Cluster Management Configuration Commands

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1.1.1 cluster address-pool

description

cluster address-pool *A.B.C.D mask*

no cluster address-pool

parameter

parameter	parameterinstruction
A.B.C.D	Network segment of the ip address pool. Valid value range: N/A.
mask	Network segment mask of the ip address pool. Valid value range: N/A.

default

Default network segment is 192.166.0.0/255.255.0.0

instruction

This command is used to configure the inner ip address used for cluster management. When the ip address is used, it will not open to the outer user operation. When the cluster feature has not been enabled on the device, this command can be configured repeatedly, only the last configuration is valid. When the cluster feature has been enabled on the device, this command can not be configured repeadly. This command can only be configured on the switch.

Address number in the address pool should be greater than the number of cluster member.

example

The following example sets 192.167.0.0/255.255.0.0 as the cluster address pool:

switch_config#cluster address-pool 192.167.0.0 255.255.0.0

1.1.2   cluster mode

description

To configure the role that a switch plays in the cluster, use the cluster mode member command. Use the no form of this command to restore the default value.

cluster mode member | **commander** *cluster-name*

no cluster mode

parameter

parameter	parameterinstruction
cluster-name	Cluster name. Valid value range: N/A.

default

no cluster mode

instruction

cluster mode member configures switch to cluster candidate member；

cluster mode commander cluster-name configures switch to cluster command switch；

The no cluster mode should be operated when switching between candidate member and command switch.

command mode

global configuration mode

example

The following command configures switch to cluster candicate member：

switch_A_config #cluster mode member

The following command configures switch to cluster command switch：

switch_A_config #cluster mode commander campus

1.1.3   cluster commander-address

description

cluster commander-address *H.H.H* [name *name*]

no cluster commander-address

parameter

parameter	parameterinstruction
H.H.H	MAC address of the server.
name	Name of the cluster. Valid value range is from 1 to 31 characters.

default

default

instruction

You do not need to enter this command from a standalone cluster member switch. The cluster command switch automatically provides its MAC address to cluster member switches when these switches join the cluster. The cluster member switch adds this information and other cluster information to its running configuration file. Use the no form of this global configuration command from the cluster member switch console port to remove the switch from a cluster only during debugging or recovery procedures.

example

The following information is a portion of output of the show running-config command on a cluster member switch:

cluster commander-address 001f.ce2b.626e name test_cluster

The following command separates the member switch from the cluster:

switch_A_config#no cluster commander-address

1.1.4   cluster member

description

Use the cluster member command on the cluster command switch to add candidates to a cluster. Use the no form of the command to remove members from the cluster.

cluster member [*n*] **mac-address** *H.H.H* [**password** *enable-password*]

no cluster member id *n*

parameter

parameter	parameterinstruction
n	The number that identifies a cluster member. The range is 0 to 255.
H.H.H	MAC address of the cluster member switch in hexadecimal format.
enable-password	Enable password of the candidate switch. The password is not required if there is no password on the candidate switch.

default

no default

value instruction

This command can only be executed on the commander switch. This command cannot be executed repeatedly.

example

This example shows how to add a switch as member 3 with MAC address 001f.ce2b.626d and the password key to a cluster.

switch_A_config#cluster member id 3 mac-address 001f.ce2b.626d password key

The following example shows how to add a candidate switch with MAC address 001f.ce2b.626e to a cluster:

switch_A_config#cluster member mac-address 001f.ce2b.626e

1.1.5 cluster discovery hop-count

description

cluster discovery hop-count number

no cluster discovery hop-count

parameter

parameter	parameterinstruction
number	Number of hops from the cluster edge that the cluster command switch limits the discovery of candidates. The range is 1 to 7.

default

The hop count is set to 3.

instruction

This command is available only on the cluster command switch. This command does not operate on cluster member switches.

If the hop count is set to 1, it disables extended discovery. The cluster command switch discovers only candidates that are one hop from the edge of the cluster. The edge of the cluster is the point between the last discovered cluster member switch and the first discovered candidate switch.

example

This example shows how to set hop count limit to 4.

switch_A_config#cluster discovery hop-count 4

1.1.6 cluster hello-time

description

cluster hello-time *interval*

no cluster hello-time

parameter

parameter	description
interval	Duration in seconds of the hello timer. The range is 1 to 300 seconds.

default

The default holdtime is 8 seconds.

instruction

Enter this command with the cluster timer global configuration command only on the cluster command switch. The cluster command switch propagates the values to all its cluster members so that the setting is consistent among all switches in the cluster.

example

This example shows how to change the interval timer and the duration on the cluster command switch.

switch_A_config#cluster hellotime 3

1.1.7   cluster hold-time

description

cluster hold-time *holdtime*

no cluster hold-time

parameter

parameter	description
interval	Duration in seconds before a switch (either a command or cluster member switch) declares the other switch down. The range is 1 to 300 seconds.

default

The default holdtime is 80 seconds.

instruction

Enter this command with the cluster timer global configuration command only on the cluster command switch. The cluster command switch propagates the values to all its cluster members so that the setting is consistent among all switches in the cluster.

The holdtime is typically set as a multiple of the interval timer (cluster timer). For example, it takes (holdtime-in-secs divided by the interval-in-secs) number of heartbeat messages to be missed in a row to declare a switch down.

example

This example shows how to change the interval timer and the duration on the cluster command switch.

switch_A_config#cluster holdtime 30

1.1.8   show cluster

description

show cluster

parameter

default

instruction

This command shows basic configuration information of the cluster feature. If this device is not among the cluster, the system will output error information; if this device is command switch, the system will display cluster name, total number of mumbers, inaccessible number of mumbers, backup group information, timer information and address pool; if the device is member, the system will display cluster member number, communication status and other information.

example

The display of the command switch is as follows：

switch_A#show cluster
Commander of cluster "zmz"
Total number of members: 2

Hello timer   8
Hold timer   80
Topologic discovery hops   3
Address pool net address   192.166.0.0
Address pool address mask   255.255.0.0
Member 1(mac 001f.ce2b.626d) is up, hold time 76.780 second

The display of the cluster member is as follows：

switch_B#show cluster
Member 1 of cluster "zmz"
        Total number of members: 2
        Hello timer   8
        Hold timer   80
        Topologic discovery hops   3
        Address pool net address   192.166.0.0
        Address pool address mask   255.255.0.0
Commander mac 001f.ce2b.6000 is up, hold time 79.880 second

When there is inaccessible mumber, the display of the command switch is as follows：

switch_A#show cluster
Commander of cluster "zmz"
        Total number of members: 2
        Hello timer   8
        Hold timer   80
        Topologic discovery hops   3
        Address pool net address   192.166.0.0
        Address pool address mask   255.255.0.0
Member 1(mac 001f.ce2b.626d) is down

When there is inaccessible switch, the display of the command switch is as follows：

switch_B#show cluster
Member 1 of cluster "zmz"
        Total number of members: 2
        Hello timer   8
        Hold timer   80
        Topologic discovery hops   3
        Address pool net address   192.166.0.0
        Address pool address mask   255.255.0.0
Commander mac 001f.ce2b.6000 is down

When configured cluster backup group, the display of the command switch is as follows：

cmdr_config#show cluster
Commander of cluster "zmz"
        Total number of members: 3
        Redundancy: Enabled
            Standby type: hsrp
            Standby Group: mytest

Standby Group Number:	1
Hello timer	8
Hold timer	80
Topologic discovery hops	3
Address pool net address	192.166.0.0
Address pool address mask	255.255.0.0

Member 1(mac 001f.ce50.806c) is up, hold time 76.750 second

Member 2(mac 001f.ce2b.626d) is up, hold time 76.750 second

When configured cluster backup group, the display of the backup command switch is as follows:

bakup_config#**show cluster**

Member 2(Standby command switch) of cluster "zmz"

Total number of members:	3
Hello timer	8
Hold timer	80
Topologic discovery hops	3
Address pool net address	192.166.0.0
Address pool address mask	255.255.0.0

Commander mac 001f.ce2b.6000 is up, hold time 74.210 second

1.1.9   show cluster candidate

description

show cluster candidates [detail | mac-address *H.H.H*]

parameter

parameter	description
detail	Displays the detailed information of all candidate members.
mac-address *H.H.H*	Displays candidate member information of the specified mac address.

default

instruction

This command is used to display candidate member information in the cluster. The displayable information include: member mac address, device name, up-link device, interface and so on. This command can only be executed on the command switch.

example

The example of command execution：

switch_A#show cluster candidates

ID MAC addr   Name   Device Type

256 001f.ce2b.626d switch_B switch Local interface: f0/2(2), Uplink interface: f0/2(2), Uplink device id: 0 ,hops to edge: 1

The example of command execution when the MAC address is specified：

switch_A#show cluster candidates mac-address 001f.ce2b.626d

Device 'switch_B' with mac address number 001f.ce2b.626d

     Device type: switch

     Upstream MAC address: 001f.ce2b.6000 (Cluster Member 0)

     Local port: f0/2   FEC number:

     Upstream port: f0/2   FEC Number:

Hops from cluster edge: 1

The example of command execution when detail is specified：

switch_A#show cluster candidates detail

Device 'switch_B' with mac address number 001f.ce2b.626d

Device type: switch

Upstream MAC address: 001f.ce2b.6000 (Cluster Member 0)

Local port: f0/2   FEC number:

Upstream port: f0/2   FEC Number:

Hops from cluster edge: 1

1.1.10   show cluster member

description

show cluster member [*n* | detail]

parameter

parameter	parameterinstruction
detail	Displays member's detailed information.
n	Displays member of the specified number.

default

instruction

This command is used to display member information in the cluster. The displayable information include: MAC address of the mumber, name of machine, up-link equipment,

member status and so on. This command can only be executed on the command switch.

example

The example of command execution：

switch_A#show cluster member
ID MAC addr   Name   Device Type
0 001f.ce2b.6000 switch_A switch
Device is commander
----
1 001f.ce2b.626d switch_B SWITCH
Local interface: f0/2(2), Uplink interface: f0/2(2), Uplink device id: 0 ,hops to cmdr: 1

The example of command execution when member number is specified：

switch_A#show cluster member id 1
Device 'switch_B' with member number 1
        Device type: SWITCH
        MAC address: 001f.ce2b.626d
        Upstream MAC address: 001f.ce2b.6000 (Cluster Member 0)
        Local port: f0/2   FEC number:
        Upstream port: f0/2   FEC Number:
        Hops from command device: 1

The example of command execution when detail is specified：

switch_A#show cluster member detail
Device 'switch_A' with member number 0 (Command Switch)
        Device type: SWITCH
        MAC address: 001f.ce2b.6000
        Upstream MAC address:
        Local port: FEC number:
        Upstream port: FEC Number:
        Hops from command device: 0
Device 'switch_B' with member number 1
        Device type: SWITCH
        MAC address: 001f.ce2b.626d
        Upstream MAC address: 001f.ce2b.6000 (Cluster Member 0)
        Local port: f0/2   FEC number:
        Upstream port: f0/2   FEC Number:
        Hops from command device: 1

1.1.11   show cluster topo

description

show cluster topo

parameter

default

instruction

This command is used to display topology information in the cluster. The displayable information include: MAC address of member, machine name, up-link equipment and interface, member status and so on. This command can only be executed on the switch.

example

The example of command execution：

cmdr#show cluster topo
Total device number discoveried in session:
4 Total link number discoveried in session: 3

ID MAC addr   Name   Device Type
258 001f.ce46.606c sw1 SWITCH
Local interface: f0/7(7), Uplink interface: f0/24(24), Uplink device id: 1, hops to edge: 1
----
256 001f.ce28.006c sw3 SWITCH
Local interface: f0/2(2), Uplink interface: f0/18(18), Uplink device id: 0, hops to edge: 1
----
0 001f.ce2b.601b cmdr SWITCH
Device is commander
----
1 001f.ce50.8000 sw2 SWITCH
Local interface: f0/6(6), Uplink interface: f0/6(6), Uplink device id: 0, hops to cmdr: 1

1.1.12 show cluster address pool

description

show cluster address pool

parameter

default_

instruction_

This command is used to display cluster address pool. This comman can only be operated on the switch.

example

The example of command execution：

```
cmdr#show cluster address pool
      Address pool net address        192.166.0.0
      Address pool address mask       255.255.0.0
```