CouldOnlyBeReplicatedTo

Could Only Be Replicated To ...

A common message people see is "could only be replicated to 0 nodes, instead of ...".

What does this mean? It means that the Block Replication mechanism of HDFS could not make any copies of a file (more specifically a block within a file) it wanted to create.

This can be caused by various conditions, including:

- No DataNode instances being up and running.
 Action: look at the servers, see if the processes are running.
- The DataNode instances cannot talk to the server, through networking or Hadoop configuration problems.
 Action: look at the logs of one of the DataNodes.
- Your DataNode instances have no hard disk space in their configured data directories.
 Action: look at the dfs.data.dir list in the node configurations, verify that at least one of the directories exists, and is writeable by the user running the Hadoop processes. Then look at the logs.
- Your DataNode instances have run out of space. Look at the disk capacity via the Namenode web pages.
 Action: delete old files. Compress under-used files. Buy more disks for existing servers (if there is room), upgrade the existing servers to bigger drives, or add some more servers.
- The reserved space for a DN (as set in dfs.datanode.du.reserved) is greater than the remaining free space, so the DN thinks it has no free space.
 - Action: look at the value of this option and compare it with the amount of available space in your datanodes.
- There's not enough threads in the datanodes, and requests are being rejected.
- Action: Look in the datanode logs, and the value of dfs.datanode.handler.count
- Some configuration problem is preventing effective two-way communication. In particular, we have seen that the combination of settings below to trigger the connectivity problem:

```
dfs.data.transfer.protection = authentication
dfs.encrypt.data.transfer = false
```

Action: check to see if this combination is set. If so, either disable protection or enable encryption.

You may also get this message due to permissions.

This is not a problem in Hadoop, it is a problem (possibly configuration) in your cluster that you are going to have to fix on your own. Sorry.