating systems and major IDEs
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2154&group_id=15&atid=202

IDE API Support

Catalogue

- Registration
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1230
- Login/Logout
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1232
- Browse GEs
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1659
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1499
- Search GEs
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1660
- Publish GEs
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1500
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1372
- Edit/Update GEs
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1501
- Admin approval of GEs
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1502
- Publish GE implementations/instances

- https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=1503
- Catalogue Demo instruction

Library and Dependency Management (3rd party integration)

Search, selection, test, validation and configuration of already existing tools.

- Library and Dependency Management
 - search for libraries from within the IDE
 - automatically resolve dependencies
 - connect to a FI-WARE instance repository of dependencies
 - proxy other repositories
 - deploy project specific artefacts
 - share project specific artefacts with team members
 - store in SCM the project code only (and not third party libraries)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1419&group_id=15&atid=202

Application Testing Support Tools

PROSA

- **Baseline:** The concepts behind the PROSA tool has been developed in the European Project S-Cube. The implementation of the tool as well as the integration in the IDE is being realized within the Fi-ware project.

Trace Analyzer

- **Baseline:** The Trace Analyzer tool has been in development for a few years. Its focus, until Fi-WARE, has been analysis and visualization of IBM tool output on IBM hardware and OS.
As such, the general look & feel and many of the class hierarchies have pre-existed Fi-WARE and are reused and/or extended.
As part of the Fi-WARE project we intend to add support for Linux tools that monitor network traffic, operating system and thread concurrency as well as the ability to remotely monitor applications.

First release includes:

- Support for network traffic and monitoring and visualization.
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1332&group_id=15&atid=202
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1336&group_id=15&atid=202
- Support for operating system monitoring and visualization.
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1333&group_id=15&atid=202
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1337&group_id=15&atid=202

Software Performance Cockpit

- **Baseline:** The SoPeCo project started around August 2009 with the goal of providing a framework for systematic performance analysis of software components. The first version of SoPeCo was focused on supporting an internal SAP project. The first version was heavily Windows dependent, fully OSGi based with the minimum features needed for the use case study, including basic support for experiment definitions, an EMF-based editor, and an R-based visualization eclipse plugin.
- **Contributions:** With the starting of the FI-WARE project, we started taking SoPeCo toward being a more generic framework for performance analysis. Starting with a set of generic use-case stories around the concepts of FI-WARE, in the first year of the project, we
 - removed OS-dependency of SoPeCo
 - added generic resource monitoring support for performance analysis
 - started a complete re-design of the architecture of SoPeCo
 - simplified the application of SoPeCo
 - reduced the additional required development for each usecase
 - simplified the core concepts of performance test definitions
 - introduced an extensible architecture where the core of SoPeCo can be kept minimal and additional features, depending on the context, can be developed and added in an incremental fashion.
 - made SoPeCo available as an Eclipse plugin from an update site
 - updated the documentation of using SoPeCo for FI-WARE
- **Supported Use Cases:**
 - Create a Performance Test Suite for a FI Application
 - Create a Measurement Specification,
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1242&group_id=15&atid=202
 - Create a Software Adapter,
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1244&group_id=15&atid=202
 - Create a Satellite Starter,
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1245&group_id=15&atid=202
 - Start Measurements on a FI Application,
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1246&group_id=15&atid=202
 - View Application Performance AnalysisUse cases for Application,
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1247&group_id=15&atid=202

Second Major Release (3Q 2013)

Following is a description of the major features that will be supported in the second major release of FI-WARE DevComE. These features will be implemented by the following functionality:

DevComE basic framework

FusionForge Connector

- add and update tasks and tickets
 - custom fields and change tracker for tickets
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2155&group_id=15&atid=202
- contextual menu
 - search for existing tasks or tickets containing the selected text
 - open new task or ticket using the selected text
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1682&group_id=15&atid=202

Mylyn OSLC-CM connector

Test, validation and configuration of existing tools. After the analysis of the state of the art, contributions to the selected tools are evaluated.

- managing tickets/tasks/issues from Eclipse Mylyn via OSLC-CM interface
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2156&group_id=15&atid=202

CDE Management

- CDE Project Creation/Management/Deletion. Improvements and bug fixing
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2193&group_id=15&atid=202
- CDE User Creation. Improvements and bug fixing
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2194&group_id=15&atid=202

IDE API Support

Catalogue

- Developer community (Blog and forum for interaction with and between developers. This feature is still not decided if it is wanted by the project.)

- Downloadable Catalogue image (enable installation in other places)
- Final FI-Ware Look & Feel
 - https://forge.fi-ware.eu/tracker/?group_id=15&atid=202&func=detail&aid=2245
- Catalogue and IDE (Eclipse) integration v1

Clients for selected Generic Enablers

- availability of a client (Java library) for each one of the most required GEs (selected by the Use Case projects) and available on the Testbed v1.
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2157&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2158&group_id=15&atid=202

Continuous Integration

Search, selection, test, validation and configuration of already existing tools.

- notifications on:
 - code that not compile
 - unit test failure
- binary packaging
- code quality monitoring
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2162&group_id=15&atid=202
- https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2159&group_id=15&atid=202

FI Project Creation/Management/Deletion

- FI Project Creation (Java nature)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1319&group_id=15&atid=202
- FI Project Creation (FIWARE Enablers selection and configuration)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2195&group_id=15&atid=202
- FI Project Creation (FIWARE deployment testbed selection and configuration)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2196&group_id=15&atid=202
- FI Project Configuration Management
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2197&group_id=15&atid=202
- FI Project Deletion
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2199&group_id=15&atid=202

Application Testing Support Tools

PROSA

Features:

- Adding new ServiceCompositionEngines, Listing ServiceCompositions)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1289&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1290&group_id=15&atid=202
- Monitoring of ServiceComposition instances, Technical integration with Apache ODE (Open-Source, BPEL-based ServiceCompositionEngine)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1291&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1286&group_id=15&atid=202
- Specifying Online Testing Parameters for ServiceCompositions, Viewing monitoring data of external Service calls
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1292&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1894&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1293&group_id=15&atid=202

Trace Analyzer

- Remote collection and import of data for supported tools
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2173&group_id=15&atid=202
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2174&group_id=15&atid=202
- Enable (predefined and user defined)statistics queries on collected service characteristics and system state
https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2175&group_id=15&atid=202

Software Performance Cockpit

- Redesign of the SoPeCo Architecture
 - Enable development of SoPeCo extensions with respect to:
 - parameter value variation methods,
<https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.ExtendSoPeCoWithNewParameterVariationStrategy>
 - parameter space exploration strategy,
<https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.ExtendSoPeCoWithNewParameterVariationStrategy>

- data analysis strategy,
<https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.ExtendSoPeCoWithNewAnalysisStrategy>
- data processing strategy,
<https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.ExtendSoPeCoWithNewDataProcessingStrategy>
- OSGi independence,
<https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.UseSoPeCoAsAJavaLibrary>
- Support for basic data processing calculations on experiment results
<https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.PerformBasicDataProcessingCalculationsOnExperimentResults>
- Performance Monitoring support
 - Provide basic monitoring support for developers using SoPeCo
<https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.UseSoPeCoMonitoringUtilities>

Deployment support

Manage Virtual Platforms

- Login to system
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2318&group_id=15&atid=202
- Retrieve a Virtual Platform
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2319&group_id=15&atid=202
- View Virtual Platform Properties
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2320&group_id=15&atid=202
- Browse Project Virtual Platforms
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2321&group_id=15&atid=202
- Define Virtual Platform Properties (Storage, Computation, Network)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2323&group_id=15&atid=202
- Instantiate Virtual Platform
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2322&group_id=15&atid=202
- Remove Virtual Platform
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2324&group_id=15&atid=202
- Modify Virtual Platform

- https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2325&group_id=15&atid=202

Manage Tenants / Manage Users

- Browse Tenants
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2326&group_id=15&atid=202
- Retrieve A Tenant
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2327&group_id=15&atid=202
- View Tenant
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2328&group_id=15&atid=202
- Retrieve A User
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2329&group_id=15&atid=202
- View A User
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2330&group_id=15&atid=202
- View Tenant Users
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2331&group_id=15&atid=202
- Set Tenant to User
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2332&group_id=15&atid=202
- Remove Tenant to User
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2333&group_id=15&atid=202
- Define User
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2334&group_id=15&atid=202
- Remove User
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2335&group_id=15&atid=202

Deploy Future Internet Application

- Deploy FIA Project
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2337&group_id=15&atid=202

Unit/Functional testing framework for Web Services

- test suite integrated into the project source code (Java)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2160&group_id=15&atid=202

[id=202](#)

- unit test definition
- functional test definition
- separation between test logic and test data
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2161&group_id=15&atid=202

Following Releases

DevComE basic framework

Cross content search

- to query various sources (tasks, tickets, documentation, forum, wiki, source code ...) and present the results in an aggregated view
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1324&group_id=15&atid=202

Relationship Service

- to create a relationship model that involves elements from various sources (task, tickets, documents, files, forum posts, wiki pages, ...)
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1374&group_id=15&atid=202

IDE API Support

FI-WARE IDE

- Set up and configuration of the FI-WARE IDE bundle v2

Catalogue

- Set up and configuration of the FI-WARE IDE bundle v2

Additional clients for GEs

- availability of clients (Java library) not provided for the second major release and available on the Testbed v2

Application Testing Support Tools

PROSA

- Integration with a ServiceCompositionEngine from WP3
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=1895&group_id=15&atid=202

Trace Analyzer

- Monitoring and visualizing concurrency synchronization events at application level
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2179&group_id=15&atid=202
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2180&group_id=15&atid=202
- Aids for users to focus on 'interesting' trace sections.

Software Performance Cockpit

- Application of SoPeCo to one of the WP3 GEs (planned for the Marketplace)
 - <https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.ApplicationOfSoPeCoToAGenericEnabler>
- Application of SoPeCo to a UC project
 - <https://forge.fi-ware.eu/plugins/mediawiki/wiki/tools/index.php/FIWARE.Epic.Tools.ApplicationOfSoPeCoToAUseCaseProject>

Deployment support

Manage Virtual Platforms

- Define Elasticity Rules
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2338&group_id=15&atid=202
- Define Platform Services
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2339&group_id=15&atid=202
- Advanced Define Virtual Platform Properties
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2340&group_id=15&atid=202
- Advanced Modify Virtual Platform Properties
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2341&group_id=15&atid=202

Deploy Future Internet Application

- Export To OVF
 - https://forge.fi-ware.eu/tracker/index.php?func=detail&aid=2342&group_id=15&atid=202

