



The protocol zoo of ...

XRootD

HTTPS
SRM
WebDAV
HTTP OwnCloud
FUSE gridFTP

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Pre-GDB on Data Management & Data Preservation

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EOS

Disk Storage @ CERN

EOS native **primary** protocol is

1 XRootD

- used for File IO, internal communication/replication, CLI
- currently all EOS disk servers world-wide visible

LAN/WAN opt.

Secondary protocols

2,3 gridFTP-SRM

- provided via gateway machines using VDT implementation + DSI plug-in
- provided via BestMan, FUSE mount & quota scripts

WAN opt.

4 FUSE *not a protocol

- client: implemented over XRootD protocol
- no locks, no symlinks, 95% compatible

POSIX flavor

5 HTTP

- currently provided via embedded HTTP server and overlay network

6 HTTPS

- provided via NGINX gateway, proxy module & add. Auth headers

7 WebDAV

- implemented in embedded HTTP server
- incomplete implementation

5 http flavors

8 S3

- implemented in embedded HTTP server
- incomplete implementation

9 OwnCloud HTTP

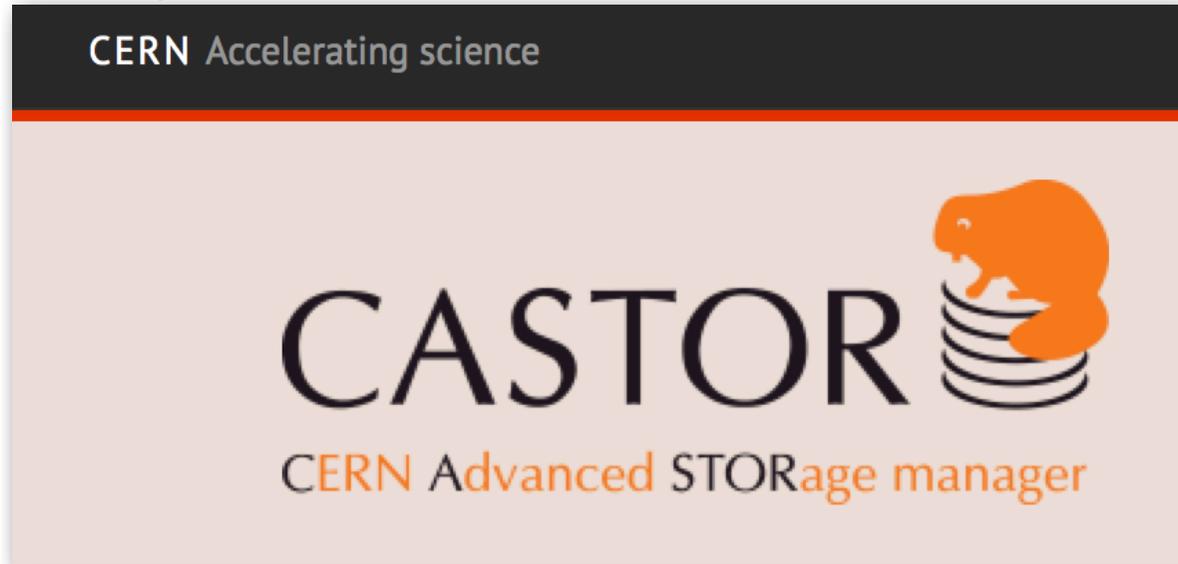
- implemented in embedded HTTP server
- compatible with OC http server



9 more or less supported protocols

- used by experiments
 - XRootD > gridFTP >> FUSE, HTTP(S)**
- would love to get rid of SRM
 - information already available via XRootD/HTTP Rest API and "xrdfs query space" interface
- XRootD most reliable and performant implementation in EOS
 - there is visible performance difference due to the protocol choice, it is due to security, auth model, implementation
- deficits of HTTP reflected by standard extensions
 - none of these do provide all XRootD and gridFTP protocol semantics
- no new protocols foreseen
 - deployment change on the horizon
 - all external traffic via XRootD gateways
- planned to provide XrdCl plug-ins to enhance features and performance
 - loaded by client according to plug-in policies

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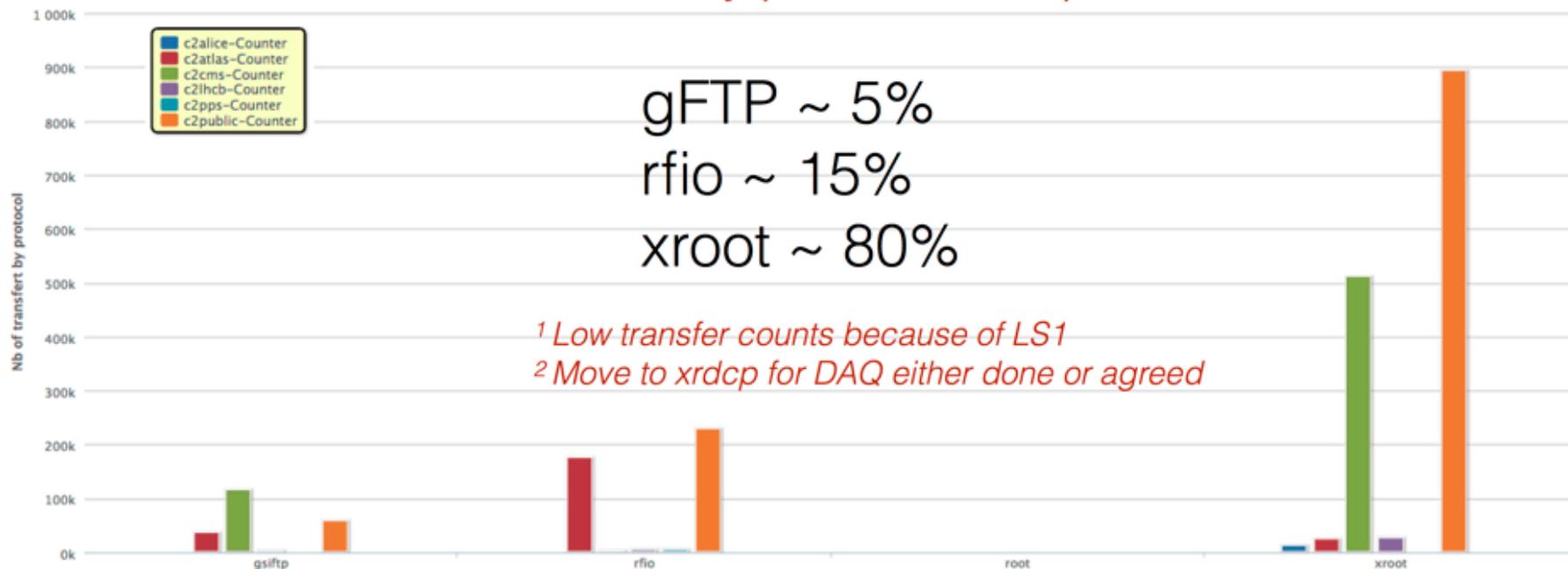


Xavier Espinal - IT-DSS

CASTOR protocols evolution

- **xrootd** as main protocol for **users** and **internal** transfers
- **gsiftp** continue to be supported - authenticated grid usage
- **rfio** to be deprecated within 2015 and to be dropped in 2016 (rfcp => xrscp)
- **root** protocol **closed** for one year (Feb/2014)
- **SRM** decommissioning:
 - Timescale?
 - Residual use cases: **pre-staging** and **space** accounting

Transfer by protocol last quarter^{1,2}



IT-DSS Summary

- **XRootD** is main protocol for Castor & EOS for 2015 for WAN/LAN IO
- **gridFTP** is main protocol for WAN IO
- **SRM decommissioning in EOS** could be done without any development on provider side
- **SRM decommissioning in CASTOR** needs planning and guideline how to do and provide space accounting