

# BREST Is AI



## Souveraineté des données.

Horacio Gonzalez  
@LostInBrittany





# Who are we?

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Introducing myself and  
introducing ~~OVH~~ OVHcloud

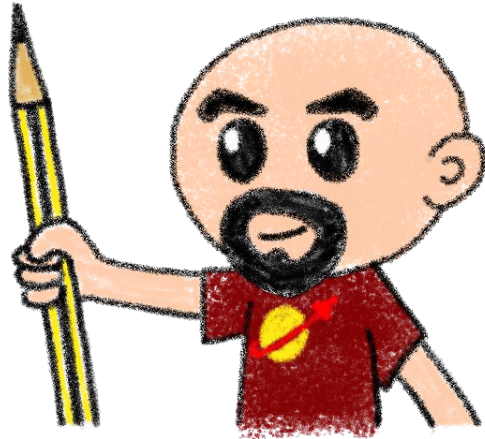


# Horacio Gonzalez



@LostInBrittany

Spaniard lost in Brittany,  
developer, dreamer and  
all-around geek



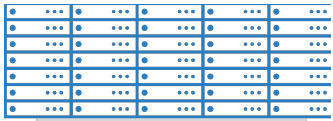
# OVHcloud: A Global Leader



200k Private cloud  
VMs running



**1** Dedicated IaaS  
Europe



Hosting capacity :  
**1.3M** Physical  
Servers

**360k**  
Servers already  
deployed



Own  
**20Tbps**  
Network  
with  
**35 PoPs**





**30** Datacenters

> **1.3M** Customers in **138** Countries



# OVHcloud: Our solutions



 <b>Cloud</b>	 <b>Mobile Hosting</b>	 <b>Web Hosting</b>	 <b>Telecom</b>
<ul style="list-style-type: none"><li>VPS</li><li>Public Cloud</li><li>Private Cloud</li><li>Serveur dédié</li><li>Cloud Desktop</li><li>Hybrid Cloud</li></ul>	<ul style="list-style-type: none"><li>Containers</li><li>Compute</li><li>Database</li><li>Object Storage</li><li>Securities</li><li>Messaging</li></ul>	<ul style="list-style-type: none"><li>Domain names</li><li>Email</li><li>CDN</li><li>Web hosting</li><li>MS Office</li><li>MS solutions</li></ul>	<ul style="list-style-type: none"><li>VoIP</li><li>SMS/Fax</li><li>Virtual desktop</li><li>Cloud Storage</li><li>Over the Box</li></ul>



# Do you remember old times?

The stories of the grumpy old dev...



# In a time almost forgotten



When even internet was young...

# Data was a scarce resource



Mon IBM PC 5155 in the 80s  
and its big 360 KB floppy disks

# Even in big systems...



A big mainframe disk from 1985...  
at 1000\$ / MB

# Things have changed a lot



And we all have some tens of GB in the pocket



# Data centers instead of mainframes



With petabytes of data capacity...

# You are losing me...



WTF is a Petabyte?



1 PB = 1 000 TB = 1 000 000 GB



# How much data is produced in a year?



In 2018 we produced 18 zettabytes

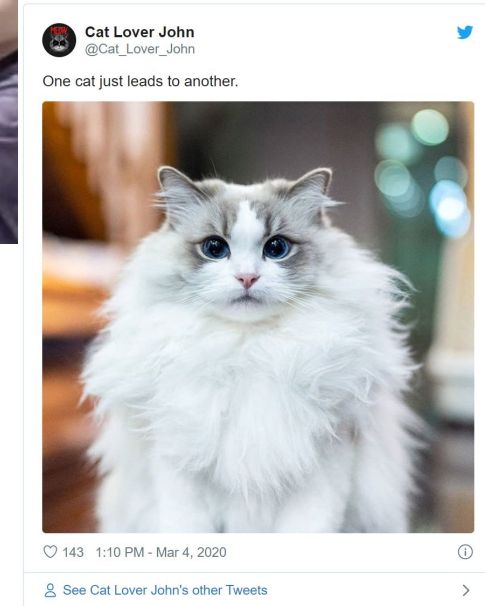
1 ZB = 1 000 EB = 1 000 000 PB

# How do we produce so much data?



In 2018 every minute:

- Twitter users sent 473,400 tweets
- Snapchat users shared 2 million photos
- Google processes more than 2.5 million searches



# Not all the data is the same



Some are more important than other

# But for all there are critical questions



Who is the owner of the data?

Who can access the data?

Who can monetize the data?

Who does control the data?



# **What are the risks?**

**For an enterprise and for an individual**

# Data is the new oil, they say



In any case, data is vital to business

# Risk: data theft



The first we think of...



# Risk: industrial spying



The *chic* version of data theft...

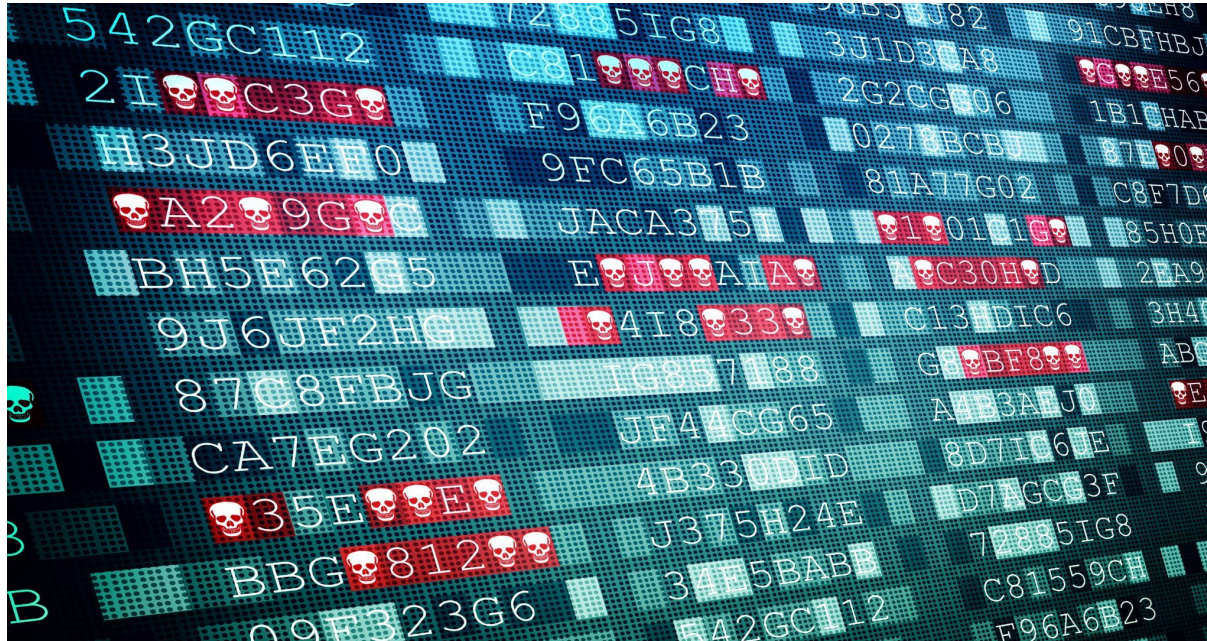


# Risk: data loss



Either permanent or temporary

# Risk: data alteration



Accidental... or not

# Risk: no access to data



No internet, no cloud...

# External risk factors: Geopolitics





# External risk factors: Geoeconomics



# External risk factors: Distortion of competition



# But today we look at another one



What rules apply to data? Which jurisdictions?



# Data sovereignty

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**Who controls the data...  
and why should I care?**





# Data has ethical value



For good... and for evil

# Data has economic value



Fortunes are built around data

# Data has a strategic value



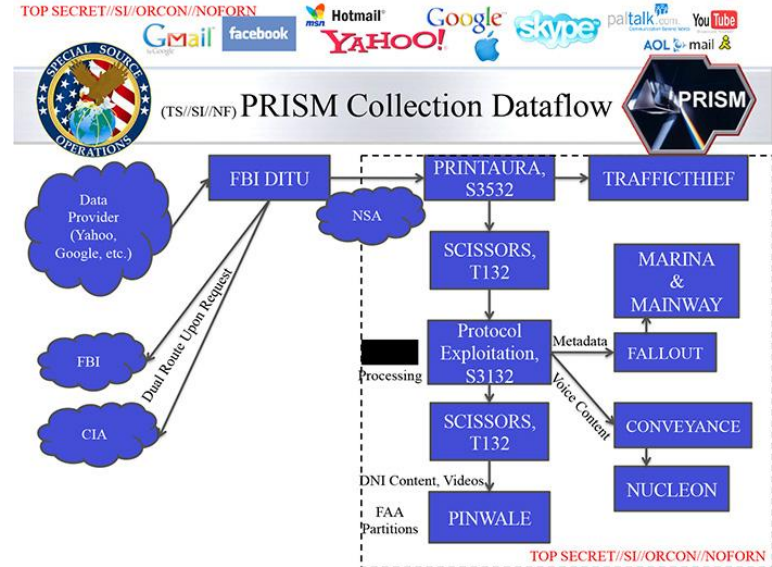
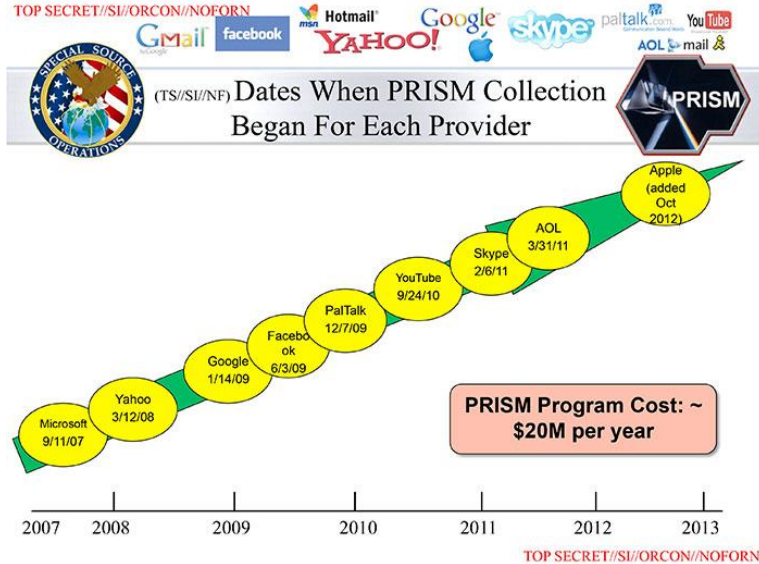
Key to the independence

# Data sovereignty



The idea that data are subject to the laws of the nation it is collected

# It began with Snowden



And the revelations on the PRISM program

# And the CLOUD Act



The CLOUD Act states that American companies must provide information properly requested by law enforcement “regardless of whether such communication, record, or other information is located within or outside of the United States.”



# EU & US: very different views on data



Privacy vs Profit

# General Data Protection Regulation



Protects all personal data for European citizens



# New rights for individuals



- The right to access
- The right to be forgotten
- The right to data portability
- The right to have information corrected
- The right to receive a Breach notification

# Irresistible force paradox



What happens when an unstoppable force meets an immovable object?

# Answer: nobody knows for sure



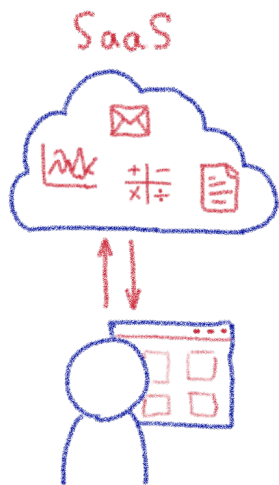
And unknowns are never good news...



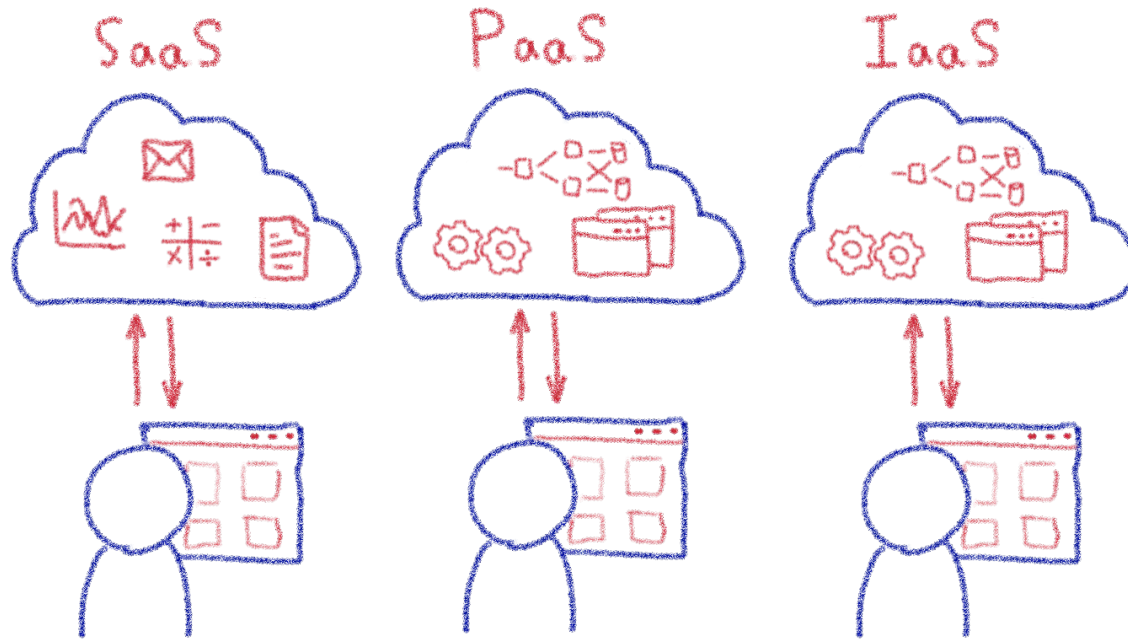
# Data Sovereignty and SaaS

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**Spoiler: it's complicated**

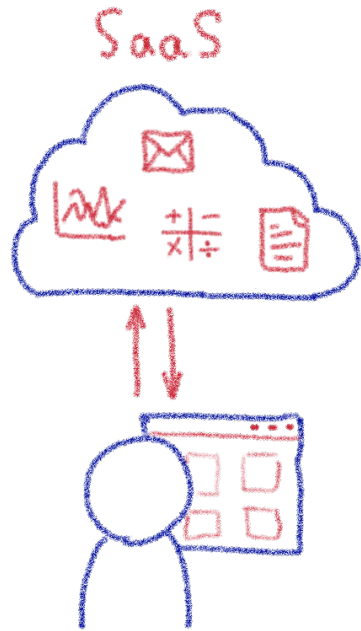


# Reminding cloud service models



The problem is different for each model

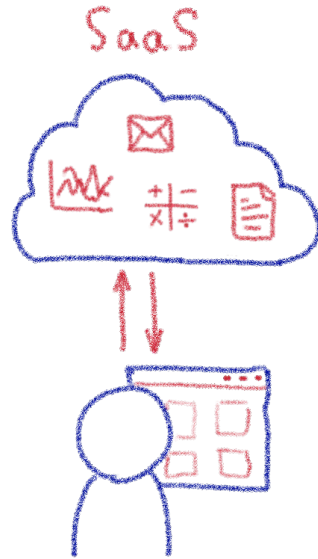
# Data Sovereignty and SaaS



Well... it's complicated...



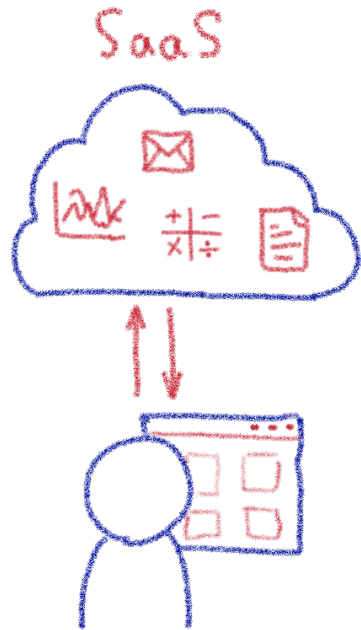
# SaaS: Where the data will be stored?



Not easy to know in many cases...

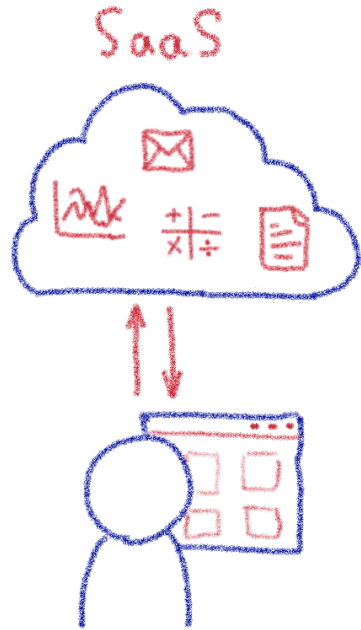
How about when accessing from the EU  
to a service hosted in US via un VPN UK?

# SaaS: data lifecycle



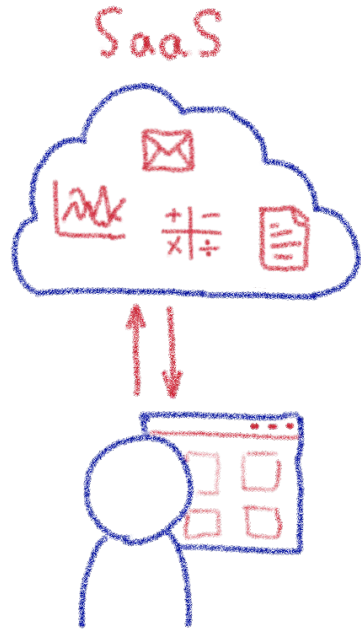
Do GDPR protections apply to that SaaS?

# SaaS: who owns the data?



And what jurisdiction applies?

# SaaS: how is data secured



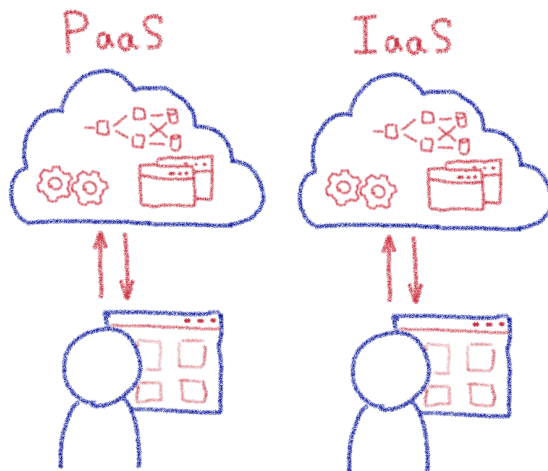
And will you get informed from a breach?



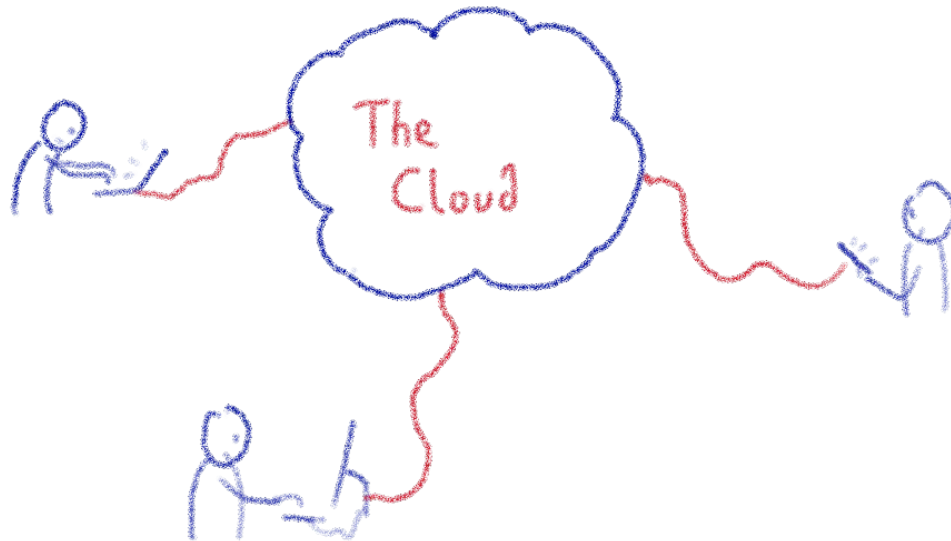
# Data Sovereignty and IaaS/PaaS

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A bit clearer



# You are using your own services



In a third part platform



# GDPR is a powerful tool



## Overview

The GDPR imposes a wide range of requirements on organizations that collect or process personal data in the cloud, including the categories of data and the purposes for which it is processed. The GDPR aims to strengthen personal data protection in Europe, and impacts the way we all do business. We're sure you have many questions, and we're here to help. Google Cloud takes a customer-centric approach on protection, control, and compliance, and we want to be a key facilitator on your GDPR journey.

The Azure Security and Compliance GDPR Blueprint can assist you in building and launching cloud solutions that are GDPR compliant. The Azure Security and Compliance GDPR Blueprint includes guidance and common reference architectures designed to simplify a

## Google Cloud & the General Data Protection Regulation (GDPR)

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- [GOOGLE CLOUD AND THE GDPR WHITEPAPER](#)
- [GOOGLE CLOUD GDPR QUICK REFERENCE GUIDE](#)
- [G SUITE DATA PROTECTION IMPLEMENTATION GUIDE](#)

[VISIT OUR GDPR RESOURCE CENTER](#) →

## Overview

The European Union's General Data Protection Regulation (GDPR) protects European Union data subjects' fundamental right to privacy and the protection of personal data. It introduces robust requirements that will raise and harmonize standards for data protection, security, and compliance.

All AWS Services GDPR ready - [Read More](#)

In addition to our own compliance, AWS is committed to offering services and resources to our customers to help them comply with GDPR requirements that may apply to their activities. New features are launched regularly, and AWS has **500+ features and services** focused on security and compliance.

## GDPR Resources

[AWS Service Capabilities for Privacy Considerations](#)

[Learn More](#) →

[GDPR on AWS Security Blog - All Stories](#)

[Visit Webpage](#) →

## What is the GDPR?

The GDPR, which took effect on May 25, 2018, replaced the 1995 EU Data Protection Directive.

The GDPR applies to all businesses and organizations who are established in Europe or who serve users in Europe. It:



# And most providers try to show conformity

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 OVHcloud

# But often you have some work to do



## GDPR Enablement in Your AWS Environment

AWS provides specific features and services which customers can leverage as they seek to comply with the GDPR.

**Encryption**

**Monitoring and Logging**

**Access Control**

**Data Privacy**

**Security by Design**

**Certifications and Programs**

**AWS Service Capabilities**

AWS services are GDPR ready and feature capabilities that may enable customer GDPR readiness

There is a subtle difference between  
GDPR ready et GRPD compliant



# Vendor lock-in

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Easy to get in, impossible to get out

# Having only a cloud provider



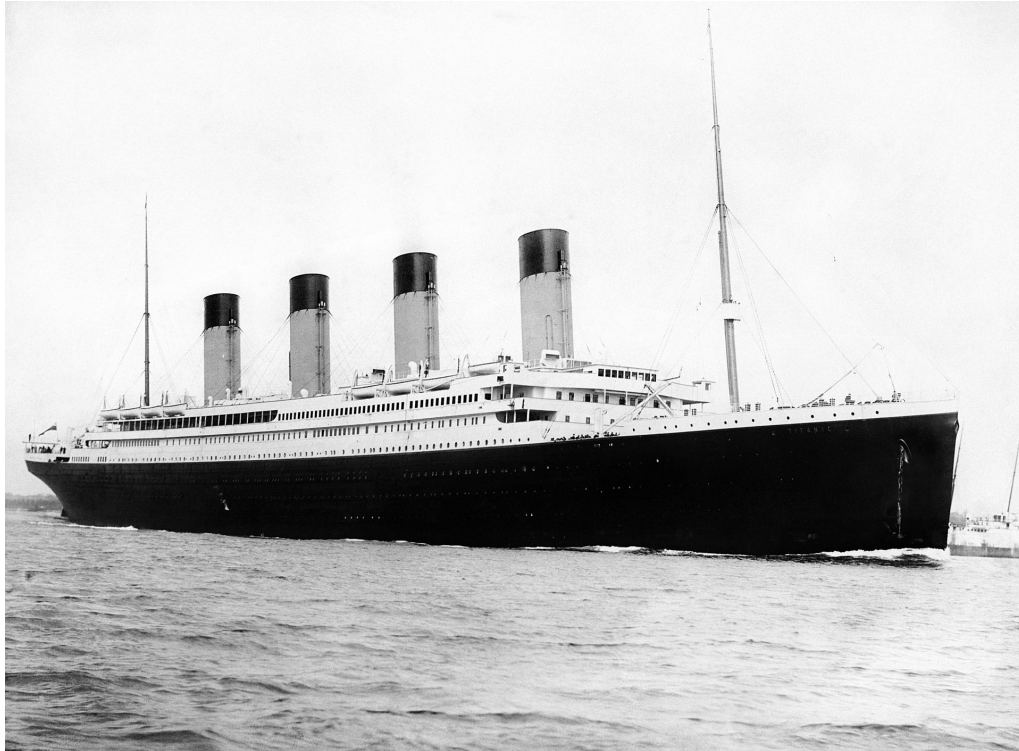
Comforting sensation of simplicity

# One Cloud to run your apps all



Is it really a good idea?

# What could possibly go wrong?





# Specialy if my data is strategic



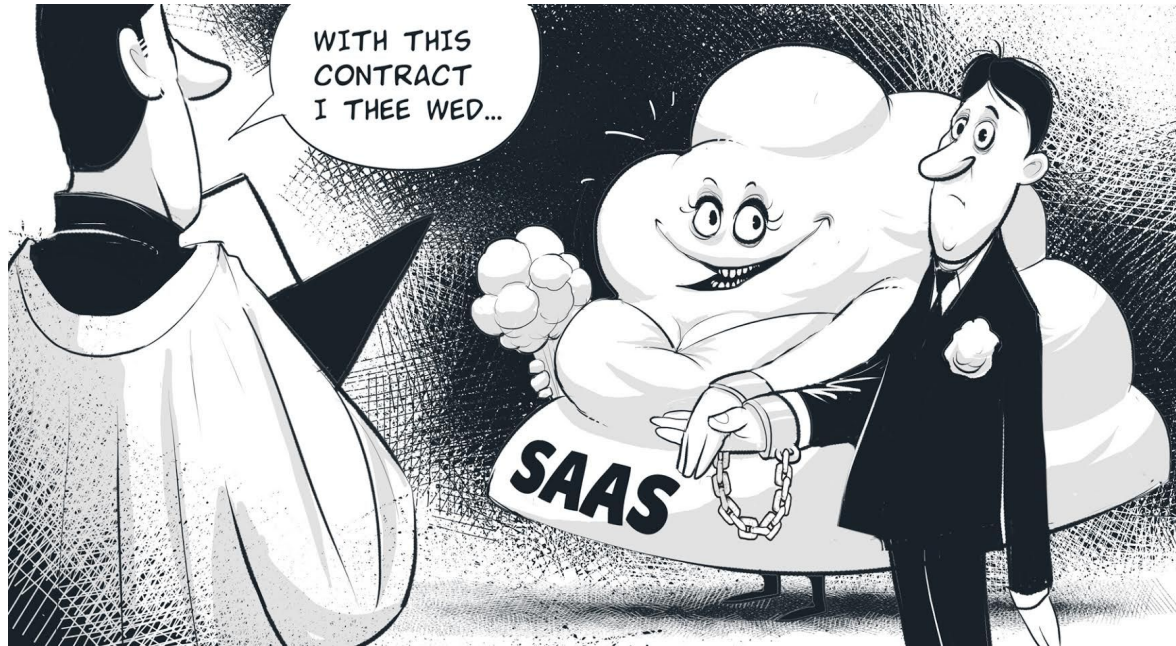
What can I do?

# I can always go away



Can't I?

# Well, not so simple...



Vendor lock-in

# Technical vendor locking



Proprietary APIs and products

# Cost-based vendor locking



Data transfer prices

# What can I do then?



Quit the Cloud? Going raise goats in Larzac?





# The European reaction

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What cloud do we want?

# There are European alternatives



Transparent and compliant

# European players are ready



Alternative solutions respecting  
our values and rules

# Trusting on European actors



Building ecosystems, growing champions

# Cloud of confidence



European initiatives to leverage  
on European ecosystems

# France and Germany initiatives



Building sovereign clouds

# Protect critical data



From extra-territorial threads



# Initiatives like GaiaX



Transnational working groups  
Industrial partners

# What that means for you?



- Empowering companies and institutions
  - To take more out of your data
- Based on standards and openness
  - A complete offering
- Your data get protected

