
sciebo - die Campus Cloud
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• Sync and share service for universities and universities of applied sciences in North Rhine Westphalia
• sciebo is the brand name, short for “science box”
• Up to 500,000 users in NRW (if all 30 universities and applied universities participate)
• Organized as a consortium of all participants with the University of Münster as the head
• Advisory councils for law and security
• Annual support meeting (sciebo Tag)
> Use cases

- Sync files between different computers
- Share files with colleagues and externals
- Have mobile access to your data
- Big quotas
- Data privacy
General Information

- Started in February 2015
- 27 participating institutions
- 30 GB/user, employees may increase the quota up to 500 GB
- Project boxes for groups (30 GB - 2 TB)
- Guest accounts
- ownCloud 10.0.4 Enterprise
- RedHat 7
- Galera cluster with MariaDB
- 4 PB of Spectrum Scale storage
- Snapshots of Spectrum Scale enabled for disaster recovery
> Hardware

- Storage: 4 PB at three sites (2 PB in Muenster, 1 PB in Essen and 1 PB in Bonn)
- Sizing of server hardware bases on POC of IBM and ownCloud
- File system: IBM Spectrum Scale with declustered RAID and triple parity
- Application servers: 16 IBM servers (16 cores, 128 GB RAM) for ownCloud per site
- Database: 4 IBM servers (20 cores, 256 GB RAM, 6 800 GB SSD [RAID 10]) per site
- Load balancers: 2 Linux machines per site (LVS with keepalive)
- Management: 1 server per site
Three Sites

- One ownCloud installation per institution
- Replication of user data between the sites
- Sharing between institutions via federated cloud sharing

Reasons for multiple sites:
- Lower room requirements per computing center
- More aggregated network bandwidth
- Servers are closer to users
- Scaling the service becomes easier

Source: Bundesamt für Kartographie und Geodäsie, Frankfurt am Main 2010
Security of Data

- (Usually) local copy of data via ownCloud desktop client
- Triple parity in filesystem
- ownCloud versioning and trashbin
- Spectrum Scale snapshots for 30 days
- Data copied to other site via rsync every night
- Backup of data of employees of RWTH Aachen in their TSM

⇒ There are plenty of copies of your data :}

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> Registered users
Registered users

Sciebo Setup Statistics Future Plans

Registered users
Actual users

![Graph showing actual users](chart.png)
Recent Improvements
Update to ownCloud 10

- Upgrade to ownCloud 10 at the beginning of this year
- Database load was decreased significantly
> Collaborative Editor

- Simultaneous editing of (MS-)office documents
- Only Office is being rolled out at the moment
- Currently no support for files from federated shares (feature request)
> OAuth2 integration

- OAuth2 integration in ownCloud
- Users of Moodle and ILIAS can access sciebo without storing their password in the learnweb system
- Every other service that speaks OAuth2 and WebDAV can access sciebo this way, too

https://www.youtube.com/watch?v=2GYvoP36vFc
Future Plans
> Planned improvements for sciebo

- Two factor authentication: Is already working and in extended test phase
- New brute force protection: Replacement of fail2ban with owncloud security app
- User defined groups: Currently not enabled until we are sure this is compatible to our data privacy policy
- Trust relationship probably with owncloud 10 -> name resolution for federated sharing
- We are currently investigating if we are allowed to enable the calendar
- Sciebo RDM: integration in research data management services
Thank you for your attention!