

Future Internet PPP Security Core Platform

FI-WARE **Security**



October 2011

Antonio García-Vázquez, Pedro Soria-Rodríguez, Pascal Bisson, Daniel Gidoín, Slim Trabelsi, Gabriel Serme



Index

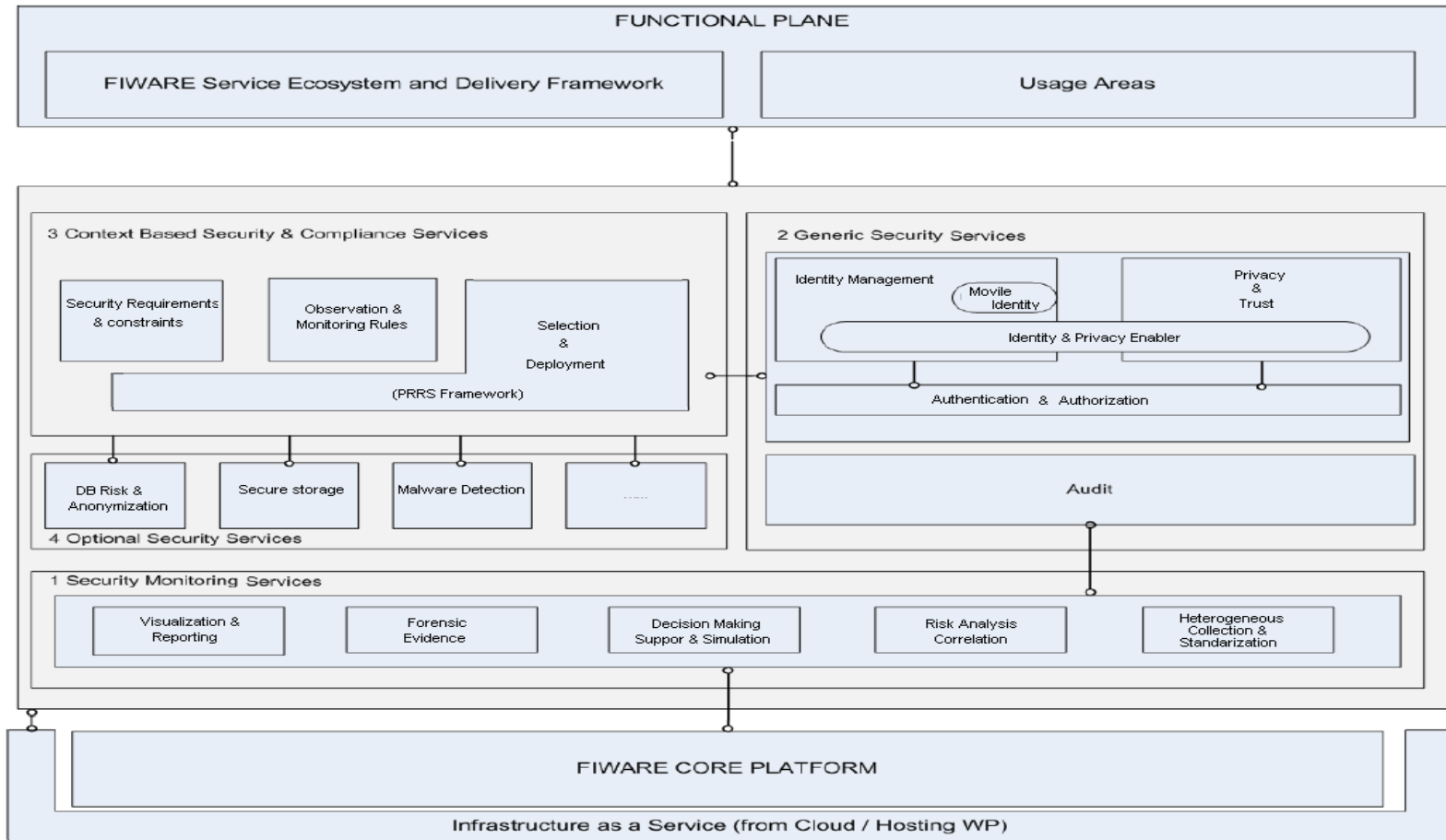
1. Architecture
2. Generic Security Enablers
3. Security Monitoring
4. Context-based Security & Compliance
5. USDL-SEC Language
6. Optional Security Enablers

FI-WARE Architecture



- ▶ Open service oriented architecture based in reusable functional building blocks (Generic enablers)
- ▶ Security, Privacy and Trust at the heart of Architectural design
- ▶ Clear focus on Core Generic Enablers but with the possibility to have completed by optional generic enablers (especially true for what concerns Security domain)
- ▶ Extensible Architecture which will be able to meet security requirements from user applications, in run-time mode, by deploying the appropriate enabler
- ▶ Services market place where new enablers could be registered and offered.
- ▶ Context Based and Compliant Security Services

FI-WARE Architecture



FI-WARE Security Architecture in the context of overall architecture



Generic Security Enablers

- ▶ They are the Generic Enablers that will define the core security mechanisms of the Future Internet.
- ▶ They will be present by default in any FI-WARE instance to assure that trust, security and privacy are its default mode of operation
- ▶ They will provide FI-WARE core security services
 - ▶ Security monitoring
 - ▶ Context based security & compliance
 - ▶ IDM Core (Identity and Access Management, Privacy and Trust, Authentication & Authorization, etc)

Security Monitoring



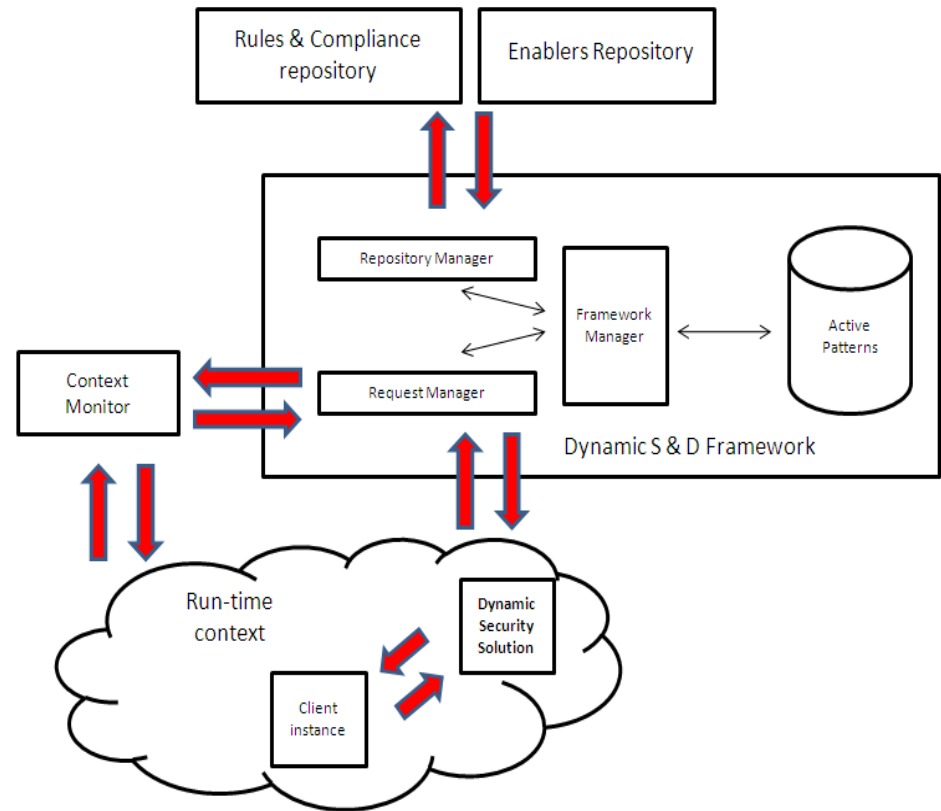
- ▶ The advanced Security Monitoring system will cover the whole spectrum from acquisition of events up to visualization and reporting.

- ▶ It will offer:
 - ▶ Correlation of heterogeneous events
 - ▶ Risk Analysis
 - ▶ Decision making support
 - ▶ Visualization and reporting
 - ▶ Digital forensics for evidence

Context-based Security & Compliance



- ▶ The framework provides run-time support to applications, by managing S&D solutions and monitoring the systems' context.
- ▶ End-user applications send requests in order to fulfill their security requirements to the framework.
- ▶ Rules repository support the description of laws and agreements that should be applied.



Context-based Security & Compliance

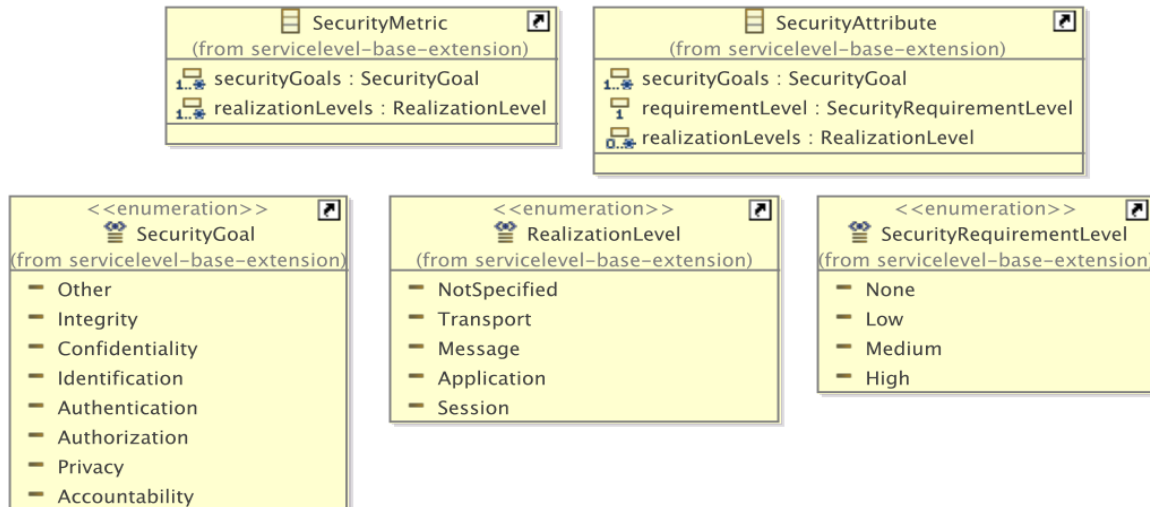


- ▶ From the enablers repository, where optional security enablers created by any secure aware developer will be registered, the framework will select the most suitable solution to fulfill the end-user applications requirements.
- ▶ This enabler is translated into a S&D solution to be deployed as an executable component in the context where the end-user application is running.
- ▶ The framework also provides external monitoring components with the rules that the end-user applications context must fulfill.
- ▶ The communication between end-user applications, the deployed executable solutions, the framework and the different components of the enabler is supported by the USDL-SEC language.



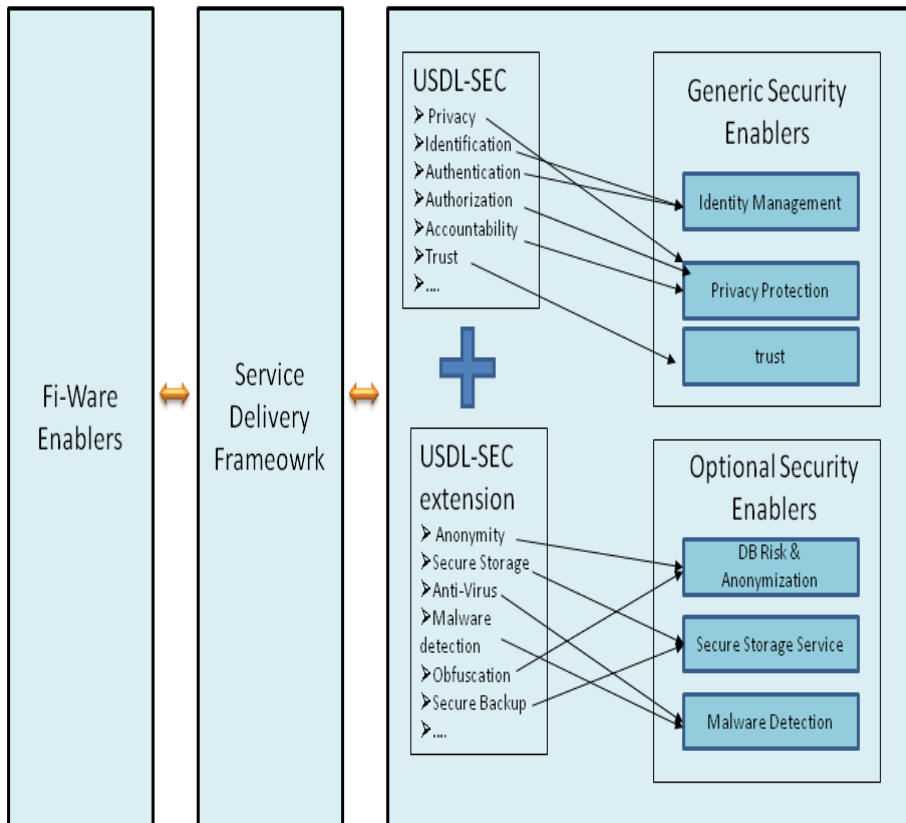
USDL-SEC language

- ▶ USDL-SEC will be developed as a security oriented module extension from the existing standard USDL 3.0.
- ▶ It will describe a service along with functional and non-functional properties in single and complete description file.
- ▶ USDL-SEC will provide means to compare and select services according to consumer needs



Draft USDL-SEC
version schema

Optional Security Service Enablers



- ▶ Optional security service enablers are used to customize the security service description within USDL-SEC.
- ▶ Will help developers to define and describe their own services through the USDL standard by adding new functionalities and new capabilities.
- ▶ The registry entity is charge of publishing and discovering the services in order to provide an efficient search engine.
- ▶ Some of the optional enablers to be developed are Malware Detectors, Secure storage and DB Risk & anonymization services



More Details on

► FI-WARE official Web project: <http://www.fi-ware.eu/>

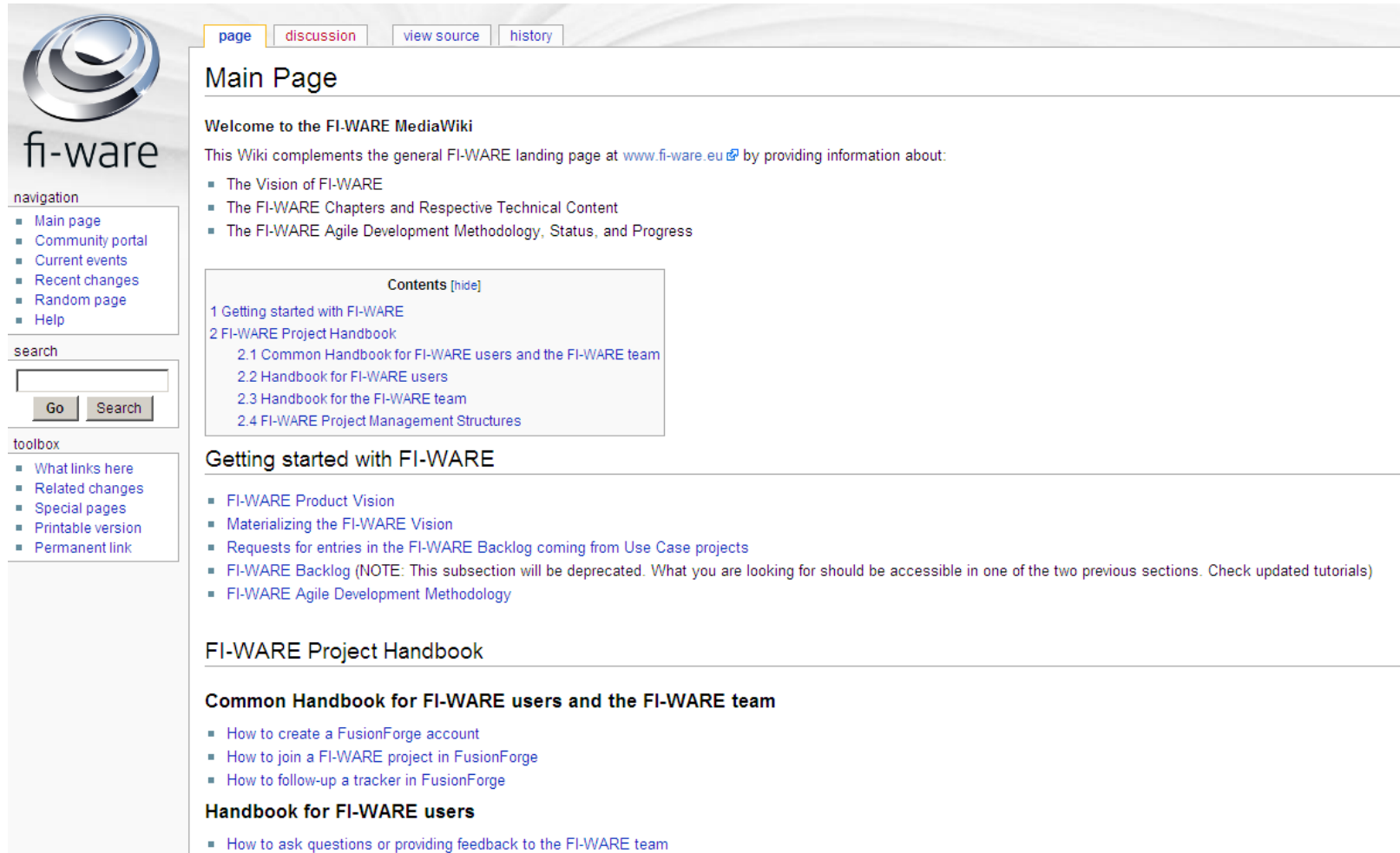
The screenshot shows the FI-WARE website interface. At the top left is the FI-WARE logo. The main header reads "FUTURE INTERNET Core Platform". Below the header is a navigation bar with "Forja" on the left and "Iniciar sesión" and "Buscar" on the right. A social media bar includes icons for RSS, Facebook, Twitter, and LinkedIn. The left sidebar contains a menu with sections: "Información General" (listing architecture, research, impact, open world, baseline projects, and advisory councils), "Subvencionado por" (with the SEVERE FRAMEWORK PROGRAM logo), "Miembros", and "Chapters" (listing ecosystem, hosting, data management, developer tools, results, interface, IoT enablement, security, and testbed). The main content area features a paragraph about the service infrastructure, a paragraph about open specifications, and a paragraph about the PPP program. Below this is a "Última actividad" section with a heading "Fi-Ware presentation at Funems", a metadata line "Sin categoría 20 Junio 2011 12:43 Sin Comentarios jose.jimenez", and a paragraph describing the presentation at the Funems congress. A second heading "Fi-WARE presentation in Luxembourg" is partially visible at the bottom, with metadata "Eventos 9 Junio 2011 11:37 Sin Comentarios jose.jimenez".



More Details on

► FI-WARE MediaWiki:

https://forge.fi-ware.eu/plugins/mediawiki/wiki/fiware/index.php/Main_Page



The screenshot shows the MediaWiki interface for the FI-WARE project. On the left is a sidebar with navigation, search, and toolbox sections. The main content area features a 'Main Page' header with tabs for 'page', 'discussion', 'view source', and 'history'. Below the header is a welcome message and a list of topics covered by the wiki. A 'Contents' table of contents is provided, followed by a section titled 'Getting started with FI-WARE' which includes links to product vision, handbook, and development methodology. Further down are sections for 'FI-WARE Project Handbook' and 'Common Handbook for FI-WARE users and the FI-WARE team', each with a list of related articles.

fi-ware

navigation

- Main page
- Community portal
- Current events
- Recent changes
- Random page
- Help

search

Go Search

toolbox

- What links here
- Related changes
- Special pages
- Printable version
- Permanent link

page discussion view source history

Main Page

Welcome to the **FI-WARE MediaWiki**

This Wiki complements the general FI-WARE landing page at www.fi-ware.eu by providing information about:

- The Vision of FI-WARE
- The FI-WARE Chapters and Respective Technical Content
- The FI-WARE Agile Development Methodology, Status, and Progress

Contents [hide]

- 1 Getting started with FI-WARE
- 2 FI-WARE Project Handbook
 - 2.1 Common Handbook for FI-WARE users and the FI-WARE team
 - 2.2 Handbook for FI-WARE users
 - 2.3 Handbook for the FI-WARE team
 - 2.4 FI-WARE Project Management Structures

Getting started with FI-WARE

- FI-WARE Product Vision
- Materializing the FI-WARE Vision
- Requests for entries in the FI-WARE Backlog coming from Use Case projects
- FI-WARE Backlog (NOTE: This subsection will be deprecated. What you are looking for should be accessible in one of the two previous sections. Check updated tutorials)
- FI-WARE Agile Development Methodology

FI-WARE Project Handbook

Common Handbook for FI-WARE users and the FI-WARE team

- How to create a FusionForge account
- How to join a FI-WARE project in FusionForge
- How to follow-up a tracker in FusionForge

Handbook for FI-WARE users

- How to ask questions or providing feedback to the FI-WARE team



Thank You !!



Atos:

Antonio García-Vázquez (antonio.garcia@atosresearch.eu)

Pedro Soria-Rodriguez (pedro.soria@atosresearch.eu)

Thales:

Pascal Bisson (pascal.bisson@thalesgroup.com)

Daniel Gidoïn, (daniel.gidoïn@thalesgroup.com)

SAP:

Slim Trabelsi (slim.trabelsi@sap.com)

Gabriel Serme (gabriel.serme@sap.com)