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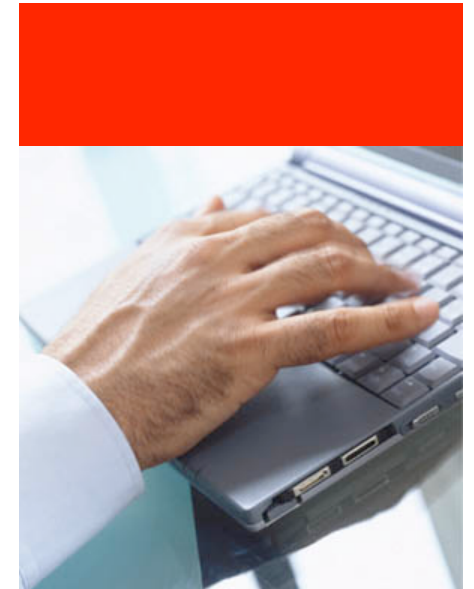
Lustre 1.8 Update

Peter Jones

LUG 2010 - News and Plans for the 1.8.x codeline

Lustre 1.8 Update **Agenda**

- Mission
- History
- Quality
- Futures
- Production Releases
- Sev1 Post-mortem
- Upgraders
- Summary





Mission

- 1.8.x release intended to further extend the scale possible but with an emphasis on production stability
- Limited new features introduced at GA
 - Adaptive Timeouts
 - Version Based Recovery
 - OSS Read Cache
 - OST Pools
- Some other performance enhancements and minor features from LLNL\ORNL LCE introduced in 1.8.2 (e.g. 16TB LUN)
 - These are off by default to remove impact from general users



History

Lustre Release	Planned Date	Actual Date
1.8.0	December 31 st 2008	May 2 nd 2009
1.8.0.1	N/A	June 19 th 2009
1.8.1	July 31 st 2009	July 31 st 2009
1.8.1.1	October 31 st 2009	October 12 th 2009
1.8.2	January 31 st 2010	February 2 nd 2010
1.8.3	April 30 th 2010	TBD



Quality

- Continue to refine processes
 - Landings now controlled by tech lead for each codeline
 - Interim testing throughout build cycle
- Testing resources extended
 - Hyperion testing regularly scheduled
 - Additional Oracle test clusters now available
- Collaborations
 - LLNL\Cray feature test plans
- Automated test coverage continues to increase
 - 10% increase in number of tests
 - Recovery, failover, interoperability, quotas and MMP

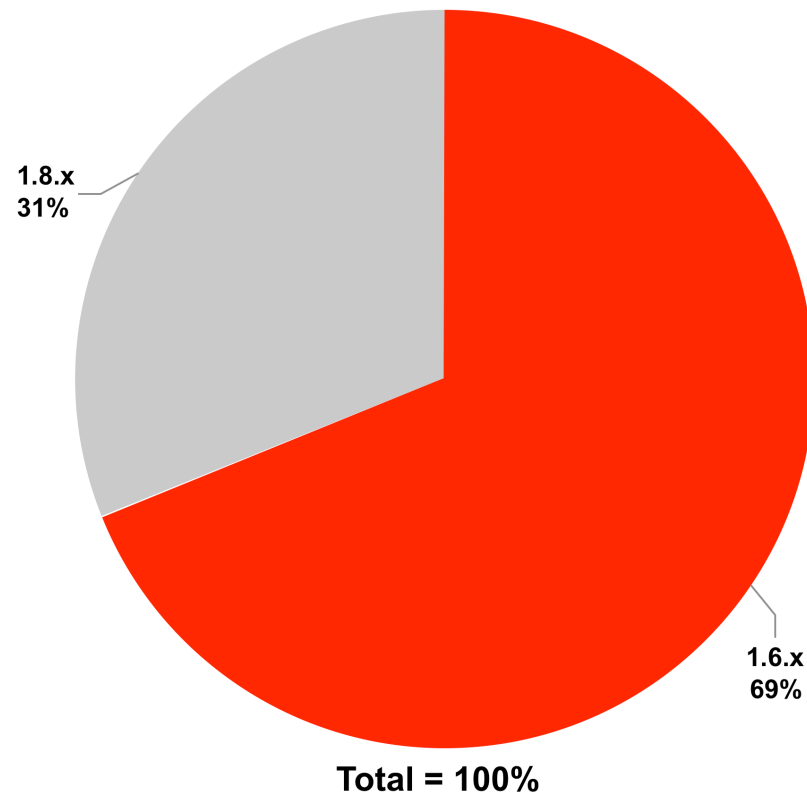


Futures

- Lustre 1.8.x support will continue until June 30th 2012
 - Quarterly maintenance releases will continue
 - Like 1.6.x, once stability threshold reached will drop to releases on an ad-hoc basis
 - Release announcement email will share plans for next release
- 1.6.x goes EOL June 30th so we encourage customers to plan their upgrades



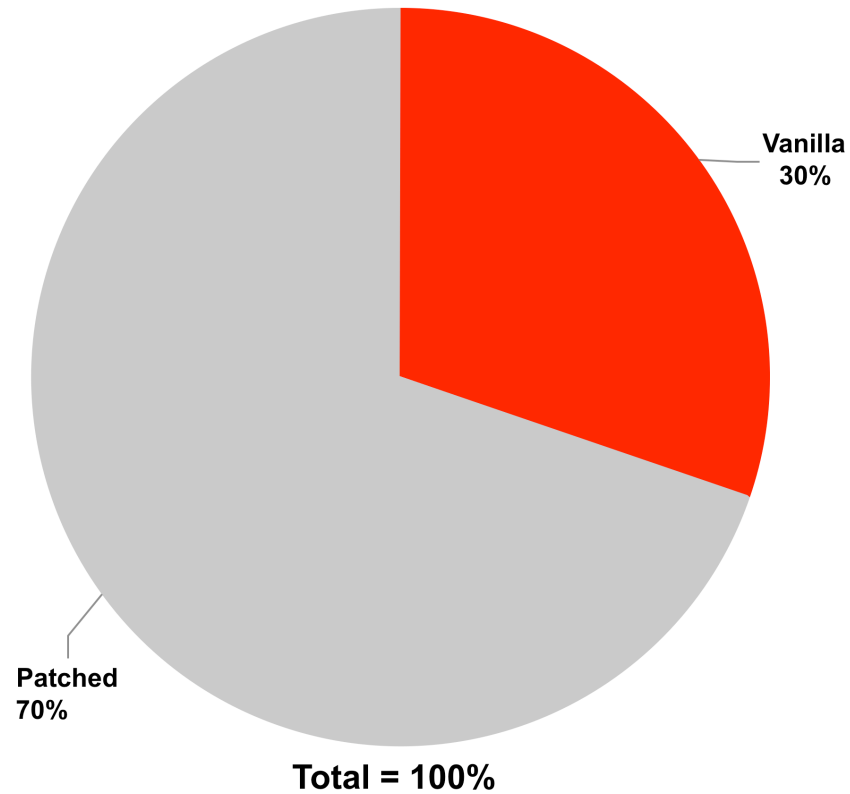
Production Releases





Production Releases

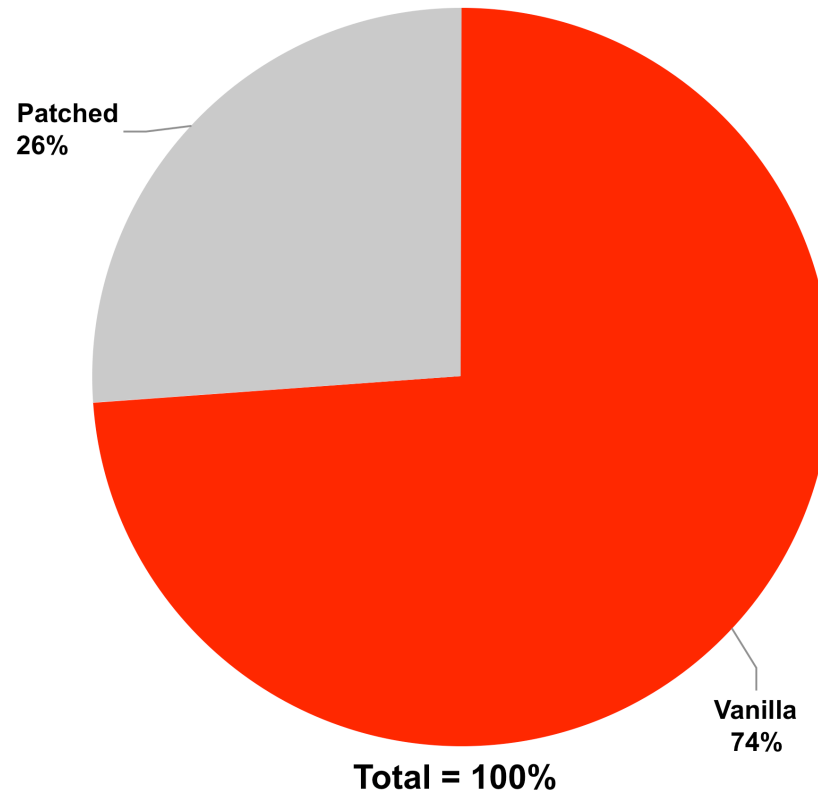
1.6.x Patched vs Vanilla





Production Releases

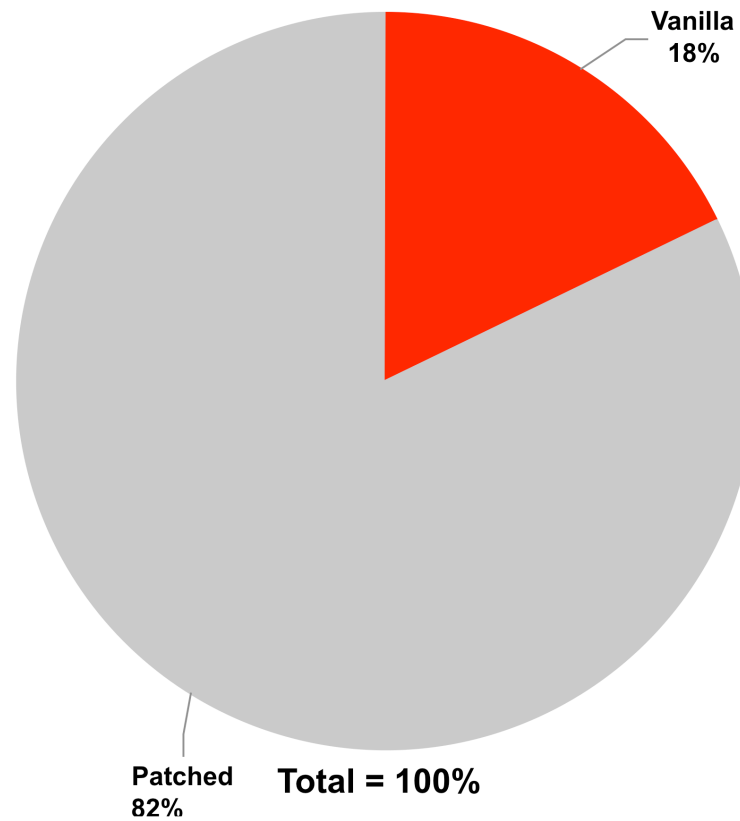
1.8.x Patched vs Vanilla





Production Releases

1.8.x Support Tickets





Sev1 Post-mortem

- Production Impacting issues (data corruption\crashes)
- Many S1 reports are not Lustre issues (31% last year)
- Scrutinize root cause of 1.8.x S1s
 - 22476 (1.6.2) Servers become non-responsive due to lock build-up
 - 20560 (1.8.0) Race at scale in OSS Read Cache; more likely with network instability
 - 21506 (1.8.0.1) Short-reads on 32 bit clients
 - 22177 (1.8.2) No regression test for open unlinked directory




Upgraders

- Most 1.8.x users are new installs rather than upgrades, but some sites have upgraded
 - Oil\Gas Company: no issues during upgrade or in production so far
 - LLNL: Production rollout March 30th
 - CINES: large European HPC site that runs multi user\code environment
 - upgrade “seamless process”
 - Regression fears proved unfounded



Summary

- Lustre quality has continued to increase with 1.8.x
- Maintenance releases reliably occurring quarterly
- Preferable to run vanilla Lustre releases where possible
- Sites still running 1.6.x should plan upgrades soon



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