

WP 9: Developer Community and Tools

Once the deadline for contributions is long passed this document was ported to the draft version of the 3rd Yearly report that will be kept in word format for now on.

The snapshot was taken on March, 26 and this document is closed for edition now.

If you need a copy the current 3rd Report or need to ask for changes, please contact Telefónica adding these 3 people to the loop:

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1. Progress towards objectives and details for each task

WP Objectives:

The main goal of WP9 is to provide a set of tools (FI-CoDE) and methods to support the UC projects of the FI-PPP program (and not only these) to develop Future Internet Applications using the GE specifications and their reference implementations. These tools and methods are conceived to support a collaborative development approach and cover the most of the lifecycle of a Future Internet Application development using the available GEIs.

The main objectives of this WP are:

- To implement a basic environment (FI-CoDE) to satisfy requirements of the Community of the developers both of FI-WARE GE reference implementations and of Future Internet Applications, based on FI-WARE, which will run on top of specific FI-WARE instances.
- To extend FI-CoDE with a set of tools (re-using and complementing those of the Cloud chapter) to support FI Application developers in managing the development lifecycle for their applications. Such set of tools will include suites for testing applications running on top of selected FI-WARE Instances.
- To make the resulting environment accessible from the selected open source IDE (i.e., Eclipse)
- To complement FI-CoDE with a specific methodology (processes, manuals, best practices, etc.) required by the different communities to develop and co-operate using FI-CoDE.

In order to achieve these objectives, this Work Package performed:

- Further developments on the Tools until M33 (Catalogue and Academy until M41)
- Interactions and contributions (code) with OS communities external to the Consortium (e.g. FusionForge, Eclipse)
- A dedicated WP9 “integration” meeting (in June 2013) was held for defining a single and coherent user story demonstrating the usage of the Tools Chapter offering.
- Periodic (weekly) conference calls for managing the work and the issues of the Tools Chapter were organized by the WP Leader and attended almost regularly by all

partners.

Following the recommendations of the 2° Reporting Period and M30 Review, it was decided to concentrate activities in developing the two platforms implemented within WP9: the FIWARE Catalogue and the FIWARE Academy (eLearning Platform). At the same time (M33) all other development activities within this Chapter were discontinued.

WP tasks and interrelations:

WP9 is led by E-IIS and consists of task T9.1 led by E-IIS, task T9.2 led by E.IIS, T9.3 led by UDE. The workpackage architect (i.e., WPA) is UDE.

Cooperation with other technical WPs is crucial within WP9 in order to properly populate the content in the FIWARE Catalogue and the FIWARE Academy.

More concretely, the main interactions WP9 has with each of these WPs are the following:

T9.1 got in touch with all the WPs that implement GEIs, in order to improve the quality of the courses published in the FIWARE Academy. This activity focused on the review of the published courses (highlighting the missing ones) and sharing the progresses with all the project partners.

T9.1 interacted with the Cloud Chapter for the development of the myForge, based on Cloud Portal code base.

T9.2 interacted with other WP9 Tasks so that developed tools could effectively support the methodology described within the Handbook.

WP9 cooperated with FBK (one of the new partners entered the project with amendment #6) within WP10 to explain tools developed within Tools Chapter, and their usage to follow the processes described in the FI-CoDE Handbook.

Main Progress in the period:

The main progresses made during this period in the WP are:

- Improvement of the FIWARE Catalogue in order to include relevant information for the GEI entries in order to support the FIWARE Community of users (e.g. Campus Party London event, XIFI project, FI-PPP phase 2 Use Case projects, FI-PPP phase 3 Accelerators).
- Design and implementation of further functionalities of the tools and worked on the user/community support by means of the Catalogue and the eLearning platform.
- Development and publishing of the Flash and HTML (beta version) packages for creating training courses, for the eLearning platform, starting from the content of the webinars.
- Improvement of tools and features offered through the IDE.
- Improvements of testing and validation tools.
- Implementation of the cloud-based environment (myForge) to be used by developers for setting up of the resources to support software applications development.
- The plugin developed within WP9 for the integration of Eclipse/Mylyn is now officially referred by the FusionForge community.

The main progresses in WP9 during this last Reporting Period are in line with the planned activities and the roadmap. This new plan was evaluated and redeveloped as a consequence of M24 Review Recommendations by all partners involved in the Tool Chapters, coordinated

by E-IIS as WP leader.

1.1.1.1 **Task 9.1: Implementation of the Development Collaborative Environment**

Task Objectives:

The objective of this task 9.1 is, as per DoW, to implement the FI-CoDE (methods and tools) for both the communities of developers identified: the community of the developers working on the FI-WARE GEs and the community of developers that build FI Applications on top of specific FI-WARE Instances.

Task Activities during the period:

The breakdown of the **contribution, results, deviation and proposed corrective action** of each partner in this task 9.1 are:

- **13-EAB:**
No input from the partner: EAB left WP9 at M19.
- **14-ATOS:**
Contribution and results:
 - Development of the plugin for Future Internet Application (FIA) project management, integrated within the FI-CoDE development environment.
 - FIA project management tool was integrated with REST Client generator tool. A demo proof of concept showcasing this integrated tool was produced. Documentation describing this integrated proof of concept was produced.
 - Contribution to the Achievements of Future PPP - FI-WARE document.
 - Development of materials and eLearning courses for Fusion-Forge User/Project management and FIA project management tools.
 - Description of Fusion-Forge User/Project management and FIA project management tools in FIWARE Catalogue.
 - Participation in the WP9 technical workshop hold in Rome on June 13.
 - Contribution to D9.1.4: updated descriptions of Fusion-Forge User/Project management and FIA project management tools.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

- **15-E-IIS:**
Contribution and results:
 - E-IIS as WP leader, performed overall coordination and management activities needed within this Chapter, managing regular be-weekly calls until M36 and later managed calls involving all partners once a month.
 - E-IIS leads this task and focused its activities, during this reporting period, on the FIWARE Academy (eLearning platform), myForge and the FI-WARE Catalogue.
 - Regarding the eLearning platform, the configuration to organize the publication of contents and the management of registered users was adapted according to the needs of the project. Now the category structure reflects the FI-WARE

chapters (as in the FI-WARE Catalogue) so that it's easier to navigate the contents and it's possible to manage the users enabled to publish (and update) courses at level of FI-WARE Chapters (eLearning platform category). Registered users from FI-WARE can ask for having an additional role (author) in the platform. This role is the one associated to one,

- o or more categories, where the author is allowed to create and manage courses.
- o To simplify the creation of courses it was created and distributed a package (based on Flash technology) representing the basic structure for the content of the course, containing also the application to play the course itself. It is worth to note that courses created using this package are SCORM compliant. The structure of the course that can be produced using this package is based on a sequence of slides with an additional audio track explaining those slides. The distributed package is the starting point for creating a course and, at the same time, a simple example of a course configuration. Using this package all the GE owners can take advantage from the material that they already created for webinars, and easily reproduce it in a course to be published in the eLearning platform. At the end of the reporting period it was designed and developed a beta version (0.1.0) of a package, for creating training courses, based on HTML5 in order to simplify the customization of the look & feel and obtain a lighter (in terms of Kb) package. GE owners that have recorded their webinar can split the whole video in chapters and upload them as additional training content (this option was already adopted by some partners).
- o E-IIS also started and completed activities to update the look & feel of the eLearning platform and SCORM packager in order to align them with the new image of the FIWARE brand.
- o Documentation explaining step by step how to create a course using the package and how to publish the course in the eLearning platform was produced and published into the FIWARE forge and into the public FIWARE wiki (http://forge.fiware.org/plugins/mediawiki/wiki/fiware/index.php/Working_with_the_FIWARE_Academy). The wiki page was continuously updated taking into account the feedback reported by users through any other support channel (e.g. emails, webinar, phone conferences).
- o A dedicated email (fiware-elearning@lists.fi-ware.org) was set up and is available to the project partners to send requests for author grants and to provide direct support.
- o A webinar (Q&A session) was organized on August 2nd 2013 to reply to questions that early adopters had on the eLearning platform.
- o The CDE Manager (myForge) component was redesigned and refocused in order to become a complementary service of the Cloud Portal. The central use case to fulfill is the one represented by the FI-LAB user that needs to create a collaborative development environment as a composition of different services (e.g. ticket tracking system, wiki, version control system). To maintain a coherent user experience, a significant amount of time was devoted to study the Cloud Portal implementation (under development by UPM for the Cloud Chapter), used as base line component for the myForge user interface. It was developed the scripts (blueprints for the PaaS Manager) for automatic instantiation of a collaborative development service (Subversion service complemented with a Web admin interface). The development activity in this Task, related to the myForge, was discontinued at M32 taking into account the Recommendations (and thus the new plan) deriving from Y2 Review.
- o To address the need of having a clearer presence of the tools available to

FIApp developers a dedicated structure was proposed for a tool entry in the FIWARE Catalogue. This structure was implemented, validated in a testing environment and ported to the public FIWARE Catalogue. Tools entries was created.

- o E-IIS attended the Campus Party event, during which it was possible to provide direct support to *campuseros* in browsing the FIWARE Catalogue and using the FI-LAB environment.
- o E-IIS contributed to the release of the final version of the deliverable “FI-CoDE Basic Framework” (D9.1.4).
- o E-IIS as WP leader held and organized an integration meeting (3-5 June 2013 in Rome) attended by ATOS, UPM, UDE and IBM-IL, foreseen the 2° RP Review, to produce use cases on the tools usage.
- o E-IIS gave support to partner FBK (involved in WP10) to explain the Tools developed within this Chapter and their usage in the scope of the processes described in the Handbook.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

● **23-UPM:**

Contribution and results:

- o A new section of the Catalogue has been added. Bundles are collections of GEIs that can be used together to serve a specific purpose. In the Catalogue, Bundles include a list of the GEIs included in the bundle. Authors can also specify the version number of the GEI they are referring to. Furthermore, information about how to deploy the bundle is provided to enable users to deploy their own versions of the bundles.
- o The Chapters in the Catalogue have been updated to keep up with the FIWARE terminology and branding.
- o There is a new state in the moderation process in the Catalogue that allows editor to 'archive' content. Archived publications are not displayed to the public but can be published at any time if editors decide to do so.
- o The publication process in the Catalogue has been modified to allow authors to publish their content without moderation as it was considered that the project was mature enough.
- o Minor modifications to the Look&Feel of the Catalogue have started in preparation for the new design more aligned with the current FIWARE brand.
- o The feedback channels of the Catalogue have been updated. There is no longer a direct JIRA link. A new communication channel integration was proposed to connect the Catalogue with the Stackoverflow questions for each enabler.
- o Documentation and tutorials on how to browse the Catalogue have been produced (https://forge.fiware.org/plugins/mediawiki/wiki/fiware/index.php/Working_with_the_FI-WARE_catalogue).
- o A dedicated email (fiware-catalogue@lists.fi-ware.org) was set up and is available to the project partners to send requests for author grants and to provide direct support
- o A new structure to publish Tools in the Catalogue was implemented, validated in a testing environment and ported to the public FIWARE Catalogue. Tools

entries was created.

- o The REST API to access the Catalogue was vastly improved to provide access to all the information available in the Catalogue. The API allows for complex filters, sorting options and two formats to retrieve the contents: XML and JSON.
- o The REST API was properly documented to allow developers to use it.
- o UPM has handled the support of the production and development deployments of the Catalogue, addressing the issues raised by users and contributors.
- o UPM contributed to the release of the final version of the deliverable “FI-CoDE Basic Framework” (D9.1.4).

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

- **24-UDE:**

- o As agreed with the WP9 Leader since the beginning, UDE does not have activities in this task, because the focus and related effort were shifted to T9.2.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

1.1.1.2 **Task 9.2: API IDE Support**

Task Objectives:

The objective of this task 9.2 is, as per DoW, to provide an IDE supporting the usage of Generic Enablers for the development of Future Internet Applications. This task has also the goal of writing the methodology (or handbook) to help the users of the IDE to build Future Internet Applications using the FI-CoDE tools.

The final version of the FI-CoDE Handbook (D9.2.3) was cancelled as a consequence of the Recommendation #17 (and thus the new plan) deriving from Y2 Review.

Task Activities during the period:

The breakdown of the **contribution, results, deviation and proposed corrective action** of each partner in this task 9.2 are:

- **02-SAP:**

Contribution and results:

- o SAP: Initial work on scripting the installation process for the eventual integration of the SoPeCo framework with the FI-CoDE environment has been done and was reported under WP10.

Deviation and proposed corrective action:

Neither deviation nor proposed corrective action of this partner in this task.

- **15-E-IIS:**

Contribution and results:

- o E-IIS as WP leader, performed overall coordination and management activities needed within this Chapter, managing regular be-weekly calls until M36 and

later managed calls involving all partners once a month.

- o E-IIS is the leader of this task. During this reporting period activities focused on the integration between the REST Client Generator plug-in and the FI-app Project Management plug-in (developed by ATOS), in order to create a coherent scenario that demonstrates the usage of these tools. The configuration of this demo is available in the FI-WARE forge (SVN repository of WP9).

After realizing this integration, a new version of the REST Client Generator was released in order to take advantage from having a set of libraries in common with the FI-app Project Management plug-in. This set of libraries was released and is accessible from the FI-WARE forge as separate package: Rest Access Client.

The update site (<http://www.fi-ware.eu/tools/updates>), from which all the plug-ins developed by WP9 can be installed, was updated accordingly to the new versions of the plug-ins.

- o The contribution of code to the FusionForge community was integrated in the 5.3 official release of the FusionForge portal:
 - #506 New SOAP services
(https://fusionforge.org/tracker/roadmap.php?group_id=6&roadmap_id=1&release=5.3)
- o The FusionForge community refers to the plugin developed by E-IIS within FI-WARE for the integration of Eclipse/Mylyn: http://fusionforge.org/plugins/mediawiki/wiki/fusionforge/index.php/Mylyn#With_the_dedicated_FI-Ware_SOAP_connector
- o Two courses were produced and published to the FIWARE eLearning platform: on the REST Client Generator and the FusionForge Connector plug-ins. It was decided to use a text to speech application in order to homogenize all produced courses (to have one single voice with no accent) and to give the possibility to update the text, add and remove slides, without the need of recording again the full audio track.
- o E-IIS contributed to the release of the final version of the deliverable “API IDE Support” (D9.3.3).
- o The development activity in this Task was discontinued at M32 taking into account the Recommendations (and, thus, the new plan) deriving from Y2 Review.

Deviation and proposed corrective action:

No deviation nor proposed corrective action regarding the activity of this partner in this task.

● **23-UPM:**

Contribution and results:

- o UPM has continued providing support and documentation to developers of plugins and web applications that access the FIWARE Catalogue via the REST API.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

● **24-UDE:**

Contribution and results:

- o During the reporting period, UDE developed an IDE support (i.e., Eclipse

Plugin) for PROSA linked to T9.3 and documented the results in deliverable D9.3.3 (API IDE Support) as well as the wiki page of PROSA. Moreover, UDE created and maintained an entry for the PROSA tool in the FIWARE Catalogue, published in the tools part of the FIWARE Catalogue. UDE was leading the FIWARE Handbook (deliverable D9.2.3) and thus interacting with partners for planning and defining contributions. However, the work on this deliverable was not continued as requested by the FIWARE reviewers after the M30 review meeting. As a workpackage architect, UDE supported finalizing the deliverable D9.3.3.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

1.1.1.3 **Task 9.3: Testing automation and Deployment Support**

Task Objectives:

The objective of this task 9.3 is to implement specific solutions for testing automation and validation of Future Internet Applications, addressing the increased complexity of those tasks due to the heterogeneity and distributed nature of such applications. The solutions include novel approaches for quality assurance of adaptive service-based systems (e.g.: online testing), systematic execution of complex performance test scenarios, test planning and performance visualization, and techniques for supporting deployment and validation of cloud computing applications.

Task Activities during the period:

The breakdown of the **contribution, results, deviation and proposed corrective action** of each partner in this task 9.3 are:

- **02-SAP:**

Contribution and results:

- Within the third year reporting period, the overall direction has been two fold. On the one hand, we further extended the Software Performance Cockpit (SoPeCo) from an ease of use and architectural point of view, on the other hand did we invest in adoption enabling activities and assets like the FI-WARE catalog or education platform content. While addressing FI-WARE application developers and FI-WARE GE developers alike, we also saw outside adoption. For instance the Karlsruhe Institute of Technology (KIT) is hosting an open SoPeCo UI instance (<http://i43vm-saas.ipd.kit.edu:8080/>), and the SoPeCoYCSB project (<https://github.com/TomZhangUT/SoPeCoYCSB>) did build its Yahoo Cloud Servicing Benchmark implementation based on the open source code delivery of SoPeCo.

During the first half year, the focus has been on further developing and extending SoPeCo. Better charting capabilities were added to the SoPeCo UI and usability aspects of the got improved. Functionality was added to forward Measurement Controller (MEController) status information to the SoPeCo UI, which greatly improves the experience in distributed measurement environments. On the architecture level, the code was refactored to decouple the SoPeCo UI from the core, which eases the consumption and extension of the overall solution. In addition a number of code cleanups and bug fixes,

based on feedback from SoPeCo users, were applied.

Following the M30 review in December 2013, development was stopped and the focus was shifted towards the application and documentation of the SoPeCo tool. Handbook material was created as part of the D9.3.3 and D9.4.3 deliverable and complemented by additional training material for the education platform. In this context, the work of applying SoPeCo to the measurement and optimization of the Repository GE from WP3 was continued. To further increase the reach of SoPeCo, an entry to the FI-WARE catalog has been added, a FI-WARE Testbed instance has been provided and a FI-LAB configured image has been created.

In addition to the conclusion of the SoPeCo tool, SAP has also released the NGS10 Testserver tool that was initially developed in the context of WP5 (IoT) in software release 3.2. The development activities themselves have been finished before M30 and were performed in WP5, but a catalogue entry for the tool, a training course, and the handbook material were delivered in WP9, the latter alongside SoPeCo in the D9.3.3 and D9.4.3 deliverables. As the NGS10 Testserver is not a Generic Enabler and therefore unsuitable to be published in WP5, we released it within the reporting period as a tool in WP9 and additionally the source code has been made available at GitHub in order to allow the general public to further enhance the tool with later revisions of the NGS1 standard.

Complying with recommendation 17 of the PM30 review report, the remaining resources were shifted to work package 3.

Deviation and proposed corrective action:

Neither deviation nor proposed corrective actions of this partner in this task.

- **03-IBM-IL:**

Contribution and results:

- During this reporting period, IBM created a tool that monitors pthread calls. The implemented tool is a light-weight wrapper to the system library which logs pthread calls and is able to create "sessions" of lock usage. The tool has a matching Eclipse plug-in that can display various slices of collected data. In addition, like for all other supported tools, the user may run the tool on an application from the Eclipse project either locally or remotely. This is an ongoing activity. There are 4 planned views. The overview and "waits by thread" views are already implemented. The views that will be implemented until M33 are "hot locks/conditional vars" displaying information across time, wait queue size object and so forth. The new plug-in will be available by M33 once the additional views and features, such as predefined and user statistics will be completed and testing concluded.
- IBM collaborated with all WP9 partners to prepare a demo for the 2nd year review, showing a possible use case of the tools combined.
- IBM also prepared an eLearning course on how to collect remotely data using Trace Analyzer. IBM will prepare additional courses detailing how to comprehend the data from SAR and TCPDump and how to identify telldates of potential performance issues. Once the pthreads plug-in will be ready, a course will be prepared for it as well.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this

partner in this task.

- **15-E-IIS:**

- Contribution and results:

- o E-IIS as WP leader, performed overall coordination and management activities needed within this Chapter, managing regular bi-weekly calls until M36 and later managed calls involving all partners once a month.
 - o During this reporting period activities in this task focused on the implementation of the Unit Functional Testing Framework (UFT Framework). Starting from two separate components (REST-assured and TestNG) it was possible to design a combined usage that reflects, to the end user, the most relevant aspects of both those tools: from the REST-assured, the syntax for interacting with RESTful services (all the GEs expose RESTful APIs); from the TestNG, the possibility to structure the test campaign (e.g. groups and dependencies) and mostly the ability to separate the test logic from the test data. It's also relevant to note that a dedicated user interface is now available for the Eclipse IDE, together with the scripts for integrating the execution of tests and report of results, in a continuous integration process. The UFT Framework release (v1.0.0) contains also an example of usage based on a simple set of tests executed calling the APIs of a Context Broker GE.
 - o For the UFT Framework, a training course was created and published to the FI-WARE eLearning platform (produced using the packager made available by E-IIS). The documentation on the UFT Framework was created and reported in the FI-WARE public wiki.
 - o E-IIS contributed to the release of the final version of the deliverable "Application Testing and Deployment Support Tools" (D9.4.3).
 - o The development activity in this Task was discontinued at M32 taking into account the Recommendations (and thus the new plan) deriving from Y2 Review.

- Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

- **24-UDE:**

- Contribution and results:

- o During the reporting period, as T9.3 leader, UDE contributed to the organization and management of the work in the overall WP, thus ensuring the alignment of the work performed in this task with the overall goals and tasks of the WP. UDE participated to the bi-weekly WP conference calls both as a task lead and a contributing partner to WP9. UDE contributed to the FIWARE Roadmap, by reviewing and updating PROSA-related entries (i.e., including features in the roadmap), as part of the public WP9 Roadmap, making it up to date and consistent with the roadmaps of other chapters. Moreover, UDE continued to develop PROSA, an online testing and monitoring tool delivered as part of the FI-CoDE. The development included creating an Eclipse plugin for PROSA, that can be easily integrated in the FI-CoDE IDE, linked to T9.2. Following what is planned in the roadmap, new features were implemented during this reporting period, such as: (1) visualization of the QoS data at the process instance level; (2) support for viewing the QoS data for services of a particular process instance; (3) support for saving available QoS data (from monitoring, testing, or both) in "csv" files, so to be used for further analysis by the tool users. UDE

participated to the integration meeting of WP9 held from 3-5 June 2013 at E-IIS premises in Rome, to integrate the tools (incl. generating deployment script for PROSA), developing a scenario for a live demo for the tools of this chapter, and preparing for the 5th review meeting. Additionally, as a tool provider, UDE attended the Campus Party Event in London. The development activities were not continued following the reviewers recommendations after M30 review meeting, and remaining efforts were devoted to source code cleanup, bug fixes, testing, and enhanced documentation of the tool. The documentation of the PROSA tool is reported in the deliverable D9.4.3 (Application Testing and Deployment Support Tools) as well as the wiki page of PROSA. Moreover, UDE created and published a learning course for the PROSA tool in the FIWARE Academy (eLearning platform) covering the new features of the tool. As a lead of this task and an architect of WP9, UDE coordinated and reviewed the contributions of the partners to D9.4.3. UDE contributed to the FIWARE Architecture by updating the PROSA architecture to reflect structural changes and new functionalities of PROSA. Additionally, UDE coordinated the overall contribution of the this task to the FIWARE Architecture provided by involved partners.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

- **23-UPM:**

Contribution and results:

- During the reporting period, UPM has ensured that the Catalogue information via the web interface and the REST API was available to be accessed by the WP9 partners.
- The terminology of the Catalogue has been updated to keep aligned with the activity in other WPs.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activity of this partner in this task.

2. Significant results

The main results of WP9 are in this period can be summarized as follow:

- Submission of D9.1.4 - FI-CoDE Basic Framework
- Submission of D9.3.3 - API IDE Support
- Submission of D9.4.3 - Application Testing and Deployment Support Tools
- Relevant increase of interest in the Tools Chapter offering (Tools Chapter has always been in first or second position of the “Top Project Downloads” of the FIWARE Forge)
- FIWARE Catalogue
 - confirmed to be one of the main entry point to access FIWARE technology;
 - implemented the “bundles” entries;
 - base platform adopted by some phase 2 UC projects.
- The FIWARE Academy (eLearning platform) confirmed its strategic role to increase the adoption of FIWARE technologies:

- nearly 60 entries most of them publishing more than one training content (e.g. web seminar, video, documents, links);
 - a peak of 26,460 pageviews in Oct. 2014 (to confirm the relevance of the FIWARE Academy for the FIWARE Accelerator Program);
 - hosting of training material from phase 2 UC projects and XIFI.
- Accepted contribution to the code base of FusionForge 5.3
- Finalized the development of:
 - myForge
 - SoPeCo
 - TraceAnalyzer
 - PROSA
 - FusionForge Connector
 - FusionForge User Project Management plugin
 - FIA Project Management plugin
 - REST Client Generator plugin

3. Deviations from Annex I and impact on other tasks, available resources and planning (if applicable)

No deviations to be reported for this final period of the project: achievements are in line with the last amendment of the ANNEX I and with the new plan agreed within the Tool Chapter to address Y2 review recommendations.

4. Reasoning for failing to achieve critical objectives and/or not being on schedule (if applicable)

Not applicable.

5. Use of resources

Note: The following info below is expected to be included as part of section 2.3.8 Use of resources for Project Management (WP1) of the periodic report by Javier de Pedro (TID). Figures below are being updated by Javier with the info corresponding to current period.

Planning of effort in WP9:

This WP has a weighted rate by month of the linear distribution of total effort per partner* as follows:

M1-M9: 50 % of its linear distribution in 36 months

M10-M33: 100 % of its linear distribution in 36 months

M34-M36: 50 % of its linear distribution in 36 months

M37-M44: Extension of the project: Each partner has provided their own planning.

As result of the amendments, planning has could be changed due to its recalculation based in the new effort per partner in the DoW.

* Except E-IIS who has requested to follow its own particular planning given a well described rationale to the Consortium.

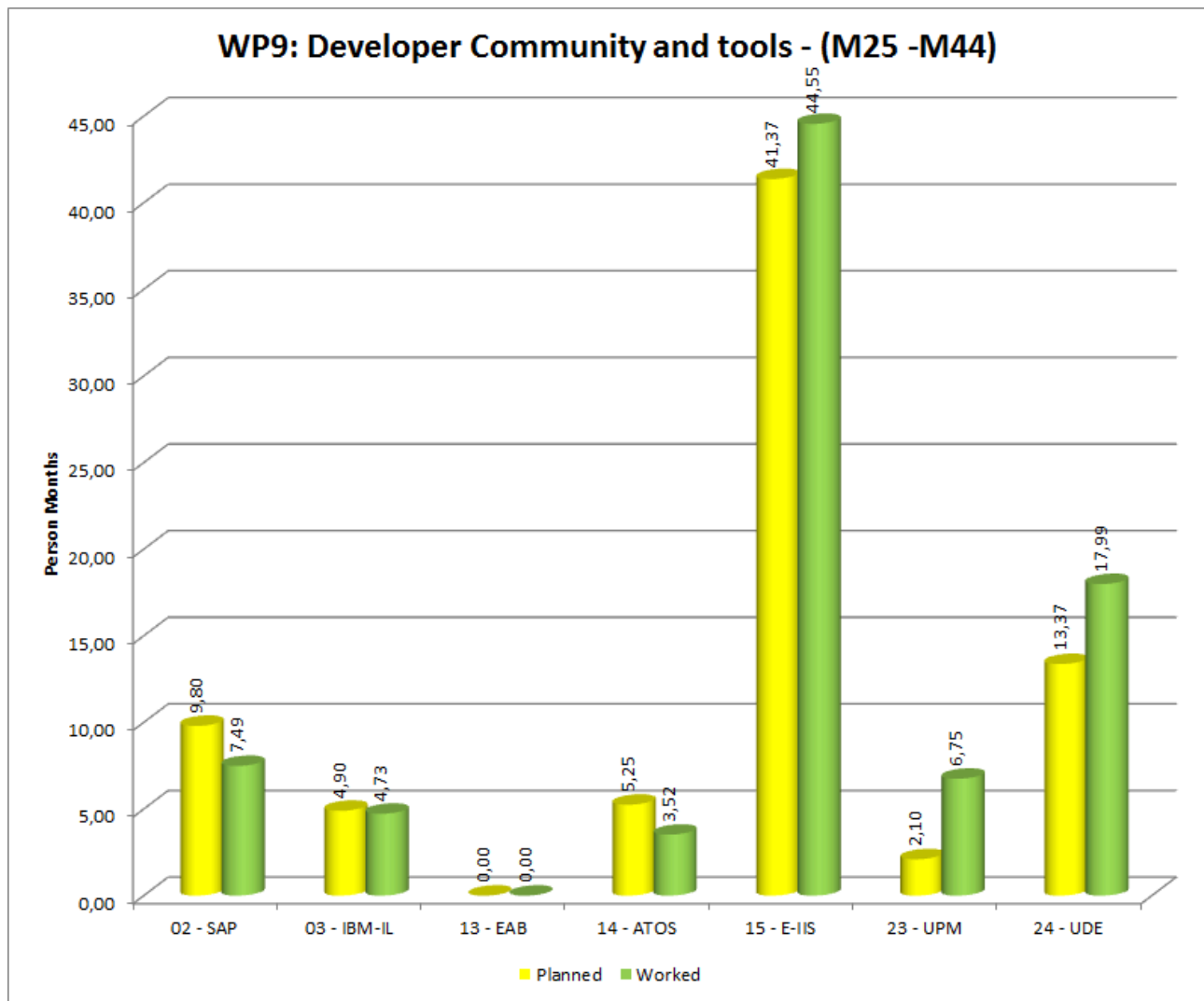
Follow-up of effort in WP9:

The following table depicts the planned resources vs. real resources (in PMs) for WP9:

WP9	Y1	Y2	Y3	Y1	Y1+Y2	Y1+Y2+Y3
DoW: 214	M1-M12	M13-M24	M25-M44	M1-M12	M1-M2 4	M1-M44
Planned	63	85	77	63	148	225
Worked	69	81	85	69	150	235

Note: Worked cell contains the accumulative declared effort.

In general, the consumption of resources in WP9 is in line with planned effort: three partners reduced their effort after the stop of development activities at M32, three partners have a slight overspending during this last period: UDE for taking over the role of WPA; E-IIS for having increased the activities on the FIWARE Academy to fulfill the users' requests; UPM: the scope of the tasks needed to keep the Catalogue up to date with the requirements of FIWARE was bigger than what was previously estimated.



Explanations of significant deviations ($\pm 10\%$) are explained in the “Explanation of the use of the resources -> Effort per partner” section.

Note: The above reference (explanations) is currently managed by the consortium in the following shared document:

<https://docs.google.com/document/d/1NoS4-7DjKbAlPc98c3IHCMgHkoNk3G7VSiNTDMkoQc/edit>

In summary, WP9 achieved its objectives and the most relevant outcomes (FIWARE Catalogue and FIWARE Academy) of this Chapter have already been transferred to FI-Core for their maintenance and evolution.

6. Corrective actions proposed (if applicable)

Not applicable.

