



Community Release Update

LUG 2018

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OpenSFS Lustre Working Group

OpenSFS Lustre Working Group

Lead by Peter Jones (Intel) and Dustin Leverman (ORNL)

Single forum for all Lustre development matters

- Oversees entire Lustre development cycle
- Maintains the roadmap
- Plans major releases
- Collects requirements for future Lustre features
- Sets priorities for test matrix

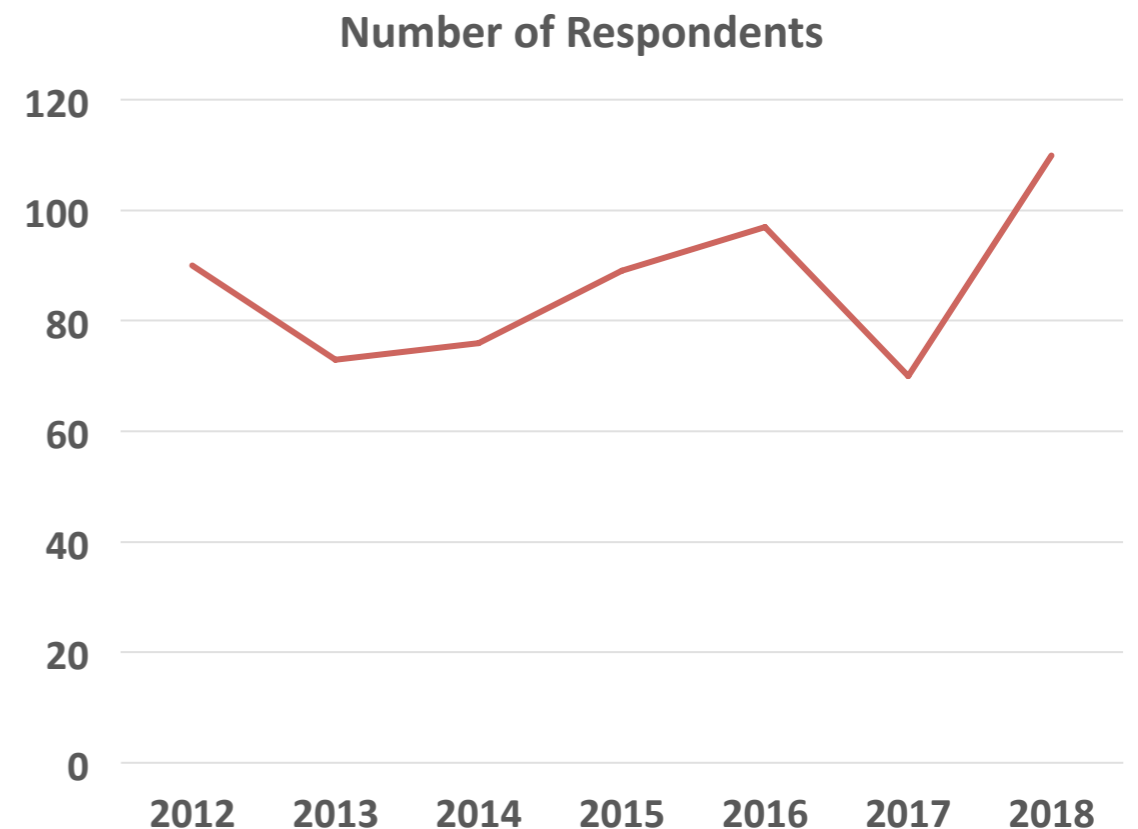
All welcome to attend and/or join the mailing list

For more information visit the wiki

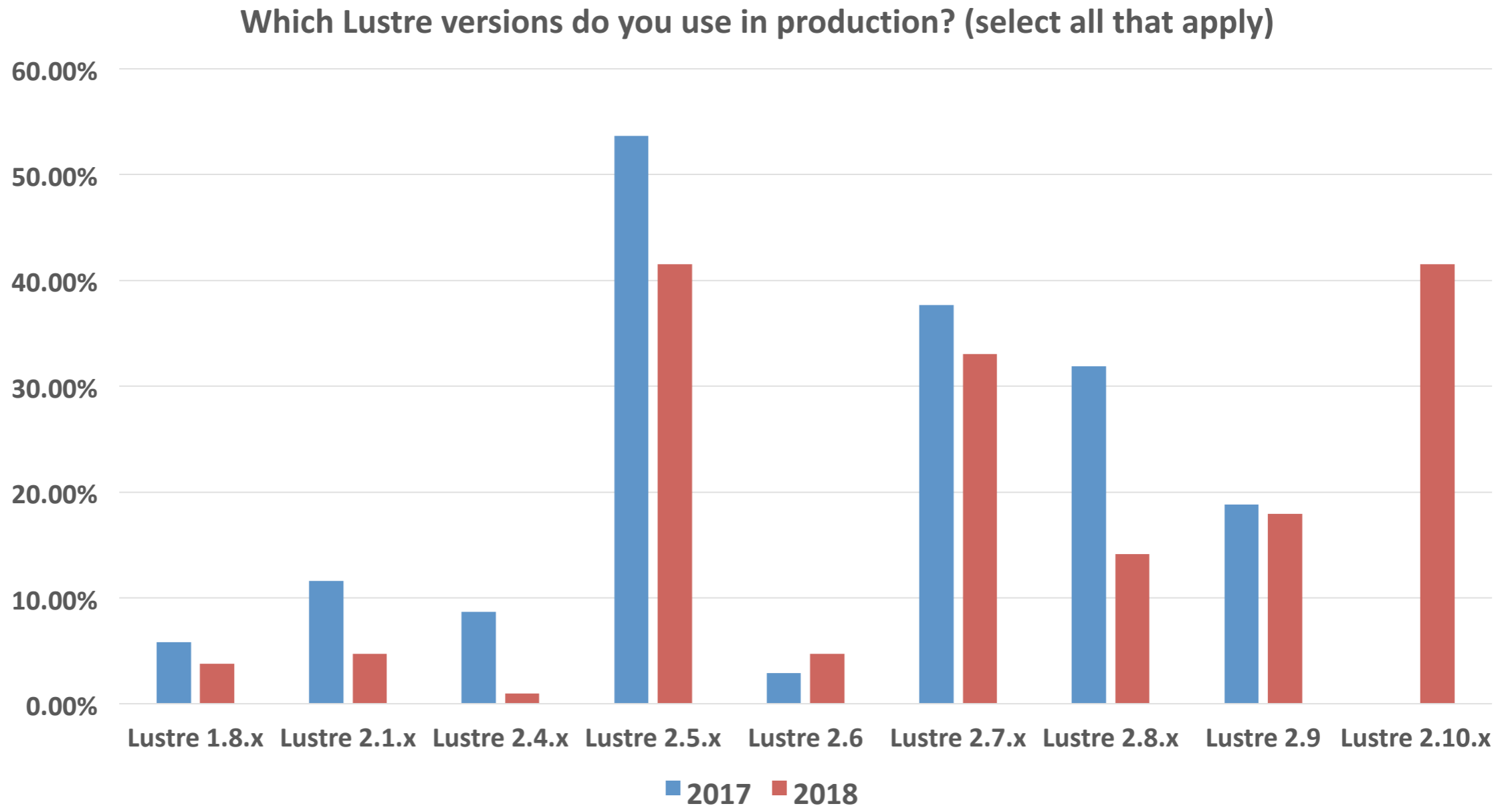
http://wiki.opensfs.org/Lustre_Working_Group

Community Survey

- Has been running for 7 years
- LWG devises questions
- Useful for tracking trends in Lustre usage
- Spike in respondents compared to 2017 survey (70 to 110)
- Full details available at http://wiki.opensfs.org/Lustre_Community_Survey

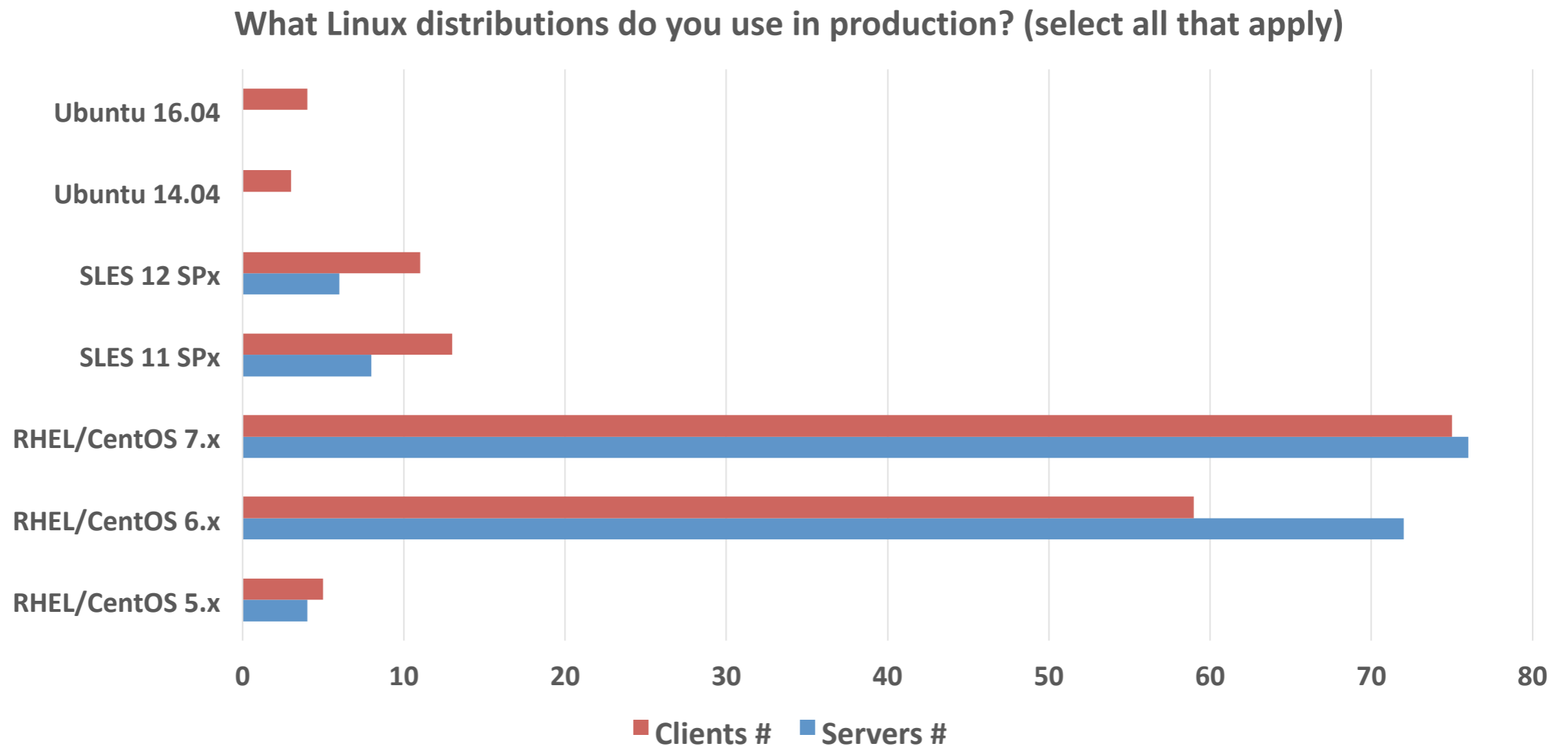


Community Survey - Versions



- Lustre 2.10.x and 2.5.x most commonly-used version in production

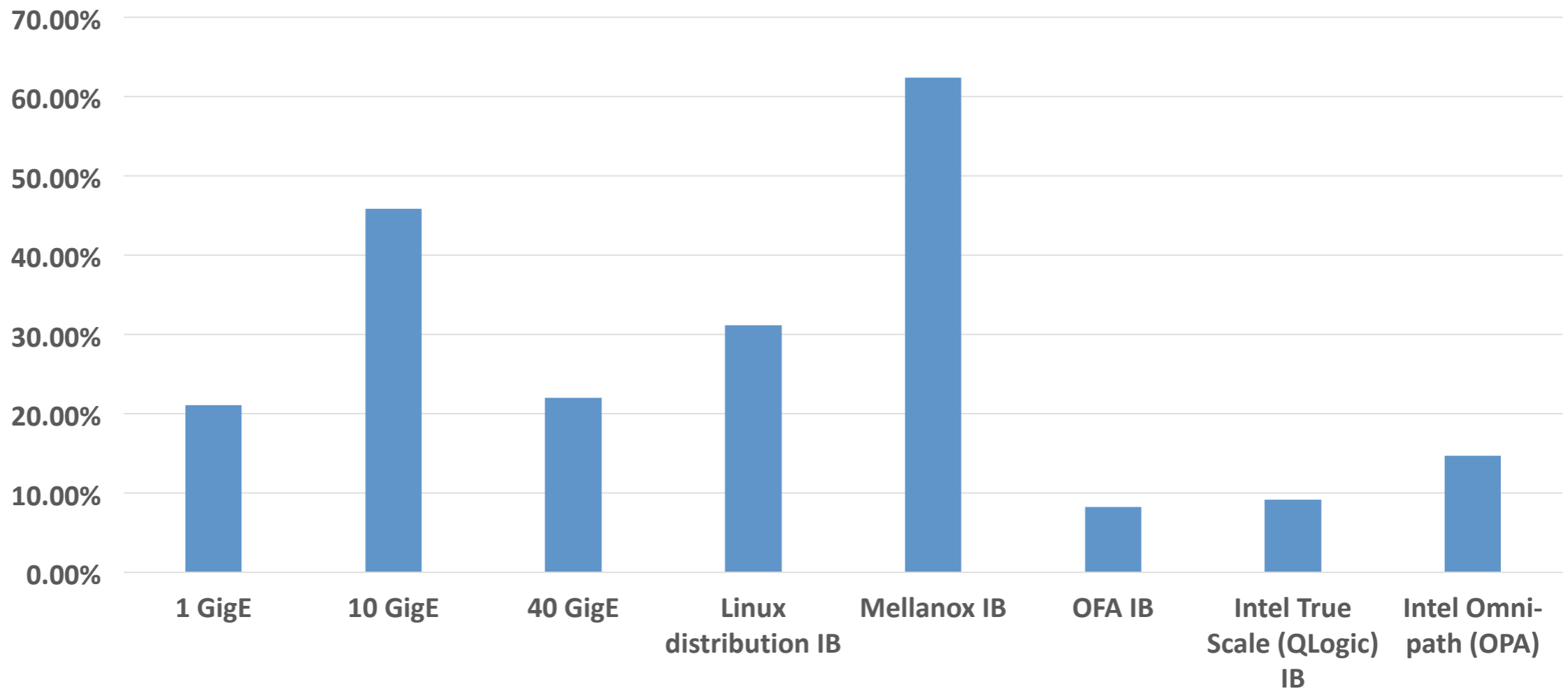
Community Survey - Linux distros



- RHEL/CentOS 7.x replaces RHEL 6.x as most widely used Linux distro

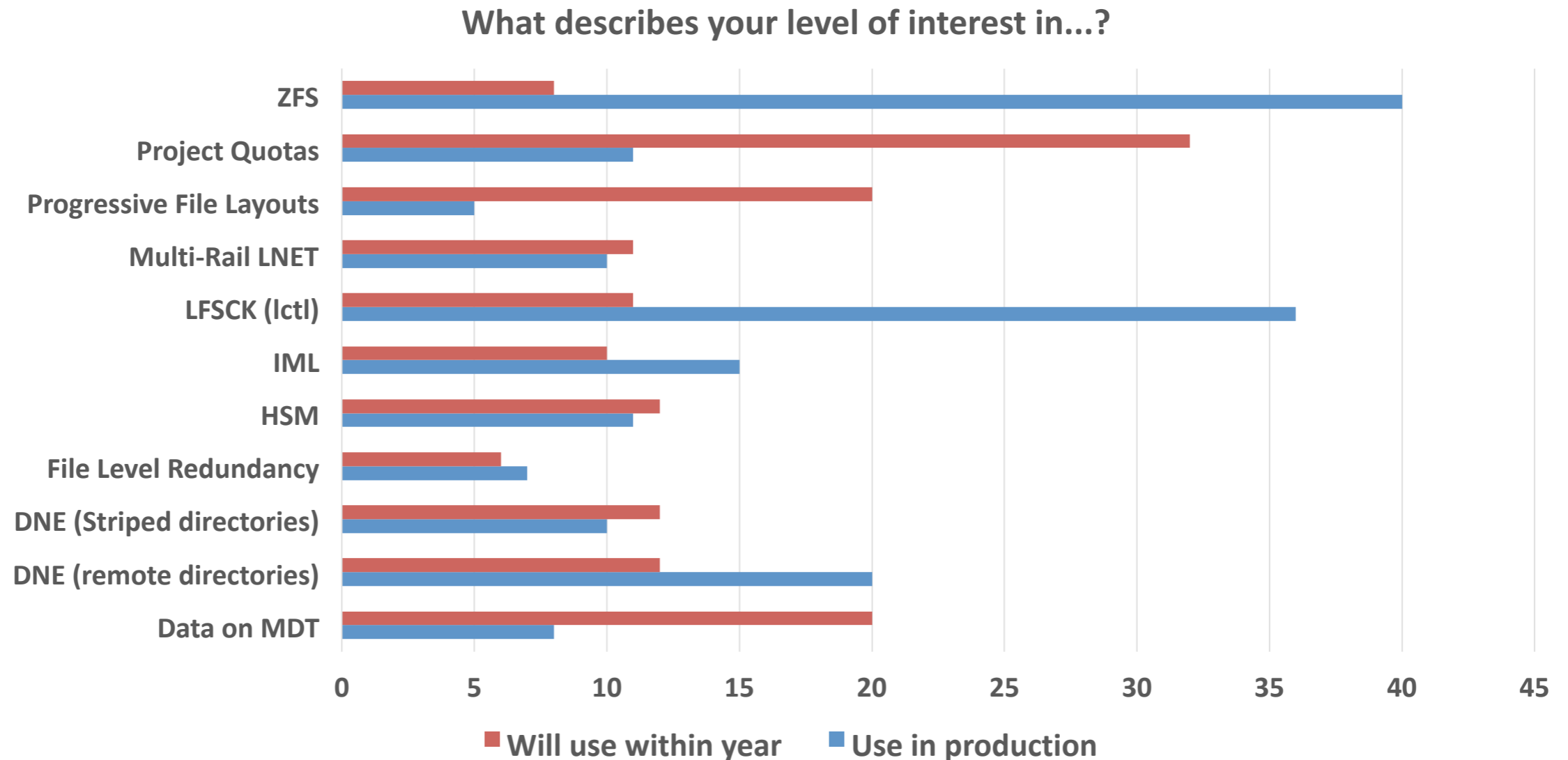
Community Survey - Networks

Which kind of networks do you use with Lustre within your organization?
(select all that apply)



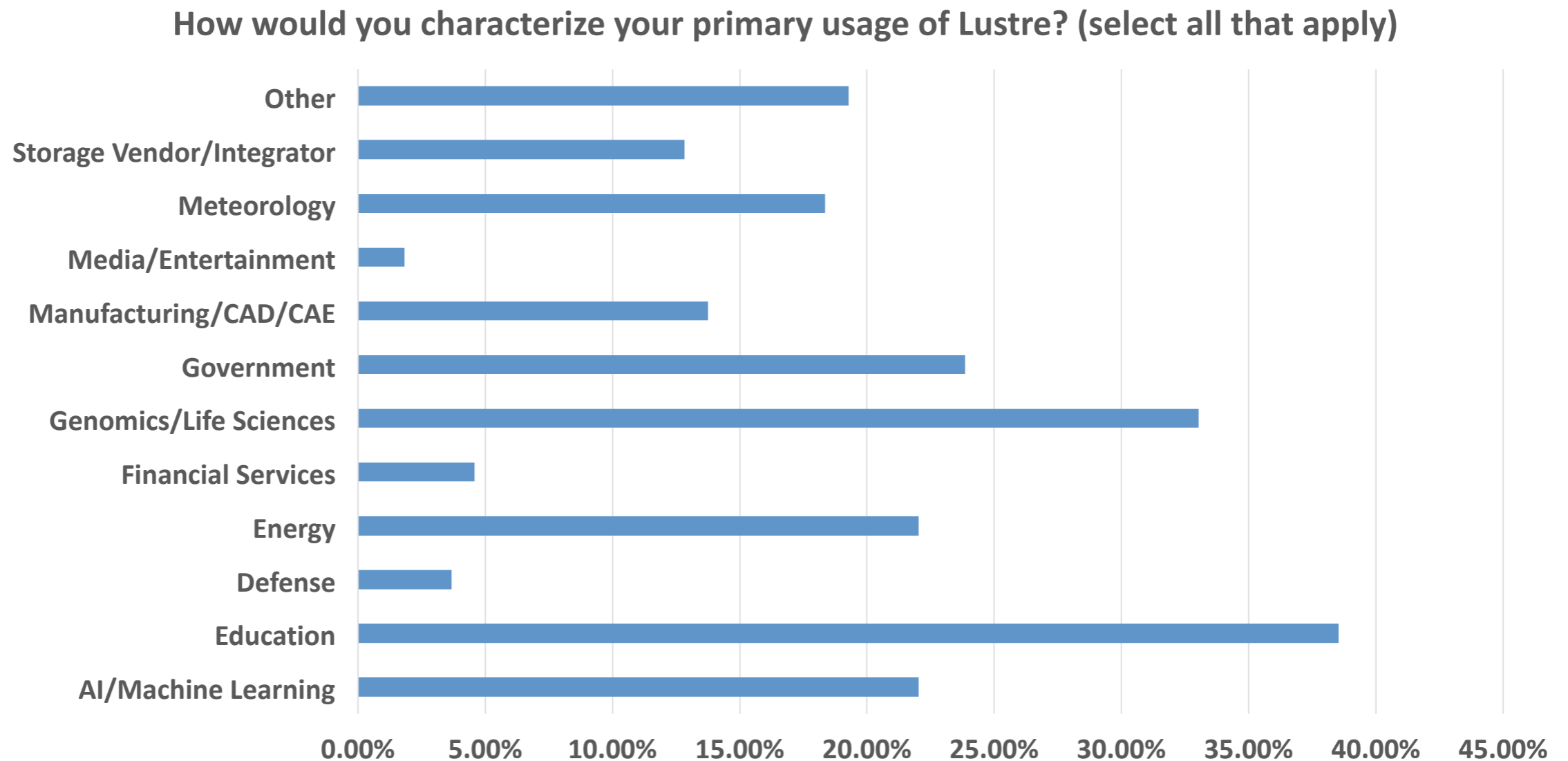
- Many options used but Mellanox and 10 GigE remain the most common

Community Survey – Feature Usage



- ZFS Production usage has grown in recent years (~22% 2016; ~36% 2018)
- Adoption of DNE has been slower than expected
- Strong interest in using Project Quotas and Data on MDT

Community Survey - Usage



- AI/Machine Learning much higher than anticipated
- Need to refine categories based on feedback in Other

Lustre LTS Releases

- Lustre 2.10.0 went GA July 2017
 - Lustre 2.10.1 Oct 2017
 - Lustre 2.10.2 Dec 2017
 - Lustre 2.10.3 Jan 2018
- Lustre 2.10.4 targeted for Q2 2018
 - Will provide support for RHEL 7.5 servers and clients
- LWG will decide baseline/timing of next LTS stream Q4 2018

Lustre 2.11

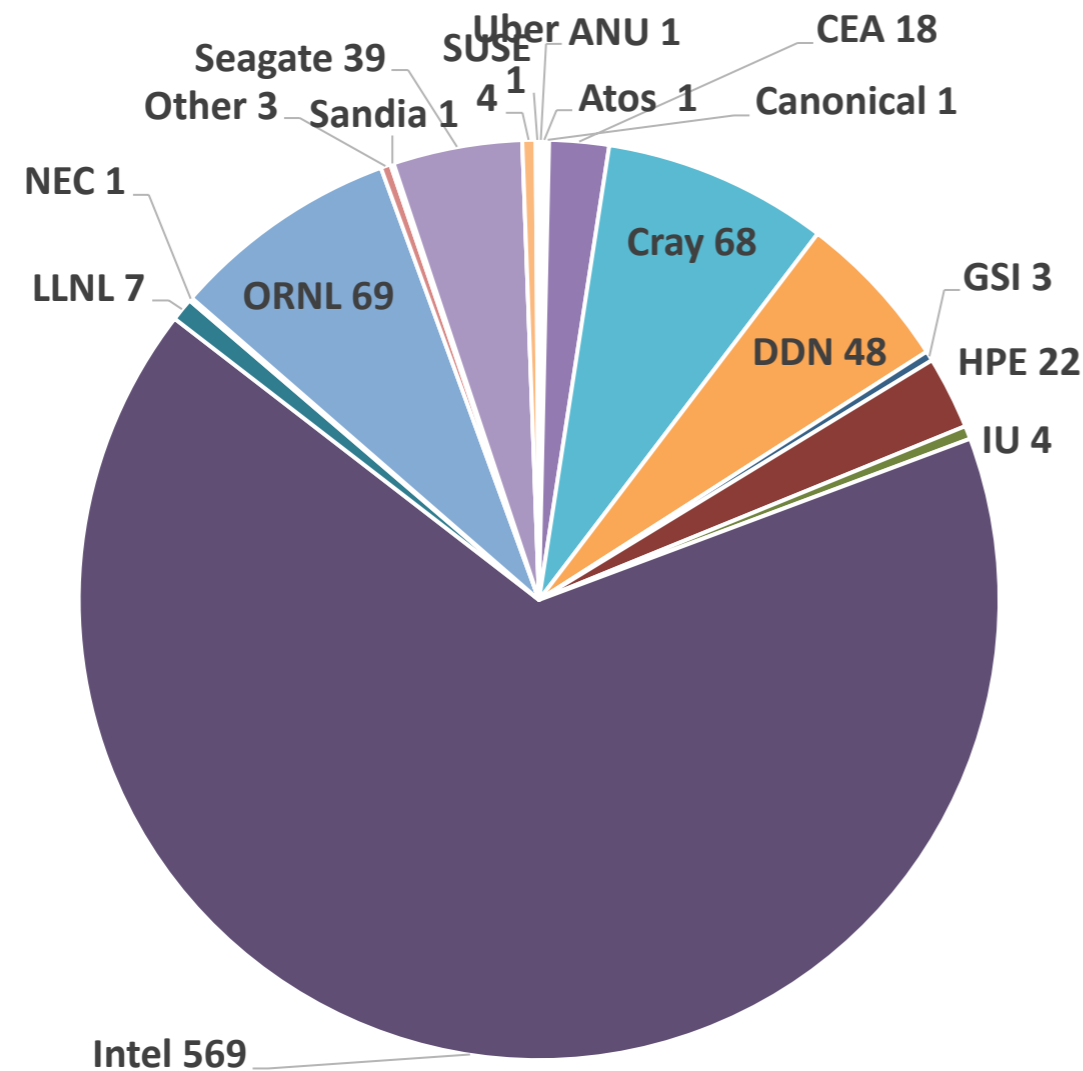
- GA April 3rd 2018
- Supports
 - RHEL 7.4 servers/clients
 - SLES12 SP3 clients
 - Ubuntu 16.04 clients
- Interop/upgrades from Lustre 2.10.x servers/clients
- http://wiki.lustre.org/Release_2.11.0

Lustre 2.11 - Features

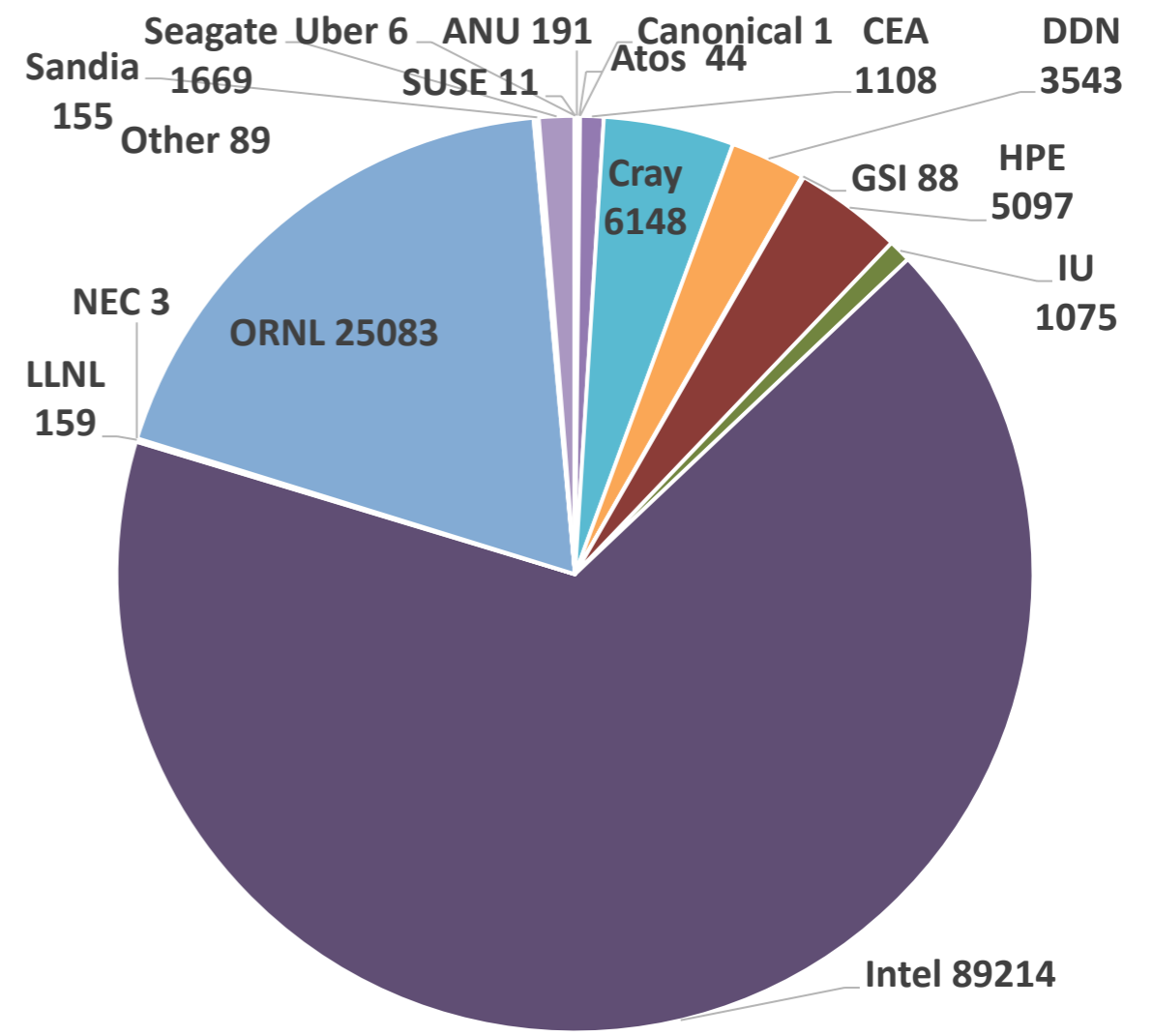
- New features included in this release
 - Data on MDT (LU-3285)
 - FLR Delayed Resync (LU-9771)
 - Lock-ahead (LU-6179)
- Enhancements to existing features
 - Lustre Audit with Changelogs (LU-9727)
 - OI Scrub for ZFS (LU-7585)

Lustre 2.11 - Contributions

Number of Commits



Lines of Code Changed

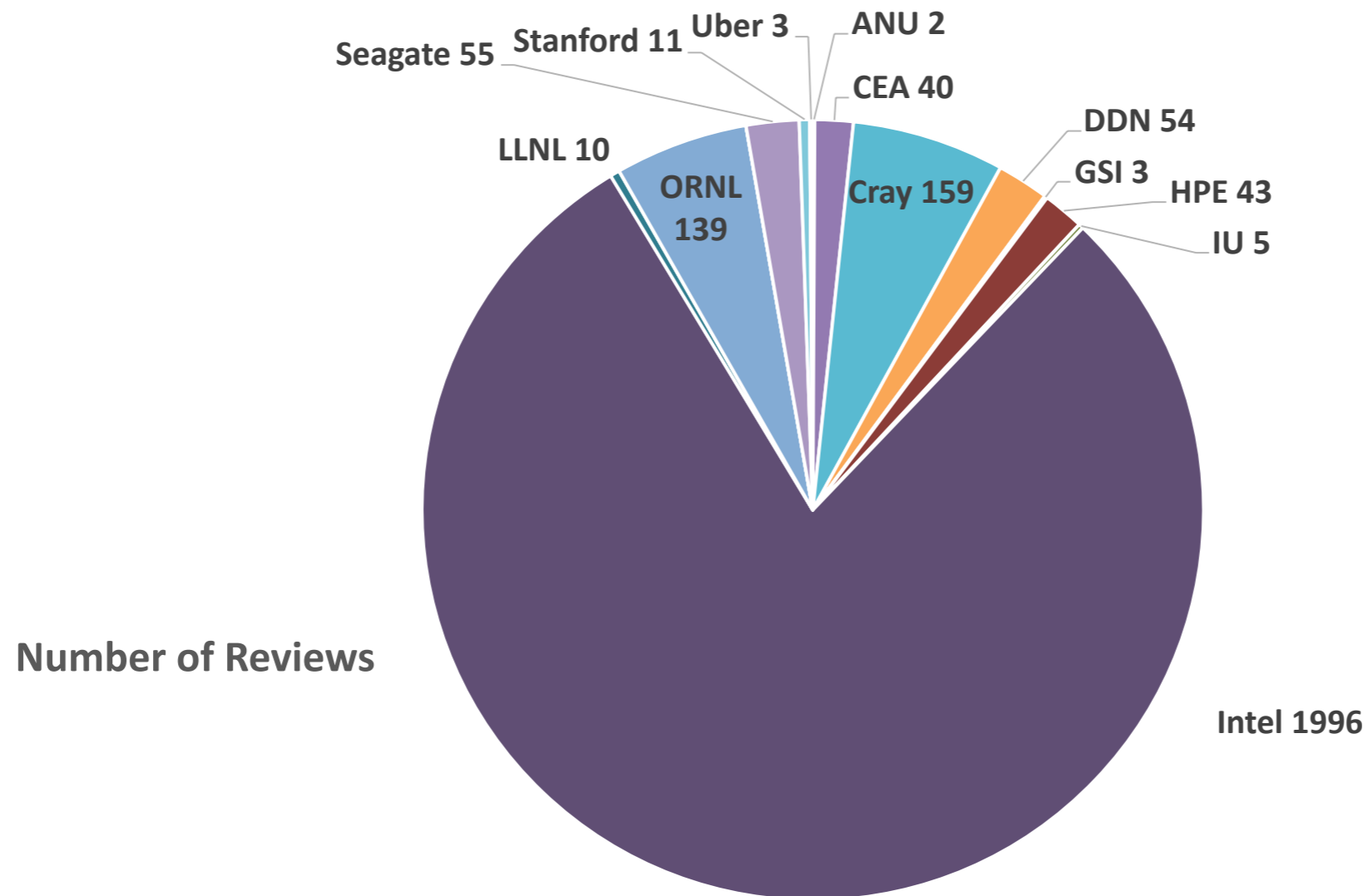


Statistics courtesy of Dustin Leverman (ORNL)

Source: <http://git.whamcloud.com/fs/lustre-release.git/shortlog/refs/heads/master>

Aggregated data by organization between 2.10.50 and 2.11.0 tags

Lustre 2.11 - Reviews



Source: <http://git.whamcloud.com/fs/lustre-release.git/shortlog/refs/heads/master>

Aggregated data by organization between 2.10.50 and 2.11.0 tags

Statistics courtesy of Dustin Leverman (ORNL)

Lustre Version Statistics

Version	Commits	LOC	Developers	Organizations
1.8.0	997	291K	41	1
2.1.0	752	92K	55	7
2.2.0	329	58K	42	10
2.3.0	586	87K	52	13
2.4.0	1123	348K	69	19
2.5.0	471	102K	70	15
2.6.0	885	147K	76	14
2.7.0	742	201K	65	15
2.8.0	995	147K	92	17
2.9.0	737	74K	121	16
2.10.0	732	108K	85	14
2.11.0	860	134K	87	18

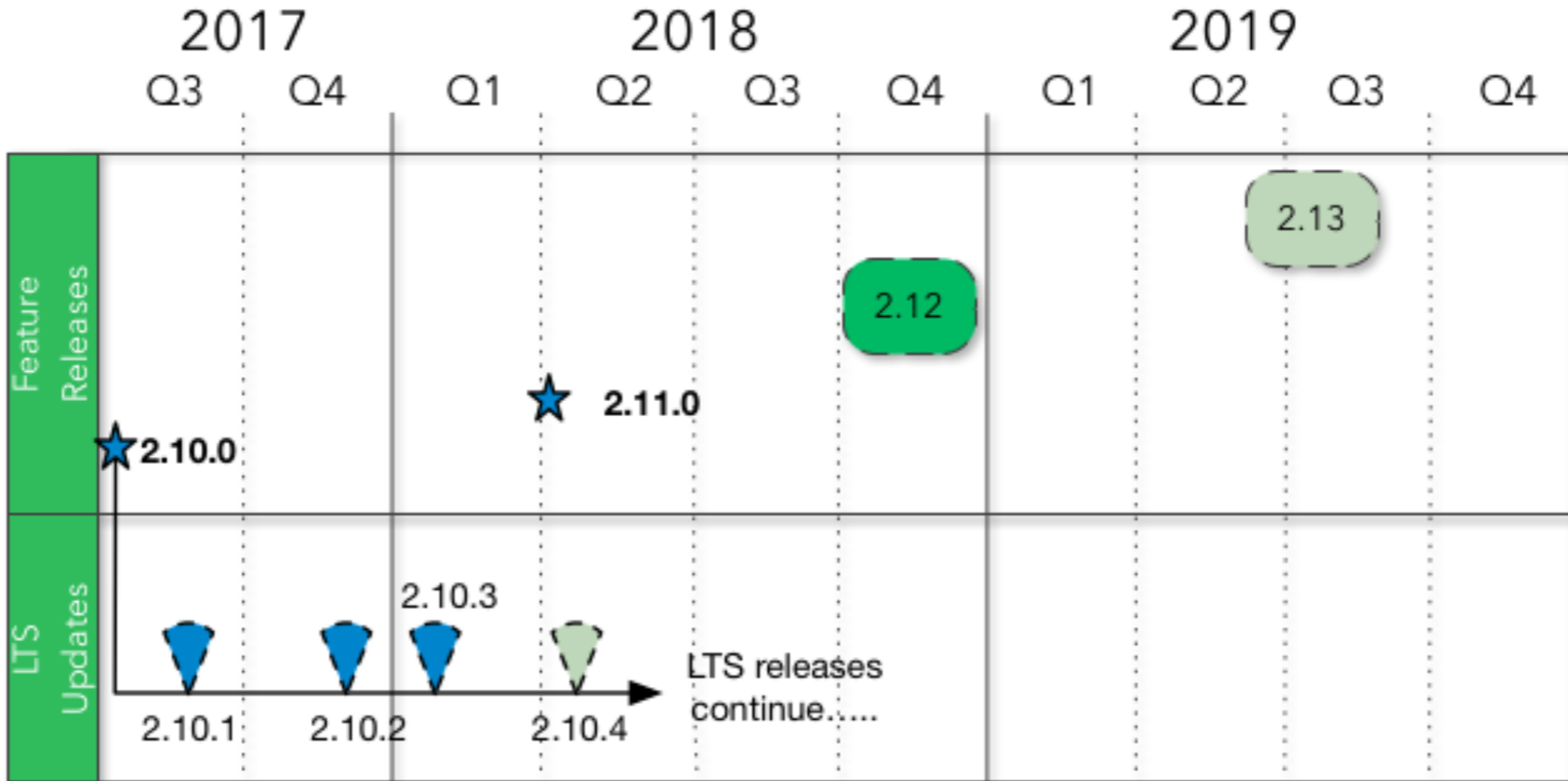
Statistics courtesy of Chris Morrone (LLNL)/ Dustin Leverman (ORNL)

Source: <http://git.whamcloud.com/fs/lustre-release.git>

Lustre 2.12

- Targeted for October 2018 release
 - Feature cut-off end of June; Feature freeze end of July
- Will support
 - RHEL 7.5 servers/clients
 - SLES12 SP3 clients
 - Ubuntu 18.04 clients
- Interop/upgrades from latest Lustre 2.10.x and 2.11.x servers/clients
- Several features targeted for this release
 - DNE Directory Restriping (LU-4684) **ONGOING**
 - LNet Network Health (LU-9120) **ONGOING**
 - Lazy Size on MDT (LU-9538) **ONGOING**
- http://wiki.lustre.org/Release_2.12.0

Lustre Community Roadmap



LEGEND:

- Expected Timeline
- Timeline TBD
- Completed
- ↓ LTS Branch

2.10

- ZFS Snapshots
- Multi-rail LNet
- Progressive File Layouts
- Project Quotas

2.11

- Data on MDT
- FLR Delayed Resync
- Lock Ahead

2.12

- Lazy Size on MDT
- LNet Health
- DNE Dir Restripping

2.13

- FLR Erasure Coding
- Persistent Client Cache

* 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>

Updated April 20th 2018



Lustre Release Documentation

- Latest version of manual dynamically available to download
 - <http://lustre.org/documentation/>
 - Also links for how to contribute
- If you know of gaps then please open an LUDOC ticket
 - If you have not got time to work out the correct format to submit then unformatted text will provide a starting point for someone else to complete
- Large amount of content being added on lustre.org
 - http://wiki.lustre.org/Category:Lustre_Systems_Administration
 - Lustre Internals content being refreshed

Summary

- Hugely productive year in terms of roadmap advancement
- Lustre 2.11 is GA; Lustre 2.12 underway
- Lustre 2.10.4 is targeted for Q2
- Plenty of options for those interest in contributing to Lustre

Thank you

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