ICN Local Controller test cases

Bare-Metal deployment test case

This test case expected to test the ICN local controller for following scenario.

Some terms that are used in the test case

ESP (Edge Service Provider): ESP owns the edge location. Set of users of ESP are allowed to perform the operations on the infra-local-controller. ESP procures the server hardware, switches and connects them together. Also, it is ESP responsibility to get the Internet connectivity.

ESP-Tenant : ESP-Tenant is the customer of ESP. Each ESP-tenant has its own users to maintain and manage their Edgelets.

Edgelet: Edgelets are Kubernetes Clusters. Each Edgelet belongs to one ESP-Tenant. Edgelets are created by ESPs. Once created Edgelets are managed by ESP-Tenant users.

Test case details:

- Two tenants T1 and T2.
 - o T1 needs two edgelets E1, E2
 - o T2 needs one edgelet E3
- E1 requires two server K8S Cluster
- E2 requires one-server K8S Cluster
- E3 requires one-server K8S Cluster.
- E1:
- OS: Ubuntu 18.04 on all servers
- Ouse KUD version 2.0 for K8S.
- Server1 is for K8S master and worker
- o Server2 is dedicated for K8S worker.
- Need two provider networks VLAN 100, VLAN 200
- Need Server2 be labelled with "SSD", "Provder_network_1"
- Need Server1 be labelled with "Provider_network_2"
- E2:
- OS: RH 8.2 on all servers
- Use KUD version 3.0 for K8S
- Server is for both K8S master and worker,
- O Need three provider networks: VLAN 300, VLAN 301 and VLAN 302.
- Need Server be labelled with "Provider_Network_1", "Provider_Network_2" and "Provider_Network_3".
- E3:
- $^{\circ}~$ OS: Ubuntu 19.04 on all servers
- Use RKE for Kuerbenetes installation
- Server is for both K8S master and worker,
- O Need three provider networks: VLAN 400, VLAN 401 and VLAN 402.
- Need Server be labelled with "Provider_Network_1", "Provider_Network_2" and "Provider_Network_3".

We understand that today, only one Linux version and only one KUD version is supported.

Steps:

- ESP creates T1
- ESP adds E1 for T1
- ESP adds E2 for T1
- ESP creates T2
- ESP adds E3 for T2
- ESP dedicates VLAN 100, 200, 300, 301 and 302 for T1.
- ESP dedicates VLAN 400, 401 and 402 for T2.
- T1 uploads Ubuntu 18.04 image
- T1 uploads KUD 2.0 image
- T1 uploads RH8.2 image
- T1 uploads KUD 3.0 image
- T1 on behalf of E1 adds description for servers.
- T1 on behalf of E1 enters node labels.
- T1 on behalf of E1 enters provider network information.
- T1 initiates the infrastructure installation for E1.
- T1 on behalf of E2 adds description for servers.
- T1 on behalf of E2 enters node labels.
- T1 on behalf of E2 enters provider network information.
- T1 initiates the infrastructure installation for E2.
- T2 uploads Ubuntu 19.04 image
- T2 uploads RKE image
- T2 on behalf of E3 adds description for servers.
- T2 on behalf of E3 enters node labels.
- T2 on behalf of E3 enters provider network information.
- T1 initiates the infrastructure installation for E3.

Proof:

- Ensure that there are three K8S clusters created.
 Ensure by running applications in these K8S clusters.
 Make sure that T2 cann't view T1's images and also ensure that they can't look into T1s cluster.

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