

SIG on Cloudy Interoperable Software Stacks (CISS)

General Information:

SIG Name:	<i>SIG-CISS (Cloudy Interoperable Software Stacks)</i>
Brief Description:	<i>SIG-CISS is proposed to be the successor of the long running TF-Storage task force of GÉANT with a wider scope extending from data storage to general cloud infrastructure software stacks, platforms and research workflows. The SIG brings together those who are building/operating R&E clouds and are willing to share strategy, design, deployment, performance optimization, application integration, interoperability, security and other related information, knowledge and best practices as well as participate in joint efforts aimed at addressing needs of academic environment related to building, operating, brokering cloud services and infrastructure and ensuring their interoperability.</i>
Steering Committee:	<i>Maciej Brzezniak, PSNC Guido Aben, AARNet Simon Leinen, SWITCH</i>
Secretary:	<i>Peter Szegedi, GÉANT</i>
Topics / Keywords:	<i>Virtualization, hypervisor, dockerization, app runtime, middleware, operating system, file system, I/O subsystem, storage system, data bases, servers, disks, networking, monitoring, security tools, building environments, test suites, frameworks, research workflows (Technologies: OpenStack, Kubernetes, EOS, Sync&Share, OpenCloudMesh, NSI, Ceph, Swift, SQL, noSQL, etc...)</i>
Supporting NRENs:	<i>ACOnet, ARNES, PSNC, AARNet, GRNET, CESNET, SURFnet, Belnet, SWITCH, NIIF, GARR, UNINETT, CSC/Funet, SUNET, HEAnet</i>
Support (Others):	<i>NORDUnet, CERN, EGI, EUDAT, GLIF, GNA</i>

Aims:

- To provide a broader forum for gathering and exchanging experiences, ideas and knowledge on the development, deployment, testing and standardisation of cloud infrastructure software stacks, platforms and workflows.*
- To share deployment and operations best practices about all the pillars of the cloud infrastructure. Be the primary community forum in the confluence of computing, storage and networking. Leverage the existing focus groups including CS3 (CERN) on sync&share and storage and OSO (SWITCH) on infrastructure as a service and OpenStack operations.*

3. *To stimulate joint efforts in solving everyday operational issues, developing software components as needed, building and maintaining infrastructure and platforms, including shared / transnational deployments, conducting PoCs, defining functional and quantitative tests. Press into service permanent systems for benchmarking as developed by the open source community, explicitly including work being performed in applicable GÉANT SAs and JRAs; assess their suitability for the private cloud case; and where applicable, feed back requirements and improvement opportunities.*
4. *To improve awareness of software and hardware solutions available on the market and infrastructures, platforms and services provided by NRENs in the area of (federated) cloud computing, IaaS, PaaS, SaaS, data storage, management, automation and big data, and act as a launch pad for joint procurements and/or brokering thereof as appropriate and necessary.*
5. *To help identify current and future requirements and workflows of the scientific/academic community related to computing, storage, data management infrastructure, platforms, services and applications as well as preparing NRENs to address these needs.*
6. *To provide an interface among operators and owners of the cloud computing and storage infrastructure (IT experts) and the actual users i.e. individuals, academic institutions, communities and collaborations (domain experts), that enables mutual understanding of needs and capabilities as well as challenges and opportunities.*
7. *To define, stabilise and promulgate mutually agreed upon APIs as exported by NREN cloud stacks, preferably globally recognised APIs that cloud users can rely on to build their use case upon, and be guaranteed that their use case will in fact work, and be as portable as possible among NRENs.*
8. *To engage with RDA, SIG-Greenhouse, TF-RED, EUDAT, PRACE and other related groups. Aim for a common cloud platform for execution, plugging in workflows from researchers. Commercial clouds are different, research clouds should be similar. Engage with the Scientific Working Group and Large Deployment Team of the OpenStack community.*

Key Performance Indicators:

#	Planned Achievements	KPIs	Report Date
1	Refreshing and rebuilding the community. Global live inventory of "who does what".	2 meetings, 1-2 BoF at conferences and regular calls scheduled on yearly basis. Public, on-line, living document.	Feb 2018
2	Common cloud execution workflow. Research and education engagement, use cases.	Sketching of a massive, scalable, reliable cloud execution platform with modular work-flow	Feb 2018

		encapsulation, living document.	
3	Industry engagement, federated, hybrid private-public architectures, cloud connectivity.	Regular information exchange with relevant industry partners. Getting in, out and in between of the clouds.	Feb 2018

Background Information:

Today, lots of R&E institutions operate, build, develop or purchase elements of cloud computing, HPC, storage and networking infrastructure, by working mostly in isolation. TF-Storage was established in 2008 in order to bring together the experts of the broader GÉANT community and relevant industry and user groups. TF-Storage was primarily focusing on data storage and management technologies, protocols, hardware and infrastructure components, applications and services. It served as an incubator for the successful initiatives such as FileSender, the ownCloud Framework Agreement, or the OpenStack Operators group and also collected and disseminated practical information about storage benchmarking and TCO calculations.

Today's movements in the e-infrastructure space urge the convergence between storage, computing and networking bringing all e-infrastructure platforms and services together under one integrated service portfolio for research and education. Focusing only on data storage is not sufficient any more.

Therefore, the community has decided to close down TF-Storage and rearrange the active participants of the community scattered in different spin-off groups under one new inclusive forum. The new forum will cover all the three pillars of the cloud infrastructures (storage, computing, networking) and liaise with the existing interest groups. The primary focus will be on the various software stacks and their interoperability in order to reach the best performance and quality of service at operational easiness and affordable price.

SIG-CISS provides NRENs, universities and other academic and research institutions a forum for exchanging knowledge, collecting best practices and experience, improving awareness of solutions available on the market as well as stimulating joint efforts in solving technical, operational, organisational and strategic issues related to planning, building and maintaining cloud computing, data management and big data infrastructures and platforms. The focus is on (where possible, open source) software stacks and components: IaaS/PaaS/SaaS, automation of their deployment, maintenance and management, as well as ensuring reliability, high-availability, performance, scalability and interoperability. The scope spans from infrastructure and software stack architectures, technologies and implementation to strategical issues such as ensuring interoperability, support for standards, considering brokerage as well as on-premises delivery of infrastructure and platforms or enabling hybrid clouds. The group provides also an interface among tech-savvy IT infrastructure operators/owners and the end-users and institutions from the academic/research area.

Annex A: Standard Terms of Reference (DO NOT AMEND)

1. Context and principles

1.1 GÉANT Special Interest Groups (SIGs) are established under the auspices of GÉANT in order to create an open forum where experts from its community exchange information, knowledge, ideas and best practices about specific technical or other areas of business relevant to the research and education networking community.

2. Initiation

2.1 A GÉANT SIG can be initiated by any member of the GÉANT community based on the following conditions and steps:

- at least 3 NRENs or other organisations support the creation of the SIG and are willing to actively participate;
- an initial Steering Committee (SC) of 3-5 individuals nominated by the supporting organisations is established by simple agreement of the requesting NRENs or other organisations;
- the SC informs GÉANT about the creation of the SIG by submitting the detailed Charter document;
- if GÉANT agrees, the new SIG has been created.

2.2. Once the SIG has been created, GÉANT will provide continuous support subject to yearly monitoring (also see 4.).

3. Operations, composition, and roles

3.1 A SIG is to keep the strengths and interests of the community, to continue sharing and investigating within the spirit of openness and collaboration.

3.2 A SIG should act as a catalyst, organising virtual and face-to-face meetings, small workshops, training or BoFs co-located with other related group-meetings or relevant conferences.

3.3 Should the SIG produce any kind of results, these shall be made available in the public domain.

3.4 Participation in a GÉANT SIG is open to any clearly identified organisations or individuals, provided that the other SIG participants are sufficiently informed about their interest and intentions.

3.5 A SIG is collectively led by its SC (3-5 voluntary members) nominated by its participants and appointed by GÉANT for a two-year term of office that is interruptible and/or renewable.

3.6 The SC is responsible for the business of the SIG. The SC takes decisions primarily by consensus or by simple majority within the SC. If a decision cannot be made, GÉANT is responsible for the decision.

3.7 The SC is also responsible for producing brief annual reports to GÉANT about the progress of the SIG according to the pre-defined yearly plan and Key Performance Indicators.

4. Termination

4.1 A SIG has no pre-defined mandate or expiration date, but its support, subject to yearly monitoring by GÉANT, can be terminated if one of the following situations occurs:

- the SC has fewer than 3 members for a 3-month period;
- the SC collectively requests the termination of the SIG;
- the yearly assessment results are unsatisfactory;
- any of the SIG participants, subject to detailed investigation by GÉANT, explicitly requests the termination of the SIG;
- GÉANT decides to terminate the SIG.

4.2 Appeals by any of the SIG participants can be submitted to GÉANT; these shall be resolved within 3 months.

4.3 After detailed investigations of the aforementioned situations and potential appeals, the decision of GÉANT about the SIG support is final.

5. Resources and support

5.1 As long as the SIG is supported by GÉANT, GÉANT will provide the following services:

- mailing list(s) and public web archive(s) under the geant.org domain;
- maintenance of wiki page(s);
- website - on request and as decided to be appropriate by GÉANT;
- online survey tool - on request;
- social media, news, and annual report coverage – on request and as decided to be appropriate by GÉANT.

5.2 In the case of termination of GÉANT SIG support, the transition of services a), b), and c) to other providers is ensured by GÉANT.

5.3 Official minutes keeping, AV recording or other archiving is subject to discussion with the GÉANT employee assigned to support the SIG.

5.4 A SIG has no dedicated budget other than the expenses of GÉANT.

5.5 GÉANT may find internal or external funding sources (e.g., projects, commercial sponsors) to cover the expenses of SIG support, as appropriate.