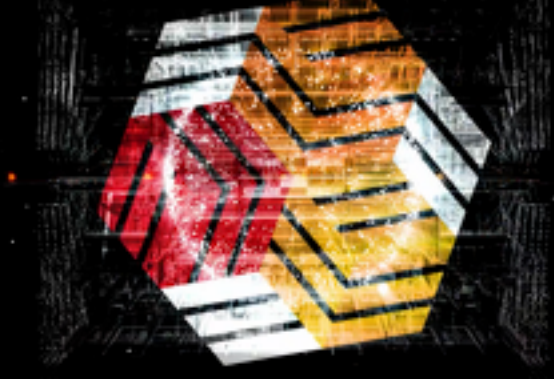


# Authentication Logic [eosxd]

on **/eos** - IT-ST-PDS

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# Introduction

- **EOS mount supports various authentication protocols**
  - Kerberos5 ( FILE, KEYRING, KCM )
  - X509
  - OAUTH2
  - SSS
  - unix
- **fallback** mechanism and **ordering** is not straightforward
  - for some applications **environment based** authentication settings **just fail** because threads/children don't inherit the environment variables !!!

**Let's try to shed some light on authentication in eosxd**

# Default Ordering

enabled  
by default

KRB5 based on KRB5CCNAME

```
export KRB5CCNAME + new shell
```

KRB5 global FUSE bind

```
eosfusebind -g
```

KRB5 default location

```
/etc/krb5.conf:  
[libdefaults]  
    default_ccache_name = KEYRING:persistent:%{uid}
```

disabled  
by default

X509 based on  
X509 USER PROXY

```
export X509_USER_PROXY + new shell
```

X509 based on default proxy  
location

```
/tmp/x509_u$UID
```

enabled if  
exists

`/etc/fuse/eos.sss.keytab`

OAUTH2 based on  
**OAUTH2** TOKEN

```
export OAUTH2_TOKEN=<file>
```

OAUTH2 based on default token  
location

```
/tmp/oauthtk_$UID
```

SSS authentication

```
export XrdSecSSSENDORSEMENT=<key>
```

UNIX authentication

most of the time you end up being uid:99 when this happens  
uid!=99 if machine is registered as UNIX gateway



# Summary

- the safest options is to **rely on default locations** for authentication, because it does not rely on environment inheritance
  - we don't do that on lxplus/lxbatch, still we have a global eosfusebind by default as fallback
- GSI authentication has to be enabled by `"auth" : {"gsi":1}`  
and is tried after kerberos unless `"auth" : {"gsi-first":1}`
- by default **eosxd** expects and evaluates locations inside the namespace of the calling process and not in the root namespace of eosxd itself
  - this can be changed by setting `"auth" : {"ignore-containerization":1}`



**CERN** storage technology  
used at the Large Hadron Collider (LHC)

# EOS Open Storage

**Thank you!**

**Question or Comments?**

[eos.web.cern.ch](http://eos.web.cern.ch)