

- git_commits:**

- jira_issues:**

- summary:** Endless recursive of deleteNode happened in SplitLogManager#DeleteAsyncCallback
description: You can easily understand the problem from the below logs: {code} [2012-09-01 11:41:02,062] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager\$CreateAsyncCallback 978] create rc=SESSIONEXPIRED for /hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=3 [2012-09-01 11:41:02,062] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager\$CreateAsyncCallback 978] create rc=SESSIONEXPIRED for /hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=2 [2012-09-01 11:41:02,063] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager\$CreateAsyncCallback 978] create rc=SESSIONEXPIRED for /hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=1 [2012-09-01 11:41:02,063] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager\$CreateAsyncCallback 978] create rc=SESSIONEXPIRED for /hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=0 [2012-09-01 11:41:02,063] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager 393] failed to create task node/hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-splitting%2Fh01%252C20020%252C1339552105088.1339557014846 [2012-09-01 11:41:02,063] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager 353] Error splitting /hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-splitting%2Fh01%252C20020%252C1339552105088.1339557014846 [2012-09-01 11:41:02,063] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager\$DeleteAsyncCallback 1052] delete rc=SESSIONEXPIRED for /hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=9223372036854775807 [2012-09-01 11:41:02,064] [WARN] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1] [org.apache.hadoop.hbase.master.SplitLogManager\$DeleteAsyncCallback 1052] delete rc=SESSIONEXPIRED for

```
/hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-
splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=9223372036854775806
[2012-09-01 11:41:02,064] [WARN ] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1]
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splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=9223372036854775805
[2012-09-01 11:41:02,064] [WARN ] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1]
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splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=9223372036854775804
[2012-09-01 11:41:02,065] [WARN ] [MASTER_SERVER_OPERATIONS-xh03,20000,1339549619270-1]
[org.apache.hadoop.hbase.master.SplitLogManager$DeleteAsyncCallback 1052] delete rc=SESSIONEXPIRED
for
/hbase/splitlog/hdfs%3A%2F%2Fh01%3A9000%2Fhbase%2F.logs%2Fh01%2C20020%2C1339552105088-
splitting%2Fh01%252C20020%252C1339552105088.1339557014846 remaining retries=9223372036854775803
..... [2012-09-01 11:41:03,307] [ERROR] [MASTER_SERVER_OPERATIONS-
xh03,20000,1339549619270-1] [org.apache.zookeeper.ClientCnxn 623] Caught unexpected throwable
java.lang.StackOverflowError {code}
```

jira_issues_comments:

1. @Jieshan: Can you tell us under what circumstance the above recursion happened ?
2. From the logs, we can see SessionTimeoutException happened. So the request of deleteNode was rejected each time. DeleteAsyncCallback does not handle the exceptions correctly.
3. Looks like the retry counter underflowed?
4. Looks like it coming from setDone: {code} // delete the task node in zk. Keep trying indefinitely - its an async // call and no one is blocked waiting for this node to be deleted. All // task names are unique (log.<timestamp>) there is no risk of deleting // a future task. deleteNode(path, Long.MAX_VALUE); {code}
5. Yes. Long.MAX_VALUE is the problem.
6. Did this happen when the master starts up, or during a region server failure handling? If the ZK session times out, the master will abort, right?
7. Either. Both Master starts up and region server failure handling may trigger HLog splitting. Yes, I think HMaster should abort when sessionTimeout happens.
8. [~jeason], do you have a patch?
9. No patch. Moving out.
10. I checked the issue and was able to repro the issue once but not always. There are two issues: 1) delete using retry count=long.MAX_VALUE 2) new zk client instance created during master abort may not be seen by other threads due to no volatile declaration Attached patch including: 1) refactoring code to handle ZK session expired consistently in all zk async callback functions as we currently do in CreateRescan & GetData async callbacks 2) retry deletion in TimeoutMonitor where other maintenance work are done. remove existing infinite loop like async calls which may jam callback queue 3) make RecoverableZooKeeper.zk volatile Thanks, -Jeffrey
11. {code} + * @param ZooKeeper exception code integer value + * @return true when need to abandon retries otherwise false + */ + private boolean needAbandonRetries(int statusCode) { {code} @param doesn't match actual parameter. {code} - LOG.error("ZK session expired. Master is expected to shut down. Abandoning retries."); + if (needAbandonRetries(rc)) { + LOG.warn("GetData from znode " + path + " is abandoned."); {code} We would see two consecutive logs about abandoning retries. It is better to pass call site information as String to needAbandonRetries().
12. {color:red}-1 overall{color}. Here are the results of testing the latest attachment <http://issues.apache.org/jira/secure/attachment/12564841/hbase-6748.patch> against trunk revision . {color:green}+1 @author{color}. The patch does not contain any @author tags. {color:red}-1 tests included{color}. The patch doesn't appear to include any new or modified tests. Please justify why no new tests are needed for this patch. Also please list what manual steps were performed to verify this patch. {color:green}+1 hadoop2.0{color}. The patch compiles against the hadoop 2.0 profile. {color:green}+1 javadoc{color}. The javadoc tool did not generate any warning messages. {color:green}+1 javac{color}. The applied patch does not increase the total number of javac compiler warnings. {color:red}-1 findbugs{color}. The patch appears to introduce 1 new Findbugs (version 1.3.9) warnings. {color:green}+1 release audit{color}. The applied patch does not increase the total number of release audit warnings. {color:green}+1 lineLengths{color}. The patch does not introduce lines longer than 100 {color:green}+1 core tests{color}. The patch passed unit tests in . Test results: <https://builds.apache.org/job/PreCommit-HBASE-Build/4019//testReport/> Findbugs warnings: <https://builds.apache.org/job/PreCommit-HBASE-Build/4019//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-hadoop2-compatible.html> Findbugs warnings: <https://builds.apache.org/job/PreCommit-HBASE-Build/4019//testReport/>

- Build/4019//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-common.html Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4019//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-protocol.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4019//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-server.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4019//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-hadoop1-compatible.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4019//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-examples.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4019//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-hadoop-compatible.html> Console output:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4019//console> This message is automatically generated.
13. Update the patch to incorporate Ted's feedbacks. Thanks, -Jeffrey
14. {color:red}-1 overall{color}. Here are the results of testing the latest attachment
http://issues.apache.org/jira/secure/attachment/12564990/hbase-6748_1.patch against trunk revision .
{color:green}+1 @author{color}. The patch does not contain any @author tags. {color:red}-1 tests included{color}. The patch doesn't appear to include any new or modified tests. Please justify why no new tests are needed for this patch. Also please list what manual steps were performed to verify this patch. {color:green}+1 hadoop2.0{color}. The patch compiles against the hadoop 2.0 profile. {color:green}+1 javadoc{color}. The javadoc tool did not generate any warning messages. {color:green}+1 javac{color}. The applied patch does not increase the total number of javac compiler warnings. {color:red}-1 findbugs{color}. The patch appears to introduce 2 new Findbugs (version 1.3.9) warnings. {color:green}+1 release audit{color}. The applied patch does not increase the total number of release audit warnings. {color:green}+1 lineLengths{color}. The patch does not introduce lines longer than 100 {color:green}+1 core tests{color}. The patch passed unit tests in . Test results:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//testReport/> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-hadoop2-compatible.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-common.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-protocol.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-server.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-hadoop1-compatible.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-examples.html> Findbugs warnings:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//artifact/trunk/patchprocess/newPatchFindbugsWarningshbase-hadoop-compatible.html> Console output:
<https://builds.apache.org/job/PreCommit-HBASE-Build/4029//console> This message is automatically generated.
15. Patch needs to be rebased. {code} if (failedDeletions.size() > 0) { List<String> tmpPaths = new ArrayList<String>(failedDeletions); ... failedDeletions.removeAll(tmpPaths); } {code} This is not thread safe, entries can be added during the deletes. In {code} if (needAbandonRetries(rc, {code} cases, the code doesn't call deleteNodeFailure/etc., which is called in case of failure below in each respective method. That was the existing behavior in call cases; however, createNodeFailure call was added to "if (needAbandonRetries(rc, ...))" in create. Why is it inconsistent?
16. *all cases
17. About the first one, sure, looked at it wrong, should be safe because Set will not allow multiple entries with the same path so remove will not remove multiple entries. However, what will happen if there are multiple deletes for the same path and they fail in parallel?
18. Ah, nm, we discussed and the set will just drop the 2nd update.
19. +1; the latter concern also seems to preserve old behavior.
20. Integrated to trunk. Thanks for the patch, Jeff. Thanks for the review, Sergey.
21. Integrated in HBase-TRUNK #3752 (See [<https://builds.apache.org/job/HBase-TRUNK/3752/>]) HBASE-6748 Endless recursive of deleteNode happened in SplitLogManager#DeleteAsyncCallback (Jeffrey Zhong) (Revision 1433733) Result = FAILURE tedyu : Files : * /hbase/trunk/hbase-server/src/main/java/org/apache/hadoop/hbase/master/SplitLogManager.java * /hbase/trunk/hbase-server/src/main/java/org/apache/hadoop/hbase/zookeeper/RecoverableZooKeeper.java
22. Integrated in HBase-TRUNK-on-Hadoop-2.0.0 #349 (See [<https://builds.apache.org/job/HBase-TRUNK-on-Hadoop-2.0.0/349/>]) HBASE-6748 Endless recursive of deleteNode happened in SplitLogManager#DeleteAsyncCallback (Jeffrey Zhong) (Revision 1433733) Result = FAILURE tedyu : Files : * /hbase/trunk/hbase-server/src/main/java/org/apache/hadoop/hbase/master/SplitLogManager.java * /hbase/trunk/hbase-server/src/main/java/org/apache/hadoop/hbase/zookeeper/RecoverableZooKeeper.java
23. Any chance for a 0.94 patch? (Moving to 0.94.6 for now)

24. @Lars, I can port it to 0.94.6. Thanks, -Jeffrey
25. Jeffrey opened HBASE-7914 for the 0.94 backport. This committed to trunk over a month back, let's close this.
26. Integrated in HBase-0.94 #859 (See [<https://builds.apache.org/job/HBase-0.94/859/>]) HBASE-7914 Port the fix of HBASE-6748 into 0.94 branch (Jeffrey Zhong) (Revision 1450000) Result = SUCCESS tedyu : Files : *
/hbase/branches/0.94/src/main/java/org/apache/hadoop/hbase/master/SplitLogManager.java *
/hbase/branches/0.94/src/main/java/org/apache/hadoop/hbase/zookeeper/RecoverableZooKeeper.java
27. Integrated in HBase-0.94-security #112 (See [<https://builds.apache.org/job/HBase-0.94-security/112/>]) HBASE-7914 Port the fix of HBASE-6748 into 0.94 branch (Jeffrey Zhong) (Revision 1450000) Result = SUCCESS tedyu : Files : *
/hbase/branches/0.94/src/main/java/org/apache/hadoop/hbase/master/SplitLogManager.java *
/hbase/branches/0.94/src/main/java/org/apache/hadoop/hbase/zookeeper/RecoverableZooKeeper.java
28. Integrated in HBase-0.94-security-on-Hadoop-23 #12 (See [<https://builds.apache.org/job/HBase-0.94-security-on-Hadoop-23/12/>]) HBASE-7914 Port the fix of HBASE-6748 into 0.94 branch (Jeffrey Zhong) (Revision 1450000) Result = FAILURE tedyu : Files : *
/hbase/branches/0.94/src/main/java/org/apache/hadoop/hbase/master/SplitLogManager.java *
/hbase/branches/0.94/src/main/java/org/apache/hadoop/hbase/zookeeper/RecoverableZooKeeper.java