Multi-tenancy in federated Clouds

A CloudWATCH webinar

14:00 – Welcome and Introduction   5'

14:05 – One minute madness   5'

14:10 – Multi tenancy in federated Clouds   30'

14:40 – Open discussion   20'

Introduction

"Multi-tenancy in federated Cloud systems is unequivocally linked with identity management and federation."

Michel Drescher (Host)

EGI.eu

"End to end trust in multi-tenancy clouds (and other multi-clouds) will become critical for the uptake of these systems."

Jesus Luna,

Cloud Security Alliance

"Bring simplicity and clarity to the task of understanding the business potential of modern computing practices."

Ian Osborne

The Knowledge Transfer Network

"Multi-tenancy and Intercloud bring both opportunities & threats - interoperability, standardization, latency and privacy."

Colin Wallis

New Zealand Government, GCIO's Office

One minute madness

Jesus Luna

- Customers perceive *lack of security assurance and transparency* in multi-cloud/multi-tenant systems.

- Three main pillars of trustworthy systems
  - *Transparency and Accountability in the supply chain.*
  - *Security assurance e.g., through Service Level Agreements.*
  - *Security certifications that enable continuous monitoring.*

Ian Osborne

- Create simple, robust patterns that can be reliably implemented across the Cloud infrastructure

- Multi-tenancy: Sharing of software implementations by multiple end-users

- How consistently can multi-tenancy be implemented in different infrastructure platforms?

- How would such information be made available to be used selectively?
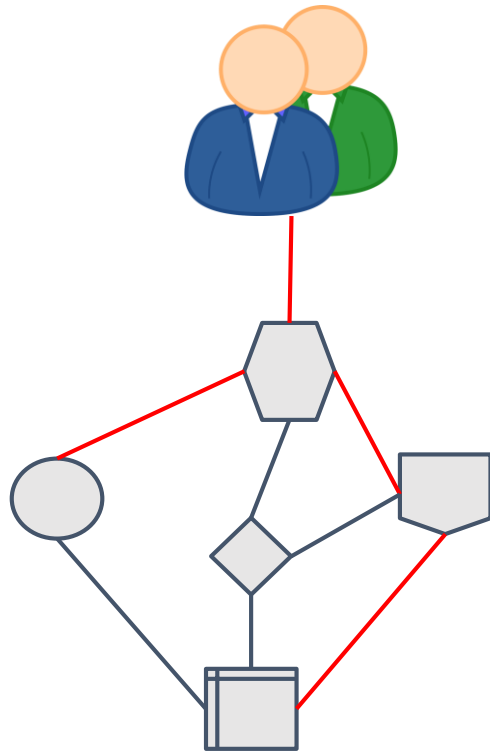
Colin Wallis

- Cloud standardisation has started – but lags too far behind

- Challenges in Intercloud data portability and interoperability

- Multi-tenancy may put pressure on service latency and privacy
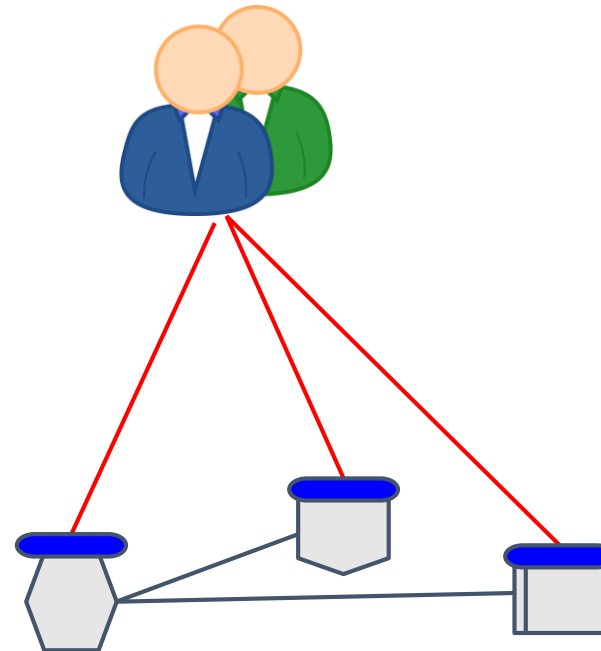
- Significant work is still to be done

Multi-tenancy in federated clouds

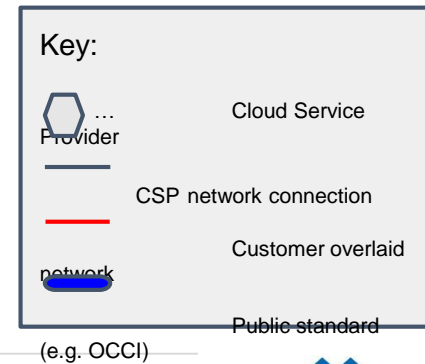A camp-fire style discussion among experts

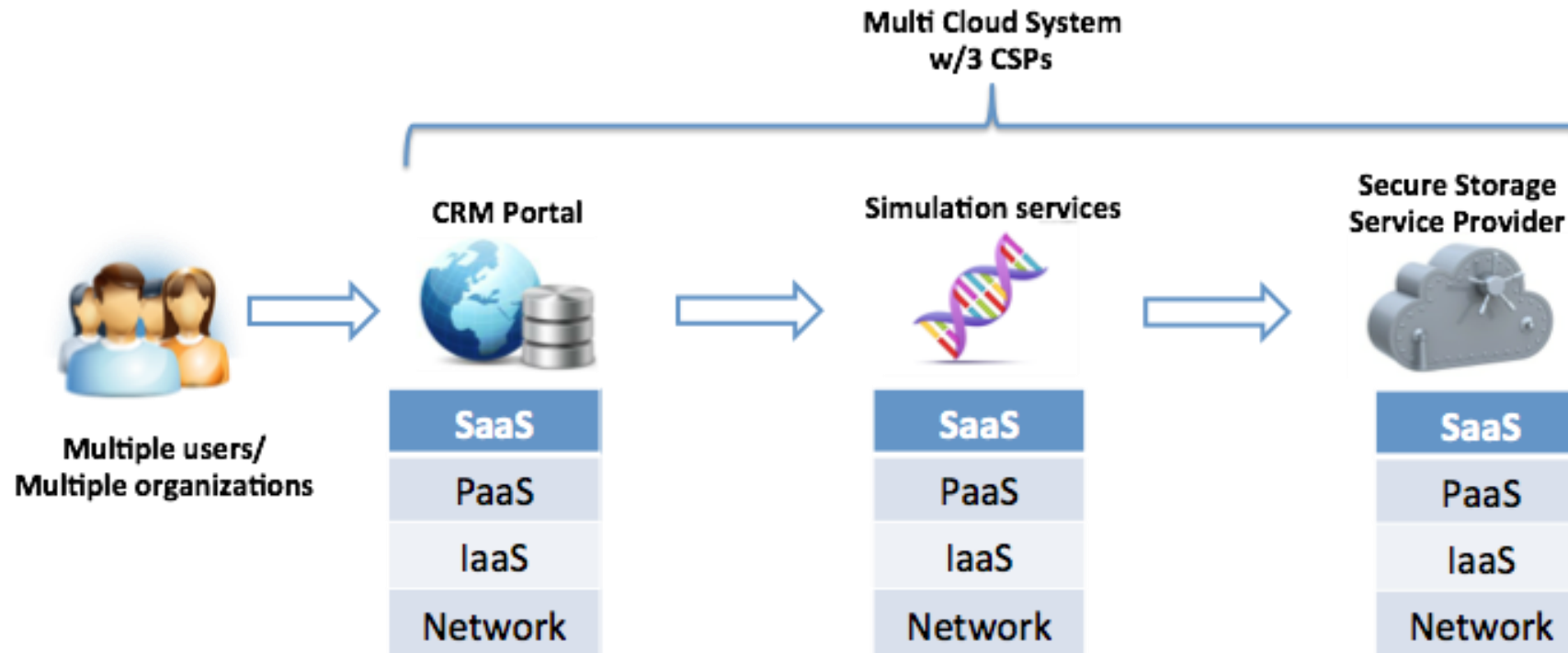# Cloud federation models: IEEE Intercloud, EGI Federated Cloud

IEEE Intercloud federation model

EGI federation model

Key:

⬡ ...Provider   Cloud Service

—   CSP network connection

—   Customer overlaid network

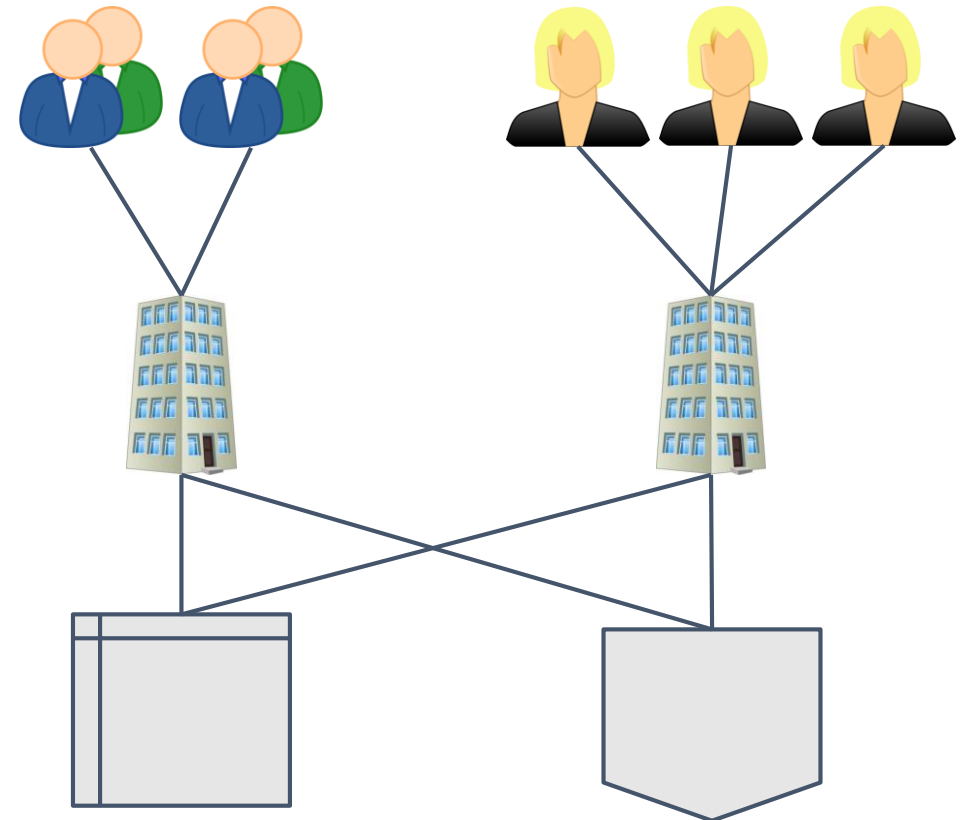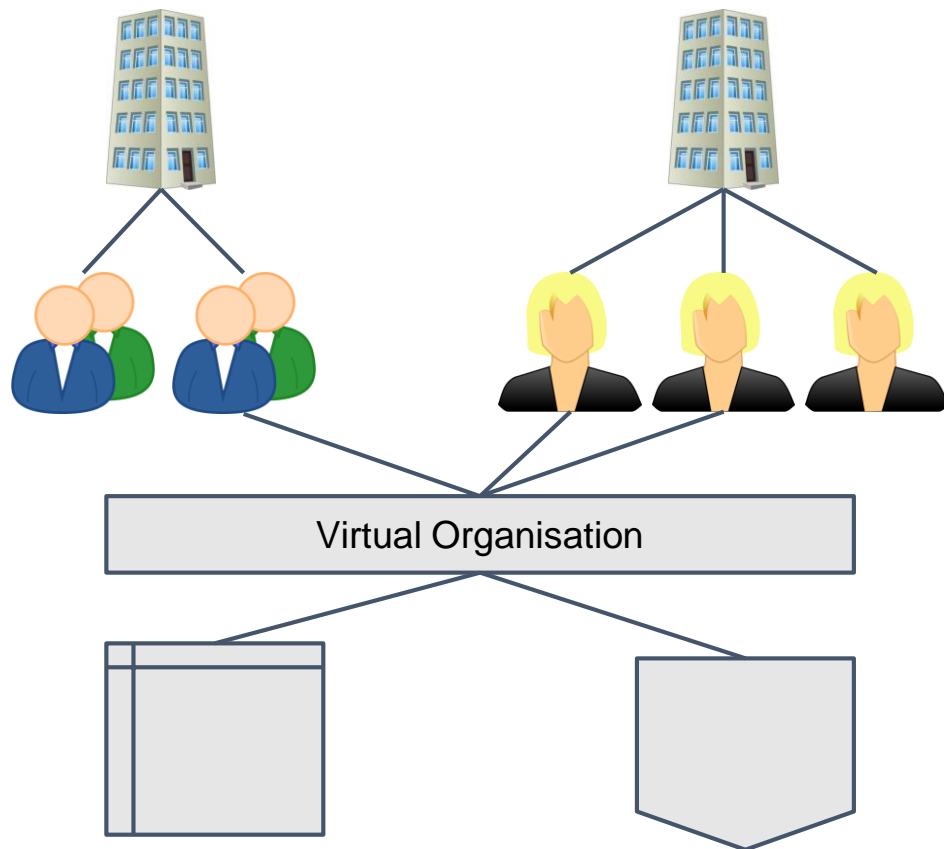⬭   Public standard (e.g. OCCI)

# Multi-tenancy across Cloud providers - SaaS, PaaS and IaaS

Question 1:
How do we define tenancy? Corporate affiliation, or collaboration grouping (virtual organisation)?

Question 2:

Do CSPs require end-user identities or are permanent surrogates sufficient (identity privacy etc.)? How does that interfere with data access regulations - and what about individuals affiliated with more than one tenant?
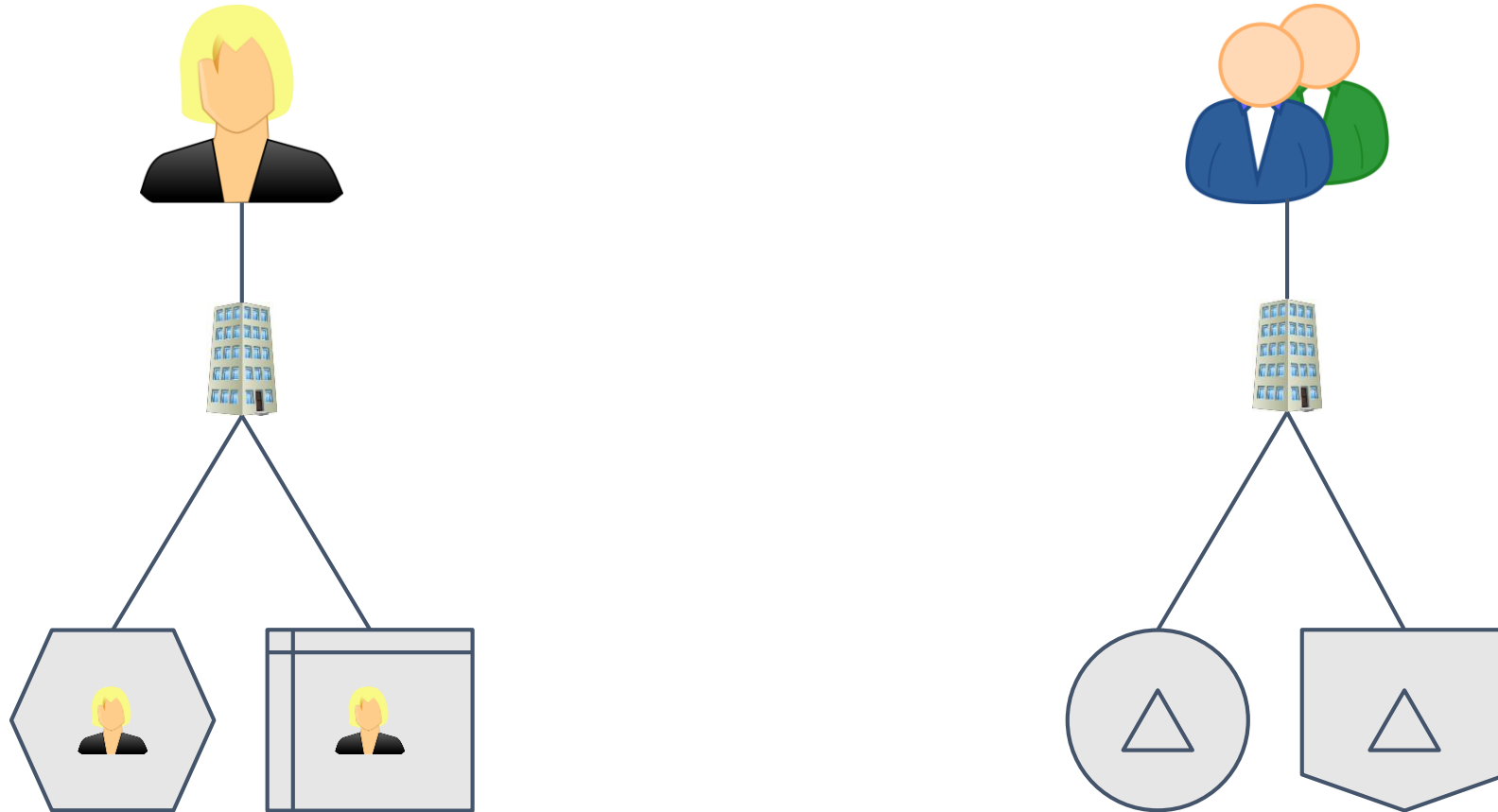
Question 3:
Privacy in multi-tenant Cloud federations: Privacy and pan-jurisdiction perspective:

- The location of those cloud providers would need to be in the EU or one of the EC 'endorsement' nations
  - Argentina, Uruguay, Canada, Israel, New Zealand

- Security perspective: a security risk assessment might reduce the the above list

Question 4: Portability

- Data Portability The ability to easily transfer data from one cloud service to another, without being required to re-enter the data

- Application Portability The ability to easily transfer an application or application components from one cloud service to a comparable cloud service and run the application in the new cloud service

Open discussion

Questions from the audience provided via chat

THANK YOU!

Contact Us

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