CDWG Goals

- Facilitate community development of the Lustre software tree.
  - Coordinate efforts of multiple contributors
  - Plan release schedule
  - Develop internet infrastructure
  - Provide forum for settling disputes
CDWG Change of Leadership

- Pam Hamilton (LLNL) led CDWG for ~2 years
- Recently stepped down
Lustre Software Development
Software Development
“Iron Triangle”

Scope (Features, Functionality)

Quality

Resources (Budget, Manpower)

Schedule (Time)
Train Development Model

- Published schedule of release dates
- Features that miss the train get left behind
Advantages of Train Model

- Well known time table
  - Better coordination between organizations
  - More efficient scheduling of resources
- Avoids feature creep
Disadvantages of Model

- Timescale mismatch
  - Users often stick with one version for 3+ years
- Interoperability testing requirements grow exponentially
- Too few resources to patch more than 2 or 3 branches
- Would require fewer new features to maintain stability
2012 Lustre Feature Releases

- Lustre 2.2.0 (March 30, 2012)
  - Improved Performance
  - Faster Recovery
  - Max stripe size increased to 2000 (was 160)
- Lustre 2.3.0 (October 22, 2012)
  - Object Index (OI) Scrub
  - Improved MDS SMP performance of shared dir
Lustre 2.4.0

- Feature release + begins maintenance branch
- Features
  - New OSD architecture
  - Stage 1 of Distributed Namespace E (DNE1)
  - Lustre File System Check 1.5 (LFSCK 1.5)
  - Network Request Scheduler (NRS)
  - ZFS support
Lustre 2.4 Contributors

- Bull
- CEA
- Cray
- DDN
- EMC
- Fujitsu
- GSI
- Intel
- LLNL
- NASA
- NRL
- ORNL
- S&C
- Suse
- TACC
- Xyratex
Lustre 2.5.0

- Feature Release
- Currently revising expected feature list
  - Join us to discuss!
What about Lustre 1.8.*?

- Original EOL planned for June 2012
- OpenSFS focusing on 2.1.x and newer
- Consult your Lustre support vendor if you need to continue using 1.8
Community Lustre Roadmap

1. Maintenance Releases: Focus on bug fixes and stability. Updates to the current version are made at 3 month intervals. Updates to past versions will be made on an ad hoc basis.

2. Feature Releases: Focus on introducing new features. New release versions are expected at 6 month intervals. New maintenance versions from the feature release stream are anticipated at 18 month intervals.
Community Tree Development Contract
Lustre Branches

b2_1

b2_4

b2_7

2.1.1

2.1.2

2.1.3

2.4.1

2.4.2

2.4.5

2.7.1

2.7.2

2.7.3

18 months

6 months

2.0

2.1

2.2

2.3

2.4

2.5

2.6

2.7

2.8

2.9

master
Community Tree Development Contract

- *Partially* funds care, testing, and development of *master* branch
- Granted to Whamcloud (now Intel) Nov. 2011
- Ongoing at OpenSFS/Intel mutual agreement
- Collection of requirements for refresh begun
Lustre Community Survey
2013 Lustre Community Survey

• 2012
  - 90 people completed survey
  - 109 uses of 1.8 or older
  - 28 uses of 2.0 or newer

• 2013
  - 73 people completed survey
  - 49 uses of 1.8 or older
  - 46 uses of 2.0 or newer
Versions of Lustre Installed

- 1.4.x
- 1.6.x
- 1.8.[0-8]
- Oracle 1.8.[6-7]
- Whamcloud 1.8.[6-9]-wc1
- 2.0.x
- 2.1.x
- 2.2.x
- 2.3.x

Bar chart showing the distribution of versions in 2012 and 2013.
Lustre Survey 2013

- 33% of respondents have formal support
Web Infrastructure
New OpenSFS Website
http://www.opensfs.org

Events

OpenSFS organizes and sponsors multiple open source file system events throughout the year. We pull together Lustre superstars and move forward roadmap discussions. If you are interested in participating on any level, please contact us for more information.

UPCOMING EVENTS

Lustre User Group (LUG) 2013

[LINK TO LUG 2013]

LUG 2013 will be in San Diego April 15 – 19, 2013. (Includes arrival and registration Monday, April 15, full LUG sessions Tuesday through Thursday, and departure Friday, April 19th.)
Welcome to the Lustre Community Portal

Lustre is an open-source, parallel file system that supports many requirements of leadership class HPC simulation environments. Whether you're a member of our diverse development community or considering Lustre as a parallel file system solution, this portal offers a wealth of resources and support to meet your needs.

**Lustre: The basics**

- [Community Lustre Roadmap](#)
OpenSFS and Lustre Wiki
http://wiki.opensfs.org

Community Development Working Group

Basic information about the CDWG including details about the email list and conference calls are located at opensfs.org.

The CDWG has crafted the Community_Tree_Development_Contract and is working on updates. The CDWG has also crafted the maintenance and feature release strategy for the Community Lustre Roadmap.

Also, there is an effort started to improve testing and quality assurance, see Improving_the_test_framework.

Resources

- CDWG Mailing List

Meeting Minutes
We need YOU!
Ways You Can Contribute

- Testing
  - Contribute to web sites and documentation

- Roadmap development
- Prioritize landings