

European Cloud Collaboration through GÉANT

Towards Pan-European Cloud Services

Mission



**Meeting user needs
through a community effort,
adding value in the process**

Meeting user needs: Providing the right choices

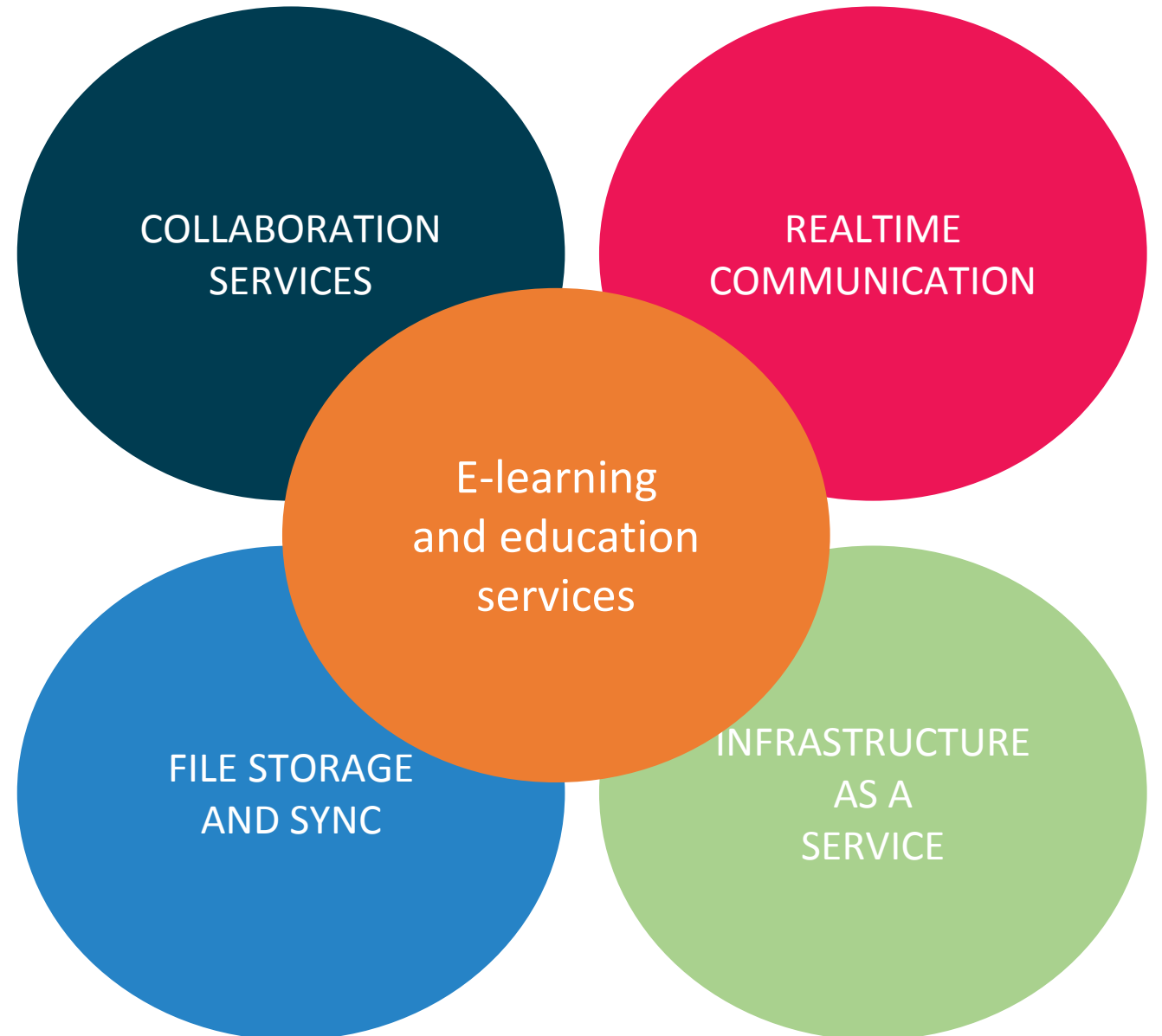
- Faster and easier access to a range of useful cloud services by creating the right legal, procurement and technical environments.
- Creating a strong community voice, based on the aggregation of demand across GÉANT members, to get the optimum technical and commercial solutions from vendors
- Adapted to common community requirements and standards such as federation



Meeting user needs and Aligning cloud collaboration areas

Most popular providers
as mentioned by European NRENs
(in alphabetical order)

- Amazon Web Services
- BOX
- Google Apps
- Microsoft Azure
- Microsoft Office 365
- OwnCloud



Community effort: By the community – for the community

- Trusted brokers and advisors, acting on behalf of the community in a collaborative effort, leveraging the benefits of the GÉANT network, federation and combined expertise.
- Sharing resources, experiences and knowledge, establishing common standards and requirements
- Aggregating demand, enabling efficiency and economy of scale

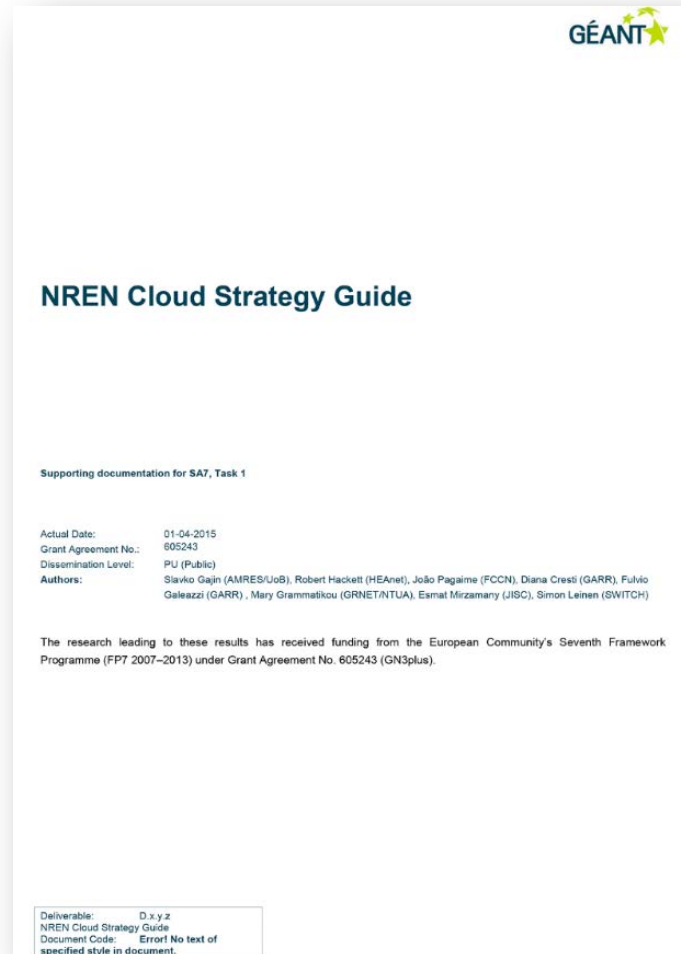


Foundation: four main areas



- Initiated spring 2013 (GN3+)
- Clouds are happening
- Community demand
- Willingness to work together
- Common approach

Community effort: Strategy and standards



GÉANT

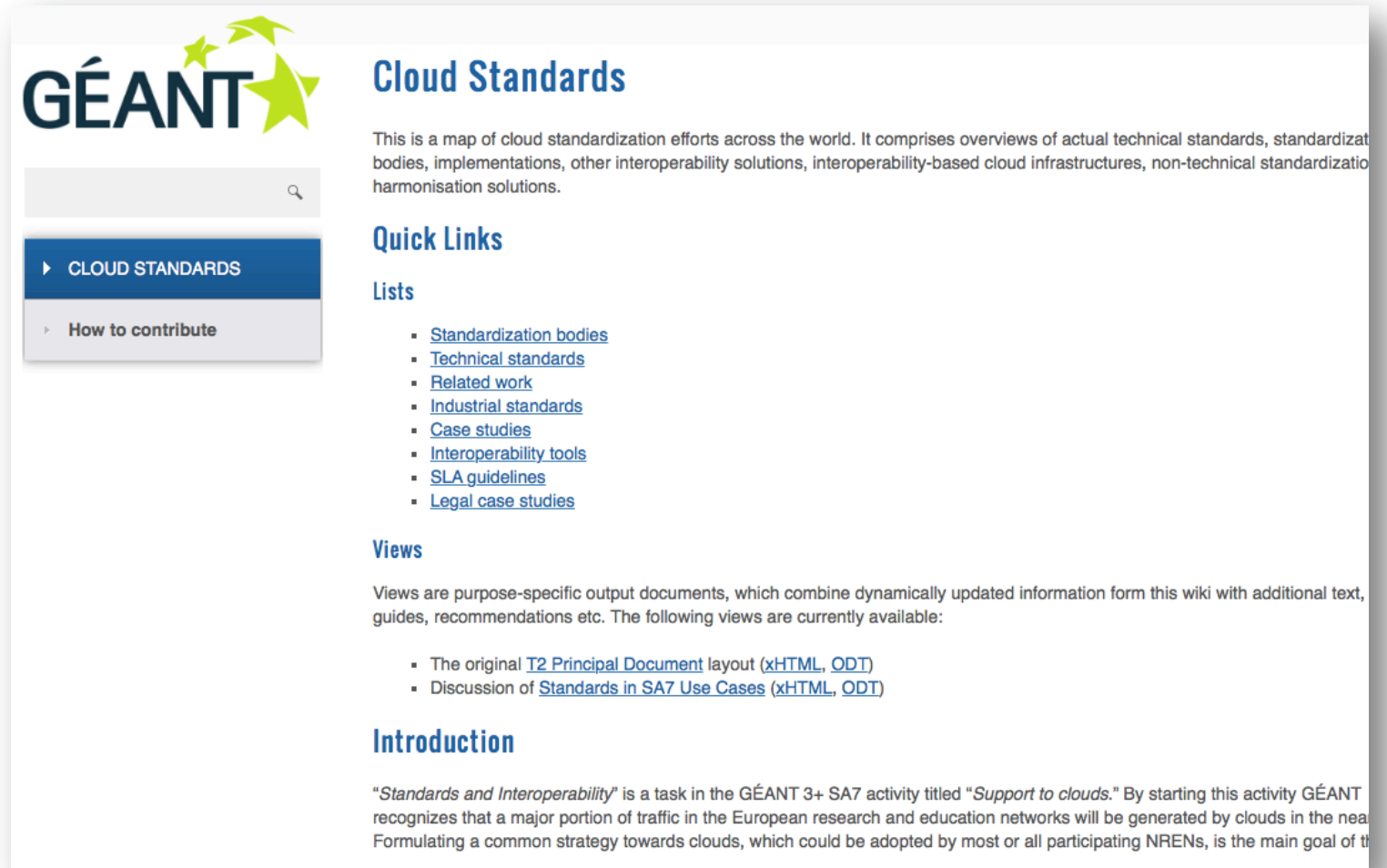
NREN Cloud Strategy Guide

Supporting documentation for SA7, Task 1

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NREN Cloud Strategy Guide
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Cloud Standards

This is a map of cloud standardization efforts across the world. It comprises overviews of actual technical standards, standardization bodies, implementations, other interoperability solutions, interoperability-based cloud infrastructures, non-technical standardization harmonisation solutions.

Quick Links

Lists

- [Standardization bodies](#)
- [Technical standards](#)
- [Related work](#)
- [Industrial standards](#)
- [Case studies](#)
- [Interoperability tools](#)
- [SLA guidelines](#)
- [Legal case studies](#)

Views


Views are purpose-specific output documents, which combine dynamically updated information from this wiki with additional text, guides, recommendations etc. The following views are currently available:

- The original [T2 Principal Document](#) layout ([xHTML](#), [ODT](#))
- Discussion of [Standards in SA7 Use Cases](#) ([xHTML](#), [ODT](#))

Introduction

"Standards and Interoperability" is a task in the GÉANT 3+ SA7 activity titled "Support to clouds." By starting this activity GÉANT recognizes that a major portion of traffic in the European research and education networks will be generated by clouds in the near future. Formulating a common strategy towards clouds, which could be adopted by most or all participating NRENs, is the main goal of this activity.

Community effort: Requirements and catalogue



2 Requirements for Cloud Service Providers

The following sections outline a number of technical, commercial and contractual objectives of a typical user when sourcing cloud services. It is envisioned that they will form the basis of an SCP's self-assessment.

2.1 Intellectual Property Rights and Ownership

2.1.1 Intellectual Property Rights

All intellectual property rights, including any copyright or database right to the Data (i.e. the file and/or files with the Data) will at all times remain vested in Institution, the User concerned, or their respective licensor(s).

2.1.2 CSP Data Control

The CSP is a data processor, which should be clearly stated in any subsequent Service Agreement. The CSP will process the Data in a proper and careful manner, and in accordance with the applicable regulations. The CSP is responsible for the quality and availability of the CS. Controlling authority over the Data is vested in the Institution and/or the User concerned.

2.1.3 Data Ownership

Data is and remains under ownership of Institution/User producing data, or by the entity that is storing the data if the Data producer has passed its rights to such an entity. At no time will a provider acquire rights to any Data, for any other purpose than providing the CS. This may include troubleshooting aimed at preventing, detecting and repairing problems affecting the operation of the CS and the improvement of features that involve the detection of, and protection against, emerging and evolving threats to the user (such as malware or spam).

2.2 Legal Aspects

2.2.1 Governing Law

If requested by the Institution, the CSP will need to grant the Institution the ability to sign subsequent Service Agreement under its own national law.

GÉANTplus Support to Clouds:
Indicative Requirements for Cloud Service Providers
Document Code: GN3PLUS14-010-01


GÉANT Cloud Catalogue


Lars Fuglevaag ▾


Home Providers Services


Search:


Sort by: Initial ▾


**advania**
data centres


Advania OpenCloud IaaS 
Advania provides a new IaaS cloud solution called Advania OpenCloud. The solution is based on Cloudstack and is an easy-to-use self-service web console for compute and storage. OpenCloud supports industry standard API's such as EC2 and S3. OpenCloud is hosted in our Tier3 datacenter in Iceland which runs on 100% Green and Renewable energy resources. Advania is also connected directly to the Nordunet Network so there are no extra charges for bandwidth for Géant partners.





**okeanos**


Okeanos 
The GRNET Cloud Service






**EduZone**
Infrastructure


EduZone EZ-Infrastructure 
Our service is custom designed with research & education users in mind. Rent anything you need: servers, networking devices, storage and data center space by using your eduGAIN account. Together with our partners we provide simple accessible IaaS platforms available with all major operating systems based on bare-metal or virtual technologies. All at your disposal - ready in few seconds.







**box**


Box 
Box is a secure way to share content and improve collaboration for organisations of any size, on any device. Desktop, tablet or mobile. The company believes technology should limit the invention and productivity of enterprising minds. Box is the preferred choice of 270,000 businesses and 32 million users.





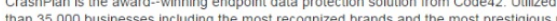
**Office 365**

Microsoft Office365 
Microsoft Office 365 is a subscription service, providing institutes with ways to stay productive and connected no matter where staff or student are working.



**CRASHPLAN**

CrashPlan 
CrashPlan is the award-winning endpoint data protection solution from Code42. Utilized by more than 35,000 businesses including the most recognized brands and the most prestigious universities in the world. CrashPlan provides automatic, continuous data protection with no disruption to the end



Added value: The benefits of clouds, adapted to the community

- Maximizing benefits, minimizing risks
- Federation and integration; adapting the services to the R&E community portfolio
- Data control; adhering to legal and security demands, getting in and out in a timely manner



Added value: Key areas



TERMS & CONDITIONS
BROKERAGE
PROCUREMENT



FEDERATED IDENTITY
MANAGEMENT & SINGLE SIGN-ON

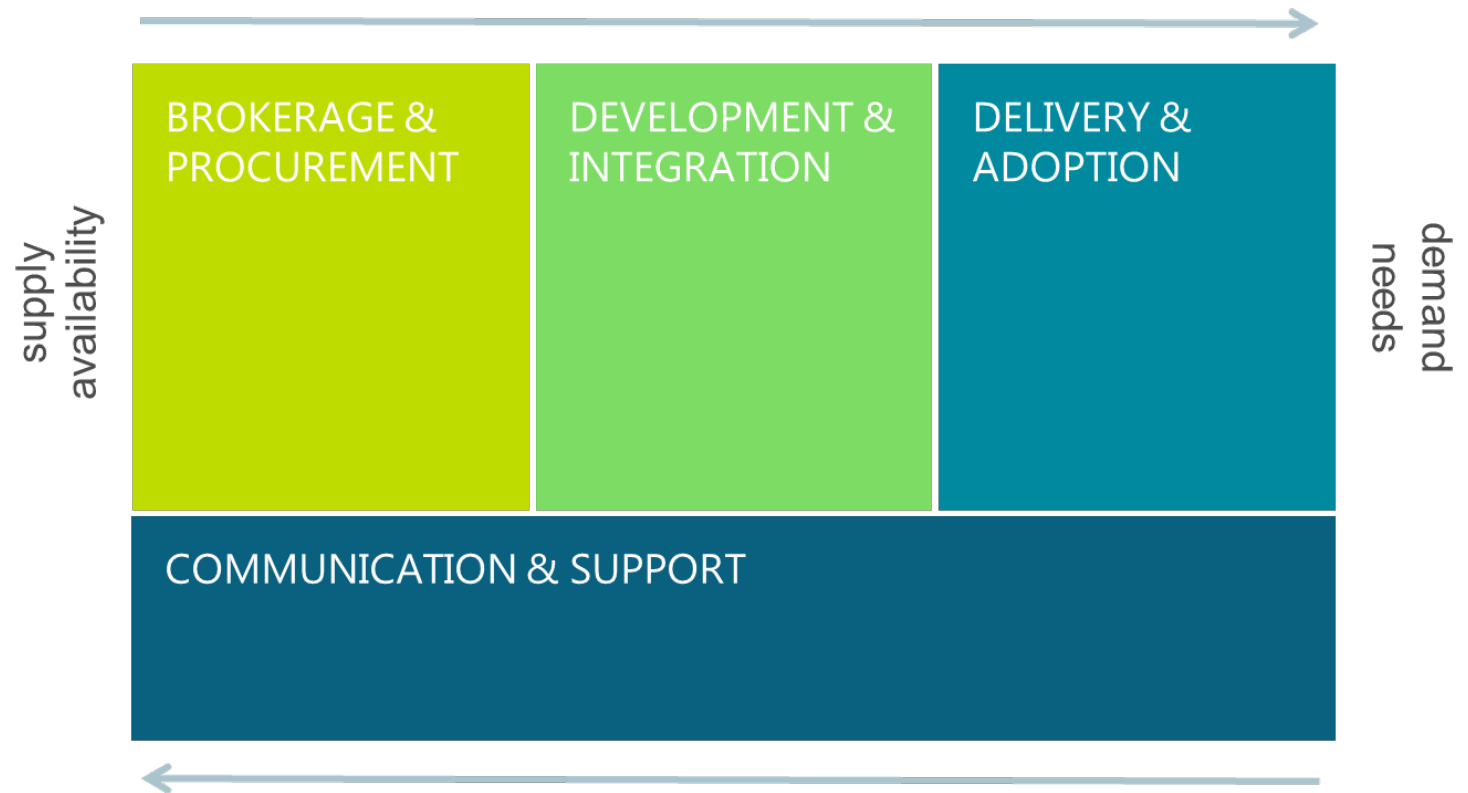


NETWORK
PEERINGS

Towards Pan-European Cloud Services for Research and Education

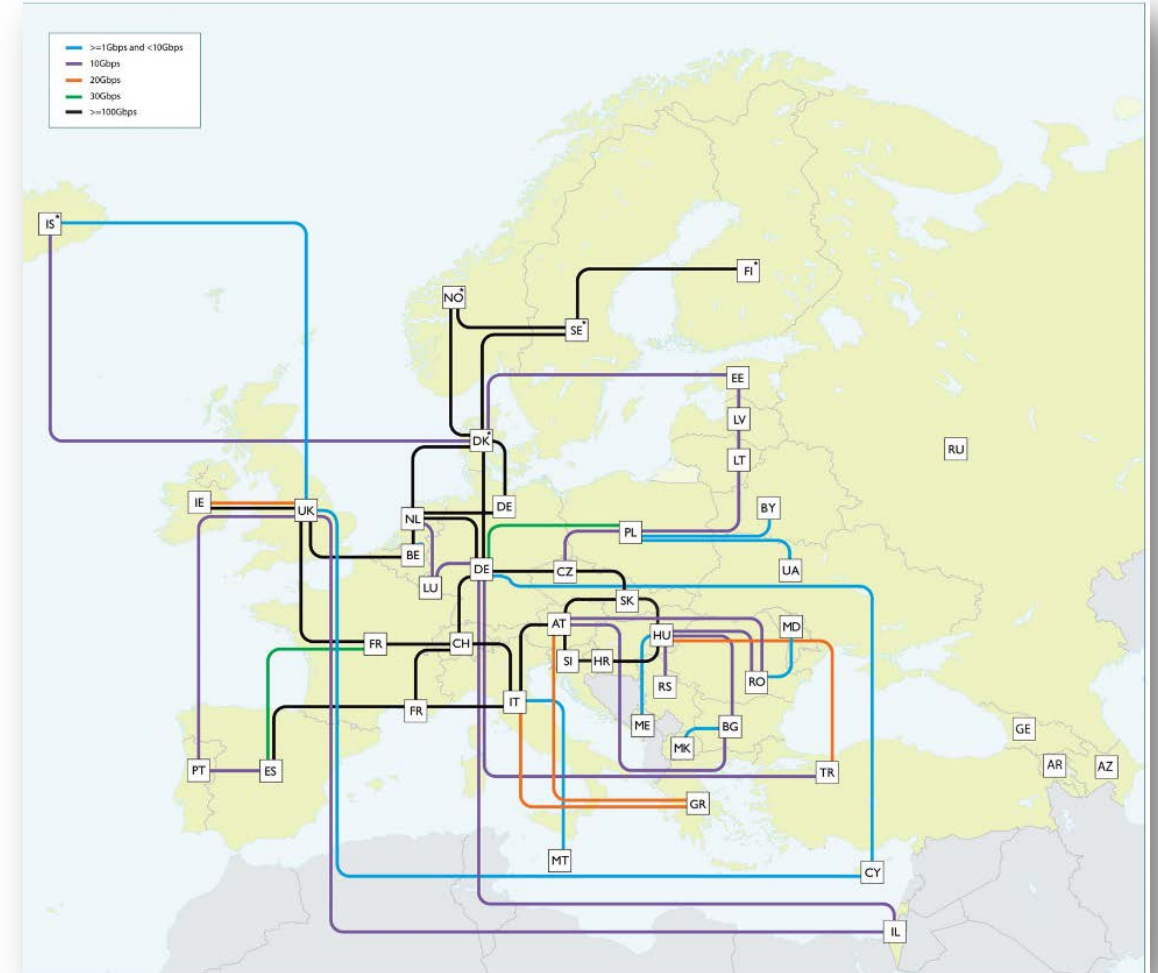
Joint NREN efforts

- A rich set of suitable services
 - put services 'on the shelves'
- Bring these services to the community
 - get services 'off the shelves', into the hands of R&E users



Added value for Cloud Service Providers

- One set of requirements, agreements and standards; efficiency and economy of scale rather than extensive legal and commercial effort for highly customized agreements for a large number of institutions.
- Market access to advanced, trusted and reputable institutions and users across Europe
- Approved and promoted by GÉANT and the NRENs – the trusted advisors of the European Research and Education community



Pan-European tender



- **36 participating NRENs**
- **12 different IaaS solutions**
- **24 providers, incl. Amazon & Microsoft resellers**

Some benefits

- Procurement compliant in EU & EEA
- Legal compliance (EU data protection law)
- Invoice billing, no creditcard needed
- Aggregate use discounts (10.000 institutions)
- Mandatory SAML support (some eduGAIN)
- Direct peering with GÉANT network - no extra data transport charges



Legal and procurement issues



- Call-Off is made under UK regulation – guides will be made available
- EU/EEA countries: if Directive 2014/24/EU on public procurement *is* properly adopted, NRENs who are subject to public procurement are free to use GÉANT as a centralised purchasing body
- EU/EEA countries: if Directive 2014/24/EU on public procurement *is not* properly adopted, NRENs can use centralised purchasing activities of GEANT by invoking direct application of the Directive
- Non-EU: some states in the pre-accession or accession process have undertaken to implement EU directives; check your laws!

Call off (signing up)



- After GÉANT signs agreement (1 October?)
- Within 45 months (3 months before renewal)
- After SAML2 compliance (max 6 months)
- Choose provider(s) (accepted for your country)
- Select model(s) for NREN
 - Reseller, Referrer, Underwriter

Call off options

1. Direct call off – if happy with GÉANT requirements and ranking
2. Mini-competition – for tailor-made solutions;
 - Technical
 - Operational (reporting requirements, etc.)
 - Legal (e.g. specific legal terms needed in the service agreement)
 - Financial (e.g. NREN cost recovery)



NREN Role

- **Referrer**

NREN understanding and consolidating the needs of the sector, negotiating appropriate terms and conditions with vendor, conducting appropriate levels of due diligence to improve the value of the product for the sector. The vendor makes the improved proposition to the sector and NREN is paid a referral fee. The NREN does not sit in the contracting line.

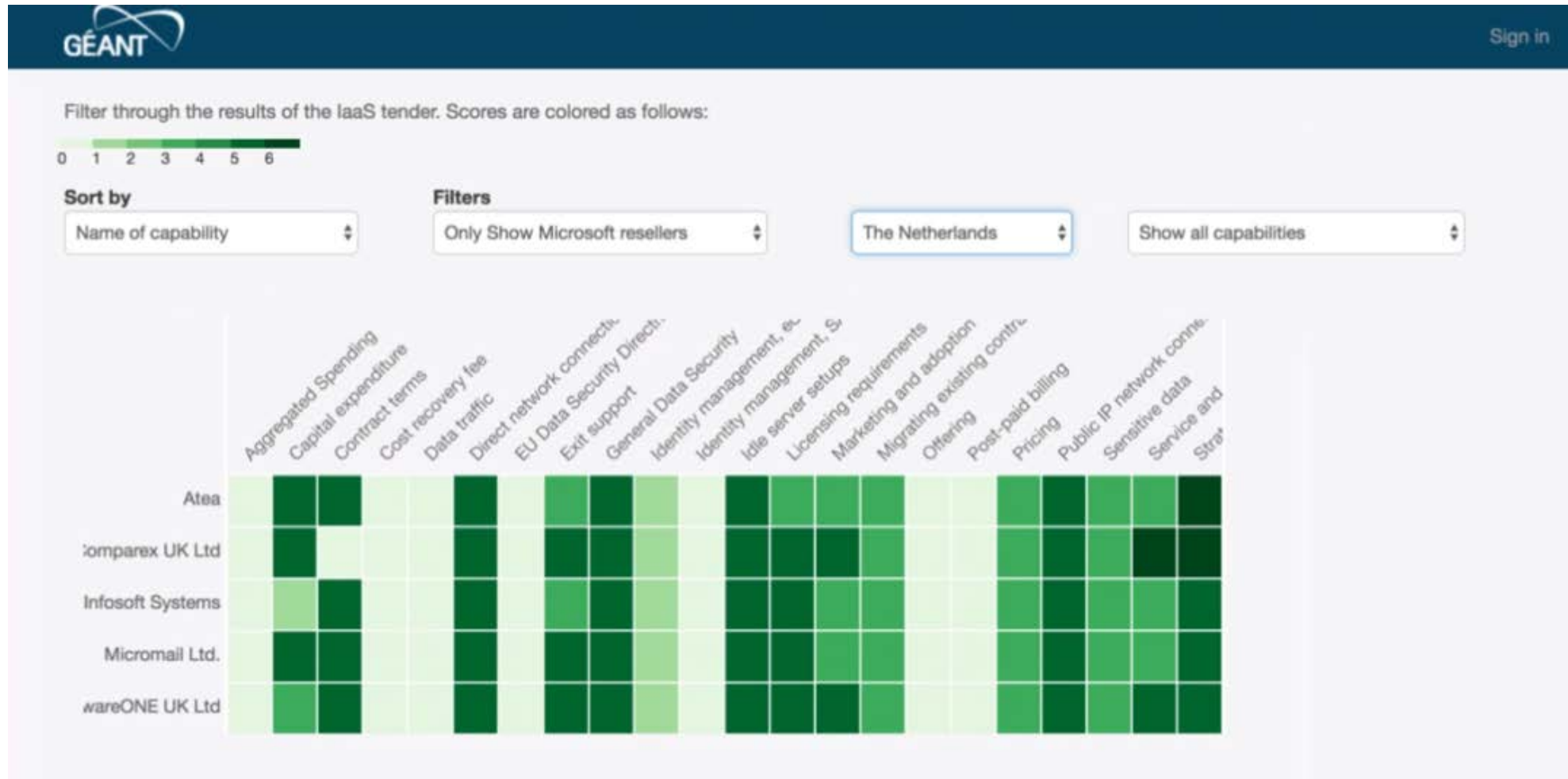
- **Reseller**

In addition to the above, NREN acts as an aggregation point in the HE sector, aggregating demand, and providing scale efficiencies. NREN takes the reseller income at a responsible level with benefits for both the sector and the NREN. NREN sits in the contracting line.

- **Underwriter**

In addition to the referrer job, NREN commits to a level of purchase on behalf of the sector and achieves better pricing and a revenue share. The risk lies with NREN to meet the difference between the commitment and the actual purchase. NREN does not sit in the contracting line and is not seen as the supplier – but users get the services “for free”.

IaaS service matrix



Tender results – Microsoft & Amazon resellers

Company	Company home base(for framework)	Albania	Armenia	Austria	Belarus	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Georgia	Germany	Greece	Hungary	Ireland	Israel	Lithuania	Luxembourg	Macedonia	Malta	Moldova	Netherlands	Norway	Portugal	Romania	Serbia	Slovenia	Spain	Sweden	Switzerland	Ukraine	United Kingdom		
Microsoft Azure (11):																																						
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CACTTUS	Kosovo	x																					x							x								
Comparex (also AWS)	UK?	x	x		x	x	x		x	x		x	x		x		x	x			x				x	x	x	x	x	x	x	x	x	x	x	x	x	
Dom-Daniel LLC	Armenia		x																																			
Infosoft Systems	Albania	x			x		x	x			x		x	x	x	x				x	x		x	x	x			x	x	x	x				x	x		
Micromail	Ireland	x	x	x	x	x		x	x		x		x	x	x	x	x	x	x	x			x	x	x						x			x	x	x		
Nextsense	Macedonia																																					
Novabase	Portugal																												x									
SoftwareONE UK	UK		x		x				x	x		x	x		x		x									x	x		x				x	x	x			x
Span	Croatia						x																															
Ymens Teamnet	Romania																																					
Amazon AWS resellers:																																						
Acrus Global	UK		x		x					x		x	x		x			x								x	x	x					x	x	x			x
Comparex	UK?	x	x		x	x	x		x	x		x	x		x		x	x			x	x				x	x	x	x	x	x	x	x	x	x	x	x	x
Telecom Italia (also OIP and AWS)	Italy?																																					

