OpenSFS Lustre Working Group

• Has been operating as the forum for collaboration on the community releases for over a decade
• Led by Peter Jones (Whamcloud) and Dustin Leverman (ORNL)
• All welcome to attend and/or join the mailing list
• For more information visit the wiki
• http://wiki.opensfs.org/Lustre_Working_Group

• LWG issues survey annually in March to track trends in Lustre usage
• Full details available at http://wiki.opensfs.org/Lustre_Community_Survey
Community Survey – Support

What best describes your Lustre support situation?
- Self 62%
- Pay 36%
- Provide 2%

• Strong representation from open-source users
Community Survey – Primary Usage

- AL/ML often paired with other areas
- Other selections included General HPC and Cosmology
Community Survey – Lustre Versions

Majority of respondents using Lustre 2.12.x LTS in production
Very strong adoption of 2.15.x
Community Survey – LTS Transition

How quickly do you plan to move to a Lustre 2.15.x LTS release?

- Already: 35%
- Within Year: 31%
- Undecided: 9%
- Remain: 11%
- Vendor: 14%

Most sites not reliant on a vendor expect to be running 2.15.x within the year.
Community Survey – Feature Usage

Which of the following recent Lustre features do you plan to use in production within the coming year?

- Self-Extending Layouts
- Persistent Client Cache
- OST Pool Quotas
- Network Selection Policy (UDSP)
- GPU Direct Storage
- DNE Auto Split
- Client Filename Encryption
- Client Data Encryption

Strong interest in most of the newer features

OpenSFS
Community Survey - Linux distros (servers)

What Linux distribution(s) do you use for servers today?

- RHEL/CentOS 7.x
- RHEL/Rocky/Alma 8.x
- RHEL/Rocky/Alma 9.x
- SLES 15 SPx
- Ubuntu 18.04 LTS
- Ubuntu 20.04 LTS
- Ubuntu 22.04 LTS
- Other

RHEL 8.x servers closing gap on RHEL 7.x servers
Community Survey - Linux distros (clients)

RHEL 8.x clients close second to RHEL 7.x clients
Ubuntu 22.04 also widely used
Community Survey - Analysis

• Expect to see Lustre 2.15.x overtake Lustre 2.12.x and RHEL 8 surpass RHEL 7.x in 2024 survey
• Suggestions for Lustre improvements from multiple respondents
  • NFS
  • S3 interface
  • Small file IO
  • Snapshots
Lustre 2.15.x LTS

• Lustre 2.15.0 GA June 2022
  • Replacing 2.12.x as LTS branch
  • http://wiki.lustre.org/Lustre_2.15.2_Changelog

• Lustre 2.15.1 GA Aug 2022
  • RHEL 8.6 servers/clients; Ubuntu 22.04 clients
  • http://wiki.lustre.org/Lustre_2.15.2_Changelog

• Lustre 2.15.2 GA Jan 2023
  • RHEL 8.7 servers/clients; SLES15 SP4/ RHEL 9.0 clients
  • http://wiki.lustre.org/Lustre_2.15.2_Changelog

• Lustre 2.15.3 expected in Q2
  • RHEL 8.8 servers/clients(LU-16755); RHEL 9.2 clients (LU-16756)
Lustre 2.16

• Targeting for release in Q3 2023
  • [http://wiki.lustre.org/Release_2.16.0](http://wiki.lustre.org/Release_2.16.0)
  • Feature freeze targeted for end of May
  • RHEL 9.2 servers/clients
  • SLES15 SP5/Ubuntu 22.04 clients
• Interop/upgrades from latest Lustre 2.15.x
• Features in the release
  • IPv6 Support ([LU-10391](https://wiki.lustre.org/wiki/Path):
    • 9 patches remaining on Lustre side; also patches on LNet side
  • Optimized Directory Traversal ([LU-15975](https://wiki.lustre.org/wiki/Path):
    • Aka “Improved Statahead”
    • Last couple of patches landing soon
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**LEGEND:**
- **Completed**
- **Expected Timeline**
- **Timeline TBD**
- **LTS Branch**

2.15 (GA Q2 2022)
- Client Directory Encryption
- GPUDirect Storage
- MDT Space Balance

2.16
- RHEL9 Server Support
- IPv6
- Optimized Directory Traversal

2.17
- Client Data Compression
- Metadata Writeback Cache
- Erasure Coding

* 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)
How to Contribute

• Lustre development
  • Submitting/Reviewing/Testing Lustre code
  • https://wiki.lustre.org/Development

• Lustre documentation
  • Lustre Ops Manual – report issues in LUDOC JIRA project
    • https://wiki.lustre.org/Lustre_Manual_Changes
  • Lustre.org wiki (Lustre internals and sysadmin info)
    • http://wiki.lustre.org/Category:Lustre_Systems_Administration

• Participate in Community events
  • LUG, LAD, Regional LUG events, SC/ISC BOFs, online

• Complete the annual OpenSFS survey
  • https://wiki.opensfs.org/Lustre_Community_Survey

• Participate in the LWG
  • https://wiki.opensfs.org/Lustre_Working_Group

• Join a Lustre community organization (OpenSFS/EOFS)
Summary

• Lustre 2.16.0 targeted for Q3 2023
• Lustre 2.15.3 coming soon with RHEL 8.8 support
• LWG http://wiki.opensfs.org/Lustre_Working_Group
Thank you