

**EGI-Engage**

Final release of the accounting and operational tools

D3.17

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Abstract

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**DELIVERY SLIP**

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**TERMINOLOGY**

A complete project glossary and acronyms are provided at the following pages:

* <https://wiki.egi.eu/wiki/Glossary>
* <https://wiki.egi.eu/wiki/Acronyms>

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**Executive summary**

# Operations Portal

## Introduction

|  |  |
| --- | --- |
| **Tool name** | Operations Portal |
| **Tool url** | <http://operations-portal.egi.eu> |
| **Tool wiki page** | <https://wiki.egi.eu/wiki/Operations_Portal> |
| **Description** | The Operations Portal provides VO management functions and other capabilities, which support the EGI daily operations. It is a central portal for the operations community that offers a bundle of different capabilities, such as the broadcast tool, VO management facilities, a security dashboard and an operations dashboard that is used to display information about failing monitoring probes and to open tickets to the affected Resource Centres. The dashboard also supports the central grid oversight activities. It is fully interfaced with the EGI Helpdesk and the monitoring system through messaging. It is a critical component as it is used by all EGI Operations Centres to provide support to the respective Resource Centres. The Operations Portal provides tools supporting the daily running of operations of the entire infrastructure: grid oversight, security operations, VO management, broadcast , VO metrics.VAPOR: the Vo Administration and operations PORtal, is a generic tool to assist community managers and support teams in performing their daily activities. The application provides resources status indicators, statistical reports, data management tools. It gathers the resources information from the BDII and displays them in a ordered way, replacing the features previously offered by GSTAT. The amount of resources and the resources themselves are shown in different views that group information per Operations Centres, Countries and VOs. |
| **Value proposition** | New features offered by the Operations Portals allow its customers to better monitor and browse the infrastructure and, then, adapting their workflows according to the exact status of the computing and storage resources (e.g. moving some computation from one provider to another since the latter is working better). |
| **Customer of the tool** | EGI; NGI; RI; Resource Provider; Research Communities |
| **User of the service** | Site admins; Operations Managers; VO Manager; VO users;  |
| **User Documentation**  | <https://forge.in2p3.fr/projects/opsportaluser/wiki/Main_Features_of_the_dashboard><http://operations-portal.egi.eu/vapor/globalHelp> |
| **Technical Documentation**  | <https://forge.in2p3.fr/projects/opsportaluser/wiki/Main_Features_of_the_dashboard>  |
| **Product team** | IN2P3/CNRS |
| **License** | Apache 2.0 |
| **Source code** | <https://gitlab.in2p3.fr/groups/opsportal>  |

## Service architecture

### High-Level Service architecture

The Operations Portal has been designed as an integration platform, allowing for strong interaction among existing tools with similar scope but also filling up gaps wherever functionality has been lacking. The displayed information is retrieved from several distributed static and dynamic sources – databases, Grid Information System, Web Services, etc. – and gathered within the portal.

The architecture of the portal is composed of three modules:

* A database – to store information related to the users or the VO;
* A web module – graphical user interface – which is currently integrated into the Symfony framework;
* A Data Aggregation and Unification Service named Lavoisier.

Lavoisier is the component used to store, consolidate and “feed” data into the web application.

The global information from the primary and heterogeneous data sources (e.g. BDII, GOCDB, NAGIOS, GGUS, ARGO, etc.) is retrieved by means of the use of the different plug-ins. The collected information is structured and organized within configuration files in Lavoisier and, finally, made available to the web application without the need for any further computations. This modular architecture is conceived to add easily new data source in this model and use the cached information if a primary source is unavailable. The data sources are refreshed only as needed and only when an action has been triggered. In addition, it is very easy to add a new data source in this model, as depicted in Fig. 1 and Fig. 2. Nevertheless, two critical dependencies are remaining: GGUS[[1]](#footnote-1) and RTIR[[2]](#footnote-2) (red arrows on the left on next figure).

These dependencies are due to the communication via web services between the Operations Portal and GGUS/RTIR for the creation or the update of tickets.

In case of disruptions of the GGUS or RT services, a part of the features of the Operations Portal will be affected: the creation and the update of tickets into the dashboards. For the rest of data sources, the cache mechanism of Lavoisier permits us to ensure the integrity of the application in case of failures of third parties providers.



Figure 1. Operations Portal architecture

For the VAPOR application, we use the same architecture with a dedicated instance of Lavoisier. Information is aggregated from several top BDII objects and from a monitoring tool based on Jsaga (JobMonitor) and local scripts in python and shell developed specifically to ease the VO support.

VAPOR is fully integrated in the Operations Portal and is presented to the users as an additional feature available.



Figure 3. VAPOR architecture

### Integration and dependencies

Operations Portal dependencies have been already described in the previous section. They are not changed in this release.

## Release notes

### Operations Portal 4.0

This version is a major evolution of the background technologies of the portal.

The aim was to upgrade the different technologies used around the portal and ensure a better maintainability and an improvement of the performances. Here are the main changes for this version:

1. Frameworks & JS Libraries
* Migration to Symfony 3;
* Upgrade of bootstrap library;
* Adoption of the Datatables Js libraries to optimize the presentation of the tables (VO Management, Metrics);
* Use of Google Chart (VO Management, Metrics).
1. Ergonomics
* Addition of links to ARGO and VAPOR applications;
* Changes into global menu presentation (and optimization depending on screen size).
1. Module and project modifications
* Reorganisation of the project infrastructure;
* Removal of obsolete files and features;
* Merge of the VO Management Tool and VO ID cards (all-in-one page);
* Removal of Availabilities/reliabilities module (replaced by ARGO).
1. Downtime Module (new module)

The historical downtime subscription system has been removed and replaced within a dedicated module offering the following features:

* A subscription page (emails , rss , ical);
* Timelines charts and tables;
* Search tool;
* Data exportable in different formats (CSV, JSON).
1. Continuous Integration
* A procedure about good practices for the development procedure is in place: <https://forge.in2p3.fr/projects/opsportaluser/wiki/Development_Procedure>
* An integration platform has been set-up with PHPUnit , GitlabCI , docker and SonarQBE: <https://forge.in2p3.fr/projects/opsportaluser/wiki/Continuous_Integration>

### Operations Portal 4.1

This version was focused on:

* Several improvements on the VO ID cards;
* Improvement of the documentation of the main features;
* The fixes of different bugs due to the important changes of the previous version.

### Operations Portal 4.2

This version is foreseen for August and is focused on:

* Integration of complementary metrics for the VO: accounting data and AppDB changes;
* Improvements on the VO ID Card;
* The support of the new EGI AAI based on the CheckIn service (IdP/SP Proxy).
* A backend for the monitoring
	+ Exploration of logs (apache , symfony, access)
	+ Status of the Lavoisier servers and views
	+ Status of some tables of the DB
	+ The use of ARGO messaging system to collect Nagios notifications

### VAPOR 2.0

The initial prototype (described in D3.4[[3]](#footnote-3)) has been put in production after a test phase of one month.

### VAPOR 2.1

The main features of this release were:

* Integration of GSTAT features;
	+ a map of the resources:

<http://operations-portal.egi.eu/vapor/resources/GL2Map>

* + a table of the resources:

<http://operations-portal.egi.eu/vapor/resources/GL2ResSummary>

* + a Top BDII browser:

<http://operations-portal.egi.eu/vapor/resources/GL2ResBdiiBrowser>

* New menu;
* Bug fixing;
* Integration of feedback given by users;
* Ergonomics improvements.

### VAPOR 2.2

This release has been delivered in February 2017.

For this release, the Operations Portal team has worked closely with the EGI Operations to consolidate the different queries to the Top BDII and the different extracted figures. The results are the following:

* A summary of the CPU and storage capacities by countries, sites or Operations Centres;
* A geographical map with the distribution of sites with a VO filter;
* Some additions in the faulty publications: bad HEPSPEC, mismatches between the different benchmarks, negative values for jobs.

This release has been also focused on the documentation of the different features and the access to the API.

### VAPOR 2.3

This release is currently in the test phase and will be delivered in August 2017.

Once again this release is the results of multiple exchanges with EGI Operations team to enhance the current features. We have worked on different improvements :

* Upgrade of the different javascript libraries to improve the performances.
* identify the duplicated values published by the sites.
* A map has been added with a global view of all the sites.
* A summary of the figures is now available for each site.
* The global storage capacity computation has been improved.
* One new metric has been added in agreement with EGI Operations team : “the Computation power”

## Feedback on satisfaction

Prioritization and testing has been done by dedicated Operations Portal Advisory and Testing Board (OPAnTG)[[4]](#footnote-4) coordinated by EGI Operations team. Furthermore, the Operations Portal team has worked on the automation of tests. Unit and acceptance tests are now done through Docker piloted by GitLab Continuous Integration server.

If tests are failing, new features are not propagated to the test infrastructure. This allows performing a first bug filter before manually tests are executed. Complementary to these tests, the team also adopted a SonarQBE instance to inspect the quality of code.

The architecture of the Operations Portal automatic test suite is described below.

As a result, a minor number of bugs have been identified by the testing team in the most recent releases.



Figure 3. Operations Portal - Automatic test suite.

## Plan for Exploitation and Dissemination

|  |  |
| --- | --- |
| *Name of the result* | Operation Portal |
| *DEFINITION*  |
| *Category of result* | Software & service innovation |
| *Description of the result* | Software enhancement: integrate the VO Administration and operations PORtal (VAPOR) into the Operations Portal and enhance the monitor infrastructure resources including the most relevant features currently offered by GSTAT.  |
| *EXPLOITATION* |
| *Target group(s)* | Users, NGIs, Resource centres, RIs |
| *Needs* | Monitor / browse / Evaluate the resources for VO, sites, Operations Centres |
| *How the target groups will use the result?* | * Exploit the new features in the daily operations of the EGI infrastructure
* Exploit the advanced metrics to better promote the EGI infrastructure
 |
| *Benefits* | * Ease the daily administration of the resources
* Have an overview of the resources and their status
* Be more efficient in the daily job submission
 |
| *How will you protect the results?* | Apache 2 License |
| *Actions for exploitation* | The result is accessible through the web site and the code is hosted on a gitlab. |
| *URL to project result* | <http://operations-portal/vapor><https://gitlab.in2p3.fr/opsportal/>  |
| *Success criteria* | The deployment in production and the use by end users. |
| *DISSEMINATION* |
| *Key messages* | Browse and evaluate your resources |
| *Channels* | EGI Broadcast tool, EGI Meetings |
| *Actions for dissemination* | EGI conferences, publications, participation to workshops organised by potential users. |
| *Cost* |  |
| *Evaluation* | The number of requests and the feedback given by users |

## Future plans

* VAPOR
	+ Enhance the historical scripts, especially the ‘JobMonitor’ Tool;
	+ Consolidation / coherency of the data:
		- Data issued from site publications with incoherencies:
		- Detect and propose corrections:
	+ Extend the current features with user feedback.
* Operations Portal
	+ integration of complementary metrics for the VO;
	+ Add more genericity in the VO Id cards;
	+ Extend the current features with user feedback;
	+ Adapt the current tools to the new communities;
	+ Define a new module for the SLA/OLA management including:
		- workflows to automatic service activations;
		- on-demand generation of reports on resource usage.

# ARGO

## Introduction

|  |  |
| --- | --- |
| **Tool name** | *Please provide clear, short name of tool* |
| **Tool url** | *Please provide url if applicable* |
| **Tool wiki page** | *Link to EGI wiki with description of the product**For JRA1 from https://wiki.egi.eu/wiki/Tools* |
| **Description** | *Please provide a high-level description of what the service does and functionality included.* |
| **Value proposition** | *Describe  how  the  new  or changed  service  alleviates specific user pains and/or supports its intended customer(s) to exploit new opportunities* |
| **Customer of the tool** | *Please describe customer of the tool. Customer commissions the service provider to receive the service, doing so on behalf of a number of users – specify the organisation type/category of the service e.g. NGI; RI; Resource Provider* |
| **User of the service** | *Please specify the user type/category of the service e.g. large research groups; individual researcher; site admins* |
| **User Documentation**  | *Please provide url* |
| **Technical Documentation**  | *Please provide url* |
| **Product team** | *Please provide institutions taking part in development* |
| **License** | *Please provide license*  |
| **Source code** | *Please provide url* |

## Service architecture

*The service architecture provides an overview of the key (logical) service components and their dependencies to help better understand the structure and logical as well as technical setup of the service.*

### High-Level Service architecture

*These sections describe how the service is built. If already described in technical documentation please provide link.*

*Highlight and shortly describe any change on the service architecture introduced by this release.*

### Integration and dependencies

*Insert a description and/or visualisation (figure) of the dependencies to other tools.*

*If already described in technical documentation please provide link.*

*Highlight and shortly describe any change on the dependencies to other tools introduced by this release.*

## Release notes

### Requirements covered in the release

*List requirements that have been implemented in the release*

## Feedback on satisfaction

*Who was involved in testing and what the outcome of the review was*

## Plan for Exploitation and Dissemination

*This section should provide a plan for exploitation and dissemination (PEDR) of the project results documented in this deliverable. If a plan was already provided in an earlier deliverable, then this plan should provide an update. The content will be used to update the catalogue of project results (*[*http://go.egi.eu/egi-engage-results*](http://go.egi.eu/egi-engage-results)*) and to develop an overall PEDR for the whole project.* ***You can create as many tables as the number of results being described.***

|  |  |
| --- | --- |
| *Name of the result* | *Short name for the result (results generated under the project could be any tangible or intangible output, more particularly data, knowledge or information whatever its form or nature, whether it can be protected or not.)* |
| *DEFINITION*  |
| *Category of result* | * *Technical input to standards: Technical specifications or extensions to standards adopted within the project*
* *Policy & Procedure developments: Technical procedures directed at users, service and infrastructure providers (for example to govern access and allocation to resources), policy reports and recommendations, and strategic analysis*
* *Software & service innovation: Software developments: (e.g.: workflows, Virtual Machines, applications), new software services deployed for the direct benefit of researchers (e.g.: web portals, gateways), e-Infrastructure Commons such as accounting, AAI, and the Federated Cloud platform and the Open Data platform, demonstrators and prototypes.*
* *Business model innovation: Business and sustainability-related outputs (the EGI Service Marketplace concept, the contribution to the Innovation space for the big data value chain, sustainability plans, pay-for-use models)*
* *Know-how: Includes all results from fact-finding activities (e.g. surveys, requirement gathering), but also the results from internal exercises (e.g. security challenges) and outputs that can be used for knowledge transfer as training materials.*
 |
| *Description of the result* | *Description of the result*  |
| *EXPLOITATION* |
| *Target group(s)* | *Describe who will use those results. Es: RIs, international research collaborations and the long-tail of science, industry/SMEs, service providers, Funding agencies and decision/policy makers, Standardisation bodies"* |
| *Needs* | *What are the needs of the target groups that the results aims to fulfil?* |
| *How the target groups will use the result?* | *How the project result will be used? How are you going to achieve the best benefits from the project outcomes? How can you make sure the results they owned are used:** *in further research activities other than those covered by the project concerned*
* *in developing, creating and marketing a product or process*
* *in creating and providing a service*
* *in standardisation activities*

*Note: The exploitation does not need necessarily to be done by participants, who may prefer to ensure its use by another entity. Such indirect exploitation can be performed by licensing the results or assigning them to third parties, in accordance with the requirements established in the grant agreement "* |
| *Benefits* | *What are the expected benefits of the result when this will be used by the target groups?* |
| *How will you protect the results?* | *Protection of results is indeed essential in Horizon 2020, since an effective exploitation depends on it. Thus, participants must assess the possibility of protecting their results once these are generated. Please, describe what IP protection approach will you put in place for this result. This can range from simple attribution via open source license to full copyright for commercially exploitable results. (For more information you can read “How to manage IP in Horizon 2020: project implementation and conclusion”* [*https://www.iprhelpdesk.eu/sites/default/files/newsdocuments/FS\_IP\_Management\_h2020\_implementation\_0.pdf*](https://www.iprhelpdesk.eu/sites/default/files/newsdocuments/FS_IP_Management_h2020_implementation_0.pdf) |
| *Actions for exploitation* | *Please, describe the concrete actions that need to be executed to make the result reusable by the target group (e.g., for a software, this can include software packaging for distribution, documentation for the installation, etc). Once executed, the target groups should be able to use the results without barriers.* |
| *URL to project result* | *Link where the result will be made available* |
| *Success criteria* | *What are the success criteria in terms of adoption by the end of the project?* |
| *DISSEMINATION* |
| *Key messages* | *What messages will you tell to the target groups when informing about the results?* |
| *Channels* | *What channels will you use to deliver the messages to the target?(e.g. Scientific publications, EGI web site, EGI newsletter, participation in conferences or trade fairs)* |
| *Actions for dissemination* | *Describe the concrete set of actions that will be put in place to disseminate this project output. When this result is ready, how will you reach to target group to ensure uptake of the result? (You can list the preliminary list of events where you plan to promote the results or material that will be produced or any other concrete actions that will be put in place during the project)* |
| *Cost* | *What is the expected cost of dissemination actions?* |
| *Evaluation* | *How will you evaluate the impact of the dissemination actions?* |

## Future plans

# Messaging Service

## Introduction

|  |  |
| --- | --- |
| **Tool name** | *Please provide clear, short name of tool* |
| **Tool url** | *Please provide url if applicable* |
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| --- | --- |
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* *Software & service innovation: Software developments: (e.g.: workflows, Virtual Machines, applications), new software services deployed for the direct benefit of researchers (e.g.: web portals, gateways), e-Infrastructure Commons such as accounting, AAI, and the Federated Cloud platform and the Open Data platform, demonstrators and prototypes.*
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| *Cost* | *What is the expected cost of dissemination actions?* |
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## Future plans

# GOCDB

## Introduction

|  |  |
| --- | --- |
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## Future plans

# Security Monitoring

## Introduction

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## Future plans

# Accounting Repository

## Introduction

|  |  |
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## Future plans

1. ARGO development process
2. GOCDB development process
1. [www.ggus.eu](http://go.egi.eu/eng) [↑](#footnote-ref-1)
2. [https://wiki.egi.eu/wiki/EGI\_CSIRT:Main\_Page](http://go.egi.eu/eng) [↑](#footnote-ref-2)
3. <https://documents.egi.eu/document/2660> [↑](#footnote-ref-3)
4. <https://wiki.egi.eu/wiki/OTAG#Operations_Portal_Advisory_and_Testing_Board> [↑](#footnote-ref-4)