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Requirement](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#aref_section31) | |  |  |  |  | | --- | --- | --- | |  | [B. Example of what we expect](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#aref_section32) | | |  | [C. Syntax reference](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#aref_section33) |  |  |  | | --- | --- | |  | [D. Multicast](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#aref_section34) | |  | [E. Runtime network issues](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#aref_section35) | |  |  |  |  | | --- | --- | --- | |  | [F. Symptoms of network issues](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#aref_section36) | | |  | [G. Basics of Subnet](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#aref_section37) |  |  |  | | --- | --- | |  | [References](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=334729200678277&parent=DOCUMENT&sourceId=1981887.1&id=1054902.1&_afrWindowMode=0&_adf.ctrl-state=s80qg4vsj_248#REF) |       **Applies to:**  Oracle Database - Enterprise Edition - Version 10.1.0.2 and later  Oracle Database - Standard Edition - Version 11.2.0.4 to 11.2.0.4 [Release 11.2]  Generic UNIX  Generic Linux  **Purpose**    Cluster Verification Utility (aka CVU, command runcluvfy.sh or cluvfy) does very good checking on the network and name resolution setup, but it may not capture all issues. If the network and name resolution is not setup properly before installation, it is likely the installation will fail; if network or name resolution is malfunctioning, likely the clusterware and/or RAC will have issues. The goal of this note is to provide a list of things to verify regarding the network and name resolution setup for Grid Infrastructure (clusterware) and RAC.  **Scope**  This document is intended for Oracle Clusterware/RAC Database Administrators and Oracle Support engineers.  **Details**  **A. Requirement**  o Network ping with package size of Network Adapter (NIC) MTU should work on all public and private network and the time of ping should be small (sub-second).  o IP address 127.0.0.1 should only map to localhost and/or localhost.localdomain, not anything else.  o 127.\*.\*.\* should not be used by any network interface.  o Public NIC name must be same on all nodes.    o Private NIC name should be same in 11gR2 and must be same for pre-11gR2 on all nodes  o Public and private network must not be in link local subnet (169.254.\*.\*), should be in non-related separate subnet.  o MTU should be the same for corresponding network on all nodes.  o Network size should be same for corresponding network on all nodes.  o As the private network needs to be directly attached, traceroute should work with a packet size of NIC MTU without fragmentation or going through the routing table on all private networks in 1 hop.  o Firewall needs to be turned off on the private network.  o For 10.1 to 11.1, name resolution should work for the public, private and virtual names.    o For 11.2 without Grid Naming Service (aka GNS), name resolution should work for all public, virtual, and SCAN names; and if SCAN is configured in DNS, it should not be in local hosts file.  o For 11.2.0.2 and above, multicast group 230.0.1.0 should work on private network; with [patch 9974223](https://support.oracle.com/epmos/faces/ui/patch/PatchDetail.jspx?parent=DOCUMENT&sourceId=1054902.1&patchId=9974223), both group 230.0.1.0 and 224.0.0.251 are supported. With [patch 10411721](https://support.oracle.com/epmos/faces/ui/patch/PatchDetail.jspx?parent=DOCUMENT&sourceId=1054902.1&patchId=10411721) (fixed in 11.2.0.3), broadcast will be supported. See Multicast/Broadcast section to verify.  o For 11.2.0.1-11.2.0.3, Installer may report a warning if reverse lookup is not setup correctly for pubic IP, node VIP, and SCAN VIP, with [bug 9574976](https://support.oracle.com/epmos/faces/BugDisplay?parent=DOCUMENT&sourceId=1054902.1&id=9574976) fix in 11.2.0.4, the warning shouldn't be there any more.  o OS level bonding is recommended for the private network for pre-11.2.0.2.  Depending on the platform, you may implement bonding, teaming, Etherchannel, IPMP, MultiPrivNIC etc, please consult with your OS vendor for details. Started from 11.2.0.2, Redundant Interconnect and HAIP is introduced to provide native support for multiple private network, refer to [note 1210883.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1210883.1) for details.    o The commands verifies jumbo frames if it's configured. To know more about jumbo frames, refer to [note 341788.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=341788.1)    **B. Example of what we expect**  Example below shows what we expect while validating the network and name resolution setup. As the network setup is slightly different for 11gR2 and 11gR1 or below, we have both case in the below example. The difference between 11gR1 or below and 11gR2 is for 11gR1, we need a public name, VIP name, private hostname, and we rely on the private name to find out the private IP for cluster communication.   For 11gR2, we do not rely on the private name anymore, rather the private network is selected based on the GPnP profile while the clusterware comes up. Assuming a 3-node cluster with  the following node information:  11gR1 or below cluster:  Nodename |Public IP |VIP name |VIP |Private |private IP1 |private IP2  |NIC/MTU | | |Name1 |NIC/MTU |  ---------|----------|---------|-----------|--------|----------------------  rac1 |120.0.0.1 |rac1v |120.0.0.11 |rac1p |10.0.0.1 |  |eth0/1500 | | | |eth1/1500 |  ---------|----------|---------|-----------|--------|----------------------  rac2 |120.0.0.2 |rac2v |120.0.0.12 |rac2p |10.0.0.2 |  |eth0/1500 | | | |eth1/1500 |  ---------|----------|---------|-----------|--------|----------------------  rac3 |120.0.0.3 |rac3v |120.0.0.13 |rac3p |10.0.0.3 |  |eth0/1500 | | | |eth1/1500 |  ---------|----------|---------|-----------|--------|----------------------  11gR2 cluster  Nodename |Public IP |VIP name |VIP |private IP1 |  |NIC/MTU | | |NIC/MTU |  ---------|----------|---------|-----------|------------|----------  rac1 |120.0.0.1 |rac1v |120.0.0.11 |10.0.0.1 |  |eth0/1500 | | |eth1/1500 |  ---------|----------|---------|-----------|------------|----------  rac2 |120.0.0.2 |rac2v |120.0.0.12 |10.0.0.2 |  |eth0/1500 | | |eth1/1500 |  ---------|----------|---------|-----------|------------|----------  rac3 |120.0.0.3 |rac3v |120.0.0.13 |10.0.0.3 |  |eth0/1500 | | |eth1/1500 |  ---------|----------|---------|-----------|------------|----------  SCAN name |SCAN IP1 |SCAN IP2 |SCAN IP3  ----------|-----------|-----------|--------------------  scancl1 |120.0.0.21 |120.0.0.22 |120.0.0.23  ----------|-----------|-----------|--------------------    Below is what is needed to be verify on each node - please note the example is from a Linux platform:    1. To find out the MTU  **/bin/netstat -in**  Kernel Interface table  Iface       **MTU** Met    RX-OK RX-ERR RX-DRP RX-OVR    TX-OK TX-ERR TX-DRP TX-OVR Flg  **eth0**       **1500**   0   203273      0      0      0     2727      0      0      0 BMRU  In above example MTU is set to 1500 for eth0.    2. To find out the IP address and subnet, compare Broadcast and Netmask on all nodes  **/sbin/ifconfig**  **eth0**      Link encap:Ethernet  HWaddr 00:16:3E:11:11:11  **inet addr:120.0.0.1  Bcast:120.0.0.127  Mask:255.255.255.128**            inet6 addr: fe80::216:3eff:fe11:1111/64 Scope:Link  **UP** BROADCAST **RUNNING** MULTICAST  **MTU:1500**  Metric:1            RX packets:203245 errors:0 dropped:0 overruns:0 frame:0            TX packets:2681 errors:0 dropped:0 overruns:0 carrier:0            collisions:0 txqueuelen:1000            RX bytes:63889908 (60.9 MiB)  TX bytes:319837 (312.3 KiB)  ..  In the above example, the IP address for eth0 is 120.0.0.1, broadcast is 120.0.0.127, and net mask is  255.255.255.128, which is subnet of 120.0.0.0 with a maximum of 126 IP addresses.  Refer to Section "Basics of Subnet" for more details.  Note: An active NIC must have both "UP" and "RUNNING" flag; on Solaris, "PHYSRUNNING" will indicate whether the physical interface is running  3. Run all ping commands twice to make sure result is consistent    Below is an example ping output from node1 public IP to node2 public hostname:  PING rac2 (120.0.0.2) from 120.0.0.1 : 1500(1528) bytes of data.  1508 bytes from rac1 (120.0.0.2): icmp\_seq=1 ttl=64 time=0.742 ms  1508 bytes from rac1 (120.0.0.2): icmp\_seq=2 ttl=64 time=0.415 ms  --- rac2 ping statistics ---  2 packets transmitted, 2 received, **0% packet loss**, **time 1000ms**  rtt min/avg/max/mdev = 0.415/0.578/0.742/0.165 ms  Please pay attention to the packet loss and time. If it is not 0% packet loss, or if it is not sub-second time, then it indicates there is a problem in the network. Please engage network administrator to check further.    3.1 Ping all public nodenames from the local public IP with packet size of MTU  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 rac1  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 rac1  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 rac2  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 rac2  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 rac3  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 rac3  3.2.1 Ping all private IP(s) from all local private IP(s) with packet size of MTU            applies to 11gR2 example, private name is optional  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  10.0.0.1  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  10.0.0.1  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  10.0.0.2  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  10.0.0.2  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  10.0.0.3  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  10.0.0.3  3.2.2 Ping all private nodename from local private IP with packet size of MTU            applies to 11gR1 and earlier example  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  rac1p  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  rac1p  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  rac2p  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  rac2p  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  rac3p  /bin/ping -s <MTU> -c 2 -I 10.0.0.1  rac3p  4. Traceroute private network  Example below shows traceroute from node1 private IP to node2 private hostname  **# Packet size of MTU - on Linux packet length needs to be MTU - 28 bytes otherwise error send: Message too long is reported.**  **# For example with MTU value of 1500 we would use 1472 :**  traceroute to rac2p (10.0.0.2), 30 hops max, 1472 byte packets  **1  rac2p (10.0.0.2)  0.626 ms  0.567 ms  0.529 ms**  MTU size packet traceroute complete in 1 hop without going through the routing table. Output other than above indicates issue, i.e. when "\*" or "!H" presents.  Note: traceroute option "-F" may not work on RHEL3/4 OEL4 due to OS bug, refer to [note: 752844.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=752844.1) for details.  4.1 Traceroute all private IP(s) from all local private IP(s) with :         applies to 11gR2 onwards  /bin/traceroute -s 10.0.0.1  -r -F 10.0.0.1  <MTU-28>  /bin/traceroute -s 10.0.0.1  -r -F 10.0.0.2  <MTU-28>  /bin/traceroute -s 10.0.0.1  -r -F 10.0.0.3  <MTU-28>  If "-F" option does not work, then traceroute without the "-F" parameter but with packet that's triple the MTU size, i.e.:  /bin/traceroute -s 10.0.0.1  -r  10.0.0.1  <3 x MTU>  4.2 Traceroute all private nodename from local private IP with packet size of MTU         applies to 11gR1 and earlier example  /bin/traceroute -s 10.0.0.1 -r -F rac1p <MTU-28>  /bin/traceroute -s 10.0.0.1 -r -F rac2p <MTU-28>  /bin/traceroute -s 10.0.0.1 -r -F rac3p <MTU-28>  If "-F" option does not work, then run traceroute without the "-F" parameter but with packet that's triple MTU size, i.e.:  /bin/traceroute -s 10.0.0.1 -r rac1p <3 x MTU>  5. Ping VIP hostname  # Ping of all VIP nodename should resolve to correct IP  # Before the clusterware is installed, ping should be able to resolve VIP nodename but  # should fail as VIP is managed by the clusterware  # After the clusterware is up and running, ping should succeed  /bin/ping -c 2 rac1v  /bin/ping -c 2 rac1v  /bin/ping -c 2 rac2v  /bin/ping -c 2 rac2v  /bin/ping -c 2 rac3v  /bin/ping -c 2 rac3v  6. Ping SCAN name  # applies to 11gR2  # Ping of SCAN name should resolve to correct IP  # Before the clusterware is installed, ping should be able to resolve SCAN name but  # should fail as SCAN VIP is managed by the clusterware  # After the clusterware is up and running, ping should succeed  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 scancl1  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 scancl1  /bin/ping -s <MTU> -c 2 -I 120.0.0.1 scancl1  7. Nslookup VIP hostname and SCAN name  # applies to 11gR2  # To check whether VIP nodename and SCAN name are setup properly in DNS  /usr/bin/nslookup rac1v  /usr/bin/nslookup rac2v  /usr/bin/nslookup rac3v  /usr/bin/nslookup scancl1  8. To check name resolution order  # /etc/nsswitch.conf on Linux, Solaris and hp-ux, /etc/netsvc.conf on AIX  /bin/grep ^hosts /etc/nsswitch.conf  hosts:      dns files  9. To check local hosts file  # If local files is in naming switch setting (nsswitch.conf), to make sure  # hosts file doesn't have typo or misconfiguration, grep all nodename and IP  # 127.0.0.1 should not map to SCAN name, public, private and VIP hostname  Public and node VIP:  /bin/grep rac1       /etc/hosts  /bin/grep rac2       /etc/hosts  /bin/grep rac3       /etc/hosts  /bin/grep rac1v      /etc/hosts  /bin/grep rac2v      /etc/hosts  /bin/grep rac3v      /etc/hosts  /bin/grep 120.0.0.1  /etc/hosts  /bin/grep 120.0.0.2  /etc/hosts  /bin/grep 120.0.0.3  /etc/hosts  /bin/grep 120.0.0.11 /etc/hosts  /bin/grep 120.0.0.12 /etc/hosts  /bin/grep 120.0.0.13 /etc/hosts  # pre-11gR2 private example  /bin/grep rac1p      /etc/hosts  /bin/grep rac2p      /etc/hosts  /bin/grep rac3p      /etc/hosts  /bin/grep 10.0.0.1   /etc/hosts  /bin/grep 10.0.0.2   /etc/hosts  /bin/grep 10.0.0.3   /etc/hosts  # 11gR2 private example  /bin/grep 10.0.0.1   /etc/hosts  /bin/grep 10.0.0.2   /etc/hosts  /bin/grep 10.0.0.3   /etc/hosts    # SCAN example  # If SCAN name is setup in DNS, it should not be in local hosts file  /bin/grep scancl1      /etc/hosts  /bin/grep 120.0.0.21 /etc/hosts  /bin/grep 120.0.0.22 /etc/hosts  /bin/grep 120.0.0.23 /etc/hosts    **C. Syntax reference**  Please refer to below for command syntax on different platform    Linux:      /bin/netstat -in      /sbin/ifconfig      /bin/ping -s <MTU> -c 2 -I source\_IP nodename      /bin/traceroute -s source\_IP -r -F  nodename-priv <MTU-28>      /usr/bin/nslookup    Solaris:      /bin/netstat -in      /usr/sbin/ifconfig -a      /usr/sbin/ping -i source\_IP -s nodename <MTU> 2      /usr/sbin/traceroute -s source\_IP -r -F nodename-priv <MTU>      /usr/sbin/nslookup    HP-UX:      /usr/bin/netstat -in      /usr/sbin/ifconfig NIC      /usr/sbin/ping -i source\_IP nodename <MTU> -n 2      /usr/contrib/bin/traceroute -s source\_IP -r -F nodename-priv <MTU>      /bin/nslookup      AIX:      /bin/netstat -in      /usr/sbin/ifconfig -a      /usr/sbin/ping -S source\_IP -s <MTU> -c 2 nodename      /bin/traceroute -s source\_IP -r nodename-priv <MTU>      /bin/nslookup      Windows:      MTU:        Windows XP:          netsh interface ip show interface        Windows Vista/7:    netsh interface ipv4 show subinterfaces      ipconfig /all      ping -n 2 -l <MTU-28> -f nodename      tracert      nslookup  **D. Multicast**  Started with 11.2.0.2, multicast group 230.0.1.0 should work on private network for bootstrapping. [patch 9974223](https://support.oracle.com/epmos/faces/ui/patch/PatchDetail.jspx?parent=DOCUMENT&sourceId=1054902.1&patchId=9974223) introduces support for another group 224.0.0.251  Please refer to [note 1212703.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1212703.1) to verify whether multicast is working fine.  As fix for [bug 10411721](https://support.oracle.com/epmos/faces/BugDisplay?parent=DOCUMENT&sourceId=1054902.1&id=10411721) is included in 11.2.0.3, broadcast is supported for bootstrapping as well as multicast. When 11.2.0.3 Grid Infrastructure starts up, it will try broadcast, multicast group 230.0.1.0 and 224.0.0.251 simultaneously, if anyone succeeds, it will be able to start.    On hp-ux, if 10 Gigabit Ethernet is used as private network adapter, without driver revision B.11.31.1011 or later of the 10GigEthr-02 software bundle, multicast may not work.  Run "swlist 10GigEthr-02" command to identify the current version on your HP server.      **E. Runtime network issues**  [OSWatcher](https://support.oracle.com/epmos/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=301137.1) or [Cluster Health Monitor(IPD/OS)](https://support.oracle.com/epmos/otn.oracle.com/rac) can be deployed to capture runtime network issues.    **F. Symptoms of network issues**  o ping doesn't work, ping packet loss or ping time is too long (not sub-second)  o traceroute doesn't work  o name resolution doesn't work    o traceroute output like:    1 racnode1 (192.168.30.2) 0.223 ms !X 0.201 ms !X 0.193 ms !X  o gipcd.log shows:  2010-11-21 13:00:44.455: [ GIPCNET][1252870464]gipcmodNetworkProcessConnect: [network] failed connect attempt endp 0xc7c5590 [0000000000000356] { gipcEndpoint : localAddr 'gipc://racnode3:08b1-c475-a88e-8387#10.10.10.23#27573', remoteAddr 'gipc://racnode2:nm\_rac-cluster#192.168.0.22#26869', numPend 0, numReady 1, numDone 0, numDead 0, numTransfer 0, objFlags 0x0, pidPeer 0, flags 0x80612, usrFlags 0x0 }, req 0xc7c5310 [000000000000035f] { gipcConnectRequest : addr 'gipc://racnode2:nm\_rac-cluster#192.168.0.22#26869', parentEn  2010-11-21 13:00:44.455: [ GIPCNET][1252870464]gipcmodNetworkProcessConnect: slos op : sgipcnTcpConnect  2010-11-21 13:00:44.455: [ GIPCNET][1252870464]gipcmodNetworkProcessConnect: slos dep : No route to host (113)  or  2010-11-04 12:33:22.133: [ GIPCNET][2314] gipcmodNetworkProcessSend: slos op :  sgipcnUdpSend  2010-11-04 12:33:22.133: [ GIPCNET][2314] gipcmodNetworkProcessSend: slos dep :  Message too long (59)  2010-11-04 12:33:22.133: [ GIPCNET][2314] gipcmodNetworkProcessSend: slos loc :  sendto  2010-11-04 12:33:22.133: [ GIPCNET][2314] gipcmodNetworkProcessSend: slos info :  dwRet 4294967295, addr '19  o ocssd.log shows:  2010-02-03 23:26:25.804: [GIPCXCPT][1206540320]gipcmodGipcPassInitializeNetwork: failed to find any interfaces in clsinet, ret gipcretFail (1)  2010-02-03 23:26:25.804: [GIPCGMOD][1206540320]gipcmodGipcPassInitializeNetwork: EXCEPTION[ ret gipcretFail (1) ]  failed to determine host from clsinet, using default  ..  2010-02-03 23:26:25.810: [    CSSD][1206540320]clsssclsnrsetup: gipcEndpoint failed, rc 39  2010-02-03 23:26:25.811: [    CSSD][1206540320]clssnmOpenGIPCEndp: failed to listen on gipc addr gipc://rac1:nm\_eotcs- ret 39  2010-02-03 23:26:25.811: [    CSSD][1206540320]clssscmain: failed to open gipc endp  or  2010-09-20 11:52:54.014: [    CSSD][1103055168]clssnmvDHBValidateNCopy: node 1, racnode1, has a disk HB, but no network HB, DHB has rcfg 180441784, wrtcnt, 453, LATS 328297844, lastSeqNo 452, uniqueness 1284979488, timestamp 1284979973/329344894  2010-09-20 11:52:54.016: [    CSSD][1078421824]clssgmWaitOnEventValue: after CmInfo State  val 3, eval 1 waited 0  ..  >>>> after a long delay  2010-09-20 12:02:39.578: [    CSSD][1103055168]clssnmvDHBValidateNCopy: node 1, racnode1, has a disk HB, but no network HB, DHB has rcfg 180441784, wrtcnt, 1037, LATS 328883434, lastSeqNo 1036, uniqueness 1284979488, timestamp 1284980558/329930254  2010-09-20 12:02:39.895: [    CSSD][1107286336]clssgmExecuteClientRequest: MAINT recvd from proc 2 (0xe1ad870)  o crsd.log shows:  2010-11-29 10:52:38.603: [GIPCHALO][2314] gipchaLowerProcessNode: no valid interfaces found to node for 2614824036 ms, node 111ea99b0 { host 'aixprimusrefdb1', haName '1e0b-174e-37bc-a515', srcLuid 2612fa8e-3db4fcb7, dstLuid 00000000-00000000 numInf 0, contigSeq 0, lastAck 0, lastValidAck 0, sendSeq [55 : 55], createTime 2614768983, flags 0x4 }  2010-11-29 10:52:42.299: [ CRSMAIN][515] Policy Engine is not initialized yet!  2010-11-29 10:52:43.554: [ OCRMAS][3342]proath\_connect\_master:1: could not yet connect to master retval1 = 203, retval2 = 203  2010-11-29 10:52:43.554: [ OCRMAS][3342]th\_master:110': Could not yet connect to new master [1]  or  2009-12-10 06:28:31.974: [  OCRMAS][20]proath\_connect\_master:1: could not connect to master  clsc\_ret1 = 9, clsc\_ret2 = 9  2009-12-10 06:28:31.974: [  OCRMAS][20]th\_master:11: Could not connect to the new master  2009-12-10 06:29:01.450: [ CRSMAIN][2] Policy Engine is not initialized yet!  2009-12-10 06:29:31.489: [ CRSMAIN][2] Policy Engine is not initialized yet!  or  2009-12-31 00:42:08.110: [ COMMCRS][10]clsc\_receive: (102b03250) Error receiving, ns (12535, 12560), transport (505, 145, 0)  o octssd.log shows:  2011-04-16 02:59:46.943: [    CTSS][1]clsu\_get\_private\_ip\_addresses: clsinet\_GetNetData failed (). Return [7]  [    CTSS][1](:ctss\_init6:): Failed to call clsu\_get\_private\_ip\_addr [7]  gipcmodGipcPassInitializeNetwork: failed to find any interfaces in clsinet, ret gipcretFail (1)  gipcmodGipcPassInitializeNetwork: EXCEPTION[ ret gipcretFail (1) ]  failed to determine host from clsinet, using default  [  CRSCCL][2570585920]No private IP addresses found.  (:CSSNM00008:)clssnmCheckDskInfo: Aborting local node to avoid splitbrain. Cohort of 1 nodes with leader 2, dc4sftestdb02, is smaller than cohort of 1 nodes led by node 1, dc4sftestdb01, based on map type 2    **G. Basics of Subnet**  Refer to [note 1386709.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1386709.1) for details    **References**  [NOTE:1056322.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1056322.1) - Troubleshoot Grid Infrastructure/RAC Database installer/runInstaller Issues    [NOTE:1210883.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1210883.1) - Grid Infrastructure Redundant Interconnect and ora.cluster\_interconnect.haip  [NOTE:1212703.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1212703.1) - Grid Infrastructure Startup During Patching, Install or Upgrade May Fail Due to Multicasting Requirement  [NOTE:301137.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=301137.1) - OSWatcher (Includes: [Video])  [NOTE:752844.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=752844.1) - RHEL3, RHEL4, OEL4: traceroute Fails with -F (do not fragment bit) Argument  [NOTE:341788.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=341788.1) - Recommendation for the Real Application Cluster Interconnect and Jumbo Frames  [NOTE:1386709.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1386709.1) - The Basics of IPv4 Subnet and Oracle Clusterware  [NOTE:1507482.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1054902.1&id=1507482.1) - Oracle Clusterware Cannot Start on all Nodes: Network communication with node missing for 90% of timeout interval | | |