

Infrastructure - Story #2166

Hazelcast cluster errors need to be isolated

2012-01-04 17:11 - Chris Jones

<b>Status:</b>	Closed	<b>Start date:</b>	2012-01-09
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Chris Jones	<b>% Done:</b>	100%
<b>Category:</b>	d1_cn_service	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	Sprint-2012.01-Block.1.1		
<b>Story Points:</b>			
<b>Description</b> <p>When MN-MN replication (ReplicationManager) is running on a CN, calls to the cluster from the HazelcastClient instance fail in that the Response to the Call never completes. This is reflected in the /var/log/dataone/d1-processing-jsvc.err log file on cn-dev-2.</p> <p>In order to isolate the issue, tests need to be performed that take the D1 code out of the mix, and add in factors:</p> <p>1) Client code connections with and without D1 objects 2) Default hazelcast config vs optimized config (eviction policy, etc) 3) Default JVM params and JVM params optimized to match CN 4) Inter-JVM HazelcastClient connections vs intra-JVM 5) Introduce threading to match ReplicationManager model</p>			
<b>Subtasks:</b>			
Task # 2176: Ensure Metacat doesn't insert null SystemMetadata into Hazelcast			Closed
Task # 2177: Use Lock.tryLock() (not Lock.lock()) in d1_replication			Closed
Task # 2178: Use Lock.tryLock() (not Lock.lock()) in Metacat			Rejected
Task # 2179: Use REST API calls from d1_replication for storage cluster writes			Closed
Task # 2180: Coordinate d1_replication locks in the process cluster			Closed
Task # 2182: Coordinate d1_indexer locks in the process cluster			Closed
Task # 2183: Revise usage of d1Client in Synchronization			Closed
Task # 2185: In Metacat, add new method for Updating of ObsoletedBy of SystemMetadata			Closed
Task # 2186: In d1_cn_service, proxy new method for Updating of ObsoletedBy of SystemMe...			Closed
Task # 2187: In Metacat, add new method for deleting replicas of SystemMetadata			Closed
Task # 2188: In d1_cn_service, proxy new method for deleting replicas of SystemMetadata			Closed
Task # 2203: Update d1_common_java to include new methods to APIs			Closed
Task # 2210: Update d1_libclient_java to implement new methods to APIs			Rejected

History

#1 - 2012-01-17 18:06 - Chris Jones

- Position set to 1
- Position changed from 1 to 351

#2 - 2012-01-20 14:10 - Chris Jones

- Status changed from In Progress to Closed

The main locking issues that would produce "No response for call" errors from the ProxyHelper class in Hazelcast were primarily due to contention between the calling code (d1\_sync, d1\_repl) and metacat. By switching the synchronization and replication coordination locks to the process cluster helped immensely. We also switched to using tryLock() calls to reduce the possibility of having complete blocking code. Metacat code was updated to ensure locks were closed properly in the storage cluster.