



# Lustre Test Plan

## Large Scale Test Plan

### Adaptive Timeouts

Author	Date	Description of Document Change	Client Approval By	Client Approval Date
Elena Gryaznova	11/10/08	draft		
Nathan Rutman	11/13/08	review		
Elena Gryaznova	11/16/08	add correction in according to Nathan review		
J.D. Neumann	01/29/09	Updates and corrections		



# I. Test Plan Overview

## Executive Summary

- Statement of the problem trying to solve:  
Test at scale Adaptive Timeouts of HEAD, b1\_8\_gate branches
- Required inputs:
  - The packages: build for HEAD branch
  - The packages: build for b1\_8\_gate branch
- Hardware to be used:
  - User clusters
- Expected output:
  - The current AT status of the listed branches
  - The following tickets will be used for summary and a status of testing

## Problem Statement

This test plan describes the tests of large scale systems level testing of Adaptive Timeouts feature.

## Goal

Verify AT functionality on a large system.

## Success Factors

All tests need to run successfully.

## Testing Plan

<b>Define the setup steps that need to happen for the hardware to be ready? Who is responsible for these tests?</b>
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Get system time at User on a large system. Pre-feature testing has been completed and signed off by SUN QE for this feature.
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<b>Specify the date these tests will start, and length of time that these test will take to complete.</b>
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Date started: TBD
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The time estimation for new test creation by QE: 4 days
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The time estimation of 1 run: Common recovery tests: 4 days
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\* 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;

**Specify (at a high level) what tests will be completed?**

Functional tests: new acceptance-small tests: recovery-scale (without Lustre reformatting)

## Test Cases

### Test Cases

#### Post-gate landing

#### COMMON scale tests

All these tests are (will be) integrated into acceptance-small as `recovery-scale.sh (RECOVERY_SCALE)`.

**Requirements:**

1. Installed Lustre build packages on all cluster nodes.
2. installed Lustre user tools (lctl).
3. Shared directory with lustre-tests build on all clients
4. Formatted Lustre file system, mounted by clients
5. The configuration file in according to a formatted Lustre system
6. Installed dbench, iozone
7. Installed mdsrate, IOR programs

**To run these recovery scale tests over acceptance-small:**

```
SETUP=: CLEANUP=: FORMAT=: ACC_SM_ONLY=RECOVERY_SCALE
NAME=<config_file> sh acceptance-small.sh
To run all recovery scale tests:
  SETUP=: CLEANUP=: FORMAT=: NAME=<config_file> sh recovery-scale.sh
To run the recovery scale tests separately:
  SETUP=: CLEANUP=: FORMAT=: NAME=<config_file> DURATION=<duration>
recovery-mds-scale.sh
  SETUP=: CLEANUP=: FORMAT=: NAME=<config_file> recovery-double-scale.sh
```

**I.**

**Scale recovery tests (NC:1M:MO) (the test based on test11/17 from CMD3 project)**

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(Collect recovery time stats for all these tests, verify that there are no



unreasonably long recovery time, bug 16860).

1.a (was test11 in cmd3 project)

For defined duration (1-24 hours) repeatedly fail an MDS at defined (5-10 minutes) intervals and verify that no application errors occur. Load of clients: mdsrate, IOR, dbench, iofzone.

Verify that clients loads are large enough to generate timeouts on some of the clients (from syslogs). Increase the loads on clients if needed.

recovery-mds-scale.sh

Example:

```
SETUP=: CLEANUP=: FORMAT=: NAME=<config_file> DURATION="3600" sh
recovery-mds-scale.sh
```

1.b (was test17 on cmd3 project)

Fail a random pair of nodes at defined (5-10 minutes) intervals and verify that no application errors occur. Load of clients: mdsrate, IOR, dbench iofzone.

Verify that clients loads are large enough to generate timeouts on some of the clients (from syslogs). Increase the loads on clients if needed.

- 1: failover MDS, then OST
- 2: failover MDS, then 2 clients
- 4: failover OST, then another OST
- 5: failover OST, then 2 clients
- 6: failover OST, then MDS
- 7: failover 2 clients, then MDS
- 8: failover 2 clients, then OST
- 9: failover 2 clients, then 2 different clients

recovery-double-scale.sh

Example:

```
SETUP=: CLEANUP=: FORMAT=: NAME=<config_file> sh recovery-mds-scale.sh
```

## II.

### Additional AT large-scale tests

A simulation delay test will need to be created and added to Acceptance Small. This work will need to be added to the tasks lists and we do not have an ETA at this time.

## Benchmarking

No additional benchmarks will be done.

## I. Test Plan Approval



- Review date for the Test Plan review with the client:  
11/10/08 – reviewed by J.D. Neumann
- Review date for the Test Plan by developers  
(sent to Nathan Rutman).
- Date the Test Plan was approved by the client (and by whom)
- Date(s) agreed to by the client to conduct testing

## **I. Test Plan – Final Report**

### **Test Results**