UNCloud

A NextCloud instance at the University of Nantes

Matthieu Le Corre - CS3 2020

www.univ-nantes.fr

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The University of Nantes
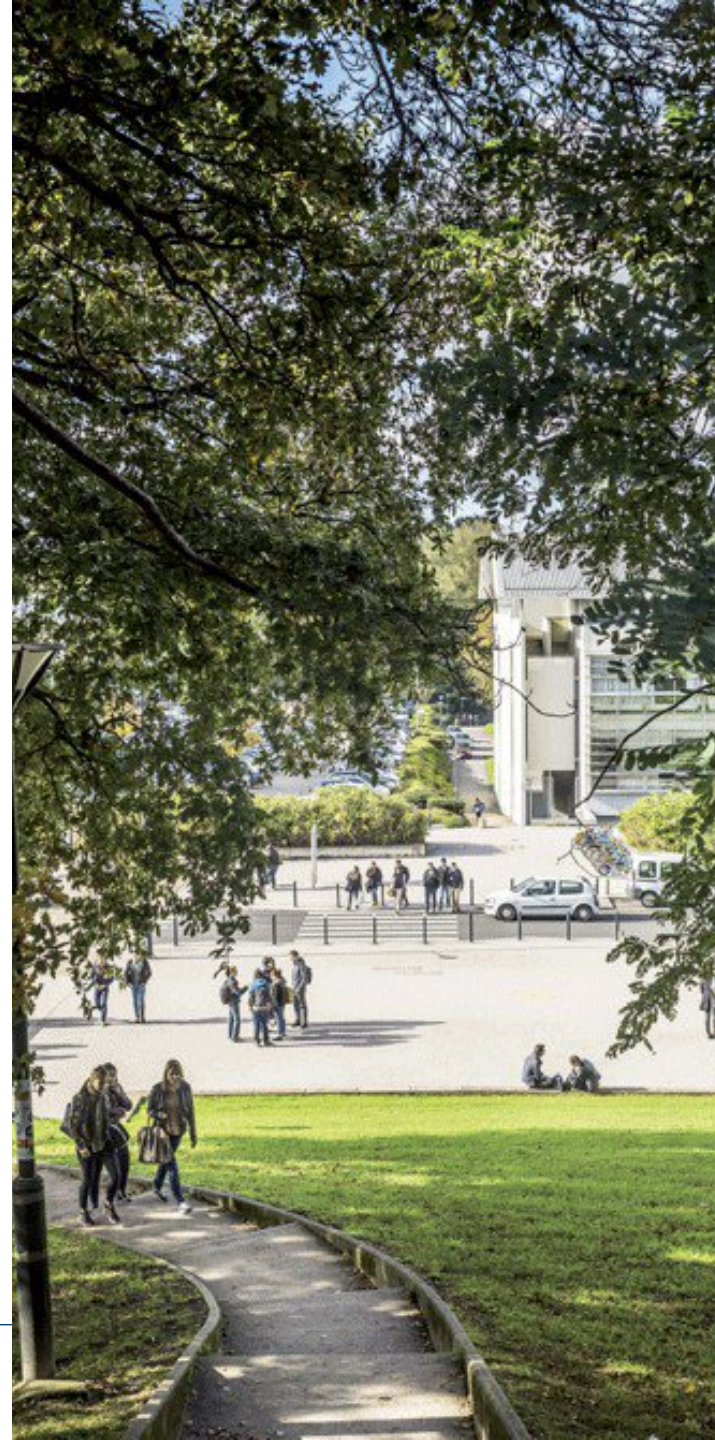
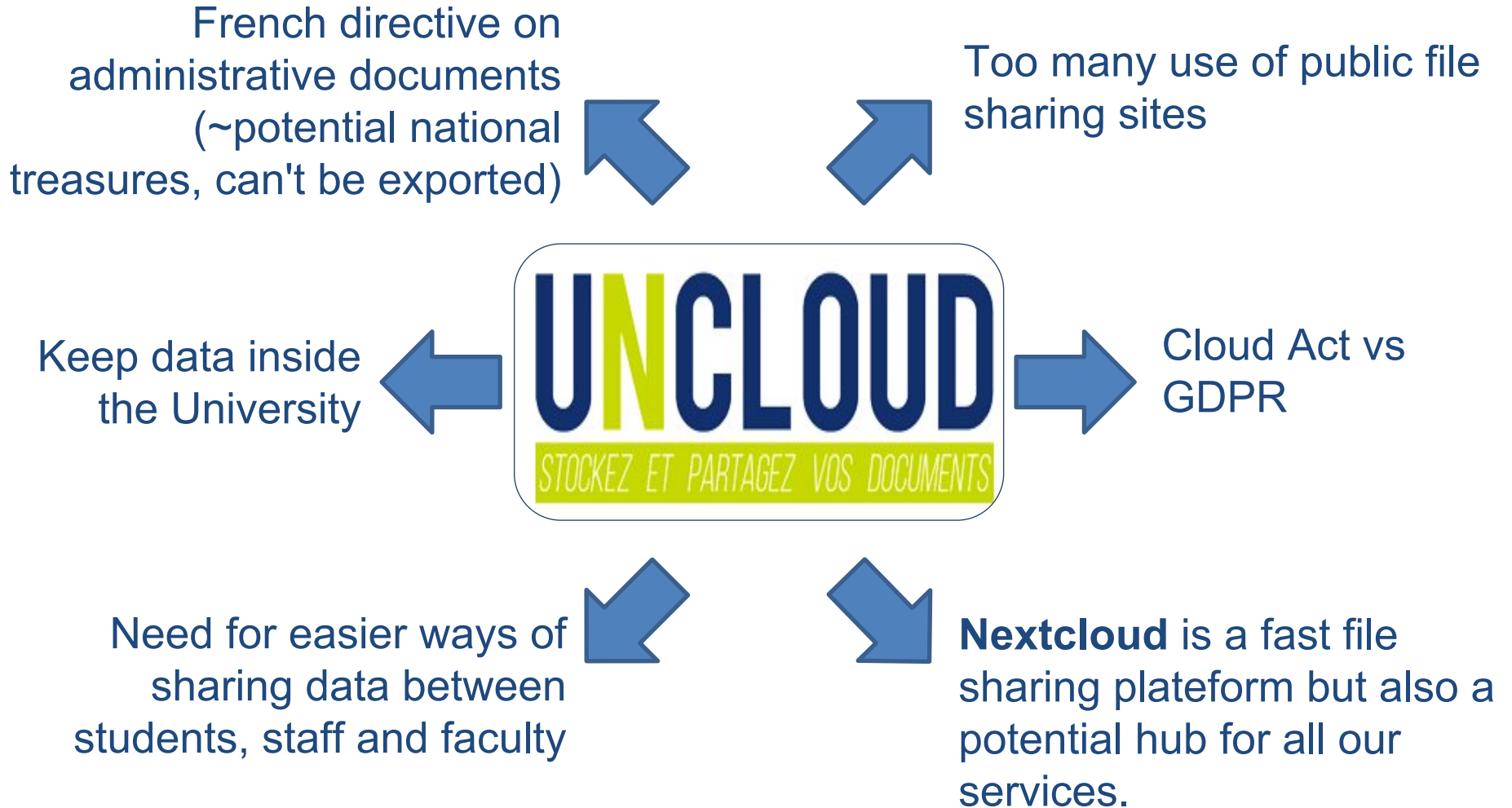20 locations, campuses, institutes, schools

3 Cities

40 000 students

5 000 faculty and staff members

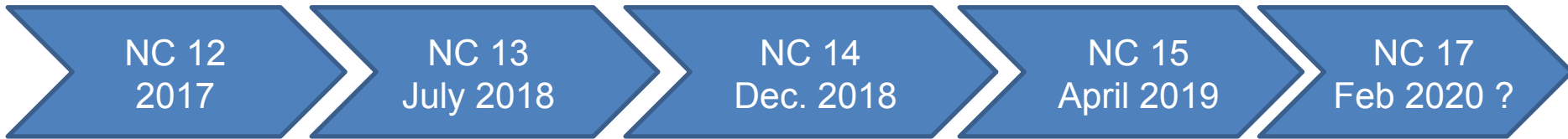70 000 accounts

2 people on the UNCloud project

Why … ?

French directive on administrative documents (~potential national treasures, can't be exported)

Too many use of public file sharing sites

Keep data inside the University

Cloud Act vs GDPR

Need for easier ways of sharing data between students, staff and faculty

Nextcloud is a fast file sharing plateform but also a potential hub for all our services.

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UNCloud - Chronology

2018 › 0   **Numbers of Users**   10 0000 › 2019

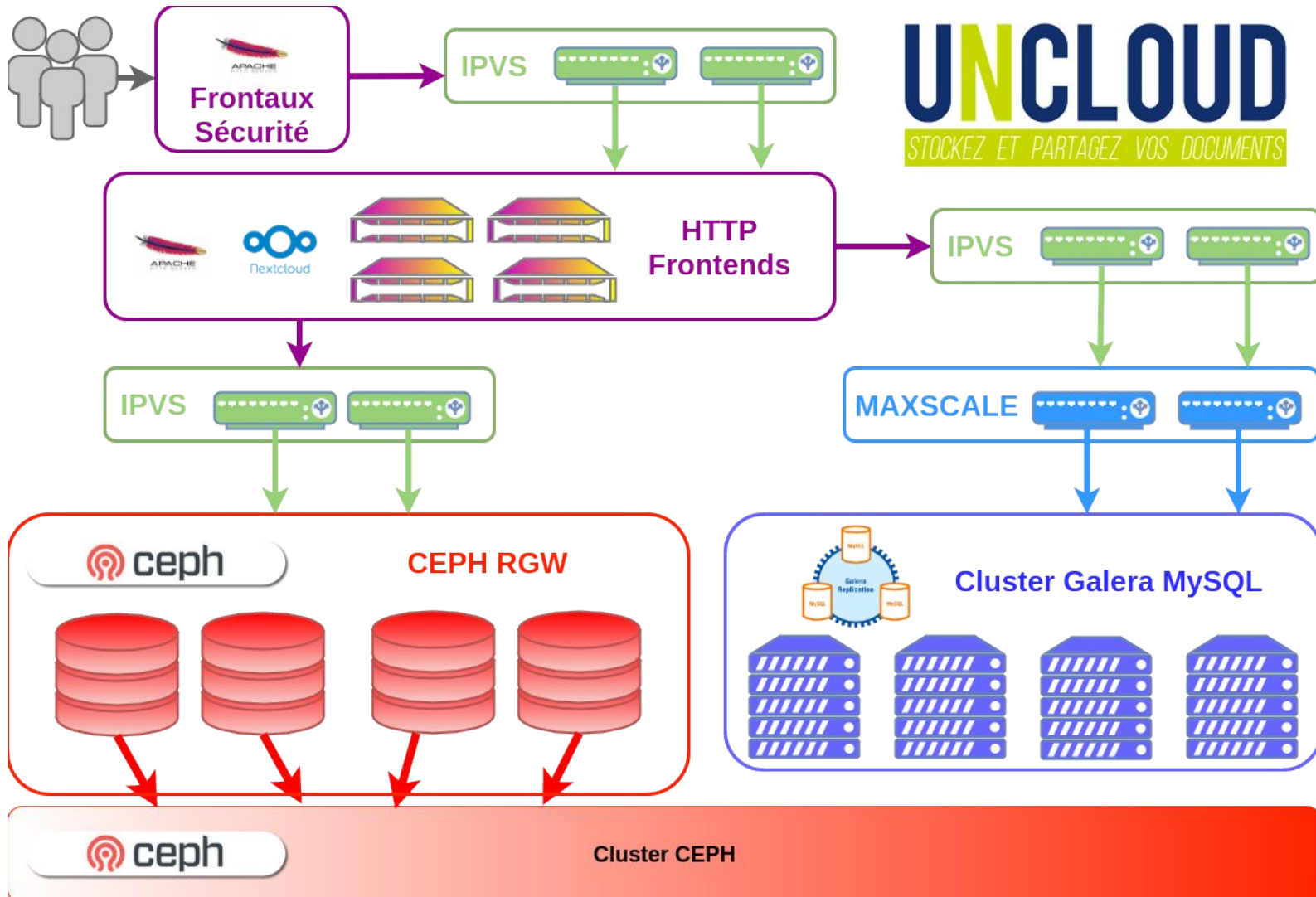| NC 12 2017 | NC 13 July 2018 | NC 14 Dec. 2018 | NC 15 April 2019 | NC 17 Feb 2020 ? |

+

- Onlyoffice   - Oct. 2018
- Deck   - Nov 2018
- Draw.io   - Nov 2018
- JS Xmpp Client   - April 2019
- Talk   - 2020
- Contact   - 2020
- Webmail & Calendar   - 2021

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UNCloud Infrastructure

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UNCloud Infrastructure

- Opensource, always opensource, only opensource
- Highly virtualized environment (Linux + KVM)
- Ceph storage
  - 9 storage nodes (450TB for a start) with 3 replicates on 3 campuses.
  - S3 object storage
- No single point of failure anywhere:
  - 4 ldap nodes
  - 4 http nodes
  - 4 SQL nodes + 2 maxscale servers
  - 8 Redis instances on 4 nodes, (php sessions and nextcloud distributed memcache)
  - 4 radosGW nodes (S3, simple http servers, highly scalable)
  - 2 Onlyoffice nodes (with 2 redis sentinel nodes)

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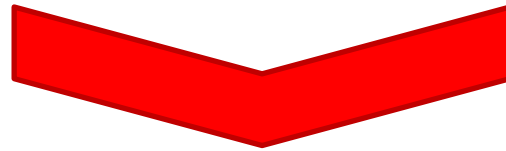
Monitoring UNCloud

Resources load

API collected values

Navigation simulation

ZABBIX

GRAFANA
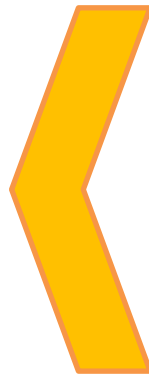
Technicals dashboards

- CPU load
- number of SQL request
- number of S3 request
- …

Trends dashboard

- number of activ users
- number of shares
- rate between student and staff
- …

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What we learned !

- Moving from "file servers" to "filesharing" is not simple ...

- Thinking about personal data vs team data

- Data and accounts live cycles ("*What will happen to the files I share when I leave?*") are more complicated with file sharing.

- Upgrading is NEVER simple (and rarely fast)

- Support is lifesaving !

- Synchronization clients can be a nightmare for users and for admins

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UNCloud - in a few figures ...

18 month	12 000 users	75% of students

| 4 dedicated servers | UNCLOUD STOCKEZ ET PARTAGEZ VOS DOCUMENTS | 46 TB of documents | 160 cores |

| 100GB of quota | 30 millions of documents | 75 000 shares |

| 250 k€ | 46k SQL request /s | UNCLOUD STOCKEZ ET PARTAGEZ VOS DOCUMENTS | TCO : 4.43€/Y/P |

| 6 training sessions / Y | 2 peoples on the project | 66 support tickets |

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