High-Available Samba for CERNBox

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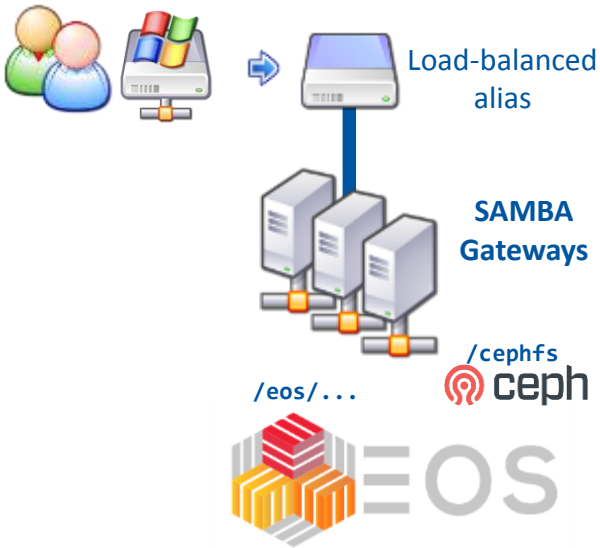
Storage for MALT

- Windows DFS at CERN phase-out started
  - Users being migrated to **CERNBox**
  - A growing base of Windows users expect *online* (Samba-based) access to EOS/CERNBox
- Samba gateways from prototype to production
  - High Available cluster in place since Sep 2019
    - IP-based load balancing
  - Monitoring and alarming + performance analysis to identify shortcomings of the SMB/CIFS protocol
  - CERN Terminal Service permanently connected to it as of Oct 2019

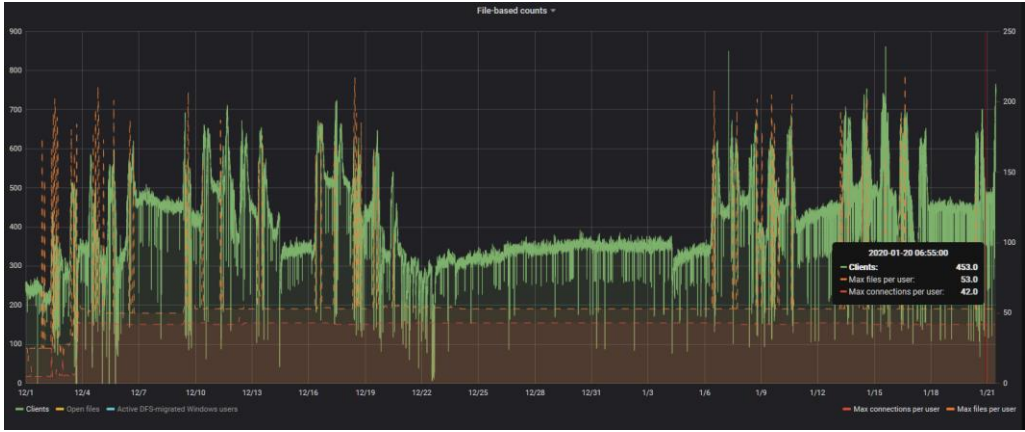
HA Samba Architecture

- The clustered Samba software requires
  - *Floating IPs*, one per host
  - A small `/cephfs` mount to share the state
    - Yes, to provide a shared filesystem we need a(nother) shared filesystem…
- Windows Domain (AD) joined in dedicated keytab mode, using the credentials of the load-balanced alias
  - Forbidden to join with hosts credentials, because they are resolved with their own IPs, not the floating ones!
- EOS FUSE mounted
- Fully puppetized configuration



Usage and current issues

- Growing usage trend, service permanently used
- Transparent interventions
  - Floating IPs get reassigned seamlessly



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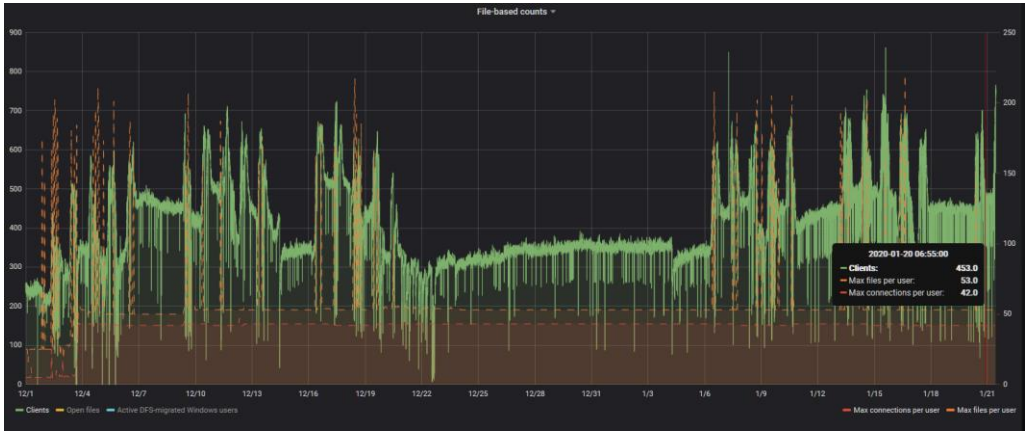

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- “Concurrent” Microsoft Office editing
  - Issue: multiple users accessing the **same** remote file via **different** gateways miss the notification that the file is being edited by another user
  - Related to how Office uses locks over CIFS/SMB
    - Investigating possible fixes and alternatives