File services

- Centralized remote file storage.
- Proprietary protocols.
- File Up- and Download.

- Multi client synchronization.
- Network file system support.
- Ubiquitous access.

Customer demands

- Integrated backup.
- Versioning.
- Sharing on user / group level.
- Secure access, Encryption

- Consistent availability.
- Federation support.

Driving factors

- Local hardware does not scale:
 - Systems interoperability
- Storage as a service
- Economy of scale: Cheap hardware, distributed system

Selected cloud file services

- Google Drive
- Dropbox
- OneDrive
- iCloud Drive

- Box
- Amazon Cloud Drive

Selected self hosting products

- Nextcloud, Owncloud
- Seafile
- Cozy
- Resilio

Nextcloud features

- Open source (PHP)
- Sync clients
- End-to-end encryption support
- Full text search

- Plugin extendability
 - CardDav
 - CalDav
- LDAP support

Lightning integration

