Lustre Releases

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Agenda

- Whamcloud Release Streams
- Lustre 1.8.x
- Lustre 2.1.x
- Lustre 2.2
- Lustre Roadmap
- Summary
Whamcloud Release Streams

- Whamcloud defines two release streams
  - The designated maintenance release stream is targeted for conservative users wishing to use a well-proven release
  - The feature release stream is targeted for those requiring first access to new features

- Bugfix releases every quarter for maintenance release stream
  - Currently 2.1.x is the designated maintenance release stream
  - Use combination of support metrics and customer demand to determine when to switch

- Feature releases every six months
  - Not all feature releases will have maintenance releases
Lustre 1.8.x

- Whamcloud continues to support Lustre 1.8.x
  - Former June 2012 EOL has been deprecated
  - We intend to offer Lustre 1.8.x support as long as there is sufficient demand

- Whamcloud to release 1.8.8-wc1
  - A supplemental release to provide RHEL6.2 support

- Oracle still producing Lustre 1.8.x releases
  - Be aware that Oracle releases do not necessarily facilitate upgrade path to 2.x releases
  - Discussions underway on how to reconcile differences between release streams
Lustre 2.1.x

- Lustre 2.1.0 released Q3 2011
- Lustre 2.1.1 released in Q1
  - Provided bugfixes and RHEL6.2 server and client support
- Lustre 2.1.2 scheduled for release in Q2
  - Will incorporate bugfixes from large sites running 2.1.x in production
- Intention is to match Lustre 1.8.x for stability
  - Still early days in this process
Lustre 2.2

- Released March 30\textsuperscript{th} as per the schedule
- Changelog available at [http://wiki.whamcloud.com/display/PUB/Changelog+2.2](http://wiki.whamcloud.com/display/PUB/Changelog+2.2)
- First release to benefit from OpenSFS funding
  - Covers some of the costs of maintaining the community tree
- Regular updates throughout release cycle
  - JIRA filters provide dynamic list of blockers
  - Open access to issues (JIRA); patches (git/gerrit) and test results (maloo)
  - Biweekly email update to wc-discuss and CDWG mailing lists
  - Quarterly reports posted on OpenSFS CDWG wiki
Lustre 2.2 - Features

- **Asynchronous Glimpse Lock/Statahead (LU925/LU389)**
  - Improved performance for `ls -l/find and accessing object attributes (file sizes/xtime etc)
  - Development funded by ORNL

- **Client Parallel Checksums (LU884)**
  - Improved support for `mmap` and better performance using checksums
  - Development funded by ORNL

- **Imperative Recovery (LU580)**
  - Faster recovery
  - Development funded by ORNL

- **Large Xattrs (aka Wide Striping) (LU80)**
  - Maximum stripe size raised from 160 to 2000; max file size increased from 320 TB to 64PB
  - Completing work funded by Sun for ORNL
  - ORNL/Xyratex helped with this initiative

- **Mds-survey (LU593/LU633)**
  - Tool for MDS performance benchmarking
  - Development funded by LLNL

- **Parallel Directory Operations (LU50)**
  - Improved performance when multiple processes access the same directory in parallel
  - Development funded by OpenSFS
Lustre 2.2 – Accomplishments

- Amount of test automation greatly increased
  - Reduces the overhead of making releases and increases the likelihood of catching regression earlier in the release cycle

- Test reports facility added
  - [https://maloo.whamcloud.com/reports](https://maloo.whamcloud.com/reports)
  - Highlights areas where tests need improving

- Testing resources at IU and FZJ utilized during test cycle

- System wide Hyperion testing conducted
  - 1100+ clients

- Community Development wiki established
  - [http://wiki.whamcloud.com/display/PUB/Lustre+Community+Development+in+Progress](http://wiki.whamcloud.com/display/PUB/Lustre+Community+Development+in+Progress)
  - Aim is to foster greater collaboration and prevent duplication of effort with development across organizations
Lustre 2.2 – Landings

Whamcloud 258

Source: http://git.whamcloud.com/?p=fs/lustre-release.git;a=shortlog;h=refs/heads/b2_2
Community Lustre Roadmap

- Maintenance Releases on an ad-hoc basis:
  - 1.8.7-wc1, 1.8.8-wc1

- Maintenance Releases every quarter:
  - Q4: 2.1.1
  - Q1: 2.1.2

- Feature Releases:
  - Q4: 2.2
  - Q2: 2.3
  - Q3: 2.4
  - Q4: 2.5

- Maintenance Releases every quarter:
  - Q4: 2.1.1
  - Q2: 2.1.2

- Feature Releases:
  - Q4: 2.2
  - Q2: 2.3
  - Q3: 2.4
  - Q4: 2.5

- Sponsor for Whamcloud Development and Releases:
  - ORNL
  - OpenSFS
  - LLNL
  - Whamcloud

- Third Party Development:
  - CEA
  - Xyratex

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Summary

- Lustre 1.8.8-wc1 scheduled for Q2 2012
- Lustre 2.1.2 scheduled for Q2 2012
- Lustre 2.3 scheduled for Q3 2012
Thank You

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