Lustre Community Releases

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Agenda

- Rationale
- Lustre 1.8.x Releases
- Lustre 2.1
- Future 2.x Releases
- Summary
Rationale

- Late in 2010 Oracle changes strategy for Lustre
  - Lustre was placed into sustaining mode
  - All work suspended on 2.x
  - Initially unclear whether there would be further 1.8.x releases
- Lustre community needs stable 2.x release
  - All future Lustre feature development based on 2.x codeline
  - Lustre 2.0 went GA July 2010 but performance comparison to 1.8.x was deferred
  - Intention of 2.1 is to provide a stable 2.x release with performance that matches or exceeds 1.8.x in common usage patterns
Lustre 1.8.x Releases

• Most production Lustre sites running 1.8.x
  – 1.8.x has been available for some time and is quite stable
• Oracle has now clarified that it will continue to make Lustre 1.8.x releases
• No clear reason for the community to produce 1.8.x releases
  – Whamcloud is continuing to push fixes upstream
  – Whamcloud does have the capability to produce 1.8.x releases if needed at some future point
Lustre 2.1 – the Problem

- All Oracle work on 2.1 has ceased
  - There have been no checkins to master since the turn of the year
- How to fill the vacuum?
  - Who would do the work?
  - Where would the code be checked in?
  - Who would do the testing?
Lustre 2.1 – the Solution

• Some things are the same
  – Many of the same engineers performing the work
  – Community involvement in testing

• Some significant differences
  – Whamcloud had much of the necessary infrastructure in place to create Lustre releases and so volunteered to host 2.1 community release (git, JIRA, gerrit, jenkins, maloo etc)
  – 2.1 Release meetings open to anyone
  – Whamcloud contributor agreement means that no single organization will ever hold Lustre copyright again
  – All three community groups (EOFS, HPCFS and OpenSFS) are in support of this approach
Lustre 2.1 – the Scope

- RHEL6 Server and Client support
- Async journal commits by default
  - Added in 1.8.2; turned off by default
  - Already used in production at many sites (LLNL, ORNL, DDN sites)
- Ext4 by default
- 2.x performance to match\exceed 1.8.x
  - SMP Scaling\IO performance
Lustre 2.1 – the Logistics

• Adopted proven management model for Lustre releases
  - Peter Jones release manager, co-ordinating efforts
  - Oleg Drokin technical lead, acting as gatekeeper

• Broad community interest in release
  - 25 different organizations registered on mailing list (at least)
  - 11 different organizations represented at meetings
  - 3 different organizations submitted patches (LLNL, ORNL, Xyratex)
  - 4 different organizations offered to help with testing (Bull, Cray, LLNL, ORNL)
Lustre 2.1 – the Current Status

• Status is changing rapidly as we converge on an RC
  – You can view the current # of blockers using the “Lustre 2.1 blockers” filter found under Manage Filters – Popular in JIRA

• Get more directly involved
  – Mailing list http://groups.google.com/group/lustre-21
  – Weekly calls on Tuesday 9:30am PT 866-914-3976 534986#
Future 2.x Releases

• Lustre 2.1 is relatively simple
  – The scope of the release was already defined and most of the work was done

• It will be much harder to manage release content for future releases across multiple stakeholder groups
  – Need to find a workable long-term model

• Whamcloud will be producing future 2.x releases for its customers
  – Core Lustre code will be open to all and available to any other releases
Summary

- Oracle will continue to produce Lustre 1.8.x releases
- Lustre 2.1 due out this summer
- Lustre 2.x releases TBD
Thank You

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