KER 2: Services enabling federated computing in EOSC

Period 1 Review meeting, 24/05/2022

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Dissemination level: Public

Disclosing Party: Project Consortium

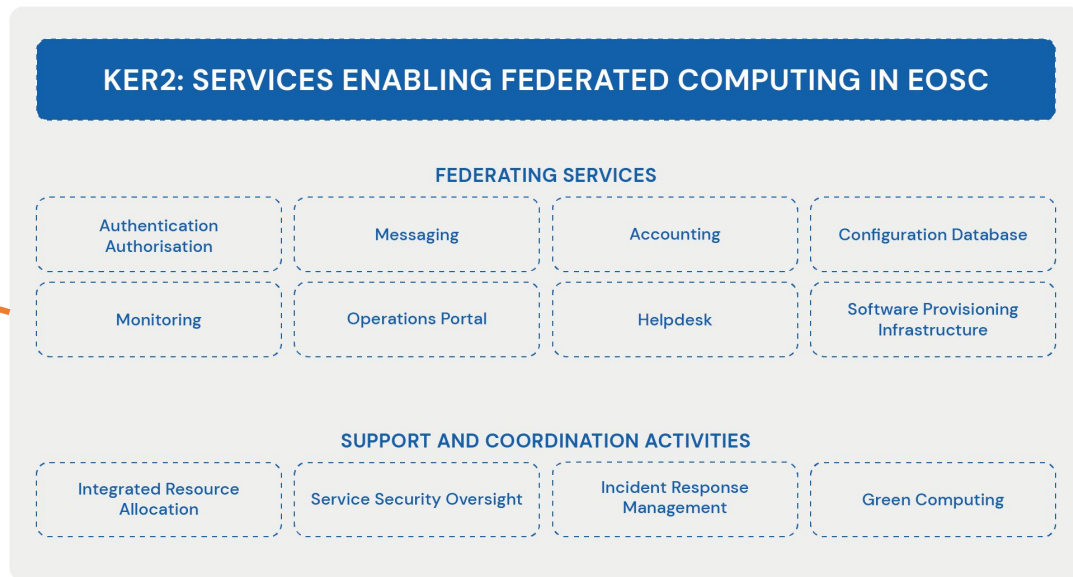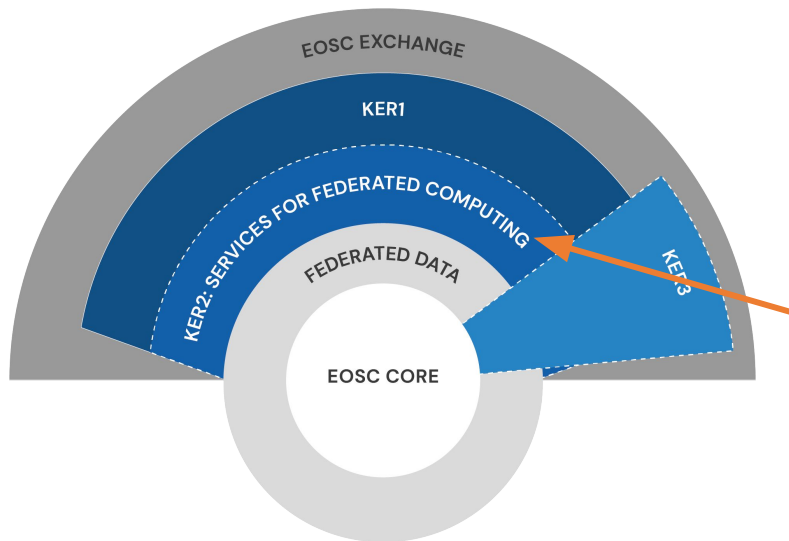**Recipient Party:** European Commission

Outline

- KER2 Overview and description
- Innovation
- Value Proposition
- Exploitation
- Dissemination and communication
- Impact
- Success stories
- Future plan
- Final take-away from KER2

KER 2 OVERVIEW
WP7 and T2.2 contribution

KER2: SERVICES ENABLING FEDERATED COMPUTING IN EOSC

FEDERATING SERVICES

Authentication Authorisation	Messaging	Accounting	Configuration Database
Monitoring	Operations Portal	Helpdesk	Software Provisioning Infrastructure

SUPPORT AND COORDINATION ACTIVITIES

Integrated Resource Allocation	Service Security Oversight	Incident Response Management	Green Computing

KER 2 DESCRIPTION

BRIEF DESCRIPTION	• Delivery of services enabling federated computing in EOSC
	   ○ Ensuring the efficient management of the EOSC Compute Platform as a federated environment
	   ○ Ensuring the correct operation of the various providers across administrative domains
	   ○ Implementing interoperability between the Platform and the EOSC Core
	   ○ Ensuring a simplified and seamless integration into the Compute Platform
	   ○ Best practices and training materials to help providers of the EOSC Compute Platform to improve energy efficiency at data centres.

USER GROUP	• e-Infrastructure Providers:
	   ○ Providers in the EOSC Compute platform (KER1)
	   ○ Providers of Thematic Services relying on the EOSC Compute Platform (KER3)

INNOVATION

- Technical services (Service Management Tools)
  - Operations Portal:
    - Dashboard for VO SLAs performance reports
    - Refactoring of the VO Identity Card
  - AAI - Check-in
    - Improved the EGI Federation Registry for registering Service Providers
    - Improvements to prepare the transition to Keycloak technology
  - Monitoring:
    - Summary view on RCs and endpoints failing the monitoring tests
  - Accounting records published through ARGO Message Service (AMS)

- Support and coordination activities
  - Raising the awareness of Green Computing aspects
  - New Known Errors Database (KEDB)

VALUE PROPOSITION

Providers in the EOSC Compute platform (KER1) and Thematic Services (KER3)

BEFORE

- A smaller user base due to need of local accounts to access the services

- Limited service monitoring capability

- Lack of knowledge for onboarding to EOSC

- Difficult to anticipate and match the demands of services by users

AFTER

- Increased user base and ease of access to services thanks to federated login

- Benefit from a suite of technical services and management processes that support federated operations

- Systematic mechanisms for onboarding to EOSC

- Customer relationship management supporting service orders handling

EXPLOITATION

- Providers in the EOSC Compute Platform and Thematic Service Providers are using the Service Management Tools enabling the federated computing and supporting the operations activities.
    - HTC, Cloud, HPC providers (WP3, WP7)
    - IaaS Federation Services (WP3)
    - Platform Services (WP4)
    - Federated Data Spaces (WP5)
    - Federated Data Access and Federated Compute Access Services (WP6)

DISSEMINATION AND COMMUNICATION

- Green Computing
  - Survey circulated to all EGI-ACE participants (Jul 2021)
    - 52 questions
    - Information about the current status over lowering the impact of the energy consumption on the environment and future plans

- HPC integration in EGI-ACE - Workshop at EGI Conference 2021 (Oct 2021)
- Cloud & HTC infrastructure integration workshop (Mar 2021)

- Security training - International Symposium on Grids & Clouds (ISGC) 2021 (Mar 2021)
  - Incident detection and handling
- Security Workshop - ISGC 2022 (Mar 2022)
  - Security with containers

- Webinars
  - Monitoring services with ARGO (May 2021)
  - How Green Is My Infrastructure? (Mar 2022)

IMPACT (I)

- **Number of tickets:** 5695 (Solved: 95%)
  - Incidents: 4104 (Solved: 97%)
  - Service requests: 1591 (Solved: 91%)
- **Tickets to Service Management Tools:**
  - Incidents: 487 (solved 97%)
  - Service requests: 469 (Solved: 95%)

- **Vulnerabilities:**
  - 30 advisories sent

- **Middleware:**
  - No of releases: 6
  - No of products: 20

- **Number of providers tracking green computing metrics**: 9 (target: 14)
- **Number of centres that have assigned a GC officer role** (with a mandate that is not limited to EGI-ACE): 3 (target 10)

- **Operational Level Agreements:** 27
- **Availability & Continuity plans:** 21
- **Capacity plans:** 14

IMPACT (II)

Federated resources

- Production Resource Centres (HTC, Cloud): 201
  - EGI FedCloud: 27 (15 with VA funding in EGI-ACE)
- 4 pilot HPC centres (T7.3)

Integrated in 2021:
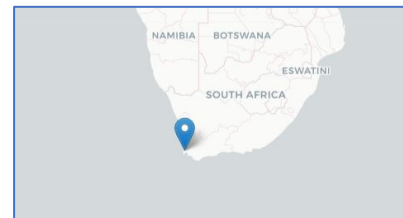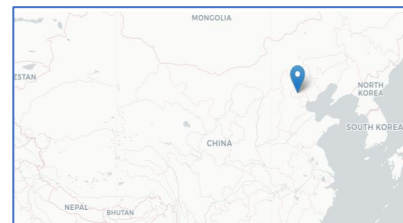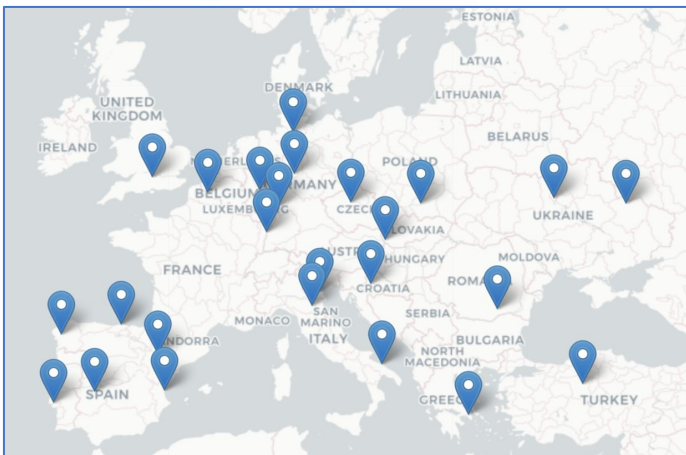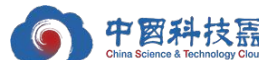

Cloud Compute

Cloud Container Compute

High-Throughput Compute

Online Storage

Integrated in 2022: IDIA Inter-University Institute for Data Intensive Astronomy

SUCCESS STORIES EXAMPLES

First HPC resources (CESGA) integrated with the Accounting system
- **50k CPUhours** delivered in March 2022
- Grapevine project (Agricultural Sciences)

Creation of Green Computing task force
- Kick-off meeting Dec 2021
- Meeting every 2 months
- 18 providers, 23 people
- Design of a new survey
- Planned a Workshop during EGI Conference 2022

Integration of WP3 (IaaS Federation Services), WP4 (Platform Services), WP6 (Federated Data Access and Federated Compute Access Services) with monitoring
- Performance according to the Service Level targets
- Deployed specific monitoring probes for Infrastructure Manager and DynamicDNS

Integration of cloud resources
- With AAI, Monitoring, Accounting, etc.
- Learn more from the Demo reporting the experience of INFN-CLOUD-CNAF scheduled for today (14:00)

FUTURE PLAN

- Continuing to collect and work on requirements for the Service Management tools according to the EGI-ACE needs
    - Deploy Keycloak as a new technology for EGI Check-in
    - Implementation of the Storage and GPU Accounting
    - New infrastructure for the middleware repository
- Creation of Green Computing best practices
    - Liaising with partners inside and outside the project
- Increase the maturity of the service suppliers in IT standards
    - all the staff involved in the operation of the services is trained to an adequate level of FitSM
    - providing guidelines to the suppliers to self-assess the status of their own SMS, with a particular focus on the interfaces with the EGI SMS.
- Regular update and evolution of the security policies and procedures
    - Involving HPC providers

Final take-away from KER2

Coordination and oversight of the EOSC Compute platform

- Services delivered through IT standards ISO20k and FitSM
- Monitoring providers' performance according to Service Level Targets defined in the agreements, and support to providers and users
- Regular middleware releases
- Handling with Service orders
- Integration of new providers
  - Cloud: CSTC, IDIA, INFN, GRNET, GSI
  - Installations in WP3, WP4, and WP6
- Requirements gathering according to EGI/EOSC Federation needs
- Green Computing discussions started
- 2 webinars, 3 workshops, 1 training, 1 survey

Thank you!

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