Private Public Partnership Project (PPP)

Large-scale Integrated Project (IP)

D.13.2.3: FI-WARE SW Release

Project acronym: FI-WARE
Project full title: Future Internet Core Platform
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Contributors: FI-WARE Consortium
Executive Summary

This version of the deliverable provides the details of the third software release of FI-WARE.

The software releases take place following three standard methods:

- **Publicly**: under the tool Files of the project called FI-WARE under the FI-WARE forge.
- **Restricted to PPP members and the EC**: under the tool Files of the project called FI-WARE PPP Restricted under the FI-WARE forge.
- **Offered as a service**: exceptionally, a few partners host their software delivery themselves on their private infrastructures. They can supply access to the PPP members or the EC (password protected location) if requested.
About This Document

The original purpose of this document (associated to the official deliverable D.13.2.3), is to accompany the official deliverable, marked as "P". The EC requires a report with each one of the deliverables of such nature and the present document satisfies such request by giving a succinct account of the software delivered for Release 3 for the respective chapter.

Intended Audience

This document and the sw deliverables described are mainly oriented to provide an orderly report to the EC but it could also be used by anyone who has interest in installing the GEi or who wants to gain knowledge of the actual software delivered in the 3rd Release of FI-WARE.

Chapter Context

The Advanced Middleware and Web User Interface (UI) Architecture chapter (aka. as MiWi) of FI-WARE offers Generic Enablers from two different but related areas:

**Advanced Middleware**

The high-performance middleware that is backward compatible with traditional Web services (e.g. REST) but offers advanced features and performance and dynamically adapts to the communication partners and its environment. A novel API separates WHAT data needs to be communicated from WHERE the data come from within the native data structures of the application, and HOW the data should be transmitted to the target. Additionally, the middleware offers "Security by Design" through a declarative API, where the application defines the security requirements and policies that apply to its data, which are then automatically enforced by the middleware. The middleware uses of the security functionality offered by the Security chapter of FI-WARE.

**Advanced Web-based User Interface (Web UI)**

In order to become widely visible and adopted by end users, the FI-WARE Future Internet platform must not only offer server functionality but must also offer much improved user experiences. The objective is to significantly improve the user experience for the Future Internet by adding new user input and interaction capabilities, such as interactive 3D graphics, immersive interaction with the real and virtual world (Augmented Reality), virtualizing and thus separating the display from the (mobile) computing device for ubiquitous operations, and many more. The technology is based on the Web technology stack, as the Web is quickly becoming THE user interface technology supported on essentially any (mobile) device while already offering advanced rich media capabilities (e.g. well-formatted text, images, video). First devices are becoming available that use Web technology even as the ONLY user interface technology. The Web design and programming environment is well-known to millions of developers that allow quick uptake of new technology, while offering a proven model for continuous and open innovation and improvement.
These two areas have been combined because highly interactive (2D/3D) user interfaces making use of service oriented architectures have strong latency, bandwidth, and performance requirements regarding the middleware implementations. An example is the synchronization service for real-time shared virtual worlds or the machine control on a factory floor that must use the underlying network and computing hardware as efficiently as possible. Generic Enables are provided to make optimal use of the underlying hardware via Software Defined Networking in the Middleware (SDN, using the GE of the Interface to Networks and Devices (I2ND) Architecture chapter) and the Hardware Support in the 3D-UI GE (see FIWARE.ArchitectureDescription.MiWi.3D-UI) that provides access to GPU and other parallel compute functionality that may be available.

The following diagram shows the main components (Generic Enablers) that comprise FI-WARE Advanced Middleware and Web-based User Interfaces chapter architecture.

Advanced Middleware and Web UI Architecture Overview

More information about the Advanced Middleware and Web-based UI Chapter and FI-WARE in general can be found within the following pages:

http://wiki.fi-ware.org
Advanced Middleware and Web UI Architecture
Materializing Advanced Middleware and Web User Interfaces in FI-WARE

Structure of this Document

The document is generated out of an ad hoc wiki page.

The following resources were used to generate this document:

D.13.2.3 FI-WARE SW Release front page
D.13.2.3 FI-WARE SW Release report
Acknowledgements

The current document has been elaborated using a number of collaborative tools, with the participation of Working Package Leaders and Architects as well as those partners in their teams they have decided to involve. The following partners contributed to this deliverable: ADMINO, CYBER, UOULU, LUDOCRAFT, PLAYSIGN, ZHAW, EPROS, USAAR-CISPA, DFKI.

Keyword list


Changes History

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<th>Release</th>
<th>Major changes description</th>
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<th>Editor</th>
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<td>v1</td>
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## D 13 2 3 FI-WARE SW Release report

The following table provides a summary of the GEi's delivered for Release 3 in the Advanced Middleware and Web User Interfaces chapter.

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<tr>
<th>GE Name</th>
<th>GE implementation</th>
<th>Partner</th>
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<th>Release Code</th>
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Notes:

- The field "Repository" has three possible values ("FI-WARE", "FI-WARE PPP Restricted" or "SaaS"), depending on the standard delivery method chosen.

- An empty GEi column means that the name of the GEi is the same as the GE name (only for GEi with a single implementation).