



## D6.2: Service management tools implementation and maturity baseline

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### *Deliverable*

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### **Abstract**

This deliverable provides the results of baseline assessments performed by the clients with regard to the management tools in use. The framework we used was described in D6.1. Additionally to the assessment results, we present initial gap identification based on minimal tool support levels, defined also in this document. This document is a basis for allowing for the identification of improvement needed and discussion of follow-up actions.

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## 1. Introduction

In this document we focus on the technology aspect in the process of the implementation of ITSM. In the previous deliverable (D6.1) we described an assessment framework for tool development maturity. Our approach was crafted to be simple and it is supplementary to the works on implementation SMS in WP5. The tool aspect is important especially in a federated environment, where efficient task execution forces need of integration.

In this document, the tool support assessment framework will be applied to FedSM Client partners: FGI, PLGrid and EGI with the scope as was defined in D5.2. Beside presenting the assessment results we will provide an initial approach to the gap identification. For that purpose, we identified in Sec. 3 the minimal tool support levels applicable to a maturity level “in place”, which is required for Clients partners. A comparison of results towards those minimal requirements gives an overview of the range of required tools adoption. As a preparation for detailed tool extension plan, we define steps towards more detailed gap analysis.

### 1.1. Contribution to the project objectives

This deliverable is an important step towards better SMS implementation for the Client partners, as whole WP6 focuses on technology aspects.

The main result of this document is a baseline assessment of tools support for the Clients. This is supplementary for D5.2 which provided assessment of the process implementation.

The result of this deliverable will be a basis for the next one planned for WP6, which is tools implementation plan D6.3. Together with D5.3, they will provide detailed, correlated plan of client actions that would make observable improvement possible.

### 1.2. Important terms and concepts

- SMT – Service Management Tools, any software or piece of technology that is used to facilitate operation of one or more ITSM processes.
- Tool - (in context of this deliverable) service management tool (SMT)

## 2. Tools maturity assessment for Clients

### 2.1. Introduction

In this section the results of the tool maturity self-assessments for FGI, PLGrid and EGI.eu Client partners are presented. The scope of the assessment was a Service Management System described and assessed in D5.2. According to a maturity assessment framework described in D6.1 the client should choose one of the three levels of tools support for each of:

- 14 processes (identified of PR1..14), and
- 7 general management requirements areas (identified as GR1..7).

Both defined in FitSM [2]. Definition of three levels of the tool support is the following:

- **Level 0: No tools**

*There is no tool support or tool support is limited to basic communication and documentation using common technology including e-mail or simple non-template-based text-processing.*

- **Level 1: General tools**

*Tool support for the process and its activities based on generic tools (including common office software packages, databases, collaboration platforms, etc.) which have been aligned to the process to provide some main features supporting the execution of activities, but not integrated, not supporting all features required for full management, and not using a common data warehouse.*

- **Level 2: Specific tools**

*There are specific tools aligned to topics/process in place, supporting all required features and information and are well-integrated with each other, allowing data to pass freely between them.*

For every assessed item an evidence was shortly summarized. In cases where status is close to reach the next level, a remarks were added, to give better view on the real situation. Assessment on Level 0 does not require evidence, as according to the definition, nothing is required to reach this level.

The results presented below were revised by the project experts based on the evidence collected and meeting with each Client partner.

## 2.2. FGI

Code	Requirement area	L0	L1	L2	Evidence and remarks
GR1	Top Management Responsibility	Y	N	N	
GR2	Documentation	Y	Y	N	FGI wiki pages in place.
GR3	Defining the scope of service management	Y	N	N	
GR4	Planning service management	Y	N	N	
GR5	Implementing service management	Y	N	N	
GR6	Monitoring and reviewing service management	Y	N	N	
GR7	Continually improving service management	Y	N	N	Tracking of improvements is done by keeping up-to-date information in pre-defined format in a Wiki. Templates for recording of feedback and proposals are missing.
PR1	Service Portfolio Management	Y	N	N	
PR2	Service Level Management	Y	N	N	
PR3	Service Reporting	Y	N	N	
PR4	Service Continuity & Availability Management	Y	Y	N	EGI Availability and Reliability info collected by SAM, FGI's Nagios, FGI wiki pages for documentation on „How to deploy a FGI site“

					<ul style="list-style-type: none"> <li>• <a href="https://ping.fgi.csc.fi/nagios/">https://ping.fgi.csc.fi/nagios/</a></li> <li>• <a href="https://ping.fgi.csc.fi/myegi/ss/">https://ping.fgi.csc.fi/myegi/ss/</a></li> <li>• <a href="https://operations-portal.fgi.eu/availability/siteAvailabilities/ngi/NGI_FI">https://operations-portal.fgi.eu/availability/siteAvailabilities/ngi/NGI_FI</a></li> </ul>
PR5	Capacity Management	Y	N	N	
PR6	Information Security Management	Y	N	N	
PR7	Customer Relationship Management	Y	Y	N	FGI has a consumer's DB with all the needed contact information (VOMS – <a href="https://voms.fgi.csc.fi/">https://voms.fgi.csc.fi/</a> )
PR8	Supplier Relationship Management	Y	N	N	
PR9	Incident & Service Request Management	Y	Y	Y	CSC's „RT" trouble ticket system allows central recording, classification, prioritization etc. of incidents and supporting the escalation of incidents and notification of users/customers
PR10	Problem Management	Y	Y	Y	CSC's „RT" trouble ticket system allows central recording, classification, prioritization etc. of incidents and supporting the escalation of incidents and notification of users/customers
PR11	Configuration Management	Y	N	N	
PR12	Change Management	Y	N	N	
PR13	Release & Deployment Management	Y	N	N	
PR14	Continual Service Improvement Management	Y	Y	N	FGI has mailing lists and weekly admin meetings where request's for improvements are frequently made and registered into FGI's wiki in the form of minutes

### 2.3. PLGrid

Code	Requirement area	L0	L1	L2	Evidence and remarks
GR1	Top Management Responsibility	Y	Y	N	PLGrid uses JIRA and Confluence tools for ticket tracking and documentation. Top Management policy is being set on Workpackage Leaders meetings and relevant tickets are submitted to stakeholders. For Service Management Policy – it is not yet there but a place has been defined.
GR2	Documentation	Y	Y	N	We use Confluence. It allows version tracking, access right management, advanced linking etc.

GR3	Defining the scope of service management	Y	Y	N	We understand this requirement as presence of mechanisms in tools to realize scoping. For example our Helpdesk System allows scoping since it has a notion of queues behind which there are experts responsible for a specific scope of the infrastructure. SLM tools allow scoping as well.
GR4	Planning service management	Y	N	N	
GR5	Implementing service management	Y	Y	N	JIRA (FID) is used to manage service
GR6	Monitoring and reviewing service management	Y	N	N	Some measures are put to monitor efficiency of ISRM and SLM processes, but these are ad-hoc basis allowing to react when something is wrong rather than regular reporting.
GR7	Continually improving service management	Y	N	N	We have no templates however improvements are recorded, evaluated and tracked in JIRA.
PR1	Service Portfolio Management	Y	N	N	Place for service portfolio has been defined, however there are no procedures, not templates around that.
PR2	Service Level Management	Y	Y	Y	PLGrid has a system composed of User Portal + Bazaar for negotiation and signing of SLAs. Changes are traceable (SLA versions), notifications in place.
PR3	Service Reporting	Y	Y	Y	PLGrid publishes monthly infrastructure indicators containing data about resources, users, SLAs, tickets etc. Reports to customers are available in PLGrid user portal.
PR4	Service Continuity & Availability Management	Y	Y	N	Service availability monitoring with notification and alarms raising mechanisms is in place however continuity not.
PR5	Capacity Management	Y	Y	N	Monthly infrastructure indicators show the actual demand and offer of PLGrid.
PR6	Information Security Management	Y	Y	N	For reporting incidents in PL-Grid we use RTIR tool. For procedures we use the EGI ones.
PR7	Customer Relationship Management	Y	Y	N	We have user groups who are represented by a leader. We can identify who represents which group and what SLA they had.

PR8	Supplier Relationship Management	Y	Y	N	Suppliers and federated providers are recorded together with roles of specific persons, their resources and resource performance.
PR9	Incident & Service Request Management	Y	Y	Y	Central reporting system based on RT is in place. Integrates information about users, providers. Have escalation, prioritization etc.
PR10	Problem Management	Y	Y	N	Problems are reported to workpackage leaders on monthly basis. Confluence is used for this.
PR11	Configuration Management	Y	Y	N	We use EGI GOCDDB for majority of CI, however not all tools are integrated with this DB and some have their own data base.
PR12	Change Management	Y	N	N	
PR13	Release & Deployment Management	Y	Y	N	For operations tools (Portal, Bazaar etc.) we use test environment, release notes on Confluence, with links to relevant JIRA tickets. For middlewares we depend on EGI.
PR14	Continual Service Improvement Management	Y	Y	N	Improvement possibilities are recorded and evaluated in JIRA project adapted to this specific needs. There is a group which evaluates and prioritizes them.

## 2.4. EGI.eu

Code	Requirement area	L0	L1	L2	Evidence and remarks
GR1	Top Management Responsibility	Y	Y	N	EGI.eu has developed a service management policy that is supported by top-level management and is available via the EGI ITSM wiki page. <a href="https://wiki.egi.eu/wiki/EGI_ITSM#EGI.eu_Service_Management_Policy">https://wiki.egi.eu/wiki/EGI_ITSM#EGI.eu_Service_Management_Policy</a>
GR2	Documentation	Y	Y	N	Wiki page host all information and allows us to version control. As a secondary repository for documents we have doc db. <a href="https://wiki.egi.eu/wiki/EGI_ITSM">https://wiki.egi.eu/wiki/EGI_ITSM</a> <a href="https://documents.egi.eu/">https://documents.egi.eu/</a>
GR3	Defining the scope of service management	Y	Y	N	The EGI ITSM wikipage also hosts the scope statement regarding service

					management implementation. <a href="https://wiki.egi.eu/wiki/EGI_ITSM#Scope_Statement">https://wiki.egi.eu/wiki/EGI_ITSM#Scope_Statement</a>
GR4	Planning service management	Y	N	N	Organized wiki pages dedicated for this are planned.
GR5	Implementing service management	Y	Y	N	Wiki pages are in place for implementation and activity tracking <a href="https://wiki.egi.eu/wiki/EGI_ITSM">https://wiki.egi.eu/wiki/EGI_ITSM</a>
GR6	Monitoring and reviewing service management	Y	N	N	Organized wiki pages dedicated for this are planned.
GR7	Continually improving service management	Y	N	N	To be defined in the Service Management Plan
PR1	Service Portfolio Management	Y	Y	N	The service portfolio management information is hosted via the EGI ITSM wiki page. The portfolio itself is centrally available through a Google Spreadsheet. <a href="https://wiki.egi.eu/wiki/EGI_Service_Portfolio_Management">https://wiki.egi.eu/wiki/EGI_Service_Portfolio_Management</a>
PR2	Service Level Management	Y	Y	N	The DocDB is the tool for storage of documents, templates, version tracking, etc. with support from wiki pages. <a href="https://documents.egi.eu">https://documents.egi.eu</a> <a href="https://wiki.egi.eu/wiki/Operations">https://wiki.egi.eu/wiki/Operations</a>
PR3	Service Reporting	Y	Y	Y	MyEGI and the Operations Portal provide on-line access to performance figures, and links to the monthly performance reports; customers and providers can generate usage reports by specialized portal. <a href="https://wiki.egi.eu/wiki/Performance">https://wiki.egi.eu/wiki/Performance</a> <a href="http://accounting.egi.eu/egi.php">http://accounting.egi.eu/egi.php</a>
PR4	Service Continuity & Availability Management	Y	N	N	We have a tool that will provide the required functionality, but is currently under development. <a href="https://operations-portal.egi.eu/">https://operations-portal.egi.eu/</a>
PR5	Capacity Management	Y	N	N	To be defined in the Service Management Plan
PR6	Information Security Management	Y	N	N	We use a variety of tools that have built in information security mechanisms (e.g. SSO accounts, certificates for authentication and authorization purpose). No incident tracking or recording is currently done.



PR7	Customer Relationship Management	Y	Y	N	The general tool for customer information is hosted via the EGI website. <a href="http://www.egi.eu/community/ngis/">http://www.egi.eu/community/ngis/</a> . Customer relationship management is done through a dedicated CRM <a href="https://crm.egi.eu/">https://crm.egi.eu/</a>
PR8	Supplier Relationship Management	Y	Y	N	We use the EGI website for generic information regarding technology suppliers, while dedicated wikispaces are used for more detail and relationship management. All related documents are stored in the DocDB, and GGUS is used for recording and handling technical requirements and incidents.
PR9	Incident & Service Request Management	Y	Y	Y	Incident management is done through GGUS ( <a href="http://www.ggus.eu">www.ggus.eu</a> ), while Service Requests are run through RT ( <a href="http://rt.egi.eu">rt.egi.eu</a> )
PR10	Problem Management	Y	Y	N	Operations support unit within GGUS record and track problems. Decision-making is done through the OMB where RT is used for this process.
PR11	Configuration Management	Y	Y	Y	The GOCDB is the tool for configuration management.
PR12	Change Management	Y	Y	N	JRA1 mailing list is the communication channel and EGI broadcast tool is used
PR13	Release & Deployment Management	Y	Y	N	Individual operational tools have release and deployment management, but no central tool to handle each.
PR14	Continual Service Improvement Management	Y	Y	N	RT system is used as well as the OTAG mailing list for suggestions and meetings to propose improvements and track implementation.

### 3. Minimal levels for tool support

In the context of implementation of SMS according to FitSM in federated environment we can indicate minimal level of tool support for each process. This is valid for the overall **maturity level "SMS in place"**, as defined in D5.2. This level of maturity is a target implementation for FedSM clients.

Below we define a minimal tool support for each process and for general requirements as a whole. In each case we provide justification for this. Note that specific scope and set-ups require better level of support, we tried to identify situations when this might be place.

Code and process name	Minimal level of tool support	Recommended tools and remarks
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GRx: General requirements	<b>L1</b>	For all the related requirements proper, general purpose document repository, wikis and templates are sufficient
PR1: Service Portfolio Management	<b>L1</b>	Wiki and document repository are sufficient
PR2: Service Level Management	<b>L1</b>	Wiki and documents template are enough for a service catalogue management and in case of corporate level SLAs and OLAs. <b>L2</b> would be applicable in case of a need for solution for SLA negotiation and management. This might be valid if any of the following appear: <ul style="list-style-type: none"> <li>- Customer-specific SLAs are in place</li> <li>- OLAs are closed per each SLA</li> <li>- Number of providers is large</li> </ul>
PR3: Service Reporting	<b>L2</b>	Service reports need to be generated based on data that comes from different providers, therefore some customized solution need to be provided to collect data and generate a single report.
PR4: Service Continuity & Availability Management	<b>L1</b>	Proper documentation and communication channels needs to be established; common tools like document repository, wikis, and mailing list are enough
PR5: Capacity Management	<b>L1</b>	On-line wikis or spreadsheet documents shared by repositories would be needed. <b>L2</b> would be applicable in case an integrated system for monitoring and planning capacity is needed. This might be valid if any of the following appear: <ul style="list-style-type: none"> <li>- SLM on a federator level require detailed capacity information from providers</li> <li>- Some changes in capacity are triggered not by the federator</li> </ul>
PR6: Information Security Management	<b>L1</b>	General purpose RT systems and documentation repository might be sufficient.
PR7: Customer Relationship Management	<b>L1</b>	Standard CRM tools can be used.
PR8: Supplier Relationship Management	<b>L1</b>	General solutions can be used both for federation members and for external suppliers.
PR9: Incident & Service Request Management	<b>L2</b>	Customized solution for integrating providers and federator should be in place. The tool should reflect the structure of federation, different escalation options and different scope. Example of implementation are a few providers RTs integrated with federated-level RT.
PR10: Problem Management	<b>L1</b>	General purpose RT, wikis, document repositories can be used for managing problems.
PR11: Configuration Management	<b>L2</b>	As the configuration of the system is covering many providers customised solution that integrated configuration information need to be in place

PR12: Change Management	L1	<p>General purpose RT, wikis can be sufficient.</p> <p><b>L2</b> would be required (in a limited scope) in case any of the following appear:</p> <ul style="list-style-type: none"> <li>- Requests triggered on federator level need to be implemented by providers frequently</li> <li>- Switching activation of SLAs require reconfiguration</li> <li>- Federator require confirmation that a change is performed by a provider</li> </ul>
PR13: Release & Deployment Management	L1	General purpose software repositories, wikis and RT for release processing and testing reports
PR14: Continual Service Improvement Management	L1	General purpose RT, wikis, document repositories can be used for storing and tracking requests and progress.

## 4. Gap-analysis

The proper, in-depth analysis of the results will be performed in the process of gap-analysis and planning improvements in the preparation to the next deliverable in work package 6. However, below we present short overview of the situation that will be more visible after baseline is assessed.

### 4.1. Initial gap identification

The first approach for the gap identification can be done based on minimal level of tool support described in the previous section. This kind of comparison would give an idea about for how many cases the tool support is not sufficient or there are not appropriate tools in place.

In the table below we collected of assessment results coloured red in case minimal level of tool support is not satisfied.

Code and process name	Minimal level of tool support	FGI	PLGrid	EGI
GR1: Top Management Responsibility	L1	L0	L1	L1
GR2: Documentation	L1	L1	L1	L1
GR3: Defining the scope of service management	L1	L0	L1	L1
GR4: Planning service management	L1	L0	L0	L0
GR5: Implementing service management	L1	L0	L1	L1
GR6: Monitoring and reviewing service management	L1	L0	L0	L0
GR7: Continually improving service management	L1	L0	L0	L0
PR1: Service Portfolio Management	L1	L0	L1	L1
PR2: Service Level Management	L1	L0	L2	L1
PR3: Service Reporting	L2	L0	L2	L2

PR4: Service Continuity & Availability Management	L1	L1	L1	L0
PR5: Capacity Management	L1	L0	L1	L0
PR6: Information Security Management	L1	L0	L1	L0
PR7: Customer Relationship Management	L1	L1	L1	L1
PR8: Supplier Relationship Management	L1	L0	L1	L1
PR9: Incident & Service Request Management	L2	L2	L2	L2
PR10: Problem Management	L1	L2	L1	L1
PR11: Configuration Management	L2	L0	L1	L2
PR12: Change Management	L1	L0	L0	L1
PR13: Release & Deployment Management	L1	L0	L1	L1
PR14: Continual Service Improvement Management	L1	L1	L1	L1

Analysing this table we need to note the following:

- Lack of tool support is correlated with low capability of infrastructures in specific fields.
- We can observe large number of needed upgrades in general requirements, but in majority of cases the needed general purpose tools are in place, but need to be included in related procedures.
- All the clients have sufficient support for Incident & Service Request Management even when L2 was required

## 4.2. Steps towards detailed implementation plan

The initial gap identification done above shall be followed by detailed analysis and implementation planning that should be in place for the next deliverable D6.3. It is essential that the process of planning tools was correlated with SMS implementation plan. This is especially valid for cases where there is a need of changing a general tool (L1) to customised tools (L2). This kind of decisions might trigger serious development effort that need to be planned in time and budget of client institution. Hopefully, introducing general tools in more lightweight - usually it means reusing the tools that are already used for other purposes.

The following steps are needed to prepare tools extension plan:

1. The Client should verify the minimal level of tool support that are applicable to their infrastructure; in some cases, as noted in Sec. 3, customized or new tools would be needed instead of a general purpose tools.
2. Even when level of tool support is correct (so, appropriate tools are in place) Clients should verify if the available functionality planned in D5.3 will be possible to achieve. Depending on the details, adaptation, change of the tool or implementation work should be planned.
3. In case a new tool is established it should be checked carefully against all the requirements and verified against existing procedures.
4. Tools development plans need to be correlated with SM process upgrade plans.

## 5. Summary

The tools are important part of SMS. Federated fashion of providing services make some processes more complex due to need of integration of distributed, multi-domain operations. Consequently, in most cases more advanced tools to support service management are needed.

In this deliverable assessment of tools support for the Client partners was presented. Additionally, for “in place” maturity level, we defined the minimal tool support level for each of SM processes. This was a basis for an initial gap identification, which need be followed by detailed planning of tool development in each Client’s infrastructure.

## 6. References

[1] FedSM Deliverable D3.1. Business models for Federated e-Infrastructures

[2] FitSM-1:2013: Standard requirements for lightweight service management in federated IT infrastructures <http://fedsm.eu/fitsm>

[3] FedSM Deliverable D5.1. Process Implementation and Maturity Baseline Assessment Framework

[4] FedSM Deliverable D5.2. Clients’ process implementation and maturity baseline

[5] FedSM Deliverable D6.1 Service management tools implementation and maturity baseline assessment framework

## Version History

Version	Date	Author	Change record
0.1	08.07.2013	T.Szepieniec,	Initial draft, structure
0.2	30.08.2013	L.Alves	Adding assessment for FGI
0.3	30.08.2013	M.Radecki, T.Szepieniec	Adding assessment for PLGrid
0.4	30.08.2013	T.Ferrari, M.Krakowian	Adding assessment for EGI.eu
0.7	24.09.2013	T.Szepieniec	Assessment summary, minimal tool levels, and remaining parts of the document
0.8	28.09.2013	L. Alves, S.Holsinger	Improvements in justification if the assesments
0.9	30.09.2013	M.Radecki	Proofreading of the document
1.0	30.09.2013	T.Szepieniec	Various improvments, preparing final version of the document