



# Cisco Elastic Services Controller Active/Active High Availability Overview

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## Cisco Elastic Services Controller Active/Active HA Overview

ESC supports High Availability (HA) in the form of an Active/Active model. ESC Active/Active HA has three VMs as a cluster in one datacenter. There are two datacenters. Between the two datacenters, one datacenter acts as active, another acts as standby. ESC Active/Active HA uses Openstack heat template to deploy the three VM cluster in a datacenter.

In a datacenter, ESC service runs on each VM; however, there is only one ESC on a datacenter that runs as cluster leader. DB service runs only on the leader. The ESC services on the other two ESC VMs run as cluster follower. The DB service is only active on ESC services leader VM.

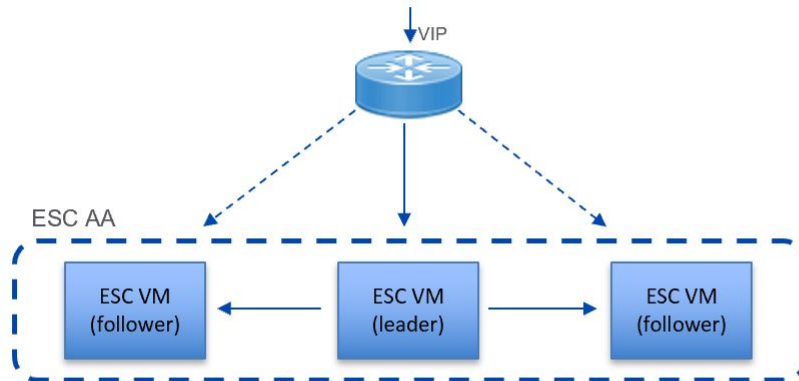
DRBD synchronises the DB services among ESC VMs. The ESC service on the three ESC VMs connect to the active DB service. When a leader switchover happens, all the ESC service connects to the newly active DB service.

# ESC Active/Active Architecture

Figure 1: Cisco Elastic Services Controller Active/Active Architecture

## Local AA Architecture

Active-Active LCM core services, Active-Standby support services



Northbound access via Virtual IP

- Option 1: VIP as a 2nd ip address
- Option 2: VIP as an ESC BGP

Cluster Leader Elections:

- Elect leader on startup and when
- Leader owns the VIP, receives

Internal Load Balancing:

- Northbound requests are internally load balanced across leader and follower nodes for processing

Active-Standby support services:

- Some microservices only run on leader
- For example, a single database instance
- On failure, a new ESC leader is elected
- Data is replicated from leader to followers

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