

Infrastructure - Bug #7092

SSL client accessing the remote url gets an exception

2015-05-11 18:41 - Jing Tao

Status:	Closed	Start date:	2015-05-11
Priority:	Normal	Due date:	
Assignee:	Jing Tao	% Done:	100%
Category:	Metacat	Estimated time:	0.00 hour
Target version:	CCI-2.0.0	Story Points:	
Milestone:	None		
Product Version:	*		

Description

When I tested the Metacat replication between my local host and mn-demo-6, the task failed.

The tomcat log in mn-demo-6 is:

```
ERROR (edu.ucsb.nceas.metacat.replication.ReplicationService:getURLStream:2327) Unexpected Throwable encountered.
Logging and moving on: org.apache.http.conn.ConnectionPoolTimeoutException: Timeout waiting for connection from pool
ERROR (edu.ucsb.nceas.metacat.replication.ReplicationService:getURLStream:2329)
org.apache.http.conn.ConnectionPoolTimeoutException: Timeout waiting for connection from pool
at org.apache.http.impl.conn.PoolingHttpClientConnectionManager.leaseConnection(PoolingHttpClientConnectionManager.java:250)
at org.apache.http.impl.conn.PoolingHttpClientConnectionManager$1.get(PoolingHttpClientConnectionManager.java:227)
at org.apache.http.impl.execchain.MainClientExec.execute(MainClientExec.java:173)
at org.apache.http.impl.execchain.ProtocolExec.execute(ProtocolExec.java:195)
at org.apache.http.impl.execchain.RetryExec.execute(RetryExec.java:86)
at org.apache.http.impl.execchain.RedirectExec.execute(RedirectExec.java:108)
at org.apache.http.impl.client.InternalHttpClient.doExecute(InternalHttpClient.java:186)
at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:82)
at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:106)
at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:57)
at org.dataone.client.rest.RestClient.doRequest(RestClient.java:294)
at org.dataone.client.rest.RestClient.doRequestNoBody(RestClient.java:230)
at org.dataone.client.rest.RestClient.doGetRequest(RestClient.java:148)
at edu.ucsb.nceas.metacat.replication.ReplicationService.getURLStream(ReplicationService.java:2311)
at edu.ucsb.nceas.metacat.replication.ReplicationService.getURLBytes(ReplicationService.java:2344)
at edu.ucsb.nceas.metacat.replication.ReplicationService.handleForceReplicateRequest(ReplicationService.java:662)
at edu.ucsb.nceas.metacat.replication.ReplicationServlet.handleGetOrPost(ReplicationServlet.java:156)
at edu.ucsb.nceas.metacat.replication.ReplicationServlet.doGet(ReplicationServlet.java:86)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:620)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:727)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:303)
at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:208)
at org.apache.catalina.core.StandardWrapperValve.invoke(StandardWrapperValve.java:220)
at org.apache.catalina.core.StandardContextValve.invoke(StandardContextValve.java:122)
at org.apache.catalina.authenticator.AuthenticatorBase.invoke(AuthenticatorBase.java:501)
at org.apache.catalina.core.StandardHostValve.invoke(StandardHostValve.java:170)
at org.apache.catalina.valves.ErrorReportValve.invoke(ErrorReportValve.java:98)
at org.apache.catalina.valves.AccessLogValve.invoke(AccessLogValve.java:950)
at org.apache.catalina.core.StandardEngineValve.invoke(StandardEngineValve.java:116)
at org.apache.catalina.connector.CoyoteAdapter.service(CoyoteAdapter.java:408)
at org.apache.coyote.ajp.AjpProcessor.process(AjpProcessor.java:193)
at org.apache.coyote.AbstractProtocol$AbstractConnectionHandler.process(AbstractProtocol.java:607)
at org.apache.tomcat.util.net.JIoEndpoint$SocketProcessor.run(JIoEndpoint.java:313)
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1145)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:615)
at java.lang.Thread.run(Thread.java:745)
```

```
ERROR (edu.ucsb.nceas.metacat.replication.ReplicationService:handleForceReplicateRequest:827)
ReplicationService.handleForceReplicateRequest - An error occurred in replication. Please see the replication log at:
/var/metacat/logs/metacatreplication.log
ERROR (edu.ucsb.nceas.metacat.replication.ReplicationService:handleForceReplicateRequest:828)
```

ReplicationService.handleForceReplicateRequest - General error when adding doc tao.13302.1 to DB with action INSERT:
org.apache.http.conn.ConnectionPoolTimeoutException: Timeout waiting for connection from pool

Here is the tomcat log from my local host:

688771 [Thread-143](#) WARN ReplicationLogging - ForceReplicationHandler.run - sending message:
<https://mn-demo-6.test.dataone.org/knb/servlet/replication?action=forcereplicate&server=valley.duckdns.org/metacat/servlet/replication&docid=tao.13302.1&dbaction=INSERT>

748990 [Thread-143](#) ERROR ReplicationLogging - Unexpected Throwable encountered. Logging and moving on:
java.net.SocketTimeoutException: Read timed out

748995 [Thread-143](#) ERROR ReplicationLogging - java.net.SocketTimeoutException: Read timed out
at java.net.SocketInputStream.socketRead0(Native Method)
at java.net.SocketInputStream.read(SocketInputStream.java:152)
at java.net.SocketInputStream.read(SocketInputStream.java:122)
at sun.security.ssl.InputRecord.readFully(InputRecord.java:442)
at sun.security.ssl.InputRecord.read(InputRecord.java:480)
at sun.security.ssl.SSLSocketImpl.readRecord(SSLSocketImpl.java:934)
at sun.security.ssl.SSLSocketImpl.readDataRecord(SSLSocketImpl.java:891)
at sun.security.ssl.AppInputStream.read(AppInputStream.java:102)
at org.apache.http.impl.io.SessionInputBufferImpl.streamRead(SessionInputBufferImpl.java:136)
at org.apache.http.impl.io.SessionInputBufferImpl.fillBuffer(SessionInputBufferImpl.java:152)
at org.apache.http.impl.io.SessionInputBufferImpl.readLine(SessionInputBufferImpl.java:270)
at org.apache.http.impl.conn.DefaultHttpResponseParser.parseHead(DefaultHttpResponseParser.java:140)
at org.apache.http.impl.conn.DefaultHttpResponseParser.parseHead(DefaultHttpResponseParser.java:57)
at org.apache.http.impl.io.AbstractMessageParser.parse(AbstractMessageParser.java:260)
at org.apache.http.impl.DefaultBHttpClientConnection.receiveResponseHeader(DefaultBHttpClientConnection.java:161)
at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:57)
at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
at java.lang.reflect.Method.invoke(Method.java:606)
at org.apache.http.impl.conn.CPoolProxy.invoke(CPoolProxy.java:138)
at com.sun.proxy.\$Proxy30.receiveResponseHeader(Unknown Source)
at org.apache.http.protocol.HttpRequestExecutor.doReceiveResponse(HttpRequestExecutor.java:271)
at org.apache.http.protocol.HttpRequestExecutor.execute(HttpRequestExecutor.java:123)
at org.apache.http.impl.execchain.MainClientExec.execute(MainClientExec.java:254)
at org.apache.http.impl.execchain.ProtocolExec.execute(ProtocolExec.java:195)
at org.apache.http.impl.execchain.RetryExec.execute(RetryExec.java:86)
at org.apache.http.impl.execchain.RedirectExec.execute(RedirectExec.java:108)
at org.apache.http.impl.client.InternalHttpClient.doExecute(InternalHttpClient.java:186)
at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:82)
at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:106)
at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:57)
at org.dataone.client.rest.RestClient.doRequest(RestClient.java:294)
at org.dataone.client.rest.RestClient.doRequestNoBody(RestClient.java:230)
at org.dataone.client.rest.RestClient.doGetRequest(RestClient.java:148)
at edu.ucsb.nceas.metacat.replication.ReplicationService.getURLStream(ReplicationService.java:2311)
at edu.ucsb.nceas.metacat.replication.ReplicationService.getURLContent(ReplicationService.java:2287)
at edu.ucsb.nceas.metacat.replication.ForceReplicationHandler.run(ForceReplicationHandler.java:328)
at java.lang.Thread.run(Thread.java:745)

748995 [Thread-143](#) ERROR edu.ucsb.nceas.metacat.replication.ForceReplicationHandler - ForceReplicationHandler.run - An error occurred in replication. Please see the replication log at: /var/metacat/logs/metacatreplication.log

748995 [Thread-143](#) ERROR ReplicationLogging - ForceReplicationHandler.run - Error in ForceReplicationHandler.run for server mn-demo-6.test.dataone.org/knb/servlet/replication : java.net.SocketTimeoutException: Read timed out

748995 [Thread-143](#) WARN ReplicationLogging - ForceReplicationHandler.run - exiting ForceReplicationHandler Thread

History

#1 - 2015-05-11 19:34 - Rob Nahf

- % Done changed from 0 to 30

- Category set to Metacat

- Status changed from New to In Progress

- Assignee changed from Rob Nahf to Jing Tao

Reviewed Replication code and found a likely spot where problems were happening. ReplicationHandler.update() collects a list of open InputStreams from the other servers in its ring, and processes them. There was one spot in the method that returned from the method in the case of some sort of

exception, but didn't manage the InputStream vector. I wrapped the whole method in a try / finally clause that ensures that all of the input streams in the vector are closed.

I did not do any testing on it. Jing maybe you can update your project and see how it works?

#2 - 2015-05-11 21:52 - Jing Tao

Hi Rob: it is getting better. The document can be replicated from my local host to mn-demo-6. There is no error on mn-demo-6. But in my local host (source) still has an error:

1036047 [Thread-187](#) WARN ReplicationLogging - ForceReplicationHandler.run - sending message:

<https://mn-demo-6.test.dataone.org/knb/servlet/replication?action=forcereplicate&server=valley.duckdns.org/metacat/servlet/replication&docid=tao.13305.1&dbaction=INSERT>

1096365 [Thread-187](#) ERROR ReplicationLogging - Unexpected Throwable encountered. Logging and moving on: java.net.SocketTimeoutException: Read timed out

1096368 [Thread-187](#) ERROR ReplicationLogging - java.net.SocketTimeoutException: Read timed out
at java.net.SocketInputStream.socketRead0(Native Method)

at java.net.SocketInputStream.read(SocketInputStream.java:152)

at java.net.SocketInputStream.read(SocketInputStream.java:122)

at sun.security.ssl.InputRecord.readFully(InputRecord.java:442)

at sun.security.ssl.InputRecord.read(InputRecord.java:480)

at sun.security.ssl.SSLSocketImpl.readRecord(SSLSocketImpl.java:934)

at sun.security.ssl.SSLSocketImpl.readDataRecord(SSLSocketImpl.java:891)

at sun.security.ssl.AppInputStream.read(AppInputStream.java:102)

at org.apache.http.impl.io.SessionInputBufferImpl.streamRead(SessionInputBufferImpl.java:136)

at org.apache.http.impl.io.SessionInputBufferImpl.fillBuffer(SessionInputBufferImpl.java:152)

at org.apache.http.impl.io.SessionInputBufferImpl.readLine(SessionInputBufferImpl.java:270)

at org.apache.http.impl.conn.DefaultHttpResponseParser.parseHead(DefaultHttpResponseParser.java:140)

at org.apache.http.impl.conn.DefaultHttpResponseParser.parseHead(DefaultHttpResponseParser.java:57)

at org.apache.http.impl.io.AbstractMessageParser.parse(AbstractMessageParser.java:260)

at org.apache.http.impl.DefaultBHttpClientConnection.receiveResponseHeader(DefaultBHttpClientConnection.java:161)

at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)

at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:57)

at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)

at java.lang.reflect.Method.invoke(Method.java:606)

at org.apache.http.impl.conn.CPoolProxy.invoke(CPoolProxy.java:138)

at com.sun.proxy.\$Proxy30.receiveResponseHeader(Unknown Source)

at org.apache.http.protocol.HttpRequestExecutor.doReceiveResponse(HttpRequestExecutor.java:271)

at org.apache.http.protocol.HttpRequestExecutor.execute(HttpRequestExecutor.java:123)

at org.apache.http.impl.execchain.MainClientExec.execute(MainClientExec.java:254)

at org.apache.http.impl.execchain.ProtocolExec.execute(ProtocolExec.java:195)

at org.apache.http.impl.execchain.RetryExec.execute(RetryExec.java:86)

at org.apache.http.impl.execchain.RedirectExec.execute(RedirectExec.java:108)

at org.apache.http.impl.client.InternalHttpClient.doExecute(InternalHttpClient.java:186)

at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:82)

at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:106)

at org.apache.http.impl.client.CloseableHttpClient.execute(CloseableHttpClient.java:57)

at org.dataone.client.rest.RestClient.doRequest(RestClient.java:294)

at org.dataone.client.rest.RestClient.doRequestNoBody(RestClient.java:230)

at org.dataone.client.rest.RestClient.doGetRequest(RestClient.java:148)

at edu.ucsb.nceas.metacat.replication.ReplicationService.getURLStream(ReplicationService.java:2313)

at edu.ucsb.nceas.metacat.replication.ReplicationService.getURLContent(ReplicationService.java:2289)

at edu.ucsb.nceas.metacat.replication.ForceReplicationHandler.run(ForceReplicationHandler.java:328)

at java.lang.Thread.run(Thread.java:745)

1096368 [Thread-187](#) ERROR edu.ucsb.nceas.metacat.replication.ForceReplicationHandler - ForceReplicationHandler.run - An error occurred in replication. Please see the replication log at: /var/metacat/logs/metacatreplication.log

1096368 [Thread-187](#) ERROR ReplicationLogging - ForceReplicationHandler.run - Error in ForceReplicationHandler.run for server mn-demo-6.test.dataone.org/knb/servlet/replication : java.net.SocketTimeoutException: Read timed out

1096368 [Thread-187](#) WARN ReplicationLogging - ForceReplicationHandler.run - exiting ForceReplicationHandler Thread In D1URLFilter.

#3 - 2015-05-12 05:46 - Jing Tao

- Status changed from *In Progress* to *Closed*

- % Done changed from 30 to 100

In ReplicationServiceClass, the sslClient was a static class field. If two statement called it at different thread, it can cause the exception. When I change it to a local variable, the problem is fixed.

#4 - 2015-05-17 23:24 - Rob Nahf

HttpClient and this connection manager is built for multiple threads, but recommends setting a context for each thread. I don't think the Metacat replication code is set up well to accommodate this. If you plan to destroy the HttpClient every call, maybe you can reduce overhead by using the BasicClientConnectionManager. (

<https://hc.apache.org/httpcomponents-client-ga/httpclient/apidocs/org/apache/http/impl/conn/BasicClientConnectionManager.html>)

#5 - 2015-05-18 22:27 - Jing Tao

But the BasicClientConnectionManager class is deprecated.