

知 CAS集群虚拟机状态显示橙色，点击虚拟机提示处理HA异常

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组网及说明

无

问题描述

集群下所有虚拟机显示橙色状态，点击概要界面虚拟机状态显示“HA异常”，点击处理提示：HA拷贝文件错误，虚拟机业务正常



过程分析

- 1、首先排查后台修改root密码原因，集群所有主机下虚拟机状态都显示橙色异常；
- 2、执行“service cvm_ha status”和“service cvk_ha status”查看各个主机的HA功能状态是否正常；
- 3、集群HA功能正常开启后，HA会在后台拷贝所有虚拟机的配置信息，如果环境异常会导致HA功能在拷贝同步虚拟机配置信息时出错，尝试关闭集群HA，重新开启HA功能，提示：部分主机拷贝虚拟机配置文件失败，请处理HA异常虚拟机。尝试重启cvm_ha和cvk_ha后故障依旧，日志中有如下报错：

```
2021-03-10 11:16:16 [ERROR] [Domain Request Processor Manager 3] [com.virtual.plat.server.vm.ssh.ScpFromUtil:copyThrowableException] null
java.io.FileNotFoundException: /etc/cvm/ha/20/cvnode034/Cloud05cp-200.194.xml (No such file or directory)
  at java.io.FileOutputStream.open(Native Method) ~[?:1.7.0_111]
  at java.io.FileOutputStream.<init>(FileOutputStream.java:221) ~[?:1.7.0_111]
  at java.io.FileOutputStream.<init>(FileOutputStream.java:110) ~[?:1.7.0_111]
  at com.virtual.plat.server.vm.ssh.ScpFromUtil.copyThrowableException(vmc:106) [ScpFromUtil.class:~]
  at com.virtual.plat.server.ha.HaUtil.syncDomainDefinFile(vmc:314) [HaUtil.class:~]
  at com.virtual.plat.server.ha.HaUtil.syncDomainFile(vmc:205) [HaUtil.class:~]
  at com.virtual.plat.server.virtualhost.DomainHandler.handleVMA(vmc:19697) [DomainHandler.class:~]
  at com.virtual.plat.server.DomainRequestProcessor.run(vmc:480) [DomainRequestProcessor.class:~]
  at java.lang.Thread.run(Thread.java:745) [?:1.7.0_111]
2021-03-10 11:16:16 [ERROR] [Domain Request Processor Manager 3] [com.virtual.plat.server.virtualhost.DomainHandler:handleVMA] null
com.virtual.common.AppException: [20004 - 图片文件错误]
  at com.virtual.plat.server.vm.ssh.ScpFromUtil.copyThrowableException(vmc:134) ~[ScpFromUtil.class:~]
  at com.virtual.plat.server.ha.HaUtil.syncDomainDefinFile(vmc:314) ~[HaUtil.class:~]
  at com.virtual.plat.server.ha.HaUtil.syncDomainFile(vmc:205) ~[HaUtil.class:~]
  at com.virtual.plat.server.virtualhost.DomainHandler.handleVMA(vmc:19697) [DomainHandler.class:~]
  at com.virtual.plat.server.DomainRequestProcessor.run(vmc:480) [DomainRequestProcessor.class:~]
  at java.lang.Thread.run(Thread.java:745) [?:1.7.0_111]
```

- 4、在CVM后台执行命令cha get-perf-data host -m，查看是否有报错，如果返回错误，则说明是个已知问题，可以通过重启cas_mon解决。环境中执行该命令，返回结果正常：

```
root@cvm001:/var/log/tomcat8# cha get-perf-data host -m
-----
#hostPerfData<cpuRate>4.87<cpuRate><cpuUsage>1996.00<cpuUsage><memoryRate>21.30<memoryRate><nicFlow><name>usb0</name><mac>36:40:b5:b2:f
8:53</mac><totalIO>0.000000</totalIO><readIO>0.000000</readIO><writeIO>0.000000</writeIO><totalPackets>0</totalPackets><readPackets>0</readPackets><writePackets>0</writePackets><nicFlow><name>eth0</name><mac>34:40:b5:b1:7a:48</mac><totalIO>0.000000</totalIO><readIO>0.000000</readIO><writeIO>0.000000</writeIO><totalPackets>400</totalPackets><readPackets>400</readPackets><writePackets>0</writePackets><nicFlow><name>enp0s3f0</name><mac>34:40:b5:b1:7a:48</mac><totalIO>11.000000</totalIO><readIO>0.000000</readIO><writeIO>11.000000</writeIO><totalPackets>1591</totalPackets><readPackets>179</readPackets><writePackets>1412</writePackets><nicFlow><partition><name>/dev/mapper/36c51fb100f1b8ff0ce235010000000e
</name><type>ext4</type><utilization>43</utilization><size>2015.74</size><used>809.54</used><mountedDir>/template</mountedDir></partition><partition><name>/dev/drbd0</name><type>ext4</type><utilization>21</utilization><size>45.81</size><used>8.77</used><mountedDir>/var/lib/mysql/shares/mou
ntedDir</partition><partition><name>/dev/sda3</name><type>ext4</type><utilization>70</utilization><size>19.21</size><used>13.08</used><mountedDir>/var/log/mountedDir</partition><partition><name>/dev/sda2</name><type>ext4</type><utilization>8</utilization><size>58.61</size><used>4.23</used><mountedDir>/</mountedDir></partition><disk><dev>sda</dev><size>76.81</size><utilization>22.52</utilization><totalIO>1319</totalIO><readIO>0</readIO><writeIO>1319</writeIO><rdReq>7</rdReq><wrReq>1389</wrReq><totalIOPS>46</totalIOPS><readIOPS>0</readIOPS><writeIOPS>46</writeIOPS><totalDelay>9.416846</totalDelay><readDelay>0.000000</readDelay><writeDelay>9.416846</writeDelay><disk><dev>drbd</dev><size>45.81</size><utilization>15</utilization><totalIO>0</totalIO><readIO>0</readIO><writeIO>0</writeIO><rdReq>0</rdReq><wrReq>0</wrReq><totalIOPS>0</totalIOPS><readIOPS>0</readIOPS><writeIOPS>0</writeIOPS><totalDelay>0.000000</totalDelay><readDelay>0.000000</readDelay><writeDelay>0.000000</writeDelay><disk><dev>templates</dev><size>2015.74</size><utilization>40.15</utilization><totalIO>0</totalIO><readIO>0</readIO><writeIO>0</writeIO><rdReq>0</rdReq><wrReq>2</wrReq><totalIOPS>0</totalIOPS><readIOPS>0</readIOPS><writeIOPS>0</writeIOPS><totalDelay>0.000000</totalDelay><readDelay>0.000000</readDelay><writeDelay>0.000000</writeDelay><disk>/hostPerfData>
```

- 5、现场CAS为双机环境，双机状态显示正常，CVM主机的/etc/cvm/ha目录存在，检查软连接状态发现显示红色异常，正常环境的软连接显示如下图二，基本可以判定该问题为双机软连接异常导致。

```
root@cvm001:/var/log/tomcat8# ls -l /etc/cvm
lrwxrwxrwx 1 root root 13 Jan  5  2017 /etc/cvm -> /vms/.ssh/cvm
root@cvm001:/var/log/tomcat8# ls -l /root/.ssh/hosts
lrwxrwxrwx 1 root root 15 Jan  5  2017 /root/.ssh/hosts -> /vms/.ssh/hosts
```

```
root@cvm001:~# ls -l /root/.ssh/hosts
lrwxrwxrwx 1 root root 15 Mar 10 11:53 /root/.ssh/hosts -> /vms/.ssh/hosts
root@cvm001:~# ls -l /etc/cvm
lrwxrwxrwx 1 root root 14 Mar 10 11:46 /etc/cvm -> /vms/.ssh/cvm/
```

解决方法

首先确认是老热备环境还是新热备环境，以CAS E0523为分界，E0523之前的版本为老双机热备，E0523之后的版本为新双机热备。热备软连接恢复方法如下：

可以先将/etc/cvm和/root/.ssh/hosts的文件备份出来

老热备软连接恢复：

```
root@cvknode-81:~# ls -l /etc/cvm
lrwxrwxrwx 1 root root 13 May 14 2019 /etc/cvm -> /vms/.ssh/cvm
root@cvknode-81:~# ls -l /root/.ssh/hosts
lrwxrwxrwx 1 root root 15 May 14 2019 /root/.ssh/hosts -> /vms/.ssh/hosts
```

正确的软连接为：

(1) /etc/cvm -> /vms/.ssh/cvm的恢复：

主上执行：mv /etc/cvm /etc/cvm.tmp

mkdir -p /vms/.ssh/cvm

ln -sf /vms/.ssh/cvm /etc/cvm

主上重启tomcat：service tomcat8 restart

备上执行：mv /etc/cvm /etc/cvm.tmp

ln -sf /vms/.ssh/cvm /etc/cvm

执行ls -l /etc/cvm检查软连接状态

(2) /root/.ssh/hosts -> /vms/.ssh/hosts的恢复：

主上执行：

mkdir -p /vms/.ssh

mv /root/.ssh/hosts /vms/.ssh/

ln -sf /vms/.ssh/hosts /root/.ssh/hosts

备上执行：ln -sf /vms/.ssh/hosts /root/.ssh/hosts

执行ls -l /root/.ssh/hosts检查软连接状态

新热备软连接恢复：

```
root@cvknode35:~# ls -l /etc/cvm
lrwxrwxrwx 1 root root 29 Nov 5 15:50 /etc/cvm -> /var/lib/mysql-share/.ssh/cvm
root@cvknode35:~# ls -l /root/.ssh/hosts
lrwxrwxrwx 1 root root 31 Nov 18 17:04 /root/.ssh/hosts -> /var/lib/mysql-share/.ssh/hosts
```

正确的软连接为：

(1) /etc/cvm -> /var/lib/mysql-share/.ssh/cvm的恢复：

主上执行：mv /etc/cvm /etc/cvm.tmp

mkdir -p /var/lib/mysql-share/.ssh/cvm

ln -sf /var/lib/mysql-share/.ssh/cvm /etc/cvm

主上重启tomcat：service tomcat8 restart

备上执行：mv /etc/cvm /etc/cvm.tmp

ln -sf /var/lib/mysql-share/.ssh/cvm /etc/cvm

执行ls -l /etc/cvm检查软连接状态

(2) /root/.ssh/hosts -> /var/lib/mysql-share/.ssh/hosts的恢复：

主上执行：mkdir -p /var/lib/mysql-share/.ssh

mv /root/.ssh/hosts /var/lib/mysql-share/.ssh/

ln -sf /var/lib/mysql-share/.ssh/hosts /root/.ssh/hosts

备上执行：ln -sf /var/lib/mysql-share/.ssh/hosts /root/.ssh/hosts

执行ls -l /root/.ssh/hosts检查软连接状态

最后，关闭集群HA，重新启动HA后虚拟机状态显示正常，集群HA功能也恢复正常。

