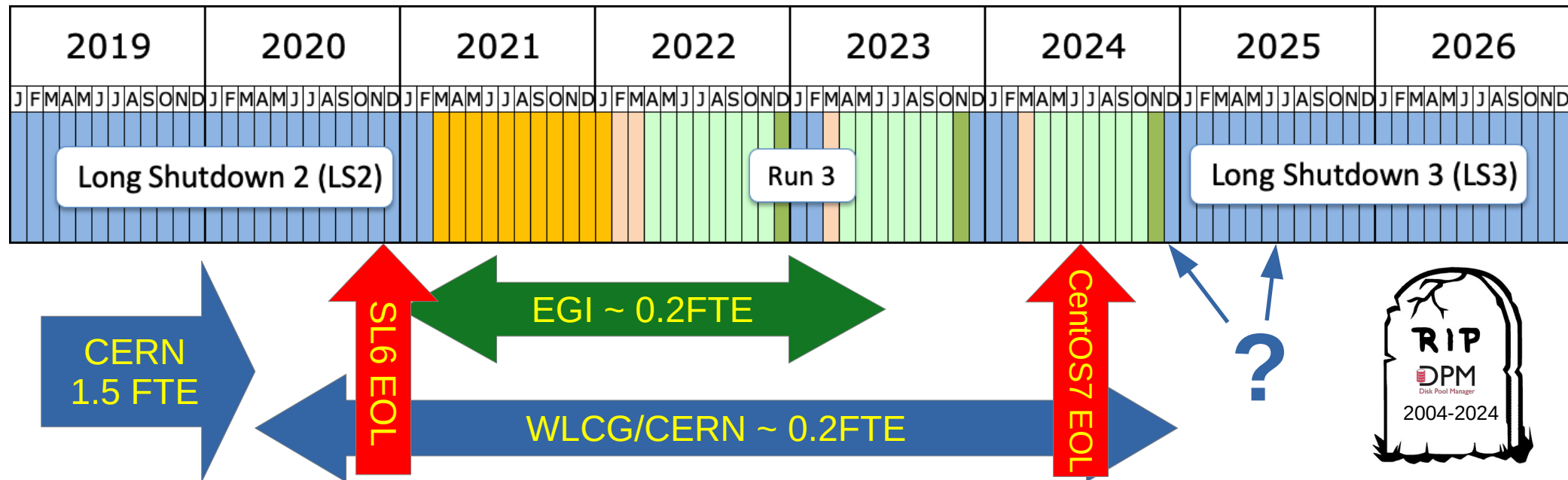


# DOME DPM future support



- March 2020 GDB – WLCG / CERN      The DPM Collaboration
  - *provide support* / bugfixes for DPM sites *during Run-3*
  - *no new features* (besides WLCG JWT), no CentOS8 release
  - consider EOS as successor / replacement for HL-LHC era
- November 2020 EGI – 2PM/year for 30 months starting 2021
  - support for EPEL / UMD releases, **CentOS8 release**
  - tools for *migration to dCache* + assisting non-HEP communities

# DOME DPM roadmap

**No new features**

**Support existing DPM sites for a limited time (LHC Run-3)**

**Provide migration tools**

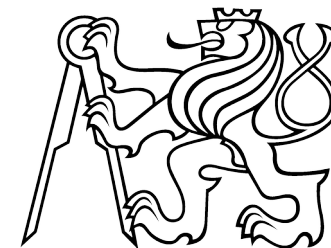
# DPM migration strategy

- There are ~ 60 DPM sites with ~ 90 DPM and ~ 100PB
- “simple migration”
  - **copy data** – allows different backend data organization
  - require free space, **painful** and time consuming for adm / users / VOs
- **Migrate** just database / **catalog** and keep stored **files untouched**
  - **provide tools** for importing DPM database
    - EGI is going to support migration to **dCache**
    - compatible dCache configuration
    - dCache services replace dmlite daemons
      - technically EOS could be used with same strategy
  - storage backend still files and existing data
  - preserve host name, port and whole namespace ⇒
    - **completely transparent for end users / VOs**
- make **migration** as **simple** as legacy to DOME DPM transition

**Goal:**  
**1 day downtime**  
**for DPM → dCache**

**migration**  
**tools available**  
**next year**

# BACKUP



# DPM road ... ... dead end

Petr Vokáč (CTU)

HSF WLCG Workshop

23<sup>rd</sup> November 2020



# Current status

- Legacy DPM 1.13 already EOL since September 2019 (SRMv2)
- ***DOME DPM – dmlite – in use since ~ 2018/9*** (DPMUpgrade TF)
  - same database and storage, but different C++ codebase (Dynafed)
    - can run in parallel with legacy DPM (not recommended / supported)
  - protocols: gsiftp, http / webdav, xroot (SRM only with legacy DPM)
  - auth: X.509 certificates (VOMS), OIDC with WLCG JWT – WIP
- ***dmlite 1.14 status*** – released 10 months after last 1.13.2
  - Delayed production HTTP-TPC deployment, currently available:
    - ~~EPEL SL6 dmlite 1.14.2 + XRootD 4 (EOL in a few days)~~
    - EPEL CentOS7 dmlite 1.14.2 + XRootD 5
    - UMD dmlite 1.13.2 + XRootD 4
  - Many ***external dependencies*** with their ***own release schedule***
    - XRootD 5 in EPEL7 caused delays with security update
    - dmlite 1.14.2 still ***broken*** for CMS (fixed xrootd 5.0.3 in EPEL-testing)

# dmlite plans I

- **CentOS8 release** – only dmlite (no legacy DPM / SRM)
  - necessary updates already available in [merge request](#)
    - mostly python3 support (python 2.6 / SL6 compatible)
    - full pure python interface for DOME API
  - APEL StAR not yet supported [GGUS:148981](#)
  - no BDII for EPEL (no openldap-server) only in future UMD5
- **HTTP-TPC transfer failures** with higher load [LCGDM-2953](#)
  - threads using wrong file descriptor (socket) close / read / write
- **Not fully compliant with WLCG JWT**
  - failing [compliance tests](#) – code changes necessary
    - wrong privilege mapping for scope based authorization
    - not all restriction described by [WLCG JWT profile](#) implemented
  - not clear / documented how to support multiple IAM
  - no mixed web access with X.509 and OIDC

in EPEL8  
Q1 2021

EGI

CERN / WLCG

# dmlite plans II

- No other know major issues
  - few updates still waiting to be merged
    - ACL, httpd crash, race-condition, ...
    - usually quite rare
  - some bugfixes in huge CentOS8 patch and arrive in Q1 2021
- **DPM migration strategy** (~ 60 DPM sites with ~ 100PB)
  - copy data – require free space and painful for users / VOs
  - **migrate** just database / **catalog** and keep stored **files untouched**
    - **tools** that dump DPM database and feed **dCache** (offline)
    - dCache configuration for dCache services replacing dmlite
    - preserve host name, port and whole namespace
      - **completely transparent for end users / VOs**
  - make **migration as simple** as legacy to DOME DPM transition
  - storage backend still files – no fancy features (e.g. EC)
  - in case of interest EOS can be also target of similar migration process

CERN

EGI

1 day  
downtime



# Dynafed

- Share same dmlite core with DOME DPM
  - No future CERN support for DPM ⇒ no support for Dynafed
  - Supported by Dynafed community
- Deployment
  - RAL – Echo WebDAV frontend for non-WLCG communities
  - Small installation in Canada for their S3 storages
  - CMS BOINC @ home with S3 at CERN

## Dynafed future

?