Lustre Test Plan
Commit on Sharing (COS)

Author	Date	Description of Document Change	Client Approval By	Client Approval Date
Elena Gryaznova	2008-09-26	draft		
Elena Gryaznova	2008-08-26	second draft. Update test plan in according to Alexander Zarochentsev review		
Elena Gryaznova	208-08-29	Update “Test Plan Approval” section	Alexander Zarochentcev	2008-08-29
Elena Gryaznova		Update “Tests results” section (round-1)		

I. Test Plan Overview

Executive Summary

- Statement of the problem trying to solve:
  Test commit-on-sharing (COS) feature before landing into HEAD branch

- Required inputs:
  --HEAD branch, patched by attachment 18953 bug 15393
  -- the packages: sles10/x86_64 build by LBATS without any special configure options
- Hardware to be used:
  -- Broomfield test cluster (BRM06, Washie7, Washie4)
  MDS: sfire7:
  OSS: sfire8
  Clients: client1, client5, client7, client8
- Expected output:
  -- The current status of COS features
  -- The following tickets will be used for summary and a status of testing.
  COS: bug 15393
  COS pre-landing: bug 17235

Problem Statement

When a MDS servers enters recovery mode after failover or restarts for other reason, the clients are replaying uncommitted requests to restore connection states. One or more clients missing the recovery may cause other clients to abort their transactions or be evicted. COS eliminates the depended transactions, if there are no dependent uncommtted transactions to re-apply – the clients apply their requests independently without being evicted.

COS need to be tested before landing into HEAD.

Goal

The goal is to find out the defects in the mentioned features code:
-- complete acc-sm SLOW=yes (C1:M1:O3, 1O=3OST) with COS enabled
-- verify the recovery with acc-sm FAILURE_MODE=HARD special tests (C2:M1:O3)
-- verify the COS overhead

Success Factors

All tests need to run successfully.

The minimal number of nodes the experiment needs: 6.

Testing Plan

Define the setup steps that need to happen for the hardware to be ready? Who is responsible for these tests?
BRM 06 hardware is ready for the COS tests, no additional HW is needed. Elena Gryaznova is responsible for running these tests.

Specify the date these tests will start, and length of time that these test will take to complete.

Date started: 2008-08-29
The time estimation of 1 run
pre-landing testing: acc-sm SLOW=yes + vett the results: 7 hours write new tests: 7 hours recovery tests with real server reboot: 3 hours performance tests: 8 hours overhead: -- LBATS / setup nodes, send report to buffalo: 2.5 hours Summary for 1 pre-landing test cycle: 27.5 *
* In the case of defects found the tests should be repeated. The estimated time of completed testing depends on: -- the number of defects found during testing; -- the time needed by developer to fix the defects;
post-landing large scale testing: 6 hours Summary for 1 post-landing tests cycle: 6 hours

Specify (at a high level) what tests will be completed?
Functional tests: acceptance-small Feature tests: COS feature tests.

Specify how you will restore the hardware (if required) and notify the client your testing is done.
All tests results are stored in Buffalo
The bugzilla ticket is filed for each failure
Summary and status report are printed in pre-landing bug 17235

Test Cases
Pre-gate landing
1. functional testing acceptance-small SLOW=yes (default Yala configuration: 1C:1M:3O) with COS enabled new unit test: replay-dual, test_21a
2. recovery testing with server real reboot (2C:1M:3O) new test: replay-dual test_21b, 2 clients, FAILURE_MODE=HARD
3. Benchmarking: performance testing (4 clients)

3.a mdsrate parallel create in different directories, COS disabled (MDS_MKFS_OPTS=" --param mdt.commit_on_sharing=0") mdsrate parallel create in different directories, COS enabled (default) Print time elapsed and jbd commit statistic. COS should not add any overhead. 3.b mdsrate create in shared directory, COS disabled (MDS_MKFS_OPTS=" --param mdt.commit_on_sharing=0") mdsrate create in shared directory, COS enabled (default) Print time elapsed and jbd commit statistic. COS should not add any overhead due to PDO locks. 3.c cross create-delete test (create-delete.c prog): client does the file creation on mnt1 and deletion the same files on mnt2. Runs parallel on 2 clients. COS disabled (MDS_MKFS_OPTS=" --param mdt.commit_on_sharing=0") cross create-delete test (create-delete.c prog): client does the file creation on mnt1 and deletion the same files on mnt2. Runs parallel on 2 clients. COS enabled (default) new test: Print time elapsed and jbd commit statistic. The COS overhead should not be gt 20%. sanityN test_33
Post-gate landing (large scale testing)
COS feature scale tests
3.a and 3.b tests with N clients (use N=10 in BRM06)

Benchmarking

No additional benchmarks will be done.

II. Test Plan Approval

- Review date for the Test Plan review with the client:
  09/26/2008 – reviewed by Alexander Zarochentcev
- Date the Test Plan was approved:
  09/29/2008 – approved by Alexander Zarochentcev
- Date(s) agreed to by the client to conduct testing

III. Test Plan – Final Report

Test Results

Benchmarking

Conclusions

Summary of the test:

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Next Steps

Define any next steps as a result of the test. Does the test need to be performed again? Are the results sufficient to be considered a success?

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