Elastic Services Controller Overview

Change History

Table 1: Change History for ESC 5.0

Date	Revision	Location
September 14, 2019	Updated with the KeepAlived limitation for network addresses.	Configuring the Northbound Interface Access
November 04, 2019	Updated with the comments.	Upgrading Cisco Elastic Services ControllerInstalling the Elastic Services Controller Instance in CSP 2100
June 18, 2020	Updated with this feature.	Managing Keystore in Cisco Elastic Services Controller

Elastic Services Controller Overview

Cisco Elastic Services Controller (ESC) is a Virtual Network Functions Manager (VNFM), which performs life cycle management of Virtual Network Functions (VNFs). ESC provides agent-less and multi vendor VNF management by provisioning virtual services, and monitoring their health and load. ESC provides the flexibility to define monitoring rules, and associate actions to be triggered based on the outcome of these rules. As a VNFM, in addition to the typical life cycle management operations, ESC also supports automatic VM recovery when a VM fails and performs automatic scaling in and out functions. ESC fully integrates with Cisco and other third party applications.

- As part of the Cisco Orchestration Suite, ESC is packaged with Cisco Network Services Orchestrator (NSO), and available within Cisco Solution, Managed Services Accelerator Solution (MSX).

- As a standalone product, ESC is available as a Virtual Network Function Manager for several Cisco VNFs such as CSR1K, ASAv, WSA and many others.

ESC is deployed in a virtual machine within OpenStack, VMware vCenter, KVM or AWS and manages its VNFs in a Virtual Infrastructure Manager (VIM).

ESC fully integrates with Cisco and other third party applications. As a standalone product, the Elastic Services Controller can be deployed as a VNF Manager. ESC integrates with Network Services Orchestrator (NSO) to provide VNF management along with orchestration. Elastic Services Controller as a VNF Manager targets the virtually managed services and all service provider NFV deployments such as virtual video, WiFi, authentication and others.

ESC can manage both basic and complex VNFs . Basic VNFs include a single VM such as a vFW, vRouter and others.

Complex VNFs include multiple VMs that are orchestrated as a single entity with dependencies between them.

IPv6 Support

Elastic Services Controller provides IPv6 support on OpenStack for:

- VNF Management

- HA— ESC manages VNFs on IPv4 and IPv6 (OpenStack and KVM only).

Elastic Services Controller provides IPv6 support for northbound interface (for example, NFVO to VNFM), and southbound interface (for example, VNFM to VNF). In order to support both northbound and southbound IPv6 concurrently, the following pre-requisites must be met:

- OpenStack cloud computing is set up and configured for ipv6, including the endpoints (that are ipv6 based).

- The OpenStack cloud computing must contain a Controller, endpoints, and a few Compute hosts, with an ipv6 management and os_api based networks.

- The ESC default security group rules support the IPv6 traffic.

Note   When you are deploying a VM, you can attach an out-of-band port of an IPv6 subnet to a VM. However, if you are deleting this VM, you cannot attach the same IPv6 address to another VM due to a known OpenStack issue.