



EOS Roadmap

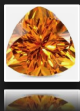


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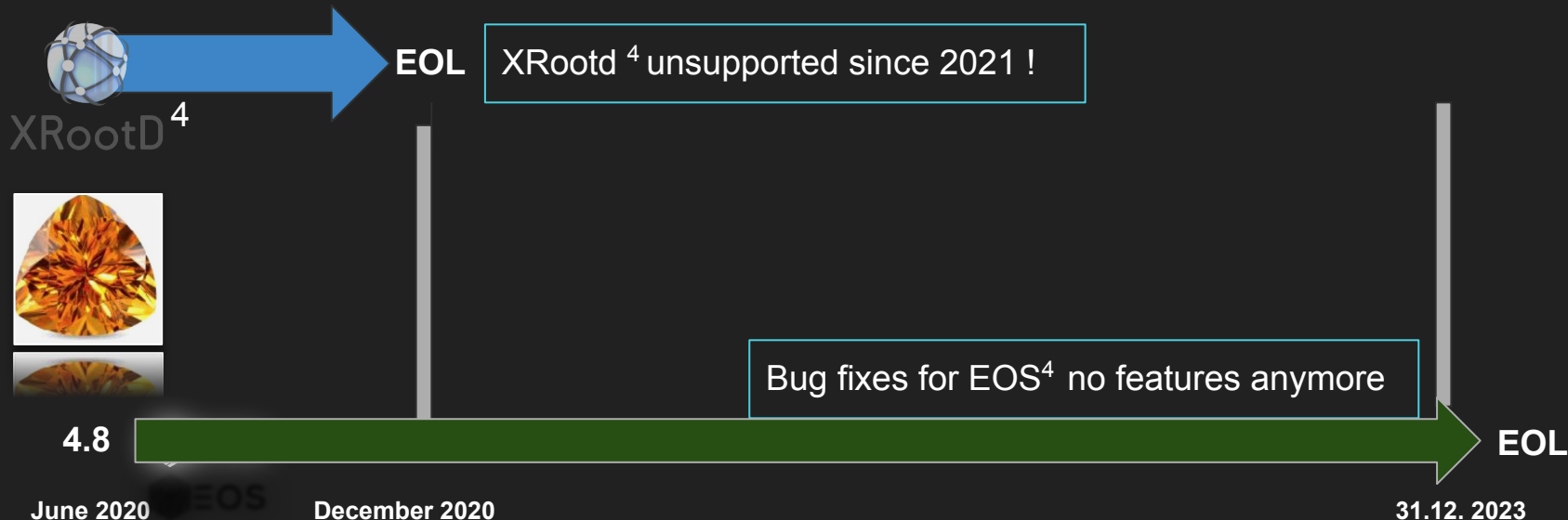
For the EOS Project

27 April 2023

EOS⁴ EOL Plan



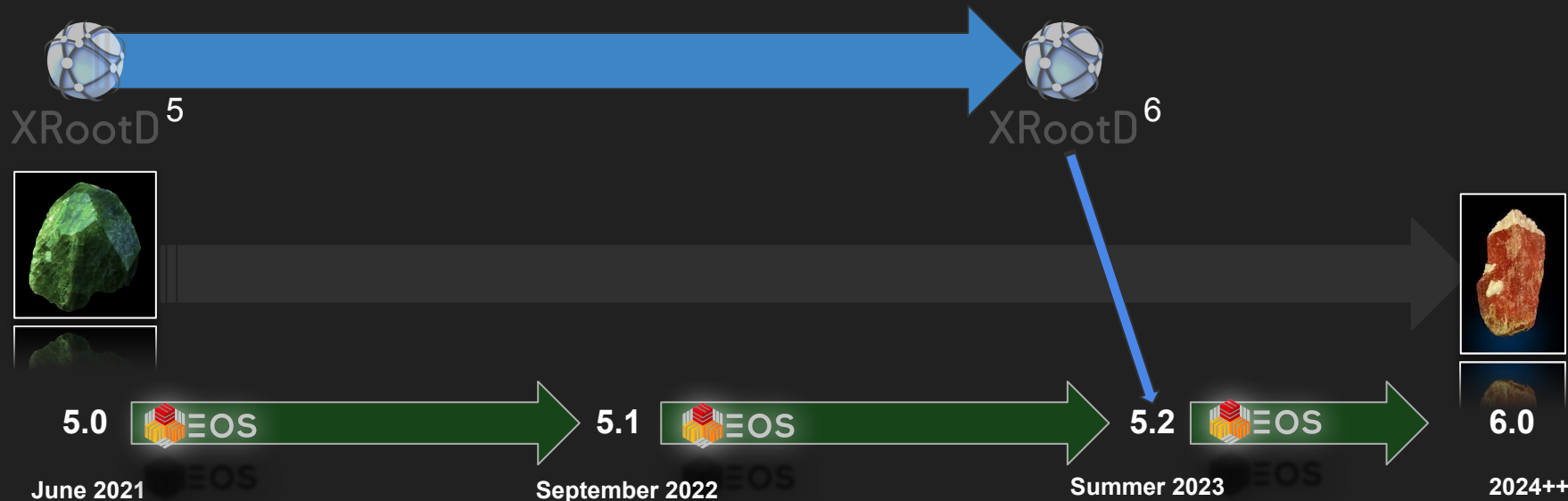
- **Update** to EOS⁵ **until end of this year!**
- **Support stops** at end of this year!
- We will do bug fixing concerning security and stability!



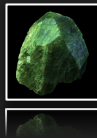
EOS⁵ Releases Phases



- EOS⁵ was available since mid 2021
- We probably don't need a major version release this year
 - even if XRootD might have one



EOS 5.2 Release



- What we want to drop ...

- libmicrohttpd
- LevelDB file meta data
- Old FSCK reporting
- Old Balancer
- Transfer Queues/Multiplexer
- MQ Daemon
- Internal HTTP browser JS

- What we will target ...

- HA without MQ
- MGM Latency Reduction (replacing global mutexes with local mutexes)
- FLAT Scheduler
- REST API MGM (summer project)
- Merge SHARE API and permission system homogenisation
- Possibly move to TPC processes instead of in-MGM multithreading with XrdCl
- FUSE Performance
- FST Gateway IO & scheduling for shared backends
- EC Updates (when XRootD range-clone/copy-on-write functionality is available)

EOS^{Run 4} Directions



- **MGM Performance Strategy**

- Try to improve performance for single MGM by $O(1)$
- Try to flatten meta-data ops JITTER using local locking
- If this fails, we might go for branching MGMs (multi MGMs)
- Investigate usability of read-only MGMs with active cache invalidation

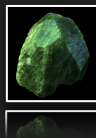
- **API Evolution**

- Study benefits/feasibility of bulk APIs for opening files

- **Data Format Evaluations**

- Study/Adapt future RNTuple format with erasure coding
- Study what range of file sizes are sustainable

EOS General Improvements



- **Documentation**

- First step is done: **new Diopside documentation**
- Continue to remove outdated information - deprecated options, configuration files etc.
- Document missing components

- **CLI Streamlining**

- Implement common proposals for more standardized generic syntax/behaviour in UNIX similar commands

- **YOU tell us what you need!**

- We discuss weekly what we need at CERN, but sometimes you need something else!
- Continue to use the Community Forum, JIRA, SNOW - it is very appreciated

- **YOU contribute**

- Every contribution is welcome - code, configuration, documentation, ideas!
- GIT Merge Requests, Mattermost, Emails aso.

EOS ^{Workshop} Closing



- A **big thank you** to all participants for making the EOS workshop a success with a diverse program and many interesting contributions
 - I think we demonstrated that the support at CERN behind EOS and CTA is very solid
 - Both projects are supported by outstanding development and operations teams
 - The support load on us for external installations is still moderate
 - There is a healthy community using EOS and CTA
 - This is underpinned by the **numerous contributions**
 - This is underpinned by the fact that we have this workshop now for the **7th time**
 - This is underpinned by the fact that **YOU** are here!
- We hope this event was **useful** to you ... **see you next time!**



