



# GÉANT Cloud update

GÉANT updates session

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# Intro

- GÉANT Clouds throughout the years
- Adoption and communications so far
  - GÉANT summary
  - NRENs: JISC, FCT
- General issues and obstacles to work on
- Future: GÉANT clouds in 2019-2022
- Adoption and comms work in 2019

# GÉANT clouds throughout the years (1): before 2016

NRENs developing their private clouds  
Preparing public cloud preferential offers through  
GÉANT  
Creating GÉANT cloud portfolio

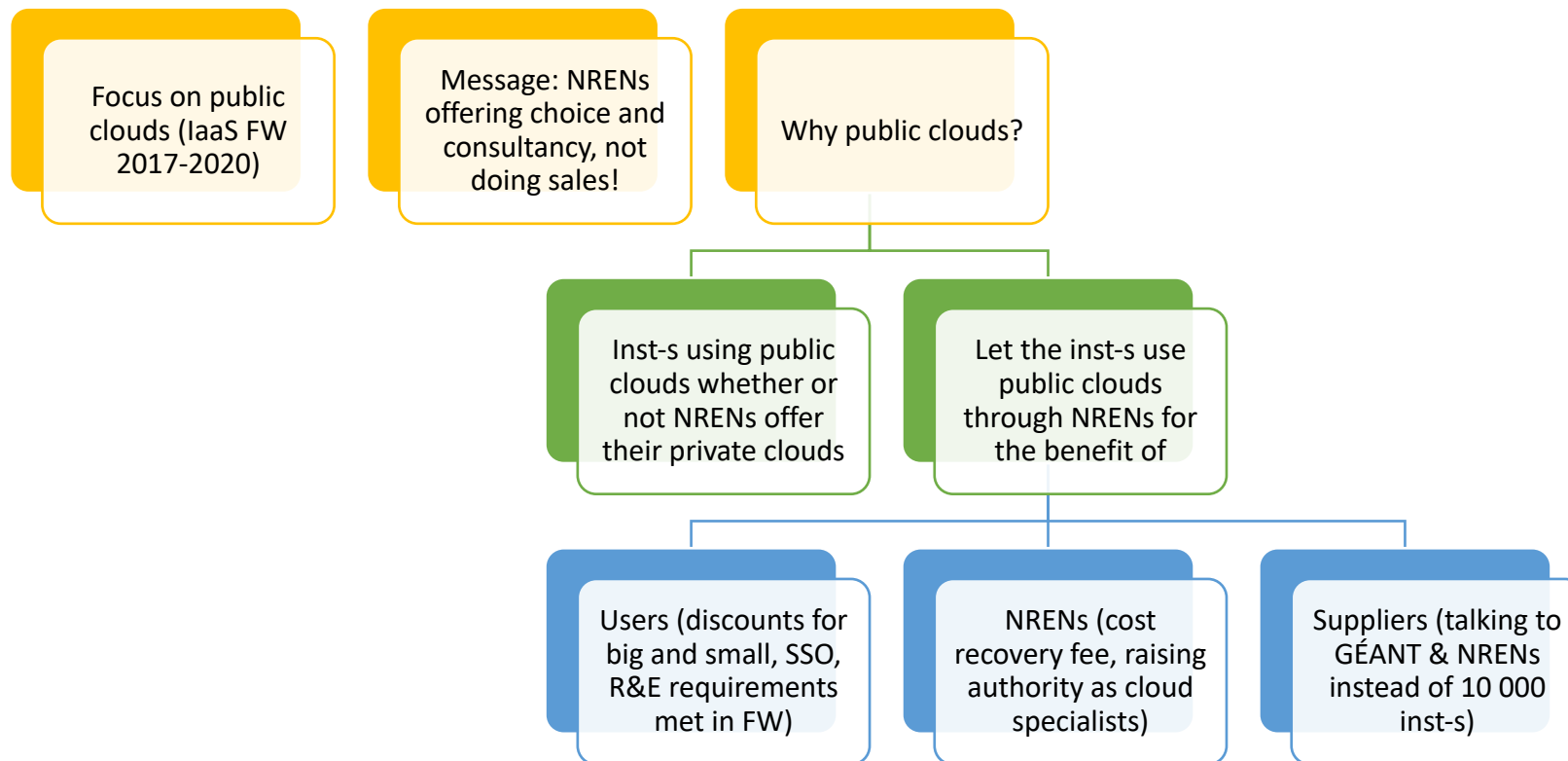
# GÉANT clouds throughout the years (2): 2016-2018

- Cloud as one of the main 3 activities in the GÉANT project
- Framework (FW) and adoption support for public IaaS services for R&E community
- FW of videoconferencing services for NRENs
- Implementation of infrastructure services

Virtual machines, backup, storage

- Preferential offers:  
Dropbox, Enter, Wire, Google Cloud, Paldesk

# Cloud adoption and communications in 2016-2018 (1)



# Cloud adoption and communications in 2016-2018 (2)

## **Creating CSDM community and supporting NRENs**

Weekly Cloud Forums (20-30 participants)

Mailing list

Internal BOX site for sharing material + GÉANT  
Repository

IaaS Framework Cookbook

## **Raising awareness in the R & E community**

Website, newsletter, articles

Guidelines and tools (Data Classification Tool)

Recorded webinars, use cases

Presentations, meetings

Trainings & workshops

# ✓ Comms work and numbers (2016-2018)

135 events organised/participated, reaching 6631 participants

325 subscribers to cloud newsletter

140 specialists from 34 NRENs supported

298 inst-s consuming IaaS services in 18 countries

47 weekly Forums, incl presentations by suppliers & cloud team

## Workshops:

- 40 participants at AWS & Azure for institutions
- 19 participants at GÉANT cloud workshop at EAPEC18 for CEE countries
- 50 participants at Google machine learning workshop at TNC18

# NREN presentations

Jessica Wu, JISC

Salome Branco, FCT



# Results of the cloud survey for European institutions (1)

173 responses (IT staff, procurement, legal, researchers, etc)

Almost all use clouds: collaboration & clouds, file storage, VMs

More than half intend to buy clouds in next 2 years

Public clouds little more use than private (responses 80/58)

Majority has heard the offers from NRENs or suppliers (106/73)

Why they offer clouds to their end users?

For more services, be more agile, reduce costs

# Results of the cloud survey for European institutions (2)

## Obstacles:

- concerns about privacy and security
- cost uncertainty
- lack of expertise

## Help needed:

- Technical information & training
- Information on contractual and legal aspects
- Contact with institutions in similar position

$\frac{3}{4}$  need training: workshops on use cases

# Digital divide in cloud usage

Consumption in public clouds higher in N & W Europe

E & S rather relying on EU funding than its own business models

## **Change of paradigm needed:**

“Free” services by NRENs aren’t actually free

Commercial clouds are safe through GÉANT Frameworks

## Ensure

### Ensure even better cloud service delivery

- Hybrid cloud delivery platforms
- Cloud security
- Connectivity and easy access

## Utilize and scale up

### Utilize and scale up the delivery system we have set up to provide more services

- Community cloud services
- Learning management, educational tools

## Explore

### Explore new areas

- Machine learning
- Artificial intelligence
- Container-based virtualization

What waits ahead in 2019-2022 (GN4-3 and OCRE)

# What waits ahead in OCRE (2019-2021)

Public clouds available through GÉANT FW

IaaS (compute, storage, network)

PaaS

SaaS (file sync & share, online collaboration, simulation & virtualisation tools)

Commercial Earth Observation services

Making use of Copernicus Data Information Access Services (DIAS)

Focus on research!

# What waits ahead in GN4-3 (2019-2022)

Hybrid multi-clouds for R & E

Community clouds (sharing NRENs clouds)

Learning Management Systems and educational tools

Trainings and workshops!

# Cloud adoption and communications in 2019

## NRENs as cloud competency centres

### Training NRENs:

7-8 May 2019, Dublin  
GÉANT Clouds, Azure & AWS  
technical workshops

## Evolve the cloud and service usage skills and capabilities of the NRENs and their institutions

### Topics:

cloud strategy, sourcing decisions, contracting, legal, implementations, workload migrations, machine learning and artificial intelligence, security, cost management

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Thank you!