

European Union HORIZON 2020 PROGRAMME

# EOSC-hub / GEANT 4-2 Collaboration Agreement

Version 1.0, 28 June 2018



## Collaboration Agreement of the Projects:

EOSC-hub, Proposal 777536

EINFRA-12-2017(a) Secure and agile data and distributed computing e-infrastructures

The project vision is that at the end of 2020, EOSC-hub will offer researchers from all disciplines seamless, open access to the advanced digital capabilities, resources and expertise they need to collaborate and to carry out data- and computing-intensive science. EOSC-Hub will integrate, procure, operate, deliver and support services provided by public and commercial organizations and initiatives of pan-European and international relevance, and offers them to users and customers through a central service catalogue. EOSC-Hub aims to be an open, service-driven endeavour, inclusive to all stakeholders. The project runs from January 2018 for the duration of 36 months. The EOSC-hub project is coordinated by the EGI Foundation<sup>1</sup>.

GEANT4-2, Proposal 731122

H2020-IBASGA-INFRA-GÉANT-2016; Topic GÉANT 2016

The GN4 Phase 2 (GN4-2) project answers the H2020-IBASGA-INFRA-GÉANT -2016 (Topic GÉANT 2016) call, under the 68-month Framework Partnership Agreement (FPA) established between the GÉANT Consortium and the European Commission in April 2015. This second phase of implementing the FPA will help raise European research to the next level, promoting scientific excellence, access and re-use of research data. It will also drive European-wide cost efficiencies in scientific infrastructure through the promotion of interoperability on an unprecedented scale with other e-infrastructures. The GN4-2 project runs from April 2016 to December 2018 and will be followed by GN4-3 that will start January 2019 to December 2022. The GN4-2 project is coordinated by GÉANT Limited under a Specific Grant Agreement Research and Innovation Action (SGA-RIA).

Hereinafter also referred to as “the Grants”.

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<sup>1</sup>

<https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/einfra-12-2017.html>

The legal entities participating as beneficiaries in:

- The Grant Agreement N. 777536 (Acronym: EOSC-hub, Full title: Integrating and Managing Services for the European Open Science Cloud) hereinafter the "**EOSC-hub**"; and
- The Grant Agreement N. 731122 (Acronym: GN4-2, Full title: H2020-IBASGA-INFRA-GÉANT-2016; Topic GÉANT 2016) hereinafter the "**GN4-2**"

This Collaboration Agreement ('the Agreement') is between the following parties (the "Beneficiaries" or "Parties"):

**on the one part,**

the beneficiaries of the Complementary Grant Agreement N. 777536 (Acronym: **EOSC-hub**, Full title: Integrating and Managing Services for the European Open Science Cloud) hereinafter the "EOSC-hub", represented by STICHTING EGI (EGI Foundation), established in SCIENCE PARK 140, AMSTERDAM 1098 XG, Netherlands (the EOSC-hub Coordinator), represented for the purposes of signing the Agreement by its Managing Director, Yannick LEGRÉ.

**and on the other part,**

the beneficiaries of the Complementary Grant Agreement N. 731122 (Acronym: **GN4-2**, Full title: H2020-IBA-SGA-INFRA-GEANT-2016) hereinafter the "GN4-2" and in future the "GN4-3" project)", represented by GEANT association (the GN4-2 and future GN4-3 Coordinator), represented for the purpose of signing the Agreement by its Chief Programmes Officer, Matthew Scott.

The Agreement pertains to the Parties of the Grants. The activities of the Beneficiaries contributing to the Joint Activity Plan of the Agreement, complement those already defined individually in the work plans of the two Grants. The Parties will amend the Agreement when the GN4-3 project takes over from GN4-2.

The Parties have agreed to enter into the Collaboration Agreement under the terms and conditions below.

By signing the Agreement through their Coordinators, the Parties accept the Agreement and agree to implement it under their own responsibility and in accordance with the Agreement, with all the obligations and conditions it sets out.

The Agreement is composed of:

Terms and Conditions

- Article 1. Definitions
- Article 2. Purpose and Relationship with Consortium Agreements
- Article 3. Work Plan
- Article 4. Coordination and Communication
- Article 5. Rights of Access to Background
- Article 6. Confidentiality
- Article 7. Access to Deliverables
- Article 8. Dissemination and Publications
- Article 9. Intellectual Property Rights
- Article 10. Funding
- Article 11. Liability, Warranties and Penalties
- Article 12. Annexes
- Article 13. Language
- Article 14. Amendments
- Article 15. Applicable Law and Settlement of Disputes
- Article 16. Entry into Force, Term, Termination
- Annex 1. Joint Activity Plan

## TERMS and CONDITIONS

### Article 1. Definitions

For the purpose of this Collaboration Agreement - hereinafter referred to as “CA” - the following definitions are relevant:

- The terms defined in the EGI glossary <http://go.egi.eu/glossary>
- The terms defined in the GÉANT glossary <https://www.GÉANT.org/Resources/Lists/Glossary/AllItems.aspx>

**Joint Activity Plan:** refers to activities to be jointly conducted by the Collaborating Grants and described in Annex 1 of this Collaboration Agreement.

**Cross-project Executive Office:** the governance structure responsible for organizing the liaison between the Grants, and for managing the alignment of activities to this Collaboration Agreement.

### Article 2. Purpose and Relationship with Consortium Agreements

The purpose of this Collaboration Agreement, which shall be implemented in accordance with the provisions of the respective Grant Agreements signed by each Beneficiary, is:

- to define rights and obligations of the Parties relating to their coordination and collaboration, and
- to implement the provisions of the respective Grant Agreements concerning amongst other things Access Rights relating to Results and Background.

Nothing in this Collaboration Agreement shall be construed to prevent all Parties of one grant from agreeing (in the respective Consortium Agreement) to additional, supplementing or deviating Access Rights (including conditions thereof) or confidentiality obligations, provided that such obligations shall apply only to the beneficiaries of the applicable grant and their participation in the respective Grant. It is further understood that in the event of a conflict, the terms and conditions of the Consortium Agreement of the Grants shall prevail over the terms and conditions of this Collaboration Agreement, but only with respect to and among the Parties.

## Article 3. Work Plan

The Parties contribute to enable the vision of providing European scientists and international collaboration for sustainable distributed computing services to support their work. The specific activities to be carried out in the framework of the collaboration are listed in relationship to the Grants, and are defined in Annex 1 of this Collaboration Agreement.

## Article 4. Coordination and Communication

The execution of activities that only pertain to the Grants, will be internally coordinated by the respective Grants according to their governance structures and processes.

The execution of the Joint Activity Plan is a responsibility of the Cross-project Executive Office (Article 3.1).

### **3.1 Cross-project Executive Office**

The execution of the Joint Activity plan (Annex 1) will be jointly coordinated by the Cross-project Executive Office, the governance structure responsible for organizing the liaison between the Grants for managing the alignment of activities to this Collaboration Agreement.

Composition. The Cross-project Executive Office members are the members of the Activity Management Board of EOSC-hub as defined in the EOSC-hub Consortium Agreement, and members of the Project Management Team of GN4-2.

The Cross-project Executive Office is coordinated by the chairs of the Activity Management Board of EOSC-hub and Work Package leader for Outreach for GN4-2. These are responsible for monitoring of the execution of the Joint Activity Plan. These can delegate coordination of parts of the Joint Activity Plan to working groups as applicable.

Capacity: The Cross-project Executive Office monitors the progress of the Joint Activity Plan execution with the support of the Joint Activity Plan Task Coordinators on a quarterly basis.

Meetings: Meetings of the Cross-project Executive Office are held once per year.

### **3.2 Coordination**

Each task of the Joint Activity Plan, is jointly coordinated by one EOSC-hub coordinator and one GN4-2 coordinator – the “Task Coordinators”.

Joint working groups with participation of the Beneficiaries will be established to carry out collaborative work in areas assigned to them by the Parties referred to in Annex 1 (Joint Work Plan) and to make recommendations to the Parties.

### **3.3 Communication**

The Parties shall keep each other informed on their respective activities and on their progress and shall consult regularly on areas offering potential for further cooperation.

### **3.4 Escalation**

Questions of principle or problems that cannot be solved by the Cross-project Executive Office, are escalated to Coordinators of the Grants.

## **Article 5. Rights of Access to Background**

In case a Party or its Affiliated Entity requests Access Rights to Background, the granting of such Access Rights shall be at the discretion of the owning Party and subject to written agreement.

## **Article 6. Confidentiality**

All information in whatever form or mode of communication, which is disclosed by a Party (the "Disclosing Party") to any other Party (the "Recipient") in connection with the Joint Activity Plan during its implementation, and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within fifteen (15) calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is "Confidential Information".

Confidential Information will neither be used, duplicated in whole or in part by the receiving Party for any purpose other than the implementation of this Collaboration Agreement, unless there is other agreement.

Each Party shall take reasonable precautions to prevent disclosure of the other Parties' Confidential Information to other persons than those who have need to know for the purpose of this Collaboration Agreement and shall ensure that such persons shall be bound by the provisions of this Collaboration Agreement. Any release of Confidential Information, when considered necessary, to any person other than the Parties shall be approved in writing by the disclosing Party.

Any Confidential Information disclosed by one Party to the other shall remain property of the disclosing Party and the receiving Party shall upon request of the disclosing Party, or as soon as the purpose of disclosure is achieved, or in case of termination of this Collaboration Agreement, either return any Confidential Information to the disclosing Party or certify in writing the disclosing Party that such Confidential Information has been destroyed.

The above obligations with respect to using Confidential Information are not applicable if the receiving Party can demonstrate:

- The information has come into public domain prior to, or after, the disclosure
- Was already in possession of the receiving Party without any obligation of confidentiality.
- Has been published without violation of this Collaboration Agreement.
- Is approved for release or use by written authorization of the disclosing Party.

## Article 7. Access to Deliverables, Milestones and Results

In the context of the Joint Activity Plan and the Grants, each Party will indicate the dissemination level of the deliverables and milestones and Results, as follows:

- Public fully open (PU) or
- Confidential (CO) restricted under conditions, as described in the MGA, only available internally to a group of Recipients within the Complementary Grant consortia.  
Confidential deliverables, milestones and Results provide information about the Disclosing Party and the intended group of Recipients.

Release of CO deliverables, milestones and Results to parties other than the indicated group of Recipients, is upon request and requires the approval of the Cross-project Executive Office and of the Disclosing Parties.

## Article 8. Dissemination and Publications

The Parties acknowledge their obligations taken by their Grant Agreements and by the Joint Activity Plan to disseminate their results, and the task to support and promote the coherent and coordinated dissemination of information on activities such as joint events and workshops.

The Parties shall support efforts by providing relevant inputs and ensuring attendance at events. No Party is allowed to publish or allow the publishing of the other Party's data that constitute Results, Background or Confidential Information unless the owner Party agrees to the publication.

## Article 9. Intellectual Property Rights

### Exploitation and Dissemination of Results

The Parties give each other — under fair and reasonable conditions — access to results of this Collaboration Agreement needed for exploiting their own results.



## Ownership of Results

Results are owned by the Party that generates them.

## Joint Ownership by several Parties

Joint ownership is governed by Article 26.2 of the Grant Agreement.

Two or more beneficiaries own results jointly if:

(a) they have jointly generated them and

(b) it is not possible to:

- Establish the respective contribution of each beneficiary, or
- Separate them for the purpose of applying for, obtaining or maintaining their protection.

The joint owners must agree (in writing) on the allocation and terms of exercise of their joint ownership ('joint ownership agreement'), to ensure compliance with their obligations under this Collaboration Agreement.

Unless otherwise agreed:

- Each of the joint owners shall be entitled to use their jointly owned Results for non-commercial research activities on a royalty-free basis, and without requiring the prior consent of the other joint owner(s), and
- Each of the joint owners shall be entitled to otherwise commercially exploit the jointly owned Results and to grant non-exclusive licenses to third parties (without any right to sub-license), if the other joint owners are given:
  - (a) at least 45 calendar days advance notice; and
  - (b) Fair and Reasonable compensation.

## Article 10. Funding

Each Party shall bear the costs of discharging its respective responsibilities under this CA, including travel and subsistence of its own personnel and transportation of goods and equipment and associated documentation, unless otherwise agreed in this CA. Each Party shall make available free of charge to the other Party any office/meeting space needed for the joint activities.

The Parties' obligations hereunder are subject to their respective funding procedures and the availability of appropriated funds. Should either Party encounter budgetary problems in the course of its respective internal procedures that may affect the activities carried out under this CA, the Party shall notify and consult with the other Party in a timely manner in order to minimise the negative impact of such problems on the cooperation. The Parties shall jointly look for mutually agreeable solutions.

In order to reduce the impact on travel costs, face-to-face meetings should be co-located with other events where participants are likely to attend. Meeting via teleconferences should be considered when the nature of the discussion does not strictly require a face-to-face presence.

## Article 11. Liability, Warranties and Penalties

Each Party agrees to a cross waiver of liability pursuant to which each Party waives all claims and shall take no recourse against the other Party, or the other Party's employees based on damage arising out of the implementation of this Collaboration Agreement.

This waiver of liability shall not be applicable to:

- Claims for damage caused by wilful misconduct or gross negligence.
- Intellectual property claims.

Subject to the specific undertakings provided by this Collaboration Agreement, each Party shall be solely liable for any loss, damage or injury to third parties under this Collaboration Agreement.

## Article 12. Annexes

Annexes are an integral part of the Agreement. Rights and obligations accepted by the Parties, are applicable to them.

Annexes are amended following the provisions of Article 14.

## Article 13: Language

The language for this CA, its interpretation and all cooperative activities foreseen for its implementation, is English.

## Article 14. Amendments

All amendments or changes of this Agreement shall be valid only if made in writing and signed by an authorized signatory of each of the Parties.

## Article 15. Applicable Law and Settlement of Disputes

Given the scope of the collaboration, we do not foresee any areas of structural dispute.

However, any dispute, controversy or claim arising under, out of or relating to this Collaboration Agreement and any subsequent amendments of this Collaboration Agreement, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be submitted to mediation in accordance with the WIPO Mediation Rules. The place of mediation shall be Brussels unless otherwise agreed upon. The language to be used in the mediation shall be English unless otherwise agreed upon. The Parties undertake not to put an end to the mediation before the introductory statement made by each Party in joint session.

Should the mediation fail to bring about a full agreement between the Parties putting an end to the dispute, the courts of Brussels shall have exclusive jurisdiction, except for any disputes involving intergovernmental organisations.

Should the dispute involve an intergovernmental organization, the Parties shall resolve the dispute, upon the filing of a Request for Arbitration by either Party, be referred to and finally determined by arbitration in accordance with the WIPO Expedited Arbitration Rules. The place of arbitration shall be Brussels unless otherwise agreed upon. The language to be used in the arbitral proceedings shall be English unless otherwise agreed upon. The award of the arbitration will be final and binding upon the Parties. The enforcement of the award of such arbitration shall be governed in accordance with the rules in force in the State in which it is to be executed.

## Article 16. Entry into Force, Term, Termination

This CA will enter into force when signed by the authorised representatives of the Parties and shall remain in force until completion of the activities identified in the Joint Activity Plan, or upon termination of the projects in which the Parties participate, or upon three (3) months prior written notice by one Party to the other. In the event of termination, the parties shall endeavour to reach agreement on terms and conditions to minimise negative impacts on the other Party. In the event of the continuation of the present cooperation, the Agreement may be extended and/or amended by mutual agreement in writing.

IN WITNESS WHEREOF, the Parties have caused their duly authorised representatives to sign this Collaboration Agreement, in the English language. The following agree to the terms and conditions of this CA:

SIGNATURES

For the EOSC-hub Coordinator

For the GN4-2 Coordinator

(Yannick Legre

(Erik Huizer

Managing Director,  
EGI Foundation)

CEO,  
GÉANT Association)

Signed by Yannick Legre and Erik Huizer on 03 July 2018

# Annex 1. Joint Activity Plan

Annex 1 presents the activities tasks that form the EOSC-hub/GN4-2 Joint Activity Plan.

The joint activity plan includes six activities and a number of tasks per activity:

- JA1: [Strategy and Business Development](#)
- JA2: [Innovation Management, Communication and Stakeholder Engagement](#)
- JA3: [Federated Service Management](#)
- JA4: [AAI Interoperability and Service Integration](#)
- JA5: [Cloud Interoperability and Service Integration](#)
- JA6: [Technical Coordination](#)

The Results and activities of the Joint Activity Plan are periodically reported upon, and described annually in a report of the cross project Executive office.

The Joint Activity Plan described in Annex 1 of the Agreement, defines milestones and the related timeline.

# JA1 Service Portfolio and Roadmap Alignment

EOSC-hub coordination: Sergio Andreozzi/EGI Foundation, T2.1  
GEANT project coordination: Matthew Scott, Chief Programmes Officer, NA1 and Annabel Grant, NA3

## Objectives.

- To coordinate the EOSC-hub and GN4-2 service roadmaps and the management of the service portfolios of the two projects.
- To ensure that relevant GN4-2 and EOSC-hub are added to the projects' service catalogues.
- To ensure information sharing about project activities and plans, and identify new opportunities of collaborations during the course of the projects.

## Benefits.

- Coordinating development of products and provisioning of services
- Sharing of information between projects
- Integration of relevant GN4-2 products and services to the EOSC-hub catalogue and marketplace in a seamless manner.

**Services involved.** To be defined during the course of the collaboration

## Activities

Subtask Number	Short description	Workplan	EOSC-hub tasks	GN4-2 project tasks
JA1.1.1	Coordinated service roadmapping and service portfolio management	Regular meetings are held (at least on a annual basis) to share information about service roadmaps and align them	T2.2	Service co-ordinator

JA1.1.2	Service integration	<p>Integration of relevant GN4-2 services to the EOSC-hub service portfolio</p> <p>Addition of relevant EOSC-hub services to the GN4 service portfolio</p> <p>Access provisioning through the EOSC-hub marketplace</p> <p>Collaboration on the definition of Rules of Participation to the EOSC-hub service portfolio</p>	T2.2	Service co-ordinator and GN4-2 Programme manager
JA1.1.3	Information sharing on project activities and results	<p>Information about results and progress of the two projects is regularly shared</p> <p>Opportunities for new collaborations are actively sought for</p>	T1.2	Programme manager and Outreach activity leader

### Joint Activity Milestones

JAM	Description	Timeline mm/yyyy
JAM1.1	Information is made available about service roadmaps and status of the EOSC-hub and GN4-2 (and following projects) respective service portfolios at yearly meetings	12/2018 12/2019 12/2020
JAM1.2	Relevant GEANT and EOSC-hub services to be added to the project service portfolios are assessed; a service integration plan into the portfolios is defined as applicable	06/2019 06/2020
JAM1.3	Project information (activities, results, plans) is shared on an annual basis	12/2018 12/2019 12/2020





# JA2: Communication, Events, Training and Engagement

## JA2.1 Communications

EOSC-hub coordination: T3.3 / Sara Coelho  
GEANT project coordination: NA2.1/Paul Maurice

**Objectives.** Building on the ongoing collaboration between the EOSC-hub and GN4-2 communications teams, this task will engage in joint activities to maximise promotion of the benefits of the cooperation between projects.

**Benefits.** A clearly communicated message to EOSC users about collaborations across e-infrastructures to benefit researchers.

**Services and Products involved.**

Potentially all services and products of the Grants.

**Activities**

Subtask Number	Short description	Workplan	EOSC-hub tasks	GN4-2 project tasks
JA2.1	Promotion of EOSC-hub and GEANT service catalogues	Promotion of the project results and service catalogues on the project websites, in the EOSC-hub Marketplace, and through publications. This activity will leverage information sharing efforts on results and plans taking place in JA1	Promotion of GN4-2 services and products in the project communication channels and at events	Promotion of EOSC-hub services on the GN4-2 communication channels including one publication per year, and at national/E

				European/international events
JA2.2	Promotion of events & relevant news of the two projects	<p>1 joint GEANT/EOSC-hub article per year to be included in the EOSC-hub magazine and in GEANT's CONNECT magazine</p> <p>Publication of GEANT news and events relevant to the EOSC-hub target communities (at national, European and international level) on the EOSC-hub website</p>	WP3	NA2 Events and Communications
JA2.3	Joint case studies and articles	<p>Identify and write case studies about research outputs made possible thanks to GN4-2 and EOSC-hub services</p> <p>Work with engagement task to identify best case studies.</p>	WP3	NA3 T2 and NA2 Communications

## JA2.2 Events

EOSC-hub coordination: Sara Garavelli/WP3  
GEANT project coordination: Anna Everitt/Steffie Bosman NA2

**Objectives.** The scope of this activity is to organise joint events and coordinate the participation of the two initiatives at major relevant events/conferences.

**Benefits.** Maximize the outreach to the target stakeholders for both initiatives and establish new synergies.

**Services and Products involved.** All

**Activities**

Subtask Number	Short description	Workplan	EOSC-hub tasks	GN4-2 project tasks
JA2.2.1	Coordinated participation in National and European-level events	<p>Joint presence at European events of common relevant [ Identification of relevant events; Preparation of joint sessions/workshops; identification of speakers that could contribute to the event; support for the preparation of the Joint exhibition booth</p> <p>Coordinated participation at national events sponsored by NRENs and NGIs</p>	T3.4	NA2 Events task to meet regularly - at least every 4 to 6 weeks to ensure alignment of events calendars and discuss joint events.
JA2.2.2	Co-organisation of joint events	<p>DI4R conference series 2018, 2019, 2020 (programme, logistics, speakers &amp; stakeholder engagement)</p> <p>Joint e-infrastructure thematic events</p>	T3.4	NA2 task 3

## JA2.3 Training

EOSC-hub coordination: WP11/EGI Foundation (Giuseppe La Rocca)  
GEANT project coordination: Irina Mikhailava, NA1

**Objectives.** Coordinated training in service/product areas relevant to EOSC-Hub and GN4-2

**Benefits.** The EOSC-hub and GN4-2 communities cooperate on joint trainings and workshops in areas of mutual benefit.

**Services and Products involved.** All



**Benefits.** Jointly working with relevant stakeholders to minimise fragmentation by ensuring effective coordination.

**Services involved.** Potentially all services

#### Activities

Subtask Number	Short description	Workplan	EOSC-hub tasks	GN4-2 project tasks
JA2.4.1	Mutual participation to the main GN4-2/EOSC-hub events targeting common stakeholders	Attendance of project personnel at annual project conferences and other relevant events organized at national, regional, and European level e.g. TNC Conference and EOSC-hub weeks, workshops & of GÉANT personnel at EOSC-hub weeks	T3.2 + other WPs	NA3 Task 2
JA2.4.2	Collaboration for coordinated technical support to user communities relevant to both projects	Collaboration of EOSC-hub and GEANT service and technology providers to support of communities of common interest  This activity leverages the development of joint use cases taking place in JA2.1	WP10 WP11	NA3 Task 2
JA2.4.3	Collaboration to federate new providers into EOSC-hub	Organise service provider workshops (after the EOSC-hub Rules of Participation are defined) <sup>2</sup> and feedback outcomes into JA2.1	T3.2 T3.4 T4.1	NA3 Task 2 and NA2 Task 1

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<sup>2</sup> Where service providers are 'national providers' GEANT would bring in support from the local NRENs, where providers are 'Thematic' GEANT would directly support.

## Joint Activity Milestones

JAM	Description	Timeline mm/yyyy
JAM2.1	Joint communications plan (updated annually)	QR3 2018 QR4 2019 QR4 2019
JAM2.2	Definition of joint events programme (to be updated annually) and implementation. Includes events at national/regional/European/international level like DI4R, service provider workshops and co-design workshops	QR3 2018 QR4 2019 QR4 2020
JAM2.3	Definition of joint training programme (to be updated annually) and implementation	QR3 2018 QR4 2019 QR4 2019
JAM2.4	Definition of joint engagement programme (to be updated annually) and implementation plan	QR3 2018 QR4 2019 QR4 2019

# JA3: Federated Service Management

## JA3.1 IT Security Management

EOSC-hub coordination: Dave Kelsey, T4.4/STFC  
GEANT project coordination: Toby Rodwell, Service Assurance; Sigita Jurkynaite, Partner Relations, Evangelos Spatharas, Head of Security

### Objectives

There is significant overlap in exposure to security events between the EOSC-Hub service providers, GN4 services and infrastructure, and the communities. Operational security policies and procedures should be aligned between the entities potentially affected by any security event. In addition, such information exchange should be prepared and the relevant mechanisms therefore maintained, in advance of any 'real' incident. This in particular holds for the distributed research and academic environment, and it spans network, service, and federated identity management entities.

Mechanisms will be put in place both to enhance (continued) collaboration as well as to augment capabilities that support the analysis and response to future incidents in the respective infrastructures.

### Benefits.

Improvement of IT security management and service management across different infrastructures, improved quality of service

### Services and products involved.

All EOSC-hub and GEANT services and infrastructures

### Activities

Subtask Number	Short description	Workplan	EOSC-hub tasks	GEANT project tasks

JA3.1.1	Coordinated security operations and policy management via WISE	Alignment of ISM policies and practices, including risk assessment (continuous activity)	WP4.4	NA3
JA3.1.2	Exchange of pertinent incident response information for FIM	Establishment of trust liaisonship (Q4 2018). Establish process for information exchange (Q1 2019)	WP4.4	6/SA3 (NSHaRP)

## JA3.2 Coordinated Incident Management

EOSC-hub coordination: Dave Kelsey, T4.4/STFC  
GEANT project coordination: Lead T. Rodwell and N. Harris, GN4-2 security co-ordinator and JRA3

Task description: objectives, benefits and services/products involved (as applicable)

### **Objectives.**

There is significant overlap in exposure to security events between the EOSC-Hub service providers, GN4 services and infrastructure, and the communities.

Mechanisms will be put in place both to enhance (continued) collaboration as well as to augment capabilities that support the analysis and response to future incidents in the respective infrastructures.

These mechanisms should ensure that:

- Coordinated management of incidents via joint procedures for incident response is in place.
- Appropriate support is provided to eduGAIN for security-related requests and incidents.
- Exchange of best practices takes place and training opportunities are exploited on service management and support tools, including network activity monitoring.



**Benefits.** Through increased collaboration, information exchange during incidents, and by ensuring that support and response structures are exercised regularly, the overall security stance is improved both for the benefit of the communities and thematic services in EOSC-Hub, as well as for the service providers (where increased access to network events and flow data helps identify the extent of the incident) and network providers (who gain information on user community relationship and predictive information on access patterns not otherwise inferable from network data alone).

**Services and products involved.** Potentially all EOSC-hub and GN4 services and infrastructures

#### Activities

Subtask Number	Short description	Workplan	EOSC-hub tasks	GEANT project tasks
JA3.2.1	Coordinated management of incidents in the areas of network and AAI	Definition of joint incident management procedures. Depends on JA3.1.1	WP4.4	SA3
JA3.2.2	Security incident response preparation and readiness for FIM	Support for deployment for Sirtfi and Sirtfi communications challenges in eduGAIN and exchange of readiness status information for incident response (continuous).  EOSC-hub adoption of defined processes to involve the eduGAIN Support Desk in security incidents (Q3 2018) - in conjunction with AARC2  Support to eduGAIN - requests and incidents and coordinating participation in Sirtfi	WP4.4	JRA3

### JA3.3 Tools for service management

EOSC-hub coordination: Matthew Viljoen/WP4 and Pavel Weber/WP5  
GEANT project coordination: SA3 Toby Rodwell and Service Co-ordinator of GEANT project Shaun Cairns and Michelle Williams, Service Product Manager

**Objectives.** The raison d'être of both EOSC-hub and GN4-2 is service delivery and the key to efficient delivery of quality services is consistent and effective IT service management. This is a key aspect in EOSC-hub with a work package dedicated to its development (WP4). There are potential opportunities for dissemination and increased adoption of best practice regarding IT service management across EOSC-hub and GN4, as well as scope for using commons solutions in order to facilitate this. JA3 is aimed at the sharing of information and best practice regarding IT service management and identifying areas that can be improved and collaborating in order to do this.

**Benefits.** Effective IT service management contributes to efficient service delivery within both EOSC-hub and GN4. This in turn is beneficial to end users as well as both organizations delivering the services.

**Services involved.** Potentially all EOSC-hub and GN4 services

#### Activities

Subtask Number	Short description	Workplan	EOSC-hub tasks	GN4 project tasks
JA3.3.1	Improved Service Management training and awareness	Identification of key personnel that would benefit from Service Management training and awareness, including required training and promotion of awareness	WP11.3	GEANT project training co-ordinator

JA3.3.2	Identification of usage of common tools for Service Management	<p>Assessment of existing tools used for Service Management plus a proposal of whether there is scope for adopting common tools.</p> <p>Exchange of information about network activities monitoring will be evaluated as a further field of collaboration. The goal of this activity is to early spot malicious activities, for example in the context of cloud services, and provide the information promptly to the service provider, or the EOSC-hub security coordination, or to feed the information into automatic security monitoring tools run by EOSC-hub</p>	WP4 and WP5 Lead: M. Viljoen P. Weber	NA1 Lead: S. Cairns  SA3 lead Toby Rodwell
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### Joint Activity Milestones

JAM	Description	Timeline mm/yyyy
JA3.1	Security incident response procedures and readiness for FIM prepared	09/2018
JA3.2	Trust liaison and information exchange process in place for FIM incident response	03/2019
JA3.3	Joint incident management procedures in place	06/2019
JA3.4	Identification of cross-project service management training needs and opportunities	06/2019
JA3.5	Coordinated incident response test involving EOSC-hub and GN4 services	12/2019

# JA4: AAI Interoperability and Service Integration

EOSC-hub coordination: Nicolas Liampotis, WP5.1/EGI.eu  
GEANT project coordination: Christos Kanellopoulos, JRA3

## JA4.1 Interoperability of federated AAI solutions

Involved tasks and work packages:

- EOSC-hub tasks and work packages: T4.4, T5.1, T6.1, WP10
- GN4: JRA3, SA2

### JA4 Terminology

**AAI service:** A service that enables an organization to manage the authentication and authorization for access to digital resources among its users.

**AAI Service Component (hereinafter also “Component”):** Logical part of an AAI service that provides a function enabling or enhancing an AAI service.

**AAI Solution:** An integrated set of specific service components that altogether provide an AAI service.

**Community AAI:** An AAI service that also provides Community membership management. .

**e-Infrastructure SP Proxy:** An AAI service of an e-Infrastructure that enables users to access resources offered by Service Providers connected to that e-Infrastructure.

**EOSC-hub AAI Service:** The combination of all e-Infrastructure SP Proxies and Community AAI services that are part of EOSC-hub.

**AAI Service Instance:** A specific AAI service operated by a given provider.

### Objectives and benefits

The EOSC-hub Authentication and Authorization Infrastructure (AAI) is expected to provide a consistent system with which communities can integrate. Following the approach of the AARC Blueprint Architecture (BPA), the components of which it is composed, may vary depending on the community, its structure, and its use of e-Infrastructure services. GN4-2 will collaborate with EOSC-hub T5.1 and T6.1 (and work jointly through WP10) on the design, implementation and evolution of the EOSC-hub AAI Service Components and the available AAI service offerings

leveraging pertinent combinations of these Components for the respective EOSC-hub communities.

In this regard, the GÉANT Proxy Identity Hub, as the GÉANT e-Infrastructure SP Proxy, will complement the EGI Check-in and EUDAT B2ACCESS e-Infrastructure SP proxies as services available in the EOSC-hub AAI. Also, GÉANT eduTEAMS (as a shared multi-tenant and/or in a stand-alone model) will be made available as an AAI service and/or component, similar to and alongside those AAI services/components already listed explicitly in the EOSC-hub - such as INDIGO IAM, EGI Check-in, and EUDAT B2ACCESS - for implementing Community AAls as part of the EOSC-hub AAI service – without aiming to impact any existing relationships between a community and an AAI service provider.

Interoperability work between GÉANT eduTEAMS and the other e-Infrastructure SP proxies in the EOSC-hub AAI (B2ACCESS and Check-in) will take place, so that communities using GÉANT eduTEAMS for their Community AAI will be able to access all resources available in EOSC-hub, in similar manner to communities using any of B2ACCESS, Check-in, IAM and PERUN in that role. Similarly, interoperability work between EGI Check-in, EUDAT B2ACCESS, INDIGO IAM and PERUN, in their community AAI role, with the GÉANT Proxy Identity Hub as the GÉANT e-Infrastructure SP Proxy will take place, so that communities using any of those solutions for their Community AAI, will be able to access GÉANT resources provided through the GÉANT e-Infrastructure SP proxy.

As part of the collaboration between GN4-2 and EOSC-hub, the two projects will work on the interoperability between the GEANT Step-up Authentication Service and the EOSC-hub AAI, so that communities and service providers in EOSC-hub can use multi-factor authentication.

In addition, GN4-2 and EOSC-hub will investigate the possibility of creating bespoke AAI Solutions, which might include individual Components from the GÉANT eduTEAMS, EGI Check-in, INDIGO IAM, EUDAT B2ACCESS, and PERUN. Both EOSC-hub and GN4 will endeavour that such consistent bespoke solutions are promoted, operated and supported in a coordinated manner to all communities that wish to leverage the EOSC-hub AAI Service. Pro-active exchange of information will take place within this collaboration regarding community AAI requirements of which either EOSC-hub or GN4 become aware, so that communities can benefit from consistent offerings.

In support of these AAI solutions for the communities, GN4 and EOSC-hub will work on implementing AARC recommendations and other relevant alignments that facilitate the use of eduGAIN and federated AAI for research and thematic services, both for technical interoperability (identifier and attribute harmonisation) as well as for policy and assurance (such as multi-factor authentication services and AUP alignment). Emphasising the need for a consistent AAI experience by the communities, GN4 and EOSC-hub WP4 will work on incident and service request management activities in terms of advance access to status information on and joint issue resolution for relevant GN4 service components.

**Services and components involved.**

- EOSC-hub AAI: B2ACCESS, Check-in, IAM, and Perun, and research community AAI components from WP7, WP8 and WP9
- GN4: eduGAIN and its evolution, the Proxy Identity Hub, eduTEAMS, GÉANT Step-up Authentication Service

**Activities**

<b>Subtask Num</b>	<b>Short description</b>	<b>Workplan</b>	<b>EOSC-hub tasks</b>	<b>GÉANT project tasks</b>
JA4.1.1	Integration of the GÉANT Proxy Identity Hub as the GÉANT e-Infrastructure SP Proxy in the EOSC-hub AAI.	Demonstrated technical ability for communities using B2ACCESS, Check-in, IAM for their community AAI to use services behind the GEANT e-Infrastructure SP proxy. (Q1 2019)	WP5.1 WP6.1	JRA3-T2
JA4.1.2	Integration of eduTEAMS as an offering for community AAls with the EOSC-hub AAI	<p>Demonstrated technical ability for communities using eduTEAMS for the community AAI to use services behind the EGI and EUDAT e-Infrastructure SP Proxies (Check-in and B2ACCESS) (Q2 2018)</p> <p>Addition of eduTEAMS in the EOSC-hub Service Catalogue as an offering for a community AAI (Q4 2018) in collaboration with JA1</p>	WP5.1 WP2.2 WP6-7-8	JRA3 SA2

JA4.1.3	Harmonisation of Technical Aspects	<p>Alignment of timelines of work plans (QR3 2018)</p> <p>Definition of common criteria, processes and tools for software validation and verification of AAI components (QR4 2018)</p> <p>Harmonisation of user and community information expression, including alignment of user attributes and adoption of guidelines for expressing group and role information, and evaluating and communicating assurance information, depending on the AARC2 work in this area (continual)</p>	WP5.1 WP6.1	JRA3
JA4.1.4	Authenticator Assurance services	<p>(1) Pilot Step-up Authentication Support (11/18)</p> <p>(2) Integration of Step-up Authentication Service in EOSC-hub AAI (06/19)</p>	WP5.1	JRA3 SA2
JA4.1.5	AAI Policy Coordination	<p>Participation in AUP alignment process (Q4 2018)</p> <p>Joint work on FIM policy alignment, facilitating access and use of eduGAIN by communities and EOSC-hub service providers (promotion of DPCoCo, R&amp;S) (continuous)</p>	WP4.4	JRA3-T1
JA4.1.6	AAI Infrastructures coordination	GN4-2 and EOSC-hub to provide support experts from the two projects resources to participate in the works of AEGIS	WP5.1 WP6.1	JRA3 SA2

JA4.1.7	Community Support and Infrastructure Provisioning AAI Coordination	<p>(1) Setup processes for information exchange on identified EOSC-hub community AAI needs from each partner towards the collaboration, and establish communications mechanism ("Joint AAI Expert Group") (Q3-Q4 2018, followed by ongoing activity)</p> <p>(2) Define operational and delivery aspects of AAI infrastructure solutions for communities (Q4 2018)</p> <p>(3) Pilot delivery of joint AAI infrastructure solutions for communities. (Q2 - Q4 2019)</p>	WP5.1 WP6.1 WP10.3	JRA3 SA2
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## Joint Activity Milestones

JAM	Description	Timeline mm/yyyy
JAM4.1	Definition of detailed work plan and alignment of timelines for the various tasks of the JA4 activity	09/2018
JAM4.2	Start of Joint expert group (ongoing activity)	09/2018
JAM4.3	eduTEAMS is part of the EOSC-hub catalogue	10/2018
JAM4.4	Demonstrated interoperability of eduTEAMS with B2ACCESS and Check-in in their role as e-Infrastructure SP proxies	10/2018
JAM4.5	Support to step-up authentication (pilot phase)	11/2018
JAM4.6	Start of collaboration on FIM policy alignment	01/2019



JAM4.7	Demonstrated interoperability of B2ACCES, Check-In and the IdentityHub	03/2019
JAM4.8	Support to step-up authentication (production phase)	06/2019
JAM4.9	Definition and first setup of operational and service delivery of joint AAI infrastructure solutions	06/2019
JAM4.10	Revision of progress of activity plan and planning of next steps	06/2019

# JA5: Cloud Interoperability and Service Availability and Integration

## JA5.1 Research Cloud Expert Group

EOSC-hub coordination: WP6.2/EGI.eu, involves also WP6.3/INFN, WP6.1 Cyfronet  
GEANT project coordination: Andres Steijaert, JRA4 Cloud activity leader; Annabel Grant, NA3 Outreach activity leader

### Objectives.

- This task objective is to build an expert group for the clouds operators and users based on the existing EOSC-hub and GN4 teams that will provide a support network for building, operating and using these clouds with a focus on the needs and characteristics of the research clouds. EOSC-hub includes in its service catalogue cloud-based services provided by a range of providers from research institutions. GEANT provides a Cloud Catalogue to the European research community. Similarly, several NRENs also have cloud computing services for researchers. Building and operating these cloud services is a complex task and their operators gather together around initiatives like the EGI Federated Cloud and SIG-CISS that allow them to share knowledge and best practices for running these services.
- Exchange of technical solutions. EOSC-Hub will also provide GN4 with information about a PaaS layer of abstraction that will be able to provide the federation of the computational resources, hiding the differences. This approach will also provide the capability to automatically define, compose, deploy and orchestrate virtual machines, containers and more in general applications in order to implement complex clusters of services that cooperate together. EOSC-Hub will provide GN4 with information about a solution (Onedata) for federating heterogeneous cloud storage facilities in a way that it is possible to enable the end-users with a uniform and transparent solution for accessing and managing files and data sets that could be distributed also in a wide area network. GN4 will provide EOSC-Hub with information about the solution that enables cloud infrastructure managers to request and receive network resources across the utilized wide area networks (across GEANT and the NRENs)

**Benefits. Sharing information about technical solutions available can help to raise awareness of new technologies for potential use in EOSC**

### Scope and services involved.

- Scope: Technical aspects.
- Services:
  - EGI Cloud Compute

- EGI Cloud Container Compute
- EGI DataHub
- Indigo PaaS
- GEANT cloud services

#### Activities

Subtask Number	Short description	Workplan	EOSC-hub tasks	GEANT project tasks
JA5.1.1	Research Cloud Community Forum	Setup open communication forums for information exchange on building, operating and using cloud services in the research area, and usage.	WP6.2, WP6.3, WP6.1	JRA4 T3/NA3 T5
JA5.1.2	Cloud Community task forces	Define task forces for topics of interest for both EOSC-hub and NRENs cloud providers (e.g. building and managing VM images, security on cloud providers, PaaS and SaaS services, SDN and related network services).	WP6.2, WP6.3, WP6.1	JRA4 T3/ NA3 T5 JRA1T2/T3

#### JA5.2. Cloud Services availability

EOSC-hub coordination: WP6.2/EGI.eu WP6.3/INFN WP6.1/Cyfronet  
GEANT project coordination: JRA4 Cloud Activity leader, JRA1 Activity leader Afrodite Sevasti

### **Objectives.**

This task seeks to ensure that EGI Federated cloud services and those in the GEANT cloud catalogue are made available to users of EOSC, by:

- Making available services from the GEANT cloud catalogue to the EGI and EOSC-hub communities, including adapting the architecture and technical components of the EGI Federated Cloud to accommodate providers from the GEANT cloud catalogue, so these can be consumed by EOSC-hub communities.
- Adding EGI Federated Cloud services in the GEANT catalogue, so these can be made available to GEANT community members.
- Piloting high-level federation with a PaaS layer for orchestration of computing and storage in a way that hides the complexity of provisioning resources from multiple heterogeneous services from the EOSC-hub and GEANT catalogues.
- Evaluating the GN4 e-Infrastructure and service provider interoperation solution as well as SDN provisioning capabilities for automated/orchestrated network connectivity among EOSC-hub resources.

### **Scope and services involved.**

- Scope: Service delivery.
- Services:
  - EGI Cloud Compute
  - EGI Cloud Container Compute
  - EGI DataHub
  - Indigo PaaS
  - GEANT cloud catalogue services
  - GEANT network connectivity services (e.g. point-to-point, VPN services)

### **Benefits:**

- Broader range of cloud resources and services becomes available to researchers via EOSC-hub and GEANT
- EGI Federated cloud and offering from the GEANT cloud catalogue are made available to EOSC-hub users
- Heterogeneous cloud resources provided by both EOSC-hub and GEANT can be exploited in a transparent way without users needing to understand the low-level technical details of the infrastructure.
- Geographically distributed storage federation is made available to users
- GEANT/NREN resources are utilized by EOSC-hub users

### **Activities**

<b>Subtask Number</b>	<b>Short description</b>	<b>Workplan</b>	<b>EOSC-hub tasks</b>	<b>GEANT project tasks</b>
JA5.2.1	Cloud services availability	<p>Selected GN4 cloud services (commercial and/or community/national offerings according to the interest expressed by the providers) are made available to the EGI community and in the EOSC-hub service catalogue and marketplace.</p> <p>Selected EGI Federated cloud services are made available in the GEANT cloud catalogue (according to the interest expressed by the providers).</p>	WP6.2	JRA4 T1 JRA4 T3
JA5.2.2	Interoperable Orchestration of cloud services	<p>Piloting of selected use cases for multi-cloud orchestration using EOSC-hub and GEANT cloud providers leveraging EOSC-hub existing solutions like INDIGO PaaS and Onedata to experiment with a geographically distributed environment for computing with federated data access.</p>	WP6.1/WP 6.2/WP6.3	JRA1T3

## Joint Activity Milestones

JAM	Description	Timeline mm/yyyy
JAM5.1	<p>A joint cloud expert group is in place for open discussion on using, building and operating research-oriented clouds</p> <p>Duration: expert group are expected to be active for the whole duration of the collaboration.</p>	01/2019
JAM5.2	<p>Selected GN4 cloud services are made available to the EGI community and in the EOSC-hub service catalogue and marketplace.</p> <p>GEANT intends to be in the first wave of organisations listing services in the EOSC-hub service catalogue, once this catalogue becomes available.</p> <p>These listings are dependent on suppliers' willingness and participation to be mentioned.</p> <p>This considering GEANT does not operate its own cloud services. Instead the GEANT cloud catalogue displays services from third parties (community as well as commercial suppliers). EOSC-hub and GEANT will work with these providers to help them get listed in the EOSC-hub service catalogue.</p>	01/2019
JAM5.3	Selected EGI Federated cloud services are made available in the GEANT cloud catalogue.	06/2019
JAM5.4	Pilot use case with multi-cloud orchestration of resources with providers from both EOSC-hub and GN4 network services and cloud catalogue offerings.	06/2020

## JA6: Technical Coordination

### JA6.1 Technical Coordination Implementation

EOSC-hub coordination: Giacinto Donvito, EOSC-hub Technology Coordinator, WP10/INFN  
GEANT project coordination: Bram Peeters, Chief Network Operations Officer + others experts as necessary from JA4 and JA5

**Objectives.** Senior technical staff from both projects meet to co-ordinate the technical aspects of each of the activities and ensure technical coordination of the Joint Activity Plan.

Technical alignment and coordination will be ensured via:

- The participation of experts from the two projects to EOSC-hub and GN4-2 technical groups as requested by the execution of the Joint Activity Plan.
- The set-up of the AAI joint expert group (JA4 milestone) and the cloud joint expert group (JA5 task).
- Ad-hoc task forces when needed.

**Benefits.** Harmonise technical roadmap and investigate options of interoperability across both projects.

#### Activities

Subtask Number	Short description	Workplan	EOSC-hub tasks	GN4-2 project tasks
JA6.1.1	Technical coordination of the Joint Activity Plan	Senior activity leader groups meet to ensure alignment across relevant technical domains of EOSC-hub and GN4-2	Technical leads to meet with with GN4-2 technical leads and groups	Technical leads to meet with EOSC hub technical leads and groups

#### Joint Activity Milestones

JAM	Description	Timeline mm/yyyy
JAM6.1.1	<p>All technical groups are in place to support the technical coordination of the activity plan</p> <p>Regular meetings of such groups are held at least every 6 months to assess technical alignment across both projects and ensure coordination of the Joint Activity Plan (continual)</p>	09/2018