

13. 排查cpu过高及联问题

问题

[P1][PROBLEM][bjxg-secoo-ticket-service-60-28-01][][all(#10) load.1min 168.58>=50][O2 2019-05-22 18:44:00][67]

排查过程

1. 60.28服务器配置为12c24g，混合部署：
 - /商城/中台/优惠券/secoo-ticket-service
 - /商城/中台/微信回调/wechar
 - /商城/中台/评价/secooFragmentServer
 - /商城/中台/评价/secooComment
 - /商城/中台/会员中心/secooMobileMy
2. 命令**top**找到消耗CPU最多进程，命令“**jps**”确认进程号20124是secooMobileMy服务

```
Btop - 20:55:09 up 1672 days, 30 min, 3 users, load average: 570.86, 563.88, 564.09B
Tasks:BB 304 Btotal,BB 1 Brunning,BB 302 Bsleeeing,BB 1 Bstopped,BB 0 BzombieB
Cpu0 :BB 97.7%Bus,BB 1.7%Bsy,BB 0.0%Bni,BB 0.0%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.7%Bsi,BB 0.0%BstB
Cpu1 :BB 99.7%Bus,BB 0.0%Bsy,BB 0.0%Bni,BB 0.3%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu2 :BB 99.3%Bus,BB 0.3%Bsy,BB 0.0%Bni,BB 0.3%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu3 :BB100.0%Bus,BB 0.0%Bsy,BB 0.0%Bni,BB 0.0%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu4 :BB 99.7%Bus,BB 0.0%Bsy,BB 0.0%Bni,BB 0.3%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu5 :BB 99.7%Bus,BB 0.0%Bsy,BB 0.0%Bni,BB 0.3%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu6 :BB 99.0%Bus,BB 1.0%Bsy,BB 0.0%Bni,BB 0.0%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu7 :BB 99.3%Bus,BB 0.3%Bsy,BB 0.0%Bni,BB 0.3%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu8 :BB 99.0%Bus,BB 0.7%Bsy,BB 0.0%Bni,BB 0.3%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu9 :BB100.0%Bus,BB 0.0%Bsy,BB 0.0%Bni,BB 0.0%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu10 :BB100.0%Bus,BB 0.0%Bsy,BB 0.0%Bni,BB 0.0%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Cpu11 :BB100.0%Bus,BB 0.0%Bsy,BB 0.0%Bni,BB 0.0%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.0%Bsi,BB 0.0%BstB
Mem: BB 24554844k Btotal,BB 19779508k Bused,BB 4775336k Bfree,BB 369680k BbuffersB
Swap:BB 10485752k Btotal,BB 1275624k Bused,BB 9210128k Bfree,BB 2859012k BcachedB
```

3. 命令“**top -H -p 20124**”找到消耗CPU最多线程，相对39314线程消耗CPU最多

```
Btop - 20:56:08 up 1672 days, 31 min, 3 users, load average: 590.17, 570.43, 566.31B
Tasks:BB 666 Btotal,BB 600 Brunning,BB 66 Bsleeeing,BB 0 Bstopped,BB 0 BzombieB
Cpu(s):BB 99.2%Bus,BB 0.6%Bsy,BB 0.0%Bni,BB 0.1%Bid,BB 0.0%Bwa,BB 0.0%Bhi,BB 0.1%Bsi,BB 0.0%BstB
Mem: BB 24554844k Btotal,BB 19782216k Bused,BB 4772628k Bfree,BB 369764k BbuffersB
Swap:BB 10485752k Btotal,BB 1275624k Bused,BB 9210128k Bfree,BB 2859424k BcachedB

BB30501 root 20 0 11.5g 1.9g 11m R 2.2 8.0 5:04.68 java
BB39314 root 20 0 11.5g 1.9g 11m R 7.3 8.0 2:31.72 java
B0536 root 20 0 11.5g 1.9g 11m R 2.2 8.0 5:03.43 java
BB39438 root 20 0 11.5g 1.9g 11m R 4.9 8.0 2:29.63 java
B0581 root 20 0 11.5g 1.9g 11m R 2.2 8.0 5:16.10 java
BB33531 root 20 0 11.5g 1.9g 11m R 4.6 8.0 3:38.13 java
B0583 root 20 0 11.5g 1.9g 11m R 2.2 8.0 5:08.46 java
BB37095 root 20 0 11.5g 1.9g 11m R 4.6 8.0 2:51.39 java
B0584 root 20 0 11.5g 1.9g 11m R 2.2 8.0 5:10.87 java
BB42334 root 20 0 11.5g 1.9g 11m R 4.3 8.0 2:11.60 java
B0605 root 20 0 11.5g 1.9g 11m R 2.2 8.0 3:34.48 java
BB45873 root 20 0 11.5g 1.9g 11m R 4.3 8.0 1:57.20 java
B0612 root 20 0 11.5g 1.9g 11m R 2.2 8.0 4:53.76 java
BB30623 root 20 0 11.5g 1.9g 11m R 4.0 8.0 4:37.18 java
B0613 root 20 0 11.5g 1.9g 11m R 2.2 8.0 5:17.03 java
BB30629 root 20 0 11.5g 1.9g 11m R 4.0 8.0 4:41.49 java
B0617 root 20 0 11.5g 1.9g 11m R 2.2 8.0 4:39.89 java
BB33510 root 20 0 11.5g 1.9g 11m R 4.0 8.0 3:33.33 java
B0623 root 20 0 11.5g 1.9g 11m R 2.2 8.0 4:37.05 java
BB45714 root 20 0 11.5g 1.9g 11m R 4.0 8.0 1:56.84 java
B0626 root 20 0 11.5g 1.9g 11m R 2.2 8.0 5:13.38 java
BB30469 root 20 0 11.5g 1.9g 11m R 3.7 8.0 3:39.21 java
B0627 root 20 0 11.5g 1.9g 11m R 2.2 8.0 4:39.21 java
```

4. 命令“**jstack 20124 > jstack-30124.log**”打印当前线程运行情况

```
[secoo_RD@bjxg-secoo-ticket-service-60-28-01 ~]$ sudo jstack 30124 > jstack-30124.log
```

5. 消耗CPU最多线程39314转换16进制（jstack的线程ID为16进制）

```
[secoo_RD@bjxg-mshopping-01 ~]$ printf %x 39314
9992
```

6. 命令“grep”找到消耗CPU最多的形成执行内容

```

secoco_RDBjxyj-secoco-ticket-service-60-28-01 -jls grep -B50 9992 jstack-30124-090522-2.log
    at org.apache.ibatis.type.UnknownTypeHandler.setNonNullParameter(UnknownTypeHandler.java:21)
    at org.apache.ibatis.type.BaseTypeHandler.setParameter(BaseTypeHandler.java:23)
    at org.apache.ibatis.executor.parameter.DefaultParameterHandler.setParameters(DefaultParameterHandler.java:73)
    at org.apache.ibatis.executor.statement.PreparedStatementHandler.parameterize(PreparedStatementHandler.java:61)
    at org.apache.ibatis.executor.statement.RoutingStatementHandler.parameterize(RoutingStatementHandler.java:43)
    at org.apache.ibatis.executor.SimpleExecutor.prepareStatement(SimpleExecutor.java:56)
    at org.apache.ibatis.executor.SimpleExecutor.doQuery(SimpleExecutor.java:40)
    at org.apache.ibatis.executor.BaseExecutor.queryFromDatabase(BaseExecutor.java:243)
    at org.apache.ibatis.executor.BaseExecutor.query(BaseExecutor.java:117)
    at org.apache.ibatis.executor.CachingExecutor.query(CachingExecutor.java:72)
    at org.apache.ibatis.session.defaults.DefaultSqlSession.selectList(DefaultSqlSession.java:79)
    at org.apache.ibatis.session.defaults.DefaultSqlSession.selectList(DefaultSqlSession.java:73)
    at org.apache.ibatis.session.defaults.DefaultSqlSession.selectOne(DefaultSqlSession.java:39)
    at sun.reflect.GeneratedMethodAccessor168.invoke(Unknown Source)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    at java.lang.reflect.Method.invoke(Method.java:606)
    at org.mybatis.spring.SqlSessionTemplate$SqlSessionInterceptor.invoke(SqlSessionTemplate.java:350)
    at com.sun.proxy.$Proxy11.selectOne(Unknown Source)
    at org.mybatis.spring.SqlSessionTemplate.selectOne(SqlSessionTemplate.java:155)
    at org.apache.ibatis.binding.MapperMethod.execute(MapperMethod.java:75)
    at org.apache.ibatis.binding.MapperProxy.invoke(MapperProxy.java:25)
    at com.sun.proxy.$Proxy16.queryIsCommentUp(Unknown Source)
    at com.secoco.order.service.impl.OrderProductImgServiceImpl.queryIsCommentUp(OrderProductImgServiceImpl.java:132)
    at com.secoco.order.manager.OrderManager.isCommentUp(OrderManager.java:2817)
    at com.secoco.order.manager.OrderManager.viewOrder(OrderManager.java:2000)
    at org.apache.jsp.order.myorder_jsp._jspService(myorder_jsp.java:122)
    at org.apache.jasper.runtime.HttpJspBase.service(HttpJspBase.java:70)
    at javax.servlet.http.HttpServlet.service(HttpServlet.java:722)
    at org.apache.jasper.servlet.JspServletWrapper.service(JspServletWrapper.java:433)
    at org.apache.jasper.servlet.JspServlet.serviceJspFile(JspServlet.java:389)
    at org.apache.jasper.servlet.JspServlet.service(JspServlet.java:333)
    at javax.servlet.http.HttpServlet.service(HttpServlet.java:722)
    at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:304)
    at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:210)
    at org.apache.catalina.core.StandardWrapperValve.invoke(StandardWrapperValve.java:224)
    at org.apache.catalina.core.StandardContextValve.invoke(StandardContextValve.java:169)
    at org.apache.catalina.authenticator.AuthenticatorBase.invoke(AuthenticatorBase.java:472)
    at org.apache.catalina.core.StandardHostValve.invoke(StandardHostValve.java:168)

```

```
统计“queryOrders”和“jspService”，600个线程都在执行myOrder.jsp接口，模块其它节点正常，怀疑是
[secoo_RD@bjxg-secoo-ticket-service-60-28-01 ~]$ grep 'com.secoo.order.manager.OrderManager.queryOrders' jstack-30124-090522-2.log |wc
370
[secoo_RD@bjxg-secoo-ticket-service-60-28-01 ~]$ grep 'org.apache.jsp.order.myorder_jsp.jspService' jstack-30124-090522-2.log |wc -l
600
```

```
at org.apache.ibatis.executor.BaseExecutor.queryFromDatabase(BaseExecutor.java:243)
at org.apache.ibatis.executor.BaseExecutor.query(BaseExecutor.java:117)
at org.apache.ibatis.executor.CachingExecutor.query(CachingExecutor.java:72)
at org.apache.ibatis.session.defaults.DefaultSqlSession.selectList(DefaultSqlSession.java:79)
at org.apache.ibatis.session.defaults.DefaultSqlSession.selectList(DefaultSqlSession.java:73)
at org.apache.ibatis.session.defaults.DefaultSqlSession.selectOne(DefaultSqlSession.java:39)
at sun.reflect.GeneratedMethodAccessor168.invoke(Unknown Source)
at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
at java.lang.reflect.Method.invoke(Method.java:606)
at org.mybatis.spring.SqlSessionTemplate$SqlSessionInterceptor.invoke(SqlSessionTemplate.java:350)
at com.sun.proxy.$Proxy11.selectOne(Unknown Source)
at org.mybatis.spring.SqlSessionTemplate.selectOne(SqlSessionTemplate.java:155)
at org.apache.ibatis.binding.MapperMethod.execute(MapperMethod.java:75)
at org.apache.ibatis.binding.MapperProxy.invoke(MapperProxy.java:25)
at com.sun.proxy.$Proxy16.queryIsCommentUp(Unknown Source)
at com.secoo.order.service.impl.OrderProductImgServiceImpl.queryIsCommentUp(OrderProductImgServiceImpl.java:132)
at com.secoo.order.manager.OrderManager.isCommentUp(OrderManager.java:2817)
at com.secoo.order.manager.OrderManager.queryOrders(OrderManager.java:878)
at org.apache.jsp.order.myorder_jsp._jspService(myorder_jsp.java:118)
at org.apache.jasper.runtime.HttpJspBase.service(HttpJspBase.java:70)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:722)
at org.apache.jasper.servlet.JspServletWrapper.service(JspServletWrapper.java:433)
at org.apache.jasper.servlet.JspServlet.serviceJspFile(JspServlet.java:389)
at org.apache.jasper.servlet.JspServlet.service(JspServlet.java:333)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:722)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:304)
at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:210)
```