

# Sunet Drive

An academic EFSS packaged for EOSC



SUNET



nextcloud

Information for new and interested  
customers

# Agenda

## General and background

- Research data – a model
- Data Integration
- Follow your data

## Sunet Drive Concepts

- Co-management
- Private Cloud Security
- MSBFS 2020:7
- Follow your data
- Single Sign On

## • Documentation and Onboarding

- Sunet Drive Forum
- Sunet Drive Today
- Onboarding Process
- Features and Planned Functionality
- Feature Survey

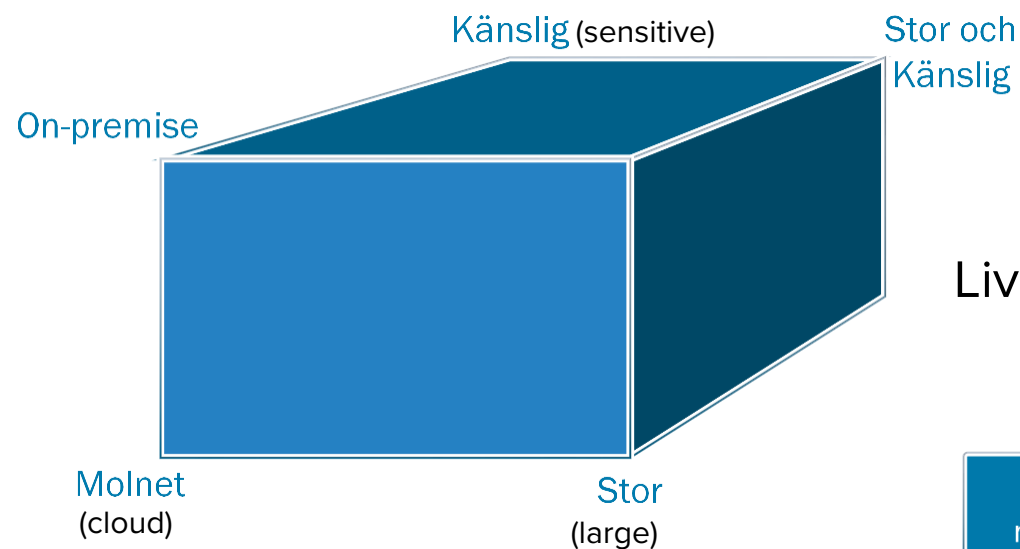
# Anecdote

Thanks for the detaljer information! I will be ending my employment this Saturday, so am looking for some solution where the data will not be deleted due to the deactivation of my akka id and where it would be accessible by my PI in the future.

Wednesday, 10:51

# Research Data – A model

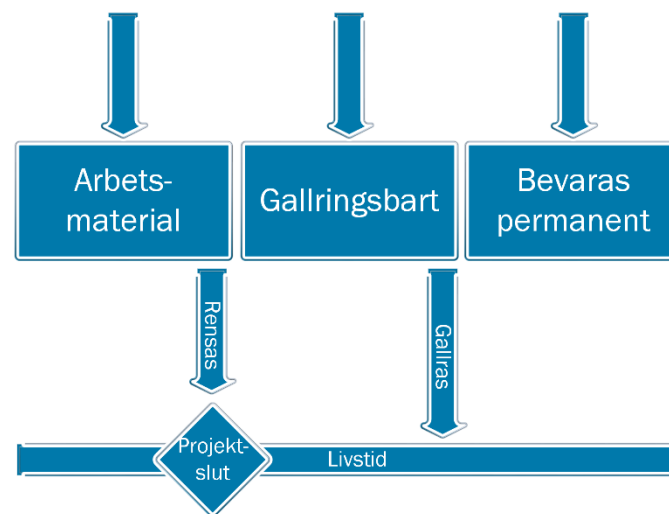
## Classification



How do you access data?

Where is my data?

## Lifecycle



- Working material
- Data retention
- Archival

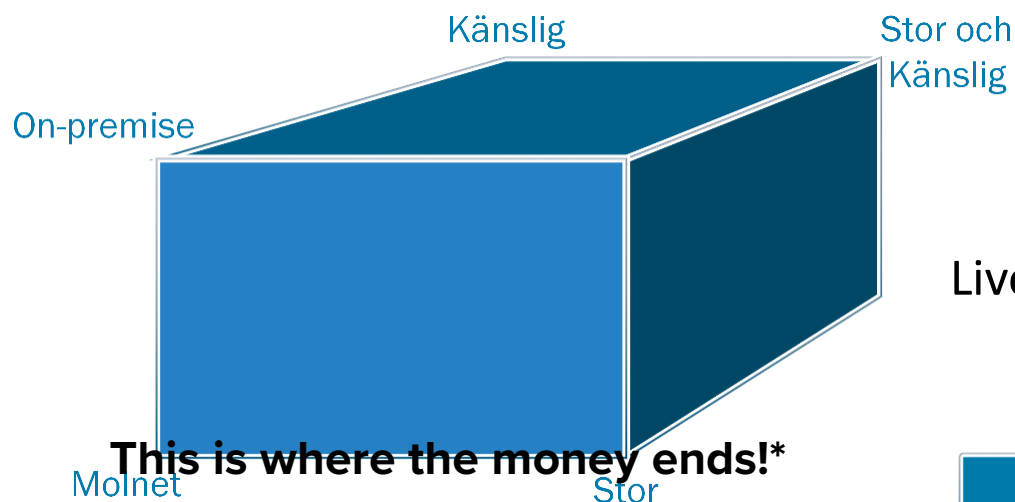
## Access

"Klassisk" Mappar

"Modern" Appar

# Research Data – A model

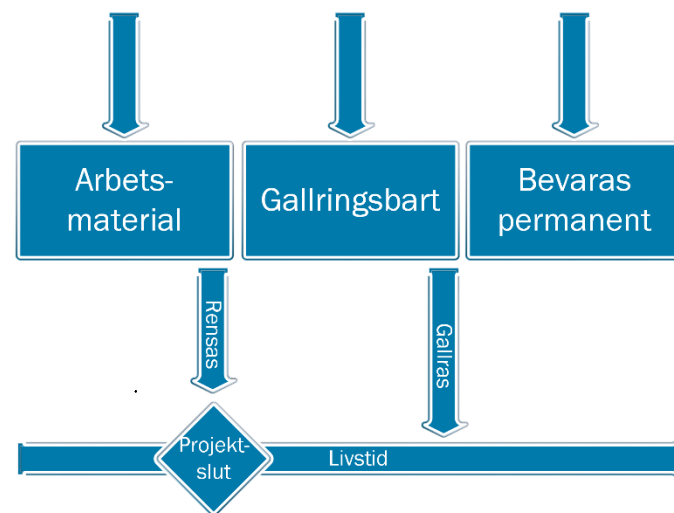
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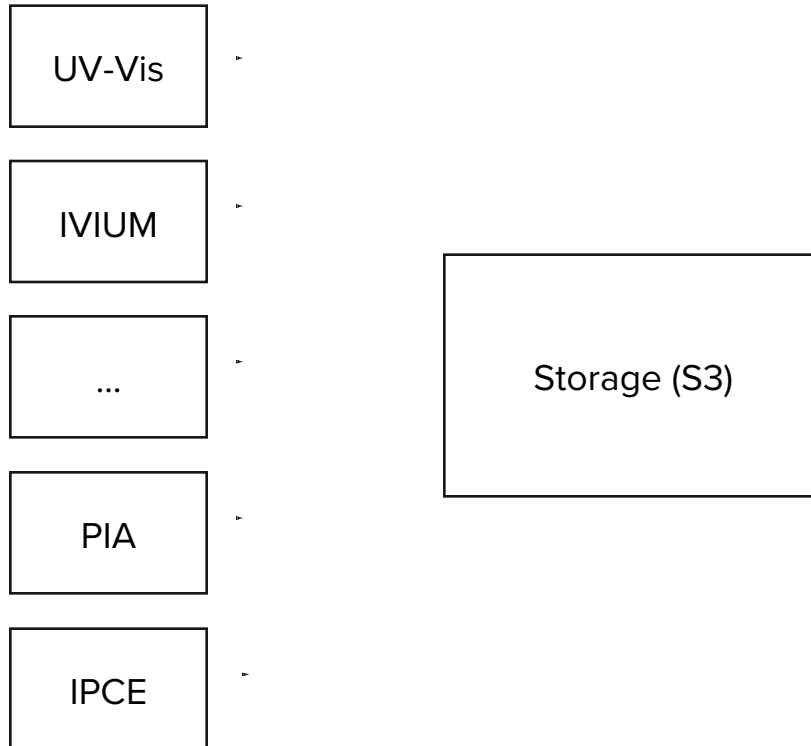
## Access

"Klassisk" Mappar  
\*for many projects

"Modern" Appar

# Example - Integration

## Primary data sources



## Access

A collage of images demonstrating various access methods and configurations for the storage system. At the top left is a Windows File Explorer window showing a directory structure. To its right is a list of cloud services with their respective email addresses: BoxSync, Group2ExternalStorage, Nextcloud (richard), and Nextcloud (user3). Below these is a terminal window showing the process of mounting a remote storage location using 'mount' and 'davfs2' commands, including prompts for username and password. At the bottom left is a smartphone screen displaying a file manager interface with folders like 'Documents' and 'Photos'. At the bottom right is a desktop file manager interface showing a list of files and folders, including 'Marketing', 'Sales', and 'Public' folders, and files like '20180728\_232921.mp4' and 'fileupload.txt'.

# Co-management of nodes

## The main storage unit is an S3-bucket

Sunet Drive is a cloud-based file storage and collaboration service that utilises the S3 (Simple Storage Service) infrastructure as its main storage unit. S3 is a highly scalable, reliable, and secure object storage service that can store and retrieve any amount of data from anywhere on the web.

## Every university has its own Sunet Drive node

Sunet Drive is a service provided by the Swedish University Network (SUNET), which is a collaboration between Swedish universities and colleges. Each university has its own Sunet Drive node, which provides a secure and dedicated file storage environment for its faculty, staff, and students.

## Data can be shared between nodes

One of the benefits of the Sunet Drive service is that data can be easily shared between nodes, enabling collaboration and knowledge-sharing between different universities and departments. This is achieved through the use of access control lists (ACLs), which allow node administrators to grant or revoke permissions to specific users or groups.

## Separation of access and ownership

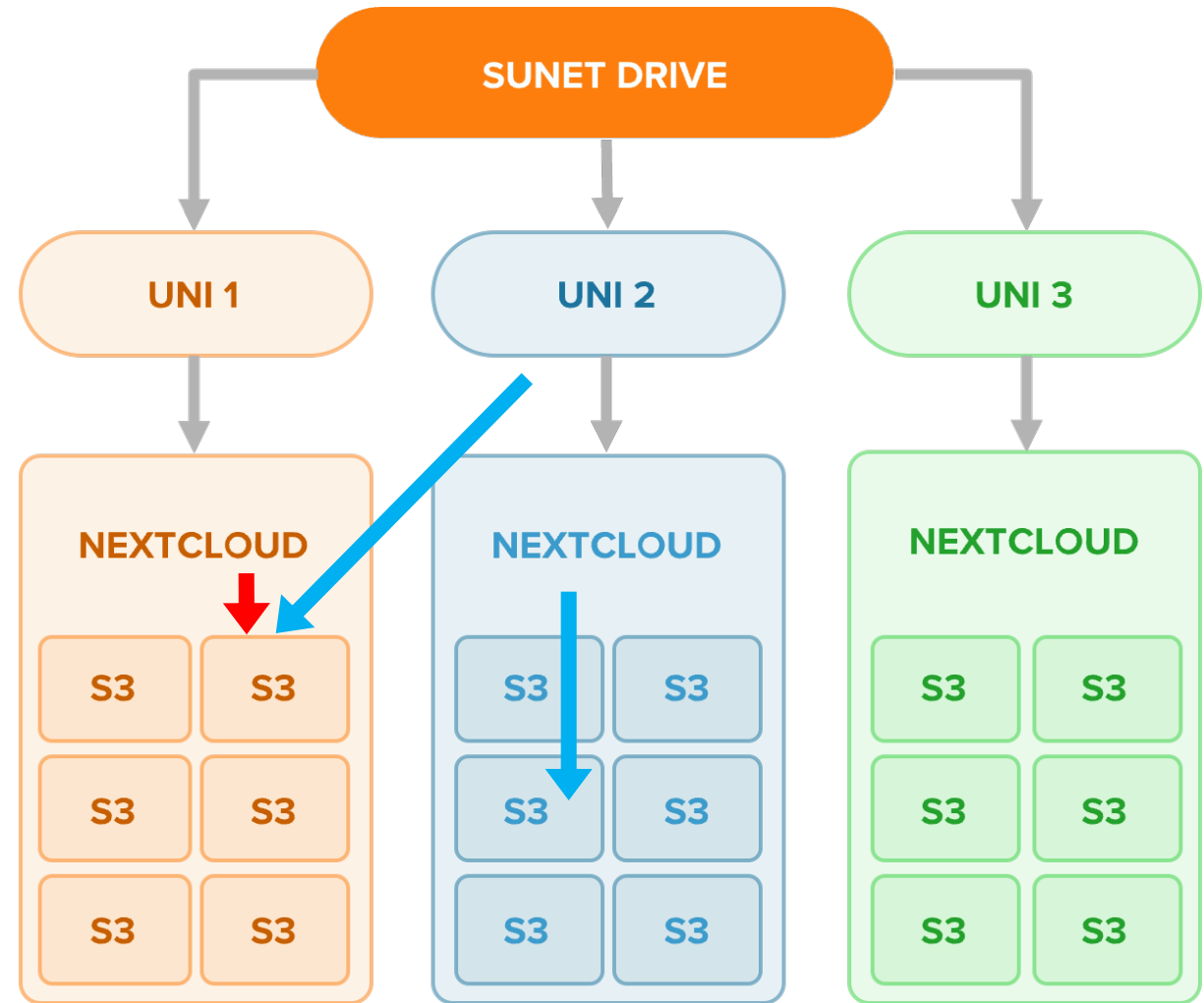
Another important feature of Sunet Drive is the separation of access and ownership. This means that while data can be shared between nodes, the ownership of the data remains with the original uploader. Additionally, access permissions can be finely-grained, allowing administrators to control who can view, edit, or delete files and folders on a per-user or per-group basis. This helps ensure the security and privacy of sensitive data.

## Buckets can be lifecycle managed

In S3, buckets (a container for objects stored in S3) can be lifecycle-managed using rules to transition objects to different storage classes automatically, archive them to Glacier for long-term retention, or even delete them when they are no longer needed. Sunet Drive uses this feature to help manage data storage costs and optimise data retention policies.

# Co-management of nodes

- S3-bucket storage
- Share data between nodes
- Access ownership separation
- Lifecycle managed buckets





# Private Cloud Security

- Personnel control
  - Background checks
  - Data center staff
  - Trusted consultants
  - Third party vendors
- Data center security
  - Availability
  - Fire Protection
  - Facility Access Controls
  - Physical Intrusion Controls
- Network Access Controls
  - Public Network Access
  - Management Network Access
- Systems Management
- Auditing
- Process Description and Configuration Management
- Infrastructure & Storage as a Service
  - IaaS high level architecture
  - Network exposure management
  - IaaS/STaaS – Auditing
  - Data Privacy
- Third Party Review

<https://www.safespring.com/documents/sunet/safespring-sunet-private-cloud-security-controls.pdf>

# MSBFS 2020:7 och Sunet Drive

Paragraf	MSBFS 2020:7 Text	Sunet	Kundens eget arbete	Referenser
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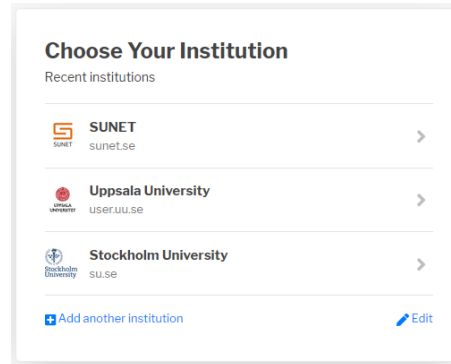
Beskrivning av alla punkter i MSBFS 2020:7

- Ansvar av Sunet
- Kundens eget arbete
- Referenser




<https://wiki.sunet.se/display/Drive/MSBFS+2020%3A7+och+Sunet+Drive>

# Identity management: SWAMID/eduGAIN

## Swedish Account



**Choose Your Institution**  
Recent institutions

-  **SUNET**  
sunet.se
-  **Uppsala University**  
user.uu.se
-  **Stockholm University**  
su.se

[Add another institution](#) [Edit](#)

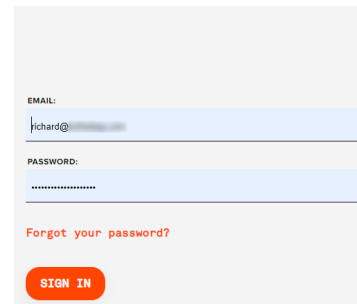
[sunet.drive.sunet.se](https://sunet.drive.sunet.se)

[uu.drive.sunet.se](https://uu.drive.sunet.se)

[su.drive.sunet.se](https://su.drive.sunet.se)

## External Account

eduID is easier and safer login.



EMAIL:  
richard@

PASSWORD:  
.....

[Forgot your password?](#)

**SIGN IN**

[extern.drive.sunet.se](https://extern.drive.sunet.se)

Sunet Drive

# Sunet Forum

<https://forum.sunet.se/s/sunet-drive/>

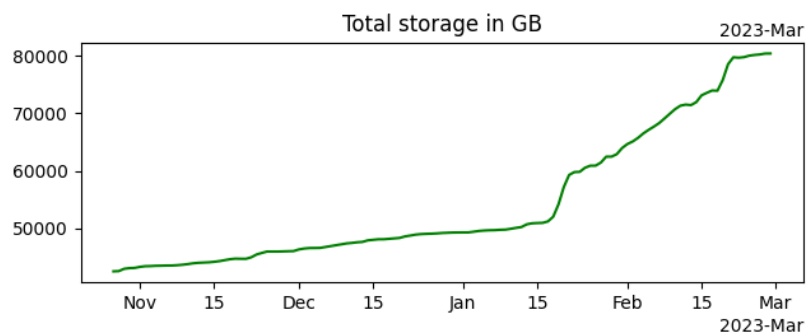
- Central point of documentation for Sunet Drive
- Information Stream
- Files
- Wiki
- Information for users and administrators

## ☰ Index

- ☰ Admin-Walkthrough - Including Dos and Don'ts
- ☰ Creating Write-Only Folders
- ☰ Different nodes of Sunet Drive
- ☰ E-Mail Notifications for new shares and other things
- ☰ eduID and two factor authentication - TFA
- ☰ eduID for external collaborators
- ☰ Federated Cloud ID
- ☰ File numbers and file sizes in Sunet Drive
- ☰ Ignored - and otherwise problematic - files and filenames
- ☰ Keeping timestamps and other attributes when copying or migrating data
- ☰ Mac sync-client logon
- ☰ Managing S3 buckets in Sunet Drive
- ☰ Migrating files from Box - Or another cloud service
- ☰ MSBFS 2020:7 and Sunet Drive
- ☰ National and International Collaborators
- ☰ Nextcloud iOS app on TestFlight
- ☰ Nextcloud Synchronization Clients
- ☰ rclone mount Sunet Drive folders in Linux
- ☰ Share files and folders via e-mail and other nodes
- ☰ Sunet Drive
- ☰ Sunet Drive onboarding process
- ☰ Synchronizing with multiple accounts and instances
- ☰ Synchronize any local folder with Sunet Drive
- ☰ Use an application password with your Nextcloud sync-client
- ☰ User management in Sunet Drive
- ☰ WebDAV on Linux
- ☰ WebDAV on Windows

# Sunet drive today

- 2x54 nodes on 300 servers in two data centres
- 100% powered by green energy
- 15 paying customers
- 120TB data stored with 0.5TB added daily
- Nearly 2,000 users



# Sunet Drive in the future

- Full RDS-setup in production
- Secure Zones
- Data migration
- Third data centre (Kalix, Sweden)
- Kubernetes

FUTURE APPLICATION

Sciebo Research Data Service

FUTURE APPLICATION

ScienceMesh

# Onboarding process

- **Administrative**
  - Sign “avtal” with Anders Nilsson
  - Separate PUBA if necessary
- **Technical**
  - Sunet migrates the existing free node to a paid node setup
  - The front-end does not change, but the backend gains functionality:
    - S3-Storage, Backup, status monitoring, access
  - Add local administrators
  - Trainings for administrators and (potentially) end users

**The onboarding process is fully transparent. Users can continue to use their existing accounts.**

# Features and Planned Functionality

- **Production Features**
  - File sync and share
  - Co-management of nodes
  - SSO-Login via SWAMID/EduGAIN
  - Off-site backups using duplicity
  - Document collaboration
- Which features do you want to see in Sunet Drive?  
<https://forum.sunet.se/content/perma?id=26403>
- **Under development**
  - Secure Zones – Step-up MFA for certain areas of Sunet Drive
  - Research Data Services (RDS) – Publication of Metadata
  - ScienceMesh integration – European federated EFSS (EOSC)
  - Jupyter Hub – Integration and synchronization
- **Feature ideas/requests**
  - Audit trail/logging
  - EduSign
  - Data migration, ELN, Overleaf
  - Other Apps

# Feature Survey



<https://forum.sunet.se/content/perma?id=26403>



# Tack! Frågor?

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