

Single Site ESI-Lag (collapsed-core)

This will define a set of IP-Clos/Distribution-Access switches.

Note: This is an early draft of the API for EVPN-VXLAN. Things could change prior to going GA.

Required Variables:

- `site_id` xxxxxxxx-xxxx-xxxx-xxxx-00000000000b
- `device_id` (Distribution-1)
- `device_id` (Distribution-2)
- `device_id` (Access-1)
- `device_id` (Access-2)
- `mac_address` (Distribution-1)
- `mac_address` (Distribution-2)
- `mac_address` (Access-1)
- `mac_address` (Access-2)

EVPN Topology:

In this topology, the EVPN extends down to the access layer. All switches participate in the EVPN.



Syntax error in graph
mermaid version 8.9.3

Step 1: (Define Networks/VRFs)

This payload configures 2 networks (`vlan101`, `vlan102`) that go into the `internal_vrf`. The internal VRF also include a static route.

We also specify the EVPN option, but these are not required.

This can also be applied to a network template, this example is using a site only.

PUT:
/api/v1/sites/:site_id/setting

```
{
  "evpn_options": {
    "overlay": {
      "as": 65000
    },
    "underlay": {
      "as_base": 65001,
      "subnet": "10.255.240.0/20"
    }
  },
  "networks": {
    "vlan101": {
      "vlan_id": "101",
      "subnet": "192.168.101.0/24",
      "gateway": "192.168.101.1"
    },
    "vlan102": {
      "vlan_id": "102",
      "subnet": "192.168.102.0/24",
      "gateway": "192.168.102.1"
    }
  },
  "vrf_instances": {
    "jnpr_2_vrf": {
      "networks": [
        "vlan101",
        "vlan102"
      ],
      "extra_routes": {
        "0.0.0.0/0": {
          "via": "192.168.192.1"
        }
      }
    }
  }
}
```

Step 2: Apply Router ID/IRBs/VRF config to each access/leaf switches

In this topology, the Access-leaf switches will have the IRBs for the VLANs as well as the VRF config.

PUT:

```
/api/v1/sites/:site_id/devices/{{ Access-1_device_id }}
```

```
{
  "router_id": "192.168.255.11",
  "other_ip_configs": {
    "vlan101": {
      "type": "static",
      "ip": "192.168.101.2",
      "netmask": "255.255.255.0"
    },
    "vlan102": {
      "type": "static",
      "ip": "192.168.102.2",
      "netmask": "255.255.255.0"
    }
  },
  "vrf_config": {
    "enabled": true
  }
}
```

PUT:

```
/api/v1/sites/:site_id/devices/{{ Access-2_device_id }}
```

```
{
  "router_id": "192.168.255.12",
  "other_ip_configs": {
    "vlan101": {
      "type": "static",
      "ip": "192.168.101.3",
      "netmask": "255.255.255.0"
    },
    "vlan102": {
      "type": "static",
      "ip": "192.168.102.3",
      "netmask": "255.255.255.0"
    }
  },
  "vrf_config": {
    "enabled": true
  }
}
```

```
}  
}
```

Step 3: Apply Router ID config to each Distribution/Spine switches

The Distribution switches do not have IRBs nor the VRF configurations. In this case, they simply need a `router_id`.

```
PUT:  
/api/v1/sites/:site_id/devices/{{ Distribution-1_device_id }}
```

```
{  
  "router_id": "192.168.255.13"  
}
```

```
PUT:  
/api/v1/sites/:site_id/devices/{{ Distribution-2_device_id }}
```

```
{  
  "router_id": "192.168.255.14"  
}
```

Step 4: Build EVPN Topology:

POST https://api.mistsys.com/api/v1/sites/:site_id/devices/evpn_topology

```
{
  "overwrite": true,
  "switches": [{
    "mac": "{{ Distribution-1_mac_address }}",
    "role": "distribution"
  },
  {
    "mac": "{{ Distribution-2_mac_address }}",
    "role": "distribution"
  },
  {
    "mac": "{{ Access-1_mac_address }}",
    "role": "access"
  },
  {
    "mac": "{{ Access-2_mac_address }}",
    "role": "access"
  }
  ]
}
```

Record Output from EVPN topology

EXAMPLE OUTPUT:

```
{
  "switches": [
    {
      "mac": "{{ Access-1_mac_address }}",
      "evpn_id": 3,
      "model": "xxxxxx-24P",
      "router_id": "192.168.255.11",
      "role": "access",
      "uplinks": [
        "{{ Distribution-1_mac_address }}",
        "{{ Distribution-2_mac_address }}"
      ],
      "downlinks": [],
      "downlink_ips": []
    },
    {
      "mac": "{{ Access-1_mac_address }}",
      "evpn_id": 4,
```

```

        "model": "xxxxxxx-24MP",
        "router_id": "192.168.255.12",
        "role": "access",
        "uplinks": [
            "{{ Distribution-1_mac_address }}",
            "{{ Distribution-2_mac_address }}"
        ],
        "downlinks": [],
        "downlink_ips": []
    },
    {
        "mac": "{{ Distribution-1_mac_address }}",
        "evpn_id": 1,
        "model": "xxxxxxx-48MP",
        "router_id": "192.168.255.14",
        "role": "distribution",
        "uplinks": [],
        "downlinks": [
            "{{ Access-1_mac_address }}",
            "{{ Access-2_mac_address }}"
        ],
        "downlink_ips": [
            "10.255.240.2",
            "10.255.240.4"
        ]
    },
    {
        "mac": "{{ Distribution-1_mac_address }}",
        "evpn_id": 2,
        "model": "xxxxxxx-48MP",
        "router_id": "192.168.255.13",
        "role": "distribution",
        "uplinks": [],
        "downlinks": [
            "{{ Access-1_mac_address }}",
            "{{ Access-2_mac_address }}"
        ],
        "downlink_ips": [
            "10.255.240.6",
            "10.255.240.8"
        ]
    }
]
}

```

Step 5: Match up the EVPN topology uplinks and downlinks.

Each switch will have uplinks/downlinks. Each Spine/Distribution switch will have evpn_downlinks Each Leaf/Access switch will have evpn_uplinks

The EVPN Topolgy will tell you which links go where.

Make sure you match up the port to the correct port type (ge vs mge vs xe vs et)

```
PUT:
/api/v1/sites/:site_id/devices/{{ Access-1_device_id }}
```

```
{
  "port_config": {
    "ge-0/0/22-23": {
      "usage": "evpn_uplink"
    }
  }
}
```

Based on the configuration and output from the EVPN_Topology, Access-1 will have port 22 connected to **Distribution-1** and port 23 connected to **Distribution-2**.

```
PUT:
/api/v1/sites/:site_id/devices/{{ Access-2_device_id }}
```

```
{
  "port_config": {
    "ge-0/0/22-23": {
      "usage": "evpn_uplink"
    }
  }
}
```

Based on the configuration and output from the EVPN_Topology, Access-1 will have port 22 connected to **Distribution-1** and port 23 connected to **Distribution-2**.

```
PUT:
/api/v1/sites/:site_id/devices/{{ Distribution-1_device_id }}
```



```
{
  "port_config": {
    "ge-0/0/22-23": {
      "usage": "evpn_downlink"
    }
  }
}
```

Based on the configuration and output from the EVPN_Topology, Access-1 will have port 22 connected to **Access-1** and port 23 connected to **Access-2**.

PUT:
/api/v1/sites/:site_id/devices/{{ Distribution-2_device_id }}

```
{
  "port_config": {
    "ge-0/0/22-23": {
      "usage": "evpn_downlink"
    }
  }
}
```

Based on the configuration and output from the EVPN_Topology, Access-1 will have port 22 connected to **Access-1** and port 23 connected to **Access-2**.