EGI VO

OPERATIONAL LEVEL AGREEMENT

Customer	EGI.eu
Provider	**GRNET**
User	**DRIHM/vo:drihm.eu**
Start Date	01/04/2016
End Date	01/01/2017
Status	FINAL
Agreement Date	28/03/2016
SLA Link	https://documents.egi.eu/document/2756
OLA Link	https://documents.egi.eu/document/2756

DOCUMENT LOG

Issue	Date	Comment	Author
FINAL	29.03.2016	Final version	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 Operational Level Agreement ("the Agreement') is made between **EGI.eu (the Customer)** and **GRNET (the Provider)** to define the provision and support of the provided services as described hereafter. Representatives and contact information are defined in Section 6.

DRIHM[1], or the Distributed Research Infrastructure for Hydro-Meteorology, together with its US facing companion project, DRIHM2US, is a prototype research infrastructure for simulating extreme hydro-meteorological events such as flash flooding. Both projects enabled a step change in how scientists can approach studying high impact weather events: more functionality, more efficiency and faster results.

The User is a consortium represented by **the Fondazione CIMA[2]**.

This Agreement is valid from **01/04/2016** to **01/01/2017**.

The Agreement was discussed and approved by the Customer and the Provider **28/03/2016**.

The Agreement extends the Resource Center OLA[3] with following information:

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:

High-Throughput Compute (category: Compute) and File Storage (category: Storage)

A High-Throughput Compute allows running computational tasks on high quality IT resources, accessible via a uniform/standard interface and supporting authentication/authorisation based on a membership within a virtual organisation. HTC Compute service is federated from EGI Federation providers offering seamless access to computing capabilities with integrated monitoring and accounting.

File storage is provided remotely on different Resource Providers with different storage standard interfaces that are transparently available with the possibility of replication.

- Resource Center: **HG-08-Okeanos**
    - High-Throughput Compute
        - Opportunistic computing time [HEPSPEC-hours]: 12 Millions

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- Max job duration [hours]: 72
- Min local storage [GB] (scratch space for each core used by the job): 100
- Min physical memory per core [GB]: 64 GB
- Other technical requirements: nodes with 70 Virtual CPU cores (QEMU Virtual CPU, 2100 Hz)
- Middleware: gLite CREAM-CE
- Duration: 01/04/2016 – 01/01/2017
  - Access mode offer: MAUI Time Allocation
  - Supported VOs: drihm.eu
- Resource Center: **HG-02-IASA**
  - High-Throughput Compute
    - Opportunistic computing time [HEPSPEC-hours]: 11 Millions
    - Max job duration [hours]: 72
    - Min local storage [GB] (scratch space for each core used by the job): 100
    - Min physical memory per core [GB]: 128
    - Other technical requirements: nodes with 50 quad-core Intel Xeon E5430 @ 2.66GHz dual CPUs
    - Middleware: gLite CREAM-CE
    - Duration: 01/04/2016 – 01/01/2017
  - Access mode offer: MAUI Time allocation
  - Supported VOs: drihm.eu
- Resource Center: **HG-03-AUTH**
  - High-Throughput Compute
    - Opportunistic computing time [HEPSPEC-hours]: 0.61 Millions
    - Max job duration [hours]: 72
    - Min local storage [GB] (scratch space for each core used by the job): 100
    - Min physical memory per core [GB]: 128
    - Middleware: gLite CREAM-CE
    - Duration: 01/04/2016 – 01/01/2017
  - Access mode offer: MAUI Time allocation
  - Supported VOs: drihm.eu

2 Service hours and exceptions

As defined in Resource Center OLA.

3 Support

As defined in Resource Center OLA.

3.1   Incident handling

As defined in Resource Center OLA.

3.2   Service requests

As defined in Resource Center OLA.

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): 85%

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): 90%

Quality of Support level

- Medium (Section 3)

5 Limitations and constraints

As defined in Resource Center OLA and:

- Availability and Reliability calculations are based on the Service Monitoring operational results.
- Failures in VO monitoring are not considered as the Agreement violations.

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 for the Provider	Małgorzata Krakowian
	sla@mailman.egi.eu
	SLA Coordinator at EGI.eu

Provider contact for the Customer	Kostas Koumantaros kkoum@grnet.gr
Service Support contact	See Section 3

6.2   Regular reporting

As defined in Resource Center OLA.

6.3   Violations

As defined in Resource Center OLA.

6.4   Escalation and complaints

As defined in Resource Center OLA.

7 Information security and data protection

As defined in Resource Center OLA.

8 Responsibilities

8.1   Of the Provider

As defined in Resource Center OLA.

8.2   Of the Customer

As defined in Resource Center OLA and:

- Support coordination with other Providers;
- Support coordination and conflict resolution with the User;

8.3   Of the User

- All responsibilities of the User are listed in relevant VO SLA.

9 Review, extensions and termination

As defined in Resource Center OLA.

10 Appendix: The opportunistic computing time calculation

This appendix reports the opportunistic computing time (HEPSPEC per hours) calculated for the HPC sites.

HG-08-Okeanos:

]$ lcg-infosites --vo drihm.eu ce | grep -i vm.okeanos.grnet.gr
72   13   0   0   0 snf-189278.vm.okeanos.grnet.gr:8443/cream-pbs-drihm
]$ ldapsearch -x -h snf-189279.vm.okeanos.grnet.gr -p 2170 -b mds-vo-name=HG-08-Okeanos,o=grid | grep -i
GlueSubClusterPhysicalCPUs
GlueSubClusterPhysicalCPUs: 53
]$ ldapsearch -x -h snf-189279.vm.okeanos.grnet.gr -p 2170 -b mds-vo-name=HG-08-Okeanos,o=grid | grep -i other
GlueSiteOtherInfo: CONFIG=yaim
GlueSiteOtherInfo: EGEE_SERVICE=prod
GlueSiteOtherInfo: EGI_NGI=NGI_GRNET
GlueSiteOtherInfo: GRID=EGI
GlueHostProcessorOtherDescription: Cores=1,Benchmark=7.71-HEP-SPEC06

HEPSPEC = 72 * 53 * 365 days * 24h * 7.71 * 5% of time fair share = ~ 12M

HG-02-IASA:

]$ lcg-infosites --vo drihm.eu ce | grep -i cream-ce01.marie.hellasgrid.gr
376   374   0   0   0 cream-ce01.marie.hellasgrid.gr:8443/cream-pbs-drihm

]$ ldapsearch -x -h site-bdii01.marie.hellasgrid.gr -p 2170 -b mds-vo-name=HG-02-IASA,o=grid | grep -i
GlueSubClusterPhysicalCPUs
GlueSubClusterPhysicalCPUs: 400

]$ ldapsearch -x -h site-bdii01.marie.hellasgrid.gr -p 2170 -b mds-vo-name=HG-02-IASA,o=grid | grep -i other
GlueSiteOtherInfo: CONFIG=yaim
GlueSiteOtherInfo: EGEE_SERVICE=prod
GlueSiteOtherInfo: EGI_NGI=NGI_GRNET
GlueSiteOtherInfo: GRID=EGI
GlueHostProcessorOtherDescription: Cores=1,Benchmark=64.85-HEP-SPEC06

HEPSPEC = 376 * 400 * 365 days * 24h * 64.85 * 0.1% of time fair share = ~ 85M

HG-03-AUTH:

]$ lcg-infosites --vo drihm.eu ce | grep -i cream.afroditi.hellasgrid.gr
310   44   0   0   0 cream.afroditi.hellasgrid:8443/cream-pbs-drihm
]$ ldapsearch -x -h sbdii.afroditi.hellasgrid.gr -p 2170 -b mds-vo-name=HG-03-AUTH,o=grid | grep -i
GlueSubClusterPhysicalCPUs

```
GlueSubClusterPhysicalCPUs: 440
]$ ldapsearch -x -h sbdii.afroditi.hellasgrid.gr -p 2170 -b mds-vo-name=HG-03-AUTH,o=grid | grep -i other
```

GlueSiteOtherInfo: CONFIG=yaim
GlueSiteOtherInfo: EGEE_SERVICE=prod
GlueSiteOtherInfo: EGI_NGI=NGI_GRNET
GlueSiteOtherInfo: GRID=EGI
GlueHostProcessorOtherDescription: Cores=1.0,Benchmark=7.22-HEP-SPEC06

HEPSPEC = 310 * 440 * 365 days * 24h * 7.22 * 0.1% of time fair share = ~ 9M