



# Seafile

2017 Development & 2018 plan

# Seafie Overview

## Seafie Cloud Storage

### Collaboration

✓ Collaborative Editing

✓ File Locking

### Integration

✓ LDAP, Shibboleth, OAuth

✓ Restful API

### Usability

✓ Drive Client

✓ Windows Experience

### Full Platform

✓ Windows, Mac, Linux

✓ Web, Android, iOS

### Reliable

✓ Reliable file syncing

✓ Data integrity check

✓ Used by millions

### High Performance

✓ Sync 10k small files per minute

✓ Low server loads



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**2017 Development**

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## 2017 Development Summary

2

Major Releases  
**version 6.1 and 6.2**

11

Releases for  
**Community Edition**

18

Releases for  
**Professional Edition**

## 2017 Development Summary

8

Releases for  
**Syncing Client**

14

Releases for  
**Drive Client**

10

Releases for  
**Android client**

10

Releases for  
**iOS client**

## New Features - Online Office

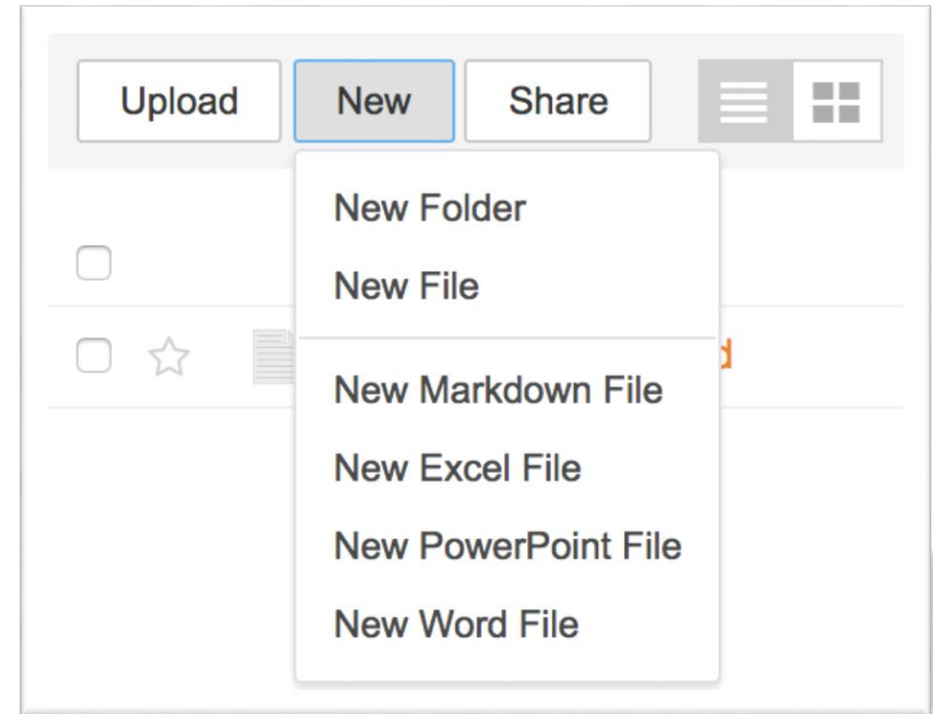
Support 3 online office solutions:

Collabora Online, OnlyOffice and Office Online Server





## New Features - Online Office



Co-authoring are also supported

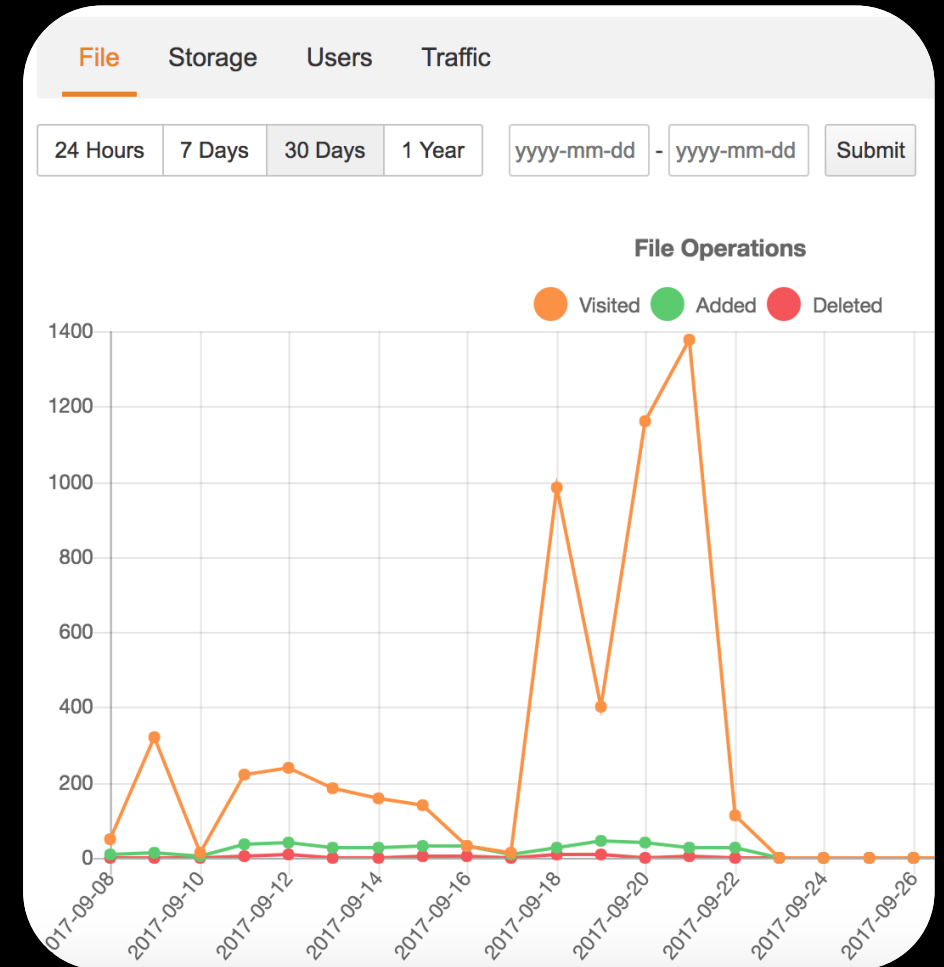
Excel, PowerPoint and Doc files can be created online directly

Office online server has been used extensively in several big installations

# New Features - Statistics

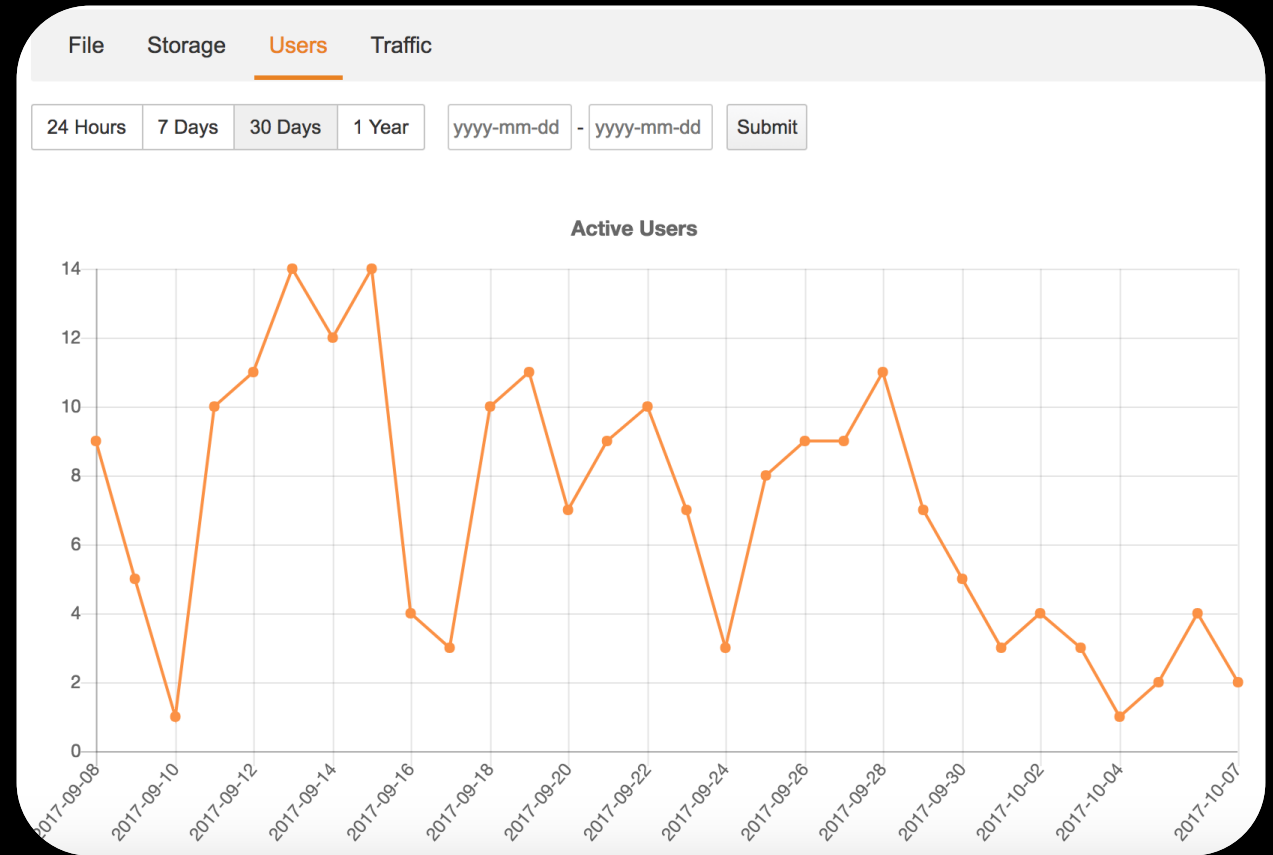
A statistic module is added for admins

File operations by days



# New Features - Statistics

Active Users by days



## Improvements for admins

- Support setting user's roles via Shibboleth attribute
- Support setting different quota for different roles
- More APIs for admins
- Admins can create groups and manage groups in admin panel
- Admins can add libraries in admin panel
- Make more config items available via admin panel
- An admin operation log to audit the actions done by an admin

# Improvement on file permission control

**Share test**

Download Link	User	Permission	
Upload Link	<input type="text" value="Search users or enter emails and press Enter"/>	<input checked="" type="checkbox"/> Read-Write	<input type="button" value="Submit"/>
<input type="button" value="Share to user"/>	123	<input type="checkbox"/> Read-Only	
Share to group		<input type="checkbox"/> Admin	

Add "admin" permission when share a library to a group or a user

# Improvement on file permission control

**Share test**

**Download Link**

Upload Link

Share to user

Share to group

Add password protection

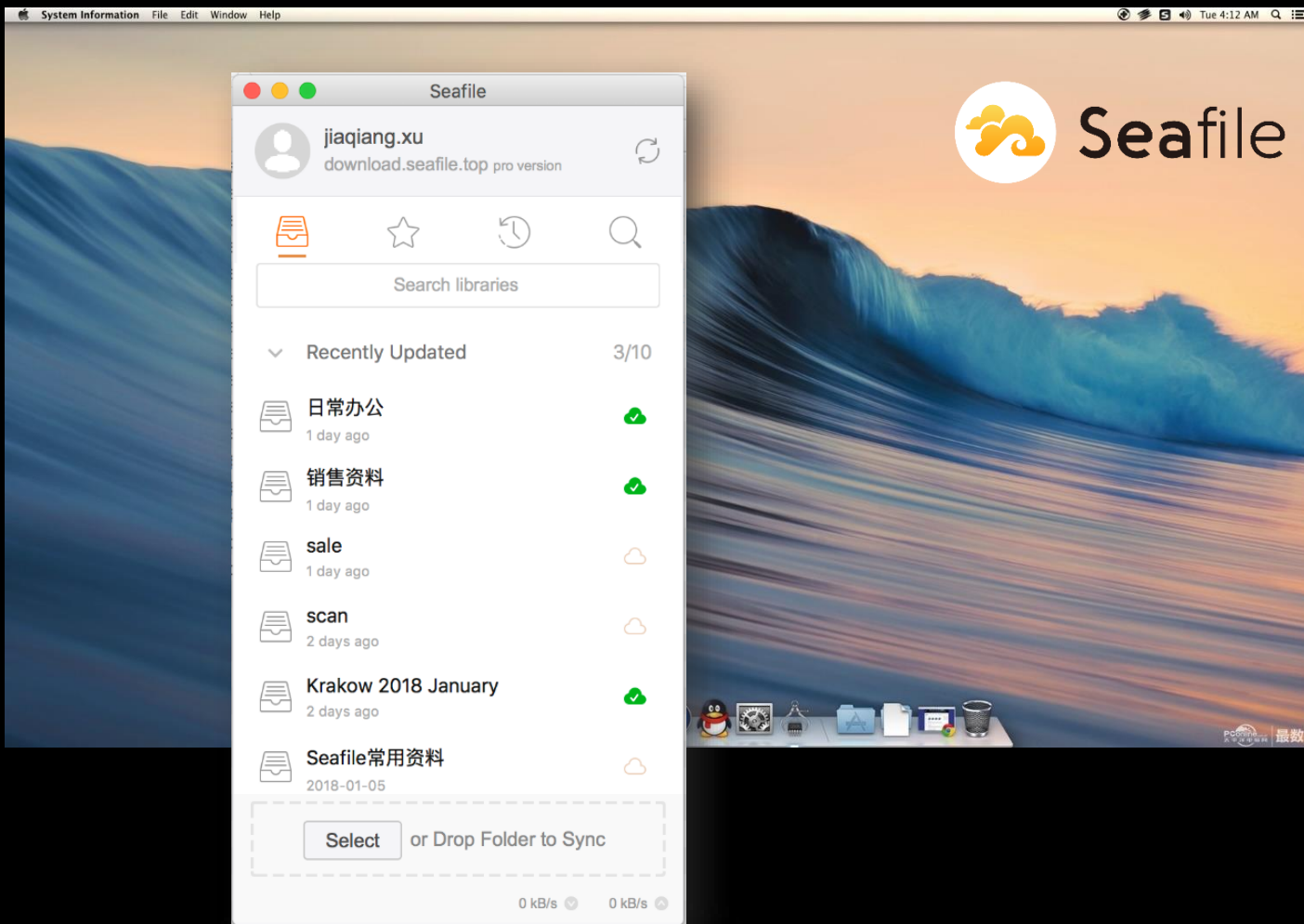
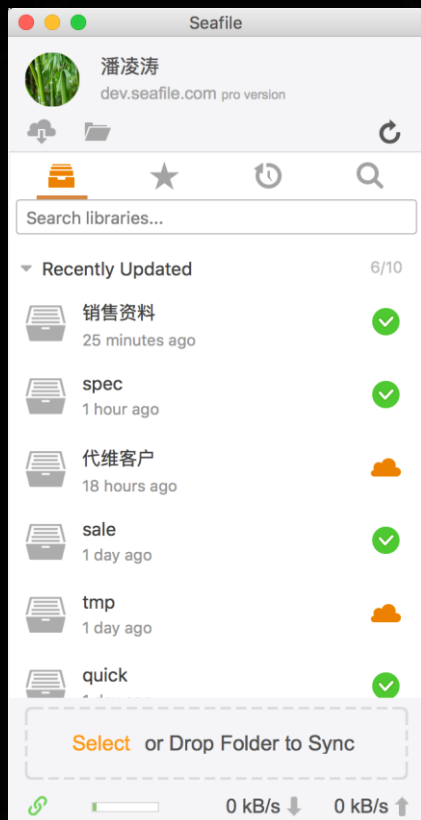
Add auto expiration

Online preview only

Generate

Add "preview only" feature when share a file via sharing link

# Improvement on syncing client





## Improvement on syncing client

- ✓ 5 improvements/fixes in file syncing
- ✓ You can now see which client made a modification in the library history page.  
This will help to find which client accidentally modified a file or deleted a file.
- ✓ 15 improvements/fixes in cloud file browser
- ✓ Updating files in cloud file browser is now more reliable
- ✓ Improvements on network connection change handling

## Improvement on drive client

- ✓ Improvements to Drive client for Windows
- ✓ Fix a few (tricky) bugs for FS operations
- ✓ Some bugs are from Dokany driver/library
- ✓ Drive client for Linux is available
- ✓ Drive client for Mac is available

**Drive Client now supports all OS platforms**

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## Looking forward

- Metadata Management
- Drive Client Improvement
- Multiple Storage Backends
- Web UI Redesign
- Event Infrastructure

# Metadata Management



Keep metadata while files moved/renamed  
File path -> UUID Map table  
UUID -> File metadata



Customizable Notifications



Improved UI for adding comments/labels



Search based on file comments  
and labels

Improved file comments, file labels and other metadata management

## Drive client improvements

- ✓ Support encrypted libraries
- ✓ Organize libraries into categories: My Libraries, Shared Libraries, and Group Libraries
- ✓ Better integration with Finder and Spotlight search on Mac
- ✓ Bundle OSXFuse kernel driver into SeaDrive package for Mac

## Multiple Storage Backends

1. Attach multiple storage backends to one Seafile server
2. Backends can be different: NFS, Ceph, S3, Swift
3. Map libraries to backends, based on flexible policies
  - Allow users to choose library's backend
  - Map libraries to backends based on user's role
  - Map libraries to backends based on file types: hot storage, archive storage, etc.
  - Use more than one backends to scale storage capacity

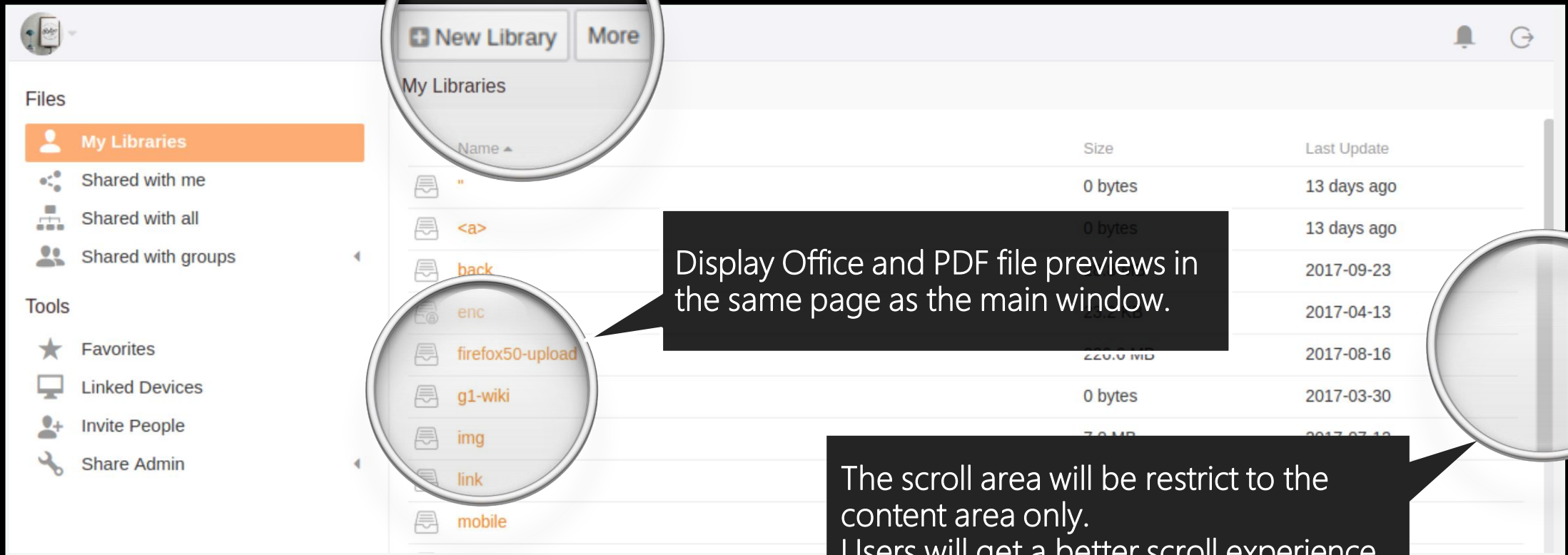


# UI Redesign

The top bar will be changed to a toolbar to containing buttons.

Display Office and PDF file previews in the same page as the main window.

The scroll area will be restrict to the content area only. Users will get a better scroll experience.



## Event Infrastructure

- Redis can be a replacement to Memcached and also become the event bus
- Redis support queues, so Seafile can publish events to Redis and other system can subscribe to events and do something when receive certain events

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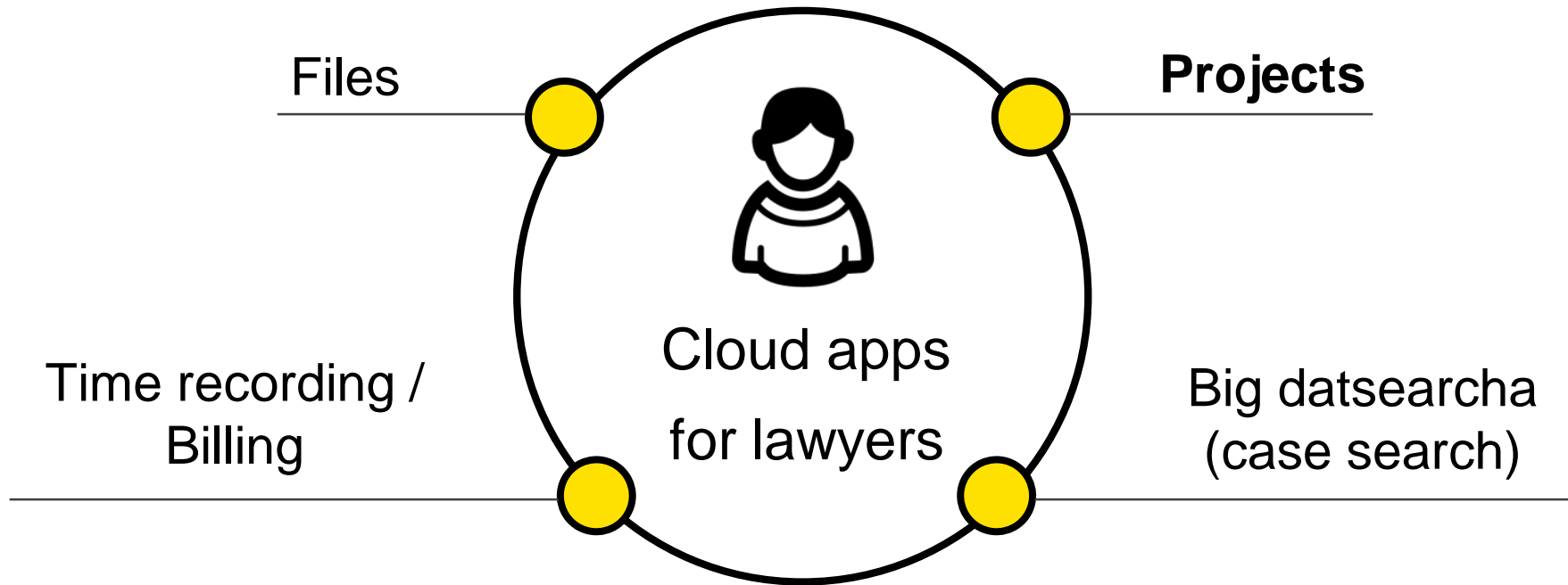
Part 3

**Site Report**



**A cloud for 30,000 lawyers in China**

## A cloud for law firms



**Cooperation project with a SaaS provider in China**

## Files module

- Use Seafile API to build customized web UI
- Use a customized desktop clients
- Use Seafile API to integrate File features to mobile client
- Each project will have a corresponding library, a user typically have access to 300 libraries.

## Features used



**Desktop clients**

1. The cloud file browser is used more often than file syncing
2. Editing files via cloud file browser is highly used feature
3. Resumable large file upload via cloud file browser is a must
4. Plan to use Drive client from 2018

**Online Office**

Integrated with Microsoft Office Online Server

**Sharing links**

For customers to download and upload materials related to law cases



## Features used



**Encrypted libraries**

Encrypted libraries are used to storing sensitive files

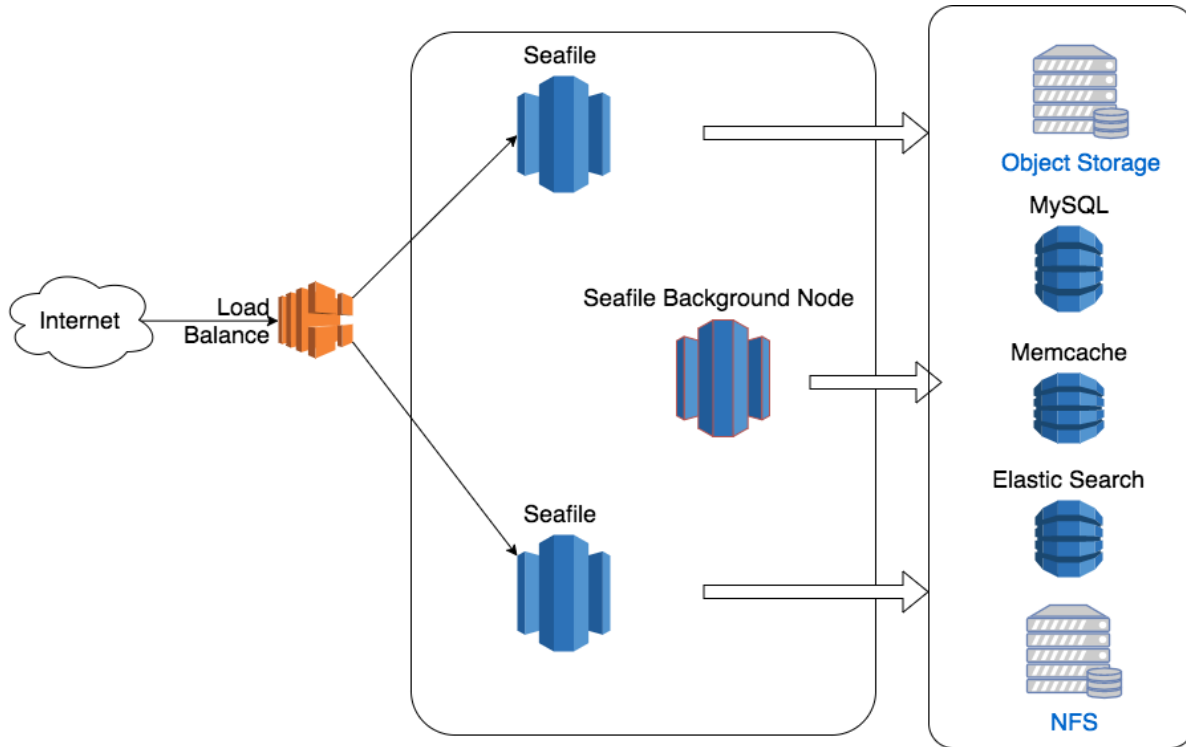
**File history**

File history is used to compare different versions of a file

**Library snapshot**

This feature has been used several times to recover files that accidentally deleted

# Architecture



- 7 front-end server
- backend node only do file indexing, office online server is used for online file view.
- 3 Elastic Search nodes are maintained by us.
- MySQL, Memcache, Object Storage and NFS is provided by the cloud platform.

## Statistics

- 30,000 users and growing rapidly
  - 100,000 users till the end of 2018 (there are about 300,000 lawyers in China).
- 45TB storage
- 25 million files, 300K files uploaded per day
- 8000+ syncing clients connected daily
- 7 front-ends server with 16GB memory, 4 CPU
- 3 nodes for ElasticSearch server, 100GB data

## Statistics

```
1  [||||] 7.3% Tasks: 47, 136 thr; 2 running
2  [||||] 8.7% Load average: 0.44 0.42 0.47
3  [||||] 16.7% Uptime: 69 days, 19:22:01
4  [||||] 7.9%
Mem[|||||||||||||||||3.29G/7.80G]
Swp[|||||0K/0K]
```

- Moderate load on front end server
- Seahub uses WSGI mode with 3 processors and each have 5 threads with backlog 64.
- Seafile uses 10 threads.
- If there is a burst of requests, requests will be dropped. This prevents system from meltdown during high loads.



## Feedback from users

- Users will use the system after 2 hours training
- Some users can understand and use Seafile well.
- But about half users have difficulty understanding and using file syncing.
- They use cloud file browser instead. But there are some bugs in cloud file browser as it was not a “mainstream” feature before.



## Future plan

- Introduce users to use SeaDrive clients.
- Introduce file comments, file labels and see how they use these features.
- Make Seafile easier to be used by non-tech users. If Seafile can be used well by 100,000 lawyers, it can be used well for any other users.



**THANKS**

# KEEP CONTACT

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