Community clouds

Andres Steijaert

SURFnet

GÉANT cloud activity leader

@ SIG-CISS

16 November 2018

Berlin

BRING THE CLOUD TO THE GROUND

Making cloud services accessible: easy and safe to use through pan-European collaboration and agreements

40 European
National Research and Education Networks (NRENs)

Collaborate in their European association GÉANT:
Network, Identity Management, Clouds

Deliver to 10.000 organisations with 50 million users

Collective hybrid multi-cloud approach, build and buy
Public clouds: procure from commercial suppliers
Community clouds: develop and operate sector specific solutions

One digital single market, with many cloud services

Together, we have the reach

GÉANT membership

NATIONAL MEMBERS
1 per country

REPRESENTATIVE MEMBER
NORDUnet*

ASSOCIATES

ADVA Optical Networking

Alcatel-Lucent

Ciena Corporation

CERN

Cisco Systems

*CSC (Finland)

*DeIC (Denmark)

ECI Telecom GmbH

EMBL

European Space Agency

Level 3 Communications

ownCloud

*RHnet (Iceland)

*SUNET (Sweden)

Tata Communications

*UNINETT (Norway)

50 million students,
researchers and staff,
who want to use the best
online services.

Most of those services
'live in the cloud'

Do not run locally on campus.

Cloud is an essential foundation.

Cloud adoption obstacles and concerns

Security and privacy	Lack of control and management tools	Vendor and contract management
Performance & reliability	Cost unpredictability	Vendor lock-in, data portability and interoperability
Internal expertise	Technical integration	

Do we have a choice?

Suppliers cloud focus: **all-in**

Microsoft Board Mulls Sales Force Revamp to Speed Shift to Cloud

by   Dina Bass
     dinabass

Board members at Microsoft Corp. are grappling with a growing concern: that the company's traditional software business, which makes up the majority of its sales, could evaporate in a matter of years -- and Chairman John Thompson is pushing for a more aggressive shift into newer cloud-based products.

Thompson said he and the board are pleased with a push by Chief Executive Officer Satya Nadella to make more money from software and services delivered over the internet, but want it to move much faster. They're considering ideas like increasing spending, overhauling the sales force and managing partnerships differently to step up the pace.

The cloud growth isn't merely nice to have -- it's critical against the backdrop of declining demand for what's known as on-premise software programs, the more traditional approach that involves installing software on a company's own computers and networks. No one knows exactly how quickly sales of those legacy offerings will drop off, Thompson said, but it's "inevitable that part of our business will be under continued pressure."

John Thompson Photographer: David Paul Morris/Bloomberg

"On-premise software business could evaporate in a matter of years"

Major Microsoft Reorganization Shifts Focus to the Cloud
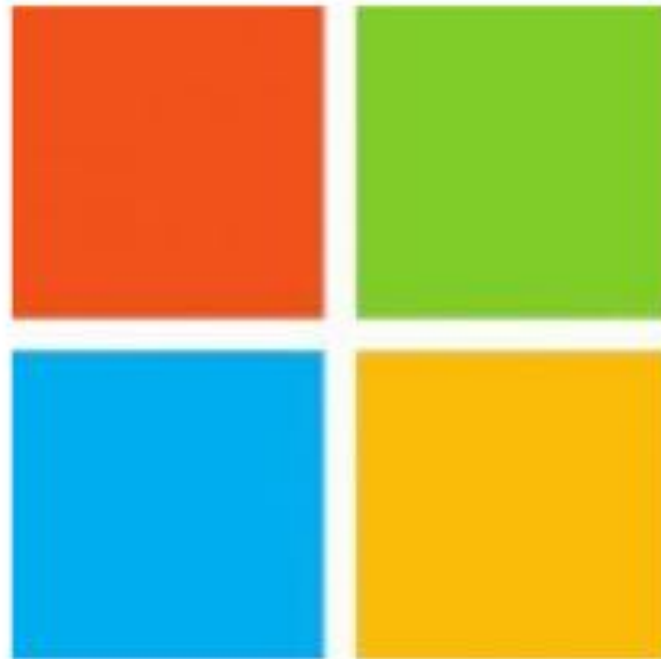
Dana E. Neuts, Subscription Insider • April 2, 2018

0 comments

Tags: Business Operations & IT   SaaS (Software)   Industry & Product Announcements   Business Models   Subscription Sales   Business (B2B)   Consumer (B2C)   App Subscription   Online Services & Tools   Auto-renew Subscription

Move over Windows, the cloud is taking over.

Source: Microsoft

In a memo to employees last Thursday, **Microsoft** (NASDAQ: MSFT) CEO Satya Nadella announced a **major company reorganization** that includes the formation of two new engineering teams: Experiences & Devices to be led by Rajesh Jha and Cloud + AI Platform to be led by Scott Guthrie. The reorganization shifts the company's focus away from the Windows operating system and onto the company's strongest business units, office productivity software, artificial intelligence and cloud technology. This is the biggest reorganization at Microsoft since Nadella became CEO in 2014, according to **The Seattle Times**.

'Over the past year, we have shared our vision for how the intelligent cloud and intelligent edge will shape the next phase of innovation. First, computing is more powerful and ubiquitous from the cloud to the edge. Second, AI capabilities are rapidly advancing across perception and cognition fueled by data and knowledge of the world. Third, physical and virtual worlds are coming together to create richer experiences that understand the context surrounding people, the things they use, the places they go, and their activities and relationships,' wrote Nadella in the **employee memo**.

CLOUD SERVICES

Users are choosers

What do we

CONSUME from others

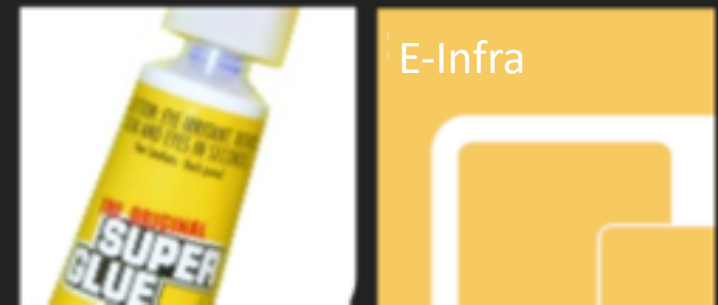PRODUCE ourselves

INTEGRATE with our infrastructure

Hybrid multi-cloud
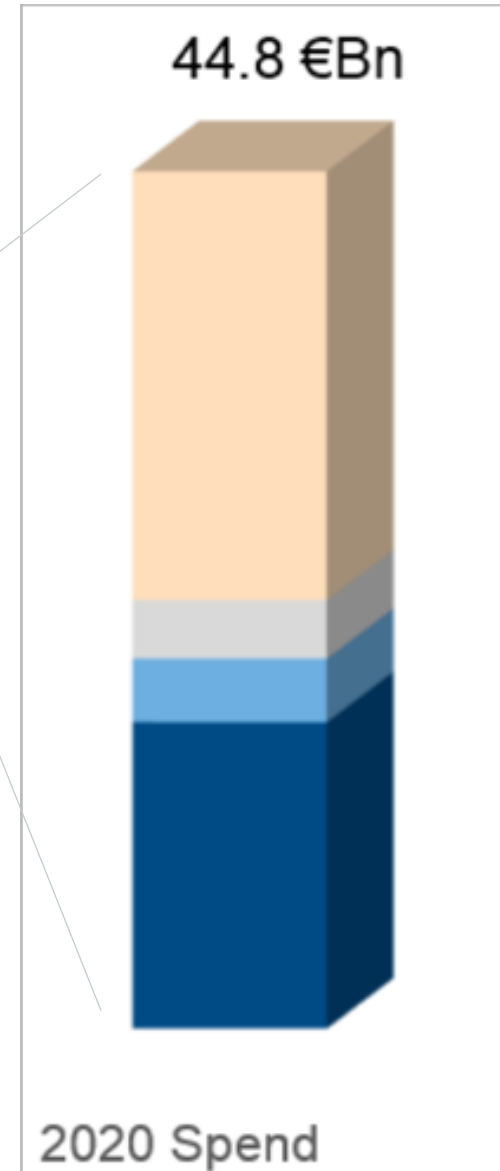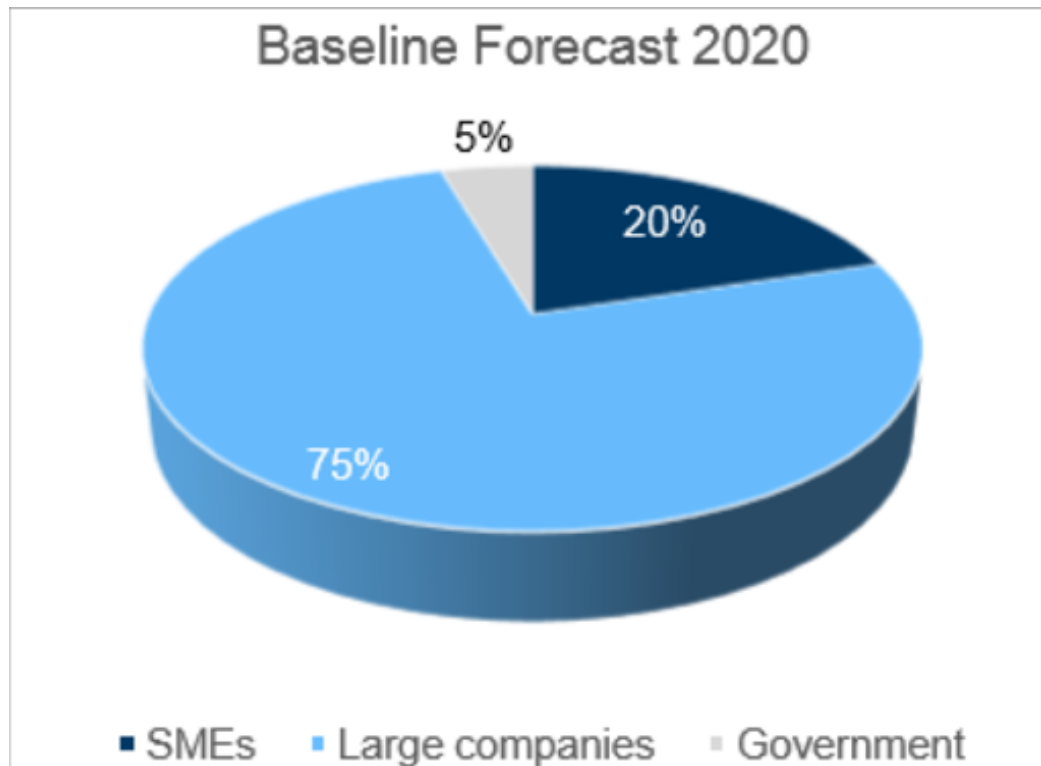
Users

Vendors

E-Infra
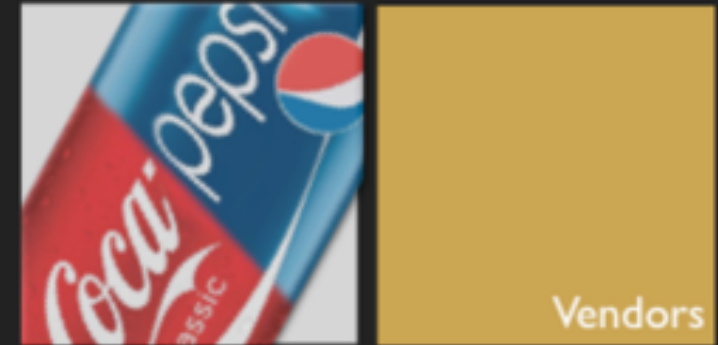
EU spending on clouds

2013:   2.8 billion euro (2.6% of total IT spending)

2015:   5.9 billion euro (4.5% of total IT spending)

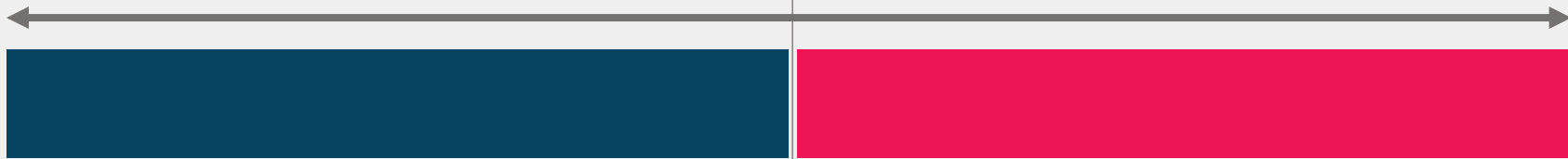2020:   44.8 billion euro (10.8% of total IT spending)

Baseline Forecast 2020

- SMEs 20%
- Large companies 75%
- Government 5%

44.8 €Bn

2020 Spend

- SaaS
- PaaS
- IaaS
- Private Cloud - IaaS only

GÉANT

BRINGING THE CLOUD TO THE GROUND
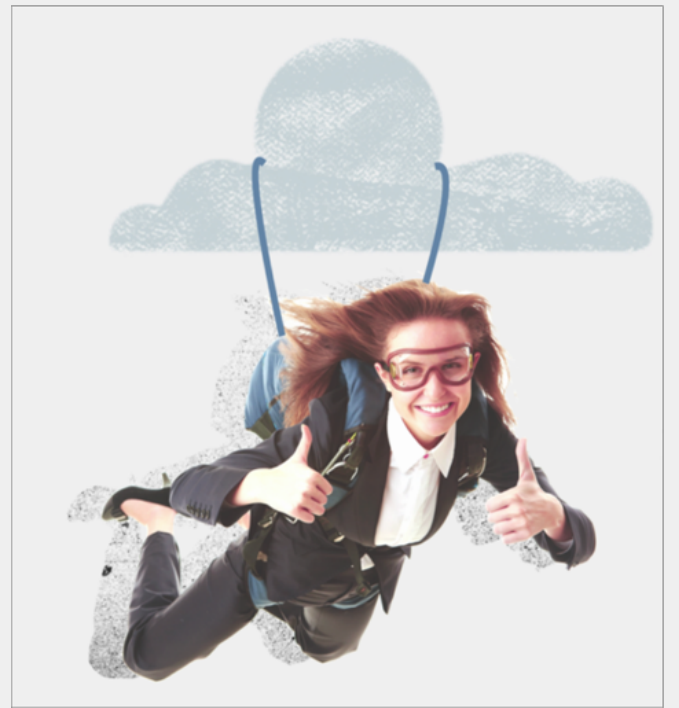
BROKER
Agreements with
commercial suppliers

BUILD
community clouds
offerings

Scale of cloud providers hinders strategic cooperation

Despite the great importance of the public cloud for large Dutch organizations, there is only a limited interaction with major suppliers.
The large scale and international orientation of these suppliers prevents such a partnership.

As the public cloud becomes a more important part of the business,
the need for agreements with suppliers about liability, security, innovation and roadmaps increases.
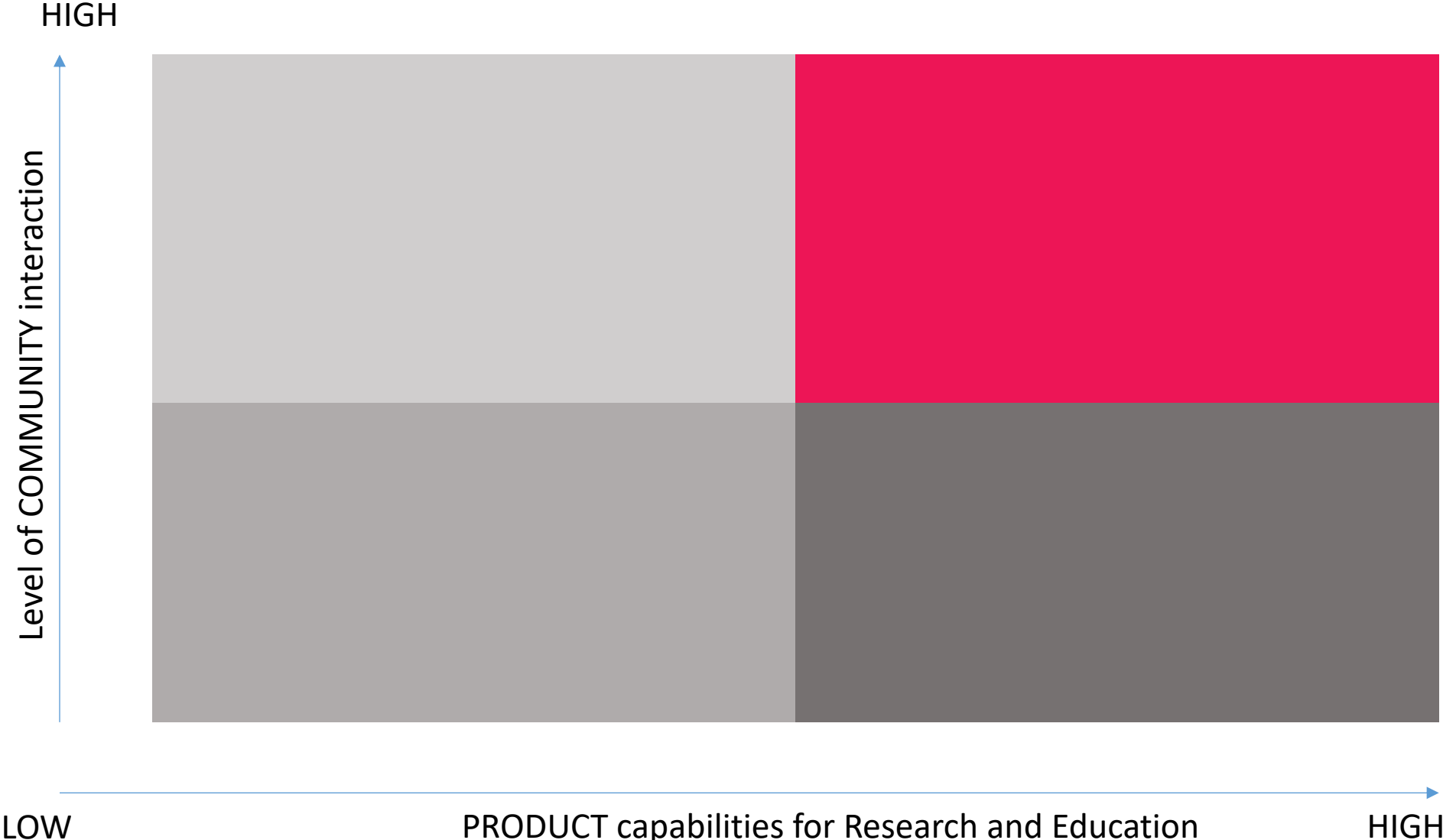
Virtually all organizations use the public cloud or consider doing this.
Benefits are widely recognized. Think of a large degree of scalability, time-to-market, agility, integration, flexibility, speed, lower tco, robustness, redundancy, safety, always technically up to date, management and ease of use. The IT function is therefore better able to focus on the business and company distinctive features. Moreover, the cloud has a direct or indirect positive influence on employee satisfaction and involvement.

Hybrid cloud prevails
Organizations often use the cloud on the basis of a hybrid model: a part in their own data center or co-location, a part private and part public. The percentage distribution differs greatly. This depends on the type of workload, costs and other needs.

https://itexecutive.nl/data-en-digitaal/schaalgrootte-cloudaanbieders-staat-strategische-samenwerking-in-de-weg/?mc_cid=8c8bd54625&mc_eid=780fa142f1

Supplier analysis matrix

HIGH

Level of COMMUNITY interaction

LOW   PRODUCT capabilities for Research and Education   HIGH

Benefits of the pan-European GEANT framework agreements

Discounted prices for all institutions, large and small

Ready-to-use agreements which comply with EU data protection law, including GDPR

Invoice billing, no credit card needed, accommodating capital expenditure through upfront commitments

Transfer existing educational licenses to the cloud

Manage usage and spending

Sign your contract under local law

Reduced traffic costs, through suppliers' connections to the GÉANT network

Single sign-on support (SAML2)

DIGITAL SINGLE MARKET
Digital Economy & Society

European Commission > Results of the GÉANT tender for Infrastructure as a Service solutions

The strategy | Economy | Society | Access & connectivity | Research & innovation | DG CONNECT

DG CONNECT
Who we are
Advisors
Events
Funding Opportunities
Newsletters
Consultations
Blog
Discussions
CoP for Better self- and co-regulation
Broadband Europe
ICT4Society
Students at ICT 2015
Discussion Forums
E-Infrastructures for You

Results of the GÉANT tender for Infrastructure as a Service solutions

Published on 30/09/2016

Europe's leading collaboration on e-infrastructure and services for research and education GÉANT, conducted a Pan-European tender to allow Research and Education institutions to consume the cloud in a safe, easy and predictable way.

The tender for 36 countries aimed to allow Research and Education institutions to consume the cloud in a safe, easy and predictable way, where services meet European and national regulations, have attractive pricing, networks and identity management capabilities and transparent manner.

This demand aggregation in GÉANT, of the NRENs 10,000 participating institutions, creates a substan to 500 million euro will be channelled through the four years.

2014/24/EU procurement directive

EU institutions can buy the offerings directly
There is no need to run your own tender

GÉANT cloud catalogue, IaaS offerings

Austria
Belgium
Croatia
Cyprus
Czech Republic
Denmark
Finland
Germany
Ireland
Lithuania
Luxembourg
Netherlands
Norway
Portugal
Spain
Sweden
Switzerland
United Kingdom

FUNCTIONS, APPLICATIONS	FUNCTIONS, APPLICATIONS	FUNCTIONS, APPLICATIONS
OPERATING SYSTEM	OPERATING SYSTEM	OPERATING SYSTEM
HARDWARE	HARDWARE	HARDWARE
CLASSIC MODEL	VIRTUAL MACHINES	CONTAINERS, micro-applications SERVERLESS, micro-functions

Containers as a Service (Caas)
Docker Cloud, Amazon ECS

Function as a Service (Faas), Serverless
AWS Lambda, Google Cloud Functions,
Azure functions

Provided by vendor

Managed by customer

Rehosting: Lift-and-shift; replicate in-house apps in the cloud without re-design.

Re-platforming: do not change the core of the application but optimise

Repurchasing: move to a new product (from in-house to SaaS)

Re-architecting: develop from the ground up

Retire: sunset the service

Retain: do nothing

Risk classification for sourcing decisions

LOW RISK	MEDIUM RISK	HIGH RISK
Data for public use	Personally Identifiable data	Sensitive (Personally Identifiable) data
Loss of confidentiality, integrity, or availability of the data or system has no significant impact	Data is not generally available to the public. Loss of of the data or system could have a mildly adverse impact	Loss of the data or system could have a significant adverse impact on our mission, safety, finances or reputation.

Data type	On-premise (at the institute)	In country	In EU + EEA	Anywhere, In non-EU non-EEA
public	Y	Y	Y	Y
unrestricted	Y	Y	Y	Y
restricted	Y	Y	Y	N
confidential	Y	Y	Y, but only in community cloud	N
secret	Y	Y	Y, but only in community cloud	N

DATA CLASSIFICATION QUESTIONS	<data type>
	(y/n)
Confidentiality (1 - Open, 2 - Restricted, 3 - Confidential)	
Can data be accessed publicly without special access rights (user credentials)?	
If not, does the data considered contain:	
data related to research projects shared with the project participants	
financial data (e.g. budget planning, accounting reports)	
personal identifiable data	
(e.g. customer data, employee data, mail, accounting data, disciplinary matters, qualifications...)	
sensitive personal data	
(e.g. physical or mental health data, ethnic, political, ...)	
Data related to corporate secrets	
(e.g. formulas, procedure descriptions, contracts, finance, exam questions...)	
Is the data confidentiality directly associated with mission-critical business process, legal requirements or contractual obligations to the users?	
Integrity (1 - Low, 2 - Medium, 3 - High)	
If the data is considered primary or unique:	
can it be recollected/reproduced identically with acceptable cost or reputation loss?	
If the data is NOT considered primary or unique (secondary data):	
can it be restored identically with no or low cost or reputation loss (e.g. backup data)?	
can it be restored identically with acceptable cost or reputation loss	
(e.g. recalculating primary data)?	
Can data changes or destruction be promptly/automatically detected?	
Is the data integrity directly associated with mission-critical business process, legal requirements or contractual obligations to the users?	
Accessibility (1 - Low, 2 - Medium, 3 - High)	
Is data processed permanently in real-time, so the maximum down-time must count in seconds or minutes (i.e. log archiving)?	
If not, is data processed occasionally:	
periodically in fixed intervals (e.g. hourly, daily, monthly) or on scheduled dates (e.g. 3:00 a.m.,	

Advanced pan-European backbone network connecting National Research and Education Networks (NRENs) across Europe
More than 50,000 km in length.

DATA VOLUME
Over 1000 terabytes of data are transferred every day

CONNECTING CLOUD PROVIDERS TO THE GÉANT & NRENs' NETWORKS, THROUGH PRIVATE PEERINGS

Private peerings
Microsoft Expressroute
AWS
DirectConnect
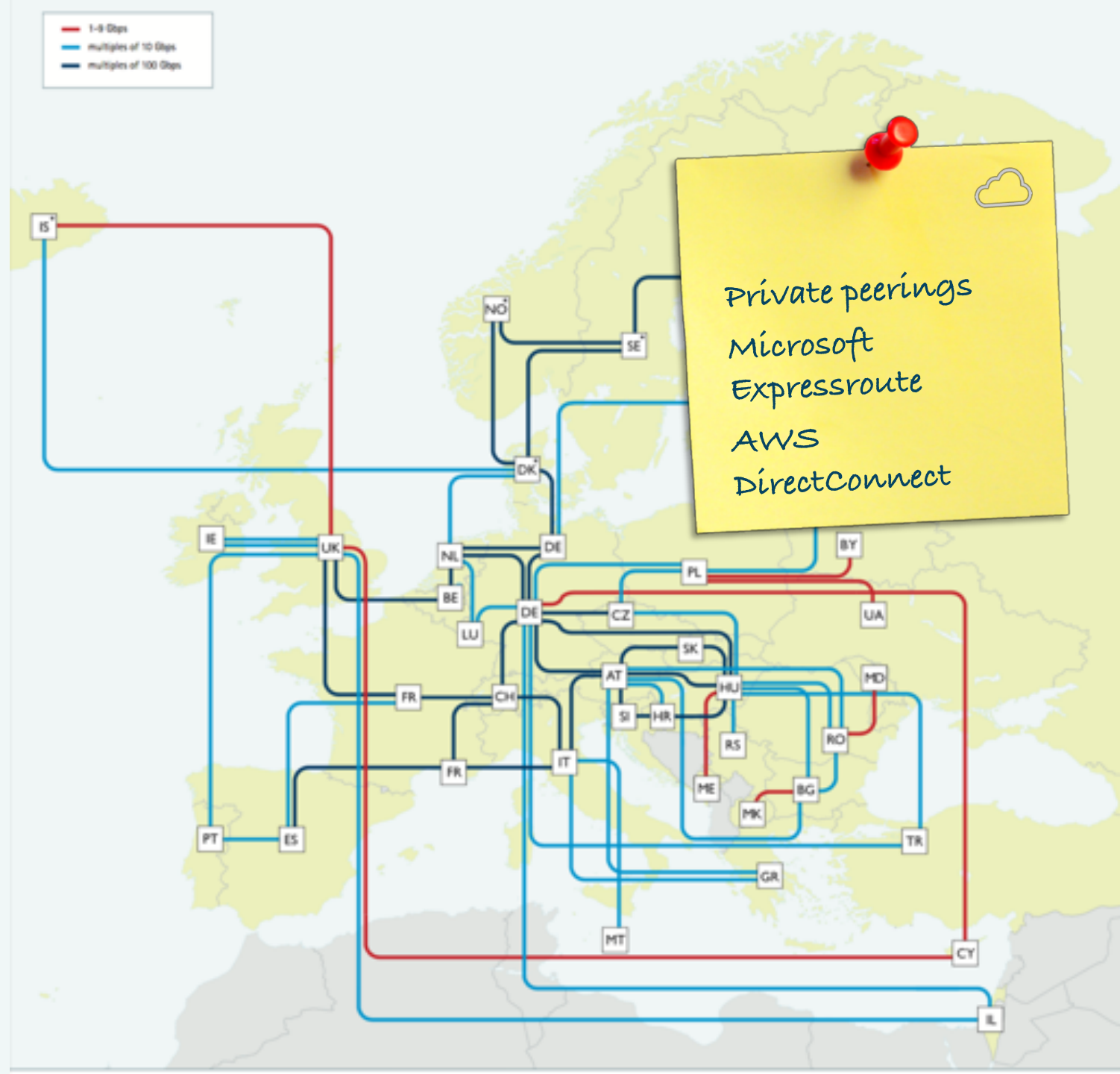
eduGAIN interconnects identity federations around the world

eduGAIN

Using SAML2 protocol

Over 40 federations worldwide support more than 1,500 Identity Providers and 1,000 Service Providers.

Legend:
- eduGAIN
- Voting-only
- Candidate

Cloud Orchestration
Cloud Management Platforms

The ability to control and move virtual machine workloads across different suppliers.

Centralised metering, alerts, billing, usage caps, cost control, reporting and workload optimisation.

My Servers
All Servers

Server	Group	Environment

You have no active servers at this time.

My Groups ⓘ
All Groups

	🖥	👤
SURF-DEMO	4	6
surfnet.nl / SURF-ET	62	10
surfnet.nl	645	132

My Orders
Showing 5 of 44   All Orders

#5075	🗑 frpi007	✔	SURF-DEMO
#5059	🖥 frpi007	✔	SURF-DEMO
#2225		✘	surfnet.nl / SURF-ET
#1985		⚠	SURF-DEMO
#1743	🖥 test7657	✔	surfnet.nl / SURF-ET

Top Blueprints ⓘ
Showing 5 of 22   Catalog

PlateSpin receiver	1
CentOS 6	0
CentOS 7	0
CloudBolt	
Custom Server	

Reports
Showing 10 of 16   All Reports

Cost Dashboard

Group Cost Details

Custom Server Report

Global Allocation Trends

Recent Activity ⓘ

test01.surftest.nl
Console access requested by Rutger Tromp

testrt180223
Console access requested by Rutger Tromp

Servers

▸ ▼ Show Filters

0 selected ▾   ✏ 🏷 ⟳▾ ⚙ ⬇ ✕

		Hostname ▲	IP	OS	Status	Owner	Group	Environment	Labels	Added ⓘ
☐	▬▬▬	CMP-SHARED-Debian9.1-template-x64-20171005-reinstall		◬	Active	None	SURF-DEMO	SURF-DEMO Environment		10/5/17 5:00 P
☐	▬▬.	cumulus08	1.1.1.51	🔆	Active	None	SURF-DEMO	SURF-DEMO Environment		7/20/17 12:01
☐	▬▬▪	cumulus3	1.1.1.50	🔷	Active	None	SURF-DEMO	SURF-DEMO Environment		9/19/16 11:00
☐	▬▪▮	tachyon.surfnet.nl	145.100.177.227	🔴	Active	nils.vogels@surfnet.nl	SURF-ET	SVP Amsterdam voor SURFnet ET (M630)	chef-server	8/28/17 4:38 P

Servers / **Server frpi007**

Powered Off

- Refresh Info
- Change Attributes
- Change Resources
- Create Snapshot
- Delete Snapshot
- Force Power Down VM
- Mount ISO
- Unmount ISO

Details | Disks | Networks | Parameters | Jobs | History | Stats | Power Schedule

Organization

Owner:	Frank Pinxt
Group:	SURF-DEMO
Environment:	Unassigned
Resource handler:	VANCIS-SURFNET
Labels:	None

Hardware

CPU:	16
Memory:	32 GB
Disk:	80 GB

Configuration

Status:	Historical
Hostname:	frpi007
IP Address:	145.101.124.6
Date Added:	9/29/17 10:47 AM

Details | Disks | Networks | Parameters | Jobs | **History** | Stats | Power Schedule

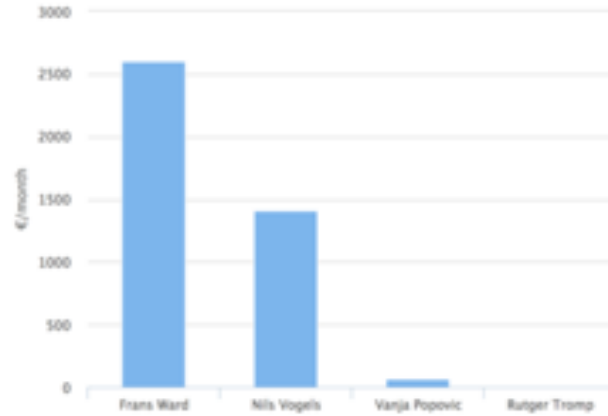| Date ▾		Type	Owner	Event	Job
9/29/17	5:56 PM	Server Deletion Event	Frank Pinxt	Server was decommissioned	Delete Server Job 670797 ✓
9/29/17	5:51 PM	Server Notification Event	Frank Pinxt	Console access requested by Frank Pinxt	None
9/29/17	2:00 PM	Server Change Event	None	vmdk path of disk 'Hard disk 1' changed to '[CloudServices_092_0951] frpi007/frpi007.vmdk' Datastore of disk 'Hard disk 1' changed to 'CloudServices_092_0951'	None
9/29/17	10:55 AM	Server Creation Event	Frank Pinxt	Server record created by a provisioning job	Provision Server Job 669931 ✓

10 ▾   1 - 4 of **4 items**

Reports / **Cost Dashboard**

Cost breakdown by technology
€8553/month total

■ VMware vCenter   ■ OpenStack

Cost of Top Users

3000
2500
2000
1500
1000
500
0

€/month

Frans Ward   Nils Vogels   Vanja Popovic   Rutger Tromp

Cost for top 3 groups over past 90 days
Click and drag in the plot area to zoom in

Servers by date added and cost
Each point represents a server

Reports / **Cost Summary Report for SURF-ET: 2018-02-01 to 2018-02-28**

This report may take a minute or two. Once it completes, it will be cached for this group and date range, making it blazingly fast from then on.

[Change Report] [⬇ Export as CSV] [Email Report]

All Environments: €227.41

SVP Amsterdam voor SURFnet ET (M630) (4 serve...

Resources	
Hardware Cost (Off)	
Hardware Cost (On)	
Software Cost	
Extra Cost	
Total	

■ SVP Amsterdam voor SURFnet ET (M630): €108.33
■ DemoCMP: €59.61
■ KPN Apeldoorn voor SURFnet-ET: €26.45
■ VANCIS Amsterdam voor SURFnet ET: €24.36
■ EU (Ireland) [eu-west-1] vpc-5658e031: €8.42
■ Unassigned: €0.18   ■ KPN Apeldoorn voor UvA: €0.06
■ Microsoft Azure WestEurope voor arcuscollege.nl: €0.00

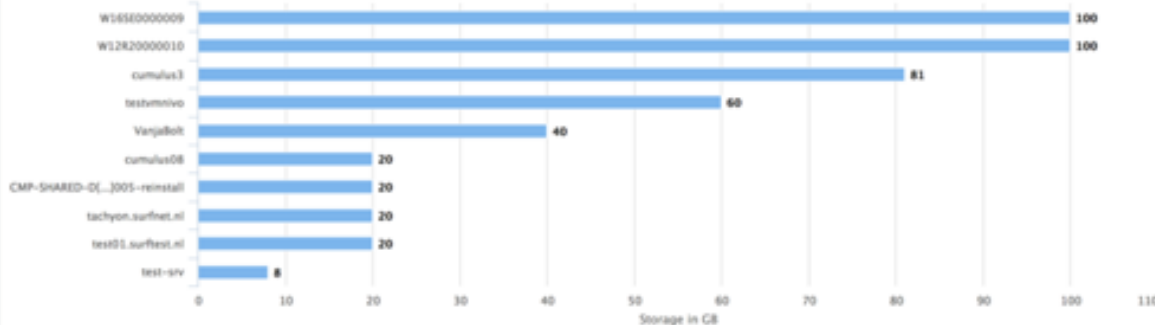
Reports / **Storage Report**

[Export as CSV]

Servers by storage
Includes all servers in groups you have permission to view.

W16SE0000009 — 100
W12R20000010 — 100
cumulus3 — 81
testvmnivo — 60
VanjaBolt — 40
cumulus08 — 20
CMP-SHARED-D[...]005-reinstall — 20
tachyon.surfnet.nl — 20
test01.surfnet.nl — 20
test-srv — 8

Storage in GB
0 10 20 30 40 50 60 70 80 90 100 110

Reports / **Highest Cost Servers**

Includes all servers in groups you have permission to view

	Server	Rate ▾	Owner	Group	Environment
	tachyon.surfnet.nl	€116.07/month	Nils Vogels	surfnet.nl / SURF-ET	SVP Amsterdam voor SURF
	cumulus3	€66.73/month	None	SURF-DEMO	SURF-DEMO Environment
	VanjaBolt	€66.24/month	Vanja Popovic	surfnet.nl / SURF-ET	DemoCMP
	CMP-SHARED-D[...]005-reinstall	€41.78/month	None	SURF-DEMO	SURF-DEMO Environment
	W16SE0000009	€40.39/month	None	surfnet.nl / SURF-ET	KPN Apeldoorn voor SURF
	W12R20000010	€40.39/month	Bart Bosma	surfnet.nl / SURF-ET	KPN Apeldoorn voor SURF
	testvmnivo	€31.68/month	Nils Vogels	SURF-DEMO	SURF-DEMO Environment

Profile 57 %
Click here to update profile

Reseller menu

- Dashboard
- Marketplace
- Reseller
- Manage Organizations
- My services
- Billing
- Language
- Reports
- Logs
- Search
- Tools

Host   Reseller
Cloudmore

EN

Marketplace

Enter filter   Clear

Azure
Microsoft
Virtual Data Center
★★★★★

CTSM Spectrum Protect IBM
Backup & Security
★★★★★

DNS Service
Cloudmore
General
★★★★★

F-Secure
F-Secure
Backup & Security
★★★★★

FTP
Cloudmore
General
★★★★★

HP Connected Backup
HP
Backup & Security
★★★★★

LiveVault
LiveVault
Backup & Security
★★★★★

Microsoft O365 CSP Direct
Microsoft
★★★★★

Cloud Management Portal

IT SECURITY FOR THE ENTIRE BUSINESS

+ Service	+ Market	+ Subscriptions	+ UserService
Demo Service	Reseller	0	True
Office365 Security	Reseller	0	True
Projectbase		0	True
Support Contract	Reseller	1	False

Products

+ Name	+ Item code	+ Cost price	Suggested Price	+ Sales price	+ Margin	Margin (%)		Actions
Dynamics 365 Enterprise Edition Plan 1 - Add-On for CRM Pro (Qualified Offer) for Students	002B2415-2500-4001-B534-A49866C3F252	11.25	15.00	15.00	3.75	25.0%	GBP	
Dynamics 365 Enterprise Edition Plan 2 - Operations Additional Database Storage (Government Pricing)	003F9F2F-7E0C-4208-90A0-730BC140E410	2.64	3.80	3.80	1.16	30.5%	GBP	
Dynamics 365 for Operations, Enterprise Edition Device from SA for All Tasks Device (qualified offer)	006B36E0-0734-4B55-AD1F-5FF597BB5647	23.75	33.90	33.90	10.15	29.9%	GBP	
Dynamics 365 for Sales, Transition Offer for CRMOL Pro Add-On to O365 Users for Students	008D2A79-7D42-4229-85E1-B413E26770A9	13.26	17.70	17.70	4.44	25.2%	GBP	
Office 365 Education E5 without PSTN Conferencing for students	0126436E-FF58-448E-AFFB-6D250C4C720C	4.22	5.30	5.30	1.08	20.4%	GBP	
Dynamics 365 Enterprise Edition Plan 2 - Operations Additional File Storage for Faculty	01F6233-C892-438A-93E7-946C200023B4	0.29	0.40	0.40	0.11	27.3%	GBP	
Dynamics 365 Enterprise Edition Plan 2 - Operations Sandbox Tier 5 Premier Performance Testing for Students	0A25FA2-9486-4801-300C-6F080A8503A4	2533.66	3619.50	3619.50	1085.84	30.0%	GBP	
Dynamics 365 Enterprise Edition Plan 2 - Operations Sandbox Tier 4 Standard Performance Testing for Faculty	0C354CC-970F-4AB4-9D41-6820A2A12896	2293.49	3276.40	3276.40	982.91	30.0%	GBP	
Dynamics 365 for Team Members, Enterprise Edition - Tier 4 (500-999 Users)	0E39E110-8C49-4182-A2B4-34C090215B54	3.11	4.10	4.10	0.99	24.1%	GBP	

Edit Product

Type
Customers
Product name
Description
Item code
Subscription period
Payment frequency

Management
Price
Cost Price

Delivery channel
Manage the portfolio
Guide suppliers, NRENs and institutions

backend

contract / provider management

front-end

Community: 150 NREN service delivery staff
Service catalogue, contract repository
Website, newsletter, videos
Use cases and article
Weekly cloud VC meetings
Webinar and workshops, also for institutions

Location of event: country	Count of Name of event
	24
Norway	17
the Netherlands	12
Czech Republic	10
Ireland	7
United Kingdom	7
Moldova	6
Belgium	5
Hungary	5
Israel	5
Croatia	4
Portugal	4
Switzerland	4
Denmark	3
Germany	3
United States	3
Finland	2
France	2
Greece	2
Romania	2
Spain	2
Albania	1
Cyprus	1
Estonia	1
Luxembourg	1
Singapore	1
Sweden	1
Total	**135**

Size of audience

6288

Location of event: city and Name of event

ONLINE SERVICES DEVELOPMENT & DELIVERY
GN4-3 WP4
2019 - 2022

Scale up hybrid service delivery

A balanced delivery between
  community clouds and
  public (commercial) clouds

Broker and buy:
  a larger portfolio,
  through tenders and contracts.
Build:
  more joint service development
  on video conferencing
  and NRENs sharing and scaling-up
  national clouds to a pan-European level.

Educational services
Research services
Connect cloud providers to the network and
Identity Management systems

Cloud Competency Centers

NRENs support institutions
with the full-service
delivery lifecycle

From cloud strategy and sourcing
decisions to service contracting,
implementation
and service management

Core platform
from cloud catalogue
to cloud marketplace

Make consumption easier

Evolve the current cloud catalogue
and 'building block' delivery approach

into a ready-to-use cloud marketplace,
which offers institutions
a one-stop shop
for comparing, selecting, buying and
rating cloud services.

consortium partners

OCRE will drive adoption of digital services and close the gap between the supply and demand sides

RESEARCHERS

Easy adoption

Incorporate commercial digital services into their activities

Service discovery and acquisition

OCRE

SERVICE PROVIDERS

Easy delivery

Reach and meet the needs of the research community

Meet legal, financial and technical requirements
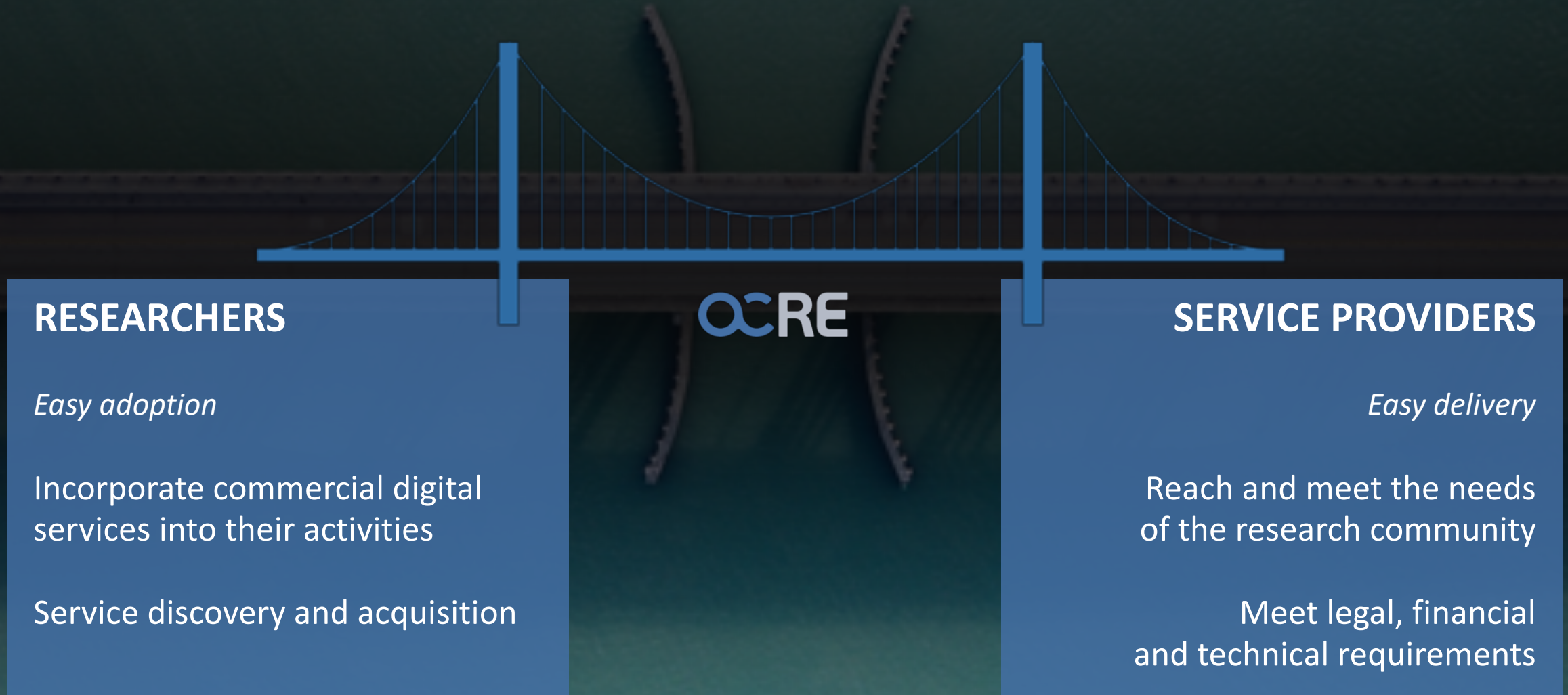
Two distinct service types in one delivery ecosystem

OCRE | Open Clouds for Research Environments

Commodity type commercial digital services

Infrastructure as a Service (IaaS), Platform as a Service (PaaS)

Software as a Service (SaaS) in the areas of

file storage, online collaboration, simulation and virtualisation tools.

Earth Observation commercial services

Data collected by the European Earth Observation programme, **Copernicus**,
is made available through a number of Data and Information Access Services (DIAS).
OCRE will enable delivery from commercial service providers who create their front-office services
on top of the DIAS, to offer their services to the research community.

OCRE aims to remove barriers that are currently hampering a large-scale adoption of these services.

Building on two delivery vehicles

In response to EC call INFRAEOSC-01-2018
'Access to Commercial Services through the EOSC-hub'
Part of the European Open Science Cloud, OCRE has proposed to

- Investigate the European research community's needs and aggregate demand.

- Run a pan-European call for competition (tender),
  to select service providers who meet the requirements.

- Validate suppliers' technical readiness through a test-suite.

- Facilitate suppliers to list their services in the EOSC-hub Service Catalogue
  and enable federated access to these services,

- Stimulate adoption by the research community, who can consume and use through different
  models:
  - Buy as an individual organisation or through a buyers group of institutions aggregating demand
  - Benefit from adoption funds available in the project. OCRE will manage the adoption funds and
    buy resources from the selected suppliers (OCRE will act as customer) and make cloud resources
    available to research users, individual institutions and buyer groups in a number of adoption
    waves and including a voucher model.

- Offer a business management platform, with a consumption and usage dashboard,

- Manage the offerings and track the usage for the 2019 – 2021 project duration.

Europe

Largest producer of research data in the world.
But IT infrastructure is insufficient
and too fragmented.
Which leads to an underutilisation of big data.
EC wants to strengthen and interconnect
research IT infrastructure,
through the **European Open Science Cloud**.

NRENs as cloud competency centers

DELIVERY and ADOPTION
Support institutions to use cloud services.
Organise meetings, workshops, cloud strategy,
data and risk classification, cost benchmarking,
license management and technical migration support.

CONNECTIONS
Network peerings, Identity management &
multi-cloud management

BROKER & BUY
Establish a close relationship
with suitable providers, followed
up by establishing agreements.
Using EU procurement directive
to run tenders

BUILD
Develop our own cloud offers.
National community clouds.
GEANT: scale up national clouds
to European level

AGGREGATE EXPERTISE & DEMAND
Collective cloud requirements
Hybrid, multi-cloud development and delivery

GÉANT cloud activity

Service Development: Cloud Offerings
Task Leader: Dan Still – NORDUnet (CSC)

Aggregate and scale-up capable national service offerings to a pan-European level.
Help NRENs identify services suitable for joint offers
Support and coordinate development efforts which establish such pan-European services, with NRENs pooling resources and collaborating on the delivery.

Connect commercial and community service offerings to the GÉANT and NRENs infrastructures, including:
Network peerings and connections
Trust and identity systems
Multi-cloud management capabilities
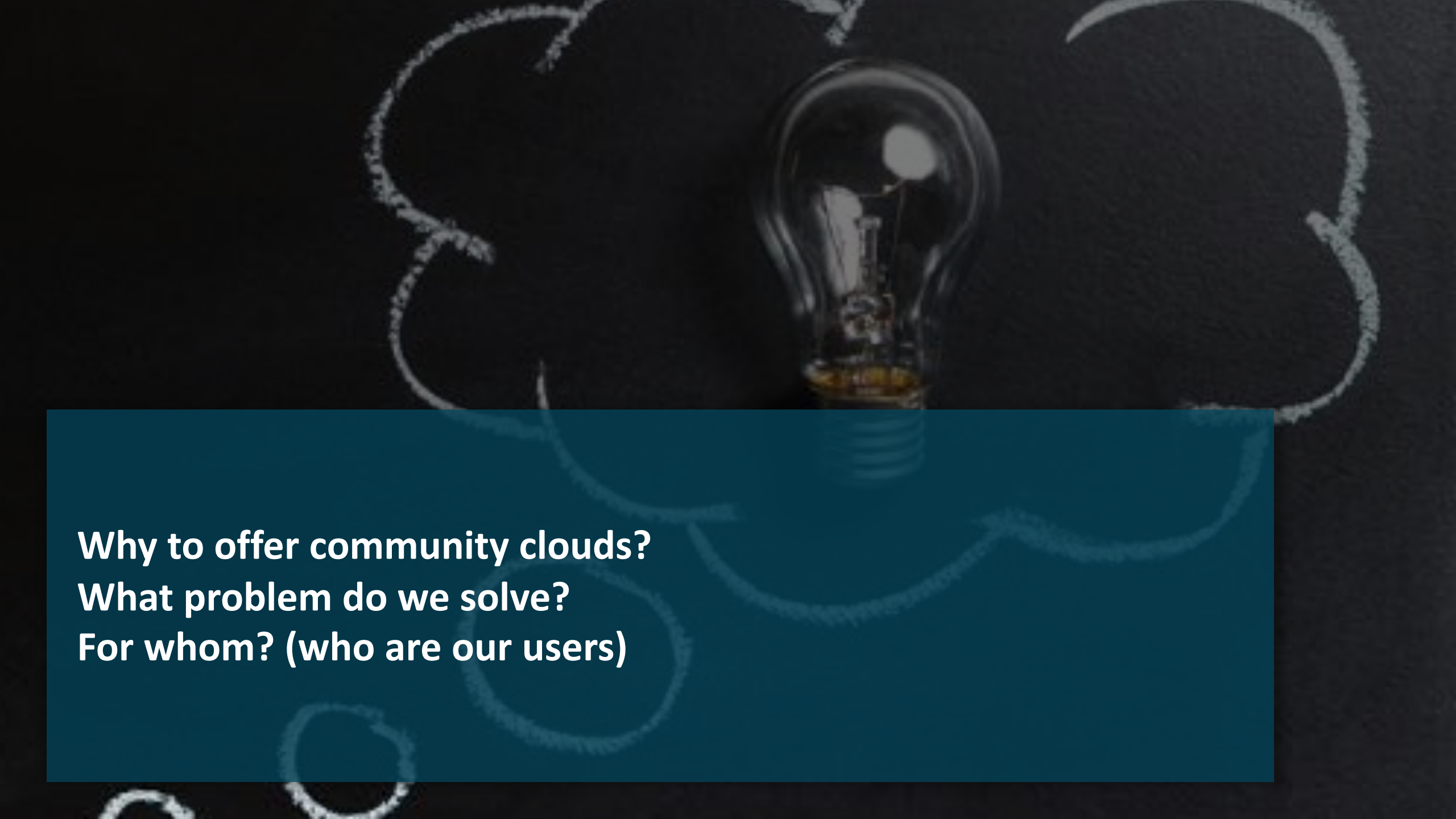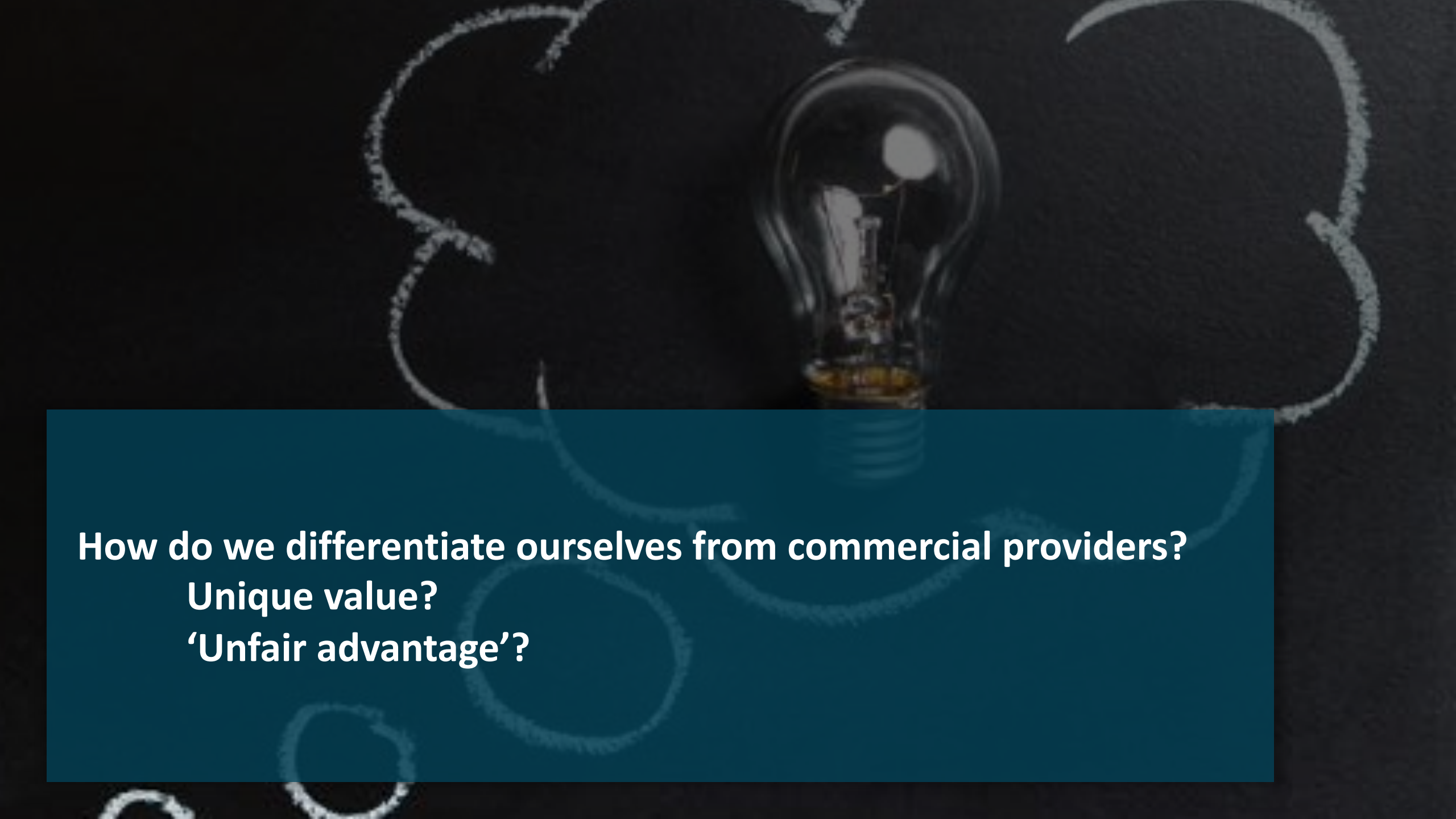
Collaborate with the SIG-MSP and SIG-CISS communities

Team:
CESNET, GARR, GRNET, KIFU, NORDUNET, PSNC, RENATER, SURFNET

Why to offer community clouds?
What problem do we solve?
For whom? (who are our users)

How do we differentiate ourselves from commercial providers?
    Unique value?
    'Unfair advantage'?

CLOUD, SWOT

STRENGHTS

WEAKNESSES

OPPORTUNITIES

THREATS

Which (types of) community clouds services would be useful to offer?

Which service would be best to start with ('low hanging fruit')

**How could your organisation contribute,
in terms of expertise and cloud resources.**

Towards the clouds together

andres@surfnet.nl

https://clouds.geant.org