

Infrastructure - Bug #1397

CN resource leak

2011-03-01 16:45 - Dave Vieglais

Status:	Closed	Start date:	2011-03-01
Priority:	High	Due date:	
Assignee:	Chris Jones	% Done:	100%
Category:	d1_cn_service	Estimated time:	0.00 hour
Target version:	Sprint-2011.10-Block.2	Story Points:	
Milestone:			
Product Version:	*		

Description

CNs degrade in performance over time - noticeable over less than one week, eventually reaching the point where the CN service fails to respond.

At one point, cn-ucsb-1.dataone.org was returning an error about the garbage collector being out of resources or some such.

Early investigation indicated the problem *might* be in the xslt processor.

Lots of errors appear in the syslog, e.g.:

```
Mar 1 16:37:34 cn-ucsb-1 jsvc.exec[1766]: e(JkCoyoteHandler.java:190)#012#011at
org.apache.jk.common.HandlerRequest.invoke(HandlerRequest.java:291)#012#011at
org.apache.jk.common.ChannelSocket.invoke(ChannelSocket.java:769)#012#011at
org.apache.jk.common.ChannelSocket.processConnection(ChannelSocket.java:698)#012#011at
org.apache.jk.common.ChannelSocket$SocketConnection.runIt(ChannelSocket.java:891)#012#011at
org.apache.tomcat.util.threads.ThreadPool$ControlRunnable.run(ThreadPool.java:690)#012#011at
java.lang.Thread.run(Thread.java:662)#012Caused by: java.io.IOException: Unexpected packet type: 101#012#011at
org.postgresql.core.v3.QueryExecutorImpl.processResults(QueryExecutorImpl.java:1361)#012#011at
org.postgresql.core.v3.QueryExecutorImpl.execute(QueryExecutorImpl.java:175)#012#011... 128 more#012Error querying system
metadata: An I/O error occurred while sending to the backend.
Mar 1 16:37:34 cn-ucsb-1 jsvc.exec[1766]: CN Dispatching: /d1/object
```

History

#1 - 2011-03-01 17:19 - Dave Vieglais

- Target version set to Sprint-2011.09-Block.2
- Position set to 1

#2 - 2011-03-07 17:21 - Dave Vieglais

- Target version changed from Sprint-2011.09-Block.2 to Sprint-2011.10-Block.2
- Position deleted (4)
- Position set to 1

#3 - 2011-03-07 17:28 - Chris Jones

- Status changed from New to In Progress
- Assignee set to Chris Jones

#4 - 2011-03-08 20:04 - Chris Jones

I've modified the cn-ucsb-1.dataone.org tomcat installation to increase resources and to monitor the memory usage. I increased PermGen size since it quickly hit 62m when only 64m was allocated. I increased heap min and max to 8G, since metacat performance relies on in-memory query caching, and when catalog size is on the order of 50K docs, caching can be an issue. I enabled parallel garbage collection to take advantage of the multi-core architecture when heap space is large. Specifically, I added the following to JAVA_OPTS:

- Djava.rmi.server.hostname=128.111.220.46
- Dcom.sun.management.jmxremote.port=8686

-Dcom.sun.management.jmxremote.ssl=false
-XX:UseParallelGC
-XX:MaxPermSize=128m
-Xms8192m
-Xmx8192m

I hit the CN heavily using the fuse client, and saw garbage collection consistently occurring around when heap usage was around 2G. No exceptions thus far, but will continue monitoring.

#5 - 2011-03-09 23:48 - Chris Jones

- *Status changed from In Progress to Closed*