Nextcloud
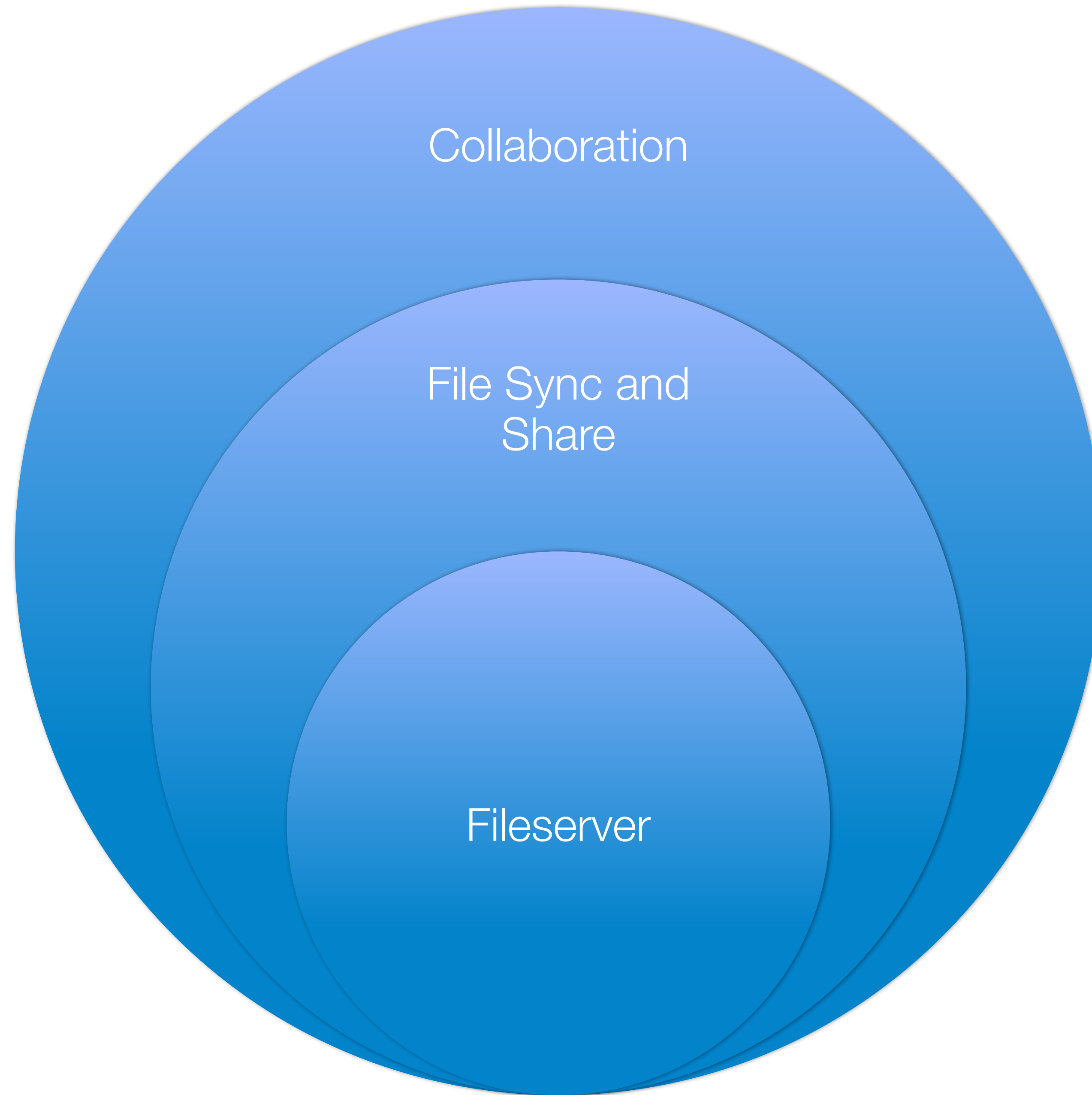
Frank Karlitschek

Agenda

- Nextcloud in 2020
- Architecture update
- Questions
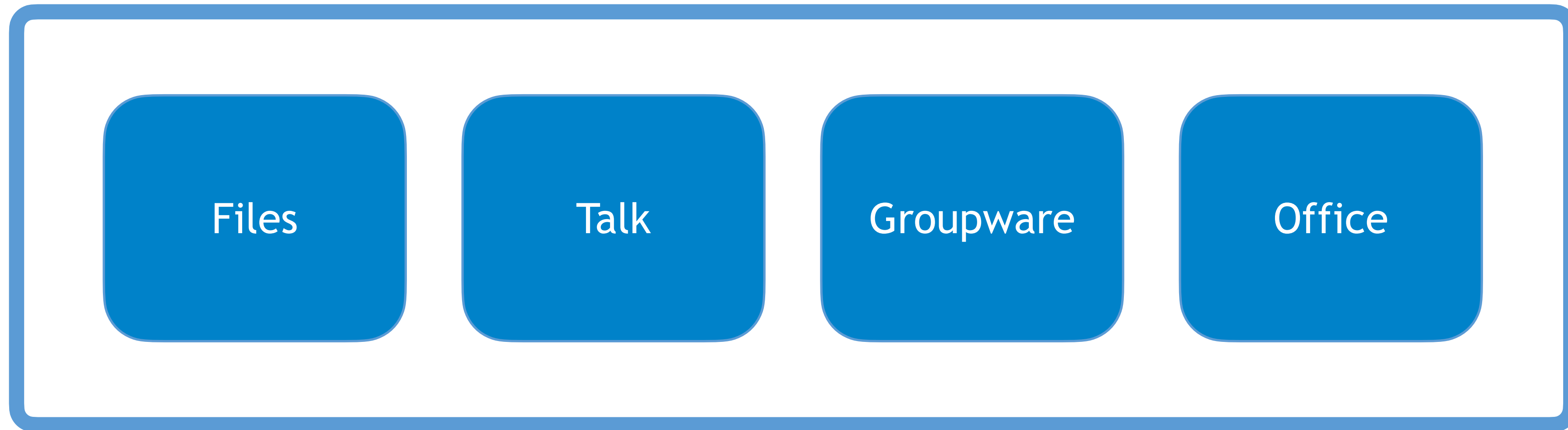
Positioning

Nextcloud Hub 18

Recent

Favorites

Shares

Shared with others

Shared with you

Shared by link

Deleted shares

Pending shares

Tags

Deleted files

18.2 MB used

Settings

Add notes, lists or links …

Birdie.jpg
Recently edited

Nextcloud community.jpg
Recently edited

Library.jpg
Recently edited

	Name ▲			Size	Modified
☐	📁 Documents		⋯	2.4 MB	a month ago
☐	📁 Photos		⋯	5.4 MB	a month ago
☐	Nextcloud.png		⋯	49 KB	a month ago
☐	Nextcloud intro.mp4		⋯	3.8 MB	a month ago
☐	Nextcloud Manual.pdf		⋯	6.5 MB	a month ago

2 folders and 3 files   18.2 MB
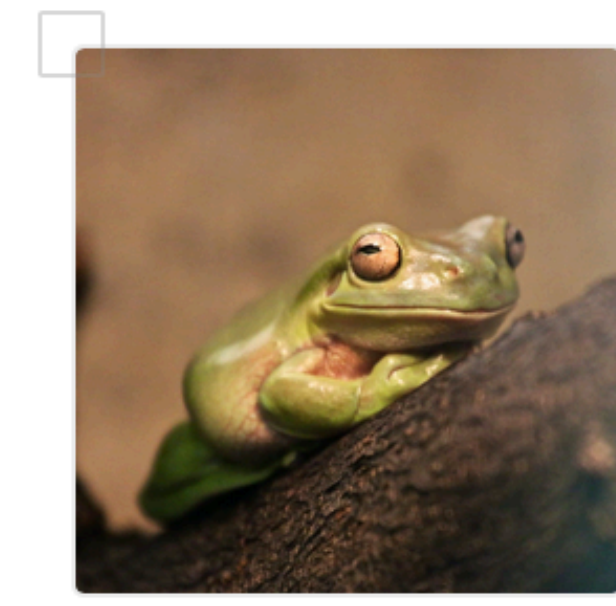
All files

Recent

Favorites

Shares

Shared with others

Shared with you

Shared by link

Deleted shares

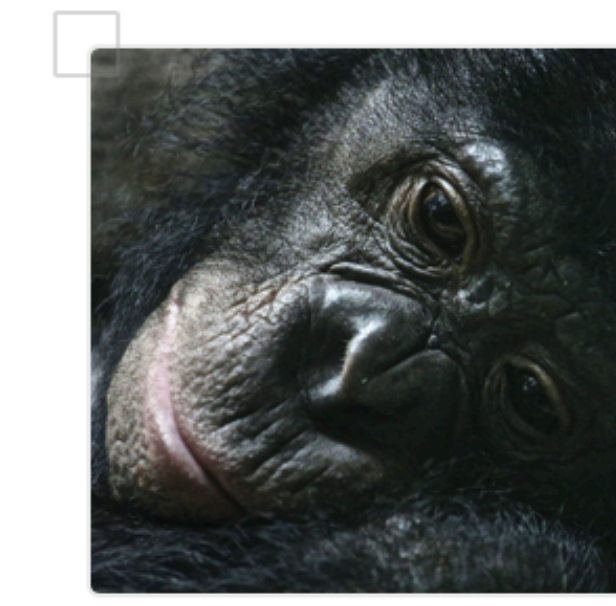Pending shares

Tags

Deleted files

18.2 MB used

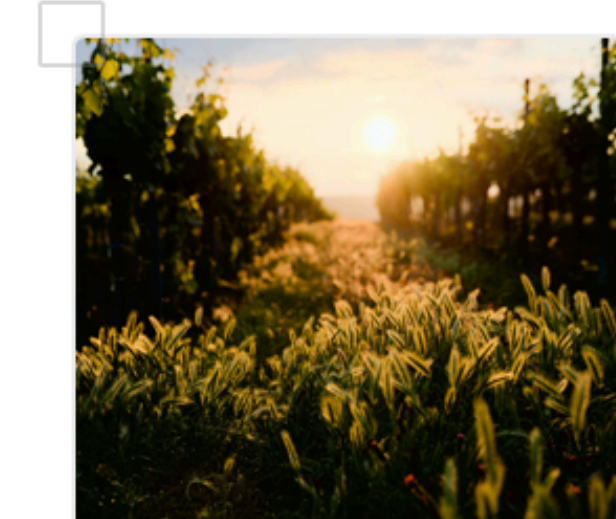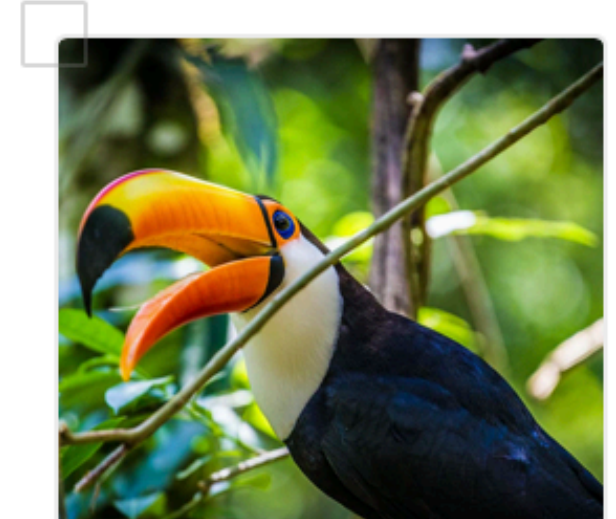Settings

Name

Size

Modified

Birdie

Frog

Gorilla

Library

Nextcloud co...

Steps

⭐ **Vineyard.jpg**
417 KB, a month ago

Collaborative tags

Activity

Chat

Comments

Sharing

Versions

frank

New comment ...

frank · · · a minute ago

jos Checkout this awesome photo

You received **design work** as a share by

Leon Green

Reject   Accept

testing

Recentl

Leon Green mentioned you in conversation **analysis.jpg**

Modified

< 1 KB   6 days ago

Files

Transfer ownership of a file or folder

Choose file or folder to transfer

New owner | Search users

Transfer
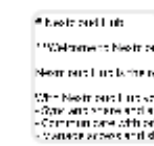

Sharing

☐ Accept user and group shares by default
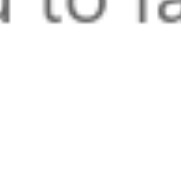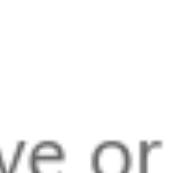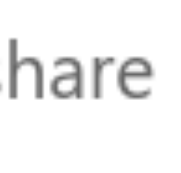
Documents

Project X

Please all project files in here. Everyone in the Sales Talk room will get a notification and all files will be converted to PDF automatically.

- ☑ Project Kickoff
- ☐ Milestone 1
- ☐ Milestone 2

	Name ▲			Size	Modified
☐	Example.md	🔗	🔒 •••	1 KB	a month ago
☐	Example.odt	🔗	•••	29 KB	a month ago
☐	Nextcloud flyer.pdf	🔗	•••	2.4 MB	a month ago
☐	Readme.md	🔗	•••	< 1 KB	a month ago

4 files   2.4 MB

| | 452 KB | a year ago |
| | 1 KB | 2 months ago |

🔒 Lock file

⭐ Add to favorites

ℹ️ Details

✏️ Rename

↗️ Move or copy

⬇️ Download

🗑️ Unshare

	4.4 MB	a year ago
	36 KB	a year ago
	452 KB	a year ago
	482 KB	a year ago
	< 1 KB	2 months ago
	1.4 MB	**25 minutes ago**
	3 MB	a year ago
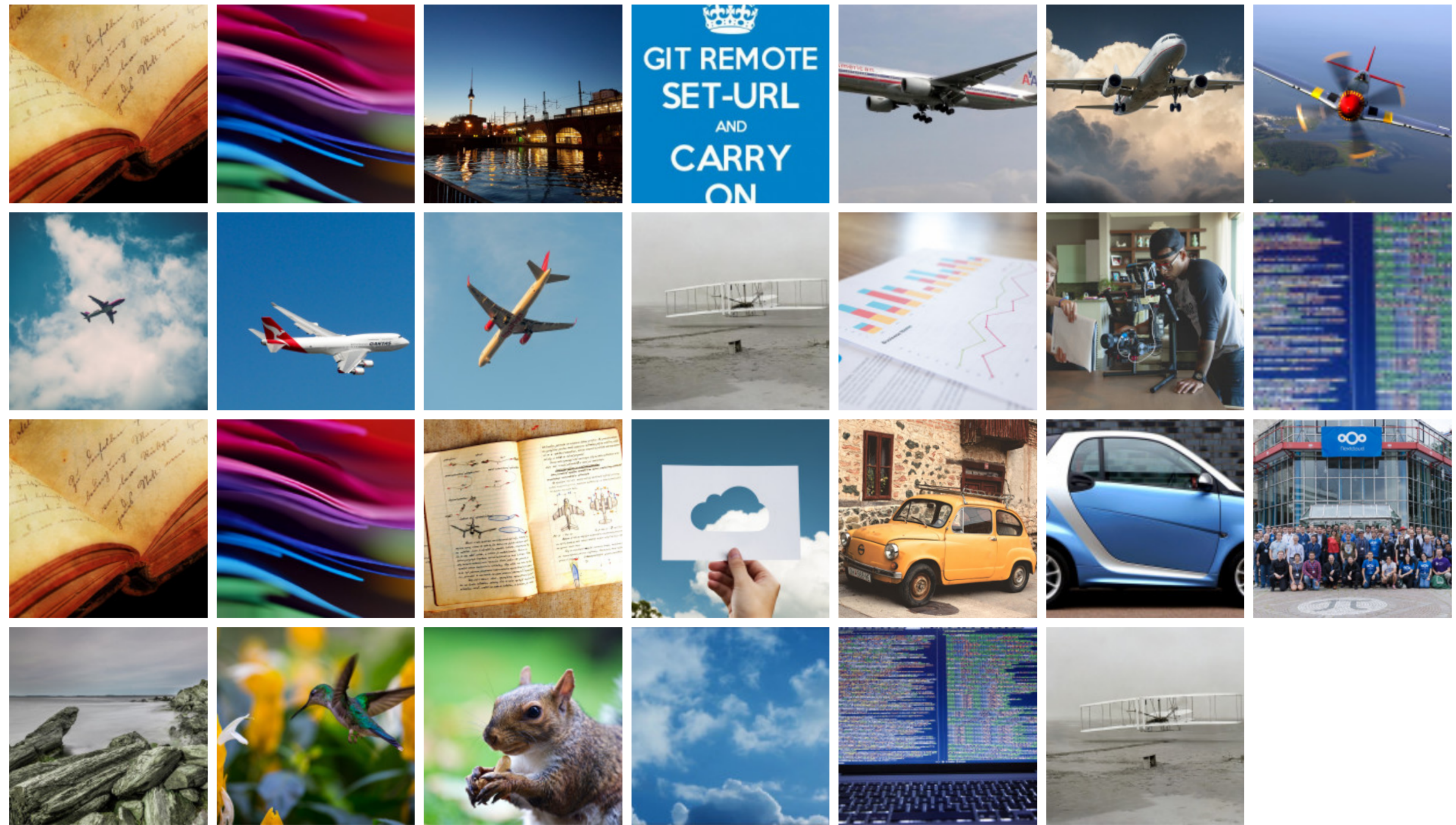
Carl Green
Yes. Carl Green This is perfect. Th...

Mickey Johnson
Mickey Johnson started a call

Danceschool StepStep
You added Mickey Johnson

Chat room for event
You created the conversation

market analysis.xlsx
You started a call

Paulette Cormier
Call with Christine Schott and Paul...

Business Process Analysis.docx
jos added you

Discuss project Butterscotch
The command does not exist

linedancemag.com-Texas Connectio...
Hey, can you edit the document till...

Start call

good morning hair .jpg

Christine Schott
Hey 👤 Carl Green , nice hair by the way!   12:55 PM

12:55 PM

my hair today.jpg

Carl Green
:D   12:55 PM

Christine Schott
✋   2:21 PM

Carl Green
is that okay?
Yes. 👤 Carl Green This is perfect. Thanks   3:03 PM

Write message, @ to mention someone ...

⭐ **Carl Green**   ✕

Participants   Projects

Add to a project
Connect items to a project to make them easier to find

B Bank documents   📁 🔍 •••

D design work   📁 🔍 •••

R Readme.md   📄 🔍 •••

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	29	30	31	1	2	3	4

ICE 1002 from Nürnberg Hbf to Berlin Hbf (tief)
Vacation

| | | | | 5p Line dancing class Corinne | Moving in new office | | |
| | | 10a Impro class | 11a Company call 🔔 | | | | |

| | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

ICE 1002 from Nürnberg Hbf to Berlin Hbf (tief)

| | 5:01p ICE 1002 from Nürnberg | 10a Impro class | Line Dance dress rehearsal | 12a ICE 693 from Berlin Hbf (t | | Doctors appointment | |
| | | 12:50p Project sync | | 12a ICE 693 from Berlin Hbf (t | | | |

| | 12 | 13 | 14 | 15 | 16 | 17 | 18 |

		10a Impro class	Line Dance Training	12:15p Untitled event	Lien Dann main rehearsal	The Big Line Dancing Shov 🔔	
		2p check-in 🔔	11a Company call 🔔	5p Line Dancing class Corinne	discuss new office		
			1p Discuss project announcen		10a Phonecall with Abby		
					11a Discuss office furniture 🔔		

| | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

| | | 10a Impro class | 11a Company call 🔔 | 5p Line Dancing class Corinne | | | |

| | 26 | 27 | 28 | 29 | 30 | 31 | 1 |

| | | 10a Impro class | | 3p Company call 🔔 | | Line Dance Show! | |
| | | | | 5p Line Dancing class Corinne | | | |

| | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| | | 10a Impro class | 11a Company call 🔔 | 5p Line Dancing class Corinne | | | |

+ New event   Today

- Personal
- Line Dance
- Contact birthdays
- Work

+ New calendar

Settings & import

Search for e-mails, users, contacts, resources or rooms

No attendees yet

Create Talk room for this event   Show busy times

Update

Google — 8 days ago
Alerte de sécurité

Google — 8 days ago
Alerte de sécurité

Jos Poortvliet — 8 days ago
🔗 Booking Details | Depar...

Google — 20 days ago
Aidez-nous à vous protége...

Jos Poortvliet — 23 days ago
🔗 Buchungsbestätigung (...

Jos Poortvliet — 23 days ago
🔗 Booking Details | Depar...

Nina Cercy — a month ago
Friday dinner

conduct@nextcloud.c... — 2 months ago
🔗 Fwd: Bordkarten für Ihr...

Jan-Christoph Borcha... — 2 months ago
🔗 Fwd: Your ticket for "Ap...

IBERIA L A E — 2 months ago
🔗 Tarjeta de Embarque Ib...

IBERIA L A E — 3 months ago
Confirmación de reserva

Buchungsbestätigung (Auftrag BPM83K)

Jos Poortvliet to christine.schott.nc@gmail.com

🔙 Reply

Nürnberg Hbf	🚆	Berlin Hbf (tief)
06/28/2019	ICE 1002	01/16/2020
5:01 PM	→	12:00 AM

The images have been blocked to protect your privacy. **Show images from this sender**

Hi Christine,
Here's also a train ticket example - I went to Stuttgart, and back to Nuremberg.

Buchungsbestätigung (Auftrag BPM83K)

Sehr geehrter Herr Poortvliet,

vielen Dank für Ihren Fahrkartenkauf.

Ihre Buchungsdaten:

Auftragsnummer: BPM83K
Kundennummer: 17440465

- Falls Sie die App "DB Navigator" auf Ihrem Android Smartphone oder iPhone installiert haben, können Sie Ihr Handy-Ticket über folgenden Link herunterladen:
  Auftrag laden für iOS DB Navigator
  Auftrag laden für Android DB Navigator

  Die App erhalten Sie über www.bahn.de/apps oder suchen Sie in den App-Stores nach "DB Navigator".

Das sollten Sie wissen:

- Das Ticket gilt nur für Johannes Poortvliet persönlich (ggf. auch für Mitfahrer) in Verbindung mit einem amtlichen Lichtbildausweis (z.B. Personalausweis oder Reisepass) oder einer gültigen BahnCard.

Personal info

Security

Activity

Mobile & desktop

Accessibility

Sharing

Flow

Privacy

Automated tagging

Automated tagging of files

Add new flow

PDF conversion

Convert documents into the PDF format on upload and write.

Add new flow

Write to conversation

Writes event information into a conversation of your choice

Add new flow

More flows

Browse the app store

Your flows

When 📁 **File created**

and | File system tag | is tagged with | customer-upload |

Add a new filter

→ **Write to conversation**

Writes event information into a conversation of your choice

project discussion

Mention room

Delete   ✓ Active

When 📁 **Tag assigned**

and | File system tag | is tagged with | convert-to-pdf |

Add a new filter

→ **PDF conversion**

Convert documents into the PDF format on upload and write.

Keep original, preserve existing PDFs

ONLYOFFICE Community Edition

1.3   Example text

Provide a brief system overview description as a point of reference for the remainder of the document. In addition, include the following:

- Responsible organization
- System name or title
- System code
- System category
  - *Major application*: performs clearly defined functions for which there is a readily identifiable security consideration and need
  - *General support system*: provides general ADP or network support for a variety of users and applications
- System environment and special conditions

1.4   Project References

Provide a list of the references that were used in preparation of this document. *Examples of references are:*

- Previously developed documents relating to the project
- Documentation concerning related projects

Headline

This is a Test document

---

test document.odt
8 KB, seconds ago

Activity | Chat | Comme... | Sharing | Versions

Start call

You joined the conversation — 1:58 PM

Frank Karlitschek
Can you please help me with this document? — 1:58 PM

Especially the first section — 1:58 PM

Thanks. Let's discuss this tomorrow — 1:58 PM

Write message, @ to mention someone ...

Two-Factor Authentication i

Use a second factor besides your password to increase security for your account.

🔒 Backup code

Backup codes have been generated. 0 of 10 codes have been used.

Regenerate backup codes

If you regenerate backup codes, you automatically invalidate old codes.

🔒 Nextcloud Notification

☑ Use two-factor authentication via Nextcloud notifications

TOTP (Authenticator app)

☑ Enable TOTP

✏ U2F device

No U2F devices configured. You are not using U2F as second factor at the moment.

Add U2F device

Passwordless Authentication

Set up your account for passwordless authentication following the FIDO2 standard.

No devices configured.

⚪ Please authorize your WebAuthn device.

Devices & sessions

Web, desktop and mobile clients currently logged in to your account.

Device	Last activity

Sidebar

- Personal info
- Security
- Activity
- Mobile & desktop
- Accessibility
- Sharing
- Flow
- Privacy
- Collabora Online

Michael Schuster
cloud.nextcloud.com

You renamed untitled folder

You created untitled folder

You created app password "curl"

You successfully logged in using two-factor authentication (...

Roeland Douma changed 18 must have...
18 must have list.md

Jos Poortvliet changed Marketing/Graphics/Video...

Jos Poortvliet created Marketing/Graphics/Videos...

Nextcloud end-to-end encryption
Create and sync identity

1
① Client generates a new X.509 certificate request and private key.
② Certificate gets signed by server.
③ Private key is stored in keychain of device.

Client
Certificate request
Private key
Server
Device keychain

2
① Client encrypts private key with 12 word mnemonic and uploads it to the server.
② Mnemonic is displayed to users and they are asked to store it.
③ Mnemonic is stored in keychain of device.

Client
User
Mnemonic
Device keychain
Private key
Server

3
① New devices download the encrypted private key.
② Private key gets decrypted with the 12 word mnemonic from the user.
③ New devices check if private key belongs to certificate.
④ Private key and mnemonic are stored in the keychain of the device.

New devices
Certificate
Private key
Mnemonic
Device keychain

Chat | Participants | Projects

Hey crew 😍 Happy to see you! — 4:56 PM

You joined the call — 4:57 PM

Christoph Wurst joined the call — 4:57 PM

Edeltraut Bobb
Hi Sandra McKinney — 4:58 PM

good to see you again! — 4:58 PM

💙 — 4:58 PM

Edeltraut Bobb — 4:58 PM
Yayyy

Tobias Kaminsky joined the call — 4:58 PM

Tobias Kaminsky
Enjoy the ☕ I don't see Carl Green yet? — 4:59 PM

🧐😄 — 4:59 PM

Vanessa Steeg
Don't yah worry, I'm here - wouldn't miss it for the 🌍 — 5:01 PM

Roeland Douma — 5:01 PM
Smart :)

Write message, @ to mention someone ...

Start call

👤 Participants | 🗖 Projects

Sandra McKinney
Hey crew 😎 Happy to see you! 4:56 PM

Sandra McKinney joined the call 4:57 PM

Paulette Cormier joined the call 4:57 PM

jos (moderator)

Paulette Cormier
Hi Sandra McKinney 4:58 PM

Christine Schott

good to see you again! 4:58 PM

alice

Mickey Johnson

Christine Schott
Hi lot! 4:58 PM

bob

You joined the call 4:58 PM

Edda

Christine Schott
Enjoy the I don't see Carl Green yet? 4:59 PM

Leon Green

📤

Drop your files to upload

motivation and management. pdf
1,5 MiB

Molly Allen

4:59 PM

Carl Green

Carl Green
Don't yah worry, I'm here - wouldn't miss it for the 🌍 5:01 PM

Carl Green joined the call 5:01 PM

Molly Allen joined the call 5:15 PM

Paulette Cormier

Carl Green joined the call 5:17 PM

Write message, @ to mention someone ...

Search conversations or contacts

Video Dinner Nina
You created the conversation

🍻 Weekly hangout 😍
You left the call

Review Nextcloud
Guest left the call

market analysis.xlsx
Call with Christine Schott and jos (...

Review Nextcloud in rating p...
You: 😉

Talk updates ✅
- You can now add custom user gr...

Company chat
Nina: this is great

Discuss project announceme...
You disallowed guests

Line Dancing class Corinne
You created the conversation

Nina Cercy
I don't think this will work

Discuss project Butterscotch
Wikipedia-bot: Wikipedia search re...

Billy_Bobs_Texas_Country_Li...
Carl: thanks :)

linedancemag.com-Texas Co...

New message

Priority inbox

All inboxes

████████@nextcloud.com

Inbox

Favorites

Drafts

Sent

Trash

Settings

Important ⓘ

████████ 16 hours ago
🔗 ████ nvoice █ d...

████████ 18 hours ago
Re: [Team IT] Wifi issues

Markus Windecker 20 hours ago
European Privacy Seal

Markus Windecker 21 hours ago
UseCase - Whitepaper GOV

████████ a day ago
AW: █████████...

Load more

Favorites

████████ 9 months ago
Something to take care fo...

Frank Karlitschek 10 months ago
when sending out the pre...

████████ a year ago
🔗 AW: ███████ █...

████████ 2 years ago

████ **Invoice** ████ **due on 07/11/2020 for** ████████

← Reply

████ to ████@nextcloud.com (cc ████ @nextcloud.com)

Dear ████████,

An Invoice is attached to this e-mail as a PDF file.
Invoice No. ████████
Due Date:07/11/2020

████ appreciates your business!

If you have any questions or concerns, please reply to this e-mail.

Sincerely,

████████
████████

powered by ⬤ Intacct.

New form

Nextcloud Forms questionnaire

Party invitation

Market research

Fall camping trip!

Customer feedback

Best Google alternatives

What to eat for lunch

Nextcloud Forms questionnaire

7 responses

Summary | Responses | ...

What do you like about this app?

Checkboxes

4 (57%): **Keeps survey info private with self-hosting**

3 (43%): Simple design makes filling forms a breeze

3 (43%): Nextcloud integration

1 (14%): No response
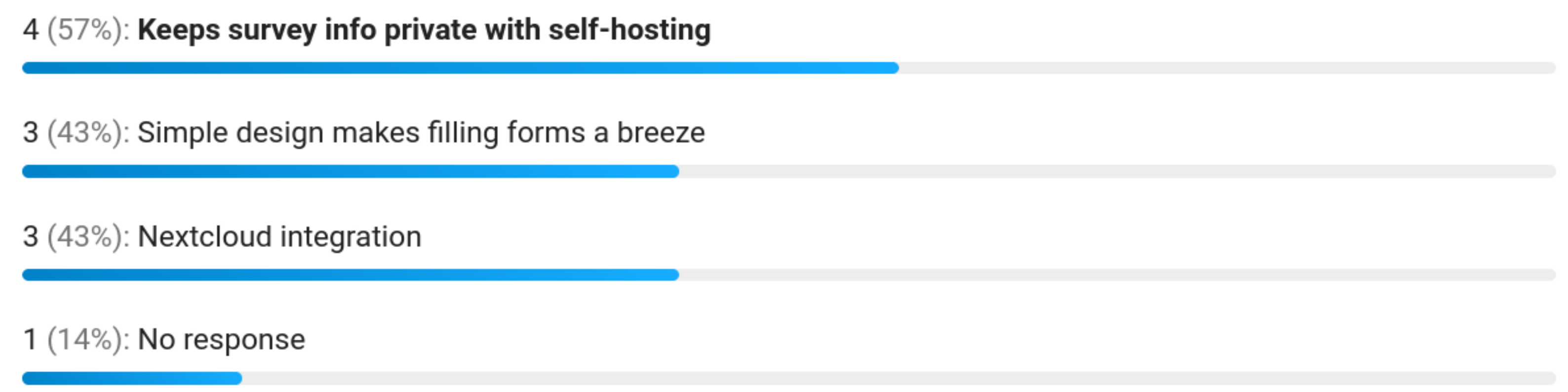
Good evening

● Set status | 🌙 13.5 °C Fair night at 11:00 PM

📁 Recommended files

- 🏎️ sports-car-146873_960_7....png
- 🖼️ new line dancing club (2).jpg
- 🖼️ Country-Dancing-Arthur_... .jpg
- ☁️ Nextcloud Hub Linkedin b....png
- 🖼️ Country-Dancing-Arthur_... .jpg
- 🖼️ new line dancing club.jpg
- 🖼️ Billy_Bobs_Texas_Countr... .jpg

🔍 Talk mentions

✓

No unread mentions

- Talk updates ✅
  - You can now change your camer...
- 📄 market analysis.xlsx
  sports-car-146873_960_720.png
- Discuss project Butterscotch
  Nextcloud Hub Linkedin backgrou...
- 🥳 Weekly hangout 😍
  You left the call
- Nina Cercy
  Are you available tomorrow?

📅 Upcoming events

- ☐ Release party 🎉
  Today at 11:00 PM
- ☐ fix reported issues
  Tomorrow at 12:00 AM
- ☐ Release integration apps for Nextclou...
  Monday at 2:00 PM
- ● Company call
  Tuesday at 11:00 AM
- ☐ Draft blogpost about integration
  Wednesday at 12:00 AM
- ● Company call
  in 11 days

🗃️ Upcoming cards

Release party 🎉	📅 in 4 hours
fix reported issues	📅 in 5 hours
Release integration apps for...	📅 in 3 days
Draft blogpost about integra...	📅 in 4 days

✏️ Customize

Online status

🟢 Online   🌙 Away

⛔ **Do not disturb**   ⭕ **Invisible**
Mute all notifications   Appear offline

Status message

😀 | What's your status?

📅 **In a meeting** - une heure

🚌 **Commuting** - 30 minutes

🏠 **Working remotely** - Today

🤭 **Out sick** - Today

🌴 **Vacationing** - Don't clear

bridge-bot
[mattermost] <neiluj> It is now possible to bridge Nextcloud Talk with many other messaging systems like Slack, Mattermost, Matrix !!!!

Start call   24 PM

John
No way!   12:24 PM

bridge-bot
[matrix] <eneiluj> How is that even possible?   12:25 PM

Jenny
Is it using a third party bridging service?   12:26 PM

bridge-bot
[mattermost] <neiluj> Nextcloud Talk now integrates Matterbridge and provides an easy interface to configure bridges   12:27 PM

John
Wow, cool, how do I use it?   12:27 PM

You updated the Matterbridge configuration.   12:30 PM

You updated the Matterbridge configuration.   12:31 PM

bridge-bot
[slack] <ju> It even works with Slack!   12:32 PM

John
Ah ok I can configure it directly in the Talk room settings   12:34 PM

Write message, @ to mention someone ...

Basketball team
You updated the Matterbridge co...

Company meeting
You: Ah ok I can configure it direc...

internal chat
You: euh plop ?

totoroom
toto added you

Jenny
You created the conversation

Settings

⭐ **Company meeting**   ✕

👥 Participants   ⚙️ Settings

Bridge with other services

You can bridge channels from various instant messaging systems with Matterbridge. More info on Matterbridge.

☑ Enabled (not running)

Show matterbridge log

Add new bridged channel

✓ Save

Slack   ⓘ   🗑

🔑 ••••••••••••••••••••••••••••••••

👥 #bridged

Matrix   ⓘ   🗑

🌐 https://matrix.org

👤 eneiluj2

🔑 ••••••••••

👥 !bjsbJKJfgezLLKFJfezfjz:matrix.org

Files

coursive.md
in gpx

Moodle course modules

course type
Test cours.../1 September - 7 September

course feedback
Test cours.../8 September - 14 September

Moodle courses

Test **cour**se out of **cour**se
Moodle course

Settings

Connected ac**cou**nts
Personal

Connected ac**cou**nts
Administration

All files

Recent

Favorites

Shares

Tags

Deleted files

8.7 MB used

Settings

Name

Modified

kilos_move_2020-09-05.csv | 18 days ago

can't get you out of my head.txt | 8 days ago

basic.ics | 7 days ago

Talk | 2 months ago

php | a month ago

gpx | 2 days ago

Google | 7 days ago

big | a month ago

5 folders and 4 files

Notifications

Choose for which activities you want to get an email or push notification.

Files

Mail	Push	
☐	☑	A favorite file or folder has been **changed**
☐	☐	A file or folder has been **changed**
☐	☐	A file has been added to or removed from your **favorites**
☐	☐	A file or folder has been **shared**
☐	☐	A file or folder was shared from **another server**
☑	☐	A file or folder shared by mail or by public link was **downloaded**

Calendar and tasks

Mail	Push	
☐	☐	A **calendar** was modified
☐	☑	A calendar **event** was modified
☐	☐	A calendar **todo** was modified

Other activities

Mail	Push	
☑	☑	Your **group memberships** were modified
☐	☐	Your **password** or **email** was modified
☐	☑	A local shared file or folder was **downloaded**
☐	☐	**Comments** for files
☐	☐	**System tags** for a file have been modified
☐	☑	You were invited to a **conversation** or had a **call**
☐	☐	Changes in the **Deck app**
☑	☐	A **card description** inside the Deck app has been changed
☐	☑	A **comment** was created on a card

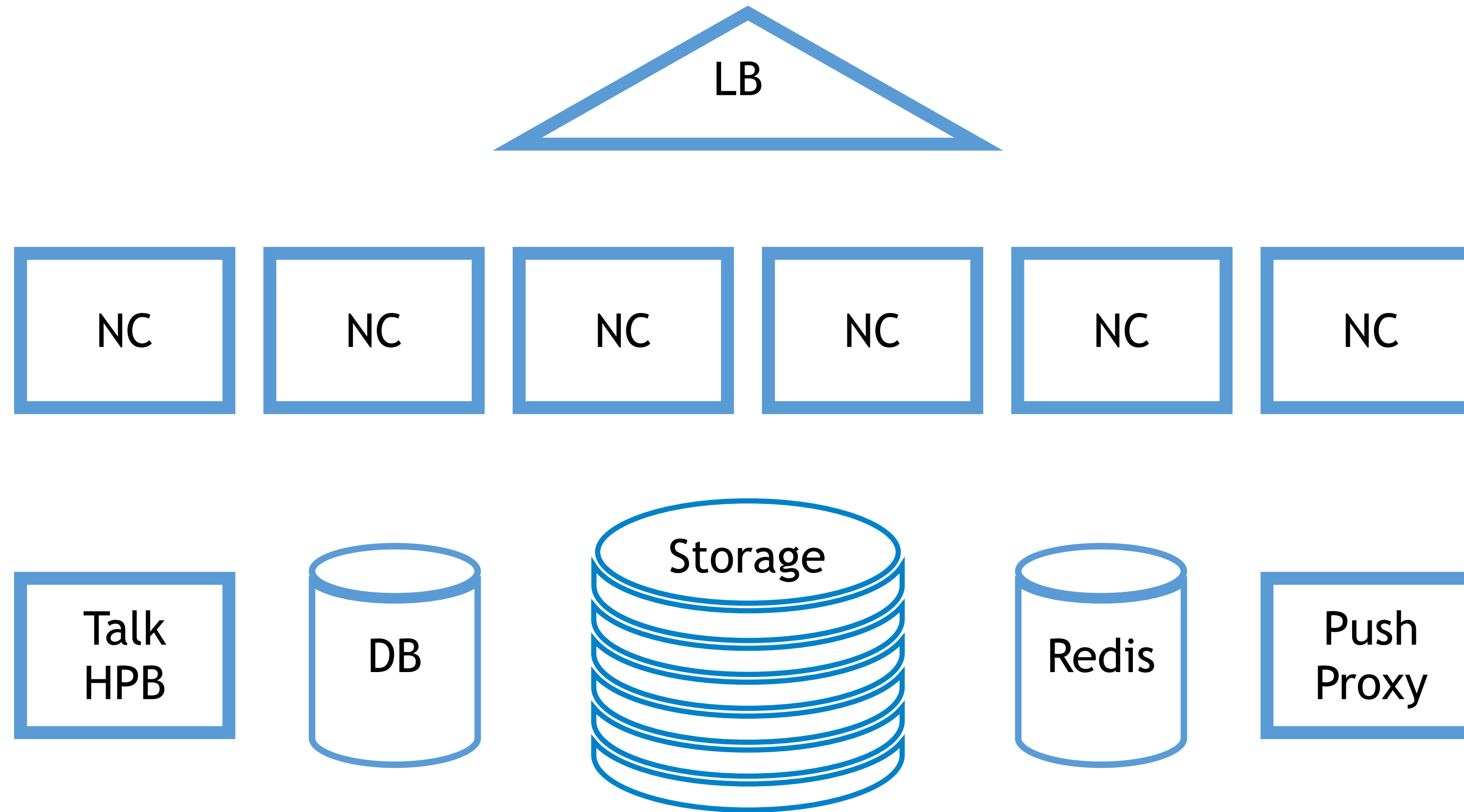Send notification emails: [Hourly ▾]

Activity

☐ Send daily activity summary in the morning

Architecture update

Global Scale

- Cluster of Clusters
- Scalability > 500k users
- Global distribution
- Cost efficiency

- Independent nodes
- Federated sharing between nodes
- Federated activities
- Federated Office editing
- Lookup Server
- Global Site Selector
- Balancer
- In production since 2018 for example at América Móvil (20M users)

Architecture evolution

Architecture goals:

- Stability
- Performance
- Competitive functionality
- Never feature regressions
- Access to big developer community
- Access to big technology ecosystem
- Easy to deploy and run and scale

Nextcloud architecture strategy

- We don't do a complete rewrite.
- We do incremental improvements in all areas. (Vue.js, Go Push Proxy, S3, …)
- Never compromise the user experience or flexibility or security
- Listen to customer feedback. Evolve together

Best of breed technologies

JS / Vue.js

Modern responsive Web UIs

-> Nextcloud WebUI / Apps

PHP

High level backend feature development
Fast development speed
Big technology ecosystem
Big developer ecosystem
Easy horizontal scaling

-> Nextcloud collaboration features
-> App ecosystem

Rust / Go

Compute tasks
Lot's of open connections

-> Talk High Performance Backend
-> Push Proxy
-> more

C / C++

Low level backend integration

-> Nextcloud Talk SIP Gateway

C++ / Qt

Cross platform desktop development

-> Nextcloud Desktop client

Python / Django

Interactive web applications

-> Nextcloud App Store

Java / Kotlin

Native mobile apps

-> Nextcloud Android Apps

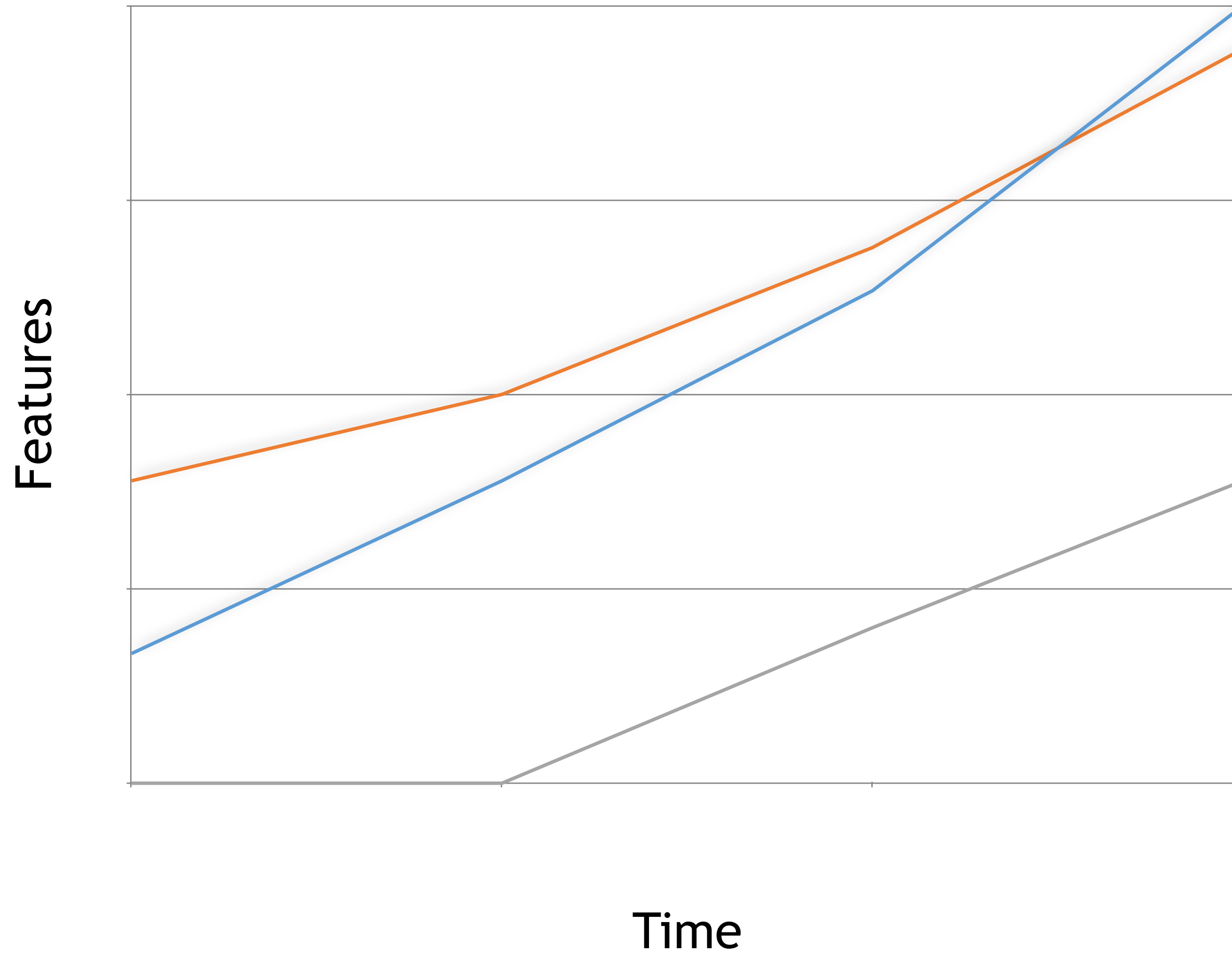## Swift / Objective-C

Native mobile apps

-> Nextcloud iOS Apps
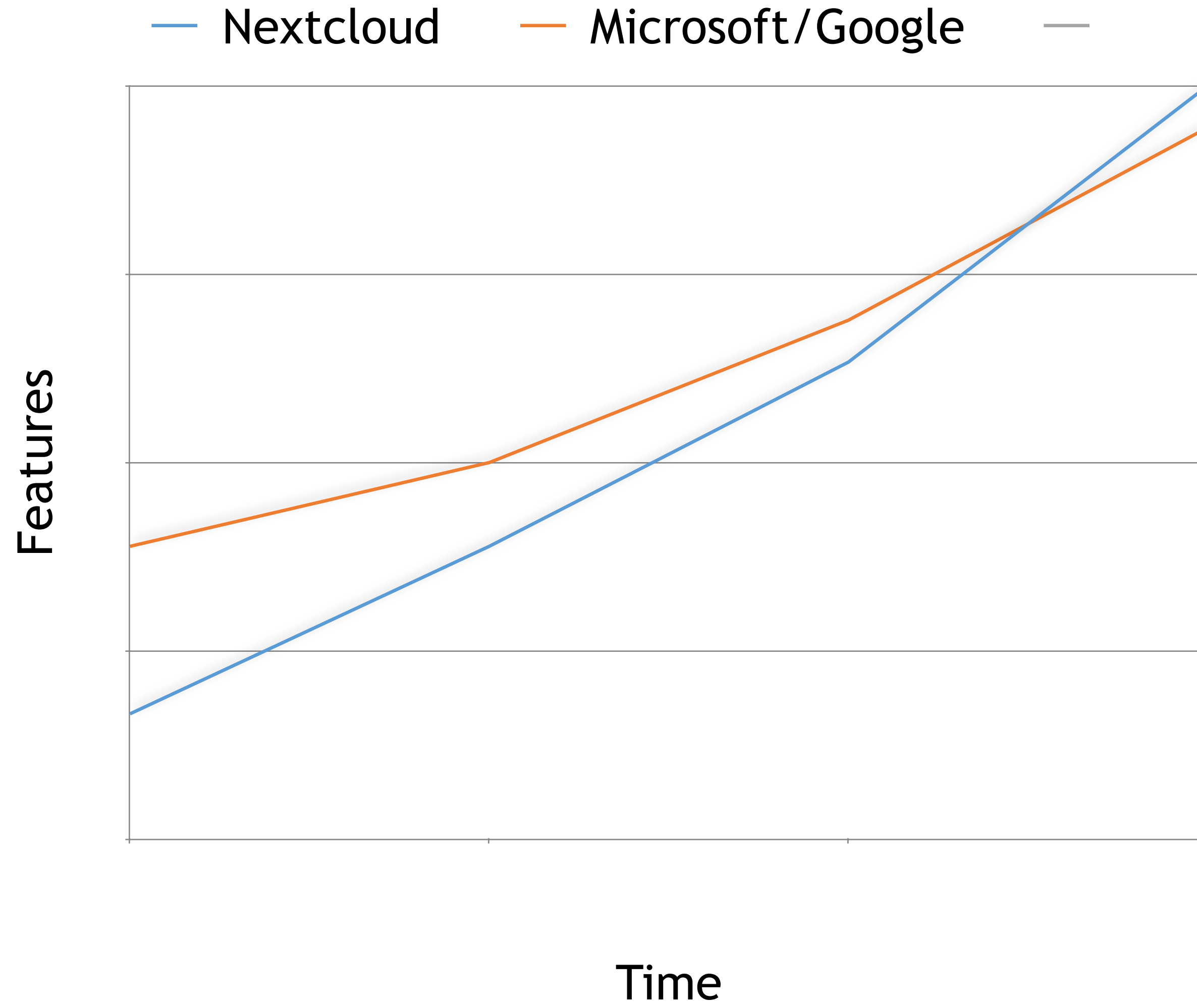
Product Feature Momentum

Nextcloud — Microsoft/Google —

Features

Time

Product Feature Momentum

Features

Time

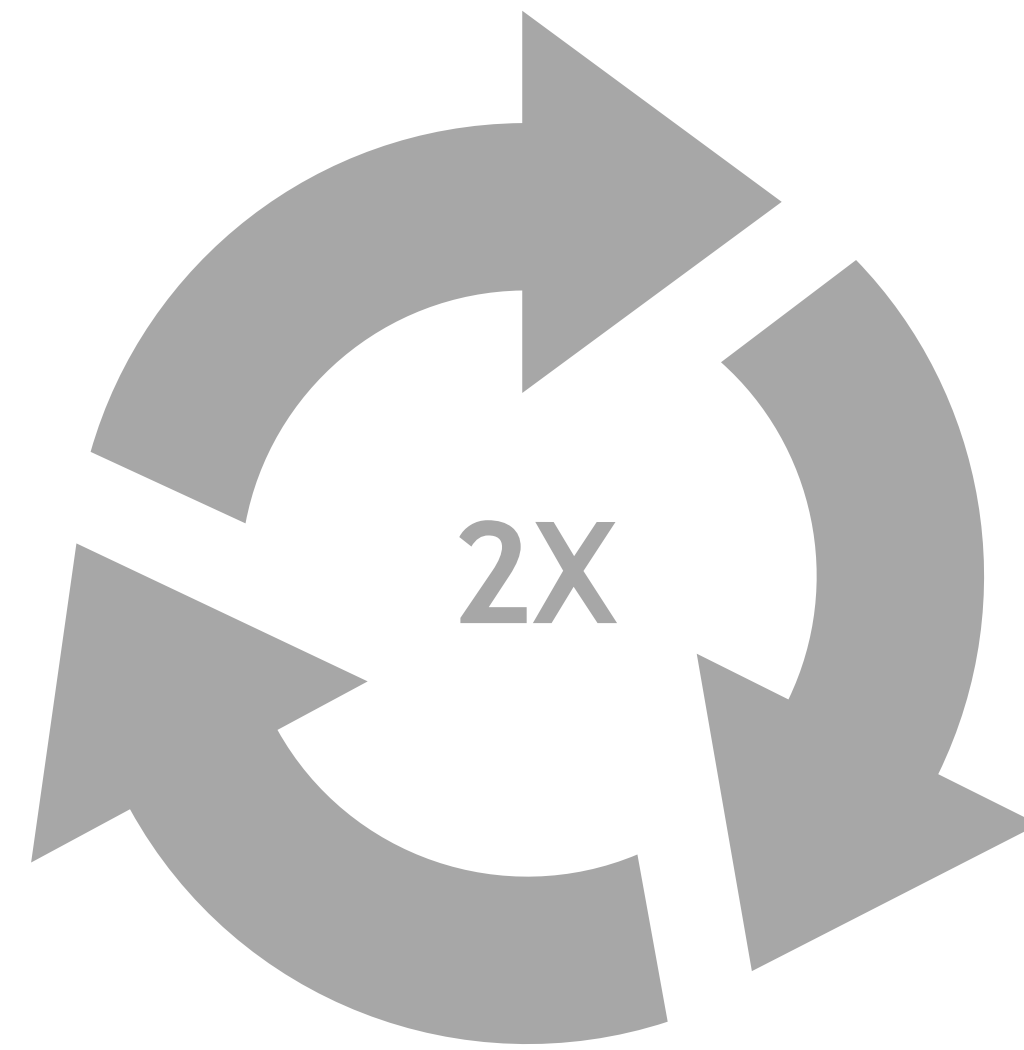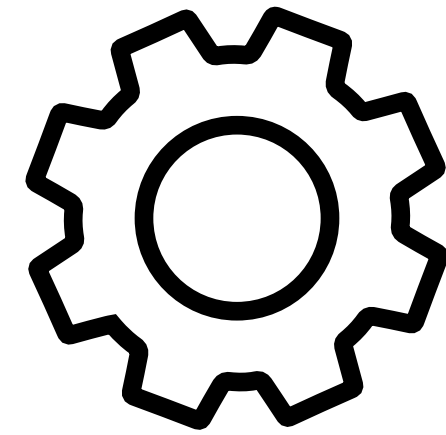Legend: Nextcloud — Microsoft/Google — rewrite
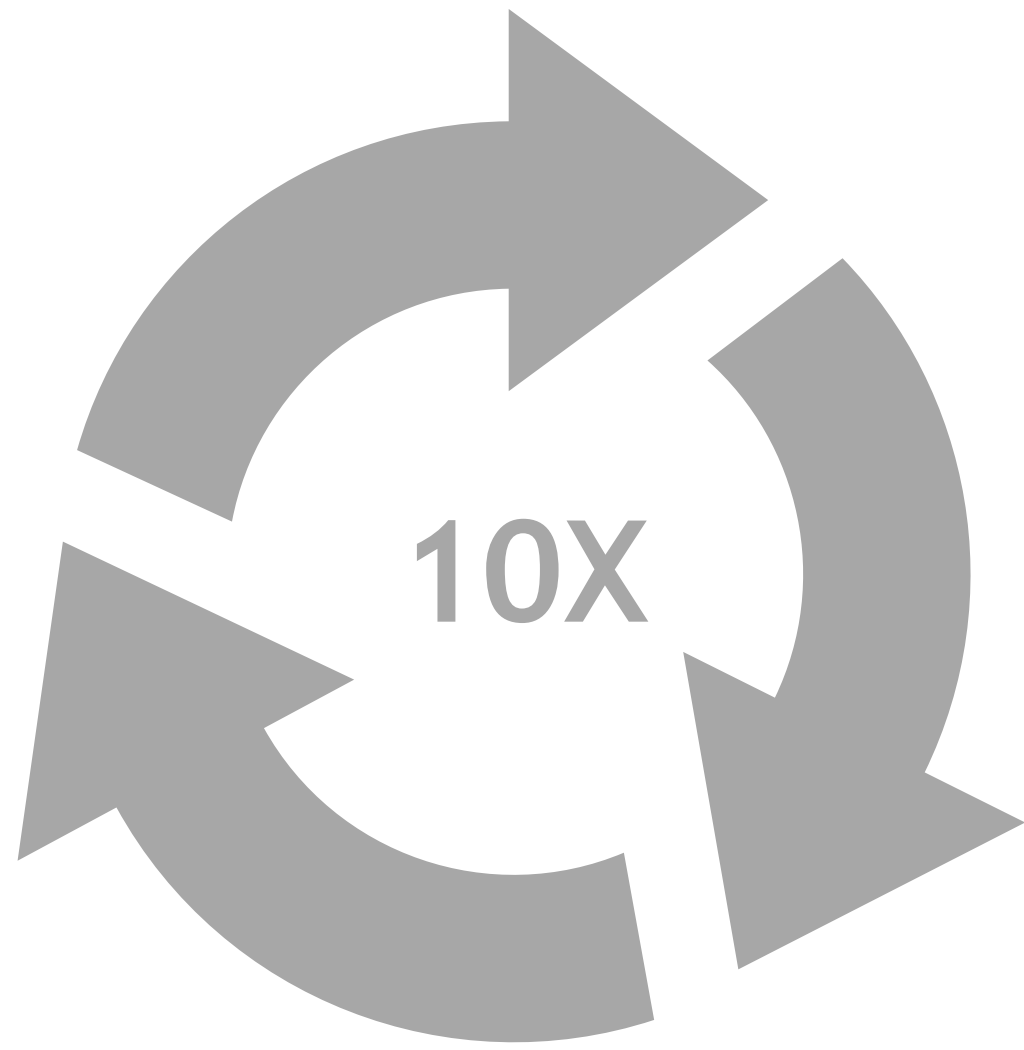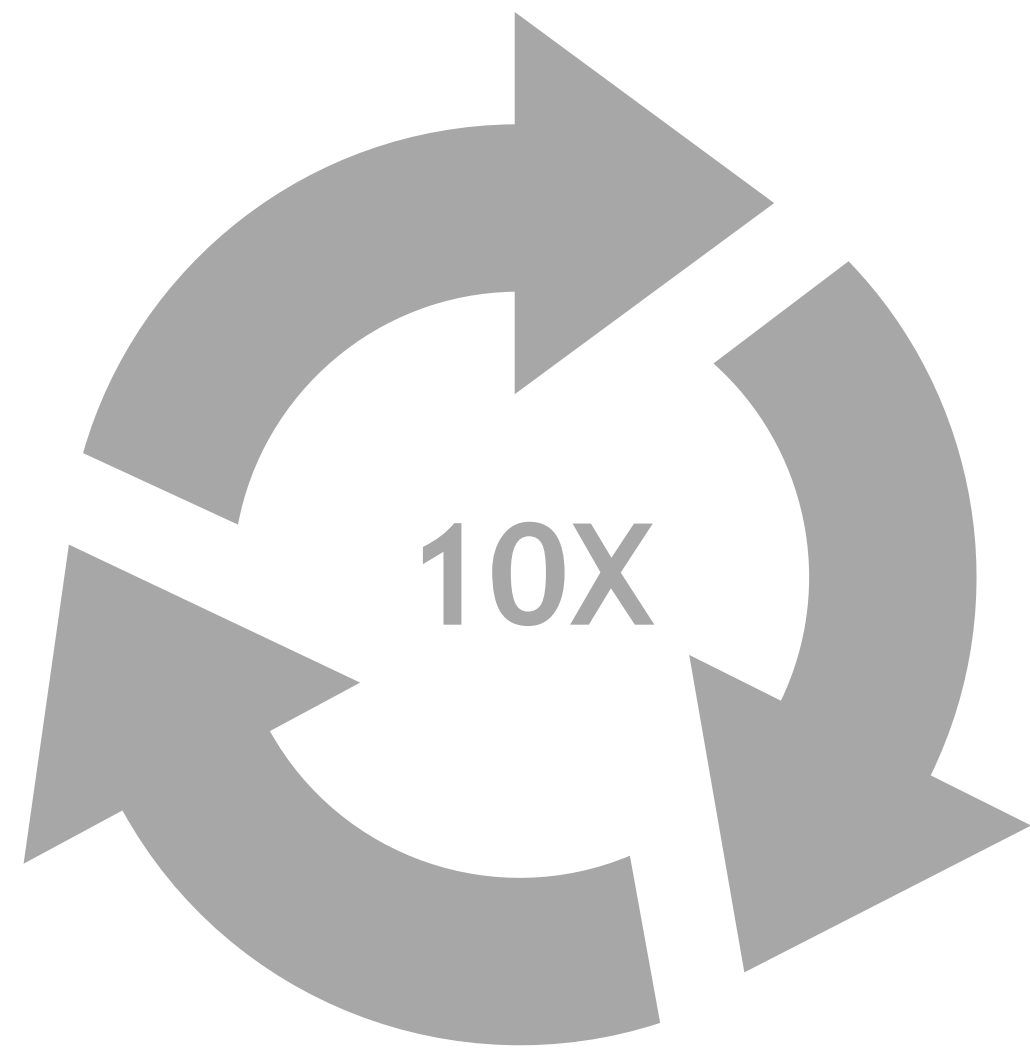
Fast iterations

Nextcloud Hub 21

High Performance Backend for Files
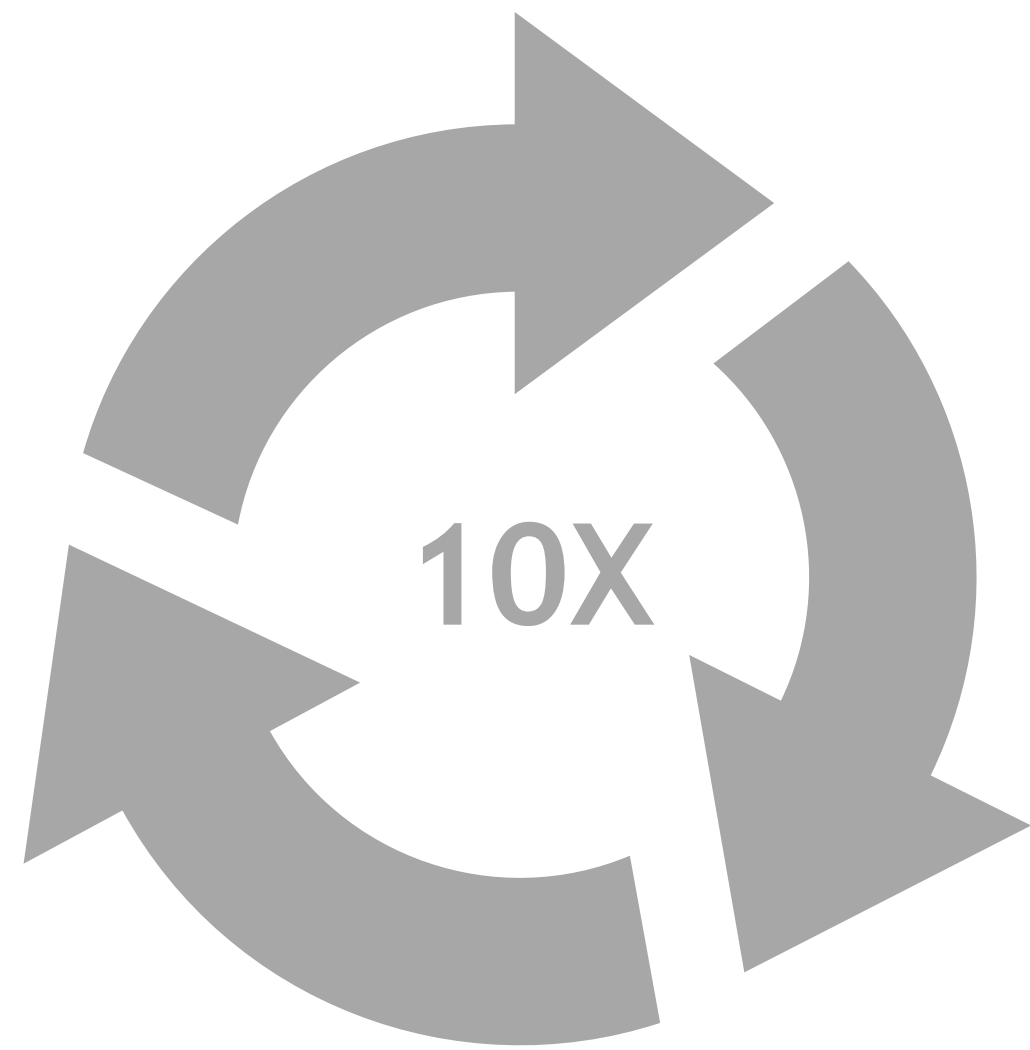
⚙️ High Performance Backend for Files
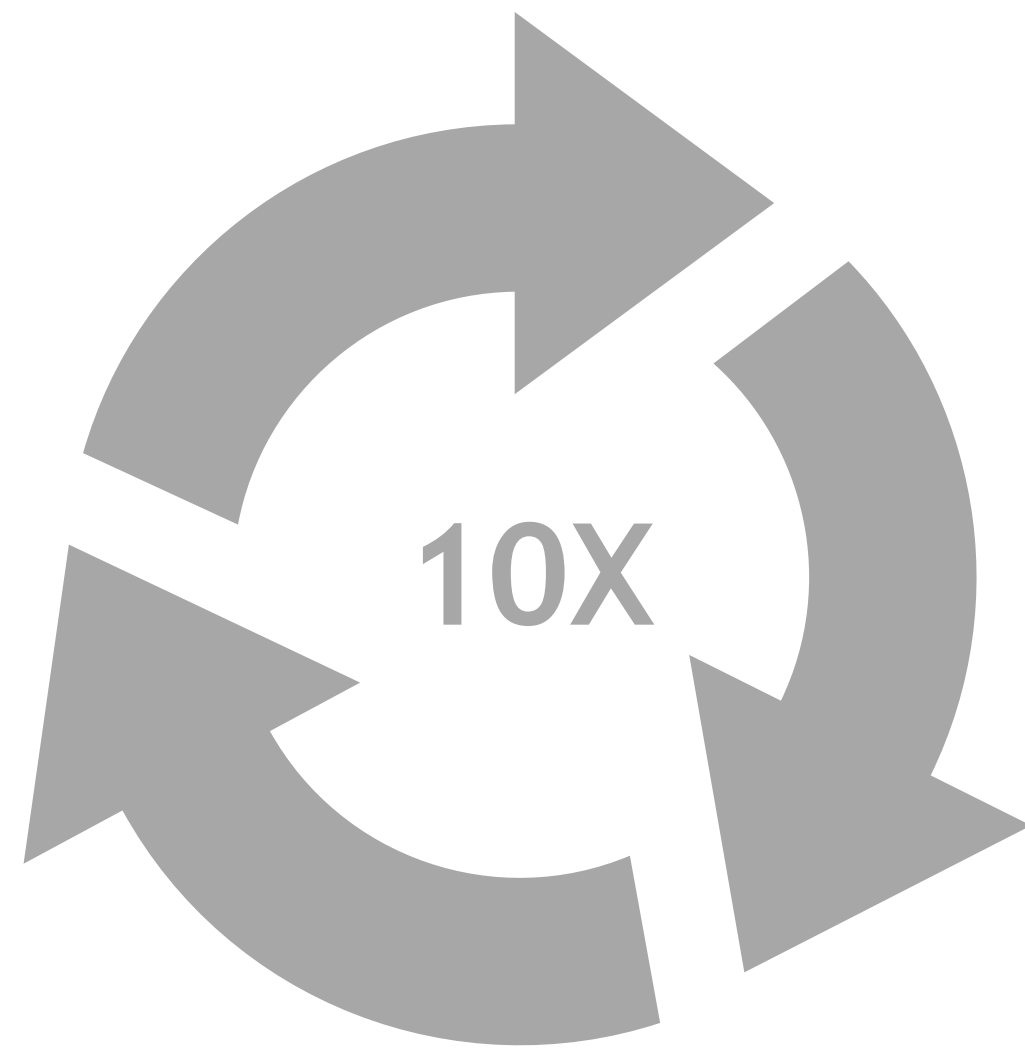
10X

⚙ High Performance Backend for Files
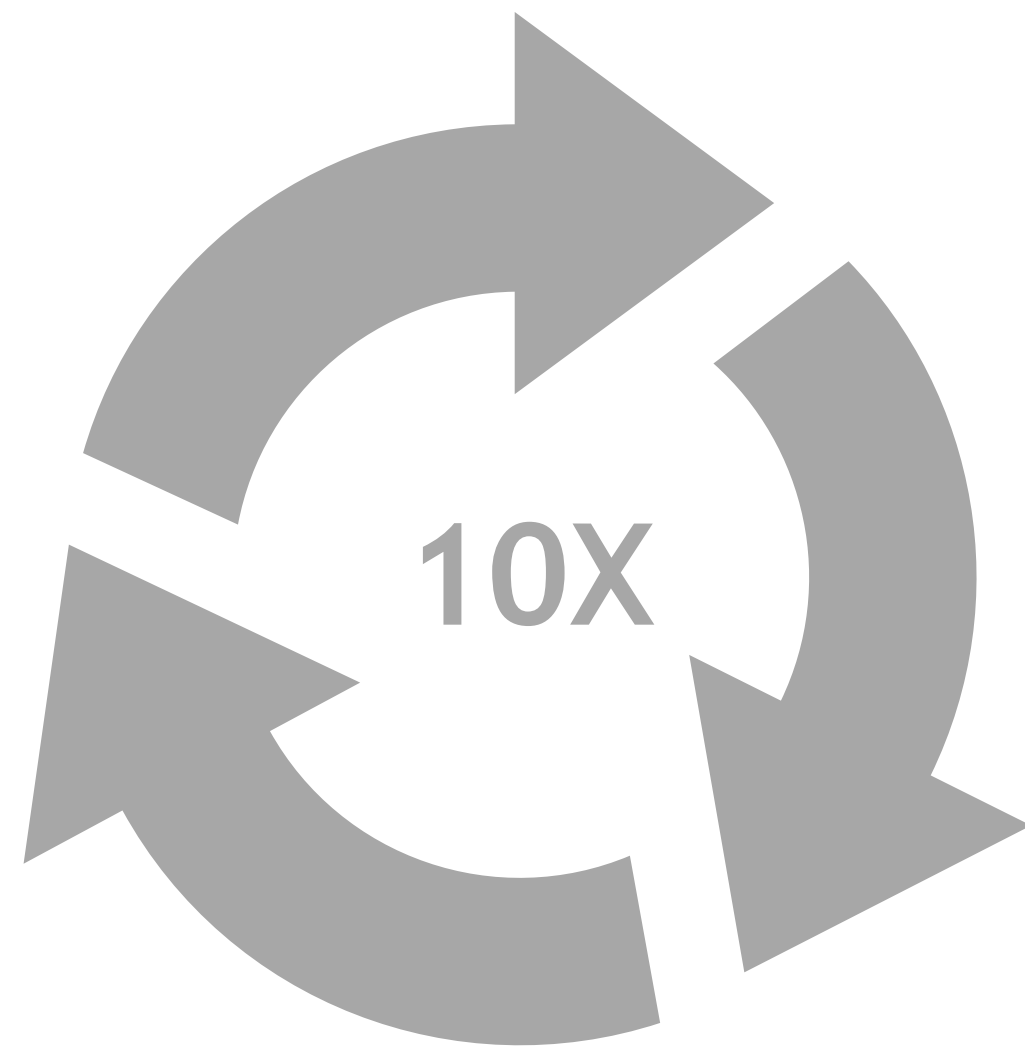
- Written in Rust

⚙ **High Performance Backend for Files**

- Written in Rust
- Works in addition to the current code
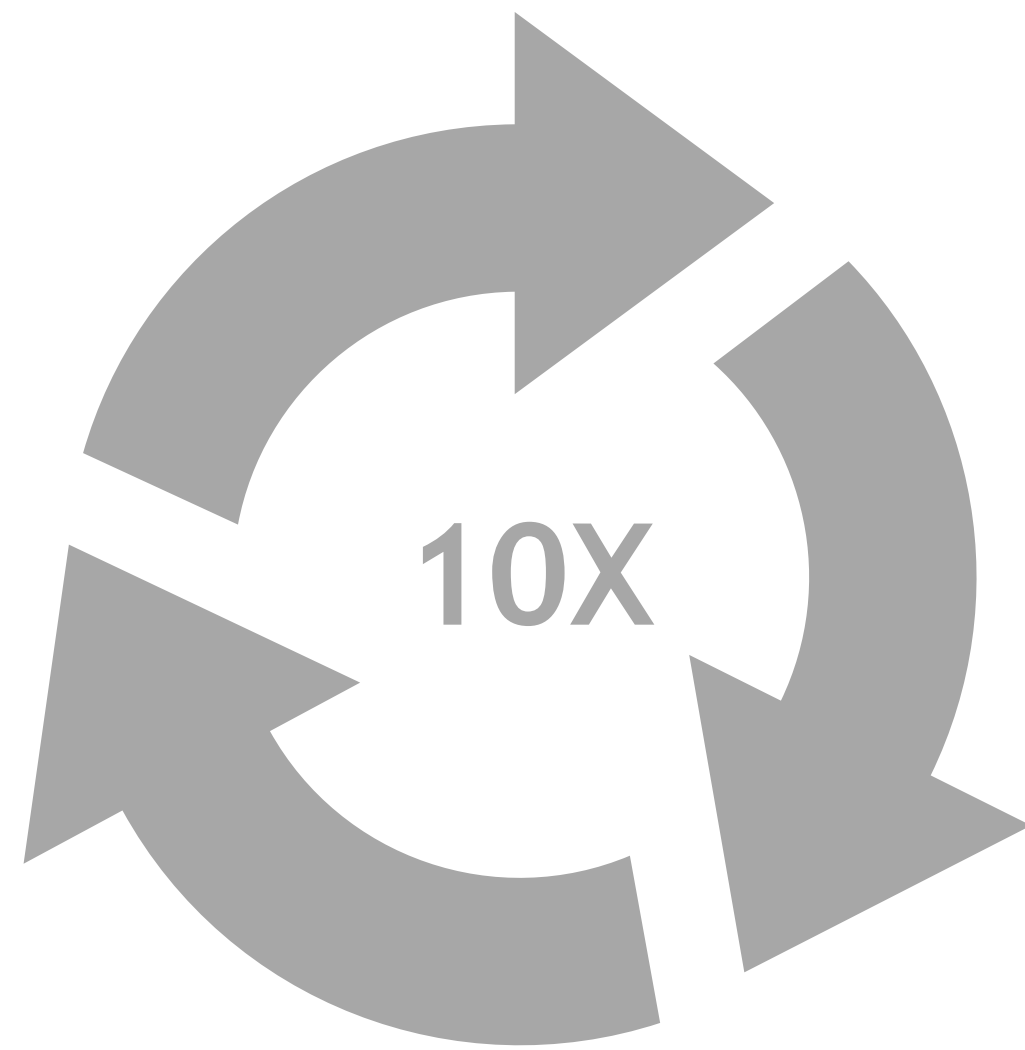
⚙ **High Performance Backend for Files**

- Written in Rust
- Works in addition to the current code
- Optional
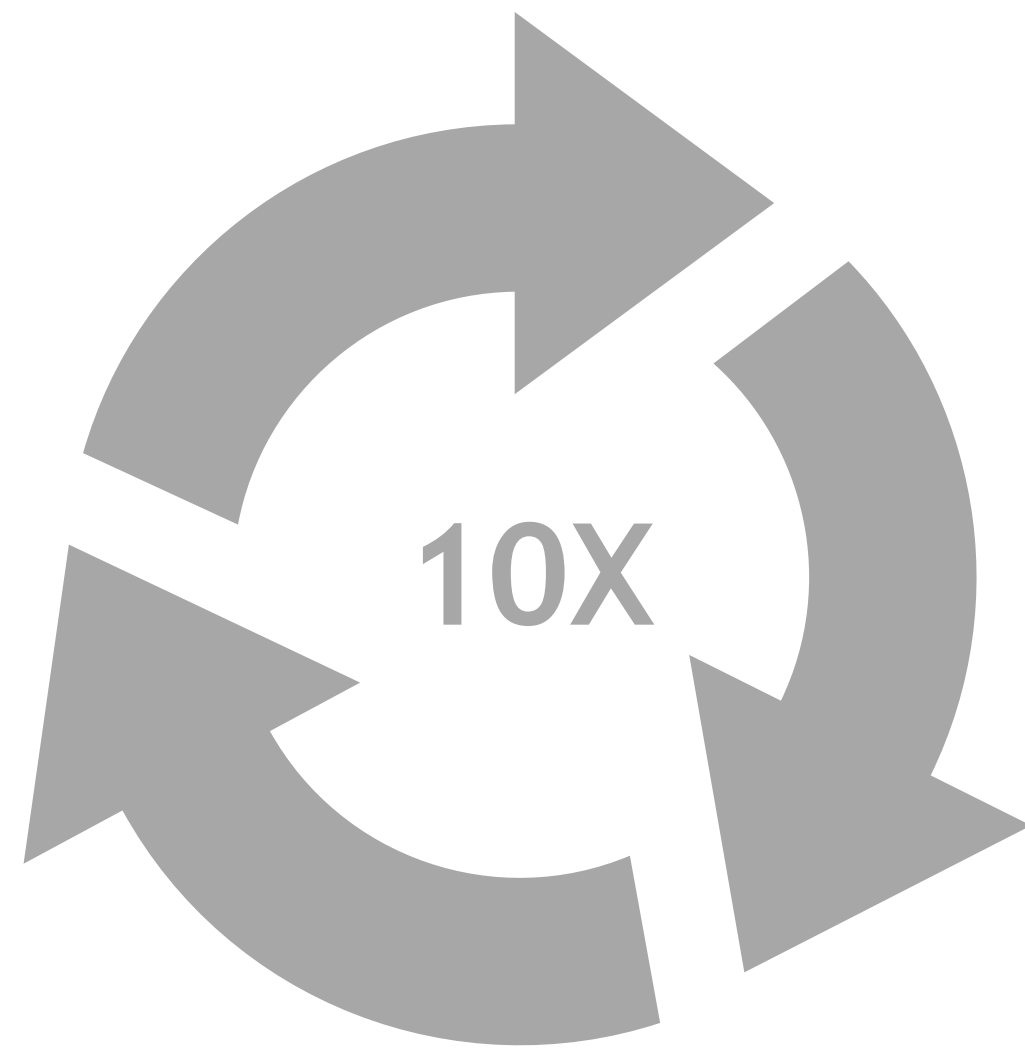
10X

⚙️ High Performance Backend for Files

- Written in Rust
- Works in addition to the current code
- Optional
- Up to 10x - 15x performance improvements

10X

⚙ High Performance Backend for Files

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- Works in addition to the current code
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- NO feature regressions

⚙️ High Performance Backend for Files

10X

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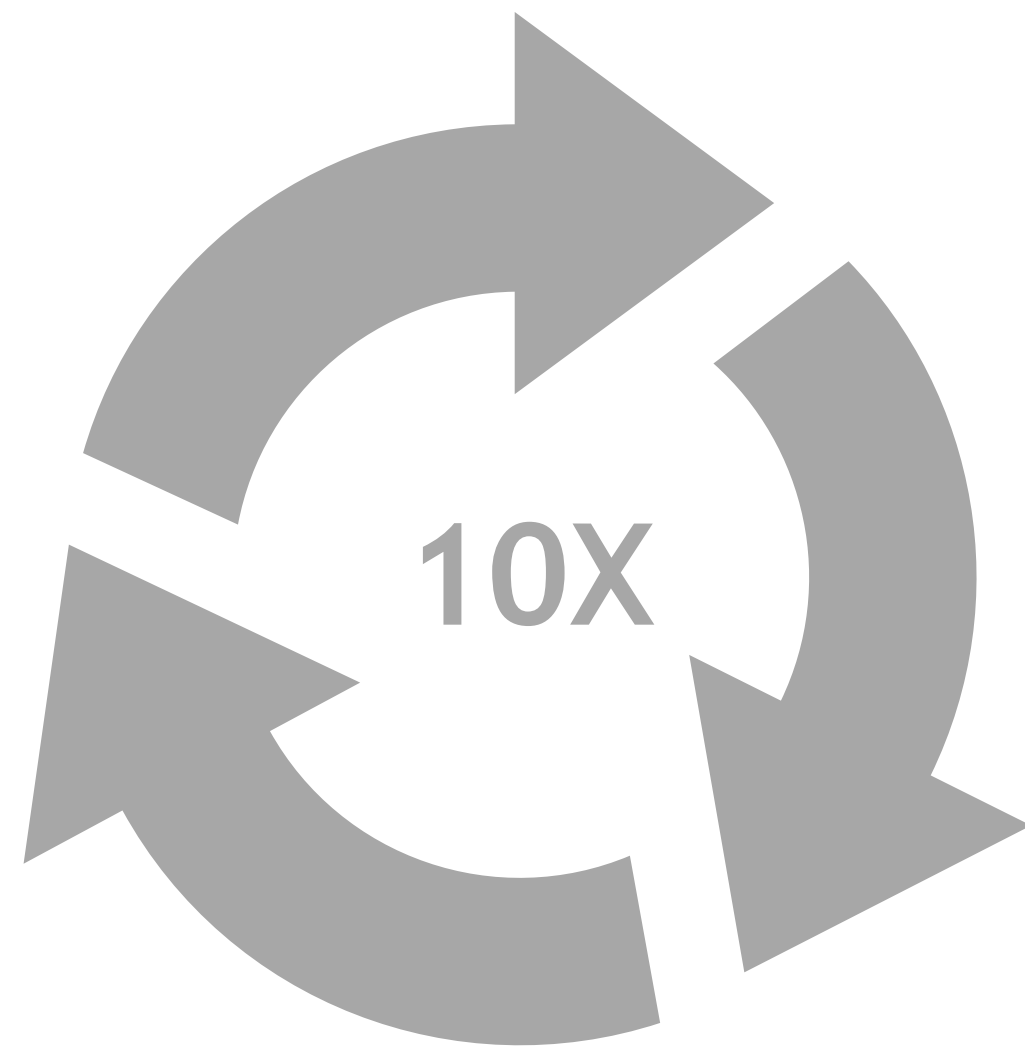- NO feature regressions
- Works with and without Global Scale
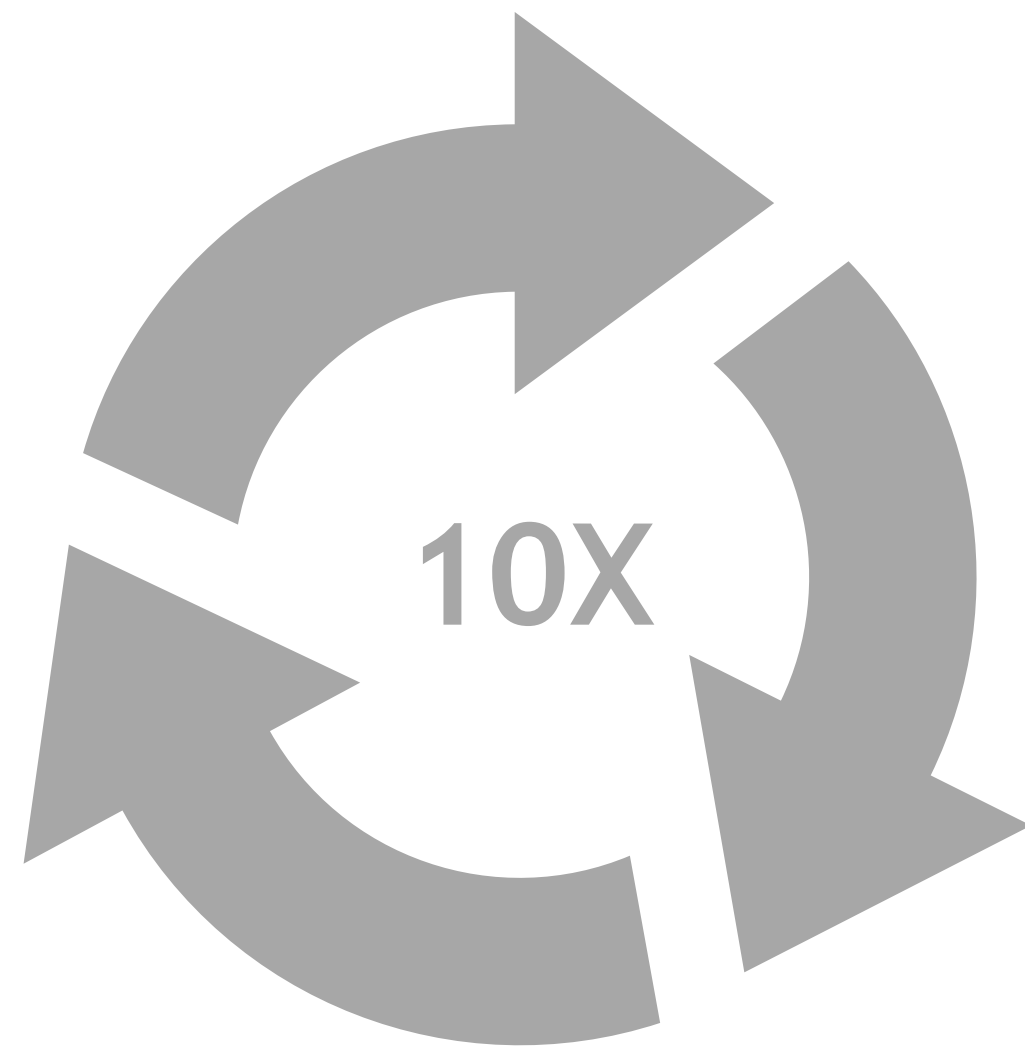
⚙ High Performance Backend for Files

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- Optional
- Up to 10x - 15x performance improvements
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- Works with and without Global Scale
- Open Source

⚙ High Performance Backend for Files

- Written in Rust
- Works in addition to the current code
- Optional
- Up to 10x - 15x performance improvements
- NO feature regressions
- Works with and without Global Scale
- Open Source
- Production ready with Nextcloud Hub 21 in 3 weeks

10X

Summary

Nextcloud

Alternative to

- Dropbox
- Google Workspace
- Office 365

but

- On Prem
- 100% open source
- Distributed / Federated

Questions?

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