





EOS third-party-copy (TPC) with GSI delegation

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on behalf of the **EOS team**

A bit of context ...

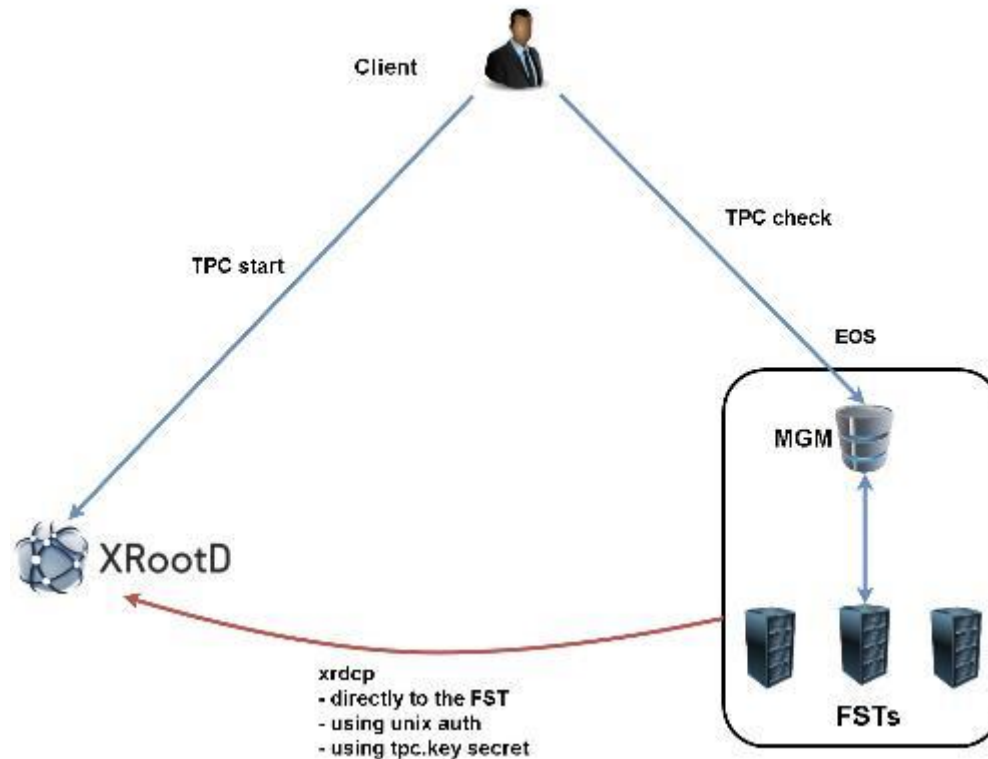
- **Globus Toolkit** open source support discontinued
- Need to find an alternative to **GridFTP transfers**
 - Support data federation protocols
- **WLCG DOMA** (Data Organization Management Access) Group looking into alternatives
 - **XRootD TPC** with delegation
 - **HTTP(S) TPC** with macaroon support

What is the problem?

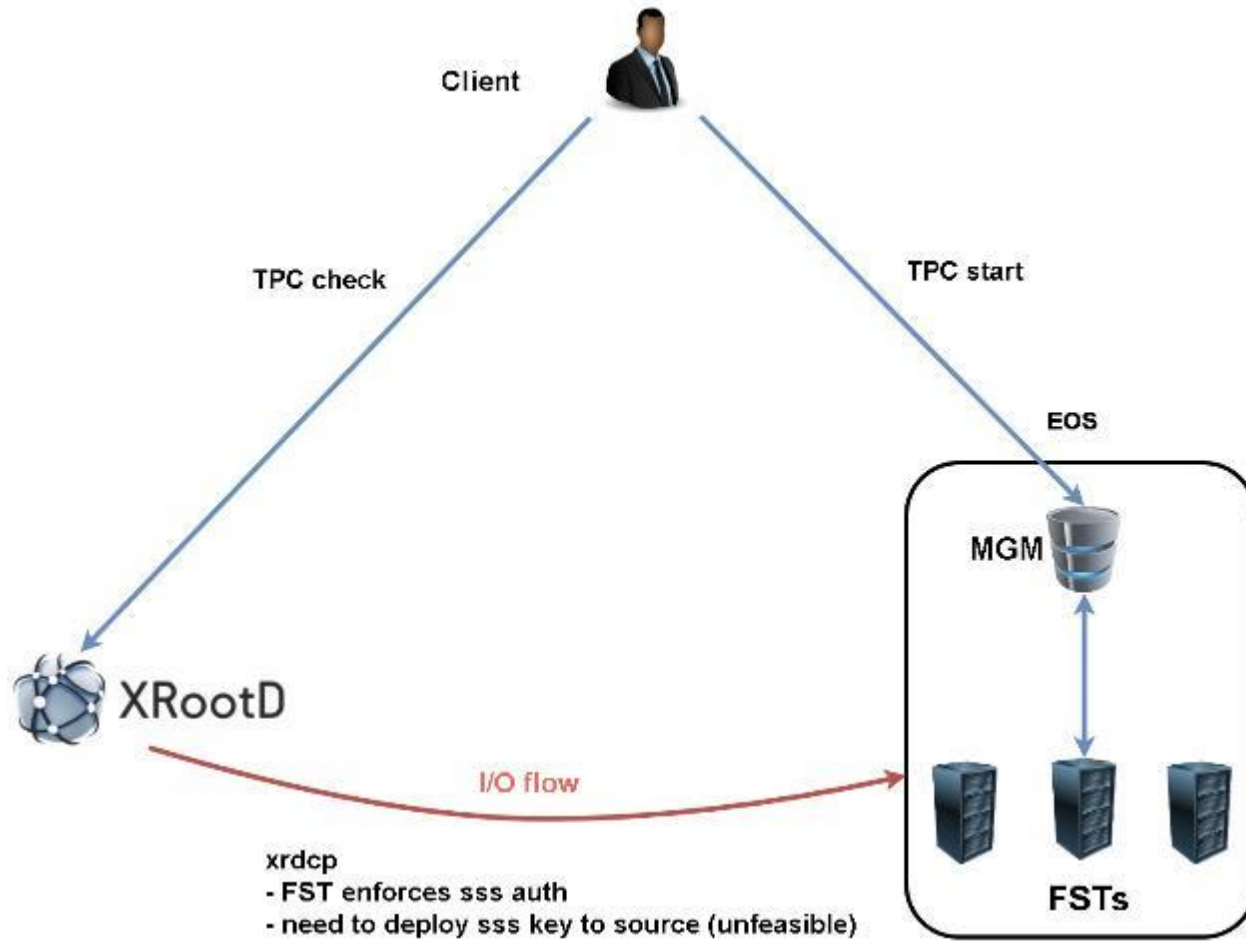
- EOS uses the following authentication model
 - **MGM**
 - Kerberos5
 - GSI (grid certificates)
 - sss (Simple Shared Secret) XRootD specific
 - **FST**
 - sss
 - unix
 - Enforces sss authentication for **outgoing** connections
- Authentication/authorization on the FST happens based on the **encrypted (with sss) redirection URL** from the MGM

TPC transfer with EOS as source

- XRootD TPC is a **pull** based model i.e. destination copies from source

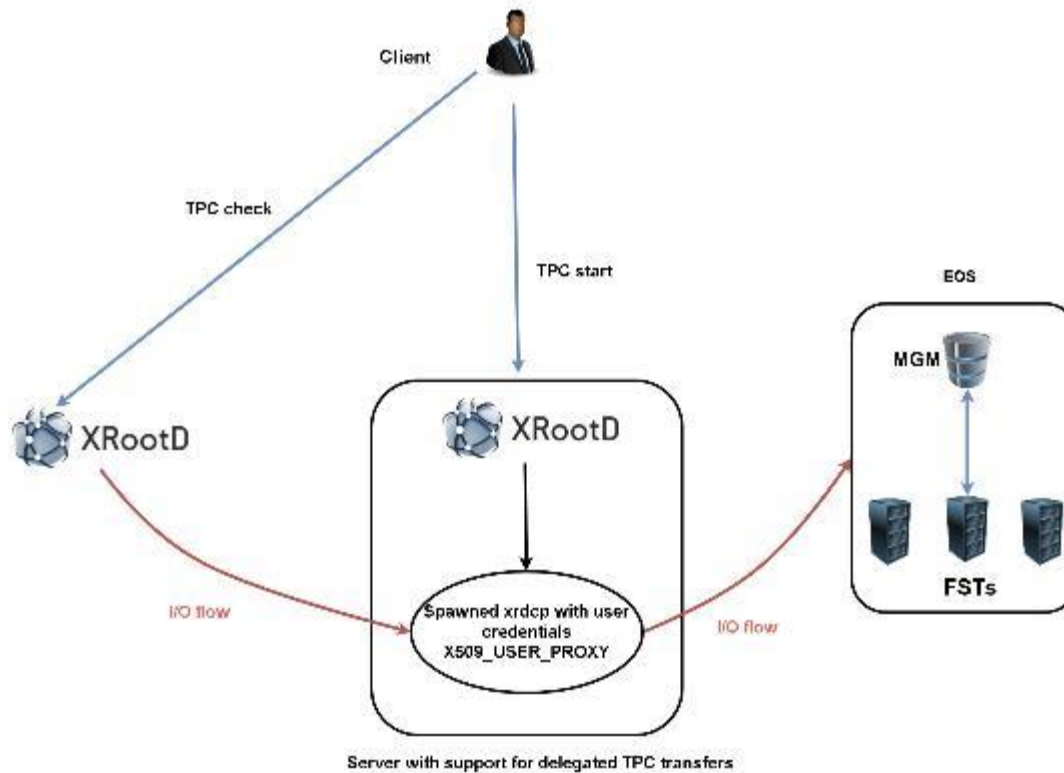


TPC transfer with EOS as destination



What is the solution?

- Deploy an **XRootD vanilla gateway server** capable of doing delegated TPC transfers
 - Only **GSI delegation** is supported



Example XRootD config

Example /etc/xrootd/xrootd-tpc.cfg

```
all.export /eos/  
xrootd.seclib /usr/lib64/libxrdSec.so  
sec.protocol gsi -dlprxy:1 -expxy:=cred -cr1:1 -cert:/etc/grid-  
security/xrootd/hostcert.pem -key:/etc/grid-security/xrootd/hostkey.pem -  
gridmap:/etc/grid-security/grid-mapfile -d:1 -gmapopt:2  
sec.protbinding * gsi  
ofs.tpc autorm fcred gsi =X509_USER_PROXY prm /etc/xrootd/xrdcp-tpc.sh
```

Example xrdcp-tpc.sh

```
#!/bin/sh  
/usr/bin/xrdcp -f $1 root://eospps.cern.ch/$2
```




www.cern.ch