EGI VO

SERVICE LEVEL AGREEMENT

Customer	D4Science/D4Science.org
Provider	EGI Foundation
Start Date	01/09/2016
End Date	31/12/2017
Status	FINAL
Agreement Date	07/12/2016
SLA link	https://documents.egi.eu/document/2875
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DOCUMENT LOG

Issue	Date	Comment	Author
FINAL	07/12/2016	Final version of SLA	Giuseppe La Rocca Małgorzata Krakowian

TERMINOLOGY

The EGI glossary of terms is available at: https://wiki.egi.eu/wiki/Glossary

For the purpose of this Agreement, the following terms and definitions apply. The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119.

Contents

The present Service Level Agreement ("the Agreement') is made between **EGI Foundation (the Provider)** and **D4Science Infrastructure (the Customer)** to define the provision and support of the provided services as described hereafter. Representatives and contact information are defined in Section 6.

The communities addressed by the D4Science Infrastructure are the ones served by a number of initiatives and projects powered by it such as iMarine, SoBigData, BlueBRIDGE, Parthenos, EGIP, Descramble and others. They are interested in performing data analysis on biological, social, geothermal, satellite, and environmental data. To this aim, D4Science uses two types of services that have been properly packaged and made available as Virtual Appliances.

The first service is composed by a distributed set of web services embedding computational process for discovering patterns in large data sets involving methods at the intersection of artificial intelligence, machine learning, and statistics (DataMiner Worker).

The second service exploits a set of "lightweight" workers (Generic Worker) that are used for computations, in which one computation is divided into several parts that are low-resources demanding. Generic Workers employ one core for service operations and another one for processes executions. Applications include for example the combination of geographical and biological information to produce projections of environmental scenarios, assessing fisheries activities in the global oceans, predicting the impact of climate changes on biodiversity, preventing the spread of invasive species, identifying geographical and ecological aspects of disease transmission, helping in conservation planning, and guiding field surveys.

The Customer is a consortium represented by the **CNR Istituto di Scienza e Tecnologie dell' Informazione A. Faedo.**

This Agreement is valid from 0**1/09/2016** to **31/12/2017**.

The Agreement was discussed and approved by the Customer and the Provider on **07/12/2016**.

1 The Services

Possible access types:

- Pledged - Resources are exclusively reserved to the Community and the job will be executed immediately after submission
- Opportunistic - Resources are not exclusively allocated, but subject to local availability
- Time allocation - Resources are available in fair share-like mode for a fixed time period.

The Services are defined by the following properties:

Cloud Compute (category: Compute)

Cloud Compute gives you the ability to deploy and scale virtual machines on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing physical servers. Cloud Compute offers the possibility to select pre-configured virtual appliances (e.g. CPU, memory, disk, operating system or software) from a catalogue replicated across all EGI cloud providers.

- Resource Centre: **CESGA** (Spain)
    - Cloud Compute
        - Number of Virtual CPU cores: 128
            - 6 VMs: 8 virtual CPU cores
            - 2 VMs: 16 virtual CPU cores
            - 24 VMs: 2 virtual CPU cores
        - Memory: 352 GB
            - 6 VMs: 16GB
            - 2 VMs: 32GB
            - 24 VMs: 8GB
        - Scratch/ephemeral storage: 2TB
            - 6 VMs: 100GB
            - 2 VMs: 100GB
            - 24 VMs: 50GB
        - Public IP addresses: up to 16, available with opportunistic access
        - Access type: Opportunistic
        - Other technical requirements: FedCloud/OCCI support
            - 6 VMs: 8 virtual CPU cores with 16GB of RAM and 100GB of storage
            - 2 VMs: 16 virtual CPU cores with 32GB of RAM and 100GB of storage
            - 24 VMs: 2 virtual CPU cores with 8GB of RAM and 50GB of storage
        - Duration: 01/09/2016 – 30/09/2017
        - Supported VOs: d4science.org

- Resource Centre: **GeoGrid** (Germany)
    - Cloud Compute
        - Number of Virtual CPU cores: 32
        - Memory: 64 GB
        - Scratch/ephemeral storage: 125 GB
        - Public IP addresses: 16
        - Access type: Pledged
        - Other technical requirements:
        - Duration: 01/09/2016 – 31/12/2017
        - Supported VOs: d4science.org

- Resource Centre: **IISAS-FedCloud** (Slovak)
  - Cloud Compute
    - Number of Virtual CPU cores: 20
      - 5 VMs with 4 cores
    - Memory: 40 GB, 8 GB/VM
    - Scratch/ephemeral storage: 400 GB, 80GB/VM
    - Public IP addresses: up to 5
    - Access type: Opportunistic
    - Other technical requirements: FedCloud/OCCI support
    - Duration: 01/09/2016 – 31/12/2017
    - Supported VOs: d4science.org

- Resource Centre: **RECAS-BARI** (Italy)
  - Cloud Compute
    - Number of Virtual CPU cores: up to 20
      - 2VMs: 8 vCPU cores
      - 2VMs: 2 vCPU cores
    - Memory: 48GB of RAM
      - 2VMs: 16GB RAM
      - 2VMs: 8GB RAM
    - Scratch/ephemeral storage: 10TB
    - Public IP addresses: up to 4, available with opportunistic access
    - Access type: Opportunistic
    - Other technical requirements: FedCloud/OCCI support
    - Duration: 01/09/2016 – 31/12/2017
    - Supported VOs: d4science.org

- Resource Centre: **UPV-GRyCAP** (Spain)
  - Cloud Compute
    - Number of Virtual CPU cores: up to 10
    - Memory: 4 GB
    - Scratch/ephemeral storage: 100 GB in total
    - Public IP addresses: 1
    - Access type: Opportunistic
    - Other technical requirements: Mapping any internal pairt IP:port on public IP:port pair using the IPFloater IP tunnelling service.
    - Duration: 01/09/2016 – 31/12/2017
    - Supported VOs: d4science.org

The Services are supported by additional services:

- Accounting[1]
- Service Monitoring[2] (operational only)

Note: Please note that following services are not provided by EGI.eu:

- Monitoring of **D4Science.org**
- Monitoring of services provided by the Customer on agreed resources

2 Service hours and exceptions

The Services operate during the following hours: twenty-four (24) hours a day, seven (7) days a week, three hundred sixty-five (365) days a year.

The following exceptions apply:

- Planned maintenance windows or service interruptions ("scheduled downtimes"[3]) will be notified via e-mail in a timely manner i.e. 24 hours before the start of the outage[4].
- Downtime periods exceeding 24 hours need justification.

3 Support

Support is provided via EGI Service Desk[5]. Access requires a valid X.509 or the login via a EGI SSO account[6]. Support is available between:

- Monday to Friday.
- From 9:00 to 17:00 in the time zone of the relevant Resource Centres.

Service times always apply with the exception of public holidays in the country of the supporting Resource Centres.

3.1 Incident handling

Incidents will be handled according to the Quality of Support level that is estimated according to the impact of the outage or service quality degradation.

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[1] http://accounting.egi.eu/
[2] http://argo.egi.eu/
[3] https://wiki.egi.eu/wiki/GOCDB/Input_System_User_Documentation#Downtimes
[4] http://goc.egi.eu/
[5] http://helpdesk.egi.eu/
[6] https://www.egi.eu/sso/

The Quality of Support in this Agreement has level: **Medium**[7], so the incidents, based on their priority will be responded to with the following response times:

Incident priority[8]	Response time	Comment
Less urgent	5 working days	service interrupted; needs to be addressed as soon as possible
Urgent	5 working days	service degraded; no work-around available
Very Urgent	1 working day	service degraded; work-around available
Top Priority	1 working day	wishes and enhancements that are "nice to have"

Table 1. Response times to incidents according to the incident priority of "Medium" services

3.2 Service requests

In addition to resolving incidents, standard service requests (e.g. change requests, information requests, documentation) will be fulfilled through the defined support channels in the same way as incidents. Service requests are classified as "Less urgent".

4 Service level targets

Monthly Availability

- Defined as the ability of a service or service component to fulfil its intended function at a specific time or over a calendar month.
- Minimum (as a percentage per month):
  - CESGA: 90%
  - GeoGrid: 95%
  - IISAS-Bratislava: 90%
  - RECAS-BARI: 90%
  - UPV-GRyCAP: 90%

Monthly Reliability

- Defined as the ability of a service or service component to fulfil its intended function at a specific time or over a calendar month, excluding scheduled maintenance periods.
- Minimum (as a percentage per month):
  - CESGA: 95%

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[7] https://wiki.egi.eu/wiki/FAQ_GGUS-QoS-Levels
[8] https://wiki.egi.eu/wiki/FAQ_GGUS-Ticket-Priority

- o GeoGrid: 95%
- o IISAS-Bratislava: 95%
- o RECAS-BARI: 95%
- o UPV-GRyCAP: 95%

Quality of Support level

- • Medium (Section 3)

5 Limitations and constraints

The Services provisioning is subject to the following limitations and constraints.

- • Support is provided in English.
- • Availability and Reliability calculations are based on the Service Monitoring operational results.
- • Failures in VO monitoring are not considered as SLA violations.
- • Downtimes needed to ensure the security of the Service issues are not considered Agreement violations.
- • Failures of resource provider not being part of EGI production infrastructure are not considered as Agreement violations.

- • Force Majeure. A party shall not be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to causes beyond its reasonable control. Means any
  - o fire, flood, earthquake or natural phenomena,
  - o war, embargo, riot, civil disorder, rebellion, revolution

  which is beyond the Provider's control, or any other causes beyond the Provider's control

6 Communication, reporting and escalation

6.1 General communication

The following contacts will be generally used for communications related to the service in the scope of this Agreement.

Customer contact	Pasquale Pagano
	Pasquale.pagano@isti.cnr.it

	D4Science Technical Director
EGI Foundation contact	Małgorzata Krakowian sla@mailman.egi.eu SLA Coordinator at EGI Foundation
Service Support contact	See Section 3

6.2 Regular reporting

As part of the fulfilment of this Agreement and provisioning of the service, the following reports will be provided:

Report title	Contents	Frequency	Produced by	Delivery
Services Performance Report	The document provides the overall assessment of service performance (per month) and SLA target performance achieved during last 6 months	Every six months	Provider	Email to the Customer
Scientific Publications report	The document provides list of scientific publications benefiting from the Service.	Yearly and with the Agreement ending.	Customer	Email to the Provider

All reports shall follow predefined templates[9].

6.3 Violations

The Provider commits to inform the Customer, if this Agreement is violated or violation is anticipated. The following rules are agreed for communication in the event of violation:

- • In case of violations of the Services targets for two consecutive months, the Provider will provide justifications and a plan for Services enhancement to the Customer. The Provider will produce a status report and a Service enhancement plan for the improvement of the Services within one month from the date of the first notification.

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[9] https://documents.egi.eu/document/2748

- The Customer will notify the supporting Resource Centres in case of suspected violation via the EGI Service Desk (Section 3). The case will be analysed to identify the cause and verify the violation.

6.4 Escalation and complaints

For escalation and complaints, the Provider contact (section 6.1) point shall be used, and the following rules apply.

- In case of repeated violation of the Services targets for four consecutive months, a review of the Agreement and of the Services enhancement plan will take place involving the parties of the Agreement.
- Complaints or concerns about the Services provided should be directed to the Provider contact who will promptly address these concerns. Should the Customer still feel dissatisfied, about either the result of the response or the behaviour of the supporting Resource Centres, EGI.eu Director director@egi.eu should be informed.

7 Information security and data protection

The following rules for information security and data protection related to the Service apply.

- Assertion of absolute security in IT systems is impossible. The Provider is making every effort to maximize security level of users' data and minimalize possible harm in the event of an incident.
- The Provider will define and abide by an information security and data protection policy related to the service being provided.
- The parties of the Agreement will meet all requirements of any relevant policy or procedure of the Provider[10] and will comply with the applicable national legislations.

8 Responsibilities

8.1 Of the Provider

Additional responsibilities of the Provider are as follows.

- The Provider adheres to all applicable operational and security policies and procedures[11] and to other policy documents referenced therein.
- The Provider allows monitoring of the Service in order to measure the fulfilment of the agreed service level targets.

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[10] https://www.egi.eu/about/policy/policies_procedures.html
[11] https://www.egi.eu/about/policy/policies_procedures.html

- The Provider retains the right to introduce changes in how the Service is provided, in which case the Provider will promptly inform the Customer and update the Agreement accordingly.

8.2 Of the Customer

The responsibilities of the Customer are:

- The Customer commits to acknowledge EGI in the scientific publications benefiting from the Service: "This work used the EGI infrastructure with the support of CESGA, GeoGRID, IISAS-FedCloud, RECAS-BARI and UPV-GRyCAP".
- The Customer will provide during Agreement review (yearly) list of scientific publications benefiting from the Service.
- The Customer must not share access credentials with anyone else.
- The data stored in the system by the Customer must not cause any legal violation due to the content type (such as copyright infringement, dual use, illegal material).
- The use must be consistent with the Acceptable Use Policy[12] of the Service.
- The Customer will notify the Provider in case the actual amount of the Service used results in being under- or over-estimated. The Customer will request an update of the Agreement to ensure optimal usage of the Service.
- The Customer will create one or more Virtual Organizations (VOs) to define the group of users entitled to access the Service. Information about the VO will be regularly updated in EGI Operations Portal[13].
- The Customer must request EGI Service Desk support[14] to enable assigning tickets with appropriate VO name.
- When applicable, the Customer is responsible of ensuring that the Virtual Machine images endorsed and listed in the AppDB[15] VO image list are properly maintained and updated.

9 Review, extensions and termination

The Services performance will be reviewed against the defined Service level targets according to Section 4. The Agreement will be annually reviewed until expiration.

If the Customer wishes to extend the duration after the Agreement termination date, an extension will be negotiated with the Provider.

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[12] https://documents.egi.eu/document/74
[13] http://operations-portal.egi.eu/
[14] https://wiki.egi.eu/wiki/FAQ_GGUS-New-Support-Unit
[15] https://appdb.egi.eu/

The Provider retains the right to introduce changes in the Service, in which case the Customer retains the right of terminating the Agreement.

The Agreement can be terminated at any time upon agreement of the parties. Amendments, comments and suggestions must be addressed to the Provider and the Customer according to Section 6.