

# 1<sup>η</sup> Διάλεξη



- ✦ Εισαγωγή – Διαδικαστικά
- ✦ Παγκόσμιος Ιστός και εφαρμογές υπολογιστικού νέφους (cloud)

## 📍 Διαλέξεις

- ✦ Κάθε Τετάρτη στις 16:00 (Διαδικτυακά – Zoom)

## 📍 Αντικείμενο Μαθήματος

- ✦ Εφαρμογές Παγκόσμιου Ιστού
  - ✓ Ποιες υπάρχουν (Θεωρία)
  - ✓ Πώς φτιάχνουμε μία δική μας (PHP, MySQL)
- ✦ Ο παγκόσμιος ιστός ως πλατφόρμα υπηρεσιών και τεχνολογιών



### ΕΛΛΗΝΙΚΗ ΟΙΚΟΝΟΜΙΑ

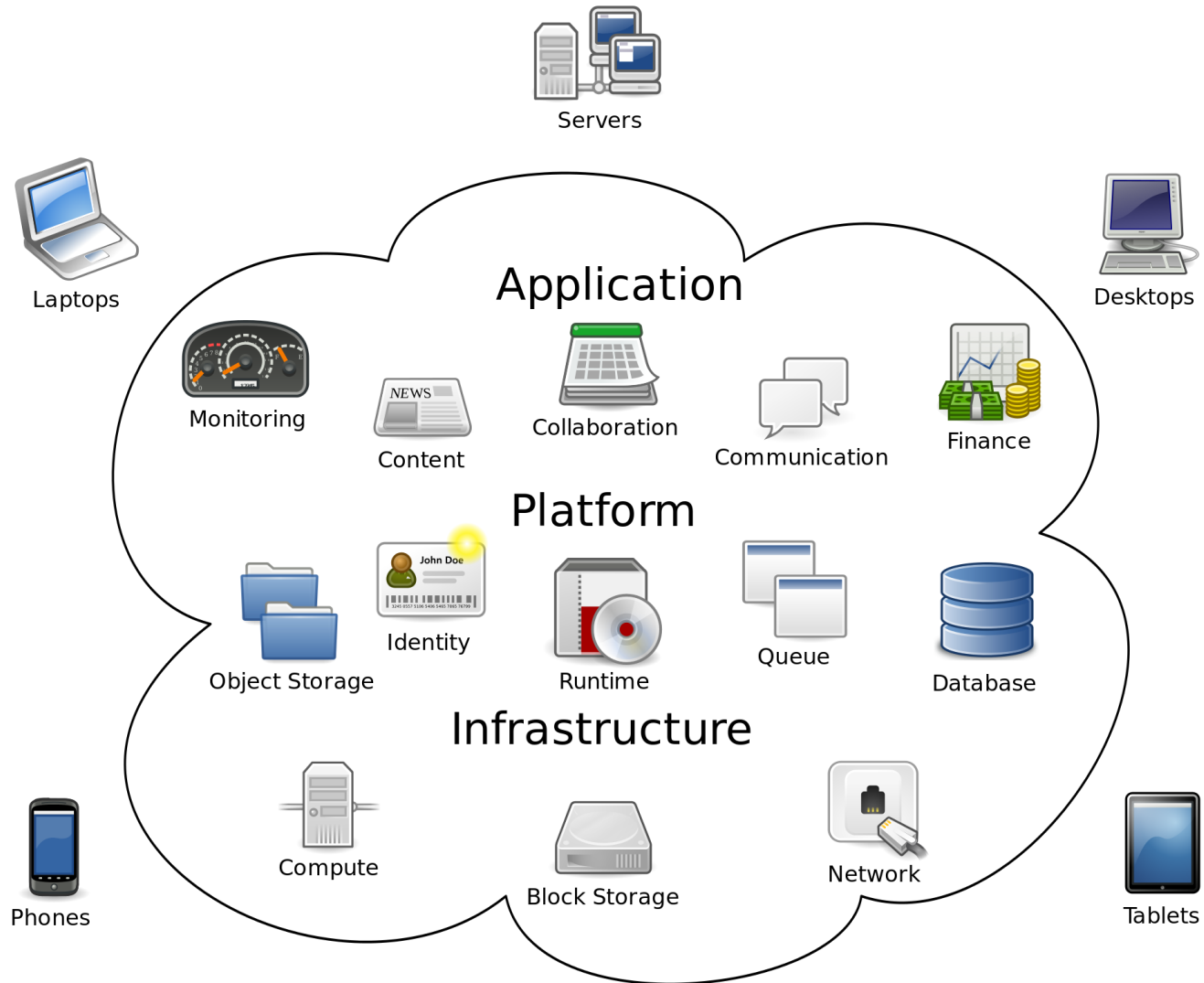
# Η επένδυση της Microsoft και η ευκαιρία για την Ελλάδα

#### ΤΕΡΑΣΤΙΑ ΕΠΕΝΔΥΣΗ

## Τι είναι το data center για το cloud που θα φτιάξει η Microsoft στην Ελλάδα

Μέχρι τώρα η Microsoft διατηρεί σε λειτουργία datacenters σε 4 χώρες της Ε.Ε., τη Γερμανία, τη Γαλλία, την Ολλανδία και την Ιρλανδία. Ακόμη, υπό κατασκευή βρίσκονται σε άλλες 3, σε Πολωνία, Ιταλία και Ισπανία. Η Ελλάδα γίνεται συνεπώς η 8η χώρα της Ε.Ε. που επιλέγεται από τη Microsoft για να μεταφέρονται και αποθηκεύονται τα δεδομένα του Cloud και μόλις η 27η σε όλο τον κόσμο.

# Cloud Computing



# Cloud computing

- ❖ Τι είναι το υπολογιστικό νέφος;
  - ✦ Σύνολο υπολογιστικών πόρων και υπηρεσιών
    - ✓ Επεξεργαστική ισχύς
    - ✓ Αποθήκευση
    - ✓ Εφαρμογές
  - ✦ Πρόσβαση μέσω διαδικτύου
    - ✓ Άρα απαιτείται «γρήγορο» δίκτυο
  - ✦ Κάθε χρήστης μπορεί να χρησιμοποιεί όσους πόρους θέλει
    - ✓ Ή έχει πληρώσει
  - ✦ Δυναμική ανακατανομή πόρων

- ❖ Αυτόματες διαδικασίες δέσμευσης και αποδέσμευσης πόρων
  - ✦ Π.χ. αν θέλω αγορά συνδρομής στο Dropbox
- ❖ Πρόσβαση anytime, anywhere
  - ✦ Π.χ. Πρόσβαση στο Gmail μου από κινητό, tablet ή σταθερό υπολογιστή
  - ✦ Αρκεί να έχω δίκτυο
- ❖ Διαφανείς διαδικασίες για τον χρήστη
  - ✦ Τα μισά μου αρχεία μπορεί να είναι σε έναν φυσικό server και τα άλλα μισά σε άλλον
  - ✦ Όπως το ηλεκτρικό ρεύμα!
- ❖ Ξεκάθαρο μοντέλο χρέωσης

- ⊙ Software as a Service (SaaS)
  - \* Google Docs
  - \* Office Online
  - \* Singular
- ⊙ Platform as a Service (PaaS)
  - \* Windows Azure
  - \* Google App Engine
- ⊙ Infrastructure as a Service (IaaS)
  - \* Amazon Elastic Cloud
  - \* Dropbox
  - \* Backups
  - \* Desktops
  - \* Okeanos (ΕΔΕΤ)



## ⦿ e-mail στο Cloud

- ✦ Gmail

- ✦ Yahoo

- ✦ Outlook

## ⦿ Πλεονεκτήματα

- ✦ Πρακτικά απεριόριστος χώρος

- ✦ Πρόσβαση από παντού



Get custom email (@yourcompany.com) and more

30GB of inbox storage

Compatible with Microsoft Outlook and other email clients

Ad-free, 24/7 support and more

Get started

Experience the interactive demo 



## Exchange Online

Work smarter, anywhere, with hosted email for business.

**\$4.00** user/month

(Exchange Online Plan 1)

Buy now

Choose the plan that meets your needs.

Compare plans 

## 📍 Υπουργείο Οικονομικών (?)

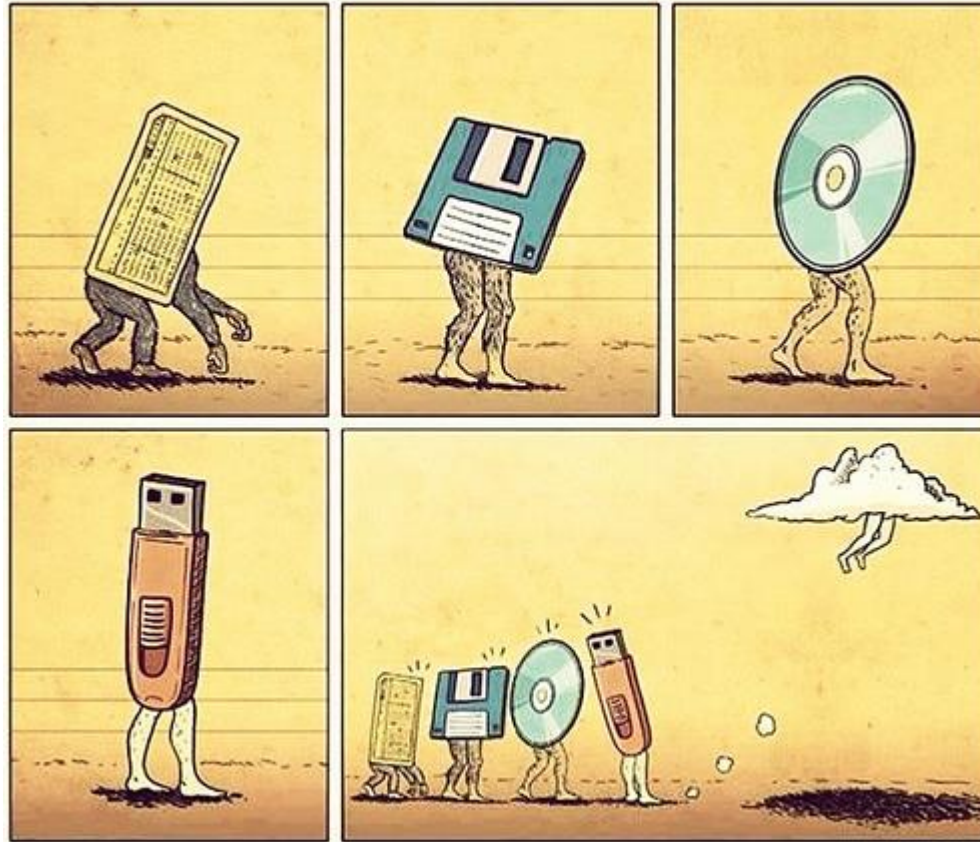
✦ <http://link.minfin.gr/>

## 📍 Ελληνικό Ανοικτό Πανεπιστήμιο

✦ Λογαριασμοί Φοιτητών

✦ <http://email.eap.gr/>

## Evolution of Memory Storage



VIA 9GAG.COM

## 📍 Cloud Storage υπηρεσίες

- ✦ Dropbox
- ✦ Google Backup and Sync (πρώην Drive)
- ✦ OneDrive
- ✦ Apple iCloud

## 📍 Πώς λειτουργούν

- ✦ Εγκατάσταση εφαρμογής στο PC ή στην κινητή συσκευή
- ✦ Συγχρονισμός αρχείων μεταξύ συσκευών
- ✦ Διαμοιρασμός αρχείων
  - ✓ Και με ημερομηνία λήξης
- ✦ Κοινόχρηστοι φάκελοι

## ❖ Πλεονεκτήματα

- ✦ Διαθεσιμότητα των αρχείων οποιαδήποτε στιγμή και από οποιαδήποτε συσκευή
- ✦ Συγχρονισμός αρχείων
  - ✓ Π.χ. PC δουλειάς, Laptop στο σπίτι
- ✦ Εύκολος διαμοιρασμός αρχείων
  - ✓ Π.χ. αποστολή ενός μεγάλου αρχείου
- ✦ Συνεργασία μεταξύ ομάδων
  - ✓ Π.χ. μεταξύ υπαλλήλων μιας επιχείρησης
- ✦ Παλαιότερες εκδόσεις αρχείων



Bill yearly  Bill monthly

<b>Basic</b> Free Your current plan	<b>Plus</b> €9.99 / mo Get started	<b>Family</b> €16.99 / mo Get started
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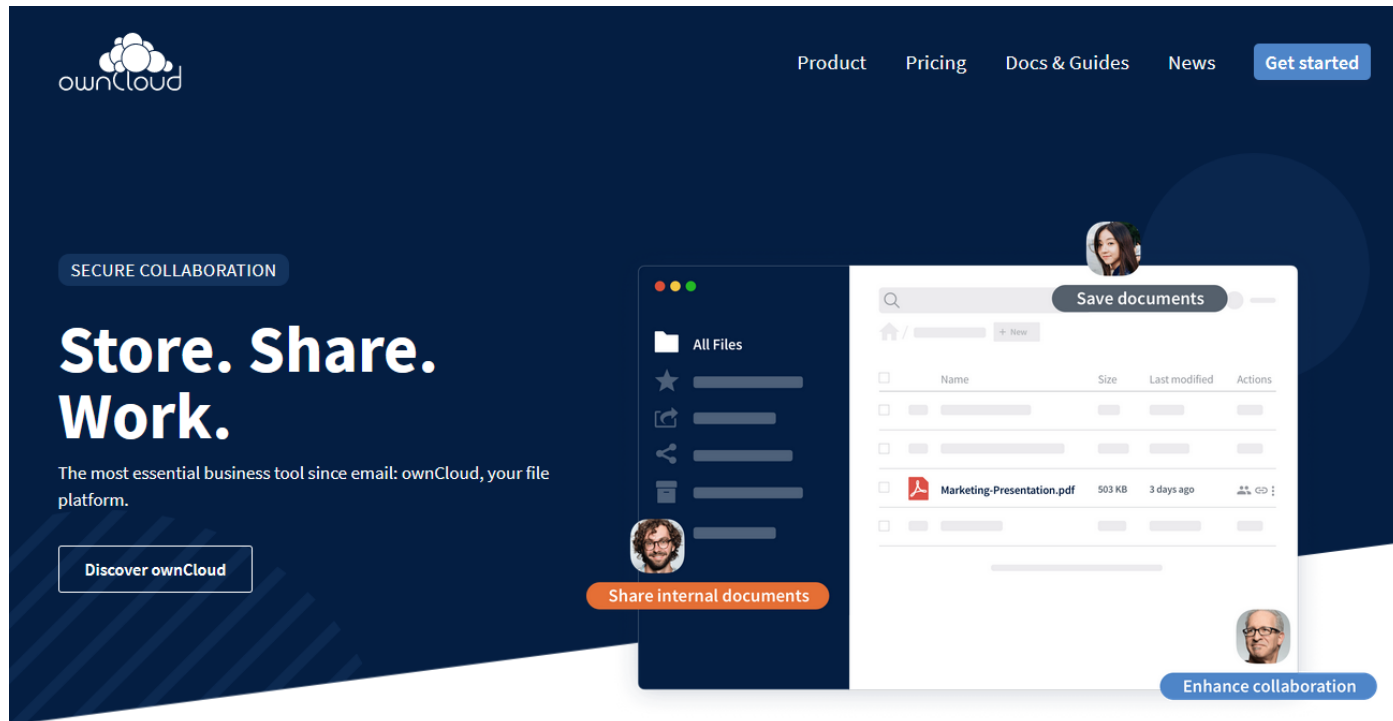
### Storage and access

<i>i</i> Storage	2 GB	2 TB (2,000 GB)	Share 2 TB (2,000 GB)
<i>i</i> Users	1 user	1 user	Up to 6 users



# Google Drive

<p>15 GB Free Current plan</p> <p>Includes</p> <ul style="list-style-type: none"><li>✓ 15 GB storage</li></ul>	<p>Recommended</p> <p>100 GB €1.99/month Or prepay annually (save 16%): €19.99/year</p> <p>Google One includes</p> <ul style="list-style-type: none"><li>✓ 100 GB storage</li><li>✓ Access to Google experts</li><li>✓ Option to add your family</li><li>✓ Extra member benefits</li></ul>	<p>200 GB €2.99/month Or prepay annually (save 16%): €29.99/year</p> <p>Google One includes</p> <ul style="list-style-type: none"><li>✓ 200 GB storage</li><li>✓ Access to Google experts</li><li>✓ Option to add your family</li><li>✓ Extra member benefits</li></ul>	<p>2 TB €9.99/month Or prepay annually (save 17%): €99.99/year</p> <p>Google One includes</p> <ul style="list-style-type: none"><li>✓ 2 TB storage</li><li>✓ Access to Google experts</li><li>✓ Option to add your family</li><li>✓ Extra member benefits</li></ul>
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The banner features the OwnCloud logo in the top left. The top navigation bar includes links for Product, Pricing, Docs & Guides, News, and a Get started button. The main headline reads 'Store. Share. Work.' with a sub-headline 'The most essential business tool since email: ownCloud, your file platform.' and a Discover ownCloud button. A central screenshot shows a file management interface with a sidebar for 'All Files', a search bar, and a table of files. One file, 'Marketing-Presentation.pdf', is highlighted with a size of 503 KB and a last modified date of 3 days ago. The interface also shows user avatars and buttons for 'Share internal documents' and 'Enhance collaboration'.

owncloud

Product Pricing Docs & Guides News [Get started](#)

SECURE COLLABORATION

## Store. Share. Work.

The most essential business tool since email: ownCloud, your file platform.

[Discover ownCloud](#)

Share internal documents

Enhance collaboration

Name	Size	Last modified	Actions
Marketing-Presentation.pdf	503 KB	3 days ago	👤 🌐 ⋮

Trusted by 100 million users worldwide

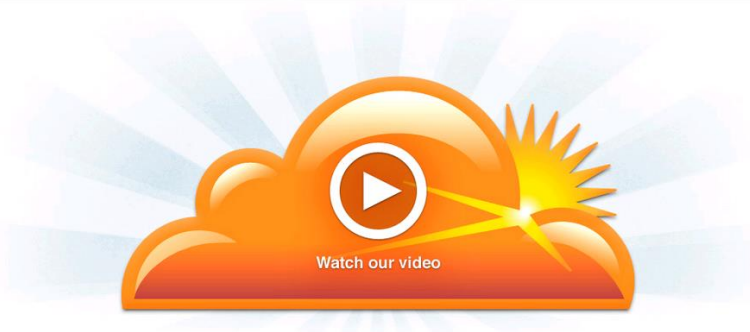
*Συνδυασμός με IaaS*

## ❖ Google Docs

- ✦ Online δημιουργία και τροποποίηση εγγράφων
  - ✦ Αυτόματη αποθήκευση
  - ✦ Πρόσβαση από διαφορετικές συσκευές
  - ✦ Ταυτόχρονη προσπέλαση από πολλούς χρήστες
  - ✦ Εύκολος διαμοιρασμός
- ❖ Γενικά, κάθε φορά έχω την τελευταία έκδοση του λογισμικού!
- ✦ Δεν απαιτούνται updates



# Cloud Hardware



## CDN

Distribute your content around the world so it's closer to your visitors (speeding up your site).



## Optimization

Web pages with ad servers and third party widgets load snappy on both mobile and computers.



## Security

Protect your website from a range of online threats from spammers to SQL injection to DDOS.



## Analytics

Get insight into all of your website's traffic including threats and search engine crawlers.

## Amazon EC2 Pricing

Pay only for what you use. There is no minimum fee. Estimate your monthly bill using [AWS Simple Monthly Calculator](#). The prices listed are based on the Region in which your instance is running. For a detailed comparison between On-Demand Instances, Reserved Instances and Spot Instances, see [Amazon EC2 Instance Purchasing Options](#).

### Free Tier\*

As part of [AWS's Free Tier](#), new AWS customers can get started with Amazon EC2 for free. Upon sign-up, new AWS customers receive the following EC2 services each month for one year:

- 750 hours of EC2 running Linux, RHEL, or SLES t2.micro instance usage
- 750 hours of EC2 running Microsoft Windows Server t2.micro instance usage
- 750 hours of Elastic Load Balancing plus 15 GB data processing
- 30 GB of Amazon Elastic Block Storage in any combination of General Purpose (SSD) or Magnetic, plus 2 million I/Os (with Magnetic) and 1 GB of snapshot storage
- 15 GB of bandwidth out aggregated across all AWS services
- 1 GB of Regional Data Transfer

# Cloud Hardware



[About](#) [Services](#) [Use cases](#) [Blog](#) [Resources](#) [Opensource](#) [Jobs](#) [Support](#)



## WELCOME TO OKEANOS!

This is GRNET's cloud service, for the Greek Research and Academic Community. With -okeanos you are one click away from your own Virtual Machines, Networks and Storage.

## STATISTICS

Spawned VMs

0

Active VMs

0

Spawned Networks

0

## ⊕ Θέματα

- ✦ Ιδιωτικότητας
- ✦ Ασφάλειας
- ✦ Επεξεργασίας των δεδομένων
- ✦ Μη φυσική πρόσβαση στα δεδομένα



UPDATED 22:58 EDT / OCTOBER 20 2020



SECURITY

Pharma giant Pfizer exposes patient data on unsecured cloud storage



BY DUNCAN RILEY



## France's Health Data Hub to move to European cloud infrastructure to avoid EU-US data transfers

## GOOGLE CLOUD PLATFORM AND THE EU DATA PROTECTION DIRECTIVE

### What is the EU Data Protection Directive?

Many of Google Cloud Platform's business customers operate in Europe. These businesses often need to comply with the European Union's Data Protection Directive (the "Directive"), which regulates the processing of personal data. The Directive specifies a number of requirements companies must meet around protecting personal data.

### EU-U.S. & Swiss-U.S. Privacy Shield Framework

In July 2016, the European Commission concluded that the EU-U.S. Privacy Shield Framework provides an adequate mechanism to allow EU companies to comply with requirements under the Directive in connection with transfer of personal data from the European Union to the United States. Google Inc. is certified under both the EU-U.S. and Swiss-U.S. Privacy Shield frameworks and our certifications can be viewed on the [Privacy Shield list](#).

### EU Model Contract Clauses

In 2010, the European Commission approved model contract clauses as a means of complying with the requirements of the Directive. The effect of this decision is that by incorporating certain provisions into a contract, personal data can flow in a compliant way from those subject to the Directive to cloud (and other) providers outside the EU or the European Economic Area ("EEA"). By adopting [EU model contract clauses](#), providers outside the EU or the EEA can offer their customers an option for complying with the Directive.

### RELATED TOPICS

[Cloud Platform Security](#)

[Privacy and Compliance](#)

[PCI DSS](#)

### FAQ

Answers to your frequently asked questions

[View the FAQ](#)

[Security Whitepaper](#)



#### 100% private cloud

End-to-end encryption protects your confidential data in the cloud from unauthorized access at all times. We can't read your files and no one else can either.



#### Your personal data belongs to you

Sync doesn't collect, sell or share your personal data or app usage information to advertisers or third-parties, and we do not claim ownership of your data.



#### Global data privacy compliance

Sync is safe to use, no matter where your business operates, with USA, EU / UK GDPR, and Canadian compliance built-in, including Canadian data residency.



#### Automatic backup, sync and restore

Sync backs up your files in realtime, and makes it easy to recover deleted files and previous versions of any file, any time. Never lose a file again.



#### Enterprise-grade infrastructure

Data is replicated across multiple SSAE 16 type 2 certified datacentre locations with SAS RAID storage, automatic failover and a 99.9% or better uptime SLA.



#### Account security controls

Two-factor authentication, granular user permissions, remote wipe, custom passwords, expiry dates, notifications and more ensure you're always in control.

Oh Canada, we've got your cloud compliance checklist checked.

In fact, simply by choosing Sync your organization will meet all federal and provincial data privacy laws and data residency regulations. From British Columbia's FIPPA to New Brunswick's PHIPAA (and every province and territory in between) Sync's got your Canadian cloud storage compliance fully and completely covered.

#### Why choose Canadian?

- Ensure your organization meets federal and provincial data privacy compliance laws
- Ensure your data is always stored in Canada
- Ensure your data is stored securely, with appropriate safeguards and encryption
- Ensure your data is not subject to foreign law (like the US Patriot Act)
- Keep all personally identifiable health information (PII and PHI) safe, secure and private at all times

- ⦿ Ερωτήσεις?
- ⦿ [stefanis@upatras.gr](mailto:stefanis@upatras.gr)

