NREN collaboration on clouds
Cloud opportunities

GN4 SGA1 – SA7

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November 2, 2015

Agenda

Why collaborate on clouds?
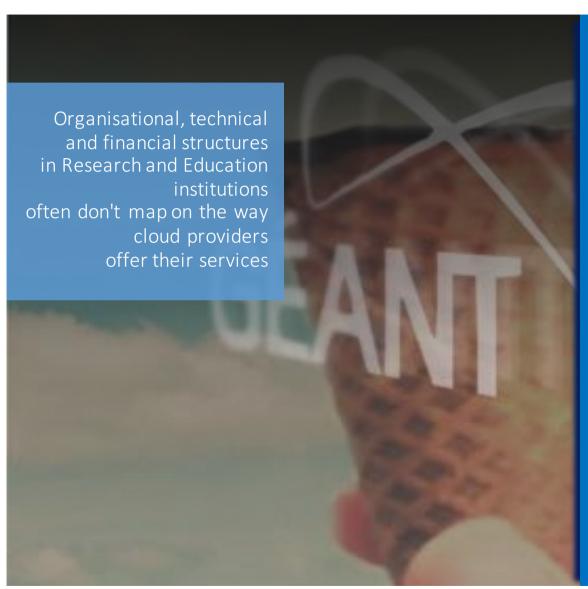
Progress in our collaboration

Opportunities for NRENs, for service delivery and adoption

INTRODUCTION
Why collaborate on clouds and our approach

Our goal

To enable and facilitate the European Research and Education community
to use cloud services on a large scale,
with the right conditions

Organisational, technical
and financial structures
in Research and Education
institutions
often don't map on the way
cloud providers
offer their services

GET IN

Assure data is handled safely and meets
European and national regulations

Acquire and use services through the
institutions' structures:

- Affordable and predictable cost and
  purchasing models (prevent bill shock)
- Limit network traffic costs
  and provide network integration
- Log in with institutional account

GET OUT

Be able to move data
(to another provider)

Meeting user needs:
Providing the right choices

- Faster and easier access to a range of useful cloud services by creating the environment.

- 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.

Community effort:
By the community – for the community

- NRENs act 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

GÉANT DOES NOT BUILD OR OPERATE A CLOUD INFRASTRUCTURE

OTHERS DO,
R&E PROJECTS & INSTITUTIONS, NRENs
COMMERCIAL PROVIDERS

GÉANT is a service delivery gateway for those providers

Our role

GÉANT **connects** demand and supply

Providers with right **capabilities**

Bring **choice** to the research and education community

Service delivery: hybrid approach
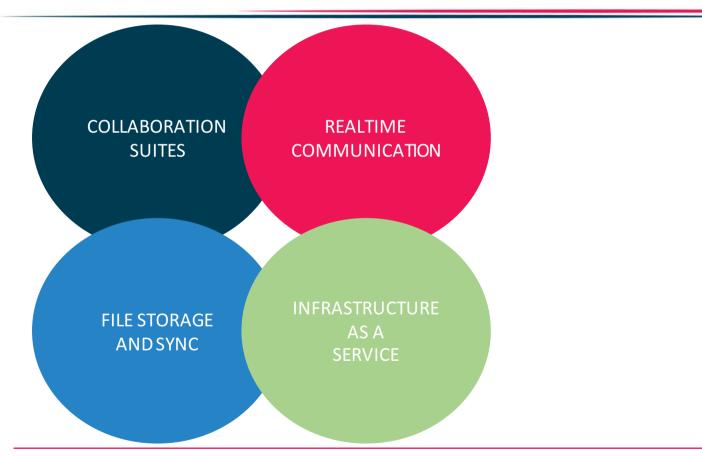
IN-HOUSE CLOUDS

OUTSOURCED CLOUDS

MAKE AND BUY

ADDED VALUE FROM NRENS
TRUSTED ADVISORS, BROKERS, PROVIDERS
= RIGHT CONDITIONS FOR COMMUNITY

Meeting user needs: Cloud collaboration areas

COLLABORATION SUITES

REALTIME COMMUNICATION
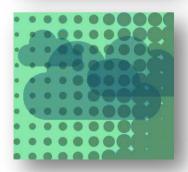
FILE STORAGE AND SYNC

INFRASTRUCTURE AS A SERVICE

USER NEEDS
TERMS &
CONDITIONS
BROKERAGE
PROCUREMENT
ADOPTION
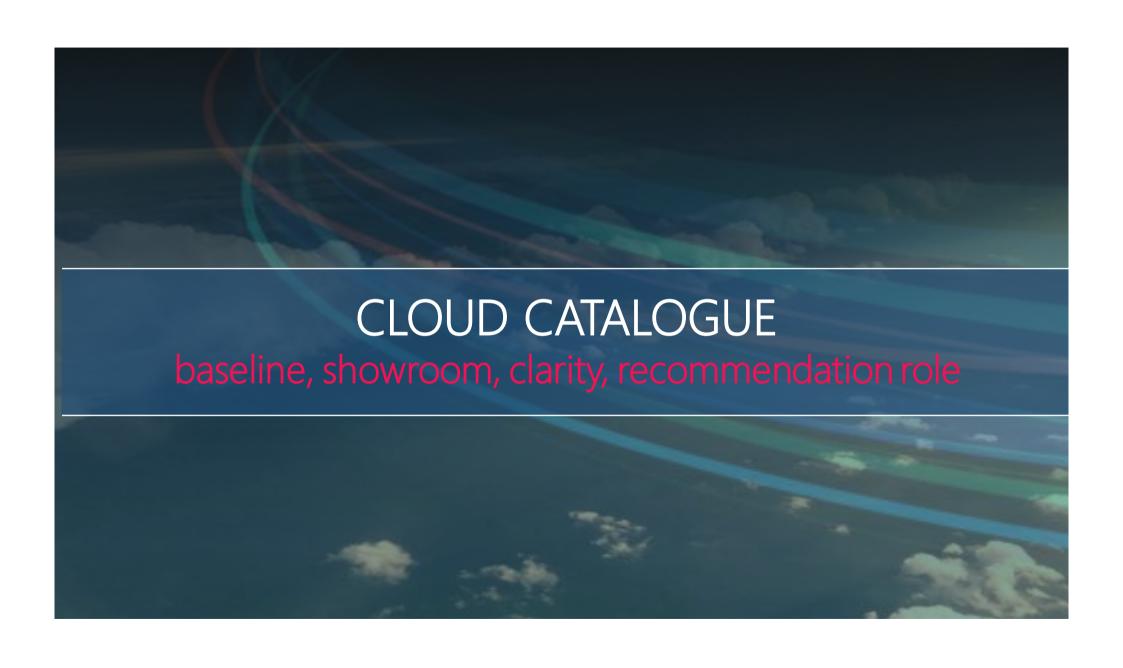
FEDERATED IDENTITY
MANAGEMENT &
SINGLE SIGN-ON

NETWORK
PEERINGS

CLOUD CATALOGUE
baseline, showroom, clarity, recommendation role

Cloud Catalogue

available at:
http://services.geant.net/clouds/Activities/Pages/Supporting_Suppliers.aspx

Intellectual property rights and ownership, legal aspects, security, continuity, confidentiality, communication, billing, technical requirements

Cloud requirements
Six pages;
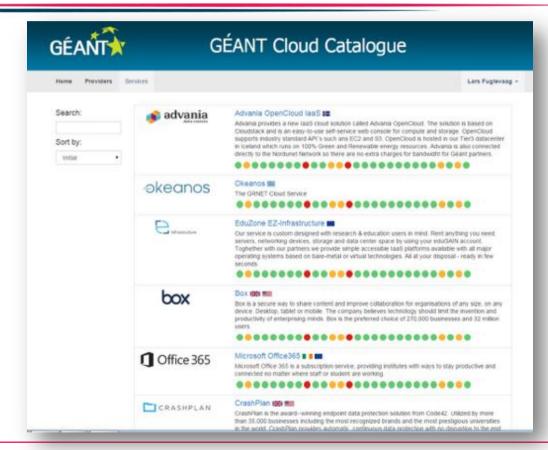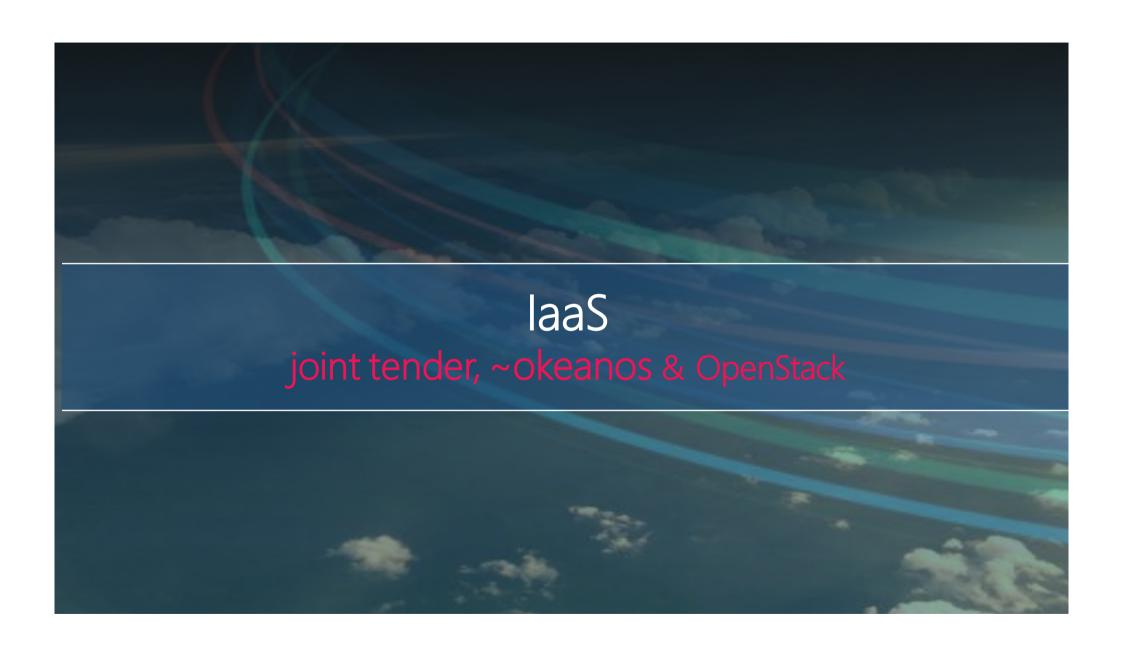*easily readable*

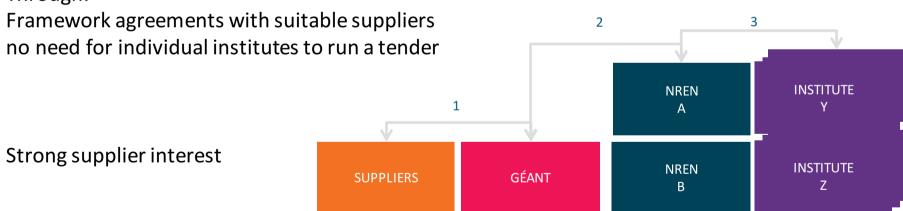# Cloud Suppliers in the Catalogue

GÉANT Cloud Catalogue

IaaS
joint tender, ~okeanos & OpenStack

Demand for IaaS:
Joint tender

NRENs as intermediary, enabling service use
by research and education institutions

Through:
Framework agreements with suitable suppliers
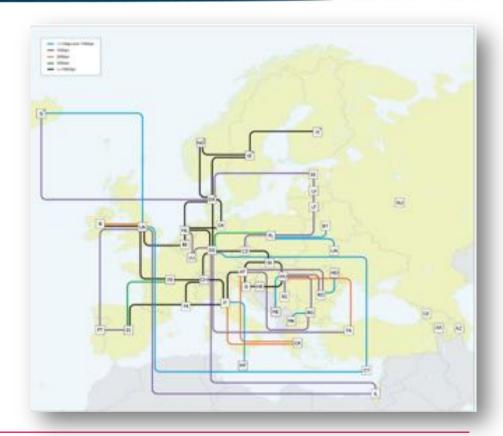no need for individual institutes to run a tender

Strong supplier interest

Added value for Cloud Service Providers

- One set of requirements, agreements and standards; efficiency and economy of scale, 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

Legal basis for procurement activity

EC Procurement Directive (2014/24/EU)
Allows us of Central Purchasing Body
(NRENs through GÉANT)

To be implemented by Member States / countries
no later than 18th April 16

Framework agreements with suppliers
available in July 2016

Community Clouds

- Cloud projects and services initiated by the NREN community

- Complementary to commercial services

- Bottom-up efforts

- Leverage our human networks in spreading knowledge and know-how

- Service specific user requirements

~okeanos

- Computing and Storage IaaS
- Developed by GRNET, 100% Open Source
- Compatible with OpenStack
- Aim: Simplicity and Getting Things Done
- In production for several years
- Also adopted outside GRNET in Europe, US, Asia, …
- Integrated with eduGAIN

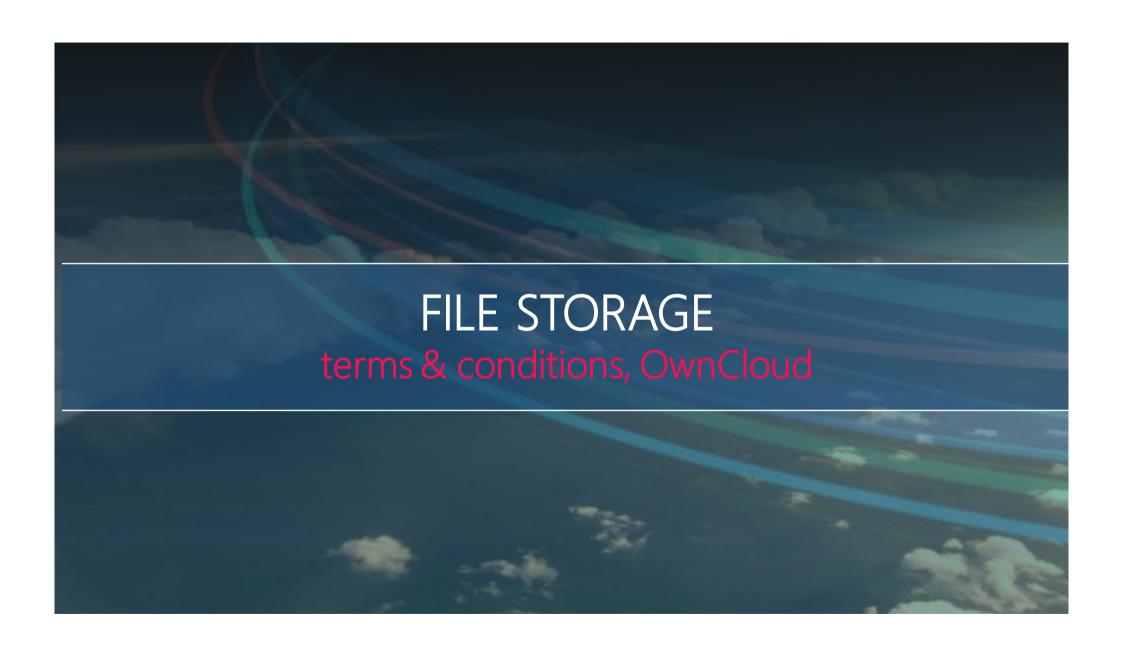- http://okeanos.grnet.gr and http://okeanos-global.grnet.gr

OpenStack

- Most popular Open Source cloud software and API

- Several NRENs are interested in offering cloud services using OpenStack

- A group has been set up to share knowledge and experience

- OSO: OpenStack Operators

- Mailing list and bi-weekly chats

- http://www.openstack.org

FILE STORAGE
terms & conditions, OwnCloud

File storage (sync & share)

SA7 is discussing educational pricing and conditions with four file storage providers:

- BOX
- Code42 (CrashPlan, SharePlan)
- Dropbox
- Zettabox

All of these providers are listed in the GÉANT Cloud Catalogue (Section 3.2).

All are interested in joint adoption efforts.

ownCloud

- Open Source file sync and share provider

- Popular choice for on-premises online file storage

- TERENA negotiated favoured pricing for members

- Several NRENs incorporate ownCloud
  into the services offered to their members and
  users

- OpenCloudMesh: allow file sharing between different ownCloud installations; to-date 14 organisations have signed up to participate

- Federated cloud sharing aims at an interconnected mesh of research clouds

- http://owncloud.org   https://owncloud.com/lp/opencloudmesh/
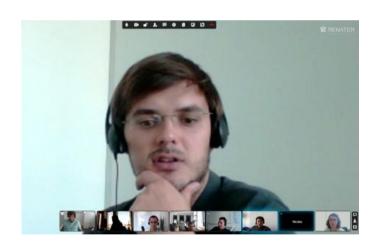
WEB CONFERENCING
RENDEZ-VOUS

rendez-vous

- Multi-party video conferencing developed by RENATER
- Powered by jitsi.org
- Simple to use
- No plugins or downloads (uses WebRTC)
- Open Source
- Very resource efficient (thousands of conferences on single server)
- Deploy videobridges on the GEANT network
- Orchestrate updates
- Deploy monitoring and discovery services

- http://rendez-vouz.renater.fr

CLOUD MANAGEMENT
RENDEZ-VOUS, ~okeanos global, OwnCloud

Cloud management (portals)

- Many NRENs have adopted a hybrid cloud strategy,
  offering a mix of community cloud (built and operated within R&E)
  and commercial (public cloud) offerings.

- These services have different interfaces, pricing models, reporting and billing mechanisms.
  A new layer is required to abstract the underlying complexity and to manage these different systems and resources.

- SA7 facilitates joint efforts by the NRENs in this area, including engagement with providers that can deliver these cloud management portal capabilities.

Cloud Management - Institution Requirements

Single University Scenario – 30,000 students, significant cloud adaption
- hundreds of end users of cloud accounts – IT admin, Researchers, Lecturers, Students with many different use cases
- Tens of departments / budget holders
- Tens of IAAS cloud accounts
- Multiple IAAS services

IT Department (service owner) Requirements :
- How can I ensure users access to services is appropriate and report on usage – compliance /governance
- How do I allocate IaaS service usage to budgets ?
- How do I manage invoices e.g. consolidated billing

Billing / Management
- Cloud account management – creating, allocating to budget holders
- User management – enabling, controlling, reporting access to cloud accounts
- Allocating users to cloud accounts i.e. enabling access
- Allocating cloud accounts to budget holders
- Consolidate billing - managing & tracking POs & invoices
- Cost management – quotas
- Export / integration potential to external billing systems ?
- Functionality

Cloud Management – Requirements for Different Levels

INSTITUTION

- interested in cloud accounts, budgets, users, usage, costs

NREN

- Large number of institutions per country
- Institution's usage – Reporting/feedback to measure cloud adaption - usage
- Multicloud Portal service

GÉANT /Management Reporting – Reporting/usage, costs per country & vendor

Communication and support – together

Cloud catalogue

IaaS (tender)

File storage

Webconferencing

Cloud management (portals)

Showcase series from 2 November

Survey out now

Adoption workshop spring 2016

Cloud conference spring 2016

Adaptable materials

Presentations at NREN meetings & user conferences

Communication and support

- What do you need from the SA7 team?

- How should it be presented?

Thank you

GÉANT

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www.geant.org