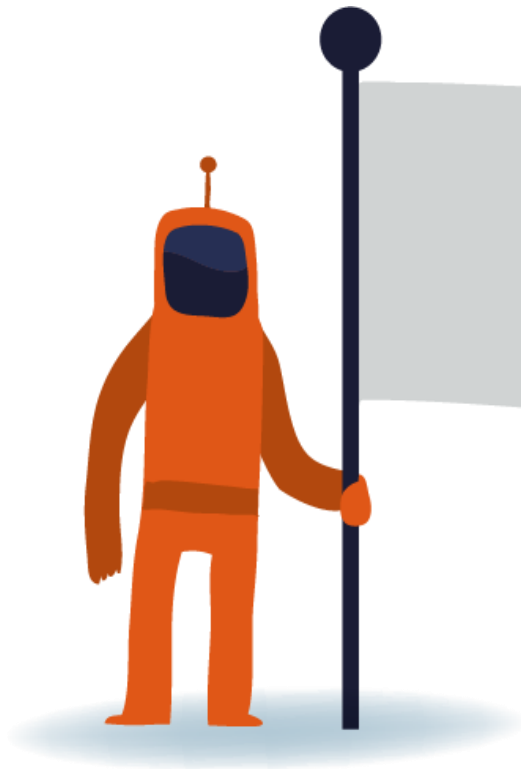


# SWITCHdrive

Experience with running Owncloud on top of Openstack/Ceph



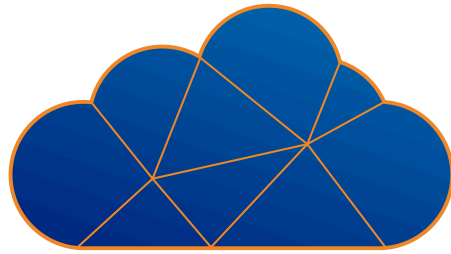
# SWITCH

Simon Leinen  
[simon.leinen@switch.ch](mailto:simon.leinen@switch.ch)

Christian Schnidrig  
[christian.schnidrig@switch.ch](mailto:christian.schnidrig@switch.ch)



<https://www.flickr.com/photos/jimculp/865599033/in/album-72157594310567262/>



## SWITCHengines

- Openstack (Mitaka)
- Ceph (Hammer)
- 118 servers
- 4760 logical cores
- 24.5 TiB RAM
- 2.3 PB storage

Paid service since 1.1.2016



## SWITCHdrive

- ownCloud 8.1  
(upgrade 9.0 in March)
- Users: 24'000
- Quota: 50 GiB / user
- Number of files: 62M
- Storage: 61 TiB
  - 50 TiB live data
  - 7.2 TiB trash
  - 2.2 TiB versions
  - 1.5 TiB ...

Paid service since 1.1.2016

# Plan for 2016/7

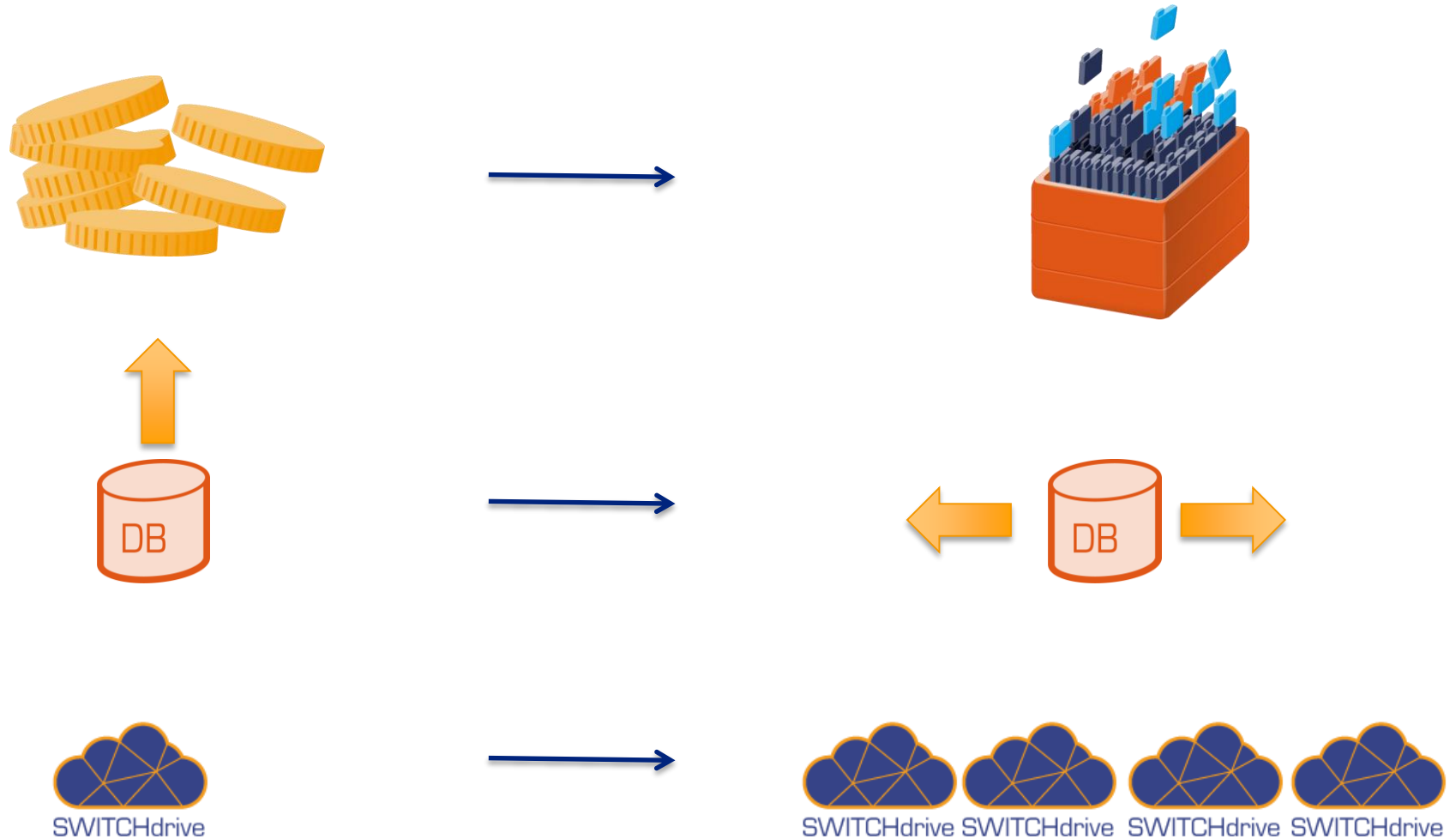


**From this  
architecture**

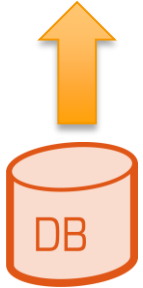
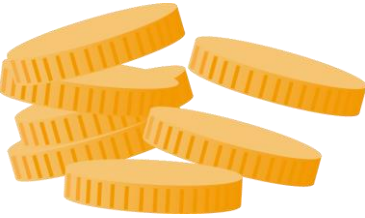
**To that**



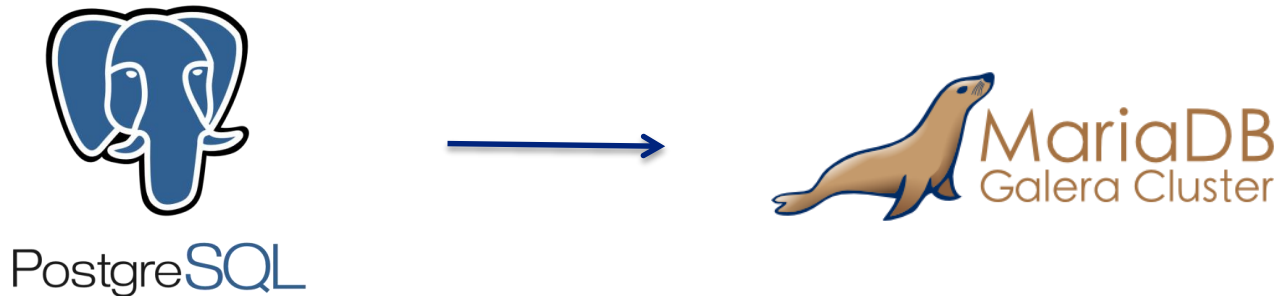
# What we were lacking Jan 2016?



# Current Status



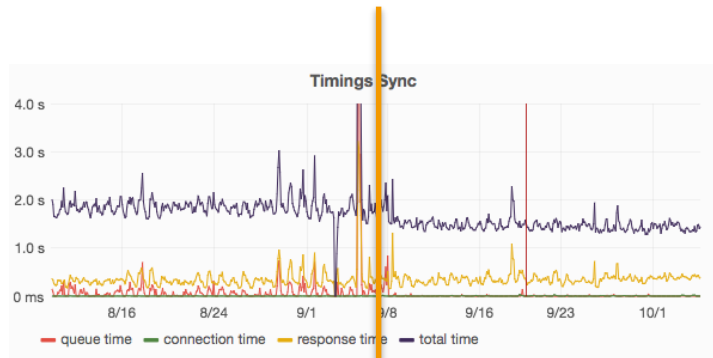
# DB Scale out



- Standard procedure: (weeks)
  - occ db:convert-type: is ok but very slow
- Custom migration: (4 hours)
  - Edit „converttype.php“: comment out „oc\_filecache“
  - Run occ db:convert-type -> copies schema and all other tables
  - Manually dump filecache table from postgres & load into mariadb



# Performance (measured on load balancer)

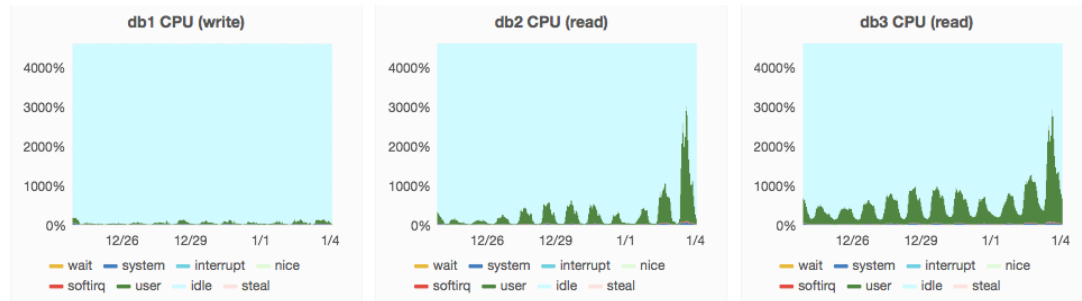


PostgreSQL  
master/slave

Mariadb/Galera 3 nodes  
maxscale read/write split

# DB-Scalability with Galera

theory



reality



Number of db servers in cluster

3 (min with galera)

4

5

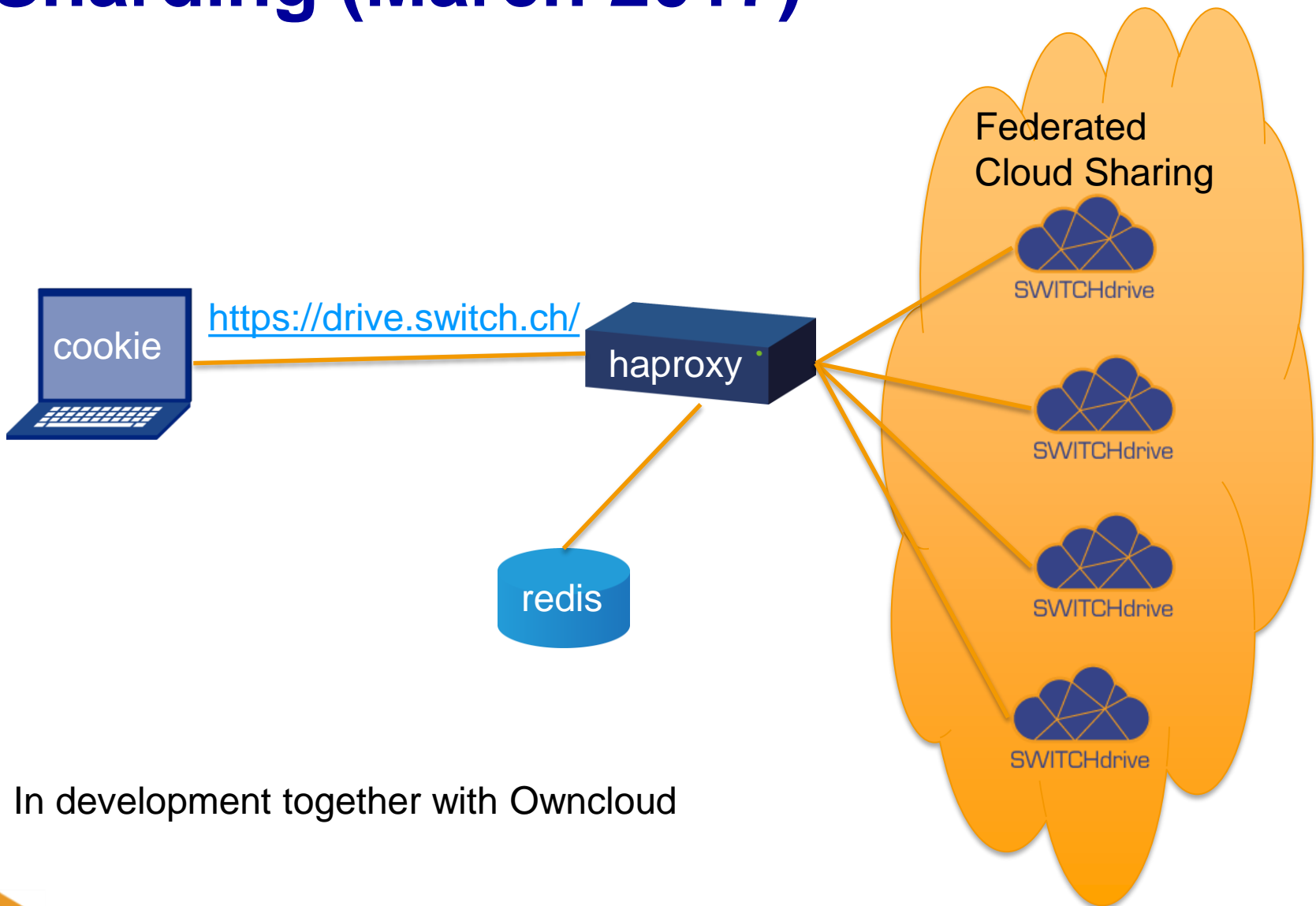
Max number of Users it could handle

Up to 22.3 K

Up to 23.2 K

? K

# Sharding (March 2017)



In development together with Owncloud

# Object Gateway



- oC 9.1 has multibucket support
- There are still some obstacles:
  - plan to upgrade to 9.0 in March. (not 9.1)
  - migration of existing users -> no out of box solution from oC
  - backup (maybe take etag from radosgw)
  - performance:
    - SWITCHdrive needs: 15 reads/s & 15 writes/s
    - We need to scale out radosgw first.



<https://github.com/switch-ch/switchdrive-ansible>



[simon.leinen@switch.ch](mailto:simon.leinen@switch.ch)  
[christian.schnidrig@switch.ch](mailto:christian.schnidrig@switch.ch)



[oc@lists.geant.org](mailto:oc@lists.geant.org)