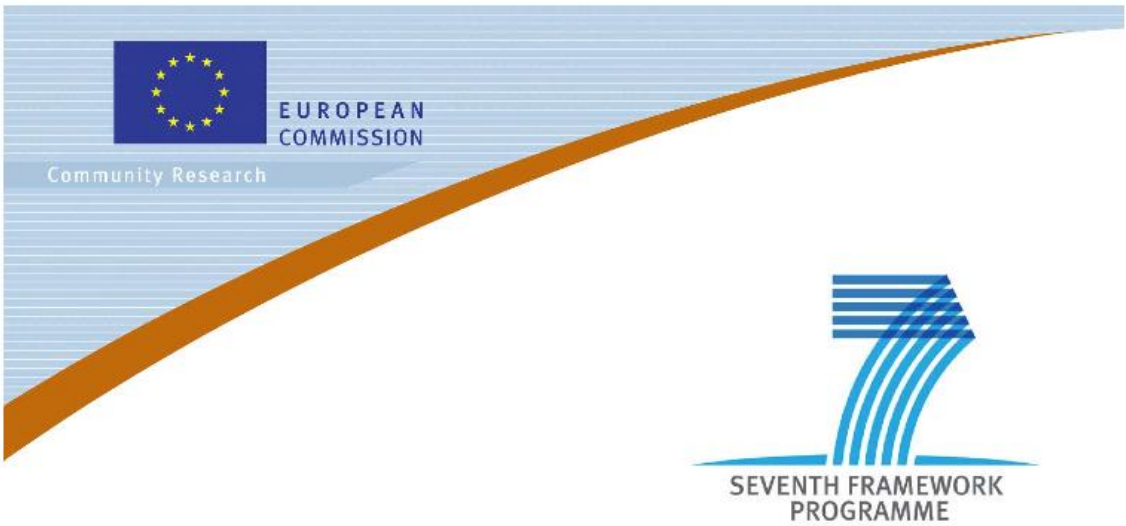


Private Public Partnership Project (PPP)

Large-scale Integrated Project (IP)

D.5.2.3: FI-WARE SW Release

Project acronym: FI-WARE
Project full title: Future Internet Core Platform
Contract No.: 285248
Strategic Objective: FI.ICT-2011.1.7 Technology foundation: Future Internet Core Platform
Project Document Number: ICT-2011-FI-285248-WP5-D.5.2.3
Project Document Date: 2014-08-27
Deliverable Type and Security: PP
Author: FI-WARE Consortium
Contributors: FI-WARE Consortium

1.1 Executive Summary

This version of the deliverable provides the details of the second 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.

1.2 About This Document

The original purpose of this document (associated to the official deliverable D.5.2.3), 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.

1.3 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 2nd Release of FI-WARE.

1.4 Chapter Context

FI-WARE will build the relevant Generic Enablers for Internet of Things Service Enablement, in order for things to become citizens of the Internet–available, searchable, accessible, and usable – and for FI services to create value from real-world interaction enabled by the ubiquity of heterogeneous and resource-constrained devices.

From a physical standpoint, IoT enablers have been spread in two different domains:

- **FI-WARE IoT Gateway.** A hardware device hosting a number of features of one or several Gateway Generic Enablers of the IoT Service Enablement. It is usually located at proximity of the devices (sensors/actuators) to be connected. In the FI-WARE IoT model, the IoT Gateway is an optional element aiming to optimize the network traffic sent to the Backend and IoT services efficiency and reliability. Zero, one or more IoT Gateways can be part of a FI-WARE IoT setting. Several m2m technologies introduce specific gateway devices too, where it is not feasible to install FI-WARE gateway features. Those gateways are considered plain devices grouping other devices and not FI-WARE IoT Gateways.
- **FI-WARE IoT Backend.** A setting in the cloud hosting a number of features of one or several Generic Enablers of the IoT Service Enablement. It is typically part of a FI-WARE platform instance in a Datacenter. In the FI-WARE IoT model, a single IoT Backend is mandatory and it is connected to all IoT end devices either via IoT Gateway(s) and/or straight interfaces. Normally, during FI-WARE Releases R1 and R3 timeframes, the Backend will refer to the IoT Backend enablers installed in the FI-WARE Testbed or Open Innovation Lab (OIL), as described in the project Catalogue.

A key design statement is that, whenever present, IoT Gateways are not expected to be permanently connected to the Backend as per communications design or failures. Another

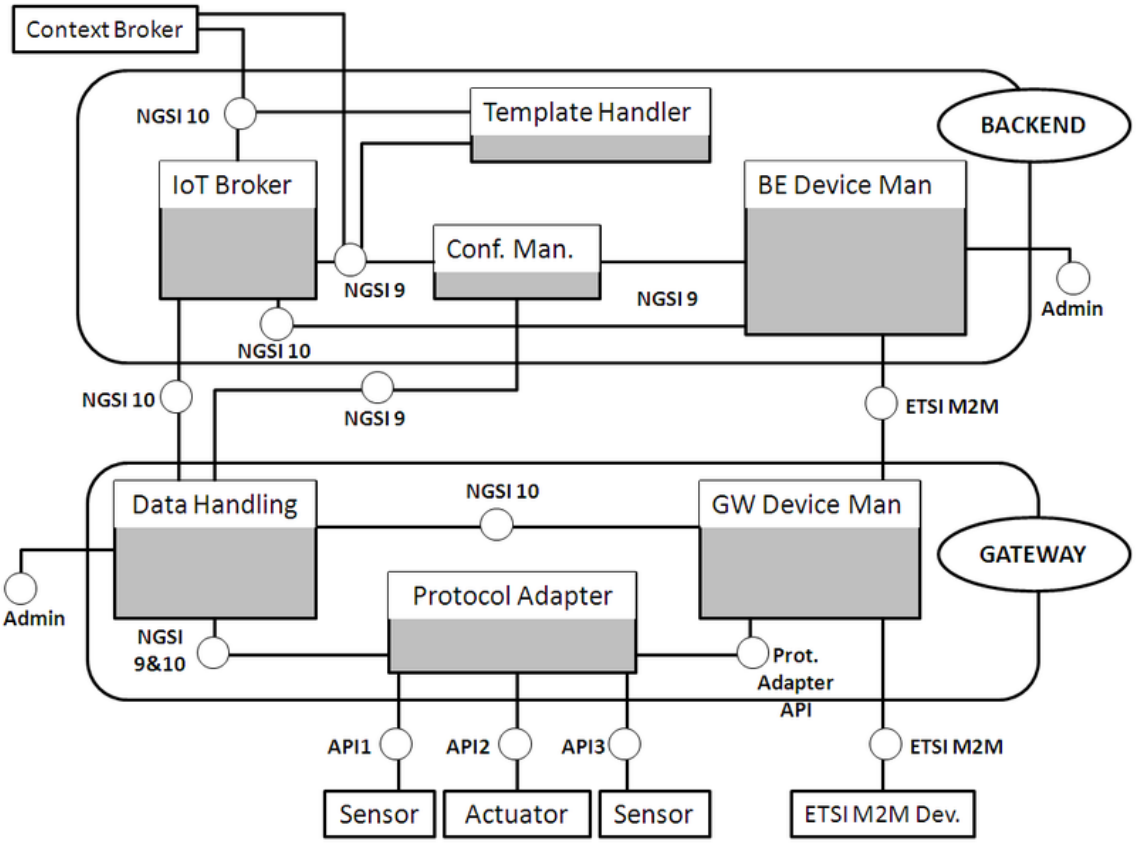
relevant remark is that IoT Gateways are expected to be constrained devices in some scenarios. Therefore, light-weight implementations of the same GEs plus additional GEs interfaces helping to save unnecessary features/GEs are specially considered in the Gateway domain.

From the functionality point of view, FI-WARE IoT design aims to expose the "Things" abstraction to services developers, cope with different vertical m2m applications and provide a uniform access to heterogeneous m2m hardware and protocols. There is a number IoT features which are somehow duplicated in the Backend and the gateway domains in order to fulfill the goals and statements described above. For instance, a CEP engine at the Gateway level reduces the network overload and improves condition-based-events triggering time. Application developers will be able to access Things and devices observation and control interfaces in two ways:

- Directly, by using Northbound IoT interfaces as described in this Wiki.
- Throughout Data/Context GEs, by configuring Backend IoT GEs (IoT Broker) as NGSI notifications Context Providers of Data/Context Publish-Subscribe-Context-Broker GE.

Nota Bene: For the reader, we are using in the following chapters the same vocabulary as in the FI-WARE Product Vision chapter:

- **Thing.** Physical object, living organism, person or concept interesting from the perspective of an application.
- **Device.** Hardware entity, component or system that either measures properties of a thing/group of things or influences the properties of a thing/group of things or both measures/influences. Sensors and actuators are devices.
- **IoT Resource.** Computational elements (software) that provide the technical means to perform sensing and/or actuation on the device. The resource is usually hosted on the device.



More information about the IoT Service Enablement Chapter and FI-WARE in general can be found within the following pages:

http://wiki.fi-ware.org

Internet_of_Things_Services_Enablement_Architecture

Materializing_Internet-Of-Things-Services-Enablement_in_FI-Ware

1.5 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.5.2.3 FI-WARE SW Release front page

D.5.2.3 FI-WARE SW Release report

1.6 Acknowledgements

The current document has been elaborated using a number of collaborative tools, with the participation of the Working Package Leader and Architect as well as those partners in their teams acting as GEi owners.

1.7 Keyword list

FI-WARE, PPP, FI-CoDE, Future Internet, Collaboration, Development, FusionForge, ICT, Living Lab, OIL, Steering Board, Roadmap, Reference Architecture, Generic Enabler, Implementation, GEi, GE, Open Specifications, I2ND, Cloud, IoT, Data/Context Management, Applications/Services Ecosystem, Security, Developers Community and Tools , ICT, es.Internet, Latin American Platforms, Cloud Edge, Cloud Proxy, Use Cases.

1.8 Changes History

Release	Major changes description	Date	Editor
v1	First draft	2014-08-27	TID

1.9 Table of Contents

2 D 5 2 3 FI-WARE SW Release report

The following table provides a summary of the GEi's delivered for Release 3 in this chapter.

GE Name	GE implementation	Partner	Repository	Release Code	Optional notes
Backend Device Management	IDAS	TID	FI-WARE	IOT-IDAS 3.3.3	
Backend Configuration Manager	IoT Discovery	UNIS	FI-WARE	IOT-IoTDiscovery 3.2.3	The other implementation (Orion) is delivered in the context of Data chapter, Orion including also Context Broker features;
Backend IoT Broker	IoT Broker	NEC	FI-WARE	IoT Broker 3.3.3	
Backend Template Handler	Template Handler	SAP	FI-WARE	IOT-TemplateHandler-3.2.3.zip	
Gateway Data Handling	EspR4FastData	Orange	FI-WARE	IOT-EspR4FastData 3.3.3	
Protocol Adapter	ZPA	TI	FI-WARE PPP Restricted	IoT-ZPA 3.3.3	
Protocol Adapter	EPCGE	Orange	FI-WARE	IOT-EPCGE IOT-EPCGE.3.2.3	
Protocol	MRCoaP	SAP	FI-WARE	DATA-LOCS 3.2.0	

Adapter					
Gateway Device Management	OpenMTC	FOKUS	FI-WARE PPP Restricted	IoT-OpenMTC 3.3.3	

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)