



# Community Release Update

LAD 2016

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OpenSFS Lustre\* Working Group

# OpenSFS Lustre Working Group

Lead by Peter Jones (Intel) and Sarp Oral (ORNL)

- Took over from Chris Morrone Nov 2015

Central 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

For more information visit the wiki

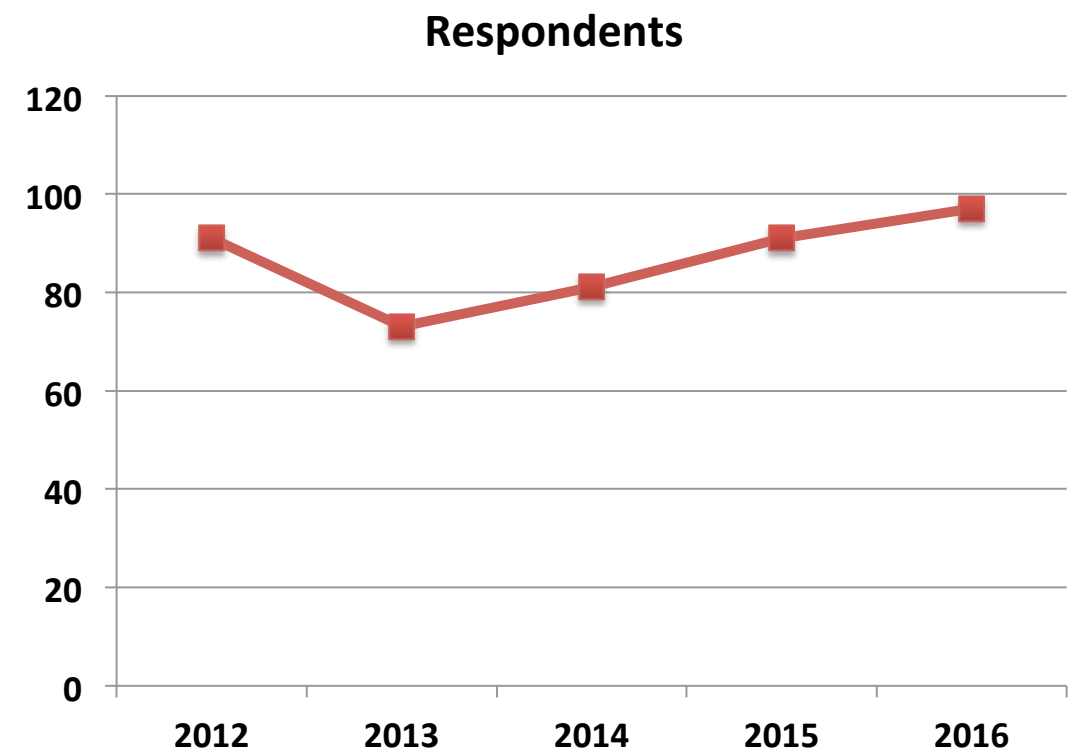
[http://wiki.opensfs.org/Lustre\\_Working\\_Group](http://wiki.opensfs.org/Lustre_Working_Group)

# OpenSFS Tree Contract Complete

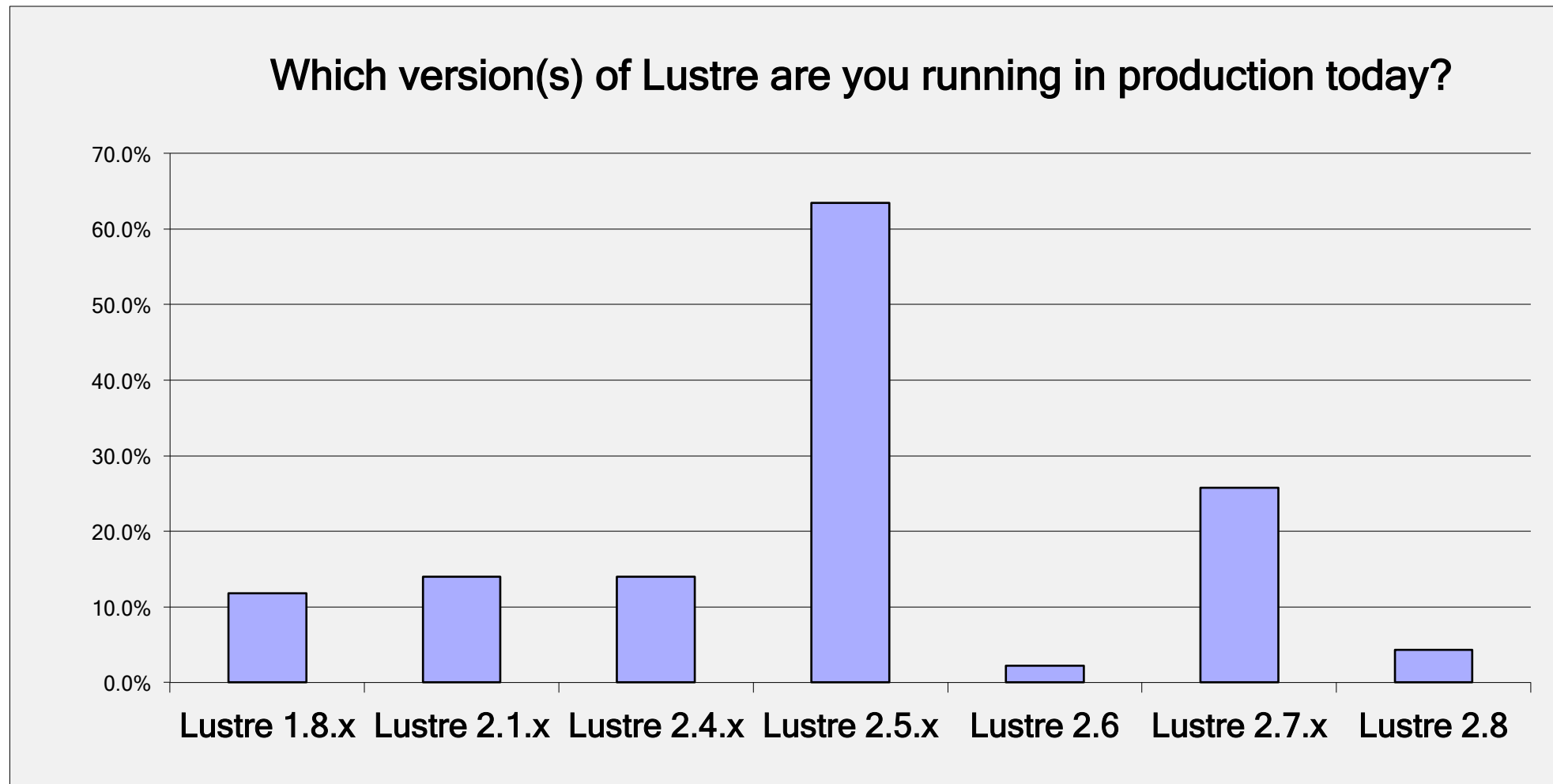
- OpenSFS no longer providing financial contributions towards costs of producing community releases
  - Tree contract ran from Nov 2011 – June 2016
  - [http://wiki.opensfs.org/Contract\\_SFS-MAINT-001](http://wiki.opensfs.org/Contract_SFS-MAINT-001)
- Community releases continue to be coordinated by LWG

# Community Survey

- Has been running for 5 years
- LWG devises questions
- Useful for tracking trends in Lustre usage
- Highest number of respondents yet for 2016 survey (97)
- Full details available at [http://wiki.opensfs.org/Lustre Community Survey](http://wiki.opensfs.org/Lustre_Community_Survey)



# Community Survey - Versions



- Lustre 2.5.x remains the dominant version in production usage
- Strong adoption of more current releases (even 2.8 before GA)
- Lustre 1.8.x usage finally dwindling

# Lustre Quality

- Well-established release validation practices
  - Automated functional regression tests across test matrix
  - SWL runs on Hyperion
  - Execution of feature test plans
- Continuing to evolve testing practices
  - Fault injection
  - Soak testing
  - Static code analysis tools
- Drawing on expertise from outside Lustre community
  - Influence from upstream Linux community
  - Input from Intel software experts

# Lustre 2.8

- GA March 2016
- Strong feature set
  - RHEL\* 7.2 server support (LU-5022)
  - DNE Phase 2 (LU-3534)
  - LFSCK Phase 4 (LU-6361)
  - Client Metadata RPC Scaling (LU-5319)
- Number of production sites on this release
  - Lustre on ZFS\* perf and newer kernel support drivers
- [http://wiki.lustre.org/Release\\_2.8.0](http://wiki.lustre.org/Release_2.8.0)



# Lustre 2.9

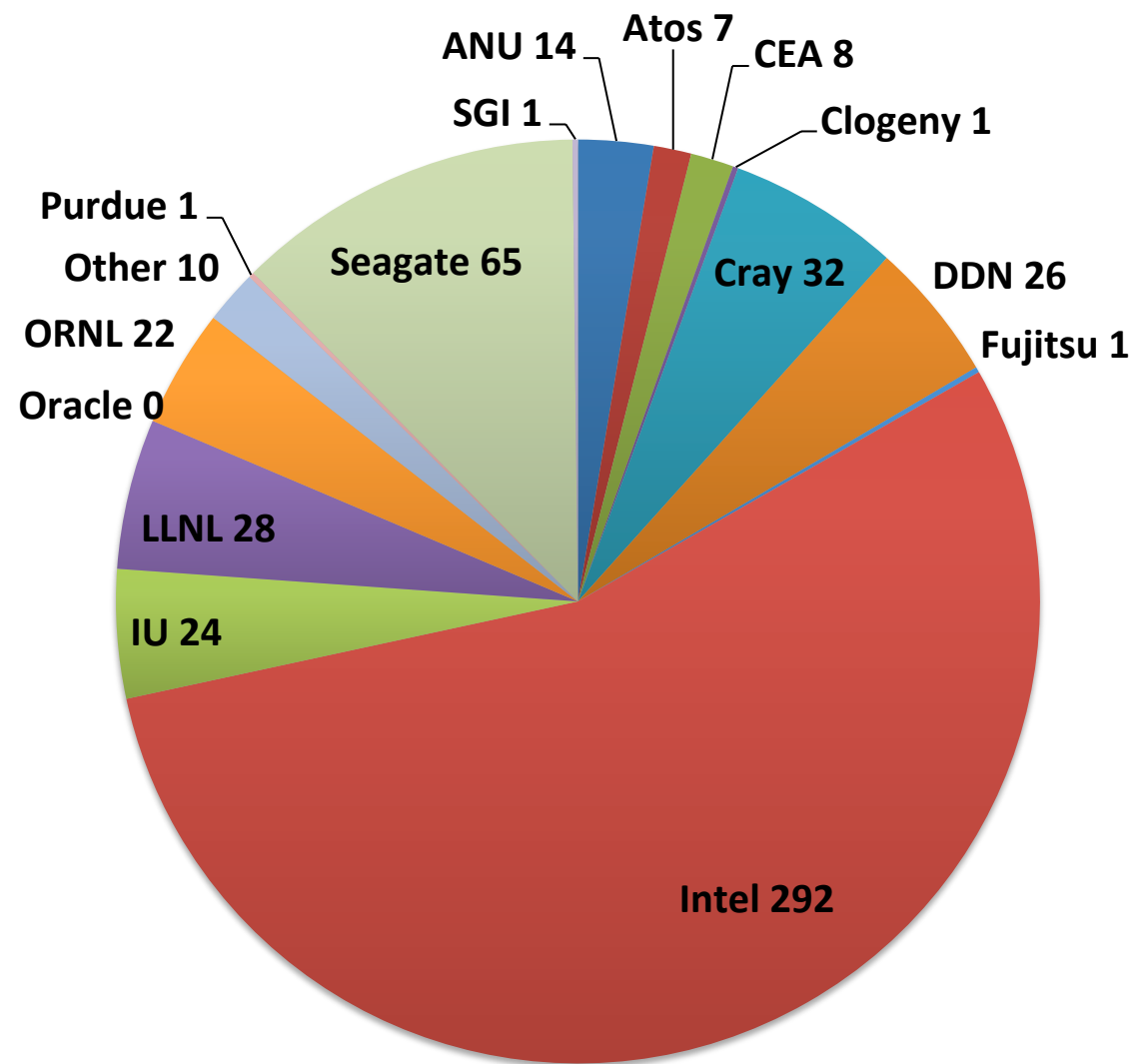
- Targeted GA August 2016
  - In release testing atm; hopefully out soon
  - [http://wiki.lustre.org/Release\\_2.9.0](http://wiki.lustre.org/Release_2.9.0)
- Will support RHEL 7.2 servers/clients and SLES\*12 SP1 clients
  - Dropping support for RHEL 6 and SLES11
- Interop/upgrades from Lustre 2.8 servers/clients
- A number of new features targeted for this release

UID/GID Mapping (LU-3291)	Shared Key Crypto (LU-3289)
Subdirectory Mounts (LU-28)	Weak updates (LU-5614)
Large Block IO (16MB IO for ldiskfs) (LU-7990)	Server side advise and hinting (LU-4931)



# Lustre 2.9 – Contributions So Far

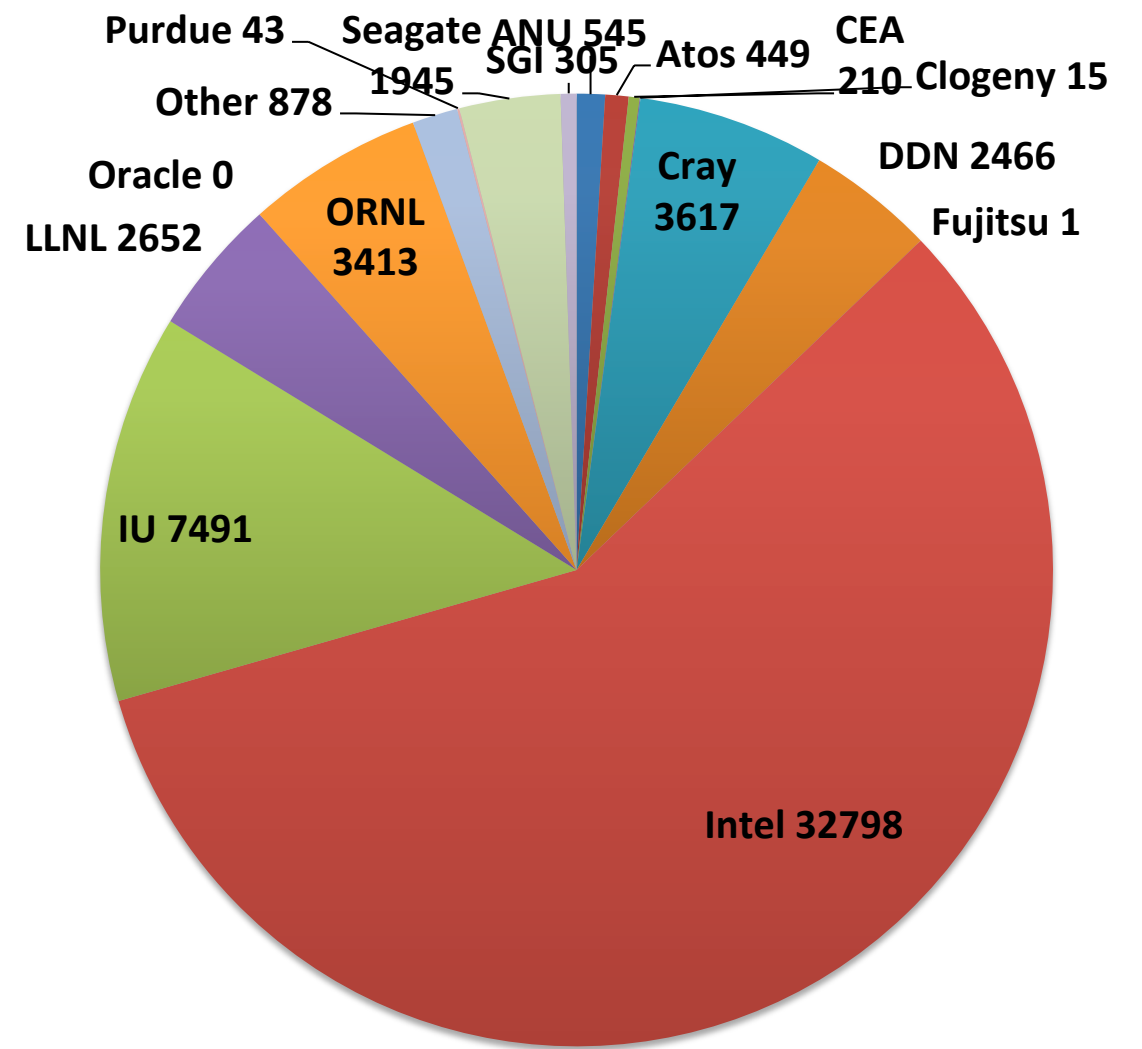
## Number of Commits



Statistics courtesy of Chris Morrone (LLNL)

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

## Lines of Code Changed

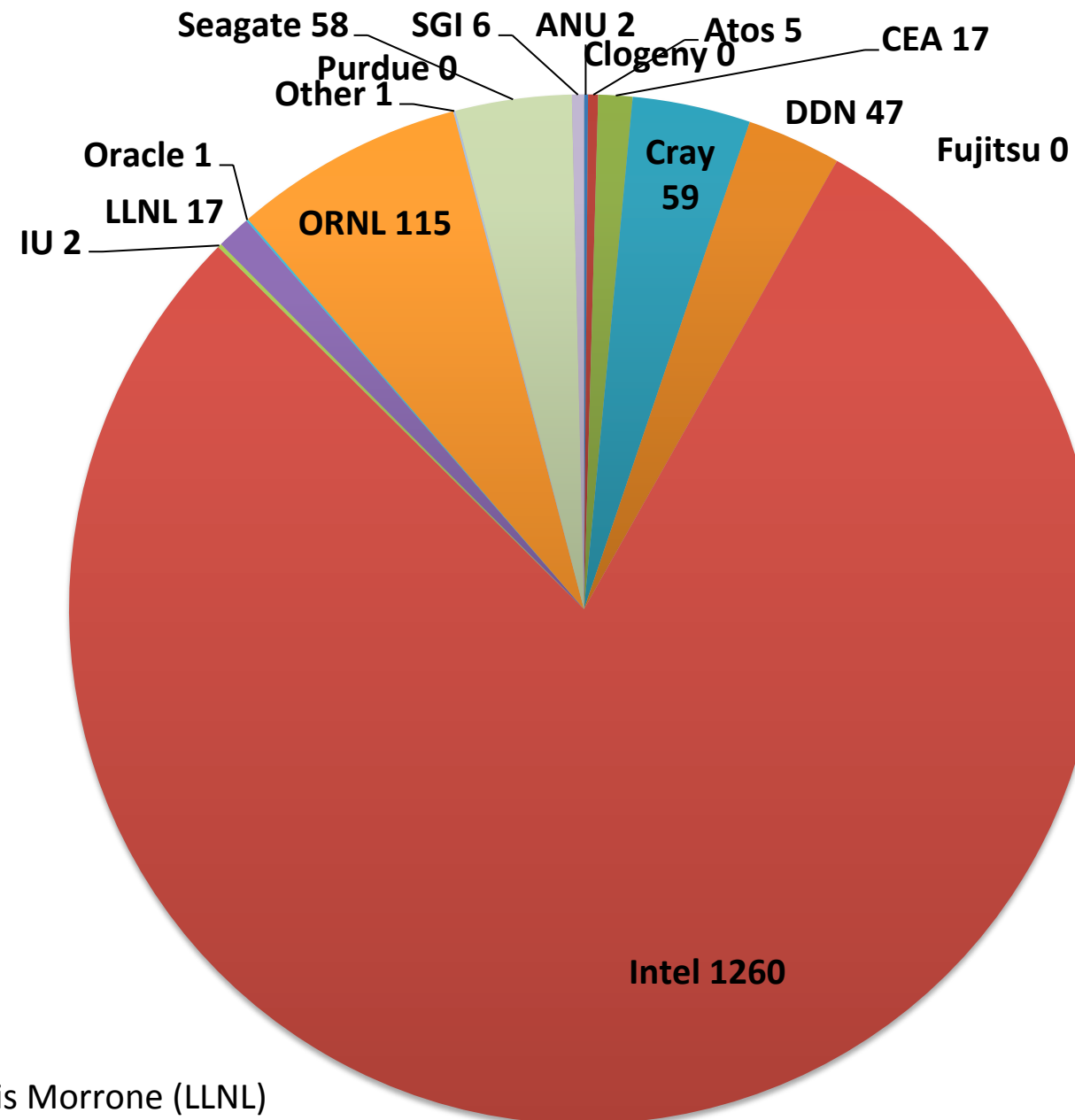


Aggregated data by organization between 2.8.50 and 2.8.57



\*Other names and brands may be claimed as the property of others.

# Lustre 2.9 – Reviews So Far



Statistics courtesy of Chris Morrone (LLNL)

Aggregated data by organization between 2.8.50 and 2.8.57 tags

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



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# 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	741	193K	65	15
2.8.0	992	147K	92	17
2.9.0**	522	57K	90	16

Statistics courtesy of Chris Morrone (LLNL)  
Source: <http://git.whamcloud.com/fs/lustre-release.git>

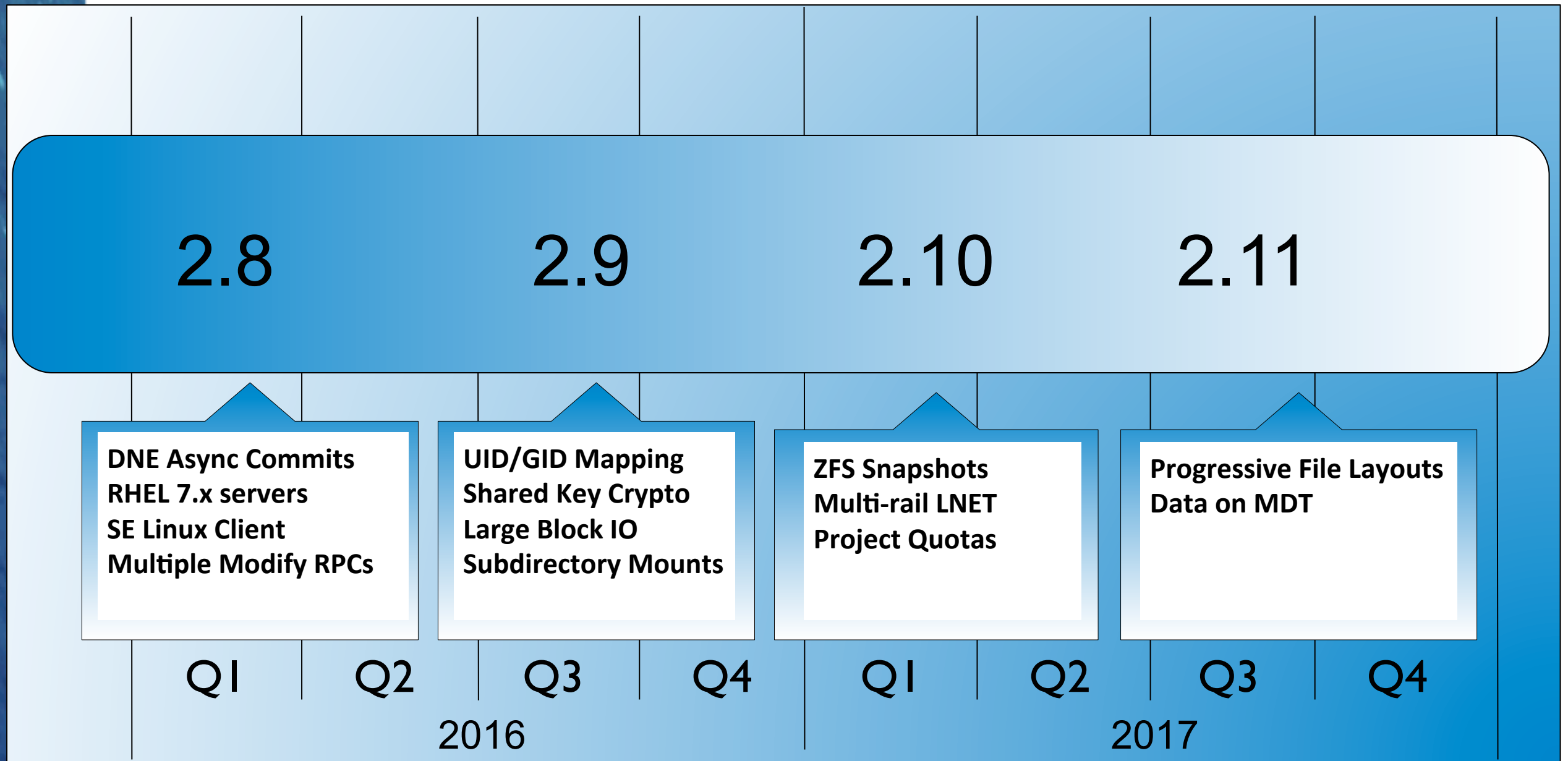
\*\* Data until 2.8.57



# Lustre 2.10 and Beyond

- Many interesting long term features in development
  - Multi-rail LNET
  - Progressive File Layouts
  - Project quotas
- Full list maintained on lustre.org wiki
  - <http://wiki.lustre.org/Projects>
- Highlights and timelines shown on community roadmap
  - <http://lustre.org/roadmap/>

# Community Release Roadmap



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>

Last updated: June 15<sup>th</sup> 2016

# Lustre Release Documentation

- Latest version of user documentation dynamically available to download
  - <http://lustre.opensfs.org/documentation/>
- See Richard Henwood's LUG 2013 LUG presentation for details on how to contribute
  - [http://cdn.opensfs.org/wp-content/uploads/2013/05/Henwood\\_manual\\_LUG13\\_FINAL\\_v2.pdf](http://cdn.opensfs.org/wp-content/uploads/2013/05/Henwood_manual_LUG13_FINAL_v2.pdf)
- 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
- Scope to create more dynamic content on lustre.org



# Summary

- Strong community adoption of recent releases
- Lustre 2.8 is GA and being used in production
- Lustre 2.9 should be GA in the near future
- Some interesting developments in progress for 2.10 and beyond
- Plenty of options for those interest in participating



# Thank you

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