



Seafile

Seafile 2022 and Future Development

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Seafile Overview

Seafile Cloud Storage



Collaboration

✓Collaborative Editing

✓File Locking

Full Platform

✓Windows, Mac, Linux

✓Web, Android, iOS

Reliable

✓Reliable file syncing

✓Data integrity check

✓Used by millions

Integration

✓LDAP, Shibboleth, OAuth

✓Restful API

Usability

✓Drive Client

✓Windows Experience

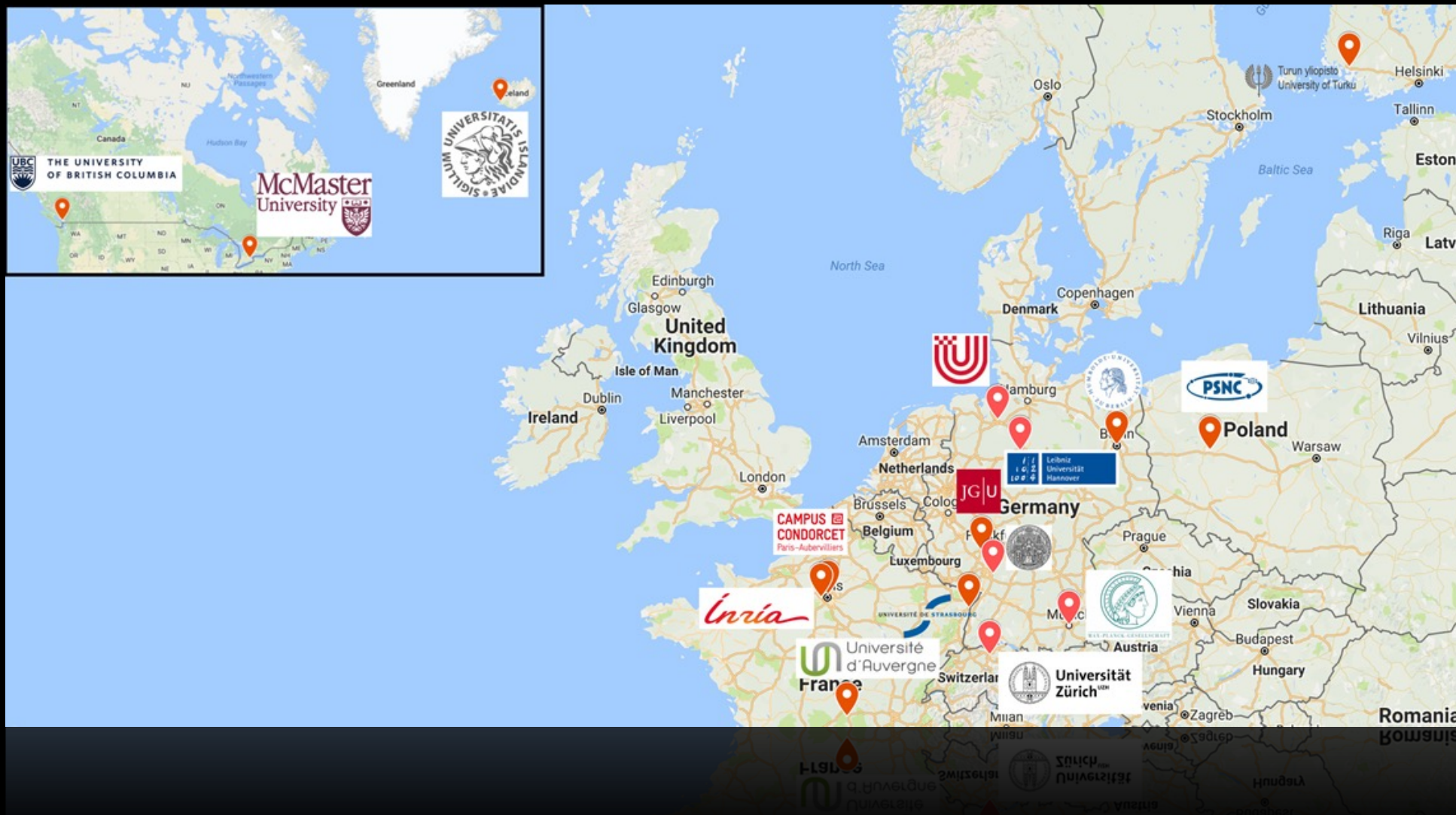
High Performance

✓Sync 10k small files per minute

✓Low server loads

Seafire Educational Users

- Europe
- Canada
- China



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Part 1

8.0 Version

Part 2

9.0 Version

Part 3

Future Roadmap

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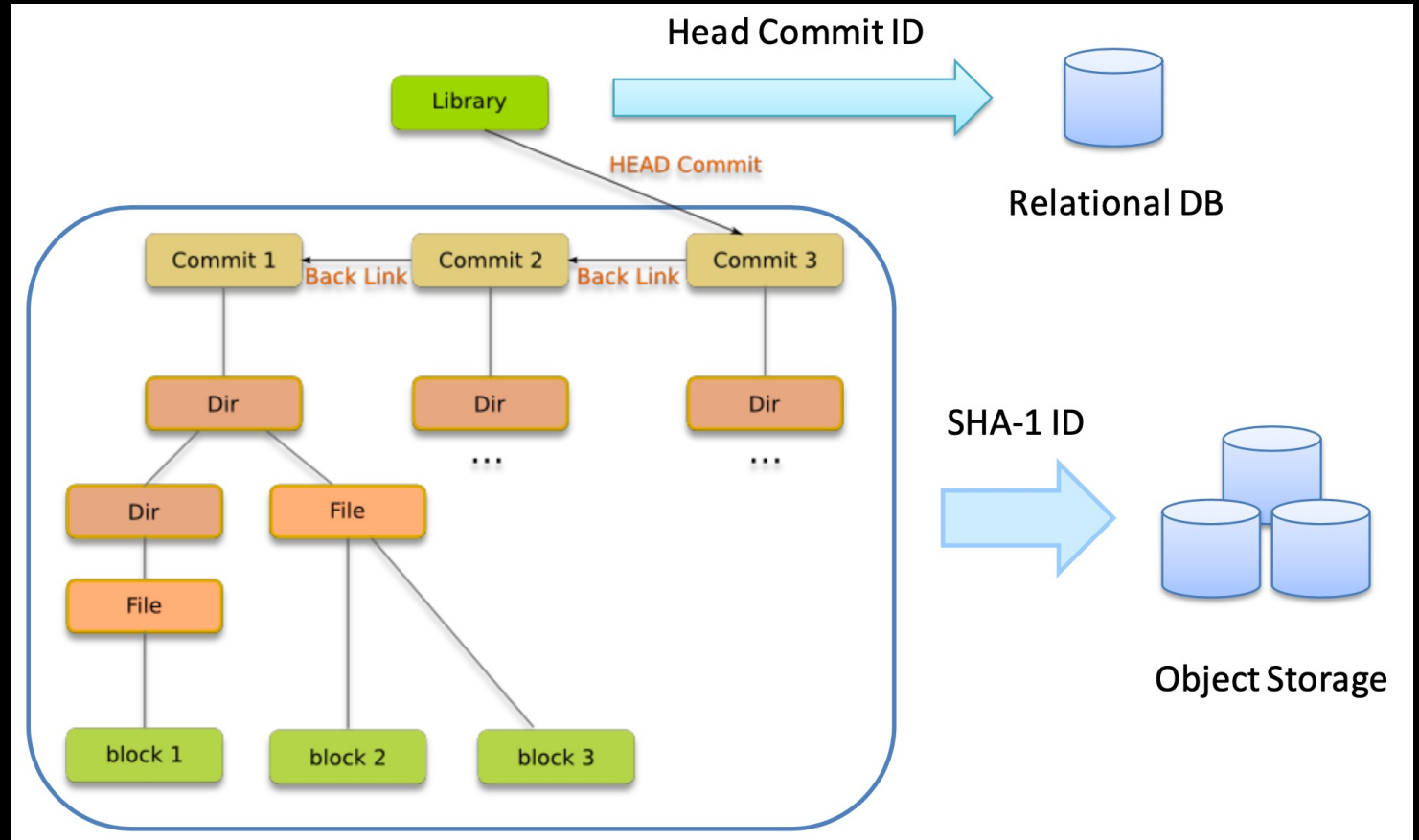
Seafile 8.0 – Improvements in 2020

- **GC supports cleaning unused fs objects**
- **Improve reliability for LDAP group syncing**
- **Syncing large libraries**
- **Other improvements**

GC supports cleaning fs objects

- FS objects contains directory and file metadata
- There can be many fs objects if a library has many files
- GC (garbage collection) cleans blocks referred by outdated commits
- Since 8.0.6 Pro, GC can clean fs objects too

Seafile Storage Layout



Improve reliability of LDAP group syncing

LDAP server

Seafile server

Sync by name

DN=group1, DC=seafile, DC=com → group1, group id=10

7.1 version

renamed

DN=group2, DC=seafile, DC=com → group2, group id=11

Sync by object ID

DN=group1, DC=seafile, DC=com → group1, group id=10

8.0 version

renamed

renamed

DN=group2, DC=seafile, DC=com → group2, group id=10

Syncing large libraries

Current Limitations

- Retrieving file list for libraries with over 0.5 million files is slow
- Too many concurrent file list requests can occupy all worker threads

Remedy in 8.0 version

- Added an option to limit the size of syncable libraries
- Oversized libraries will fail to sync in early stage

Solution in 9.0 version

- Use Go fileserver to avoid exhaustion of threads
- The limiting option is still provided to control CPU load

Other Improvements

- **Immediately unlock a file after user closes it in online Office suite**
- **Users can manage API authentication token in web interface, to support using CLI clients with SSO**
- **Upgraded bundled MariaDB connector library to support MySQL 8.0**

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Seafile 9.0 – Main Features

- Rewrite fileserver in Go language
- Custom sharing permissions
- OCM: connecting to NextCloud

Rewrite fileserver in Go language

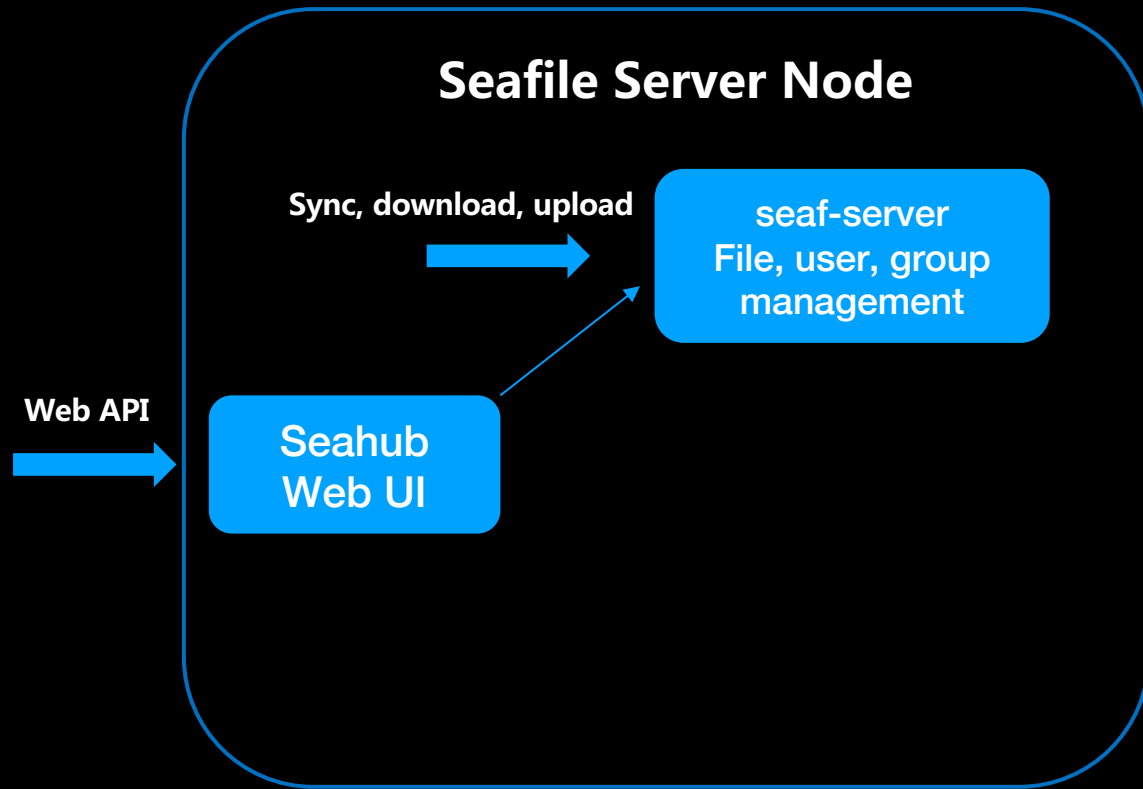
What is file server?

- **File server is the component in seaf-server for file upload/download/ syncing**
- **It is part of seaf-server process, written in C language**

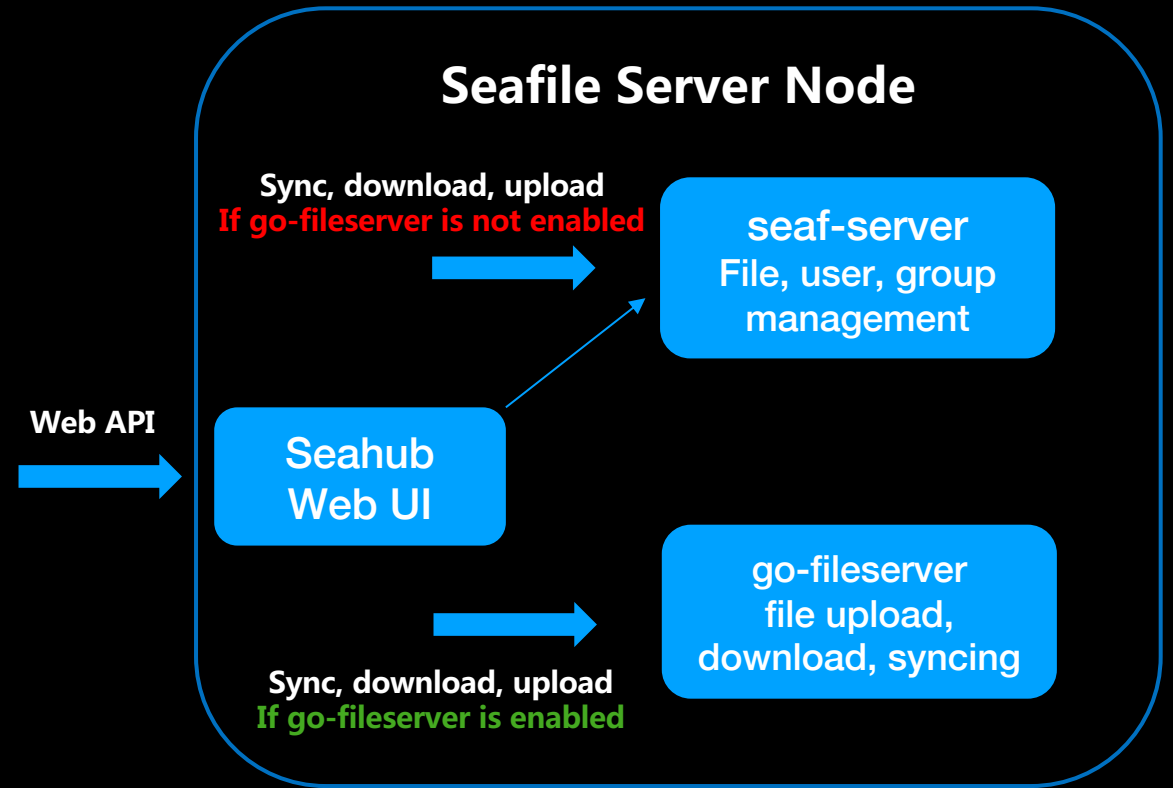
Why rewriting in Go language?

- **Higher concurrency: no exhaustion of worker threads**
- **Syncing large libraries**
- **Chunked encoding for zip download of a folder**
- **Support rate limiting for file upload and download**
- **More secure and standard conforming http implementation**

Architecture changes for go fileserver



8.0



9.0

Custom sharing permissions

Share Documents ✕

- Share Link
- Upload Link
- Share to user
- Share to group
- Custom sharing permissions**
- Invite Guest

← Edit permission Submit

Permission name	Description
<input type="text" value="custom"/>	<input type="text" value="custom"/>

- Upload
- Download
- Modify ?
- Copy
- Delete
- Preview online
- Generate share link

OCM: Connecting to NextCloud

The screenshot shows the NextCloud file manager interface. On the left, a list of files and folders is displayed with columns for Name, Size, and Modified. The 'Documents' folder is selected. On the right, a sharing sidebar is open for the 'Documents' folder, showing options like 'Share link', 'Others with access', and 'Internal link'. The 'Share link' option is highlighted, and a red box is drawn around the email address 'lian@lian.com@demo.seafile.top (remote)' in the sharing list.

- Folders and files in NextCloud can be shared to Seafile server
- Shared files can be accessed from Seafile
- WIP: Access Seafile folders in NextCloud

All / Documents

Name	Shared By	Time
Example.md	seafile@https://nextcloud.seafile.top/	an hour ago
Nextcloud flyer.pdf	seafile@https://nextcloud.seafile.top/	an hour ago
Readme.md	seafile@https://nextcloud.seafile.top/	an hour ago
Welcome to Nextcloud Hub.docx	seafile@https://nextcloud.seafile.top/	an hour ago

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2022 Roadmap

Notification Server

- **Clients poll Seafile server for updates on library, file locks and permissions**
- **Clients need half minutes to get updates from server**
- **Notification server use websockets to push updates to clients**
- **Written in Go language for high concurrency**

Service Observability

- **Expose performance and service metrics to Prometheus**

OCM and CS3API

- **Support accessing Seafile folders from NextCloud, ownCloud**
- **Integration with CS3API/Reva**



THANKS

KEEP CONTACT

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