Secure Content Collaboration. Simplified

with ownCloud Infinite Scale
What you can do with ownCloud Infinite Scale

Simplify how you work with your files:

- Access
- Share
- Collaborate
- Anywhere
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Simplified via ownCloud

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What makes Infinite Scale different from other solutions?
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1. Open Source
   - Vendor Independence
   - Longevity and Sustainability
   - Flexibility and Freedom
   - Transparency

Apache-2.0 license
What makes Infinite Scale different from other solutions?

1. **Open Source**
2. **Data Sovereignty**
   - Your data under your control
   - Runs on your infrastructure, on-premises, as a managed service or in the cloud of your choice

Photo: Tophost (CC BY 4.0)
What makes Infinite Scale different from other solutions?

1. Open Source
2. Data Sovereignty
3. Cloud Native
   • Microservices
Why we moved to Microservices

Problem
of a monolithic architecture ex. in ownCloud 10 / Nextcloud
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Apache Web Server
Linux
Why we moved to Microservices

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MySQL Database
Apache Web Server
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PHP
MySQL Database
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Web Interface
PHP
MySQL Database
Apache Web Server
Linux
Why we moved to Microservices

**Problem**
of a monolithic architecture ex. in ownCloud 10 / Nextcloud

"Please generate small previews for all of my 1,000 High-Res Photos!"

- Web Interface
- PHP
- MySQL Database
- Apache Web Server
- Linux
(We are talking about these images)
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Web Interface
PHP
MySQL Database
Apache Web Server
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Advantages of Microservices
Advantages of Microservices

Examples of some Microservices in Infinite Scale
- Antivirus
- Audit
- Eventhistory
- Frontend
- IDM
- NATS
- Notifications
- Policies
- Search
- Thumbnails
- ...

Microservice
Advantages of Microservices

Microservice
to generate preview images
Advantages of Microservices

- Microservice: to generate preview images
- Fault isolation: does not directly affect the other services
Still the user does not see this, as preview images could not get generated, but ...
... the System is still up and running with a minor limitation of missing preview images
which is way better than this:

Server Error
Advantages of Microservices

- Fault isolation
- Scalability
- Resource Optimization
Advantages of Microservices

- Fault isolation
- Scalability
- Resource Optimization
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1. Open Source
2. Data Sovereignty
3. Cloud Native
4. Databaseless
The Problem

When you upload a file, 2 things happen

1. File gets **listed** in the database “office”
2. File gets **stored** on the storage “warehouse”
The Problem

**Paperwork**
Metadata like the filename, shares etc.

**File**
Actual file with its binary data.
The Problem

**Office**
Metadata like the filename, shares etc.

**Warehouse**

**Paperwork**
**File**
Actual file with its binary data.
The Problem

**Paperwork**
Metadata like the filename, shares etc.

**File**
Actual file with its binary data.
Let me download manual.pdf

Office: “Ok, we found your file in our papers. Wait a second, we’ll bring it out from the Warehouse.”

👍
The Problem
The Problem

Single Point of failure → Single Point of failure

⚠️ If only one of both fails, the entire system will fail!
The Problem

More problems: If you store more data, you also need more databases
The Problem

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The Problem

More problems: If you store more data, you also need more databases

⚠️ At some scale the system gets complex, error-prone and thus cost-intensive.
The Solution

Store Metadata on the storage
The Solution

Store Metadata on the storage
The Solution

Store Metadata on the storage
The Solution

Store Metadata on the storage
The Solution

Store Metadata on the storage
The new Infinite Scale Server ensures secure content collaboration, providing:

**Resilience**
The new Infinite Scale Server ensures secure content collaboration, providing:

**Resilience**

**Scalability**
The new Infinite Scale Server ensures secure content collaboration, providing:

Resilience
Scalability
Cost-Effectiveness
Infinite Scale from the user perspective

Features
Sharing

and why you need Spaces
Organizing shared files

Albert shares with ...

- Personal
- Projects
  - Moon Shot
    - 01_Research
    - Report
- 02_Budget
  - Report
Organizing shared files
Organizing shared files

Albert shares with…

... Marie and …

Shared with me
- Report
- Report

Personal
- Projects
  - Moon Shot
    - 01_Research
    - 02_Budget
    - Report
Organizing shared files
Organizing shared files
Problem

❌ Chaos in Shared with me

❌ Missing context

“Does this file belong to Project A or B?”

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Problem

❌ People leave with projects

As project files live within their personal folders

Albert moves to Princeton and forgot to handover his files
Solution

Spaces
Spaces

Spaces simplify collaboration on files

- **Separate** location from the *Personal* files
Spaces

Spaces simplify collaboration on files

- **Separate** location from the *Personal* files
- **Collaborate:** Ideal for shared files e.g. for projects, departments or school classes
Spaces

Spaces simplify collaboration on files

- **Separate** location from the *Personal* files
- **Collaborate**: Ideal for shared files e.g. for projects, departments or school classes
- **Quota**: Spaces can have a quota

[Image of ownCloud interface with details]
Spaces

Spaces simplify collaboration on files

- **Separate** location from the *Personal* files
- **Collaborate**: Ideal for shared files e.g. for projects, departments or school classes
- **Quota**: Spaces can have a quota
- **Manager**: Spaces always have a *Manager* who is responsible for quota and access
- **Transfer**: Spaces can have multiple Managers e.g. to transfer a Project

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Advantages for the organization

Advantages from an organizational view

- Spaces avoid personal (employee) data-silos “by design”
- Spaces increase security as they strictly separate personal from project related files
- **Self-service**: Spaces lower support efforts for admins as they focus on self-service for users
More Highlights

to simplify how you work
Web Office

Open Documents in

• Only Office
• Collabora
• Office 365

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Sharing Roles

Increases security with sharing roles

- Simply select
  - Can view or
  - Can edit

- No need to pick single, fine-grained permissions
  view, download, upload, edit, add, delete, share

- Prevents human error by design and avoids data loss

- Ease of use for users

- Setting custom permissions is still possible
Secret File Drop

Collect files via link 🔄

- Anonymous & secret
- Existing content is not revealed
- Simple: No login required

Examples:
Collect homework, documents, photos
Editing without concerns

File version history - we got your back
- Track file versions
- Restore any version
- Easily recover from errors

Trash bin
- Restore deleted files from trash bin
- Empty trash bin after 30 days
Powerful sharing links

Sharing links
- Set a password
- Set an expiration date
- Create **many** links for a single file
- Revoke access at any time
Tags

Stay organized

- Set Tags on files and folders
- Find and organize items independent of folder structure or filenames
Fulltext search

Search the content of files within seconds

(Supported formats: PDF, DOCX, XLSX, PPTX, ODF, HTML, XML, EPUB, RTF, Tar, RAR, AR, CPIO, Zip, 7Zip, Gzip, BZip2 and many more ...
Get started without the need for training

Use familiar concepts you already know from your Windows or Mac file explorer.

- Drag and drop
- Shortcuts
  - `ctrl + c`
  - `ctrl + x`
  - `ctrl + v`
- Right-click context menu
- And many more…
View modes

Individual views that adapt to your needs

- Dark / light mode
- Compact view
- Regular view
- Tiles view
  with adjustable tile sizes
Space Templates

Bonus
Space Templates

Say bye bye to chaotic folder structures and create unified folders in seconds!
Create Space from "Project Template"

Create Space with the content of "Project Template".
The marked elements will be copied.

Space name
Project Moonshot

[Cancel] [Create]
Project Moonshot

Here you can add a description for this Space.

- 01_Experiment
- 02_DataAnalysis
- 03_LiteratureReview
- 04_Methodology
Security and Compliance

for CISOs and Compliance Managers
Security and Compliance

- **Digital Sovereignty**
  Open and transparent

- **GDPR**
  Regulative Compliance

- **Accessiblity**
  Compliant with WCAG 2.1 AA / BITV 2.0

- **100% Control**
  Your data under your control

- **Spaces**
  Data owned by the organization, not individuals

- **Antivirus**
  Prevent malicious activities

- **Non Discriminatory Language**
  Gender neutral & inclusive language

- **Audit Log**
  Keep track of all activities
Summary

Infinite Scale 3.0

- Secure & Compliant
- Cloud Native
- Cost Effective
- User Friendly
Thank you for your attention!
Splitbrain Problem

One can not live without the other
Splitbrain Problem

One can not live without the other

Database (Metadata)

Storage (file blob)
Splitbrain Problem

One can not live without the other

Database (Metadata)  Storage (file blob)
Splitbrain Problem

One can not live without the other

Database

Storage
Splitbrain Problem

One can not live without the other

Database  Storage
Server Error
Splitbrain Problem

One can not live without the other

Database (Metadata)

Storage (file blob)
Splitbrain Problem

One cannot live without the other

Database
(Metadata)

Storage
(file blob)
Splitbrain Problem

→ myFolder tree

.  

ownCloud-Manual.mpk

1 directory, 2 files

→ myFolder
Splitbrain

Filecache and storage diverge -> bigger storage, bigger filecache

Size of filecache is a problem; db is always hard to scale

Galera cluster, master slave setup, write in db needs locking.
FAQ drafts

**1. What is an Enterprise File Sync and Share (EFSS) solution?**

An Enterprise File Sync and Share (EFSS) solution is a software service that allows organizations to save, synchronize, and share files securely among employees, partners, and clients. This includes files such as documents, photos, videos, and more. The solution is often cloud-based but can also be on-premises and is designed to meet the requirements of businesses, specifically in terms of security and compliance.

**2. How does EFSS improve collaboration in a team?**

EFSS allows team members to share files and folders securely and in real-time, enhancing collaboration. Team members can access, edit, and update files simultaneously from anywhere, any device, improving productivity and speeding up project completion.

**3. How secure is our data with an EFSS solution?**

EFSS solutions are designed with enterprise-level security features including data encryption, multi-factor authentication, and audit trails. They also offer compliance with data privacy standards such as GDPR, HIPAA, etc. The level of security, however, can vary depending on the provider.

**4. Can I access my files offline?**

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