

## Infrastructure - Story #3375

### Hazelcast should be upgraded to version 2.X for stability

2012-11-08 00:45 - Chris Jones

<b>Status:</b>	Closed	<b>Start date:</b>	2012-11-08
<b>Priority:</b>	Normal	<b>Due date:</b>	2013-01-05
<b>Assignee:</b>	Chris Jones	<b>% Done:</b>	100%
<b>Category:</b>	performance-scalability	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	Sprint-2012.50-Block.6.4		
<b>Story Points:</b>			

#### Description

We've seen a number of issues in each environment where Metacat's PostgreSQL system metadata tables don't stay in sync, replication suffers from inconsistent replica statuses across CNs, and the hzIdentifiers set iterator inconsistently won't iterate through the entire Set. One major factor may be Hazelcast cluster instance communication problems, showing up in the catalina.out logs as:

```
WARNING: /64.106.40.7:5701 [DataONE] hz.1.InThread Closing socket to endpoint Address[160.36.13.152:5701], Cause:java.io.EOFException
```

These are known issues in the Hazelcast forum and issue list for 1.9.X, and the recommended fix is to upgrade to Hazelcast 2.X, where the connection framework has been significantly rewritten. This story documents the components that need to be modified to handle the 2.X API changes.

The plan is to use the Hazelcast 2.4.x series, however there is an outstanding HazelcastClient connection bug (see <https://github.com/hazelcast/hazelcast/issues/315>) that affects all versions of Hazelcast from 1.9.3 to 2.4. It is fixed in 2.4.1, which has not been released yet. The plan is to use Hudson to build Hazelcast 2.4.1 from the TAG, use this build to refactor the code, and then eventually use the 2.4.1 release from the Hazelcast group once they get it pushed into Maven Central.

#### Subtasks:

Task # 3376: Upgrade d1_synchronization to Hazelcast 2.x	Closed
Task # 3377: Upgrade d1_index to Hazelcast 2.x	Closed
Task # 3378: Upgrade d1_replication to Hazelcast 2.x	Closed
Task # 3379: Upgrade metacat to Hazelcast 2.x	Closed
Task # 3380: Upgrade d1_client_hzpeek to Hazelcast 2.x	New
Task # 3382: Upgrade d1_cn_common to Hazelcast 2.x	Closed
Task # 3383: Upgrade d1_node_registry to Hazelcast 2.x	Closed
Task # 3384: Upgrade d1_log_aggregation to Hazelcast 2.x	Closed
Task # 3385: Upgrade d1_process_daemon to Hazelcast 2.x	Closed
Task # 3386: Add a Hazelcast build to Hudson	Closed
Task # 3393: Upgrade d1_identity_manger to Hazelcast 2.x	Rejected
Task # 3381: Upgrade replicationstatusmonitor to Hazelcast 2.x	Closed

#### History

##### #1 - 2012-11-08 00:46 - Chris Jones

- Description updated

##### #2 - 2012-11-08 17:59 - Chris Jones

- Description updated

##### #3 - 2012-12-03 16:09 - Chris Jones

- Status changed from New to In Progress

Most components have been upgraded and are in testing.

##### #4 - 2012-12-12 16:50 - Chris Jones

- Due date changed from 2012-11-10 to 2013-01-05

- Target version changed from Sprint-2012.44-Block.6.2 to Sprint-2012.50-Block.6.4

**#5 - 2013-01-08 00:02 - Chris Jones**

- Status changed from In Progress to Closed

We've upgraded the CN stack to 2.4.1, and have tested in the dev, sandbox, and stage environments using the 1.1 branch, with no newly introduced bugs. The network partitioning behavior is not resolved, however. Closing this ticket since the upgrade is complete.