



Use Case SIB





About SIB

SIB is a major, global public actor of digital services for the healthcare and public sector. SIB supports around 500 healthcare structures and public entities in their digital transformation. Their headquarters are located in Rennes and they are also active in the city of Lille. They have been working on taking the information systems to the next level for the Ille-et-Vilaine department in France, including at middle schools.



Nextcloud

Context

SIB provides infrastructures to teachers and pupils: computers, servers, hosted applications, networks and support. We wanted to modernize our former file system with new requirements:

- Remote access
- Multidevices compatibility (smartphones, tablets, computers...)
- Advanced collaboration features on documents
- Advanced sharing features
- Share groups



We built a test version simulating the use of Nextcloud in middle school environment.

We had excellent feedback and we approved the solution.

Our requirements

Nextcloud was already used internally at SIB. The new version with Group Folders and advanced ACLs has been a major benefit for this project.

Nextcloud has several major strenghts for our usecase:

- On premise hosting
- Compatibility with Ceph Object Storage (S3)
- Avanced group share features (Group foders/ ACL)
- Full online collaborative edition integration with Collabora online
- GDPR compliance
- Automation features
- A product with a promising roadmap
- Open Source solution with a large community, backed by a company



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Step by step deployment

The initial deployment is serving 21 middle schools, which is approximately 12000 users. We will raise this number to 33.000 pupils and 2.500 teachers in 57 middle schools step by step.

We have decided to start with a scalable and highly available infrastructure right from the beginning:

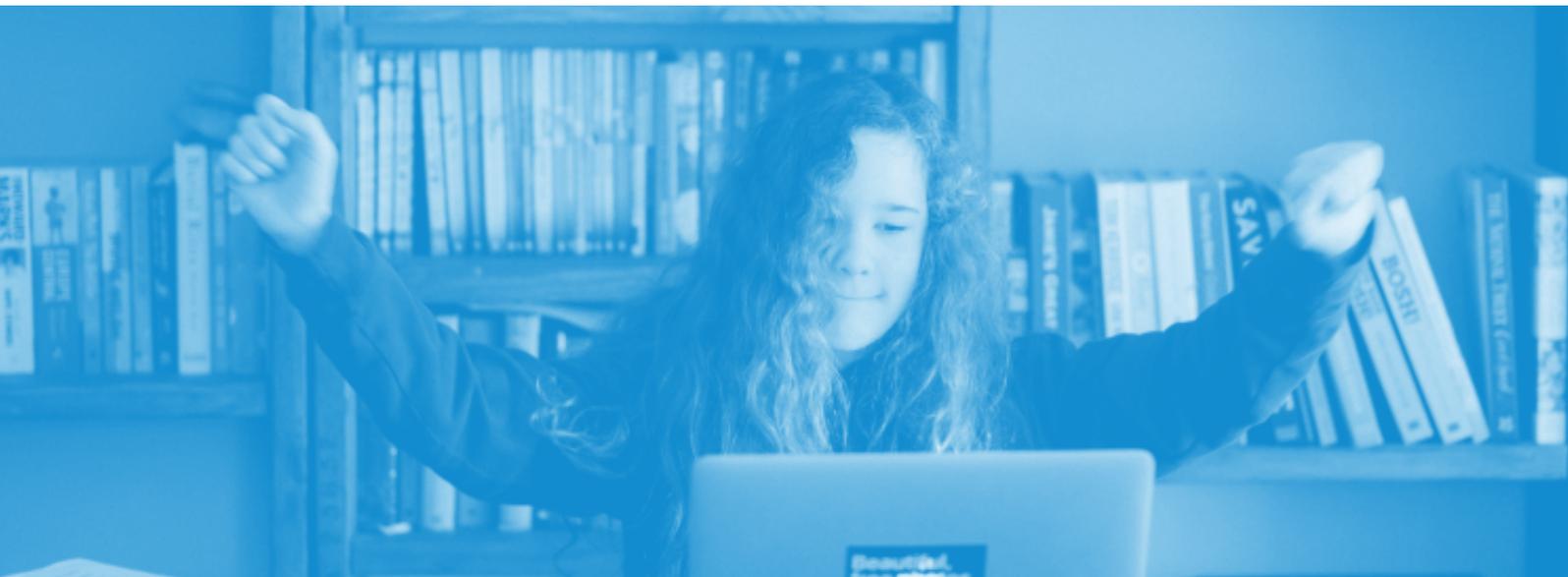
- ▶ CEPH data storage, a distributed solution that was already in use. We will use it for data storage
 - Loadbalancer: several HAPProxy servers
 - Frontend: cluster of Apache web servers
 - Database: Galera cluster with a Maxscale distributor
 - Cache server: Redis cluster

- ▶ This infrastructure can scale according to middle school needs. We control the investment and it grows in parallel of the project.

- ▶ The whole infrastructure is hosted in our datacenters, in Brittany. We manage all the components, hardware, OS configuration, middleware, supervision, support and maintenance.

- ▶ We have set up a standard tree for each middle school thanks to the Advanced Group Folders and ACLs. This makes it easier to use for teachers by assigning specific features to certain folders:
 - Sharing between two groups with specific rights for each of them
 - Document upload system (homework)

- ▶ We created a healthy tree structure by organizing the different folders by level and subject. Users are not lost, they easily understand the use of each folder. We have also integrated the excellent plugin "README.md" from the University of Nantes, to easily describe the use of group records.





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Supporting the journey

SIB first deployed the community version of Nextcloud to give it a quick go and build the infrastructure while gaining expertise on the community level (documentation, forum).

We then asked Nextcloud GmbH to check and validate the infrastructure. Their very responsive support helped us fix some bugs while taking our notes and needs into account for the product roadmap.



Collabora

Collabora runs on 3 servers for personal and collaborative document editing in Nextcloud. The team estimates some 60 % of editing sessions are private, and 40 % are collaborative.

Students work from home, inside Nextcloud Group Folders and use Collabora Online. This way teachers don't have the issue that they don't have the right Microsoft Office version to read the student's work, avoiding interoperability problems. Somewhere between 50 and 100 simultaneous users are currently active, during the height of the CoVid crisis this number was closer to 250 at any time.

Teachers really like these features. We have a request to have Draw added to Nextcloud. This was recently released with Nextcloud Hub II.

The team notes that they have developed the solution by adding policies for students with disabilities (dyslexia). We regularly have requests in this direction. Teachers and directors of schools use collabora also for for sharing and collaboration for administrative tasks.



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Users feedback

Users welcomed Nextcloud and its features with a great enthusiasm: they loved the remote access to documents, online collaborative edition and the user-friendliness of the solution.

Some teachers already used online hosting solutions. For them, having the same experience hosted in Brittany by a security, privacy and protection-oriented public organization was a very positive experience. For users unfamiliar with those services, we offered support and personal coaching during migration phases. They gained experience with Nextcloud and used it for innovative uses with their pupils during class time.





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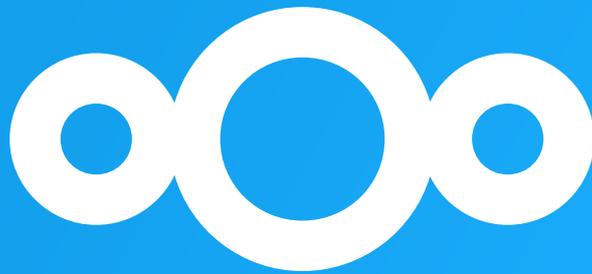
Coming next

We still have an important challenge to address: the use of multi-users mobile devices (tablets). As of today, teachers and pupils are using Nextcloud web interface, which is not as user-friendly as the native Android application.

We also aim at facilitating collaboration. Automation will be necessary on the server and client sides to achieve our **40.000 users** goal while always keeping in mind:

« Keep it as simple as possible »





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