Community Release Update

May 19th 2021

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OpenSFS Lustre Working Group
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

- LWG issues survey annually in March to track trends in Lustre usage
- Full details available at [http://wiki.opensfs.org/Lustre_Community_Survey](http://wiki.opensfs.org/Lustre_Community_Survey)
Community Survey – Storage Capacity

Over an exabyte of Lustre storage across 229 filesystems (50 respondents)
• The survey reaches across the Lustre community
Community Survey – Primary Usage

- Diverse usage reported by the respondents
Community Survey – Lustre Versions

Lustre 2.12.x LTS is the most widely-used production release
Community Survey – LTS Options

Which option would you prefer relating to the LTS branch?

- 2.14 LTS 53%
- 2.15 LTS 3%
- Wait 44%

Split opinions about LTS branch
Reasonably high levels projected for features in 2.13 (SEL, PCC) and 2.14 (Encryption, Auto-split, Pool Quotas)
Community Survey - Linux distros (servers)

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

- RHEL/CentOS 7.x
- RHEL/CentOS 8.x
- SLES 11 SPx
- SLES 12 SPx
- SLES 15 SPx
- Ubuntu 16.04 LTS
- Ubuntu 18.04 LTS
- Ubuntu 20.04 LTS
- Other

RHEL/CentOS 7.x most widely-used Linux distribution for servers
Community Survey - Linux distros (clients)

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

- RHEL/CentOS 7.x: Long bar indicates high percentage
- RHEL/CentOS 8.x: Short bar
- Ubuntu 20.04 LTS: Short bar
- Ubuntu 18.04 LTS: Short bar
- Ubuntu 16.04 LTS: Short bar
- SLES 15 SPx: Short bar
- SLES 12 SPx: Short bar
- SLES 11 SPx: Short bar
- RHEL/CentOS 8.x: Short bar
- RHEL/CentOS 7.x: Long bar indicates high percentage
- RHEL/CentOS 6.x: Short bar

RHEL/CentOS 7.x is the most widely-used Linux distribution for clients.
Community Survey – Future Linux distros

"Other" dominated by “Next CentOS” options (Alma, Oracle, Rocky)
Strong growth of Ubuntu
Community Survey - Analysis

- Opinions split about timing of moving the LTS branch
- Some interest in newer features
- Need to clarify approach with distros in light of CentOS changes
  - Primary kernel for testing of RHEL 8.x may no longer be optimal
  - Historically, switches to newer kernels for servers has been slow
- Have refined survey to focus on specific issues
  - [https://www.surveymonkey.com/r/HBX3RCR](https://www.surveymonkey.com/r/HBX3RCR)
Lustre 2.12.x LTS

- Lustre 2.12.6 went GA on Dec 9th
  - RHEL 7.9 servers/clients
  - RHEL 7.9/RHEL 8.3/SLES12 SP5/Ubuntu 20.04 clients
  - Support for building with MOFED 5.x
    - testing still focused on MOFED 4.9.x
  - [http://wiki.lustre.org/Lustre_2.12.6_Changelog](http://wiki.lustre.org/Lustre_2.12.6_Changelog)

- Lustre 2.12.7 will come out when warranted (new distro versions etc)
Lustre 2.14

- Lustre 2.14 went GA Feb 19th
- OS support
  - RHEL 8.3 servers/clients
  - RHEL 8.3/SLES15 SP2/Ubuntu 20.04 clients
- Interop/upgrades from 2.13 and latest Lustre 2.12.x
- ZFS 2.0 used for testing of ZFS version
- MOFED 5.2
- Number of useful features
  - Client-side Data Encryption (LU-12275)
  - OST Pool Quotas (11023)
  - DNE Auto Restriping (LU-11025)
Lustre 2.15

• Targeted for Q4 of this year
• Tentative OS support
  • RHEL 8.3 servers/clients
  • RHEL 8.3/SLES15 SP2/Ubuntu 20.04 clients
• Interop/upgrades from 2.14 and latest Lustre 2.12.x
• Features that are candidates for this release
  • Network Selection Policy (UDSP) (LU-9121)
  • Client Filename Encryption (LU-13717)
  • IPv6 support (LU-10391)
• [http://wiki.lustre.org/Release_2.15.0](http://wiki.lustre.org/Release_2.15.0)
# Lustre Community Roadmap

<table>
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<tr>
<th>Feature Releases</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<tr>
<td></td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
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<tr>
<td>Client Data Encryption</td>
<td>★</td>
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<td>2.15</td>
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<td>OST Pool Quotas</td>
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<tr>
<td>DNE Auto Restriping</td>
<td>2.14</td>
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<th>LTS Releases</th>
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<tr>
<td></td>
<td></td>
<td>2.12.6</td>
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<td>LTS Releases continue...</td>
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| Timeline TBD           |      |      |      |      |

**LEGEND:**
- **Completed**
- **Expected Timeline**
- **Timeline TBD**
- **LTS Branch**

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<tr>
<th>2.14</th>
<th>2.15</th>
<th>2.16</th>
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<tr>
<td><strong>Client Data Encryption</strong></td>
<td><strong>FLR Erasure Coding</strong></td>
<td><strong>FLR Immediate Mirror</strong></td>
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<td><strong>OST Pool Quotas</strong></td>
<td><strong>Client Directory Encryption</strong></td>
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<td><strong>DNE Auto Restriping</strong></td>
<td><strong>LNet IPv6 Addressing</strong></td>
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* 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)
Summary

• Lustre 2.12.7 will be out in the near future
• Lustre 2.15 in early stages; targeted for Q4
• Active discussions underway about LTS branch
  • Provide your input
  • https://www.surveymonkey.com/r/HBX3RCR
• LWG http://wiki.opensfs.org/Lustre_Working_Group
Thank you

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