



# EGi Foundation

## CVMFS Stratum-1

### Operational Level Agreement

---

|                                      |   |
|--------------------------------------|---|
| <b>Service Provider</b>              | EGi Foundation  |
| <b>Component Provider</b>            | ASGC, FOM-Nikhef, IHEP, TRIUMF, UKRI  |
| <b>First day of service delivery</b> | 1/01/2021   |
| <b>Last day of service delivery</b>  | 30/06/2023  |
| <b>Status</b>                        | FINAL   |
| <b>Agreement finalization date</b>   | 21/04/2021  |
| <b>Agreement Link</b>                | <a href="https://documents.egi.eu/document/3672">https://documents.egi.eu/document/3672</a> |

---



This work by EGI Foundation is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

This template is based on work, which was released under a Creative Commons 4.0 Attribution License (CC BY 4.0). It is part of the FitSM Standard family for lightweight IT service management, freely available at [www.fitsm.eu](http://www.fitsm.eu).

## DOCUMENT LOG

| <i>Issue</i>          | <i>Date</i> | <i>Comment</i>   | <i>Author</i>      |
|-----------------------|-------------|--|--------------------|
| <b>v0.9</b>           | 15/03/2021  | Final version  | Catalin Condurache |
| <b>FINAL<br/>v1.0</b> | 21/04/2021  | Input from partners added;<br>TRIUMF adheres to the terms of the document,<br>but it will formally sign it once the MoU between<br>EGI Foundation and TRIUMF is finalised and<br>signed. | Catalin Condurache |
|                       |             |  |                    |
|                       |             |  |                    |
|                       |             |  |                    |
|                       |             |  |                    |

## TERMINOLOGY

The EGI glossary of terms is available at: <http://go.egi.eu/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 Services                             | 4 |
| Service hours and exceptions             | 5 |
| Support                                  | 5 |
| Incident handling                        | 5 |
| Service requests                         | 5 |
| Service level targets                    | 5 |
| Limitations and constraints              | 6 |
| Communication, reporting and escalation  | 6 |
| General communication                    | 6 |
| Violations                               | 6 |
| Escalation and complaints                | 6 |
| Information security and data protection | 7 |
| Responsibilities                         | 8 |
| Of the Component Provider                | 8 |
| Software compliance                      | 8 |
| IT Service Management compliance         | 9 |
| Of EGI Foundation                        | 9 |
| Review, extensions, and termination      | 9 |

The present Agreement ('the Agreement') is made between **EGI Foundation (the Service Provider)** and **ASGC, FOM-Nikhef, IHEP, TRIUMF, UKRI** (jointly referred to as **the Component Providers** or individually as **the Component Provider**) to define the provision and support of the provided services as described hereafter. Representatives and contact information are defined in Section 6.

This Agreement is valid from **1/01/2021** to **30/06/2023**.

The Agreement was discussed and approved by EGI Foundation and the Component Provider on **21/04/2021**<sup>1</sup>.

The Component Provider(s) is (are) bound by the terms and conditions of the EGI Default Operational Level Agreement<sup>2</sup> supplemented by the terms and conditions of this Agreement:

## 1 The Services

The Services are defined by the following properties:

|                     |   |
|---------------------|---|
| <b>Technical</b>    | <p>The CernVM File System (CernVM-FS or CVMFS) is a read-only file system designed to deliver scientific software onto virtual machines and physical worker nodes in a fast, scalable, and reliable way.</p> <p>The Stratum-1 (or Replica Server) is the CVMFS component that improves the reliability, reduces the load, and protects the Stratum 0 master copy of the repository from direct accesses.</p> <p>A Stratum 1 server is a standard web server that uses the CernVM-FS server toolkit (maintained and distributed by CERN) to create and maintain a mirror of a CernVM-FS repository served by a Stratum 0 server.</p> |
| <b>Coordination</b> | <p>This activity is responsible for the system operation and upgrade activities of the aforementioned services.</p>   |
| <b>Operation</b>    | <ul style="list-style-type: none"> <li>● Daily running of the system</li> <li>● Maintaining fresh copies of existing replicas</li> <li>● Creation of new repository replica following agreed procedures</li> <li>● Critical parts of the Services are part of the 365/24/7 monitoring (host status, httpd status) of the Component Provider</li> </ul>  |
| <b>Maintenance</b>  | <ul style="list-style-type: none"> <li>● Bug fixing, proactive maintenance, improvement of the system.</li> <li>● Maintenance of probes to test the functionality of the service.</li> </ul>  |

<sup>1</sup> TRIUMF adheres to the full terms of this document, but will formally sign it once the MoU between EGI Foundation and TRIUMF is finalised

<sup>2</sup> <https://documents.egi.eu/document/2752>

## 2 Service hours and exceptions

As defined by the EGI Default Operational Level Agreement.

## 3 Support

Support is provided via EGI Service Desk<sup>3</sup> Support Unit: Software and Data Distribution (CVMFS).

Support is available between:

- Monday and Friday
- 09:00 and 17:00 CST for ASGC and IHEP
- 09:00 and 17:00 CET/CEST for FOM-Nikhef
- 09:00 and 17:00 PST/PDT for TRIUMF
- 09:00 and 17:00 GMT/BST for UKRI

This excludes public holidays at the same time in all organizations providing the service. During holidays of supporting staff, support will be provided on a best effort basis.

### 3.1 Incident handling

As defined by the EGI Default Operational Level Agreement.

### 3.2 Service requests

As defined by the EGI Default Operational Level Agreement.

## 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): 95%

### 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): 97%

---

<sup>3</sup> <http://helpdesk.egi.eu/>

## Quality of Support level

- Medium (Section 3)

## 5 Limitations and constraints

As defined by the EGI Default Operational Level Agreement.

## 6 Communication, reporting and escalation

### 6.1 General communication

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

|                                   |  |
|-----------------------------------|--|
| <b>EGI Foundation contact</b>     | Catalin Condurache: operations@egi.eu  |
| <b>Component Provider contact</b> | Felix Lee (ASGC): felix@twgrid.org<br>Eric Yen (ASGC): eric.yen@twgrid.org<br>Dennis van Dok (FOM-Nikhef): dennisvd@nikhef.nl<br>Xiaomei Zhang (IHEP): zhangxm@ihep.ac.cn<br>Qingbao Hu (IHEP): huqb@ihep.ac.cn<br>Di Qing (TRIUMF): dqing@triumf.ca<br>Ian Collier (UKRI): ian.collier@stfc.ac.uk<br>Alastair Dewhurst (UKRI): alastair.dewhurst@stfc.ac.uk |
| <b>Service Support contact</b>    | See Section 3  |

### 6.2 Violations

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

- In case of any violation of the Services targets, the Component Provider will provide justifications and a plan for Services enhancement to the Service Provider. The Component 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.
- EGI Foundation will notify the supporting Resource Centres in case of suspected violation via the EGI Service Desk. The case will be analysed to identify the cause and verify the violation.

### 6.3 Escalation and complaints

For escalation and complaints, the Component Provider contact point shall be used, and the following rules apply.

- In case of repeated violation of the Services targets for two consecutive months or four months over a period of 12 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 Component Provider contact who will promptly address these concerns. Should EGI Foundation still feel dissatisfied, about either the result of the response or the behaviour of the Component Provider, EGI Foundation Director (director@egi.eu) should be informed.

## 7 Information security and data protection

As defined by the EGI Default Operational Level Agreement.

The following rules for Information Security and data protection should be enforced when they are applicable:

- The Component Provider agrees to make every effort to maximise security level of users' data and minimise possible harm in the event of an incident.
- EGI Foundation holds the role of the Data Controller while the Component Provider holds the role of Data Processor. Data Processing Agreements must be signed between EGI Foundation (the Data Controller) and Component Provider (the Data Processor).
- The Component Provider must comply with the EGI Policy on the Processing of Personal Data<sup>4</sup> and provide a Privacy Notice. This privacy Notice must be agreed with EGI Foundation and must be based on the Privacy Policy template provided by the AARC Policy Development Kit (PDK)<sup>5</sup>.
- The Component Provider must enforce the EGI WISE Acceptable Usage Policies<sup>6</sup>.
- The Component Provider shall comply with all principles set out by the GÉANT Data Protection Code of Conduct<sup>7</sup> in its most current version, which will be made available to the Component Provider by EGI Foundation upon request.
- The Component Provider must meet all requirements of any relevant EGI policies or procedures<sup>8</sup> and also must be compliant with the relevant national legislation. Regarding EGI requirements, please refer to the following reference documentation:
  - [EGI-doc-3015: e-Infrastructure Security Policy](#)
  - [EGI-doc-3601: Service Operations Security Policy](#)
  - [EGI-doc-2732: Policy on the Processing of Personal Data](#)
  - [EGI-doc-3600: Acceptable Use Policy and Conditions of Use](#)

---

<sup>4</sup> <https://documents.egi.eu/public/ShowDocument?docid=2732>

<sup>5</sup> <https://aarc-project.eu/policies/policy-development-kit/>

<sup>6</sup> <https://documents.egi.eu/public/ShowDocument?docid=3600>

<sup>7</sup> <https://wiki.refeds.org/display/CODE/Data+Protection+Code+of+Conduct+Home>

<sup>8</sup> [https://www.egi.eu/about/policy/policies\\_procedures.html](https://www.egi.eu/about/policy/policies_procedures.html)

- [EGI-doc-2934: Security Traceability and Logging Policy](#)
- [EGI-doc-2935: Security Incident Response Policy](#)
- [EGI-doc-710: Security Incident Handling Procedure](#)

## 8 Responsibilities

### 8.1 Of the Component Provider

Additional responsibilities of the Component Provider are as follow:

- Adhering to all applicable operational and security policies and procedures<sup>9</sup> and to other policy documents referenced therein.
- Using the communication channels defined in this Agreement.
- Attending OMB<sup>10</sup> and other operations meeting when needed
- Accepting EGI monitoring services provided to measure fulfilment of agreed service level targets.
- The Service endpoints are registered in GOC DB<sup>11</sup> under each provider site entity.
- The Component Provider shall ensure protection against data corruption at CVMFS Stratum-1 server level.
- Due to the specifics of the CernVM File System, there is no read protection of the data at Stratum-1 level unless specific access lists are in place. The Service Provider shall be informed by the Component Provider about enforcement of any access lists that limit access to the Service.
- Changes in the system must be rolled in production in a controlled way in order to avoid service disruption.

#### 8.1.1 Software compliance

Unless explicitly agreed, software being used and developed to provide the service should:

- Be licensed under an open source and permissive license (e.g. MIT, BSD, Apache 2.0,...).
- Unless otherwise agreed, be licensed to provide unlimited access and exploitation rights to the EGI Federation.
- Have source code publicly available via a public source code repository (if needed a mirror can be put in place under the EGI organisation in GitHub<sup>12</sup>.) All releases should be appropriately tagged.
- Adopt best practices:
  - Defining and enforcing code style guidelines.

---

<sup>9</sup> [https://www.egi.eu/about/policy/policies\\_procedures.html](https://www.egi.eu/about/policy/policies_procedures.html)

<sup>10</sup> <https://wiki.egi.eu/wiki/OMB>

<sup>11</sup> <http://goc.egi.eu/>

<sup>12</sup> <https://github.com/EGI-Foundation>



- Using Semantic Versioning.
- Using a Configuration Management frameworks such as Ansible.
- Taking security aspects into consideration through at every point in time.
- Having automated testing in place.
- Using code reviewing.
- Treating documentation as code.
- Documentation should be available for Developers, administrators and end users.

### 8.1.2 IT Service Management compliance

- Key staff who deliver services should have foundation or basic level ITSM training and certification
  - ITSM training and certification could include standards and best practices such as FitSM, ITIL, ISO 20000 etc.
- Key staff and service owners should have advanced/professional training and certification covering the key service management processes for their services.
- Component Providers should have clear interfaces with the EGI Service Management System processes and provide the required information.
- Component Providers should commit to improving their management system used to support the services they provide.

## 8.2 Of EGI Foundation

The responsibilities of the EGI Foundation are:

- Delivering and planning the Services according to a ISO compliant manner.
- Raising any issues deemed necessary to the attention of the Component Provider.
- Collecting requirements from the Resource infrastructure Providers.
- Supporting coordination and integration with other EGI services.
- Providing monitoring to measure fulfilment of agreed service level targets.
- Providing clear interfaces to the EGI SMS processes.

## 9 Review, extensions, and termination

There will be reviews of the service performance against service level targets and of this Agreement at planned intervals with EGI Foundation according to the following rules:

- Technical content of the agreement and targets will be reviewed on a yearly basis.

- EGI Foundation shall be entitled to conduct audits or mandate external auditors to conduct audits of suppliers and federation members at a reasonable frequency. These will aim to evaluate the effective provision of the agreed service or service components and the execution of activities related to providing and managing the service prior to the commencement of this Agreement and then on a regular basis. EGI Foundation will announce audits at least one month in advance. The Component Provider / federation member shall support EGI Foundation and all auditors acting on behalf of EGI Foundation to the best of their ability in carrying out the audits. The Component Provider / federation member is obliged to provide the auditors, upon request, with the information and evidence necessary. Efforts connected to supporting these audits by the provider / federation member will not be reimbursed.