Infrastructure - Story #3434

Investigate Timeout Problems on Staging Hazelcast

2012-12-19 19:18 - Robert Waltz

Status:	Closed		**Start date:**	2012-12-19
Priority:	Normal		**Due date:**	2013-01-05
Assignee:	Robert Waltz		**% Done:**	100%
Category:	Metacat		**Estimated time:**	0.00 hour
Target version:	Sprint-2012.50-Block.6.4			
Story Points:				

Description

We have noted on upgrade to 2.4.1 hazelcast an increase in the number of reported timeouts from HZ members to the master node of the hz cluster (the oldest member of the cluster) on staging.

Determine what effects the exceptions may have based on timeout scenarios.

Determine if any simple modifications might alleviate some of the timeouts.

Manipulation of two variables had no effect on the performance of Staging machines, and I was unable to simulate split brain on the environment.

I modified two variables and ran a single threaded script that would evict objects, get them and then put them. I had all daemons running while executing the script.

The first variable modified is hazelcast.max.no.heartbeat.seconds, Max timeout of heartbeat in seconds for a node to assume it is dead, with a default setting of 300. In the uploaded files, I modified the variable to be 60 seconds in the zip files containing the string 60SecTO.

The second variable modified is hazelcast.map.partition.count, Distributed map partition count, with a default setting of 271. In the uploaded files, the results of modifigyging the variable to be 2710 are found in files containing the strings Partions & 2710.

I first wanted to test if a lower heartbeat timeout setting would affect the number of timeouts. It did not.

I also wished to monitor the performance of increasing the partition count. I was curious if the amount of traffic over TCP would decrease if the datastructures were split among more partitions. I did not find any significant difference with the exception that increasing partition size increases migration time.

Subtasks:

Task # 3435: Examine the Locking exception thrown during call to updateReplicationMetad...	**Closed**
Task # 3436: Examine the effects of modifying partition count variable on Sandbox	**Closed**
Task # 3437: Gather Baseline of HZ interactions for tests on Sandbox	**Closed**
Task # 3439: Examine the effects of modifying heartbeat timeout variable on Sandbox	**Closed**

History

#1 - 2013-01-15 20:05 - Robert Waltz

- Description updated

#2 - 2013-01-15 20:10 - Robert Waltz

- File StageUnmBaseline.zip added

- File StageOrcBaseline.zip added

- File StageUnmPartitions2710.zip added

- File StageOrcPartitions2710.zip added

- File StageOrcBaseline60SecTO.zip added

- File StageUnmPartitions60SecTO2710.zip added

- File StageOrcPartitions60SecTO2710.zip added

- File StageUnmBaseline60SecTO.zip added

#3 - 2013-01-15 20:11 - Robert Waltz

- Status changed from New to Closed

Files

StageUnmBaseline.zip	105 KB	2013-01-15		Robert Waltz
StageOrcBaseline.zip	125 KB	2013-01-15		Robert Waltz
StageUnmPartitions2710.zip	50.3 KB	2013-01-15		Robert Waltz
StageOrcPartitions2710.zip	162 KB	2013-01-15		Robert Waltz
StageUnmBaseline60SecTO.zip	39.9 KB	2013-01-15		Robert Waltz
StageOrcBaseline60SecTO.zip	81.7 KB	2013-01-15		Robert Waltz
StageUnmPartitions60SecTO2710.zip	45.6 KB	2013-01-15		Robert Waltz
StageOrcPartitions60SecTO2710.zip	92.2 KB	2013-01-15		Robert Waltz