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CISCO CSR 1000v by Using a Solution Template User Guide

Contents

CISCO CSR 1000v by Using a Solution Template

cisco-csr-1000v
Cisco Systems
Estimated costs: $0.00/month + BYOL license fee

Deploy and manage enterprise-class networking services and VPN.

[LAUNCH ON COMPUTE ENGINE]   2 PAST DEPLOYMENTS

Runs on
Google Compute Engine

Type
Single VM
BYOL

Last updated
1/10/19, 10:20 AM

Category
Compute
Networking

Version
16.9

Operating system
IOSXE 16.9

Overview

The Bring Your Own License (BYOL) of Cisco Cloud Services Router (CSR1000V) delivers enterprise-class networking services & VPN in the Google Compute Platform. This software supports all the four CSR Technology packages. The CSR is a full feature Cisco IOS XE router and enables enterprise IT to deploy the same enterprise-class networking services in the cloud that they are familiar with on-prem networks. It enables Routing, VPN, Firewall, High-Availability, IP SLA, AVC, WAN Opt, and more. The familiar IOS XE CLI and Netconf/Restconf/Yang API ensure easy deployment, monitoring, troubleshooting, and service orchestration. To activate this software, please obtain a license from Cisco with the following: (1) Tech Package: IPBase, SEC, AppX, or AX (2) Performance Level: 10Mbps, 50 Mbps, 100Mbps, 250Mbps, 500 Mbps, 1 Gbps, 2.5 Gbps or 5Gbps and (3) Time period: 1-year, 3-year, or perpetual. For a 60-day eval license, please click the resource link below. www.cisco.com/go/license

About Cisco Systems

Cisco is transforming how people, think and processes connect, communicate, and collaborate. Cisco is a technology leader in the IT industry creating products related to the communications and information technology (IT) industry.

Learn more

About BYOL

BYOL (Bring Your Own License) solutions let you run software on Compute Engine while using licenses purchased directly from the provider. Google only charges you for the infrastructure costs, giving you the flexibility to purchase and manage your own licenses.

Product Information

Specifications

- **Product Name:** CSR 1000v
- **Platform**: Google Cloud Platform (GCP)

Product Usage Instructions

Create an SSH Key
To create an SSH key, which is required to access a Cisco CSR 1000v VM instance, follow these steps:

1. Open a terminal server.
2. Enter the following command: `ssh-keygen -t rsa -f /users/joe/.ssh/mykey -C joe`
3. Enter the following command to display the contents of the public key: `cat ~/.ssh/[keyfile_pub]` (replace `[keyfile_pub]` with the name of your public key file, e.g., mykey.pub)

Create a VPC Network

To create a VPC network for deploying the CSR 1000v, follow these steps:

1. Before you begin, familiarize yourself with VPC networks by referring to the documentation: **Virtual Private Cloud**
2. **(VPC) Network Overview** and **Using VPC Networks**.
3. Follow steps 1 to 9 to create multiple subnets for the VPC network.

4. Click "Create" to create the VPC Network.

Deploy the CSR Solution Template

To deploy the CSR 1000v using a solution template, follow these steps:

1. Go to the Google Marketplace and search for "Cisco CSR100v". Select the CSR Template.
2. Click "Launch On Compute Engine".
3. In the "New Cisco 1000v Deployment" screen, provide the following details:
   - **Deployment name**: This field is filled by default and displays the cisco-csr1000v-`deployment number'.
   - **Instance Name**: The name of the CSR 1000v instance in text format. Must follow the GCP naming pattern for Bootdisk.
   - **Bootdisk type**: By default, the SSD Persistent disk is selected. Cisco recommends using the default Boot disk type.
   - **Boot disk size in GB**: The default value is 10 GB. Cisco recommends using the default Boot disk size.
   - **Network (VPC)**: Select the network in the region where you want to deploy the CSR 1000v instance. You must create the Network (VPC) before creating the CSR 1000v instance. Ensure that at least one subnet is associated with that Network (VPC).
   - **Subnetwork:** Select the subnet associated with the selected Network (VPC). This subnet acts as the first Network Interface (nic0) of the CSR instance.
   - **ExternalIP:** The public IP address to SSH into the CSR 1000v instance. Can be static, Ephemeral (Dynamic), or None.
   - **Firewall:** The firewall wall rule associated with the VPC Network. With the current Solution Template, you can use TCP ports 21, 22, 80. You can also create additional Firewall rules.

FAQ

Q: How do I create an SSH key
A: To create an SSH key, follow the steps mentioned in the "Create an SSH Key" section of the user manual.
Q: How do I create a VPC network
A: To create a VPC network, follow the steps mentioned in the "Create a VPC Network" section of the user manual.
Q: How do I deploy the CSR 1000v using a solution template
A: To deploy the CSR 1000v using a solution template, follow the steps mentioned in the "Deploy the CSR Solution Template" section of the user manual.

You can deploy a CSR 1000v router in Google Cloud Platform (GCP) in two ways: by using a VM instance, or by using a solution template. This chapter specifies how you can deploy a CSR 1000v solution template and the configuration of the associated resources in the service provider's cloud.

- Create an SSH Key
- create a VPC Network
- Deploy the CSR Solution Template

Create an SSH Key

To create an SSH key, which is required to access a Cisco CSR 1000v VM instance, perform the following steps.

Enter the commands at a terminal server.

- Execute ssh-keygen -t rsa -f~/ssh/keyfile [-C username] ~/.ssh/keyfile – Directory path and filename of the key. Example: /users/joe/ssh/mykey. -C username – Username, which is added as a comment. This variable is optional. Two key files are created; a private key and a public key in the ssh directory. For example, mykey and mykey pub. For more information on creating an SSH key, see Creating a new SSH key in the Google Cloud Platform documentation. See also Managing SSH keys in Metadata.
  Example: ssh-keygen -t rsa -f /users/joe/.ssh/mykey -C joe
- cat ~/.ssh/[keyfile_pub] keyfile pub specifies the public key; for example, mykey. pub. Example: Example: cat /users/joe/ssh/mykey-pub The system displays the contents of the public key. You will need this public key to Create a VM Instance

Create a VPC Network

Before you begin
To learn about VPC networks, see: Virtual Private Cloud (VPC) Network Overview and Using VPC Networks.

- From the navigation pane in the Google Cloud Platform console, scroll down to VPC network and select VPC networks. Click Create VPC Network.
- Enter a Name for the network. CREATE VPC NETWORK.
- Enter a Description for the network.
- Select Subnets > Add Subnet.
- In the New Subnet dialog box, Enter a Name for the subnet. For example, csrnet1.
- Select the appropriate option in the Region field.
- Enter an IP address range. For example, enter 10.10.1.0/24 for the subnet address.
- Click Done to create the subnet. To create multiple subnets for the VPC network, repeat steps 5 to 9.
- Click Create to create the VPN Network.
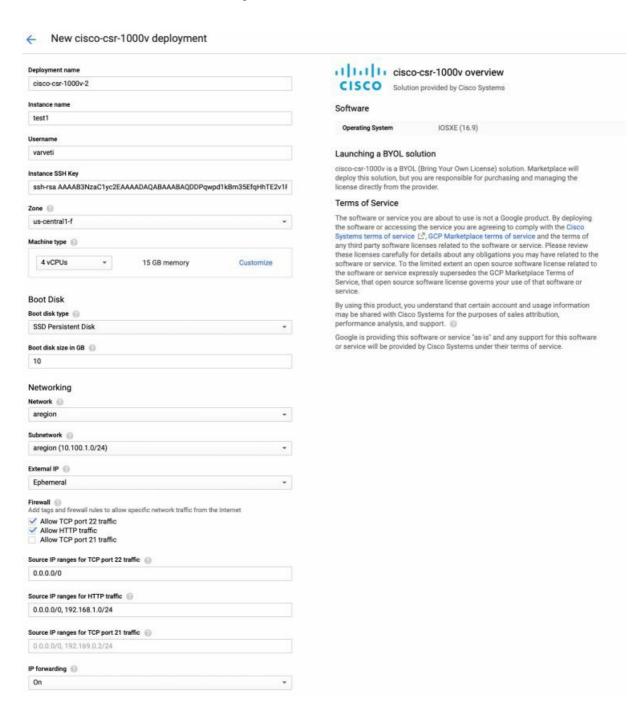
Deploy the CSR Solution Template

- Go to the Google Marketplace and search for Cisco CSR100v. Select the CSR Template.

Figure 1: Select CSR Deployment Template

- Click Launch On Compute Engine. In the New Cisco 1000v Deployment screen, provide the following details:
- a) Deployment name: This field is filled by default, and displays the cisco-csr1000v-'deployment number'
- b) Instance Name: The name of the CSR 1000v instance in text format. You must follow the GCP naming pattern for successful deployment. The name of the instance must be a combination of regex '(?:[a-z](?:[-a-z0-9]{0,61}[a-z0-9])?)'">)
- c) Username: Specify the username that is used to access the CSR 1000v instance.
- d) Instance SSH Key: Specify the public key to be used for SSHing into the instance. To know how to create an ssh-key, see SSH-Key.
- e) Zone: Select the zone where the CSR 1000v is deployed from the drop-down list.
- f) Machine Type: Select the size of the CSR 1000v that you want to deploy. For more information on CSR 1000v sizes, see MachineTypes. Bootdisk
- g) Bootdisk type: By default, the SSD Persistent disk is selected. Cisco recommends that you use the default Boot disk type.
- h) Boot disk size in GB: The default value is 10 GB. Cisco recommends that you use the default Boot disk size.

Networking

- i) **Network (VPC)**: Select the network in the region where you want to deploy the CSR 1000v instance. You must create the Network (VPC) before you create the CSR 1000v instance. Ensure that at least one subnet is associated to that Network (VPC). For more information about VPC networks, see **Virtual Private Cloud Network Overview and Using VPC Networks.**
- j) **Subnetwork**: Select the subnet that is associated with the selected Network (VPC). This subnet acts as the first Network Interface (nic0) of the CSR instance.
- k) **ExternalIP:** The public IP address that you must use to SSH into the CSR 1000v instance. This can be static, Ephemeral (Dynamic) and None. For more information about IP addresses, see IP Addresses.
- l) **Firewall**: The firewall wall rule associated to the VPC Network.With the current Solution Template, you can use TCP ports 21, 22, 80. You can also create additional Firewall rules. For more information on firewall rules, see Firewalls in VPC Networking and Firewalls. **Note** You can also specify source ranges for firewalls rules. m
  - **IP Forwarding**: The default value to allow traffic between interfaces on the CSR 1000v instance. By default, the value for IP Forwarding is ON.
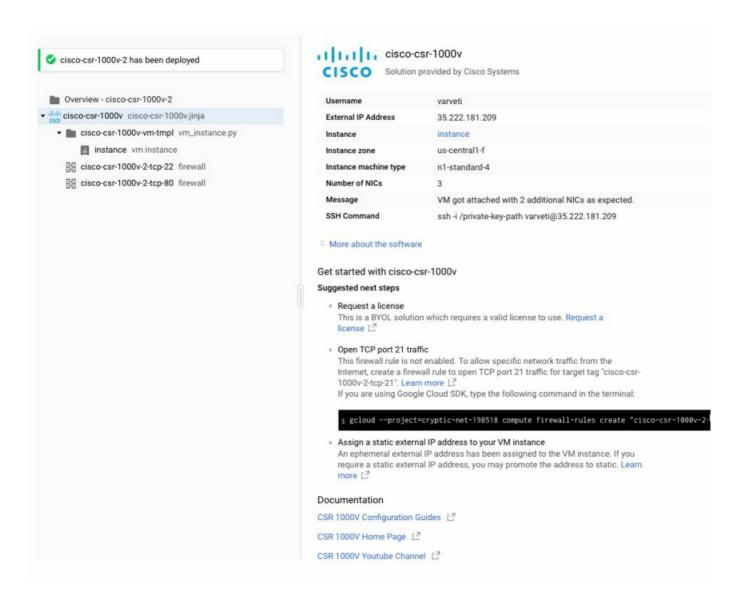

Additional Network Interfaces

Configure this field if you want to configure additional interfaces. By default, the value of this field is 0. To add additional interfaces, specify additional interfaces that are needed for the CSR 1000v instance. Select the additional network interfaces based on the machine type. For more information on deployment of instance with multiple interfaces in GCP, see Creating Instances With Multiple Network Interfaces.

note
For the deployment to be successful, even if you do not require all the additional interfaces, you must select the Additional Network Interfaces option. This is a known issue where Google brings up to 8 interfaces, and you must fill in all the eight interfaces.
For example, in the following image, even though two additional NICs were selected, note that the 7 additional interfaces are configured with the networks and subnets present in region where the CSR 1000v instance is deployed.After successful deployment, the system displays a message that the CSR instance has been deployed.

After successful deployment, the system displays a message that the CSR instance has been deployed.

Documents / Resources

[**CISCO CSR 1000v by Using a Solution Template**](#) [pdf] User Guide
CSR 1000v by Using a Solution Template, CSR 1000v, by Using a Solution Template, Using a Solution Template, Solution Template, Template

References

- [**User Manual**](#)