Setting required environmental variables in MetroCluster IP configurations

ONTAP MetroCluster

Thom Illingworth, Martin Houser, Paula Carrigan
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In MetroCluster IP configurations, you must retrieve the IP address of the MetroCluster interfaces on the Ethernet ports, and then use them to configure the interfaces on the replacement controller modules.

About this task

This task is required only in MetroCluster IP configurations.

Commands in this task are performed from the cluster prompt of the surviving site and from the LOADER prompt of the nodes at the disaster site.

The nodes in these examples have the following IP addresses for their MetroCluster IP connections:

These examples are for an AFF A700 or FAS9000 system. The interfaces vary by platform model.

Node	Port	IP address
node_A_1	e5a	172.17.26.10
e5b	172.17.27.10	node_A_2
e5a	172.17.26.11	e5b
172.17.27.11	node_B_1	e5a
172.17.26.13	e5b	172.17.27.13
node_B_2	e5a	172.17.26.12

The following table summarizes the relationships between the nodes and each node's MetroCluster IP addresses.

Node	HA partner	DR partner	DR auxiliary partner
node_A_1 • e5a: 172.17.26.10 • e5b: 172.17.27.10	node_A_2 • e5a: 172.17.26.11 • e5b: 172.17.27.11	node_B_1 • e5a: 172.17.26.13 • e5b: 172.17.27.13	node_B_2 • e5a: 172.17.26.12 • e5b: 172.17.27.12
node_A_2 • e5a: 172.17.26.11 • e5b: 172.17.27.11	node_A_1 • e5a: 172.17.26.10 • e5b: 172.17.27.10	node_B_2 • e5a: 172.17.26.12 • e5b: 172.17.27.12	node_B_1 • e5a: 172.17.26.13 • e5b: 172.17.27.13

node_B_1 • e5a: 172.17.26.13 • e5b: 172.17.27.13	node_B_2 • e5a: 172.17.26.12 • e5b: 172.17.27.12	node_A_1 • e5a: 172.17.26.10 • e5b: 172.17.27.10	node_A_2 • e5a: 172.17.26.11 • e5b: 172.17.27.11
node_B_2 • e5a: 172.17.26.12 • e5b: 172.17.27.12	node_B_1 • e5a: 172.17.26.13 • e5b: 172.17.27.13	node_A_2 • e5a: 172.17.26.11 • e5b: 172.17.27.11	node_A_1 • e5a: 172.17.26.10 • e5b: 172.17.27.10

The following table lists the platform models that use VLAN IDs on the MetroCluster IP interfaces. These models might require additional steps if you are not using the default VLAN IDs.

Platform models that use VLAN IDs with the MetroCluster IP interfaces	
• AFF A220 • AFF A250 • AFF A400	• FAS500f • FAS2750 • FAS8300 • FAS8700

Steps

1. From the surviving site, gather the IP addresses of the MetroCluster interfaces on the disaster site:

   ```
   metrocluster configuration-settings connection show
   ```

   The required addresses are the DR Partner addresses shown in the **Destination Network Address** column.

   The following output shows the IP addresses for a configuration with AFF A700 and FAS9000 systems with the MetroCluster IP interfaces on ports e5a and e5b. The interfaces vary depending on platform type.

   ```
   cluster_B::*> metrocluster configuration-settings connection show
   DR                    Source          Destination
   DR                    Source          Destination
   Group Cluster Node    Network Address Network Address Partner Type
   Config State
   ----- ------- ------- --------------- --------------- ------------
   ------------
   1     cluster_B
                 node_B_1
                    Home Port: e5a
                         172.17.26.13    172.17.26.12    HA Partner
   completed
                    Home Port: e5a
                         172.17.26.13    172.17.26.10    DR Partner
   completed
   ```

```
                  Home Port: e5a
                       172.17.26.13    172.17.26.11    DR Auxiliary
completed
                  Home Port: e5b
                       172.17.27.13    172.17.27.12    HA Partner
completed
                  Home Port: e5b
                       172.17.27.13    172.17.27.10    DR Partner
completed
                  Home Port: e5b
                       172.17.27.13    172.17.27.11    DR Auxiliary
completed
               node_B_2
                  Home Port: e5a
                       172.17.26.12    172.17.26.13    HA Partner
completed
                  Home Port: e5a
                       172.17.26.12    172.17.26.11    DR Partner
completed
                  Home Port: e5a
                       172.17.26.12    172.17.26.10    DR Auxiliary
completed
                  Home Port: e5b
                       172.17.27.12    172.17.27.13    HA Partner
completed
                  Home Port: e5b
                       172.17.27.12    172.17.27.11    DR Partner
completed
                  Home Port: e5b
                       172.17.27.12    172.17.27.10    DR Auxiliary
completed
12 entries were displayed.
```

2. If you need to determine the VLAN ID or gateway address for the interface, determine the VLAN IDs from the surviving site:

   `metrocluster configuration-settings interface show`

   - You need the VLAN ID if the platform models use VLAN IDs (see the list above), and if you are not using the default VLAN IDs.
   - You need the gateway address if you are using Layer 3 wide-area networks.

     The VLAN IDs are included in the **Network Address** column of the output. The **Gateway** column shows the gateway IP address.

     In this example the interfaces are e0a with the VLAN ID 120 and e0b with the VLAN ID 130:

```
Cluster-A::*> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node     Network Address Netmask         Gateway
State
----- ------- ------- --------------- --------------- ---------------
---------
1
      cluster_A
              node_A_1
                  Home Port: e0a-120
                          172.17.26.10  255.255.255.0  -
completed
                  Home Port: e0b-130
                          172.17.27.10  255.255.255.0  -
completed
```

3. If the disaster site nodes use VLAN IDs (see the list above), at the LOADER prompt for each of the disaster site nodes, set the following bootargs:

```
setenv bootarg.mcc.port_a_ip_config local-IP-address/local-IP-
mask,gateway-IP-address,HA-partner-IP-address,DR-partner-IP-address,DR-
aux-partnerIP-address,vlan-id

setenv bootarg.mcc.port_b_ip_config local-IP-address/local-IP-
mask,gateway-IP-address,HA-partner-IP-address,DR-partner-IP-address,DR-
aux-partnerIP-address,vlan-id
```

- If the interfaces are using the default VLANs, or the platform model does not require a VLAN (see the list above), the *vlan-id* is not necessary.
- If the configuration is not using Layer3 wide-area networks, the value for *gateway-IP-address* is **0** (zero).

- If the interfaces are using the default VLANs, or the platform model does not require a VLAN (see the list above), the *vlan-id* is not necessary.
- If the configuration is not using layer 3 backend connections, the value for *gateway-IP-address* is **0** (zero).

The following commands set the values for node_A_1 using VLAN 120 for the first network and VLAN 130 for the second network:

```
setenv bootarg.mcc.port_a_ip_config
172.17.26.10/23,0,172.17.26.11,172.17.26.13,172.17.26.12,120

setenv bootarg.mcc.port_b_ip_config
172.17.27.10/23,0,172.17.27.11,172.17.27.13,172.17.27.12,130
```

The following example shows the commands for node_A_1 without a VLAN ID:

```
setenv bootarg.mcc.port_a_ip_config
172.17.26.10/23,0,172.17.26.11,172.17.26.13,172.17.26.12

setenv bootarg.mcc.port_b_ip_config
172.17.27.10/23,0,172.17.27.11,172.17.27.13,172.17.27.12
```

4. If the disaster site nodes are not systems that use VLAN IDs, at the LOADER prompt for each of the disaster nodes, set the following bootargs with local_IP/mask,gateway:

```
setenv bootarg.mcc.port_a_ip_config local-IP-address/local-IP-mask,0,HA-
partner-IP-address,DR-partner-IP-address,DR-aux-partnerIP-address


setenv bootarg.mcc.port_b_ip_config local-IP-address/local-IP-mask,0,HA-
partner-IP-address,DR-partner-IP-address,DR-aux-partnerIP-address
```

- If the interfaces are using the default VLANs, or the platform model does not require a VLAN (see the list above), the *vlan-id* is not necessary.
- If the configuration is not using Layer 3 wide-area networks, the value for *gateway-IP-address* is **0** (zero).

The following commands set the values for node_A_1. In this example, the *gateway-IP-address* and *vlan-id* values are not used.

```
setenv bootarg.mcc.port_a_ip_config
172.17.26.10/23,0,172.17.26.11,172.17.26.13,172.17.26.12

setenv bootarg.mcc.port_b_ip_config
172.17.27.10/23,0,172.17.27.11,172.17.27.13,172.17.27.12
```

5. From the surviving site, gather the UUIDs for the disaster site:

```
metrocluster node show -fields node-cluster-uuid, node-uuid
```

```
cluster_B::> metrocluster node show -fields node-cluster-uuid, node-uuid

  (metrocluster node show)
dr-group-id cluster     node     node-uuid
node-cluster-uuid
----------- ----------- -------- ------------------------------------
------------------------------
1           cluster_A   node_A_1 f03cb63c-9a7e-11e7-b68b-00a098908039
ee7db9d5-9a82-11e7-b68b-00a098

908039
1           cluster_A   node_A_2 aa9a7a7a-9a81-11e7-a4e9-00a098908c35
ee7db9d5-9a82-11e7-b68b-00a098

908039
1           cluster_B   node_B_1 f37b240b-9ac1-11e7-9b42-00a098c9e55d
07958819-9ac6-11e7-9b42-00a098

c9e55d
1           cluster_B   node_B_2 bf8e3f8f-9ac4-11e7-bd4e-00a098ca379f
07958819-9ac6-11e7-9b42-00a098

c9e55d
4 entries were displayed.
cluster_A::*>
```

Node	UUID
cluster_B	07958819-9ac6-11e7-9b42-00a098c9e55d
node_B_1	f37b240b-9ac1-11e7-9b42-00a098c9e55d
node_B_2	bf8e3f8f-9ac4-11e7-bd4e-00a098ca379f
cluster_A	ee7db9d5-9a82-11e7-b68b-00a098908039
node_A_1	f03cb63c-9a7e-11e7-b68b-00a098908039
node_A_2	aa9a7a7a-9a81-11e7-a4e9-00a098908c35

6. At the replacement nodes' LOADER prompt, set the UUIDs:

```
setenv bootarg.mgwd.partner_cluster_uuid partner-cluster-UUID

setenv bootarg.mgwd.cluster_uuid local-cluster-UUID

setenv bootarg.mcc.pri_partner_uuid DR-partner-node-UUID

setenv bootarg.mcc.aux_partner_uuid DR-aux-partner-node-UUID

setenv bootarg.mcc_iscsi.node_uuid local-node-UUID`
```

a. Set the UUIDs on node_A_1.

   The following example shows the commands for setting the UUIDs on node_A_1:

   ```
   setenv bootarg.mgwd.cluster_uuid ee7db9d5-9a82-11e7-b68b-00a098908039

   setenv bootarg.mgwd.partner_cluster_uuid 07958819-9ac6-11e7-9b42-
   00a098c9e55d

   setenv bootarg.mcc.pri_partner_uuid f37b240b-9ac1-11e7-9b42-
   00a098c9e55d

   setenv bootarg.mcc.aux_partner_uuid bf8e3f8f-9ac4-11e7-bd4e-
   00a098ca379f

   setenv bootarg.mcc_iscsi.node_uuid f03cb63c-9a7e-11e7-b68b-
   00a098908039
   ```

b. Set the UUIDs on node_A_2:

   The following example shows the commands for setting the UUIDs on node_A_2:

```
setenv bootarg.mgwd.cluster_uuid ee7db9d5-9a82-11e7-b68b-00a098908039

setenv bootarg.mgwd.partner_cluster_uuid 07958819-9ac6-11e7-9b42-
00a098c9e55d

setenv bootarg.mcc.pri_partner_uuid bf8e3f8f-9ac4-11e7-bd4e-
00a098ca379f

setenv bootarg.mcc.aux_partner_uuid f37b240b-9ac1-11e7-9b42-
00a098c9e55d

setenv bootarg.mcc_iscsi.node_uuid aa9a7a7a-9a81-11e7-a4e9-
00a098908c35
```

7. If the original systems were configured for ADP, at each of the replacement nodes' LOADER prompt, enable ADP:

   ```
   setenv bootarg.mcc.adp_enabled true
   ```

8. If running ONTAP 9.5, 9.6 or 9.7, at each of the replacement nodes' LOADER prompt, enable the following variable:

   ```
   setenv bootarg.mcc.lun_part true
   ```

   a. Set the variables on node_A_1.

      The following example shows the commands for setting the values on node_A_1 when running ONTAP 9.6:

      ```
      setenv bootarg.mcc.lun_part true
      ```

   b. Set the variables on node_A_2.

      The following example shows the commands for setting the values on node_A_2 when running ONTAP 9.6:

      ```
      setenv bootarg.mcc.lun_part true
      ```

9. If the original systems were configured for ADP, at each of the replacement nodes' LOADER prompt, set the original system ID (**not** the system ID of the replacement controller module) and the system ID of the DR partner of the node:

   ```
   setenv bootarg.mcc.local_config_id original-sysID

   setenv bootarg.mcc.dr_partner dr_partner-sysID
   ```

   Determining the system IDs and VLAN IDs of the old controller modules

a. Set the variables on node_A_1.

   The following example shows the commands for setting the system IDs on node_A_1:

   - The old system ID of node_A_1 is 4068741258.
   - The system ID of node_B_1 is 4068741254.

   ```
   setenv bootarg.mcc.local_config_id 4068741258
   setenv bootarg.mcc.dr_partner 4068741254
   ```

b. Set the variables on node_A_2.

   The following example shows the commands for setting the system IDs on node_A_2:

   - The old system ID of node_A_1 is 4068741260.
   - The system ID of node_B_1 is 4068741256.

   ```
   setenv bootarg.mcc.local_config_id 4068741260
   setenv bootarg.mcc.dr_partner 4068741256
   ```