Migration from HA to Cluster configuration:

Follow bellow steps: -

1. **Disable HA on Secondary device (Backup) and configure Cluster and add VIP's as well (Cluster should be off).**
Removing Secondary device (Backup) from the HA to avoid traffic fluctuation, at the same time creating complete Cluster configuration but Cluster will be in disabled mode, below are the required CLI commands.

#ha off
This command is used to disable the HA function.

Basic commands to Cluster configuration:

#cluster virtual ifname *<interface_name> <cluster_id>*
This command is used to define a virtual cluster ID for specific interface

#cluster virtual vip *<interface_name> <cluster_id> <vip>*
This command is used to set the virtual IP address for a virtual cluster on specified interface.

#cluster virtual priority *<interface_name> <cluster_id> <priority> [synconfig_peer_name]*
This command is used to set the virtual cluster priority. If this command is not configured, the priority of the virtual cluster is 100.

#cluster virtual off *[cluster_id|0] [interface_name]*
This command is used to disable the virtual clustering capabilities for the APV appliance. The minimum value of a virtual cluster ID is 1 and the maximum decimal value is 255. It defaults to 0, which means all clusters will be enabled. Also with this command, users must specify the appropriate interface name. If no cluster ID or interface name is supplied, all clusters will be enabled.

2. **On Primary (Master) device remove all FIP's from HA groups and configure Cluster, (don't configure cluster VIP's and cluster off)**
If we keep FIPs under HA group and in case disabled HA, master device will not accept any traffic, so removing the FIPs from HA Group (Secondary will not participating into HA/Cluster, because we have already disabled) before disabling the HA. Also, at the same time configure Cluster, it should be in disabled mode, and we are not adding any VIPs under Cluster group to avoid traffic fluctuation. Below are the required CLI commands.

#no ha group fip *<group_id> <floating_ip>*
This command is used to delete a floating IP address of the specified floating IP group.
or
#clear ha group fip *<group_id>*
This command is used to delete all floating IP addresses of the specified floating IP group

Basic commands to Cluster configuration:

#cluster virtual ifname *<interface_name> <cluster_id>*
This command is used to define a virtual cluster ID for specific interface

#cluster virtual priority *<interface_name> <cluster_id> <priority> [synconfig_peer_name]*
This command is used to set the virtual cluster priority. If this command is not configured, the priority of the virtual cluster is 100.

#cluster virtual off *[cluster_id|0] [interface_name]*
This command is used to disable the virtual clustering capabilities for the APV appliance. The minimum value of a virtual cluster ID is 1 and the maximum decimal value is 255. It defaults to 0, which means all clusters will be enabled. Also with this command, users must specify the appropriate interface name. If no cluster ID or interface name is supplied, all clusters will be enabled.

3. **Disable HA on Primary (Master) device, then enable cluster.**
In 2nd step we have done Cluster configuration and removed FIPs, now the setup is ready to change HA to Cluster, then we are disabling HA and Enabling Cluster. Below are the required CLI commands.

#ha off
This command is used to disable the HA function.

#cluster virtual on *[cluster_id|0] [interface_name]*
This command is used to enable the virtual clustering capabilities for the APV appliance. The minimum value of a virtual cluster ID is 1 and the maximum decimal value is 255. It defaults to 0, which means all clusters will be enabled. Also with this command, users must specify the appropriate interface name. If no cluster ID or interface name is supplied, all clusters will be enabled.

4. **Add cluster VIPs on Primary (Master) device**
We Have Migrated the Master Device from HA to Cluster configuration with help of step 1 and 2, now we are adding the VIP's before putting secondary device into Cluster, so all the traffic will be served by Master device without any disturbance. Below is the required CLI command.

#cluster virtual vip *<interface_name> <cluster_id> <vip>*

This command is used to set the virtual IP address for a virtual cluster on specified interface.

5. **Enable Cluster on Secondary (Backup) device**

Now everything ready to form Cluster between Primary and secondary device, we are just enabling Cluster on Secondary device. Below is the required CLI command.

#cluster virtual on *[cluster_id|0] [interface_name]*
This command is used to enable the virtual clustering capabilities for the APV appliance. The minimum value of a virtual cluster ID is 1 and the maximum decimal value is 255. It defaults to 0, which means all clusters will be enabled. Also with this command, users must specify the appropriate interface name. If no cluster ID or interface name is supplied, all clusters will be enabled.

6. **Check the Cluster status after few seconds on both devices**
After completing the 5th step, wait for few seconds then check the Cluster Status, below is the required CLI command.

#show cluster virtual status
The command is used to output the status of the cluster feature for the APV appliance (either on or off), followed by the state of each configured virtual cluster (either in incomplete, initialize, backup, or master state), and the name and link status of the interfaces specified for each virtual cluster.

7. **Remove HA configuration and Save configuration**
Once Cluster formed successfully and test all Virtual services, if everything looks fine then remove HA configuration and save configuration using below commands.

 # clear ha unit
This command is used to clear all configured HA units.
#clear ha all
This command is used to delete all configurations related to the HA function.
#write memory
This command allows users to save the current configuration to the file and assigns it to the boot configuration data.

Example configuration:

HA to Cluster configuration			
Steps	Follow bellow steps		
	SLB1(Primary)		SLB2(Secondary)
1	Disable HA on Secondary device and configure Cluster and add VIP's as well (ha off)		
			ha off
			cluster virtual ifname "port1" 20
			cluster virtual vip "port1" 20 192.168.1.150
			cluster virtual priority "port1" 20 170 SLB10_01
			cluster virtual priority "port1" 20 140 SLB10_02
			cluster virtual off 20 "port1"
2	On Primary device remove all HA FIP's and configure Cluster, (don't configure cluster VIP's and Cluster off)		
	no ha group fip 1 192.168.1.150		
	cluster virtual ifname "port1" 20		
	cluster virtual priority "port1" 20 170 SLB10_01		
	cluster virtual priority "port1" 20 140 SLB10_02		
	cluster virtual off 20 "port1"		

3	Disable HA on Primary device, then enable Cluster.		
	ha off		
	cluster virtual on 20 "port1"		
4	Add cluster VIP's on Primary device, then enable Cluster on secodnary device		
	cluster virtual vip "port1" 20 192.168.1.150		cluster virtual on 20 "port1"
	show cluster virtual status		show cluster virtual status