Community Release Update

May 10th 2022

Peter Jones, Whamcloud
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 – Support

What best describes your Lustre support situation?

- Pay 45%
- Self 54%
- Provide 1%

- The survey reaches across the Lustre community
Diverse usage reported by the respondents
AL/ML now the most common selection
Community Survey – Lustre Versions

Majority of respondents using Lustre 2.12.x LTS in production
Lustre 2.14 usage exceeds that of the former LTS release 2.10.x
Community Survey – LTS Transition

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

- Immediate: 28%
- Monitor: 7%
- Undecided: 49%
- Remain: 16%

Significant numbers intend to be earlier adopters but most waiting for more data first
Community Survey – Feature Usage

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

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

Strong interest in PCC
RHEL/CentOS 7.x remains most widely-used Linux distribution for servers
Starting to see some traction with RHEL 8.x
RHEL/CentOS 7.x remain most widely-used Linux distribution for clients
Starting to see some traction with RHEL 8.x
Community Survey - Analysis

• Expect to see strong adoption of Lustre 2.15.x in 2023 survey
  – Lustre 2.15.x LTS means that features in 2.13/14/15 will get more usage
• Responses about LWG/Lustre improvements discussed
  – Limited suggestions for LWG improvements
  – More feedback relating to Lustre improvements
    • Stability mentioned several times (mature feature set)
    • Support for newer ZFS versions on LTS branch
    • Adding/Removing Storage
    • Several comments about kernel patches / distro support
Lustre 2.12.x LTS

• Lustre 2.12.8 went GA late Dec
  • [http://wiki.lustre.org/Lustre_2.12.8_Changelog](http://wiki.lustre.org/Lustre_2.12.8_Changelog)
• Lustre 2.12.9 will come out shortly to add support for RHEL 8.6
Lustre 2.15.x

• Trying to find fixes for the last couple of blockers; RC4 expected in coming days and hopefully will be the GA version
  ▪ [http://wiki.lustre.org/Release_2.15.0](http://wiki.lustre.org/Release_2.15.0)
• RHEL 8.5 servers/clients
• RHEL 8.5/SLES15 SP3/Ubuntu 20.04 clients
• Interop/upgrades from 2.14 and latest Lustre 2.12.x
• Features in the release
  • Network Selection Policy (UDSP) (LU-9121)
  • Client Filename Encryption (LU-13717)
  • GPU Direct Storage (LU-14798)
• B2_15 branch created and will be used for future 2.15.x releases
Lustre 2.15 Contribution Statistics

Data courtesy of Dustin Leverman (ORNL)
Source: https://git.whamcloud.com 2.14.0 to 2.15.0-RC3
Lustre Community Roadmap

<table>
<thead>
<tr>
<th>Feature Releases</th>
<th>LTS Releases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.14</td>
<td>2.12.6, 2.12.7, 2.12.8</td>
</tr>
<tr>
<td>Client Data Encryption</td>
<td>Client Directory Encryption</td>
</tr>
<tr>
<td>OST Pool Quotas</td>
<td>GPUDirect Storage</td>
</tr>
<tr>
<td>DNE Auto Restriping</td>
<td>Network Selection Policy</td>
</tr>
<tr>
<td>FLR Erasure Coding</td>
<td>FLR Immediate Mirror</td>
</tr>
<tr>
<td>FLR Immediate Mirror</td>
<td>Metadata Writeback Cache</td>
</tr>
</tbody>
</table>

* 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 2.15.0 in final stages
• Lustre 2.12.9/2.15.1 soon to provide RHEL 8.6 support
• LWG http://wiki.opensfs.org/Lustre_Working_Group
Thank you