上海新炬 SNC Shanghai New Century

RAC实战技

启动故障处理方法及案例解析

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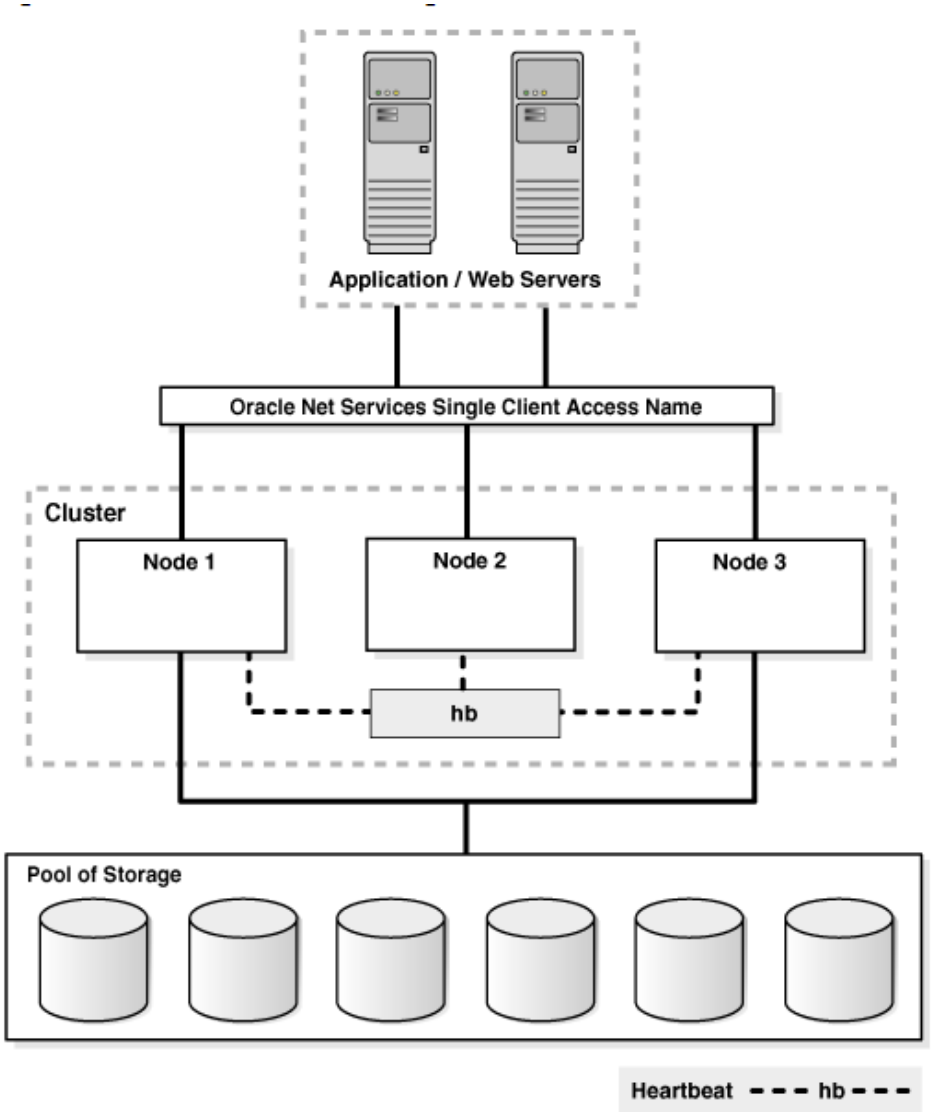
RAC架构图及硬件建议



主机:

OS版本必须完全一致

硬件建议完全一致

共享存储：

ASM

CFS

RAW

网络：

建议每个节点4个以上网卡

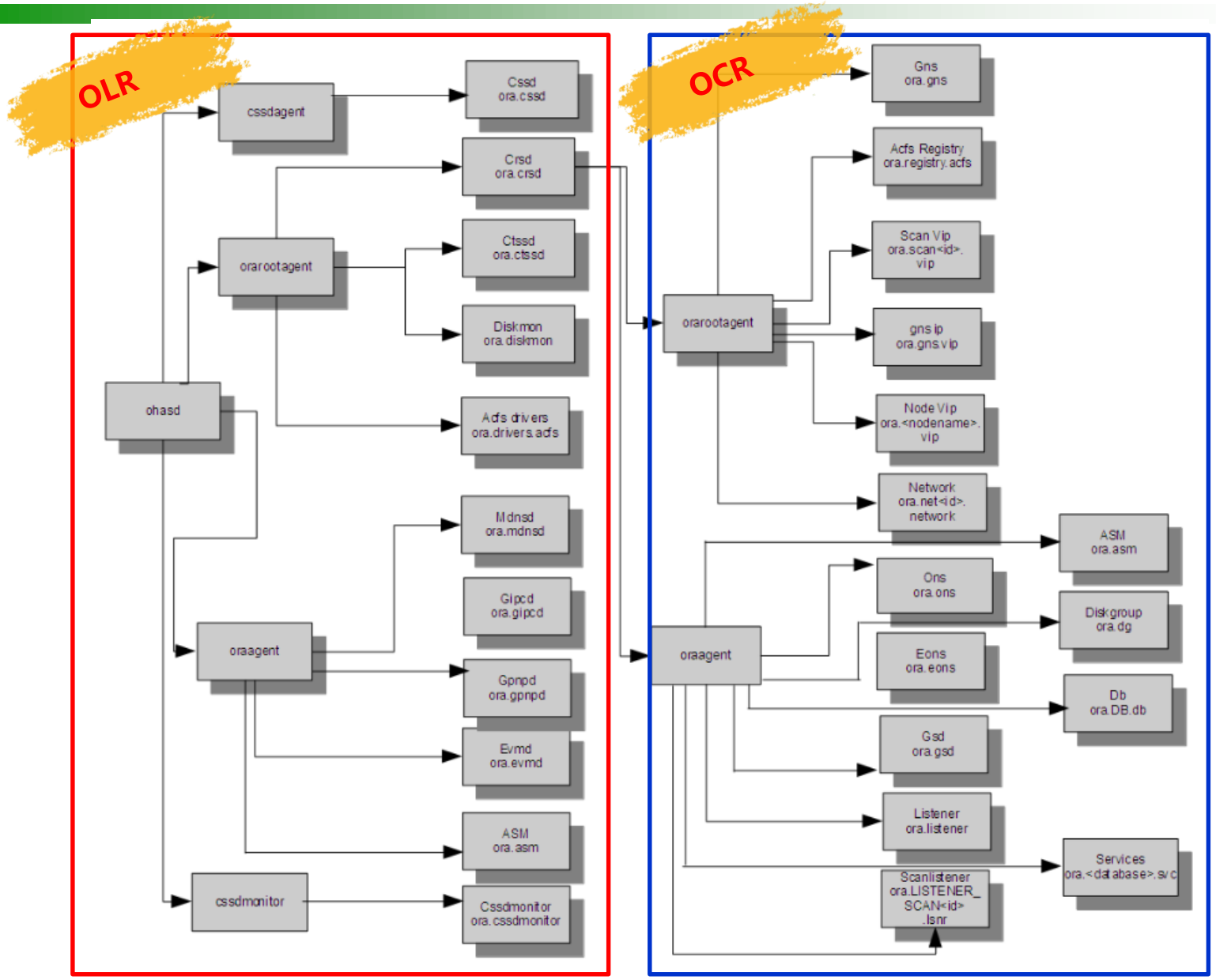
public 使用主机网卡聚合

private使用2-4个网卡，使用oracle haip技术

crsctl start crs
crsctl stop crs **-f**
CRS开启自动启动：
crsctl enable crs --开启开机启动
crsctl disable crs --关闭开机启动
/etc/oracle/scls_scr/$HOSTNAME/root/ohasdstr
crsctl config crs
OLR和OCR位置：

```
[root@rac-node1 oracle]# pwd
/etc/oracle
[root@rac-node1 oracle]# ls -ltr
total 2248
drwxrwxr-x 5 root oinstall    4096 Oct 23  2015 oprocd
drwxr-xr-x 3 root oinstall    4096 Oct 23  2015 scls_scr
-rw-r--r-- 1 root root           0 Oct 23  2015 olr.loc.orig
-rw-r--r-- 1 root oinstall      91 Oct 23  2015 olr.loc
-rw-r--r-- 1 root root           0 Oct 23  2015 ocr.loc.orig
-rw-r--r-- 1 root oinstall      37 Oct 23  2015 ocr.loc
drwxrwx--- 2 root oinstall    4096 Oct 23  2015 lastgasp
-rws--x--- 1 root oinstall 2279833 Oct 23  2015 setasmgid
[root@rac-node1 oracle]# cat olr.loc
olrconfig_loc=/u01/oracle/11.2.0/grid/cdata/rac-node1.olr
crs_home=/u01/oracle/11.2.0/grid
[root@rac-node1 oracle]# cat ocr.loc
ocrconfig_loc=+DATA
local_only=FALSE
[root@rac-node1 oracle]#
```

CRS进程启动顺序


OLR
OCR
ohasd
cssdagent
orarootagent
oraagent
cssdmonitor
Cssd
ora.cssd
Crsd
ora.crsd
Ctssd
ora.ctssd
Diskmon
ora.diskmon
Acfs drivers
ora.drivers.acfs
Mdnsd
ora.mdnsd
Gipcd
ora.gipcd
Gpnpd
ora.gpnpd
Evmd
ora.evmd
ASM
ora.asm
Cssdmonitor
ora.cssdmonitor
orarootagent
oraagent
Gns
ora.gns
Acfs Registry
ora.registry.acfs
Scan Vip
ora.scan<id>.
vip
gns ip
ora.gns.vip
Node Vip
ora.<nodename>.
vip
Network
ora.net<id>.
network
ASM
ora.asm
Ons
ora.ons
Diskgroup
ora.dg
Eons
ora.eons
Db
ora.DB.db
Gsd
ora.gsd
Listener
ora.listener
Services
ora.<database>.svc
Scanlistener
ora.LISTENER_
SCAN<id>
.lsnr

Ohasd(olr) 相关资源

```
[grid@rac-node2 ~]$ crsctl stat res -t -init
--------------------------------------------------------------------------------
NAME           TARGET  STATE        SERVER                   STATE_DETAIL
--------------------------------------------------------------------------------
Cluster Resources
--------------------------------------------------------------------------------
ora.asm
      1        ONLINE  ONLINE       rac-node2                Started
ora.cluster_interconnect.haip
      1        ONLINE  ONLINE       rac-node2
ora.crf
      1        ONLINE  ONLINE       rac-node2
ora.crsd
      1        ONLINE  ONLINE       rac-node2
ora.cssd
      1        ONLINE  ONLINE       rac-node2
ora.cssdmonitor
      1        ONLINE  ONLINE       rac-node2
ora.ctssd
      1        ONLINE  ONLINE       rac-node2                ACTIVE:0
ora.diskmon
      1        OFFLINE OFFLINE
ora.evmd
      1        ONLINE  ONLINE       rac-node2
ora.gipcd
      1        ONLINE  ONLINE       rac-node2
ora.gpnpd
      1        ONLINE  ONLINE       rac-node2
ora.mdnsd
      1        ONLINE  ONLINE       rac-node2
```

OCR资源

```
[grid@rac-node2 ~]$ crsctl stat res -t
--------------------------------------------------------------------------------
NAME           TARGET  STATE        SERVER                   STATE_DETAILS
--------------------------------------------------------------------------------
Local Resources
--------------------------------------------------------------------------------
ora.DATA.dg
               ONLINE  ONLINE       rac-node1
               ONLINE  ONLINE       rac-node2
ora.LISTENER.lsnr
               ONLINE  ONLINE       rac-node1
               ONLINE  ONLINE       rac-node2
ora.asm
               ONLINE  ONLINE       rac-node1                Started
               ONLINE  ONLINE       rac-node2                Started
ora.gsd
               OFFLINE OFFLINE      rac-node1
               OFFLINE OFFLINE      rac-node2
ora.net1.network
               ONLINE  ONLINE       rac-node1
               ONLINE  ONLINE       rac-node2
ora.ons
               ONLINE  ONLINE       rac-node1
               ONLINE  ONLINE       rac-node2
--------------------------------------------------------------------------------
Cluster Resources
--------------------------------------------------------------------------------
ora.LISTENER_SCAN1.lsnr
      1        ONLINE  ONLINE       rac-node1
ora.cvu
      1        ONLINE  ONLINE       rac-node1
ora.oc4j
      1        ONLINE  ONLINE       rac-node1
ora.rac-node1.vip
      1        ONLINE  ONLINE       rac-node1
ora.rac-node2.vip
      1        ONLINE  ONLINE       rac-node2
ora.rac01.db
      1        ONLINE  ONLINE       rac-node1                Open
      2        ONLINE  ONLINE       rac-node2                Open
ora.scan1.vip
      1        ONLINE  ONLINE       rac-node1
[grid@rac-node2 ~]$
```

从ohasd日志看agent启动顺序

```
[grid@rac-node1 ohasd]$ tail -3000 ohasd.log |grep  "Starting the agent"
2016-07-21 14:03:13.764: [    AGFW][2922460928]{0:0:2} Starting the agent: /u01/oracle/11.2.0/grid/bin/oraagent with user id: grid and incarnation:1
2016-07-21 14:03:13.806: [    AGFW][2922460928]{0:0:2} Starting the agent: /u01/oracle/11.2.0/grid/bin/orarootagent with user id: root and incarnation:1
2016-07-21 14:03:13.818: [    AGFW][2922460928]{0:0:2} Starting the agent: /u01/oracle/11.2.0/grid/bin/cssdagent with user id: root and incarnation:1
2016-07-21 14:03:13.821: [    AGFW][2922460928]{0:0:2} Starting the agent: /u01/oracle/11.2.0/grid/bin/cssdmonitor with user id: root and incarnation:1
```

从ps –fe看进程启动顺序

```
[root@rac-node2 ~]# ps -ef|grep oracle
root      3343     1  3 22:10 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/ohasd.bin reboot
root      3408  3307  0 22:10 pts/1    00:00:00 grep oracle
[root@rac-node2 ~]# ps -ef|grep oracle
root      3343     1  3 22:10 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/ohasd.bin reboot
grid      3412     1  2 22:10 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/oraagent.bin
root      3415     1  1 22:10 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/orarootagent.bin
root      3417     1  2 22:10 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/cssdagent
root      3419     1  2 22:10 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/cssdmonitor
```

```
[root@rac-node2 ~]# ps -ef|grep oracle
root      3343     1  3 22:10 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/ohasd.bin reboot
grid      3517     1  0 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/oraagent.bin
grid      3528     1  0 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/mdnsd.bin
grid      3543     1  1 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/gpnpd.bin
root      3555     1  0 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/orarootagent.bin
grid      3558     1  0 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/gipcd.bin
root      3569     1  0 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/osysmond.bin
root      3586     1  1 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/cssdmonitor
root      3606     1  1 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/cssdagent
grid      3619     1  1 22:11 ?        00:00:00 /u01/oracle/11.2.0/grid/bin/ocssd.bin
root      3646  3307  0 22:11 pts/1    00:00:00 grep oracle
```

CRS相关日志在$GRID_HOME/log/$HOSTNAME/
alert<NODENAME>.log - *look here first for most clusterware issues*
./admin:
./agent:
./agent/crsd:
./agent/crsd/oraagent_oracle:
./agent/crsd/ora_oc4j_type_oracle:
./agent/crsd/orarootagent_root:
./agent/ohasd:
./agent/ohasd/oraagent_oracle:
./agent/ohasd/oracssdagent_root:
./agent/ohasd/oracssdmonitor_root:
./agent/ohasd/orarootagent_root:
./client:
./crsd:
./cssd:
./ctssd:
./diskmon:
./evmd:
./gipcd:
./gnsd:
./gpnpd:
./mdnsd:
./ohasd:
./racg:
./racg/racgeut:
./racg/racgevtf:
./racg/racgmain:
./srvm:

ohas启动异常案例1

1、系统启动时ohasd进程不会自动启动
2、crsctl start crs时报如下错误：
CRS-4124: Oracle High Availability Services startup failed.
CRS-4000: Command Start failed, or completed with errors.
3、即使集群启动，集群alert日志还是报错，如下：
2015-09-15 14:49:30.919:
[ohasd(9392)]CRS-0715:Oracle 高可用性服务在等待 init.ohasd 启动时超时

解决办法：
手工执行 nohup /etc/init.d/init.ohasd run &

思路：

```
# Run xdm in runlevel 5
x:5:respawn:/etc/X11/prefdm -nodaemon

h1:35:respawn:/etc/init.d/init.ohasd run >/dev/null 2>&1 </dev/null
[root@extendrac1 ~]# ps -ef |egrep "ohasd|d.bin"
root      2830     1  0 10:27 ?        00:00:00 /bin/sh /etc/init.d/init.ohasd run
root      3007  2948  0 10:29 pts/0    00:00:00 egrep ohasd|d.bin
[root@extendrac1 ~]#
[root@extendrac1 ~]#
```

Ohasd启动异常案例2

[nhdb_test04:root]ps -ef|grep d.bin
root 315700 114886 0 15:12:38 pts/1 0:00 grep d.bin
--启动 has 报错
[nhdb_test04:root]/software/grid/product/11.2.0/bin/crsctl start has
CRS-4124: Oracle High Availability Services startup failed.
CRS-4000: Command Start failed, or completed with errors.
--以下是gird 用户下 $ORACLE_HOME/log/nhdb_test04/alertnhdb_test04.log 的报错信息
[nhdb_test04:grid]tail -100f alertnhdb_test04.log
[ohasd(139360)]CRS-2112:The OLR service started on node nhdb_test04.
2013-11-07 15:12:50.737
[ohasd(139360)]CRS-0712:Oracle High Availability Service aborted due to failure to initialize the network layer with error [2]. Details at (:OHAS00110:) in /software/grid/product/11.2.0/log/nhdb_test04/ohasd/ohasd.log.
2013-11-07 15:12:51.311
[ohasd(217170)]CRS-2112:The OLR service started on node nhdb_test04.
2013-11-07 15:12:51.361
--检查 lo0网卡状态没有激活
[nhdb_test04:root]ifconfig lo0
lo0: flags=e08080a<BROADCAST,LOOPBACK,SIMPLEX,MULTICAST,GROUPRT,64BIT
--手动配置
[nhdb_test04:root]ifconfig lo0 inet 127.0.0.1 up
--配置后检查 lo0 已经是UP状态
--再次启动HAS
[nhdb_test04:root]/software/grid/product/11.2.0/bin/crsctl start has
CRS-4123: Oracle High Availability Services has been started.

其他原因导致ohasd无法启动

1、olr.loc异常或者olr损坏

2015-06-18 23:28:13.322: [default][981049840] OHASD Daemon Starting. Command string :restart
2015-06-18 23:28:13.323: [default][981049840] Initializing OLR
2015-06-18 23:28:13.325: [OCRRAW][981049840]proprioo: cannot get current configuration (33)
2015-06-18 23:28:13.325: [OCRRAW][981049840]proprinit: Could not open raw device
2015-06-18 23:28:13.326: [OCRAPI][981049840]a_init:16!: Backend init unsuccessful : [33]
2015-06-18 23:28:13.326: [CRSOCR][981049840] OCR context init failure. Error: PROCL-33: Oracle Local Registry is not configured Storage layer error [Error opening olr.loc file. No such file or directory] [2]
2015-06-18 23:28:13.326: [default][981049840] Created alert : (:OHAS00106:) : OLR initialization failed, error: PROCL-33: Oracle Local Registry is not configured Storage layer error [Error opening olr.loc file. No such file or directory] [2]
2015-06-18 23:28:13.326: [default][981049840][PANIC] OHASD exiting; Could not init OLR
2015-06-18 23:28:13.326: [default][981049840] Done.

2、OS运行级别

CRS要求运行级别为3或者5，用who –r验证

Oracle 10g启动故障一例

一套4节点rac,,数据库版本为10.2.0.4,操作系统为solaris.
问题现象
bash-2.05$#./crsctl start crs
bash-2.05$#
---无任何反应.
使用ps -ef|grep init 查看init进程,结果显示
root 1 0 0 Jan 8 ? 289:35 /etc/init
root 14721 19977 0 10:19:51 pts/3 0:00 grep init
没有发现crs启动前必须启动的守护进程如init.cssd daemon/init.cssd oprocd等.
手工执行sh -x /etc/init.d/init.cssd startcheck，在输出的信息中没有发现异常.

执行指令svcs -a | grep multi-user查看
offline Jan_08 svc:/milestone/multi-user-server:default
offline Jan_08 svc:/milestone/multi-user:default
发现目前系统处于单用户模式,启动系统多用户模式,再次重新启动crs，集群正常启动
总结

- 在10g rac中，启动异常会产生/tmp/crsctl.****临时文件，根据该文件定位故障
- 使用sh -x /etc/init.d/init.cssd startcheck很重要

启动案例2--Cssd进程无法启动

1. 命令“$GRID_HOME/bin/crsctl check crs”返回错误：
CRS-4638: Oracle High Availability Services is online
CRS-4535: Cannot communicate with Cluster Ready Services
CRS-4530: Communications failure contacting Cluster Synchronization Services daemon
CRS-4534: Cannot communicate with Event Manager
2. 命令“ps -ef | grep d.bin”不显示类似于如下所示的行：
oragrid 21543 1 1 22:24 ? 00:00:01 /u01/app/11.2.0/grid/bin/ocssd.bin
3. ocssd.bin 正在运行，但在 ocssd.log 中显示消息“CLSGPNP_CALL_AGAIN”后又中止运行
4. ocssd.log 显示如下内容：
2015-01-27 13:42:58.796: [CSSD][19]clssnmvDHBValidateNCopy: node 1, racnode1, has a disk HB, but no network HB, DHB has rcfg 223132864, wrtcnt, 1112, LATS 783238209, lastSeqNo 1111, uniqueness 1327692232, timestamp 1327693378/787089065

思路：
CSSD进程无法启动，最常见的问题就是心跳网络异常，当遇心跳异常时，可用ping或者traceroute检查心跳,私网心跳正常，但是私网启用的防火墙，也可能导致无法启动 。

案例3-ASM启动异常1

现象：7月17日上午09:07左右，经分BICP数据库节点二(IP: 10.97.186.154)因电源故障导致主机服务器宕机，13：20主机修复完毕启动，但节点二系统启动后，集群无法正常启动。

```
root@bicp02:/grid/bin> ./crsctl stat res -t -init
--------------------------------------------------------------------------------
NAME           TARGET  STATE        SERVER
--------------------------------------------------------------------------------
Cluster Resources
--------------------------------------------------------------------------------
ora.asm
      1        ONLINE  OFFLINE
ora.cluster_interconnect.haip
      1        ONLINE  ONLINE       bicp02
ora.crf
      1        ONLINE  ONLINE       bicp02
ora.crsd
      1        ONLINE  OFFLINE
ora.cssd
      1        ONLINE  ONLINE       bicp02
ora.cssdmonitor
      1        ONLINE  ONLINE       bicp02
ora.ctssd
      1        ONLINE  ONLINE       bicp02
ora.diskmon
      1        OFFLINE OFFLINE
ora.drivers.acfs
      1        ONLINE  ONLINE       bicp02
ora.evmd
      1        ONLINE  INTERMEDIATE bicp02
ora.gipcd
      1        ONLINE  ONLINE       bicp02
ora.gpnpd
      1        ONLINE  ONLINE       bicp02
ora.mdnsd
      1        ONLINE  ONLINE       bicp02
```

```
Sun Jul 17 13:23:48 2016
LMON (ospid: 2425820) detects hung instances during IMR reconfiguration
LMON (ospid: 2425820) tries to kill the instance 2 in 37 seconds.
Please check instance 2's alert log and LMON trace file for more details.
Sun Jul 17 13:24:25 2016
Remote instance kill is issued with system inc 12
Remote instance kill map (size 1) : 2
LMON received an instance eviction notification from instance 1
The instance eviction reason is 0x20000000
The instance eviction map is 2
Reconfiguration started (old inc 12, new inc 14)
List of instances:
 1 (myinst: 1)
```

```
root@bicp01:/grid/bin>./crsctl stat res -t -init
--------------------------------------------------------------------------------
NAME           TARGET  STATE        SERVER                   STATE_DETAILS
--------------------------------------------------------------------------------
Cluster Resources
--------------------------------------------------------------------------------
ora.asm
      1        ONLINE  ONLINE       bicp01                   Started
ora.cluster_interconnect.haip
      1        ONLINE  OFFLINE
ora.crf
      1        ONLINE  ONLINE       bicp01
ora.crsd
      1        ONLINE  ONLINE       bicp01
ora.cssd
      1        ONLINE  ONLINE       bicp01
ora.cssdmonitor
```

在节点一手工启动haip，crsctl start res ora.cluster_interconnect.haip 发现启动失败

```
]
2016-07-17 16:16:45.259: [UiServer][7454] CS(1133b1490)set Properties ( oracle,1133b10b0)
2016-07-17 16:16:45.271: [UiServer][7197]{0:0:31730} Sending message to PE. ctx= 1133b46b0, Client PID: 3407996
2016-07-17 16:16:45.272: [   CRSPE][6940]{0:0:31730} Processing PE command id=228315. Description: [Stat Resource : 113da4270]
2016-07-17 16:16:45.283: [UiServer][7197]{0:0:31730} Done for ctx=1133b46b0
2016-07-17 16:16:58.883: [    AGFW][5655]{0:0:31729} Received the reply to the message: RESOURCE_START[ora.cluster_interconnect.haip 1 1] ID 4098:3319617 from the agent /grid/bin/orarootagent_root
2016-07-17 16:16:58.885: [    AGFW][5655]{0:0:31729} Agfw Proxy Server sending the reply to PE for message:RESOURCE_START[ora.cluster_interconnect.haip 1 1] ID 4098:3319616
2016-07-17 16:16:58.886: [   CRSPE][6940]{0:0:31729} Received reply to action [Start] message ID: 3319616
2016-07-17 16:16:58.886: [   CRSPE][6940]{0:0:31729} Got agent-specific msg: CRS-5017: The resource action "ora.cluster_interconnect.haip start" encountered the following error:
Start action for HAIP aborted. For details refer to "(:CLSN00107:)" in "/grid/log/bicp01/agent/ohasd/orarootagent_root//orarootagent_root.log".

2016-07-17 16:16:58.888: [UiServer][7197]{0:0:31729} Container [ Name: ORDER
       MESSAGE:
2016-07-17 16:15:57.651: [ USRTHRD][5024]{0:0:31729} ipNapsz 1, idxMap sz 1, restart 0, numHaip 1, inflistSz 1
2016-07-17 16:15:57.651: [ USRTHRD][5024]{0:0:31729} restart 0, haipSize 1, numHaip 1, numSub 0, ipNsz 1
2016-07-17 16:15:57.651: [ USRTHRD][5024]{0:0:31729} Thread:[NetHAWork]thread constructor
2016-07-17 16:15:57.651: [ USRTHRD][5024]{0:0:31729} HAIP:  starting inf 'en21', suggestedIp '169.254.155.195', assignedIp ''
2016-07-17 16:15:57.651: [ USRTHRD][5024]{0:0:31729} Thread:[NetHAWork]start {
2016-07-17 16:15:57.651: [ USRTHRD][5024]{0:0:31729} Thread:[NetHAWork]start }
2016-07-17 16:15:57.651: [ USRTHRD][5281]{0:0:31729} [NetHAWork] thread started
2016-07-17 16:15:57.652: [ USRTHRD][5281]{0:0:31729}  Arp::sCreateSocket {
2016-07-17 16:15:57.652: [ USRTHRD][5281]{0:0:31729} failed to create arp
2016-07-17 16:15:57.652: [ USRTHRD][5281]{0:0:31729} (null) category: -2, operation: pcap_open_live, loc: bpfopen:0,os, OS error: 2, other: err bpf_load: genmajor failed: No such file or directory, ifname en21
2016-07-17 16:15:57.652: [ USRTHRD][5281]{0:0:31729}  Arp::sCreateSocket {
2016-07-17 16:15:57.652: [ USRTHRD][5281]{0:0:31729} failed to create arp
```

解决办法：

1. 重启所有节点的CRS服务
2. 禁用HAIP功能并重启所有节点的CRS服务

srvctl modify res ora.cluster_interconnect.haip -attr “ENABLED=0” -init 这样可让DB和ASM实例心跳直接使用心跳网卡

Haip相关其他问题：

主机上存在其他使用169.254网段的空闲网卡，特别是PC SERVEER上可能存在网卡USB0 ，此类网卡异常会导致RAC宕机

其他ASM启动问题：

- $GRID_HOME/bin/oracle权限异常

  -rwsr-s--x 1 grid oinstall 203974257 Jul 10 2014 oracle ----正常权限
- spfile异常
- 磁盘顺坏

ASM启动异常2

现象：

AIX系统,oracle 10g，更换心跳网卡，有千兆网卡换成万兆网卡，更换后，crs能启动，但是ASM实例无法启动

Mon Jul 11 23:49:41 2016
sculkget: failed to lock /u01/app/product/10.2.0/db_1/dbs/lkinst+ASM1 exclusive
sculkget: lock held by PID: 28770398
Oracle Instance Shutdown operation failed. Another process may be attempting to startup or shutdown this Instance.
Failed to acquire instance startup/shutdown serialization primitive
Mon Jul 11 23:50:55 2016
sculkget: failed to lock /u01/app/product/10.2.0/db_1/dbs/lkinst+ASM1 exclusive
sculkget: lock held by PID: 28770398
Oracle Instance Startup operation failed. Another process may be attempting to startup or shutdown this Instance.

解决办法：增加网络参数，开启RFC

```
tcp_recvspace = 65536
tcp_sendspace = 65536
udp_sendspace = ((DB_BLOCK_SIZE * DB_FILE_MULTIBLOCK_READ_COUNT) + 4 KB) but no lower than 65536
udp_recvspace = 655360 (Minimum recommended value is 10x udp_sendspace, parameter value must be less than sb_max)
rfc1323 = 1
sb_max = 4194304
ipqmaxlen = 512
```

CRSD启动异常

CRSD无法启动常见问题：

- /etc/oracle/ocr.loc文件不存在或者文件内容指向异常
- Ocr损坏
- $GRID_HOME/crs/init/<NODENAME>.pid文件异常
- 数据库IP白名单配置文件sqlnet.ora配置异常

2016-07-22 13:36:40.053: [COMMCRS][1144273216]clsclisten: Error listening on: (ADDRESS=(PROTOCOL=tcp)(HOST=10.10.10.100)(PORT=0))
2016-07-22 13:36:40.053: [COMMCRS][1144273216]clsclisten: op 65 failed, NSerr (12560, 0), transport: (584, 0, 0)
2016-07-22 13:36:40.053: [CRSMAIN][2546151920] Created alert : (:CRSD00133:) : Unable to get E2E port, error: IOException : clsclisten failed with ret 3
(File: caa_Socket.cpp, line: 525
2016-07-22 13:36:40.053: [CRSD][2546151920][PANIC] CRSD exiting: Unable to get E2E port after 2nd attempt
2016-07-22 13:36:40.053: [CRSD][2546151920] Done.
2016-07-22 13:36:40.211: [default][2150789616] First attempt: init CSS context succeeded.
[clsdmt][1087605056]Listening to (ADDRESS=(PROTOCOL=ipc)(KEY=extendrac1DBG_CRSD))

CRSD启动异常

如果发现CRSD无法启动，并且不能找到明显的报错日志，可考虑提升CRSD的日志级别

/u01/app/11.2.0/grid/bin/crsctl lsmodules crs --查看crsd的模块信息
/u01/app/11.2.0/grid/bin/crsctl get log crs all ---查看日志级别
/u01/app/11.2.0/grid/bin/crsctl set log crs all:5 --设置所有模块日志级别为5
/u01/app/11.2.0/grid/bin/crsctl set log crs CRSRES :5 --设置模块CRSRES级别
当故障原因查到以后，需将日志级别设置为默认值

对于css、gipc等资源，同样可以调整日志级别，进入debug模式

从操作系统层查看CRSD.BIN调用信息

AIX : /bin/procstack <pid-of-crsd.bin>
Linux : /usr/bin/pstack <pid-of-crsd.bin>
Solaris : /usr/bin/pstack <pid-of-crsd.bin>

Thank you

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诚信至上