Hadoop Common / HADOOP-4910

NameNode should exclude corrupt replicas when choosing excessive replicas to delete

Details

Type:	🟥 Bug	Status:	**CLOSED**
Priority:	⛔ Blocker	Resolution:	Fixed
Affects Version/s:	0.17.0	Fix Version/s:	0.18.3
Component/s:	None		
Labels:	None		
Hadoop Flags:	Reviewed		

Description

Currently, when NameNode handles an over-replicated block in FSNamesystem#processOverReplicatedBlock, it excludes ones already in excessReplicateMap and decommissed ones, but it treats a corrupt replica as a valid one. This may lead to unnecessary deletion of more replicas and thus cause data lose. It should exclude corrupt replicas as well.

Attachments

📄 overReplicated.patch	1 kB	02/Jan/09 21:10
📄 overReplicated1.patch	6 kB	06/Jan/09 18:56
📄 overReplicated2.patch	6 kB	08/Jan/09 00:58
📄 overReplicated2-br18.patch	6 kB	08/Jan/09 00:57

Activity

↑

 Hairong Kuang created issue – 18/Dec/08 00:47

 Hairong Kuang made changes – 18/Dec/08 00:48

Field	Original Value	New Value
Component/s		dfs [12310710]
Affects Version/s		0.17.0 [12312913]

 Zheng Shao added a comment – 18/Dec/08 00:55

Is this only in 0.17.0, or later versions as well?

 Hairong Kuang added a comment – 02/Jan/09 21:10

I am still working on a junit testcase, but attaching the fix first.

Yes, this bug affects 0.17 as well as later releases.

 Hairong Kuang made changes – 02/Jan/09 21:10

Attachment	overReplicated.patch [12397035]

 Hairong Kuang made changes – 02/Jan/09 21:12

Assignee	Hairong Kuang [hairong]

 Robert Chansler made changes – 05/Jan/09 20:55

Fix Version/s	0.18.3 [12313494]

Priority	Major [3]	Blocker [1]

Hairong Kuang added a comment - 06/Jan/09 18:57

This patch has a unit test. Without the fix, the unit test will fail, showing that the block gets lost.

Hairong Kuang made changes - 06/Jan/09 18:57

Attachment		overReplicated1.patch [12397220]

Raghu Angadi added a comment - 07/Jan/09 18:27

+1 patch looks good. Simple but important fix.
minor nit : I would suggest removing reference to this jira in comments. Otherwise it gives an impression that reader should read this jira to understand what is happening, which is not necessary.

Hairong Kuang added a comment - 07/Jan/09 23:26

This is a patch for 0.18. Incorporated Raghu's comment.

Hairong Kuang made changes - 07/Jan/09 23:26

Attachment		overReplicated2-br18.patch [12397350]

Hairong Kuang made changes - 08/Jan/09 00:55

Attachment	overReplicated2-br18.patch [12397350]	

Hairong Kuang made changes - 08/Jan/09 00:57

Attachment		overReplicated2-br18.patch [12397361]

Hairong Kuang added a comment - 08/Jan/09 00:58

Patch for the trunk.

Hairong Kuang made changes - 08/Jan/09 00:58

Attachment		overReplicated2.patch [12397362]

Hairong Kuang made changes - 08/Jan/09 00:58

Hadoop Flags		[Reviewed]
Status	Open [1]	Patch Available [10002]

Hairong Kuang added a comment - 08/Jan/09 18:18

Ant test-patch passed
[exec] +1 overall.
[exec]
[exec] +1 @author. The patch does not contain any @author tags.
[exec]
[exec] +1 tests included. The patch appears to include 9 new or modified tests.
[exec]
[exec] +1 javadoc. The javadoc tool did not generate any warning messages.
[exec]
[exec] +1 javac. The applied patch does not increase the total number of javac compiler warnings.
[exec]
[exec] +1 findbugs. The patch does not introduce any new Findbugs warnings.
[exec]
[exec] +1 Eclipse classpath. The patch retains Eclipse classpath integrity.
[exec]
Ant test-core failed with a known junit test failure reported at HADOOP-4907. All other unit tests passed.

Hairong Kuang added a comment - 08/Jan/09 18:38

I've just committed this.

⊙ **Hairong Kuang** made changes - 08/Jan/09 18:38

Resolution		Fixed [1]
Status	Patch Available [10002]	Resolved [5]

⊙ **Nigel Daley** made changes - 30/Jan/09 20:14

Status	Resolved [5]	Closed [6]

⊙ **Owen O'Malley** made changes - 08/Jul/09 16:43

Component/s	dfs [12310710]

Transition	Time In Source Status	Execution Times
⊙ **Hairong Kuang** made transition – 08/Jan/09 00:58 `OPEN` ➡ `PATCH AVAILABLE`	21d 10m	1
⊙ **Hairong Kuang** made transition – 08/Jan/09 18:38 `PATCH AVAILABLE` ➡ `RESOLVED`	17h 39m	1
⊙ **Nigel Daley** made transition – 30/Jan/09 20:14 `RESOLVED` ➡ `CLOSED`	22d 1h 36m	1

⌄ People

Assignee:

⊙ Hairong Kuang

Reporter:

⊙ Hairong Kuang

Votes:

0 Vote for this issue

Watchers:

1 Start watching this issue

⌄ Dates

Created:

18/Dec/08 00:47

Updated:

08/Jul/09 16:43

Resolved:

08/Jan/09 18:38