D3.5 Periodical assessment of Infrastructure services 

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| **Deliverable Abstract** |
| The report provides assessment and statistics of all the Infrastructure services provided under virtual access in WP3. |

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**TERMINOLOGY**

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|  |  |
| --- | --- |
| Terminology/Acronym | Definition |
| VA | Virtual Access |
| EOSC | European Open Science Cloud |
| IaaS | Infrastructure as a Service |

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Executive summary

This report provides an assessment at M30 of the WP3 installations provided by the EGI-ACE project under the Virtual Access (VA) mechanism. This assessment is based on the metrics collected by the 36 WP3 installations during the project duration in six, 6 months periods: M01-M05, M06-M10, M11-M15, M15-M20, M20-M25, M25-M30.

WP3 installations can be classified in two groups:

* Infrastructure providers that deliver computing and storage resources via Cloud or HTC interfaces. 16 different providers support 33 installations in this group. There is at least one installation delivering computing resources (CPU) per provider. Several providers count with dedicated installations for delivering storage resources and specialised GPU resources.
* Enabling components that support the Cloud Compute service of the previous group. These installations are: AppDB, for resource discovery and software catalogue; Dynamic-DNS for user-managed DNS provision of domain names for VMs and services running on the e-Infrastructure; Infrastructure Manager (IM) for application orchestration in the cloud resources.

The total capacity requested by (allocated for) the engaged communities exceeds 222 million CPU hours. In the project, WP3 budgeted ~72 million CPU hours (including 3 million CPU hours in HTC resources), ~285,000 GPU hours and ~28,000 TB month, therefore the support for communities in the project uses a combination of VA alongside project-based and pay-for-use funding. WP3 has focused on the support to new communities to be served with VA assigning these communities to the providers that are more likely to sustain the funding via existing local arrangements, projects or pay-for-use models. After the first period of the project, WP3 performed a deep analysis of the use cases and available capacity and adjusted the number of units available to each provider to match the capacity needs trends from the use cases and to avoid under-utilisation of some of the installations.

To promote the uptake of new and existing WP3 installations, beside the Webinar programme organized by the project, dedicated presentations have been organized at several events (EGI-ACE organised and externally organised), where services were presented. These activities are reported in Section 3.

Section 4 finally describes the level of satisfaction by checking the orders received via the EOSC portal and the EGI Customer satisfaction reviews, which showed an average level of 4.63 out of 5 during the reference period.

# Introduction

Virtual Access (VA) is financial instruments to reimburse the access provisioning costs to access providers. This instrument is provided by the European Commission to increase the sharing of research infrastructures and services that otherwise would not be available to international user groups.

In VA, the services – also called “installations” – must be made available ‘free of charge at the point of use’ for European or International researchers. VA access is open and free access to services through communication networks to resources needed for research, without selecting the researchers to whom access is provided.

Virtual Access to services of the EGI-ACE catalogue applies to the following four categories:

1. Infrastructure Services WP3 - the Cloud Compute (IaaS) and High Throughput Compute services of the EGI portfolio supported by a set of 16 datacentres from the EGI Federation. The enabling components that support the Cloud Compute service: AppDB, for resource discovery and software catalogue; Dynamic DNS, for user-managed DNS provision of domain names for VMs and services running on the e-Infrastructure; and Infrastructure Manager (IM) for the basic orchestration of IaaS resources.
2. Platform Services WP4 - mature software tools offering generic capabilities to facilitate the usage of the underlying infrastructure for EOSC users and Data Spaces.
3. Federated data spaces WP5 - services provided by major European research collaborations, research infrastructures and research institutes, and are composed of mature software tools, datasets and services that offer science discipline specific processing and data analysis capabilities for EOSC users.
4. Federated Access Services WP6 – services providing secure access to other services and enabling large-data analysis workloads in the distributed infrastructure. Included services are delivered by major European research institutions using mature open-source software with already established user communities from multiple scientific disciplines.

This document provides Virtual Access metrics and assessment for WP3.

## Installations

Within EGI-ACE project 36 installations are part of Virtual Access work package 3. These installations support the baseline computing infrastructure of EGI-ACE as part of the following services:

* EGI Cloud Compute, EGI Cloud Container Compute and EGI Online Storage, supported by 31 installations: AppDB, MetaCentrumCloud - CPU, MetaCentrumCloud - GPU, MetaCentrumCloud - Storage, SCAI FedCloud v2, EGI - GSIOS, IN2P3-IRES-CPU, IN2P3-IRES-Storage, TR-FC1-ULAKBIM - CPU, TR-FC1-ULAKBIM-Storage, INFN-BARI-CPU, INFN-BARI-Storage, INFN-CNAF-CPU, INFN-CNAF-GPU, INFN-CNAF-Storage, INCD-Lisbon (NCG)-CPU, INCD-Lisbon (NCG)-Storage, EGI-IISAS-CPU, EGI-IISAS-GPU, DESY-FedCloud, CESGA-CPU, CESGA-Storage, IFCA-LCG2-CPU, IFCA-LCG2-Storage, INCD-LIP-CPU, INCD-LIP-Storage, CYFRONET-CLOUD-CPU, CYFRONET-CLOUD-Storage, CLOUDIFIN-CPU, and CLOUDIFIN-Storage. Providers of these installations are listed as such in the EGI Cloud Compute entry of the EOSC Marketplace[[1]](#footnote-1);
* EGI High Throughput Compute, supported by 3 installations at SURF: dCache, Spider Storage, Data Processing Compute. SURF is listed as provider in the EGI High Throughput Compute entry of the EOSC Marketplace[[2]](#footnote-2);
* Infrastructure Manager[[3]](#footnote-3), supported by IM installation; and
* Dynamic DNS[[4]](#footnote-4), supported by the DynDNS installation.

Several installations were subject to change to adjust the available capacity to the existing use cases. In general the use cases were using less storage as originally anticipated during project preparation. Therefore the storage units were reduced and the CPU increased to accommodate more use cases within the available providers, except in the case of SURF, which supported use cases that had higher storage capacity needs. The IICT-BAS installations were removed as the provider didn’t succeed with the integration in the federation. A new installation at IISAS (EGI-IISAS-GPU) was created to support more GPU use cases. The changes are summarised in the following table:

Table Changes in the installations

|  |  |  |  |
| --- | --- | --- | --- |
| Installation | Original units | New units | Changes |
| INCD-Lisbon (NCG)-CPU | 3,066,000 | 5,268,173 | Transfer Storage to CPU hours to meet the demand from users |
| INCD-Lisbon (NCG)-Storage | 2,450 | 613 |
| INFN-BARI-CPU | 4,380,000 | 7,498,695 | Transfer Storage to CPU hours to meet the demand from users |
| INFN-BARI-Storage | 1,650 | 335 |
| INFN-CNAF-GPU | 43,800 | 55,173 | Transfer Storage to GPU hours to meet the demand from users |
| INFN-CNAF-Storage | 4,950 | 1,776 |
| dCache | 2,520 | 5,078 | Transfer CPU to Storage to meet the demand from users |
| Spider Storage | 3,480 | 5,547 |
| Data Processing Compute | 5,500,000 | 3,025,000 |
| CLOUDIFIN-CPU | 5,000,000 | 6,900,000 | Transfer Storage to CPU hours to meet the demand from users |
| CLOUDIFIN-Storage | 3,600 | 180 |
| IFCA-LCG2-CPU | 2,500,000 | 3,369,149 | Transfer Storage to CPU hours to meet the demand from users |
| IFCA-LCG2-Storage | 1,800 | 90 |
| CESGA-CPU | 4,500,000 | 4,770,000 | Transfer Storage to CPU hours to meet the demand from users |
| CESGA-Storage | 950 | 665 |
| EGI-IISAS-CPU | 6,132,000 | 3,066,000 | Create new GPU installation to cover AI/ML use cases |
| EGI-IISAS-GPU | 0 | 25,920 |
| IN2P3-IRES-Storage | 4,200 | 1,680 | Removed storage units as uptake was not enough to consume them during the remaining project time |
| EGI - GSIOS | 2,000,000 | €1,000,000 | Removed CPU units as uptake was not enough to consume them during the remaining project time |
| IICT-BAS-CPU | 7,700,000 | 0 | Removed installations as provider did not integrate |
| IICT-BAS-Storage | 270 | **0** |

The installations of EGI Cloud Compute, EGI Cloud Compute and EGI Online Storage have supported a total of 69 communities (aka called Virtual Organisations, or VOs in short) with Virtual Access. Out of the 68 VOs, 13 support the WP5 Thematic Services, 4 support the Early Adopters from WP2 and 4 support Long Tail of Science and piloting, i.e., they support individual users requesting access via the EGI or EOSC marketplace or support general training and piloting activities. The remaining 24 support new use cases that have reached the project through the Open Calls, the EOSC DIH activities or other EOSC-related project activities (e.g. use cases from EOSC-Future).

The following tables summarise the VA consumption over the whole project for those installations delivering computing and storage resources under WP3. Table 3 shows for those installations delivering CPU resources, the number of units allocated in the project under VA (CPU hours), the requested capacity by use cases in EGI-ACE, the consumption of the available units at M15 and at M30, the total delivered capacity (beyond the available VA budget) and the percentage of VA that was consumed at the end of the project. At M30 a total of 67,916,000 CPU hours have been delivered, with most of the providers reaching 100% of their available capacity. Overall, the providers included in WP3 delivered 93,268,065 to support EGI-ACE use cases, adding more than 20 million CPU hours relying on local funds that complement the project contribution.

Table VA CPU Consumption

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Installation | VA units available | Requested units from use cases | VA at M15 | VA at M30 | Total Delivered capacity | % VA usage |
| DESY-FedCloud | 2,000,000 | 2,738,688 | 21,070 | 1,721,401 | 1,721,401 | 86.07% |
| SCAI FedCloud v2 | 2,000,000 | 6,470,916 | 0 | 755,591 | 755,591 | 37.78% |
| EGI - GSIOS | 1,000,000 | 1,122,288 | 75,054 | 1,087,282 | 1,087,282 | 100.00% |
| EGI-IISAS-CPU | 3,066,000 | 3,778,762 | 943,417 | 2,970,848 | 2,970,848 | 96.90% |
| INCD-Lisbon (NCG)-CPU | 5,268,173 | 8,157,816 | 1,888,486 | 3,066,000 | 5,429,234 | 100.00% |
| INFN-BARI-CPU | 7,498,695 | 8,157,816 | 3,415,880 | 4,380,000 | 12,382,629 | 100.00% |
| INFN-CNAF-CPU | 4,380,000 | 4,943,275 | 520,426 | 4,380,000 | 4,669,054 | 100.00% |
| Data Processing Compute | 3,025,000 | 5,083,330 | 22,505 | 2,693,715 | 2,693,715 | 89.05% |
| TR-FC1-ULAKBIM - CPU | 6,132,000 | 9,782,832 | 2,264,105 | 5,665,616 | 5,665,616 | 92.39% |
| MetaCentrumCloud - CPU | 8,760,000 | 19,286,736 | 1,570,581 | 8,760,000 | 14,745,303 | 100.00% |
| IN2P3-IRES-CPU | 6,132,000 | 3,050,280 | 737,500 | 6,132,000 | 7,043,031 | 100.00% |
| CLOUDIFIN-CPU | 6,900,000 | 5,513,760 | 2,451,907 | 5,000,000 | 8,286,718 | 100.00% |
| CYFRONET-CLOUD-CPU | 8,500,000 | 2,953,738 | 207,305 | 8,500,000 | 8,764,958 | 100.00% |
| IFCA-LCG2-CPU | 3,369,149 | 9,705,848 | 4,314,449 | 2,500,000 | 11,088,639 | 100.00% |
| CESGA-CPU | 4,770,000 | 10,883,560 | 1,319,781 | 4,500,000 | 5,964,046 | 100.00% |
| TOTALS | 72,801,017 | 101,629,645 | 19,752,466 | 67,916,000 | 93,268,065 |  |

Figure 1 shows the total delivered capacity (in blue columns) and the target capacity funded by VA for all the CPU providers of WP3.

A graph with red and blue bars

Description automatically generated

Figure . VA CPU Consumption

Table 4 shows GPU usage. Similarly to the CPU consumption, the table shows the installation name, the number of units allocated in the project under VA (GPU node hours), the consumption of those units at M15, the consumption at M30, the total delivered capacity and the percentage of the VA consumption over the total units available. After the promotion campaigns, the usage of GPUs increased in the infrastructure and the two providers available since the start of the project reached 100% of the VA capacity available, with additional local funds supporting the usage from the project. A new installation was added to support new use cases. This installation was made available from M19 onwards and managed to reach 92% of the available. Figure 2 depicts the total delivered capacity (in blue columns) and the target capacity funded by VA for all the GPU providers of WP3.

Table VA GPU Consumption

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Installation | VA units available | VA at M15 | VA at M30 | Total Delivered capacity | % VA usage |
| MetaCentrumCloud - GPU | 204,400 | 20,448 | 243,038 | 243,038 | 100% |
| INFN-CNAF-GPU | 55,173 | 8,765 | 55,173 | 66,601 | 100% |
| EGI-IISAS-GPU | 25,920 | n/a | 23,937 | 23,937 | 92.35% |
| TOTALS | 274,120 | 29,213 | 274,120 | 333,576 |  |

A graph with red and blue bars

Description automatically generated

Figure VA GPU Consumption

Storage usage is summarised in Table 5. Again, the table shows the installation name, the number of units allocated in the project under VA (TB months), the consumption of those units at M15, the consumption at M30, the total delivered capacity and the percentage of the VA consumption over the total units available. The overall usage of storage resources in the project was low at M15, although thanks to the redistribution of units and the push for use cases to consume storage resources, most of the providers met the target capacity. Figure 3 depicts the total delivered capacity (in blue columns) and the target capacity funded by VA for the storage providers of WP3.

Table Storage VA Consumption

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Installation | VA units available | VA at M15 | VA at M30 | Total Delivered capacity | % VA usage |
| INCD-Lisbon (NCG)-Storage | 613 | 200 | 639 | 639 | 100.00% |
| INFN-BARI-Storage | 335 | 616 | 1,650 | 2,443 | 100.00% |
| INFN-CNAF-Storage | 1,776 | 218 | 1,936 | 1,936 | 100.00% |
| dCache | 5,078 | 1500 | 2,520 | 4,852 | 95.55% |
| Spider Storage | 5,547 | 750 | 3,480 | 4,946 | 89.17% |
| TR-FC1-ULAKBIM - Storage | 4,200 | 1,314 | 4,200 | 6,597 | 100.00% |
| MetaCentrumCloud - Storage | 6,500 | 25 | 4,493 | 4,493 | 69.12% |
| IN2P3-IRES-Storage | 1,680 | 25 | 2,740 | 2,740 | 100.00% |
| CLOUDIFIN-Storage | 180 | 18 | 108 | 108 | 60.00% |
| CYFRONET-CLOUD-Storage | 1,800 | 1.2 | 1,785 | 1,785 | 99.18% |
| IFCA-LCG2-Storage | 90 | 25 | 77 | 77 | 85.56% |
| CESGA-Storage | 665 | 0 | 238 | 238 | 35.79% |
| TOTALS | 28,464 | 4692.2 | 30,855 | 30,855 |  |

*A graph with red and blue bars

Description automatically generated*

Figure VA Storage Consumption

## Metrics definition

For each installation several metrics has been defined between the provider and WP6 leader, taking into account following categories:

* **Number of users** – depending on the nature of installation, number could be defined based on accounts (if registration was required) or number of unique IPs (if registration is not needed to benefit of the service)
* **Usage** – the goal of this metric is to report how much the service is used. This metric depended on functionality provided by the service.
* **Number and names of the countries reached** – the goal of this metric was to report how broadly the service is used and how the geographical coverage is changing with time.
* **Marketplace orders** – the goal of this metric is to provide information about how often the service is being ordered via EOSC Portal.  
  This metric is not applicable to federation services due to the nature of the service. Federation services are enabling federation and are supporting delivery of customer facing services. Thus, cannot be ordered.

# Installations

## EGI - IM

|  |  |
| --- | --- |
| **Description** | IM is a tool that eases the access and the usability of IaaS clouds by automating the VMI selection, deployment, configuration, software installation, monitoring and update of Virtual Appliances. It supports APIs from a large number of virtual platforms, making user applications cloud-agnostic. In addition it integrates a contextualization system to enable the installation and configuration of all the user required applications providing the user with a fully functional infrastructure. |
| **Task** | 3.1 |
| **URL** | <https://appsgrycap.i3m.upv.es:31443/im/> |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://appsgrycap.i3m.upv.es:31443/im/> |
| **Location** | The service is located in the premises of the GRyCAP (High Performance and Grid Computing Group) of the Institute of Instrumentation for Molecular Imaging of the Universitat Politècnica de València. |
| **Duration** | M1-M30 |
| **Modality of access** | Access is freely available to any user. Also users who provided valid EGI check-in credentials. |
| **Support offered** | \* Documentation: <https://imdocs.readthedocs.io/en/latest/>  \* Sample videos: <https://www.youtube.com/playlist?list=PLgPH186Qwh_37AMhEruhVKZSfoYpHkrUp>  \* IM service Source repository: <https://github.com/grycap/im/>  \* IM web portal Source repository: <https://github.com/grycap/im-web/>  \* IM client Source repository: <https://github.com/grycap/im-client/>  \* IM dashboard Source repository: <https://github.com/grycap/im-dashboard/> |
| **Operational since** | May 2018. |
| **User definition** | Any user with access to any Cloud platform that wants to deploy virtual infrastructures. |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how**  **measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users per quarter | 10 | Internal service database | 90 | 123 | 70 | 192 | 163 | 55 |
| No of infrastructures deployed per quarter | 40 | Internal logs | 265 | 161 | 101 | 579 | 552 | 1,168 |
| No of countries reach | 3 | Check-in | 13 | 9 | 12 | 18 | 34 | 22 |
| Names of countries reach | Spain, Italy, Portugal | Check-in | Spain, Germany, Czechia, Italy, Hungary, Netherlands, Poland, Portugal. Slovakia. Brazil, Indonesia, Russia, USA | Spain, United Kingdom, Germany, Czechia, Italy, India, Portugal. Slovakia, Romania. | Spain, Italy, United Kingdom, Czechia, Germany, France, Hungary, Netherlands, Poland, Slovakia, Norway, Indonesia | Spain, Italy, Greece, France, Norway, United Kingdom, Germany, Czechia, Austria, Romania, Switzerland, Hungary, Netherlands, Poland, Portugal, Slovenia, Sweden, Ukrania | Spain, Italy, France, Germany, Czechia, Greece, Norway, Romania, Canada, Hungary, Slovakia, Ecuador, Portugal, Switzerland, United Kingdom, China, Japan, Poland, Saudi Arabia, Austria, Belgium, Brazil, Estonia, Finland, Guatemala, India, Israel, Malaysia, Netherlands, Philippines, Réunion, United Arab Emirates, United States, Argentina | Argentina, Belgium, Czechia, Ecuador, France, Germany, Greece, Italy, Netherlands, Norway, Poland, Portugal, Romania, Saudi Arabia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, United States, |

### Assessment

The IM installation provides VM orchestration in the EGI Federated Cloud via API and web dashboard. The service grew during the 30 months of EGI-ACE, going from 10 users to a maximum of 192 users per quarter during period 5 (M21-M25) with a broad geographical coverage. These users have deployed 1,168 infrastructures per quarter in the last period (from 40 infrastructures per quarter of the baseline). The installation is used internally by several services of the EGI-ACE EOSC Compute Platform: EC3, PaaS Orchestrator, DODAS, and AppDB rely on IM for the management of VMs on the infrastructure. IM is also actively used by new communities of EGI-ACE from the open calls, WP5 Data Spaces and individual users.

The service was available in the EOSC Marketplace as a service from UPV (the provider of the service) and during the project it became part of the EGI service portfolio with complete integration with the rest of the EGI services: it uses Check-in for authentication, it is monitored by ARGO and it’s documented in the EGI Documentation repository. It is constantly updated and maintained as part of the regular operation of the service. A screenshot of the new EGI Infrastructure Manager is shown in Figure 4.

A screenshot of a computer

Description automatically generated

*Figure 4. EGI Infrastructure Manager*

## DynDNS

|  |  |
| --- | --- |
| **Description** | This activity will provide a Dynamic DNS service that allows assigning names under preconfigured domains to VM instances running on the EGI Cloud providers. The service shall provide:  • a HA-setup of DNS servers distributed across different NGIs of the EGI infrastructure.  • a web based interface for managing DNS entries for fedcloud.eu and subdomains.  • expiration of hosts if not updated after a configurable period of time. |
| **Task** | 3.1 |
| **URL** | <https://nsupdate.fedcloud.eu/> |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Main service is located at IISAS (Slovakia), backup servers at EGI or other partner for High availability |
| **Duration** | M1-M30 |
| **Modality of access** | Registration of hostnames via GUI portal, DNS update via REST API |
| **Support offered** | Detailed documentation about service and API, use guide, tutorial, presentations/training during events or on requests |
| **Operational since** | 01.01.2021 |
| **User definition** | All types of users: individual users, small and big user communities  - Individual users: register hostnames in generic domains/subdomains, assign hostnames to VMs  - Small communities: separate subdomains in generic domain fedcloud.eu (e.g. wenmr.fedcloud.eu) for the communities  - Big communities: integrate DNS service with domain owned by the communities (e.g. fedcloud.eosc-synergy.eu) |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of researchers | 50 | Internal logs | 71 | 83 | 97 | 107 | 128 | 140 |
| No of hostnames registered | 100 | Internal logs | 149 | 173 | 197 | 243 | 307 | 381 |

### Assessment

The Dynamic DNS installation provides self-managed registration of hostnames for VMs running on EGI’s infrastructure. The service can be used by any registered Check-in user and can also support specific communities with the need of registering domain names under new domains. During the project period the service supported the registration of 381 host names (3.8 times increase over baseline) by 140 users (1.8 times increase over baseline period before the project).

The service is available via the EOSC marketplace and has been integrated with EGI Check-in and ARGO Monitoring during the initial months of the project. Documentation is available under the common EGI Documentation web and a webinar for its promotion in June 2021[[5]](#footnote-5).

## AppDB

|  |  |
| --- | --- |
| **Description** | The EGI Applications Database (AppDB) is service that stores and provides to the public, information about:  ● software solutions in the form of native software products and virtual appliances,  ● the programmers and the scientists who are involved, and  ● publications derived from the registered solutions  Reusing software products registered in the AppDB means that scientists and developers may find a solution that can be directly utilized on the European Grid & Cloud Infrastructures without reinventing the wheel. This way, scientists can spend less or even no time developing, porting or even using a software solution to the Distributed Computing Infrastructures (DCIs). AppDB, thus, aims to avoid duplication of effort across the DCI communities, and to inspire scientists less familiar with DCI programming and usage. Moreover, AppDB provides added value through sub-services, such as enabling users to deploy and manage Virtual Machines on the EGI Cloud infrastructure from its VMOps dashboard |
| **Task** | 3.1 |
| **URL** | <https://appdb.egi.eu/> |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | IASA (Greece) |
| **Duration** | M1-M30 |
| **Modality of access** | All the services are free at the point of use. The catalogs do not require any registration. Other services may require authentication and in some cases registration, using EGI Check-In |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the individual service providers. EGI Outreach activities also include webinars, training, and hands-on sessions during conferences and events. |
| **Operational since** | 2008 |
| **User definition** | Three types of users have been identified:  (a) researchers (account owners),  (b) typical visitors (anyone with or without account),  (c) Cloud Resource Providers |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of researchers | 1111 | Internal logs | 1196 | 1217 | 1237 | 1,259 | 1,277 | 1,294 |
| No of cloud providers | 34 | Internal logs | 28 | 28 | 28 | 29 | 29 | 32 |
| No of visits | 93694 | Internal logs | 48542 | 60218 | 68,704 | 77,895 | 80,682 | 59,330 |
| No of items added/updated | 14 | Internal logs | 24 | 18 | 11 | 16 | 10 | 16 |
| No of items released/submitted | 65 | Internal logs | 34 | 21 | 16 | 28 | 19 | 22 |
| No of countries reach | 104 | Check-in | 24 | 19 | 22 | 21 | 21 | 21 |
| Names of countries reach |  | Check-in | Spain, Greece, Italy, Slovakia, Netherlands, Germany, France, Poland, Czechia, Turkey, Romania, Japan, Austria, Sweden, Indonesia, Hungary, Denmark, Canada, Switzerland, Portugal, Iran, Finland, United States, United Kingdom | China, Croatia, Czechia, Finland, France, Germany, Greece, Indonesia, Ireland, Italy, Netherlands, Romania, Slovakia, South Africa, Spain, Switzerland, Turkey, United Kingdom, United States | China, Croatia, Czechia, Finland, France, Germany, Greece, Hungary, Indonesia, Italy, Japan, Netherlands, Portugal, Romania, Slovakia, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom | Austria, Belgium, Canada, Czechia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Netherlands, Portugal, Romania, Slovakia, Spain, Sweden, Turkey, Ukraine, United Kingdom, United States | China, Czechia, Finland, France, Georgia, Germany, Greece, Hungary, Indonesia, Ireland, Italy, Malta, Netherlands, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States | Austria, Belgium, China, Czechia, France, Germany, Greece, Hungary, Indonesia, Ireland, Italy, Netherlands, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, Taiwan, United Kingdom, United States |

### Assessment

AppDB is an installation that supports the EGI Cloud Compute service. It facilitates the reuse of software in the infrastructure by providing a software catalogue that is automatically distributed to providers in the form of Virtual Machine images. AppDB at M30 supported 1294 users adding/updating a total of 95 software entries and 140 were released as completely new entries.

AppDB released support for containers during June 2023, so its usage is not reflected in the VA metrics. This new feature should expand the number of items registered in AppDB as containers have become a major technology for sharing software. Alongside with the support for containers, AppDB also included FAIR improvements for FAIR software: improved metadata, assignment of PIDs to all the registered software and releases, support for RO-Crate and a FAIRness score for every software entry in AppDB.

A total of 32 cloud providers are fully integrated with AppDB to synchronise software and to deliver information about their capacity and capabilities to the AppDB Information System. As an integral part of the EGI Cloud Compute Service, AppDB does not have an individual entry in the EOSC marketplace yet. It’s fully integrated with the EGI ecosystem since the start of the project.

## MetaCentrumCloud - CPU

|  |  |
| --- | --- |
| **Description** | CESNET is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CESNET is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** | <https://cloud.metacentrum.cz/> |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Czech Republic |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, trainings, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 01/07/2019 |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 550 | Internal service database | 1 | 46 | 64 | 102 | 76 | 61 |
| CPU/hours | 10,909,709 | Accounting | 35,712 | 818,874 | 715,995 | 2,682,431 | 5,777,539 | 4,750,464 |
| No of countries reach | 14 | Check-in | 13 | 12 | 16 | 17 | 20 | 14 |
| Names of countries reach | Canada  China  Croatia  Czech Republic  France  Greece  Ireland  Italy  Netherlands  Russian Federation  Slovakia  Spain  Switzerland  United States | Check-in | Croatia  Czechia  France  Germany  Greece  Indonesia  Italy  Netherlands  Singapore  Slovakia  Spain  Switzerland  United Kingdom | Czechia, France, Germany, Indonesia, Italy, Netherlands, Portugal, Romania, Slovakia, Spain, Switzerland, United Kingdom | Czechia, Denmark, Finland, France, Germany, Greece, Indonesia, Italy, Netherlands, Norway, Poland, Slovakia, Spain, Switzerland, United Kingdom, United States | Austria, Czechia, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Norway, Poland, Réunion, Slovakia, Spain, Switzerland, United Kingdom, United States | Belgium, Czechia, Denmark, Egypt, Finland, France, Germany, Greece, Hungary, Indonesia, Italy, Luxembourg, Netherlands, Norway, Réunion, Slovakia, Spain, Sweden, United Kingdom, United States | Austria, Czechia, France, Hungary, Indonesia, Ireland, Italy, Netherlands, Norway, Slovakia, Spain, Switzerland, Taiwan, United Kingdom |

### Assessment

MetaCentrum - CPU is one of the installations of CESNET supporting the EGI Cloud Compute service in the EOSC Marketplace. This installation has delivered 14,781,015, surpassing the initially planned 8,760,000 CPU hours during the complete project (100% of the available VA capacity for the installation was consumed). The following VOs were supported over the period: biomed, enmr.eu, fusion, icecube, training.egi.eu, vo.emphasisproject.eu, vo.environmental.egi.eu, vo.max-centre.eu, vo.neanias.eu, vo.pangeo.eu, peachnote.com, vo.envrihub.eu and vo.thepund.it with a total of 61 users from 14 countries directly interacting with the installation.

## MetaCentrumCloud - GPU

|  |  |
| --- | --- |
| **Description** | CESNET is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CESNET is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Czech Republic |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 01/09/2019 |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 550 | Internal service database | 0 | 1 | 1 | 10 | 11 | 11 |
| GPU node/hours | 31,104 | Accounting | 0 | 11,016 | 9,432 | 42,865 | 90,006 | 89,719 |
| No of countries reach | 14 | Check-in | 0 | 1 | 1 | 17 | 20 | 14 |
| Names of countries reach | Canada  China  Croatia  Czech Republic  France  Greece  Ireland  Italy  Netherlands  Russian Federation  Slovakia  Spain  Switzerland  United States | Check-in | - | United Kingdom | United Kingdom | Austria, Czechia, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Norway, Poland, Réunion, Slovakia, Spain, Switzerland, United Kingdom, United States | Belgium, Czechia, Denmark, Egypt, Finland, France, Germany, Greece, Hungary, Indonesia, Italy, Luxembourg, Netherlands, Norway, Réunion, Slovakia, Spain, Sweden, United Kingdom, United States | Austria, Czechia, France, Hungary, Indonesia, Ireland, Italy, Netherlands, Norway, Slovakia, Spain, Switzerland, Taiwan, United Kingdom |

### Assessment

MetaCentrum - GPU supports the usage of GPU resources on the CESNET provider as part of the EGI Cloud Compute service. This installation has delivered 243,038, surpassing the initially planned 204,400 GPU node hours during the complete project (100% of the available VA capacity for the installation was consumed).

## MetaCentrumCloud - Storage

|  |  |
| --- | --- |
| **Description** | CESNET is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CESNET is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage> |
| **Location** | Czech Republic |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 01/07/2019 |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 550 | Internal service database | 1 | 46 | 64 | 37 | 76 | 61 |
| TB/month | 375,587,796 | Accounting | 1.2 | 10.24 | 14 | 1,919 | 1,316 | 1,234 |
| No of countries reach | 14 | Check-in | 1 | 12 | 16 | 20 | 20 | 14 |
| Names of countries reach | Canada  China  Croatia  Czech Republic  France  Greece  Ireland  Italy  Netherlands  Russian Federation  Slovakia  Spain  Switzerland  United States | Check-in | Croatia  Czechia  France  Germany  Greece  Indonesia  Italy  Netherlands  Singapore  Slovakia  Spain  Switzerland  United Kingdom | Czechia, France, Germany, Indonesia, Italy, Netherlands, Portugal, Romania, Slovakia, Spain, Switzerland, United Kingdom | Czechia, Denmark, Finland, France, Germany, Greece, Indonesia, Italy, Netherlands, Norway, Poland, Slovakia, Spain, Switzerland, United Kingdom, United States | Belgium, Czechia, Denmark, Egypt, Finland, France, Germany, Greece, Hungary, Indonesia, Italy, Luxembourg, Netherlands, Norway, Réunion, Slovakia, Spain, Sweden, United Kingdom, United States | Belgium, Czechia, Denmark, Egypt, Finland, France, Germany, Greece, Hungary, Indonesia, Italy, Luxembourg, Netherlands, Norway, Réunion, Slovakia, Spain, Sweden, United Kingdom, United States | Austria, Czechia, France, Hungary, Indonesia, Ireland, Italy, Netherlands, Norway, Slovakia, Spain, Switzerland, Taiwan, United Kingdom |

### Assessment

MetaCentrum - Storage supports the associated storage resources to the cloud resources on CESNET as part of the EGI Online Storage service. This installation has delivered 7,829, surpassing the initially planned 6500 TB month during the complete project (100% of the available VA capacity for the installation was consumed). The installation is used in conjunction with the MetaCentrum - CPU so VOs and users are common: biomed, enmr.eu, fusion, icecube, training.egi.eu, vo.emphasisproject.eu, vo.environmental.egi.eu, vo.max-centre.eu, vo.neanias.eu, vo.pangeo.eu, icecube, peachnote.com, vo.envrihub.eu and vo.thepund.it VOs were supported with a total of 64 users from 16 countries directly interacting with the installation.

## SCAI FedCloud v2

|  |  |
| --- | --- |
| **Description** | The Installation is an OpenStack Cloud Cluster for Infrastructure-as-a-Service Cloud services connected to the EGI Federated Cloud Compute Service. While SCAI is a certified resource center of EGI, fully integrated with the federation, this VA is about providing access to a new installation that is until now only provided for biomedical research (Neuroscience). |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Germany |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | While SCAI has been an early FedCloud Site since 2016, this VA is from the end of 2018 / beginning of 2019, not yet connected to FedCloud. |
| **User definition** | Not reserved, but currently serving small communities with this installation. |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 20-30 | Internal service database | 0 | 0 | 0 | 19 | 17 | 13 |
| CPU/hours | 4,919,616 | Accounting | 0 | 0 | 0 | 76,270 | 267,960 | 411,361 |
| No of countries reach | 5 | Check-in | 0 | 0 | 0 | 6 | 7 | 6 |
| Names of countries reach | Germany, France, Italy, Spain, UK | Check-in | 0 | 0 | 0 | Austria, France, Germany, Italy, Netherlands, Spain | China, France, Germany, Greece, Italy, Netherlands, Spain | China,France,Germany,Hungray,Italy,Spain |

### Assessment

SCAI is one of the providers of the EGI Cloud Compute service. This provider had during 2021 a long downtime due to the upgrade of the cluster supporting the infrastructure that was largely delayed due to COVID restrictions that complicated the setup of the new hardware. For that reason the consumption of VA started late in the project (after M15). In early 2022 the provider managed to restore their system and the following VOs were allocated to the installation: vo.access.egi.eu, vo.sphinxsys.org, vo.fuvex.es and vo.ebrain-health.eu. In 2023, the provider had a long downtime of 3 months caused by problems in their hardware, preventing the consumption of more capacity. At M30, SCAI delivered a total of 755,591 (38% over the 2,000,000 CPU hours available for VA).

## EGI - GSIOS

|  |  |
| --- | --- |
| **Description** | GSI will become a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. GSI will undergo all necessary certification steps before becoming operational. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Germany |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** |  |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 0 | Internal service database | 8 | 114 | 15 | 19 | 17 | 13 |
| CPU/hours | 0 | Accounting | 183 | 20,193 | 54679 | 73,767 | 179,416 | 759,300 |
| No of countries reach | 0 | Check-in | N/A | 4 | 6 | 6 | 7 | 6 |
| Names of countries reach | 0 | Check-in | N/A | Germany, Italy, Spain, UK | Germany, Indonesia, Italy, Netherlands,  Spain, UK | Austria, France, Germany, Italy, Netherlands, Spain | China, France, Germany, Greece, Italy, Netherlands, Spain | China,France,Germany,Hungray,Italy,Spain |

### Assessment

EGI-GSIOS became a provider of the EGI Cloud Compute service at the end of the first VA reporting period (M5), since then it has started supporting the vo.access.egi.eu, vo.inteligg.com, vo.envrihub.eu, vo.bikesquare.eu, vo.usegalaxy.eu VOs consuming a total of 1,087,538 CPU hours (100% of the available VA capacity for the installation was consumed). The original capacity of this provider was reduced to 1,000,000 CPU hours as the use cases were not consuming all the allocated resources.

## IN2P3-IRES-CPU

|  |  |
| --- | --- |
| **Description** | IN2P3-IRES is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. IN2P3-IRES is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | France |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | Dec 2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 120 | Internal service database | 17 | 24 | 28 | 35 | 32 | 39 |
| CPU/hours | 3,095,735 | Accounting | 187252 | 262420 | 287,828 | 1,103,077 | 5,393,220 | 1,837,063 |
| No of countries reach | 5 | Check-in | 6 | 9 | 11 | 9 | 11 | 14 |
| Names of countries reach | CH, FR, IT, NL, SE | Check-in | DE,ES,FR,HU,IT,NL | DE,ES,FRHU,IT,NL,RO,UK | BR,DE,ES,FR,GR,ID,IT,NL,MK,PT,SE | BR,ES,FR,GB,GR,HU,IT,NL,SE | BR,CH,CZ,ES,FR,GB,GR,IT,NL,RO,SE | Brazil, France, Germany, Greece, Hungary, Italy, Netherlands, Romania, Slovakia, Spain, Sweden, Switerland, United Kingdom, United States |

### Assessment

IN2P3-IRES-CPU is one of the installations of IN2P3-IRES supporting the EGI Cloud Compute service in the EOSC Marketplace. It has delivered a total of 9,070,860 CPU hours surpassing the 6,132,000 available (100% of the available VA capacity for the installation was consumed). The installation supported: bioisi, biomed, fedcloud.egi.eu, saps-vo.i3m.upv.es, vo.access.egi.eu, vo.europlanet-vespa.eu, vo.emphasisproject.eu, lagoproject.net, vo.grand-est.vo and vo.operas-eu.org VOs with 39 users from 14 different countries.

## IN2P3-IRES-Storage

|  |  |
| --- | --- |
| **Description** | IN2P3-IRES is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. IN2P3-IRES is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage> |
| **Location** | France |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | July 2018 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 25 | Internal service database | 8 | 24 | 28 | 35 | 32 | 39 |
| TB/month | 5.4 | Accounting | 7.754 | 8.648 | 8 | 407 | 1,821 | 926 |
| No of countries reach | 5 | Check-in | 6 | 9 | 11 | 9 | 11 | 14 |
| Names of countries reach | FR, IT, NL, ,SE, UK | Check-in | DE,ES,FR,HU,IT,NL | DE,ES,FR,HU,IT,NL,RO,UK | BR,DE,ES,FR,GR,ID,IT,NL,MK,PT,SE | BR,ES,FR,GB,GR,HU,IT,NL,SE | BR,CH,CZ,ES,FR,GB,GR,IT,NL,RO,SE | Brazil, France, Germany, Greece, Hungary, Italy, Netherlands, Romania, Slovakia, Spain, Sweden, Switerland, United Kingdom, United States |

### Assessment

IN2P3-IRES-Storage supports the associated storage resources to the cloud resources on IN2P3 as part of the EGI Online Storage service. The uptake of the installation was very low at M15 (0.6%) and it was decided to reduce the number of available from 4,200 to 1,680 TB month. However, at the last months of the project, new use cases started using the installation and consumed a total of 3,179 TB month (100% of the available VA capacity for the installation was consumed). The installation is used in conjunction with the IN2P3-IRES-CPU, hence VOs and users are common: bioisi, biomed, fedcloud.egi.eu, saps-vo.i3m.upv.es, vo.access.egi.eu, vo.europlanet-vespa.eu, vo.emphasisproject.eu, lagoproject.net, vo.grand-est.vo and vo.operas-eu.org VOs with 39 users from 14 different countries.

## TR-FC1-ULAKBIM - CPU

|  |  |
| --- | --- |
| **Description** | TR-FC1-ULAKBIM is installed as an Federated Cloud Site and operated with its federated structure in order to provide computing infrastructure over cloud services. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Turkey |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 27 | Internal service database | 14 | 27 | 29 | 9 | 11 | 9 |
| CPU/hours | 76.084 | Accounting | 2951 | 915750 | 1,345,404 | 1,244,252 | 1,115,620 | 1,044,590 |
| No of countries reach | 9 | Check-in | 1 | 7 | 8 | 5 | 6 | 7 |
| Names of countries reach | GR, IT, ES, DE, HU,TR, HR, UK,SE | Check-in | Spain | France, Greece, Italy, Spain, Sweden, Turkey, United Kingdom | France, Italy, Netherlands, North Macedonia, Spain, Sweden, Turkey, United Kingdom | France, Montenegro, Spain, Sweden, UK | China, France, Italy, Netherlands, Spain, United Kingdom | Austria, Hungary, Italy, Slovakia, Spain, Sweden, United Kingdom |

### Assessment

TR-FC1-ULAKBIM - CPU is the installation of TUBITAK supporting the EGI Cloud Compute service in the EOSC Marketplace. It has delivered a total of 5,668,567 CPU hours of the 6,132,000 available (92.44% of the available VA capacity for the installation was consumed). The installation supported: fusion, vo.access.egi.eu and vo.enes.org VOs, with a maximum of 29 different users from 8 countries (at M15).

## TR-FC1-ULAKBIM - Storage

|  |  |
| --- | --- |
| **Description** | TR-FC1-ULAKBIM is installed as an Federated Cloud Site and operated with its federated structure in order to provide computing infrastructure over cloud services. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage> |
| **Location** | Turkey |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 27 | Internal service database | 4 | 27 | 29 | 9 | 11 | 9 |
| TB/month | 3.8 | Accounting | 15.08 | 204.43 | 276.68 | 3,024 | 1,217 | 1,057 |
| No of countries reach | 9 | Check-in | 1 | 7 | 8 | 5 | 6 | 7 |
| Names of countries reach | GR, IT, ES, DE, HU,TR, HR, UK,SE | Check-in | Spain | France, Greece, Italy, Spain, Sweden, Turkey, United Kingdom | France, Italy, Netherlands, North Macedonia, Spain, Sweden, Turkey, United Kingdom | France, Montenegro, Spain, Sweden, UK | China, France, Italy, Netherlands, Spain, United Kingdom | Austria, Hungary, Italy, Slovakia, Spain, Sweden, United Kingdom |

### Assessment

TR-FC1-ULAKBIM - Storage supports the associated storage resources to the cloud resources on TUBITAK as part of the EGI Online Storage service. This installation has delivered 6,612, going over the planned 4,200 TB month during the complete project (100% of the available VA capacity for the installation was consumed). The installation is used in conjunction with the TR-FC1-ULAKBIM - CPU so VOs and users are common: fusion, vo.access.egi.eu and vo.enes.org VOs, with 29 different users from 8 countries.

## dCache

|  |  |
| --- | --- |
| **Description** | dCache. This installation concerns an external, disk storage system, managed by the dCache front end solution, for high throughput cluster (HTC) computing. |
| **Task** | 3.2 |
| **URL** | <https://surf.nl/> |
| **Service Category** | Infrastructure service |
| **Service Catalogue** |  |
| **Location** | Amsterdam (NL) |
| **Duration** | M1-M30 |
| **Modality of access** | ssh keys, tokens and X.509 |
| **Support offered** | Standard support in the form of operations, helpdesk and online documentation is provided. |
| **Operational since** | 1-Sep-05 |
| **User definition** | Collaborative research teams with a focus on HTC computing. |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of registered users | 0 | Extracted from local accounting of the provider | 6 | 7 | 7 | 3 | 25 | 27 |
| TB\*month | 0 | Extracted from local accounting of the provider | 500 | 500 | 500 | 1,080 | 1,500 | 1,272 |
| Degree of users satisfaction | 0 | Degree of users satisfaction | 3 | 4 | 4 | 4 | 4 | 4 |

### Assessment

dCache is a new installation from SURF that supports the EGI Online Storage service for those users running workloads on the High Throughput Computing cluster supported by the Data Processing Compute installation. As the consumption rate in M15 was high, the number of units available for this installation were increased from 2,520 to 5,078 in an amendment. Over the project duration the installation supported 27 users of the lofar and enmr.eu VO that have allocated a total of 6,852 TB month (100% of the available VA capacity for the installation was consumed).

## Spider Storage

|  |  |
| --- | --- |
| **Description** | Spider Storage. This installation concerns the shared, disk storage system, managed by Ceph/CephFS, for high throughput cluster (HTC) computing. |
| **Task** | 3.2 |
| **URL** | <https://surf.nl/> |
| **Service Category** | Infrastructure service |
| **Service Catalogue** |  |
| **Location** | Amsterdam (NL) |
| **Duration** | M1-M30 |
| **Modality of access** | ssh keys |
| **Support offered** | Standard support in the form of operations, helpdesk and online documentation is provided. |
| **Operational since** | 15-Mar-20 |
| **User definition** | Collaborative research teams with a focus on HTC computing. |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of registered users | 0 | Extracted from local accounting of the provider | 6 | 9 | 9 | 6 | 33 | 33 |
| TB\*month | 0 | Extracted from local accounting of the provider | 250 | 250 | 250 | 1,482 | 1,560 | 1,404 |
| Degree of users satisfaction | 0 | Degree of users satisfaction | 4 | 3 | 3 | 3 | 3 | 3 |

### Assessment

Spider Storage is the second storage installation from SURF supporting users running workloads on the High Throughput Computing cluster supported by the Data Processing Compute installation. As the consumption rate in M15 was high, the number of units available for this installation were increased from 3,480 to 5,547 in an amendment. During the project the project the installation supported 33 new users of the lofar and enmr.eu VO that have allocated 6,756 TB month out of the 5,547 available (100% of the available VA capacity for the installation was consumed).

## Data Processing Compute

|  |  |
| --- | --- |
| **Description** | Data Processing. This installation concerns customizable platform as a service (PaaS) solutions for high throughput cluster (HTC) computing. |
| **Task** | 3.2 |
| **URL** | <https://surf.nl/> |
| **Service Category** | Infrastructure service |
| **Service Catalogue** |  |
| **Location** | Amsterdam (NL) |
| **Duration** | M1-M30 |
| **Modality of access** | ssh keys |
| **Support offered** | Standard support in the form of operations, helpdesk and online documentation is provided. |
| **Operational since** | 15-Mar-20 |
| **User definition** | Collaborative research teams with a focus on HTC computing. |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of registered users | 0 | Extracted from local accounting of the provider | 6 | 9 | 9 | 6 | 34 | 34 |
| CPU\*hours | 0 | Extracted from local accounting of the provider | 3373 | 7291 | 11841 | 315,897 | 802,229 | 1,556,457 |
| Degree of users satisfaction | 0 | Satisfaction survey sent to users | 5 | 4 | 4 | 4 | 4 | 4 |

### Assessment

Data Processing is a new flavor for the EGI High Throughput Computing service delivered by SURF. This installation brings a customisable computing facility for supporting users in Platform as a Service (PaaS) that runs on top of an internal elastic cloud. It is a feature-rich platform that provides users with a batch processing cluster (based on Slurm) for generic data processing applications, high performance data access, fast network connectivity to internal and external data centers, support for containers, Jupyter notebooks and many other user-centric features. In EGI-ACE the installation has supported 34 different users from the lofar and enmr.eu VOs. In M15, the uptake of the service from the lofar community was lower than expected due to delays in the developments from the community, hence additional workloads related to lofar were started and capacity was allocated to the WeNMR community to increase the consumption of resources. Even with these new workloads the consumption rate did not increase as expected so, the available capacity was reduced from 5,500,000 to 3,025,000 CPU hours. At M30, the installation delivered 2,697,088 CPU hours (89.16% of the available VA capacity for the installation was consumed).

## INFN-BARI-CPU

|  |  |
| --- | --- |
| **Description** | 200 CPU cores |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | INFN-Bari (Bari) |
| **Duration** | M1-M30 |
| **Modality of access** | authentication and authentication required, possible configuration to be defined |
| **Support offered** | Yes |
| **Operational since** |  |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users communities | 0 | Internal service configuration | 2 | 7 | 9 | 9 | 9 | 9 |
| CPU/hours | 0 | Accounting | 879,461 | 432,854 | 2,103,563 | 3,167,709 | 2,707,848 | 3,970,654 |
| No of countries reach | 0 | Check-in | 4 | 4 | 8 | 8 | 8 | 8 |
| Names of countries reach | 0 | Check-in | Italy, Spain, Germany, Netherland | Italy, Spain, Germany, Netherland | Finland, Germany, Indonesia, Italy, Netherlands, Portugal, Spain, Sweden | Finland, Germany, Indonesia, Italy, Netherlands, Portugal, Spain, Sweden | Finland, Germany, Indonesia, Italy, Netherlands, Portugal, Spain, Sweden | Finland, Germany, Indonesia, Italy, Netherlands, Portugal, Spain, Sweden |

### Assessment

INFN-BARI-CPU delivers CPU resources as part of the EGI Cloud Compute service in the EOSC Marketplace from INFN-BARI. In M15, the installation had already consumed 78% of the available capacity so the number of units was increased from 4,380,000 to 7,498,695 CPU hours. At the end of the project, the installation supported 9 different user communities from the following VOs: ehoney.infn.it, fedcloud.egi.eu, fermi-lat.infn.it, geohazards.terradue.com, vo.access.egi.eu, vo.binare-oy.eu, vo.emso-eric.eu, vo.emsodev.eu, and vo.seadatanet.org reaching 8 different countries. It has delivered a total of 13,262,091CPU hours surpassing the 7,498,695 available (100% of the available VA capacity for the installation was consumed).

## INFN-BARI-Storage

|  |  |
| --- | --- |
| **Description** | 55 TB net disk space (69 raw) |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | INFN-Bari (Bari) |
| **Duration** | M1-M30 |
| **Modality of access** | authentication and authentication required, possible configuration to be defined |
| **Support offered** | Yes |
| **Operational since** |  |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users communities | 0 | Internal service configuration | 2 | 7 | 9 | 9 | 9 | 9 |
| TB/month | 0 | Accounting | 104 | 115 | 397 | 549.43 | 583.93 | 798.11 |
| No of countries reach | 0 | Check-in | 4 | 4 | 8 | 8 | 8 | 8 |
| Names of countries reach | 0 | Check-in | Italy, Spain, Germany, Netherland | Italy, Spain, Germany, Netherland | Finland, Germany, Indonesia, Italy, Netherlands, Portugal, Spain, Sweden | Finland, Germany, Greece, Italy, Netherlands, Spain, Sweden, United Kingdom | Finland, Germany, Greece, Italy, Netherlands, Spain, Sweden, United Kingdom | Finland, Germany, Greece, Italy, Netherlands, Spain, Sweden, United Kingdom |

### Assessment

INFN-BARI-Storage supports the associated storage resources to the cloud resources on INFN-BARI as part of the EGI Online Storage service. The usage if this installation was slow in the first period of the project and its capacity was adjusted by reducing from

1,650 to 335 TB month. During the second half of the project the consumption rate increased significantly and the installation delivered 2,548 of the available 335TB month during the complete project (100% of the available VA capacity for the installation was consumed). The installation is used in conjunction with the INFN-BARI-CPU so VOs and users are common: ehoney.infn.it, fedcloud.egi.eu, fermi-lat.infn.it, geohazards.terradue.com, vo.access.egi.eu, vo.binare-oy.eu, vo.emso-eric.eu, vo.emsodev.eu, and vo.seadatanet.org reaching 8 different countries.

## INFN-CNAF-CPU

|  |  |
| --- | --- |
| **Description** | 200 CPU cores |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | INFN-CNAF (Bologna) |
| **Duration** | M1-M30 |
| **Modality of access** | authentication and authentication required, possible configuration to be defined |
| **Support offered** | Yes |
| **Operational since** |  |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users communities | 0 | Internal service configuration | 0 | 2 | 4 | 8 | 8 | 9 |
| CPU/hours | 0 | Accounting | 0 | 148,379 | 372,047 | 1,213,001 | 1,507,679 | 1,427,948 |
| No of countries reach | 0 | Check-in | 0 | 1 | 4 | 11 | 11 | 12 |
| Names of countries reach | 0 | Check-in | - | Italy | Italy, India, Spain, Norway | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland, Ukraine | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland, Ukraine |

### Assessment

INFN-CNAF is a new provider of the EGI Cloud Compute service that finalised its integration at the end of the second VA reporting period (M10) and started delivering capacity once the integration was completed. Since then, it provided 4,669,054 CPU hours out surpassing the 4,380,000 available (100% of the available VA capacity for the installation was consumed). INAF-CNAF was engaged with nine user communities: digifarm.io and vo.thepund.it from the EOSC-DIH; vo.inactive-sarscov2.eu, vo.i-energy.eu, fermi-lat.infn.it, virgo and crystal\_channelling\_simulation.vo.egi.eu from the project’s Open Calls; and vo.projectescape.eu from EOSC-Future. These bring four users from four different countries

## INFN-CNAF-GPU

|  |  |
| --- | --- |
| **Description** | 2 GPUs per server |
| **Task** |  |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | INFN-CNAF (Bologna) |
| **Duration** | M1-M30 |
| **Modality of access** | authentication and authentication required, possible configuration to be defined |
| **Support offered** | Yes |
| **Operational since** |  |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users communities | 0 | Internal service configuration | 0 | 0 | 1 | 3 | 3 | 4 |
| GPU node/hours | 0 | Accounting | 0 | 0 | 8,765 | 17,996 | 21,168 | 18,672 |
| No of countries reach | 0 | Check-in | 0 | 0 | 1 | 11 | 12 | 12 |
| Names of countries reach | 0 | Check-in | - | - | Norway | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland, Ukraine | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland, Ukraine |

### Assessment

INFN-CNAF-GPU supports the GPU resources in the INFN-CNAF providers that are used in conjunction with the INFN-CNAF-CPU and INFN-CNAF-Storage. This usage of GPUs increased during the second half of the project and the amendment increased the number of units from 43,800 to 55,173 GPU node hours. At M30, installation delivered 66,601 GPU node hours (100% of the available VA capacity for the installation was consumed).

## INFN-CNAF-Storage

|  |  |
| --- | --- |
| **Description** | 55 TB of net storage space (69 raw) |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | INFN-CNAF (Bologna) |
| **Duration** | M1-M30 |
| **Modality of access** | authentication and authentication required, possible configuration to be defined |
| **Support offered** | Yes |
| **Operational since** |  |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users communities | 0 | Internal service configuration | 0 | 2 | 4 | 8 | 8 | 9 |
| TB/month | 0 | Accounting | 0 | 85.76 | 132 | 500 | 615 | 603 |
| No of countries reach | 0 | Check-in | 0 | 1 | 4 | 11 | 11 | 12 |
| Names of countries reach | 0 | Check-in | - | Italy | Italy, India, Spain, Norway | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland, Ukraine | Albania, France, Germany, Greece, Italy, Kosovo, Netherlands, Serbia, Slovenia, Spain, Switzerland, Ukraine |

### Assessment

INFN-CNAF-Storage supports the associated storage resources to the cloud resources on INFN-CNAF as part of the EGI Online Storage service. As uptake of the storage was low (13% at M15), and amendment reduced the available capacity from 4950 to 1,776 TB month. At M30, this installation delivered 1,936 TB month (100% of the available VA capacity for the installation was consumed). The installation is used in conjunction with the INFN-CNAF-CPU so VOs and users are common.

## INCD-Lisbon (NCG)-CPU

|  |  |
| --- | --- |
| **Description** | Portuguese National Distributed Computing Infrastructure Openstack IaaS cloud computing service (virtual machines) |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Portugal |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 50 | Internal service database | 14 | 10 | 26 | 31 | 26 | 26 |
| CPU/hours | 4,751,023 | Accounting | 486,912 | 738,166 | 663,408 | 2,570,812 | 353,568 | 1,103,280 |
| No of countries reach | 1 | Check-in | 6 | 5 | 8 | 9 | 12 | 12 |
| Names of countries reach | Portugal | Check-in | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain | Brasil, Portugal, Indonesia, Germany, Chile | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain, UK, Italy | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, Spain, UK, | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark |

### Assessment

INCD-Lisbon (NCG)-CPU delivers CPU resources for the EGI Cloud Compute service. The installation supports mainly two of the WP5 Data Spaces VOs: opencoast.eosc-hub.eu and vo.lifewatch.eu. Together they support 26 users from 12 different countries. As in M15, the supported communities were expected to keep their usage until the end of the project, the capacity was increased from 3,066,000 to 5,268,173 CPU hours. INCD-Lisbon (NCG)-CPU has provided 5,916,146 CPU hours, surpassing the 5,268,173CPU hours available (100% of the available VA capacity for the installation was consumed).

## INCD-Lisbon (NCG)-Storage

|  |  |
| --- | --- |
| **Description** | Portuguese National Distributed Computing Infrastructure Openstack IaaS cloud computing service (storage backend) |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | Portugal |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 50 | Internal service database | 14 | 10 | 26 | 31 | 26 | 26 |
| TB/month | 110 | Accounting | 26.5 | 86 | 87 | 184 | 134 | 148 |
| No of countries reach | 1 | Check-in | 6 | 5 | 8 | 9 | 12 | 12 |
| Names of countries reach | Portugal | Check-in | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain | Brasil, Portugal, Indonesia, Germany, Chile | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain, UK, Italy | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, Spain, UK, | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark |

### Assessment

INCD-Lisbon (NCG)-Storage delivers storage resources associated with the INCD-Lisbon (NCG)-CPU installation as part of the EGI Online Storage service. The installation supports the same communities and users as the CPU one. The consumption rate for storage in the installation was not as fast as the CPU, so the available capacity was reduced from 2,450 to 613 TB month. At M30, it provided 666 TB months (100% of the available VA capacity for the installation was consumed).

## EGI-IISAS-CPU

|  |  |
| --- | --- |
| **Description** | IISAS is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. IISAS is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Bratislava, Slovakia |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service requires registration as an EGI user on Check-in and enrollment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, trainings, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2012 |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 74 | Internal service database | 4 | 13 | 16 | 35 | 40 | 41 |
| CPU/hours | 658,000 | Accounting | 216,676 | 220,692 | 506,049 | 624,115 | 694,521 | 925,471 |
| No of countries reach | 13 | Check-in | 4 | 7 | 13 | 15 | 12 | 13 |
| Names of countries reach | UK, UA, SE, SK, NL, IT, HU, GR, FR, ES, DE, CZ | Check-in | Italy,Slovakia,Spain,Indonesia | Czechia,France,Germany,Indonesia,Italy,Slovakia,Spain | Albania,France,Germany,Greece,Indonesia,Italy,Kosovo,Netherlands,Serbia,Slovakia,Slovenia,Spain,United Kingdom | Albania, Czechia, Estonia, France, Germany, Greece, Italy, Malta, Netherlands, Serbia, Slovakia, Slovenia, ￼￼Spain, United Kingdom, Vietnam | Albania, Czechia, Germany, Greece, Italy, Kosovo, Netherlands, Poland, Serbia, Slovakia, Slovenia, Spain | Albania,Belgium,France,Germany,Greece,Italy,Malta,Netherlands,Portugal,Serbia,Slovakia,Slovenia,Spain |

### Assessment

EGI-IISAS-CPU is an installation supporting the Slovakian IISAS provider of the EGI Cloud Compute service in the EOSC Marketplace. The installation delivers CPU resources as Virtual Machines for 13 VOs: biomed, cryoem.instruct-eric.eu, fedcloud.egi.eu, icecube, training.egi.eu, vo.access.egi.eu, vo.beamide.com, vo.builtrix.tech, vo.e-rihs.eu, vo.latitudo40.com.eu, vo.matrycs.eu, vo.nextgeoss.eu and vo.oipub.com. 41 users from 13 different countries have accessed the installation in the reporting period. At M15, the consumption of resources was still low (14.7% of the available VA capacity) and the project decided to reduce the number of units from 6,132,000 to 3,066,000 CPU hours to create a GPU installation at IISAS that would better match the requests from Open Call use cases. The installation delivered a total of 3,187,524 CPU hours from the (100% of the available VA capacity for the installation was consumed).

## EGI-IISAS-GPU

|  |  |
| --- | --- |
| **Description** | IISAS is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. IISAS is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Bratislava, Slovakia |
| **Duration** | M26-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service requires registration as an EGI user on Check-in and enrollment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, trainings, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2022 |
| **User definition** |  |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 0 |  | 0 | 0 | 0 | 0 | 0 | 12 |
| GPU/hours | 0 |  | 0 | 0 | 0 | 0 | 0 | 23,937 |
| No of countries reach | 0 |  | 0 | 0 | 0 | 0 | 0 | 13 |
| Names of countries reach | - |  | - | - | - | - | - | Albania,Belgium,France,Germany,Greece,Italy,Malta,Netherlands,Portugal,Serbia,Slovakia,Slovenia,Spain |

### Assessment

EGI-IISAS-GPU is an installation supporting the Slovakian IISAS provider of the EGI Cloud Compute service in the EOSC Marketplace created after an amendment to offer GPU resources to meet the demand from the use cases. It is used in conjunction with EGI-IISAS-CPU and supports the same VOs: biomed, cryoem.instruct-eric.eu, fedcloud.egi.eu, Icecube, training.egi.eu, vo.access.egi.eu, vo.beamide.com, vo.builtrix.tech, vo.e-rihs.eu, vo.latitudo40.com.eu, vo.matrycs.eu, vo.nextgeoss.eu and vo.oipub.com, with 12 users from 13 different countries. The installation was put in production in January 2023 (M25) and delivered 23,937 GPU hours out of the 25,920 available (92.35% of the available VA capacity for the installation was consumed).

## DESY-FedCloud

|  |  |
| --- | --- |
| **Description** | DESY is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. DESY is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.2 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Germany |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, trainings, webinars and hands-on sessions during conferences and events. |
| **Operational since** | Jan 2018 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 40 | Internal service database | 0 | 25 | 53 | 27 | 18 | 10 |
| CPU/hours | 2,102,400 | Accounting | 0 | 6,573 | 14,497 | 195,023 | 716,433 | 788.875 |
| No of countries reach | 7 | Check-in | 0 | 5 | 8 | 7 | 7 | 4 |
| Names of countries reach | Germany (XFEL, CFEL), France (ESRF, ILL) UK (STFC), Sweden (ESS), Czech Republic (ELI), Netherlands (EGI), Canada (UVIC) | Check-in | - | Germany, Italy, Netherlands, Switzerland, United Kingdom | Austria, Denmark, Germany, Hungary, Italy, Netherlands, Romania, Switzerland | France, Germany, Greece, Hungary, Italy, Netherlands, Spain | Czechia, France, Germany, Italy, Netherlands, Spain, United Kingdom | Germany, Greece, Hungary, Italy |

### Assessment

DESY-Fedcloud supports the delivery of CPU resources from DESY within the EGI Cloud Compute service. The installation has engaged with three communities: vo.openrdm.eu, peachnote.com and vo.cite.gr supporting up to 53 different users from 8 countries. The consumption rate significantly increased from M16 onwards thanks to the allocation of use cases, at M30 the installation provided CPU 1,721,401 hours from the 2,000,000 available (86.07% of the available VA capacity for the installation was consumed).

## CESGA-CPU

|  |  |
| --- | --- |
| **Description** | CESGA is a federated IaaS Clo-ud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CESGA is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Santiago, Spain |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2015 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 46 | Internal service database | 18 | 21 | 18 | 16 | 11 | 5 |
| CPU/hours | 3,465,332 | Accounting | 426,181 | 327,860 | 565,740 | 2,686,233 | 763,033 | 1,621,180 |
| No of countries reach | 10 | Check-in | 8 | 8 | 8 | 8 | 8 | 5 |
| Names of countries reach | Poland, Germany, Netherlands, Cyprus, China, USA, Greece, Italy, Spain, Portugal | Check-in | Germany, Greece, Indonesia, Italy, Netherlands, Slovakia, Spain, United Kingdom | France, Germany, Greece, Indonesia, Italy, Netherlands, Slovakia, Spain, United Kingdom | Germany, Indonesia, Italy, Netherlands, Portugal, Slovakia, Spain, United Kingdom | Germany, Greece, Indonesia, Italy, Netherlands, Slovakia, Spain, United Kingdom | China, Czechia, Germany, Italy, Netherlands, Spain, United Kingdom, United States | China, Germany, Hungary, Italy, Spain |

### Assessment

CESGA-CPU is the installation of CESGA supporting the EGI Cloud Compute service in the EOSC Marketplace. As the consumption rate of this installation was good in the first half of the project, the capacity was adjusted from 4,500,000 to 4,770,000 CPU hours. At M30, this installation delivered 6,390,227 CPU hours (100% of the available VA capacity for the installation was consumed). 22 VOs were supported over the period with up to 21 users from 8 countries directly interacting with the installation.

## CESGA-Storage

|  |  |
| --- | --- |
| **Description** | CESGA is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CESGA is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | Santiago, Spain |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2015 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 46 | Internal service database | 46 | 28 | 28 | 7 | 8 | 8 |
| TB/month | 89 | Accounting | 0 | 0 | 0 | 168 | 38 | 32 |
| No of countries reach | 10 | Check-in | 8 | 8 | 8 | 8 | 8 | 5 |
| Names of countries reach | Poland, Germany, Netherlands, Cyprus, China, USA, Greece, Italy, Spain, Portugal | Check-in | Germany, Greece, Indonesia, Italy, Netherlands, Slovakia, Spain, United Kingdom | France, Germany, Greece, Indonesia, Italy, Netherlands, Slovakia, Spain, United Kingdom | Germany, Indonesia, Italy, Netherlands, Portugal, Slovakia, Spain, United Kingdom | Germany, Greece, Indonesia, Italy, Netherlands, Slovakia, Spain, United Kingdom | China, Czechia, Germany, Italy, Netherlands, Spain, United Kingdom, United States | China, Germany, Hungary, Italy, Spain |

### Assessment

CESGA-Storage is the installation associated to CESGA-CPU supporting the EGI Online Storage service. The number of units in the installation was decreased from 950 to 665 TB month to accommodate for larger number of CPU hours in CESGA-CPU. At M30, it delivered 238 TB month of the 665 available during the whole project (35.39% of the available VA capacity for the installation was consumed).

## IFCA-LCG2-CPU

|  |  |
| --- | --- |
| **Description** | IFCA-LCG2 is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. IFCA-LCG2 is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Spain |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 06/2012 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | >200 | Internal service database | 35 | 41 | 47 | 123 | 55 | 46 |
| CPU/hours | 4,000,000 | Accounting | 1,217,099 | 1,778,936 | 1,318,414 | 2,381,662 | 2,892,776 | 2,716,851 |
| No of countries reach | > 8 | Check-in | 9 | 10 | 12 | 17 | 18 | 19 |
| Names of countries reach | ES, PT, IT, FR, GE, PL, SK, NL | Check-in | Spain, Portugal, Gernamy, Hungary, Italy, Netherlands, Slovakia, Switzerland, UK | Spain, Portugal, Hungary, Germany, Italy, Switzerland, Netherlands, Nigeria, Slovakia | EEUU, France, Germany, Hungary, Italy, Netherlands, Nigeria, Portugal, Slovakia,Spain, Switzerland, UK | United States, Hungary, Italy, Portugal, Germany, Czech Replublic, Greece, Netherlands, Ukraine, Switzerland, Austria, Slovakia, United Kingdom, Bosnia and Herzegovina, Nigeria, France, Spain | EEUU, Spain, France, Portugal, UK, France, Belgium, The Netherlands, Italy, Switzerland, Germany, Austria, Czechia, Bosnia and Herzegobina, Creece, Hungary, Romania, Slovakia | Spain, Portugal, EEUU, Nigeria, France, Italy, UK, Switzerland, Germany, Belgium, Netherlands, Czechia, Austria, Slovakia, Hungary, Bosnia and Herzegovina, Greece, Romania, Ukraine |

### Assessment

IFCA-LCG2 - CPU supports CSIC participation in the EGI Cloud Compute service. The installation has been successfully engaging with eight VOs: openrisknet.eu, opencoast.eosc-hub.eu, vo.access.egi.eu, training.egi.eu, vo.lifewatch.eu, cos4cloud-eosc.eu, minka-sdg.org, and icecube. These brought up to 55 users from 19 different countries over the reporting period. The installation already exhausted its VA capacity by M15, so the capacity was increased from 2,500,000 to 3,369,149 CPU hours. At M30, a total of 12,305,738 CPU hours were delivered (100% of the available VA capacity for the installation).

## IFCA-LCG2-Storage

|  |  |
| --- | --- |
| **Description** | IFCA-LCG2 is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. IFCA-LCG2 is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | Spain |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 06/2012 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | >200 | Internal service database | 35 | 41 | 47 | 123 | 52 | 46 |
| TB/month | 500 | Accounting | 2 | 9 | 14 | 20 | 16 | 18 |
| No of countries reach | > 8 | Check-in | 9 | 10 | 11 | 17 | 18 | 19 |
| Names of countries reach | ES, PT, IT, FR, GE, PL, SK, NL | Check-in | Spain, Portugal, Gernamy, Hungary, Italy, Netherlands, Slovakia, Switzerland, UK | Spain, Portugal, Hungary, Germany, Italy, Switzerland, Netherlands, Nigeria, Slovakia | EEUU, Germany, Hungary, Italy, Netherlands, Nigeria, Portugal, Slovakia,Spain, Switzerland, UK | United States, Hungary, Italy, Portugal, Germany, Czech Replublic, Greece, Netherlands, Ukraine, Switzerland, Austria, Slovakia, United Kingdom, Bosnia and Herzegovina, Nigeria, France, Spain | EEUU, Spain, France, Portugal, UK, France, Belgium, The Netherlands, Italy, Switzerland, Germany, Austria, Czechia, Bosnia and Herzegobina, Creece, Hungary, Romania, Slovakia | Spain, Portugal, EEUU, Nigeria, France, Italy, UK, Switzerland, Germany, Belgium, Netherlands, Czechia, Austria, Slovakia, Hungary, Bosnia and Herzegovina, Greece, Romania, Ukraine |

### Assessment

IFCA-LCG2 - Storage is the associated installation to IFCA-LCG2 - CPU of the EGI Online Storage service. CSIC participation in the EGI Cloud Compute service and as such it’s used by the same communities and users. The installation reduced its capacity from

1,800 TB month to 90 to accommodate for more CPU capacity at CSIC. At M30, it delivered 79TB months over the reporting period out of the total 90 available (88.23% of the available VA capacity for the installation was consumed).

## INCD-LIP-CPU

|  |  |
| --- | --- |
| **Description** | Portuguese National Distributed Computing Infrastructure Openstack IaaS cloud computing service (virtual machines) |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Portugal |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 50 | Internal service database | 14 | 10 | 26 | 31 | 26 | 26 |
| CPU/hours | 4,751,023 | Accounting | 486,912 | 738,166 | 663,408 | 2,570,812 | 353,568 | 1,103,280 |
| No of countries reach | 1 | Check-in | 6 | 5 | 8 | 9 | 12 | 12 |
| Names of countries reach | Portugal | Check-in | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain | Brasil, Portugal, Indonesia, Germany, Chile | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain, UK, Italy | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, Spain, UK, | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark |

### Assessment

This service is the same as 2.21, assessment is provided in section 2.21.2.

## INCD-LIP-Storage

|  |  |
| --- | --- |
| **Description** | Portuguese National Distributed Computing Infrastructure Openstack IaaS cloud computing service (storage backend) |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | Portugal |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 50 | Internal service database | 14 | 10 | 26 | 31 | 26 | 26 |
| TB/month | 110 | Accounting | 26.5 | 86 | 87 | 184 | 134 | 148 |
| No of countries reach | 1 | Check-in | 6 | 5 | 8 | 9 | 12 | 12 |
| Names of countries reach | Portugal | Check-in | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain | Brasil, Portugal, Indonesia, Germany, Chile | Germany, Indonesia, Netherlands, Portugal, Slovakia, Spain, UK, Italy | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, Spain, UK, | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark | Germany, Greece, Indonesia, Italy, Netherlands, Portugal, Slovakia, South Africa, Spain, UK, Czechia, Denmark |

### Assessment

This service is the same as 2.22, assessment is provided in section 2.22.2.

## CYFRONET-CLOUD-CPU

|  |  |
| --- | --- |
| **Description** | CYFRONET-CLOUD is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CYFRONET-CLOUD is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Krakow, PL |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 08/2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 3 | Internal service database | 1 | 6 | 27 | 27 | 7 | 37 |
| CPU/hours | 253,294 | Accounting | 34,306 | 117,504 | 55,495 | 212,150 | 58,752 | 8,321,057 |
| No of countries reach | 3 | Check-in | 1 | 4 | 1 | 8 | 5 | 7 |
| Names of countries reach | FR, IT,PL | Check-in | UK | IT, PL, ES, UK | ID | Belgium, Greece, Indonesia, Italy, Poland, Spain, United Kingdom | Belgium, Greece, Italy, Poland, Spain | Croatia, Hungary, Italy, Netherlands, Poland, Spain, Ukraine |

### Assessment

CYFRONET-CLOUD-CPU is the installation of CYFRONET supporting the EGI Cloud Compute service in the EOSC Marketplace. This installation has delivered 8,799,264 CPU hours, surpassing the initially planned 8,500,000 during the complete project (100% of the available VA capacity for the installation was consumed). Two use cases from the Open Call helped to increase the consumption over the last period: Grapevine and Sciensano, both needing access to high performance resources that CYFRONET delivered. Besides these two use cases, the provider engaged with the vo.access.egi.eu VO that supports piloting activities.

## CYFRONET-CLOUD-Storage

|  |  |
| --- | --- |
| **Description** | CYFRONET-CLOUD is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CYFRONET-CLOUD is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | Krakow, PL |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | 08/2014 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users communities supported from EGI VOs | 3 | Internal service database | 1 | 1 | 1 | 1 | 1 | 1780 |
| TB/month | 120 | Accounting | 0.63 | 0.39 | 0.2 | 4 | 1.02 | 0 |
| No of countries reach | 3 | Check-in | 1 | 1 | 1 | 8 | 5 | 0 |
| Names of countries reach | FR, IT,PL | Check-in | United Kingdom | United Kingdom | Indonesia | Belgium, Greece, Indonesia, Italy, Poland, Spain, United Kingdom | Belgium, Greece, Italy, Poland, Spain | - |

### Assessment

CYFRONET-CLOUD-Storage is the associated installation to CYFRONET-CLOUD-CPU supporting the EGI Online Storage. This installation has delivered 1,785 TB month of the initially planned 1,800 during the complete project (99.18% of the available VA capacity for the installation was consumed). Similarly to the CPU installation, the allocated capacity was mainly consumed over the last five months of the project thanks to the enrollment of two use cases.

## IICT-BAS-CPU

|  |  |
| --- | --- |
| **Description** | The Institute of Information and Communication Technologies at the Bulgarian Academy of Sciences (IICT-BAS) has a leading position among the scientific institutions in Bulgaria in the fields of Grid, Cloud and HPC computing, linguistic and semantic technologies, intelligent systems, signal and image processing. The institute is operating the supercomputer system Avitohol, which took 331st place in the top 500 list in June 2015 with a peak performance of 264,2 Tflops. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Bulgaria |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | Jun 2015 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 150 | Internal service database | 0 | 0 | 0 | 0 | 0 | 0 |
| CPU/hours | 7,257,600 | Accounting | 0 | 0 | 0 | 0 | 0 | 0 |
| No of countries reach | 3 | Check-in | 0 | 0 | 0 | 0 | 0 | 0 |
| Names of countries reach | Bulgaria, Albania, Germany, Romania, Russia, Serbia, UK | Check-in | - | - | - | - | - | - |

### Assessment

The IICT-BAS-CPU installation was removed from the project as it the provider did not have the effort to integrate with the EGI infrastructure.

## IICT-BAS-Storage

|  |  |
| --- | --- |
| **Description** | The Institute of Information and Communication Technologies at the Bulgarian Academy of Sciences (IICT-BAS) has a leading position among the scientific institutions in Bulgaria in the fields of Grid, Cloud and HPC computing, linguistic and semantic technologies, intelligent systems, signal and image processing. The institute is operating the supercomputer system Avitohol, which took 331st place in the top 500 list in June 2015 with a peak performance of 264,2 Tflops. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | Bulgaria |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | June 2015 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 150 | Internal service database | 0 | 0 | 0 | 0 | 0 | 0 |
| TB/month | 180 | Accounting | 0 | 0 | 0 | 0 | 0 | 0 |
| No of countries reach | 3 | Check-in | 0 | 0 | 0 | 0 | 0 | 0 |
| Names of countries reach | Bulgaria, Albania, Germany, Romania, Russia, Serbia, UK | Check-in | - | - | - | - | - | - |

### Assessment

This installation is associated with IICT-BAS-CPU and as such has not been able to deliver any capacity.

## CLOUDIFIN-CPU

|  |  |
| --- | --- |
| **Description** | CLOUDIFIN is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CLOUDIFIN is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/cloud-compute/> |
| **Location** | Romania |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, training, webinars and hands-on sessions during conferences and events. |
| **Operational since** | Mar 2017 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 7 | Internal service database | 4 | 7 | 7 | 10 | 12 | 14 |
| CPU/hours | 17,849 | Accounting | 106,901 | 516,443 | 1,828,563 | 2,171,625 | 2,014,999 | 1,755,088 |
| No of countries reach | 2 | Check-in | 1 | 2 | 2 | 2 | 2 | 2 |
| Names of countries reach | RO, IT | Check-in | Romania | Iceland, Romania | Iceland, Romania | Iceland, Romania | Iceland, Romania | Iceland, Romania |

### Assessment

CLOUDIFIN-CPU is the installation of IFIN-HH supporting the EGI Cloud Compute service in the EOSC Marketplace. As the installation delivered already 49% of the available VA capacity at M15, the capacity was increased from 5,000,000 to 6,900,000 CPU hours. At M30, it delivered 8,393,619 CPU hours (100% of the available VA capacity for the installation was consumed). The following VOs were supported over the period: vo.access.egi.eu and perla-pv.ro, supporting 14 users from 2 countries.

## CLOUDIFIN-Storage

|  |  |
| --- | --- |
| **Description** | CLOUDIFIN is a federated IaaS Cloud provider of the EGI Cloud Compute service that offers users scalable and elastic resources on-demand controlled via APIs. CLOUDIFIN is a certified resource center of EGI, fully integrated with the federation. |
| **Task** | 3.3 |
| **URL** |  |
| **Service Category** | Infrastructure service |
| **Service Catalogue** | <https://www.egi.eu/services/online-storage/> |
| **Location** | Romania |
| **Duration** | M1-M30 |
| **Modality of access** | Services are free at the point of use. Access to the service require registration as an EGI user on Check-in and enrolment into a Virtual Organisation for authorisation |
| **Support offered** | Technical support is provided via the helpdesk central support team, and by the support team at the installation. EGI provides central documentation, trainings, webinars and hands-on sessions during conferences and events. |
| **Operational since** | Mar 2017 |
| **User definition** | Single researchers, small and big communities |

### Metrics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric name** | **Baseline** | **Define how measurement is done** | **Period 1 M1-M5** | **Period 2 M6-M10** | **Period 3 M11-M15** | **Period 4 M16-M20** | **Period 5 M21-M25** | **Period 6 M26-M30** |
| No of users | 7 | Internal service database | 2 | 7 | 7 | 10 | 12 | 14 |
| TB/month | 0.32 | Accounting | 5 | 0.96 | 1 | 37 | 29 | 29 |
| No of countries reach | 2 | Check-in | 1 | 2 | 2 | 2 | 2 | 2 |
| Names of countries reach | RO, IT | Check-in | Romania | Iceland, RO | Iceland, Romania | Iceland, Romania | Iceland, Romania | Iceland, Romania |

### Assessment

CLOUDIFIN-Storage is the associated installation to CLOUDIFIN-CPU (IFIN-HH) supporting the EGI Online Storage. As the use cases of this installation had minimal storage requirements, the available units were adjusted from 3,600 TB month 180 TB month. At M30 the installation delivered 113 TB months out of the 18 available (62.78% of the available VA capacity for the installation was consumed). Users and use cases for CLOUDIFIN-Storage are the same as CLOUDIFIN-CPU.

# Dissemination

In this section we report the list of events in the context of EGI-ACE that WP3 partners contributed to the project, reporting the number of attendees to measure the possible user interests.

*Table 5. Dissemination activities related to WP3 installations*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Type of Activity | Title | Date | Name of Event | Location | Type of Audience | Reach | Scale |
| Presentation | Infrastructure services: Highlights from the compute, data, security areas | 2021/02/05 | EGI-ACE public launch event | Online | Scientific Community, General Public | 250 | worldwide |
| Workshop | EGI-ACE Communities Workshop | 2021/02/16-17 | EGI-ACE Communities Workshop | Online | Scientific Community, General Public | 150 people | worldwide |
| Webinar | Managing Singularity, Docker and udocker containers, and Kubernetes clusters in the EGI Cloud | 2021/04/28 | EGI Webinar 2021 | Online | Scientific communities, and programmers who support research and education. | Num. of Participants: 39  Num. of Countries: 14 | worldwide |
| Webinar | Deploying virtual infrastructures with Infrastructure Manager (IM) | 2021/05/26 | EGI Webinar 2021 | Online | Scientific communities, for programmers and IT-service providers who support research and education. | Num. of Participants: 20  Num. of Countries: 10 | worldwide |
| Webinar | Using Dynamic DNS service in EGI Cloud infrastructure | 2021/06/16 | EGI Webinar 2021 | Online | Scientific communities, developers, integrators and end users | Num. of Participants: 20  Num. of Countries: 8 | worldwide |
| Webinar | Using EGI Cloud infrastructure with fedcloudclient | 2021/09/29 | EGI Webinar 2021 | Online | Scientific communities, developers, integrators and end users | Num. of Participants: 29  Num. of Countries: 13 |  |
| Presentation | Dealing with dynamic and mixed workloads | 2021/09/20-24 | HTCondor Workshop Autumn 2021 | Online | Developers, service admins, users | ~100 | Worldwide |
| Training event | Open stage - Show Us Your Toolbox | 2021/09/20-24 | HTCondor Workshop Autumn 2021 | Online | Developers, service admins, users | ~100 | Worldwide |
| Panel discussion | HTCondor philosophy and architecture | 2021/09/20-24 | HTCondor Workshop Autumn 2021 | Online | Developers, service admins, users | ~100 | Worldwide |
| Presentation | Running containers and Kubernetes in the EGI Federation | 2021/11/10 | ARCOS Symposium | Online | Other: Australian providers, supporters of use cases | 25 | Australia |
| Presentation | The EGI Federated Cloud: benefits for service providers and customers | 2021/10/19 | EGI Conference 2021 | Online | IT providers, Research Community reps. | 40 | Global  (mostly European) |
| Presentation | Using EGI Cloud infrastructure with fedcloudclient | 2021/10/20 | EGI Conference 2021 | Online | IT providers, Research Community reps. | 40 | Global  (mostly European) |
| Presentation | Using Dynamic DNS service in EGI Cloud infrastructure | 2021/10/20 | EGI Conference 2021 | Online | IT providers, Research Community reps. | 40 | Global  (mostly European) |
| Presentation | The EGI-ACE Cloud and HTC providers | 2021/10/20 | EGI Conference 2021 | Online | IT providers, Research Community reps. | 40 | Global  (mostly European) |
| Presentation | The expanding EGI computing landscape | 2022/03/16 | Open Science Grid All Hands Meeting | Online | Service providers and scientific user communities from the US |  | US |
| Presentation and panel | Cloud computing with the EGI Federated Infrastructure: Status and Future Outlook | 2022/06/01 | ISC High Performance 2022 |  | IT providers, Researchers | 100 | Global  (mostly European) |
| Presentation | Cloud and HPC Computing in the EGI Federated Infrastructure | 2022/07/13 | IEEE INTERNATIONAL SYMPOSIUM ON CONVERGENCE OF CLOUD & HPC | Barcelona, Spain | Researchers | 40 | Worldwide |
| Training session | Training: Infrastructure as Code to deploy scientific applications in EOSC | 2022/09/20 | EGI Conference 2022 | Prague, Czech Republic | Researchers, Scientists | 30 | Europe |
| Poster | Managed Kubernetes — Next Gen Academic Infrastructure? | 2022/09/20 | EGI Conference 2022 | Prague, Czech Republic | Researchers, Scientists | 30 | Europe |
| Presentation | Container execution and management at a European scale | 2023/06/20 | EGI Conference 2023 | Poznan, Poland | Researchers, Scientists, IT providers, Research Community reps. | 150 | Europe |
| Demo | FedCloud client and FedCloud generic services: Dynamic DNS and Secret management | 2023/06/20 | EGI Conference 2023 | Poznan, Poland | Researchers, Scientists, IT providers, Research Community reps. | 10 | Europe |
| Session | OpenStack: Experience, challenges , solutions to OpenStack operations in the EGI Federation | 2023/06/21 | EGI Conference 2023 | Poznan, Poland | IT providers | 50 | Europe |
| Presentation | Using FedCloud client to integrate external tools with EGI Federated Cloud | 2023/06/21 | EGI Conference 2023 | Poznan, Poland | IT providers | 50 | Europe |
| Training | Training: Processing Data from EOSC on EGI Compute resources training | 2023/06/22 | EGI Conference 2023 | Poznan, Poland | IT providers | 5 | Europe |

# Satisfaction

In this chapter we report the satisfaction on the WP3 installations are reported by EGI Customer interviews and the number of orders coming from the EOSC Portal.

## EGI Customer satisfaction reviews

EGI regularly interviews Communities using the services with an active Service Level Agreement (SLA), in order to measure the satisfaction and discuss possible issues. The level of satisfaction is measured from 1 (min) to 5 (max). For what concerns the first period of the EGI-ACE project the communities using EGI-ACE WP3 services interviewed are reported in table 6 (for those communities with several interviews in the period, only the last one is reported). Those issues or feature requests collected in the table are processed and added as technical requirements for the EGI services affected.

*Table 6. Communities interviewed during the M16-M30*

|  |  |  |  |
| --- | --- | --- | --- |
| Community | WP3 installations used | Level of satisfactions and comments | Issues/feature requests reported with WP3 installations |
| Fusion | EGI Cloud Compute | 5: very satisfied |  |
| EISCAT-3D | EGI Cloud Compute  EGI Online Storage | 5: very satisfied |  |
| OpenBioMaps | EGI Cloud Compute  EGI Online Storage | 5: Very satisfied | It is very complicated system, when it come to detailed integration, it's hard to understand different services' capacities, what can do and what couldn't. It is not easy to exploit the service potential. |
| ENES | EGI Cloud Compute  EGI Online Storage | 5: very satisfied  Unlike the initial legal difficulties in reaching an agreement for the integration with the Check-in, everything went well with no relevant issues preventing the service from provisioning and operating. |  |
| MINKE | EGI Cloud Compute  EGI Online Storage | 3. Somewhat satisfied  VMs were not reachable during the summer holidays due to a maintenance and the customer was not informed. This is a production service and it requires high monthly AVA/REL. | The granularity of the REL/AVA should be at least weekly (not monthly). |
| EMSO-ERIC | EGI Cloud Compute  EGI Online Storage | 4: Satisfied  Resources delivered as expected but there were downtime at INFN-CLOUD-BARI that impacted on the operation of some EMSO-ERIC services.  The new set-up IaaS at CESGA is suitable for EMSO (lower footprint). | Some level of automation would be desired to increase the quota allocated to the provider(s). |
| NBIS | EGI Cloud Compute  EGI Online Storage | 4: Satisfied  There was an issue at TR-FC1-ULAKBIM with the creation of the snapshots of VM.  Now solved. |  |
| OGC Sensor Things API for Citizen Science (Cos4Cloud project) | EGI Cloud Compute  EGI Online Storage | *4. Satisfied*  There was a temporary issue with the Ceph file system related to disk failure at IFCA in April 2022. |  |
| BELLE-II | EGI Cloud Compute  EGI Online Storage | 5: very satisfied |  |
| Terradue | EGI Cloud Compute  EGI Online Storage | 3: Somewhat satisfied  The customer had not time to full exploit the resources allocated by EGI, in particular due to dependencies of the original business case with the EGI Check-in (API automation) |  |
| Perovskite material studies | EGI Cloud Compute  EGI Online Storage | 5: very satisfied |  |
| WeNMR | EGI Cloud Compute  EGI Online Storage  EGI High-Throughput Compute | 5: very satisfied |  |
| Biomed | EGI Cloud Compute  EGI High Throughput Compute  EGI Online Storage | 5. Very satisfied – services run smoothly, less and less issues, things are going well |  |
| OBSEA | EGI Cloud Compute  EGI Online Storage | 5: very satisfied |  |
| CLARIN | EGI Cloud Compute  EGI Online Storage | 5: very satisfied |  |
| PLOCAN | EGI Cloud Compute  EGI Online Storage | 5: very satisfied | Understand the process better when setting up the VO, applying for services , lack of understanding to start with |
| BioISI | EGI Cloud Compute  EGI Online Storage  Infrastructure Manager | 5: very satisfied |  |
| Peachnote | EGI Cloud Compute  EGI Online Storage | 5. Very satisfied | Transfer speed between VMs and the Object Storage is not great, this was left as a general comment and will be reported as a suggestion for improvement while getting in touch with the provider. |
| GEO-DAB | EGI Cloud Compute  EGI Online Storage | 5: very satisfied |  |

## EOSC Portal orders

For the services that have been registered on the EOSC Portal, we report here the statistics of the orders during the project duration. EGI Cloud Compute is the service with more orders in the EOSC Portal during the M1-M30 period (14% of the total number of the orders placed within the EOSC Marketplace were submitted to this service).

*Table 7. Number of Orders from the EOSC Marketplace related to WP3 installations*

|  |  |
| --- | --- |
| EOSC Portal Service | Number of orders |
| EGI Cloud Compute | 78 |
| EGI Cloud Container Compute | 9 |
| EGI Online Storage | 20 |
| EGI High Throughput Compute | 3 |
| Infrastructure Manager | 5 |

1. <https://marketplace.eosc-portal.eu/services/egi-cloud-compute> [↑](#footnote-ref-1)
2. <https://marketplace.eosc-portal.eu/services/egi-high-throughput-compute> [↑](#footnote-ref-2)
3. <https://marketplace.eosc-portal.eu/services/infrastructure-manager-im> [↑](#footnote-ref-3)
4. <https://marketplace.eosc-portal.eu/services/dynamic-dns-service> [↑](#footnote-ref-4)
5. <https://indico.egi.eu/event/5559/> [↑](#footnote-ref-5)