

Pithos+ for TERENA CloudDrive

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Pithos+

- Cloud-scale storage solution
- Powered by <http://www.synnefo.org>
- Open Source
- Inspired by OpenStack Object Storage API
- Block-oriented backend with de-duplication
- REST API

TERENA CloudDrive

- Personal cloud data storage service
- Separate metadata from data storage
- Encrypted data
- Pluggable backend storage
 - NFS, S3, Pithos+, OpenStack Swift
- WEBDAV interface
- Open Source
 - <https://github.com/TERENA/CloudDrive>

CloudDrive Codebase

- JDK 1.7
- Scala as the programming language of choice
 - <http://www.scala-lang.org>
- Lift for the web-based front-end
 - <http://liftweb.net>
- Each storage backend implements
 - `net.vrijheid.clouddrive.control.Storage`
 - ... and pays attention to a few details...

Design of Pithos+ CloudDrive

- PithosJ
 - Official JVM Pithos+ driver, supported by GRNET
 - Currently v0.2.0
 - Scala as the programming language of choice
 - Fully asynchronous and scalable REST client
 - Open-Source
 - <https://github.com/grnet/pithos-j>
- PithosJ CloudDrive driver
 - PithosPlusFileSystem

Implementation Aspects

- Implement about 16 methods
- Cope with necessary Pithos+ metadata
 - Pithos+ server URL
 - User ID
 - User access token
 - Default container
- Translate the CloudDrive vocabulary to Pithos+ calls

Implementation Aspects

- UUIDs drive the existing implementations
 - S3, LocalFileSystem
- We deviate and try to use existing file paths
 - Better debugging
- COPY does not seem to work (properly)
- The Backend Driver is a state machine
- The CloudDrive build architecture
 - Not properly managed jars

Live Demo

- Use production Pithos+ service from inside TERENA CloudDrive

Thank you!

- Questions?