SURFdrive

AN OWNCLOUD SYNC & SHARE SERVICE

IaaS Datacenter Workshop Helsinki

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Top 5 reasons to use a personal cloud storage solution

1 • Users always have access to their documents, regardless of the location or device

2 • Documents can easily be shared with others

3 • The available solutions are user-friendly

4 • Resolves storage restrictions

5 • To encourage providers to keep the entry threshold as low as possible (free)

SURF

Top 5 reasons why this is less desirable

1 • Privacy and security are not guaranteed, rights are being given away, PRISM

2 • Mainly US-based providers,→Patriot Act
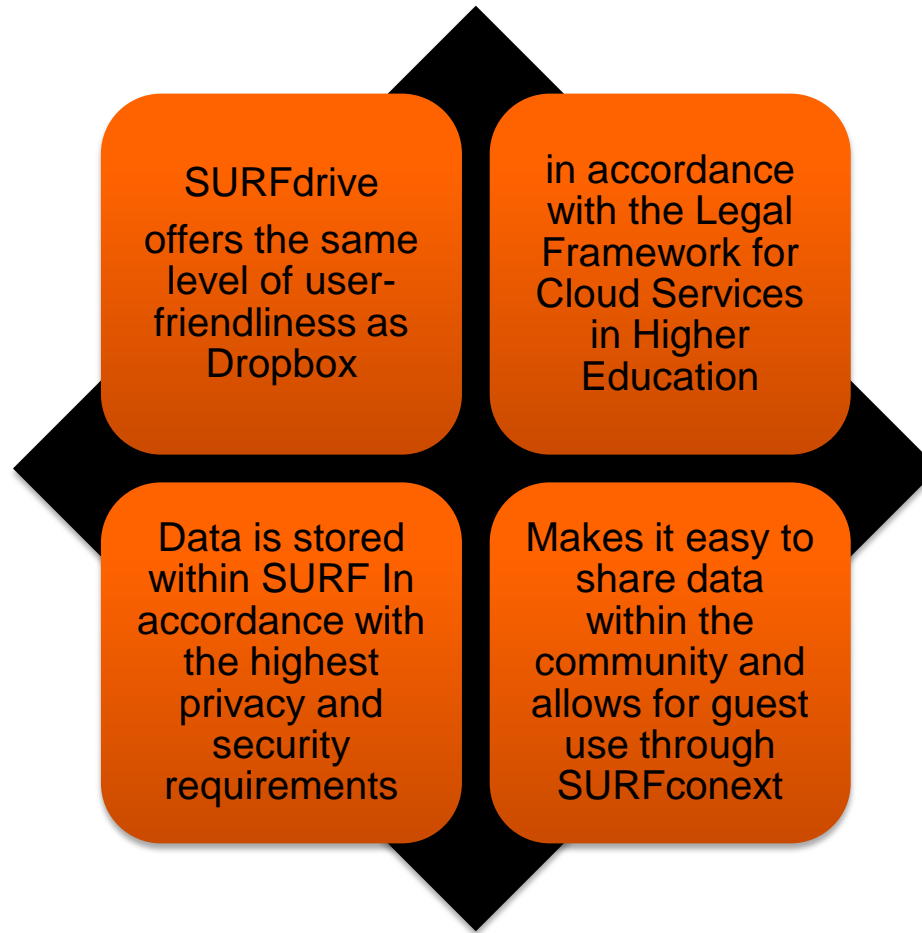
3 • Lack of legal protection, no SLA

4 • Data ownership, data is no longer available once participant leaves the institution

5 • Privacy and publication terms and conditions do not meet education and research community requirements

SURF

What does SURFdrive offer?

SURFdrive offers the same level of user-friendliness as Dropbox

in accordance with the Legal Framework for Cloud Services in Higher Education

Data is stored within SURF In accordance with the highest privacy and security requirements

Makes it easy to share data within the community and allows for guest use through SURFconext

SURF

Top 5 reasons to use SURFdrive Privacy /Security

1 • Data is stored in data centres managed by SURF and/or institutions

2 • Processes are established in accordance with the highest risk category defined in the Legal Framework

3 • The community defines its own terms and conditions regarding usage, sharing and termination of the services

4 • Data ownership: data remains available (under the institution's control) when staff members leave the institution

5 • Privacy and publication terms and conditions meet the requirements imposed by the academic world

SURF

SURFdrive service description

- **Features**
  - Storage : 100 GB
  - 20 * carryover
  - Access to SURFconext
  - High standard of privacy / security
  - Guest use
  - Sync app MS, Linux, iOS
  - Mobile Apps: iOS, Android

SURF DRIVE

- **Under development:**
  - New functionalities added on a continual basis
  - Maintenance portal
  - Webdav connection (iAnnotate)
- **Availability**
  - 99.5 % April 2014
  - 99.9 % January 2015
- **Monitoring**
  - April 2014, during office hours
  - 1 January 2015 or earlier 7*16
- **Support**
  - DIYS (end users)
  - By institutions (first-line)

SURF

Framework Standards for HE&R

Has been prepared to establish reliable and secure cloud services and set standards in the field of:

- confidentiality
- privacy
- Intellectual property
- availability

SURF

Timelines

1. • End 2013, selection process
2. • 22 Januari start pilot Owncloud
3. • March: evaluation pilot, service discription & pricing
4. • March go/no-go SURFdrive dienst
5. • June start SURFdrive service
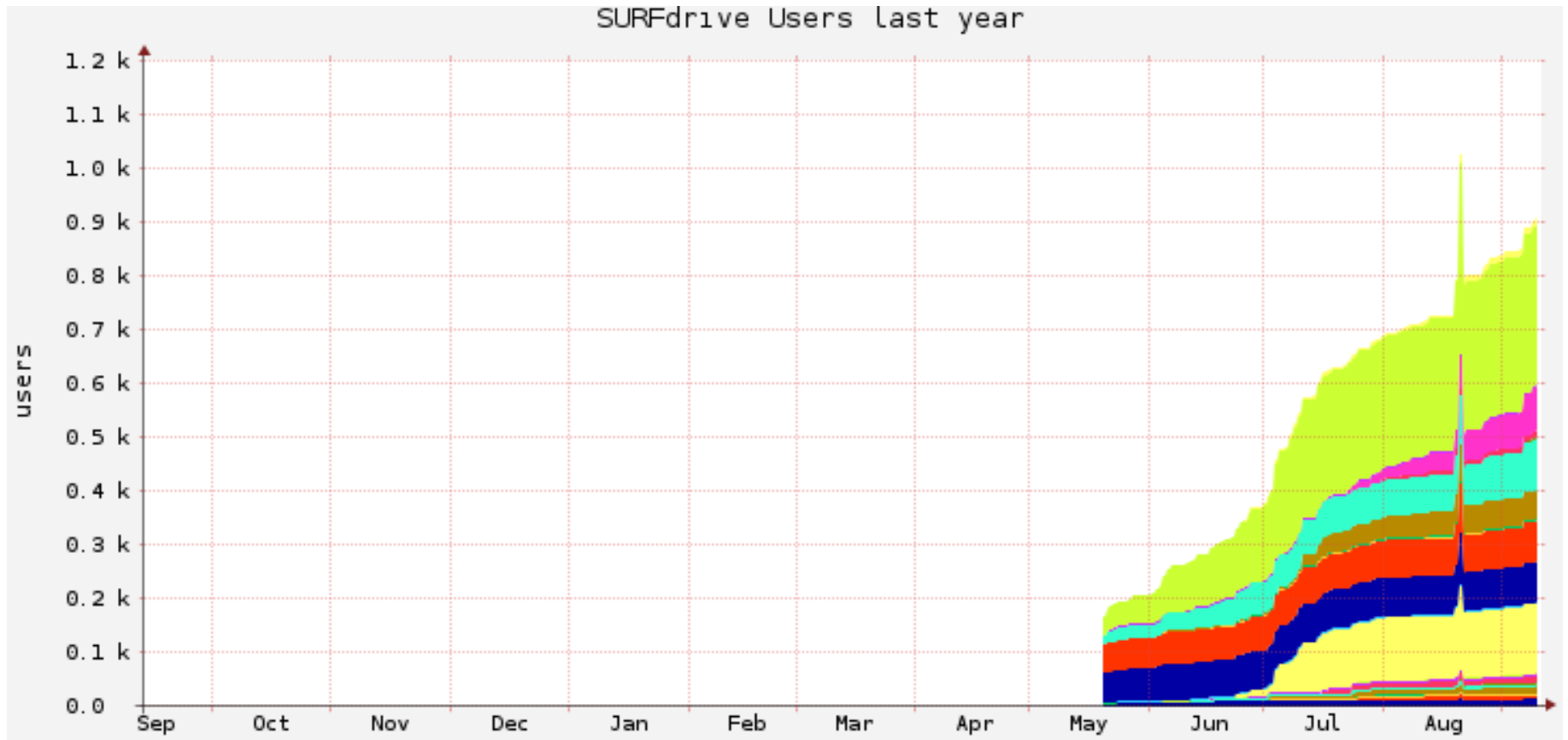
Australopithecus robustus   Homo habilis   Homo erectus   Homo sapiens neanderthalensis   Homo sapiens sapiens

Actual usage

SURFdrive Users last year

Security

Policy

- Framework Standards for HE
- Data classification
- Highest level classification <-> usability
- Collaborate with security community

Operational

- Best practices check
- Vulnerability scan
- Pentest webenvironment
- SSLtest Qualys -> A+
- Procedures (changes, incidents, testing)

Todo

- Audit ISO 2700x
- TPM

Crypto challenges

- SSL and single layer defence approach
  - Trust & TLS

- wish: full encryption of files (not available in OC)
  - problem: how to share?
    - In you domain: doable
    - External share: challenge

- Howto de-encrypt in webGUI?
  - Browsers don't have (yet) sufficient crypto lib
  - Javascript crypto is feasible

- How distribute password or keys

- Password reset by admin?
  - Or dataloss when password forgotten

Federation integration

- Federated login, institute able to provision users

- Federation = SAML = web based

- Web based SSO just works

- OC enterprise supports Shibboleth (SAML)

- Howto integrate Owncloud service

- Sync clients (OSX, Windows, Linux)

- Mobile (IOS, Android)

-> OC uses embedded browser for Shib-login

- Disadvantage: two sessions (1x Shib , 1x OC)

Research and higher education organizations in the Netherlands will move to the cloud together, via SURF.

SURF

Federation lessons learned

- Embedded browser construction tricky

- Difficult know works all institute LAN

- Automated testing is needed (by OC)

- WebDAV = basic authentication
- Federation = http redirects
- OC webdav not available when using Shib-log

Which developments can we expect to see in future?

1 • Broader use will reduce costs

2 • Institutions assign rights to users

3 • Institutions share storage environments (Federated)

4 • Expansion of functionalities

5 • Expansion of storage capacity

6 • In the event of proven success, a greater number of community cloud services will be offered through the SURF Community Cloud

What are the biggest challenges?

1 • Maximising the number of participants per institution

2 • Maximising the number of participating institutions

3 • Convincing end users of the benefits and need

• Privacy and security
• Value of the network increases as the number participants is squared
• Heightened importance as more participants can share information

4 • Minimising costs while maximising security and privacy
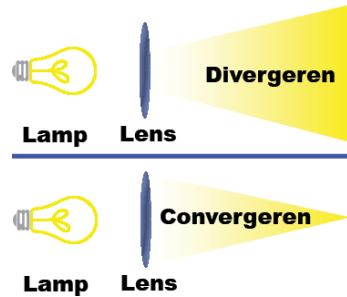
Market developments

Large number of players

De facto standard

Market is diversifying

Large number of new features

Suppliers are choosing their own approaches

Varied pricing

Why is the solution attractive to end users?

1 • 100 GB capacity (free of charge)

2 • Allows for collaboration with colleagues, other higher education and research institutions

3 • Files can be accessed from any device

4 • Allows for sharing with guest users in any location around the world

5 • Secure and protected against the invasion of privacy, within the Dutch legal framework

Questions?