How to Deploy a Virtual Service on CSP 2100

Contents

Introduction

This document describes how to deploy a virtual service on Cloud Services Platform (CSP) 2100. CSP 2100 is a x86 Software and Hardware Platform designed to host and manage any KVM-based network virtual service.

CSP-2100 is configurable by:
ConfD CLI
REST API
Graphical User Interface (web based GUI)

Prerequisites

Requirements

Cisco Recommends you to have a knowledge of ,

- Basic understanding of CSP 2100
- Knowledge to access CSP 2100 through GUI & CLI
- Basic understanding of curl to run REST API

Components Used

The information in this document is based on these software and hardware versions-

- CSP 2100 - Version - 2.1 (or higher)
- Curl

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any changes or configurations.

Configure

Network Diagram

- CSP 2100 provides the DC Network Team with a turn-key & open x86 KVM software & hardware platform to run any Cisco or 3rd party virtual service.
- It has three ways to manage GUI, CLI and REST/NetConf API.
- CSP 2100 is built on Open platform using x86 Hardware and Linux/KVM Software.
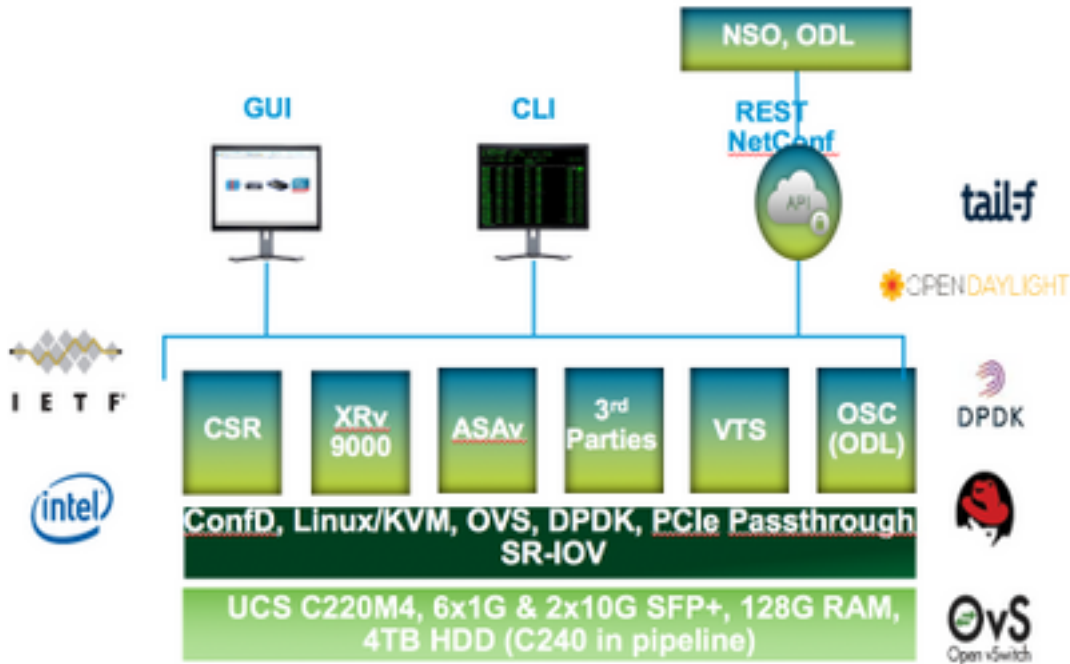
Configurations

Method 1: Using CSP 2100 GUI

Step 1. Navigate to **Configuration > Repository**. Check and confirm that the Virtual service image/ISO is present.

Step 2. Browse to **Configuration > Services** and click Create.

Configuration

Services   pNICs   Cluster   Repository   NFS

Service Creation

Service Name •   >

Target Host Name •

HA Host Name:

Image Name •

vNIC •

Resource Config:
(1 cores, 4 GB, 2048 MB)

Storage Config:

VNC Password:

Crypto Bandwidth:

Serial Port:

• Required fields

Deploy   Cancel

Enter Service Name:
N1k-VSM-2

Step 3. Complete the configuration parameters and steps like Hostname, Image name (from repository), vNICs for the Virtual service, Resources for the virtual service and click deploy.

Service Creation

Service Name • **N1k-VSM-2**

Target Host Name • **sj-sv-csp-2100-1**

HA Host Name:

Image Name •
n1000v-dk9.5.2.1.SV3.1.15.ova

vNIC •

Name	Vlan	Type	Network Name
0	-	A	Po10
1	-	A	Po10
2	-	A	Po10

Resource Config:
(2 cores, 4 GB, 4096 MB) >

Storage Config:

VNC Password:

Crypto Bandwidth:

Serial Port:

• Required fields

Deploy   Cancel

Number of Cores 2
RAM (MB) 4096
Disk Space (GB) 4

(Default Values: 1 cores, 4 GB, 2048 MB)

Host Name

Image Name (from repository)

vNICs on the virtual Service

Resources for the VM

Method 2: Using ConfD CLI

Step 1. Login to the CLI of the CSP 2100.

Step 2. Use an already existing virtual Service configuration. Identify the configuration by using the command- **show running-config service**.

```
csp2100-a# show running-config service
service CSR1Kv
 uuid      5870cf8c-6d26-43f2-99d7-779a8bb795d5
 memory    8096
 numcpu    2
 macid     2
 disk_size 8.0
 iso_name  csr1000v-universalk9.03.16.04b.S.155-3.S4b-ext.iso
 power     on
 vnic 0
  vlan                25
  tagged              false
  type                access
  passthrough_mode none
  model               e1000
  network_name        10
 !
 vnic 1
  vlan                25
  tagged              false
  type                access
  passthrough_mode none
  model               e1000
  network_name        10
 !
!
```

Step 3. Copy the existing configuration and modify the parameters of - memory, numcpu, disk_size, iso_name and the vnic details as required for the new Virtual Service.

```
memory     4096
numcpu     2
macid      11
disk_size 3.0
iso_name   n1000v-dk9.5.2.1.SV3.1.5b.iso
power      on
vnic 0
  vlan               16
  tagged             false
  type               access
  passthrough_mode none
  model              virtio
  network_name       10
 !
vnic 1
  vlan               16
  tagged             false
  type               access
  passthrough_mode none
  model              virtio
  network_name       10
 !
vnic 2
  vlan               16
  tagged             false
  type               access
  passthrough_mode none
  model              virtio
  network_name       10
 !
!
```

Mem, CPU, Disk, ISO Parameters

vNIC configuration for the virtual service

Step 4. Create a new service name as required. Here we are creating Nexus 1000v (VSM - VSM_N1K_CLI) and Copy Paste the above configuration and perform a commit.

```
csp2100-a(config)# service VSM_N1k_CLI
csp2100-a(config-service-VSM_N1k_CLI)#   memory     4096
csp2100-a(config-service-VSM_N1k_CLI)#   numcpu     2
csp2100-a(config-service-VSM_N1k_CLI)#   macid      11
csp2100-a(config-service-VSM_N1k_CLI)#   disk_size 3.0
csp2100-a(config-service-VSM_N1k_CLI)#   iso_name   n1000v-dk9.5.2.1.SV3.1.5b.iso
csp2100-a(config-service-VSM_N1k_CLI)#   power      on
csp2100-a(config-service-VSM_N1k_CLI)#   vnic 0
csp2100-a(config-vnic-0)#    vlan          16
csp2100-a(config-vnic-0)#    tagged        false
csp2100-a(config-vnic-0)#    type          access
csp2100-a(config-vnic-0)#    passthrough_mode none
csp2100-a(config-vnic-0)#    model         virtio
csp2100-a(config-vnic-0)#    network_name  10
csp2100-a(config-vnic-0)#    !
csp2100-a(config-vnic-0)#  vnic 1
csp2100-a(config-vnic-1)#    vlan          16
csp2100-a(config-vnic-1)#    tagged        false
csp2100-a(config-vnic-1)#    type          access
csp2100-a(config-vnic-1)#    passthrough_mode none
csp2100-a(config-vnic-1)#    model         virtio
csp2100-a(config-vnic-1)#    network_name  10
csp2100-a(config-vnic-1)#    !
csp2100-a(config-vnic-1)#  vnic 2
csp2100-a(config-vnic-2)#    vlan          16
csp2100-a(config-vnic-2)#    tagged        false
csp2100-a(config-vnic-2)#    type          access
csp2100-a(config-vnic-2)#    passthrough_mode none
csp2100-a(config-vnic-2)#    model         virtio
csp2100-a(config-vnic-2)#    network_name  10
csp2100-a(config-vnic-2)#    !
csp2100-a(config-vnic-2)# !
csp2100-a(config-vnic-2)# commit
Commit complete.
```

Method 3: Using CSP 2100 REST API

You can perform operations on the Cisco CSP 2100 objects using the Representational State Transfer (REST) API. The Cisco CSP 2100 REST APIs support create, retrieve, update, and delete (CRUD) operations.
To call any REST function, you can use tools such as a web browser, the cURL tool, or Windows PowerShell.

- If you are using a web browser, type the URL.
- If you are using cURL or Windows PowerShell, use the format: curl –u username:password -X method https://ip-address:port_number/api/module locator

Step 1. Refer the CSP 2100 REST API Guide- CSP 2100 Rest API Guide

Step 2. Two examples which shows how to create service with and without VLAN:

With VLAN-

curl -ku admin:P@ssword123 -X POST https://<IP Address of CSP 2100>:443/api/running/services -H "Content-Type: application/vnd.yang.data+json" -d '{"service": {"name":"VSM_N1k_API3", "iso_name":"n1000v-dk9.5.2.1.SV3.1.5b.iso","power":"on","memory":"4096","disk_size":"3","vnics": { "vnic": [{ "nic":"0","vlan":"18","type":"access","network_name":"10"}]}}}'

Without VLAN-

curl -ku admin:P@ssword123 -X POST https://<IP Address of CSP 2100>:443/api/running/services -H "Content-Type: application/vnd.yang.data+json" -d '{"service":

{"name":"VSM_N1k_API3", "iso_name":"n1000v-dk9.5.2.1.SV3.1.5b.iso","power":"on","memory":"4096","disk_size":"3","vnics": { "vnic": [{ "nic":"0","type":"access","network_name":"10"}]}}}'

Verify

In order to verify that the services are deployed. Please browse to the CSP 2100 GUI.
Navigate to **Configuration > Services**. Check and confirm if the Service shows as **on/deployed**