History of Lustre

Illustrates the resilience of open source technology in the face of organizational changes
Lustre LTS Releases

• Lustre 2.10.0 went GA July 2017 and declared LTS branch
  • Regular 2.10.x maintenance releases since
  • Strong adoption of this release
  • Lustre 2.10.5 Aug 2018 (first release since relocation)
  • Lustre 2.10.6 expected before end of year (with RHEL 7.6 support)
• Upcoming Lustre 2.12 release will be next LTS branch
  • Provides reliable option for newer kernels/features
  • Will provide transition period with 2.10.x LTS
Lustre 2.12

- Expected to be GA before the end of the year
- Will support
  - RHEL 7.6 servers/clients
  - SLES12 SP3/Ubuntu 18.04 clients
- Interop/upgrades from latest Lustre 2.10.x and 2.11
- Ships with latest ZFS 0.7.x but ZFS 0.8.x ready
- Number of useful features
  - DNE Directory Restriping (LU-4684)
  - LNet Network Health (LU-9120)
  - Lazy Size on MDT (LU-9538)
  - T10PI end to end data checksums (LU-10472)
Lustre and Arm

New in Lustre 2.12!

Arm® Lustre clients now included in CI development process
Lustre Community Roadmap

**Feature Releases**

- **2.11.0**
  - Data on MDT
  - FLR Delayed Resync
  - Lock Ahead

- **2.12**
  - Lazy Size on MDT
  - LNet Health
  - DNE Dir Restriping

- **2.13**
  - Persistent Client Cache
  - LNet Selection Policy
  - Self Extending Layouts

- **2.14**
  - FLR Erasure Coding
  - Health Monitoring
  - DNE Auto Restriping

* Estimates are not commitments and are provided for informational purposes only
* Fuller details of features in development are available at [http://wiki.lustre.org/Projects](http://wiki.lustre.org/Projects)
Integrated Manager for Lustre

https://github.com/whamcloud/integrated-manager-for-lustre/releases

- IML 4.0 GA Oct 2017
  - Compatible with Lustre 2.10.x
  - latest maintenance release 4.0.8
  - Distributed under an MIT license
  - Possible to upgrade from Intel EE 2.x/3.x
- IML 5.0 targeted for mid-2019
  - Compatible with Lustre 2.12.x
  - Extending scale of clusters it can manage
  - More flexibility around HA schemes
  - Reduced resource utilization
  - Will require downtime to upgrade
Lustre in Linux Kernel

• Added to kernel staging area in 4.11
  • Basic code reformatting had not been done beforehand
  • Kernel staging rules made subsequent updates challenging
• Removed from staging area in 4.17
• Work is continuing at https://github.com/neilbrown/lustre
  • Suse and ORNL driving this initiative
  • Now functionally equivalent to 2.10.x client
• Plan to resubmit when code is ready for acceptance
• Major Idiskfs patch merged into upstream ext4/e2fsprogs
  • Now much easier to keep Lustre e2fsprogs current
Lustre Users Group

SAVE THE DATES

LUG 19

UNIVERSITY of HOUSTON

CENTER FOR ADVANCED COMPUTING & DATA SYSTEMS

May 14--Developers Day
May 15-17 Lustre Users Group (LUG) Conference

Student Center--University of Houston Main Campus
Houston, TX 77204

www.opensfs.org/events/lug-2019/
Lustre at SC18

- **Monday 12th**
  - Lustre roadmap (Carlos Thomaz) DDN booth 7:30pm
- **Tuesday 13th**
  - Lustre and Arm (Brent Gorda and Peter Jones) 11:30am
  - Lustre BOF (OpenSFS) C140/142 12:15pm
  - OpenSFS lunch Biergarten 1:30pm
  - Lustre roadmap (Peter Jones) DDN booth 3:45pm
  - Analyzing Parallel IO BOF (Andreas Dilger) C155/156 5:15pm
- **Wednesday 14th**
  - Lustre on GCP demo (Carlos Thomaz) Stanford booth 1pm
  - IML demo (Carlos Thomaz) Stanford booth 2pm
  - Lustre on GCP (Peter Jones) Google booth 2:30pm
- **Thursday 15th**
  - Lustre updates (Peter Jones) Suse booth 11:00am
Thank you