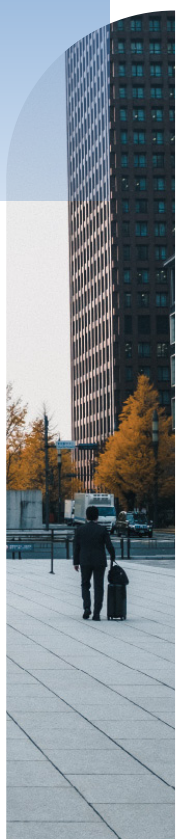
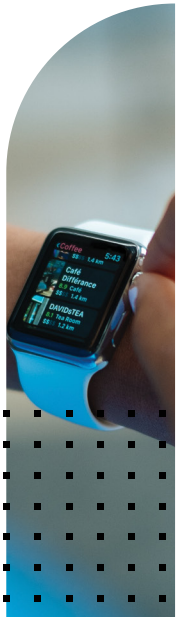
DEPLOYMENT GUIDE

Creating a Google Cloud Services Connection for an MVE With Fortinet SD-WAN





You can create a network connection from an MVE (a FortiGate) to Google Cloud through Partner Interconnect.

When connecting to Google Cloud Platform (GCP) through Partner Interconnect with Megaport, the virtual cross connect (VXC) forms the Layer 2 component of the connection and Layer 3 BGP is established directly between the customer and GCP.

Important
Before you begin, create an MVE (FortiGate) in FortiManager. For details, see Creating an MVE [/mve/fortinet/creatingmve/]. The MVE needs to be in the active state.

FortiManager is an optional component and that FortiGate's can be deployed independently of FortiManager.

There are three parts to adding a Google Cloud connection to your MVE and FortiManager.

1. Create a Partner Interconnect attachment in Google Cloud Console or gcloud CLI. Copy the pairing key that is provided as part of the attachment creation. For additional details, see the Google documentation on Google Partner Interconnects [https://cloud.google.com/interconnect/docs/how-to/partner/provisioning-overview].
2. In the Megaport Portal, create a VXC from your MVE to connect to your Google Cloud attachment.
3. In FortiManager, create a new interface and add the details of the Google Cloud connection.

These instructions step through the second and third parts.

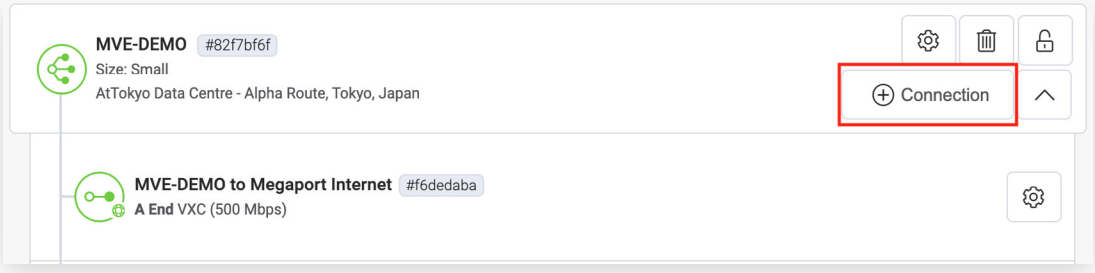
Note
MVE for Fortinet SD-WAN requires configuration steps in both FortiManager and the Megaport Portal for all cloud connections.

Adding the Google Cloud Connection in the Megaport Portal

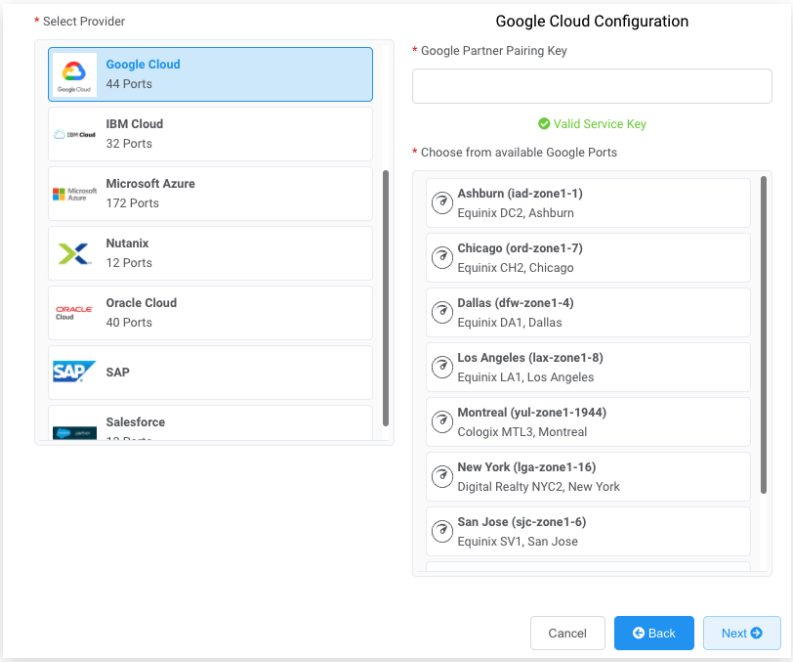
To set up the GCP connection, you need to create the connection in the Megaport Portal.

To deploy a VXC to Google Cloud Platform from the Megaport Portal

1. In the Megaport Portal, click **+Connection** on the MVE to create your VXC.



2. Click the Cloud tile.
3. Select Google as the provider.



4. Copy and paste the pairing key from the Google Cloud console into the field in the right-hand pane. The relevant Google targets appear based on the region of your GCI Partner connection.
5. Select the target location for your connection and click **Next.**
6. Provide these connection details:
   - **Connection Name** – This is a free text field allowing you to assign an easily identifiable name for this connection.
   - **Rate Limit** – Enter the same rate you selected for your Google port speed.
   - **Preferred A-End VLAN** – This is the VLAN for this connection that you will receive through the MVE. This must be a unique VLAN ID on this MVE and can range from 2 to 4093. If you specify a VLAN ID that is already in use, the system displays the next available VLAN number. The VLAN ID must be unique to proceed with the order. If you don't specify a value, Megaport will assign one.
7. Add the VXC to your order and complete the checkout process.
8. Once you have deployed the VXC, go back to your attachment in the Google Cloud Console and accept the attachment. You will be provided your private IP address from Google to configure BGP. Ensure that you pre-activate the attachment or mark the attachment as active after configuring the VXC. Otherwise, you cannot set up BGP with your SD-WAN instance.

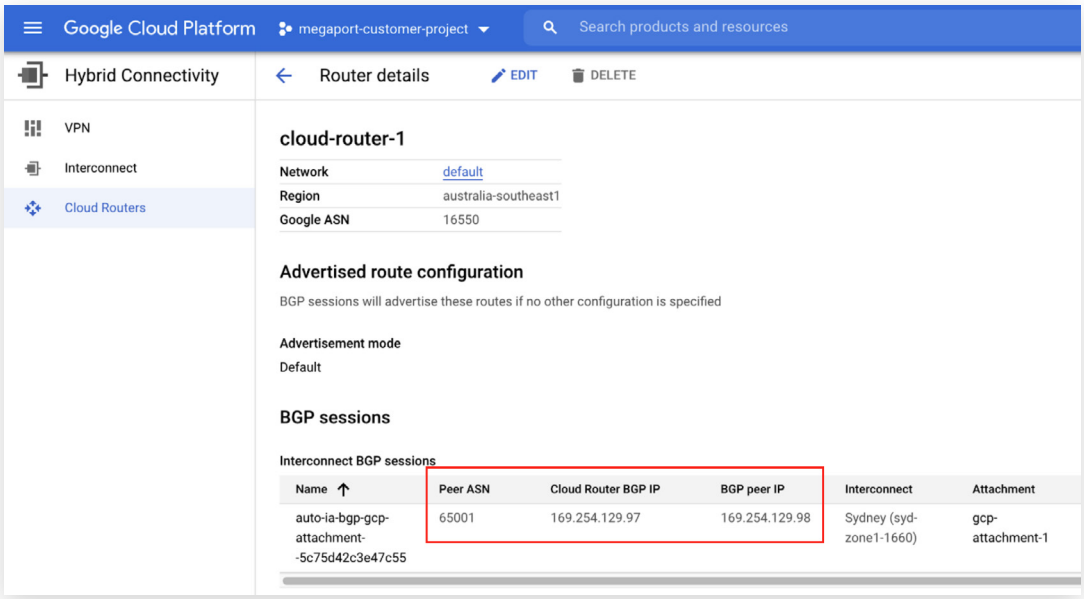
Note
The Google ASN will always be 16550.

Adding the Google Cloud Connection to FortiManager

After you create the connection from your MVE to Google Cloud and set up the connection in the Google console, you need to configure it in FortiManager. This involves configuring BGP settings, ASNs, and VLANs.

To add the Google Cloud connection in FortiManager

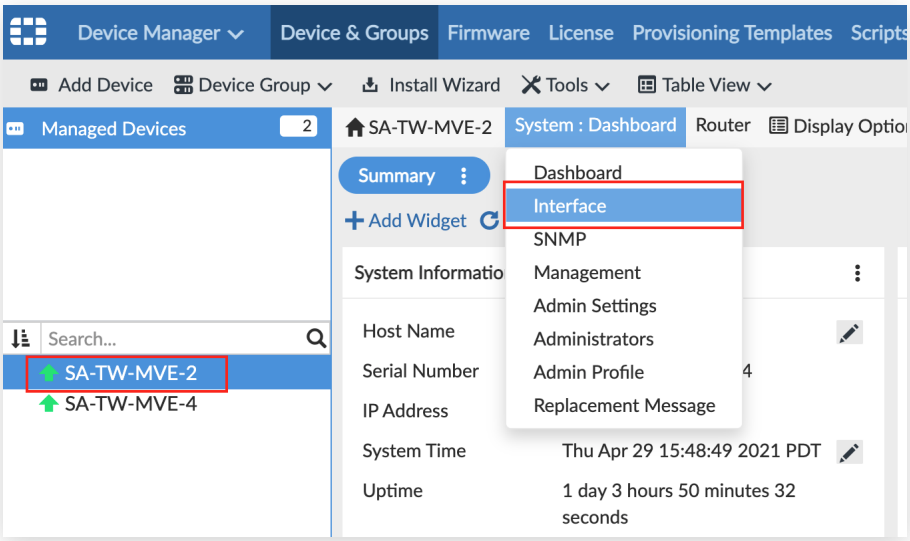
1. Collect the connection details from the Google console.
   Display the details of the connection you created in Google Cloud for this connection. Note the values for the **Peer ASN, Cloud Router BGP IP,** and **BGP Peer ID.**



2. Collect the connection details from the Megaport Portal.
   Click the gear icon for the Google connection from your MVE and click the Details view. Note the value for the **A-End VLAN.**
3. Log in to the FortiManager.

Note
You can also log in on your MVE instance: https://<mve-ip-address>

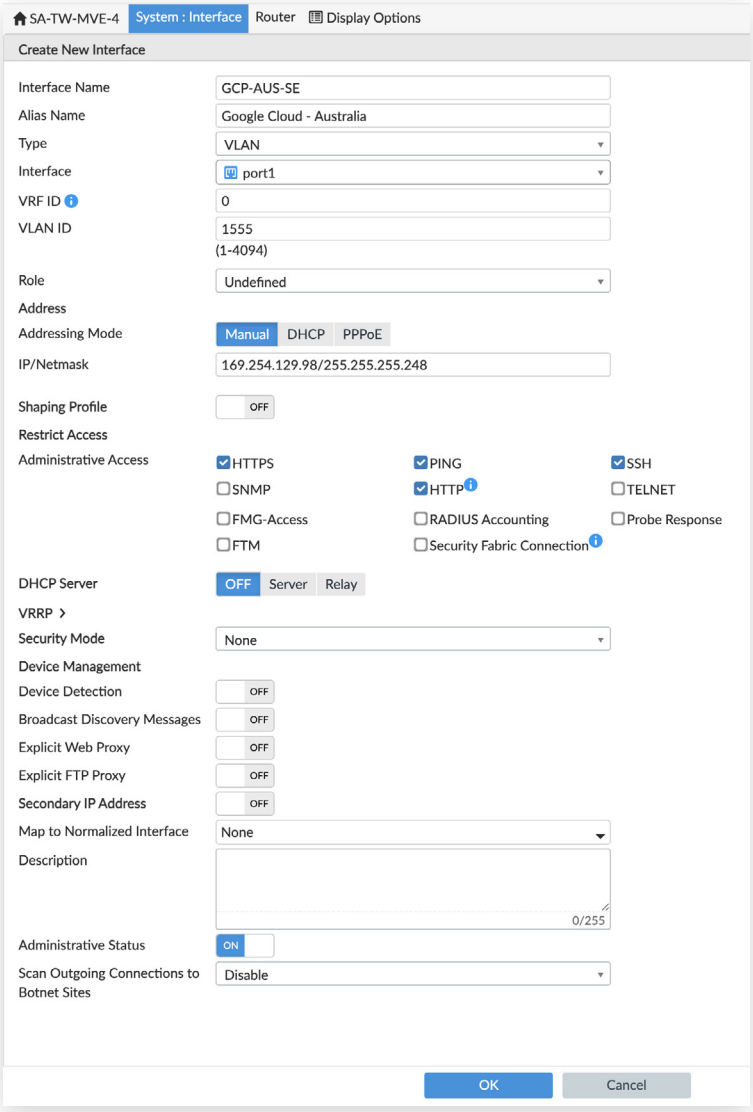
4. From your managed device, go to the **System** menu and choose **Interface.**



The page displays **port1** as your physical interface.

5. Click **+Create New > Interface** and provide this information:

- **Interface Name** – Specify a meaningful name for the interface.
- **Alias Name** – Optionally, provide an alternate name.
- **Type** – Choose VLAN.
- **Interface** – Choose the parent interface: `port1`.
- **VLAN ID** – Specify the A-End VLAN listed for this Google Connection in the Megaport Portal.
- **Role** – Choose Undefined.
- **Addressing Mode** – Select Manual.
- **IP/Netmask** – These values are available in the VLAN attachment details in the Google Cloud console. The IP address appears in the **BGP Peer IP** field.
- **Administrative Access** – Specify how you want to access this interface, such as HTTPS, PING, and SSH.
- **DHCP Server** – Click **OFF.**



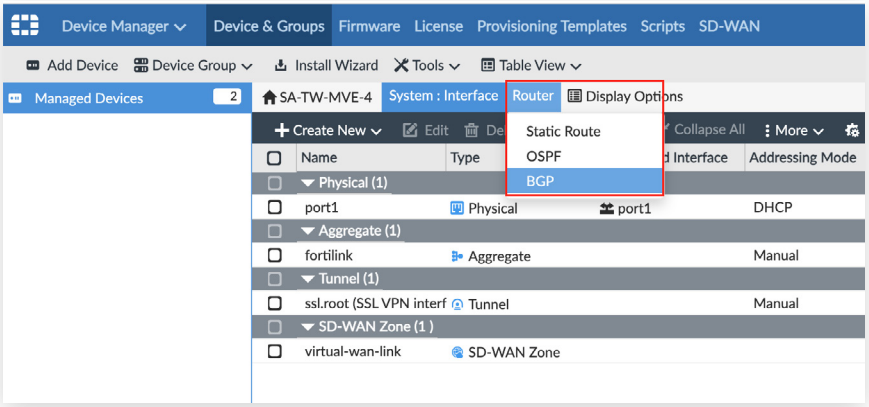
6. Click **OK.**
   The new VLAN interface appears with your port1 physical interface.

You can run an `execute ping` command from FortiOS to verify the connection.

Note
You need to push the configuration to the MVE, which happens when you have AutoUpdate configured. If you cannot successfully ping the connection, go to Manage Devices in FortiManager, select the MVE, and choose **Refresh Device** from the More menu. If prompted, select AutoUpdate for the **Config Status.**

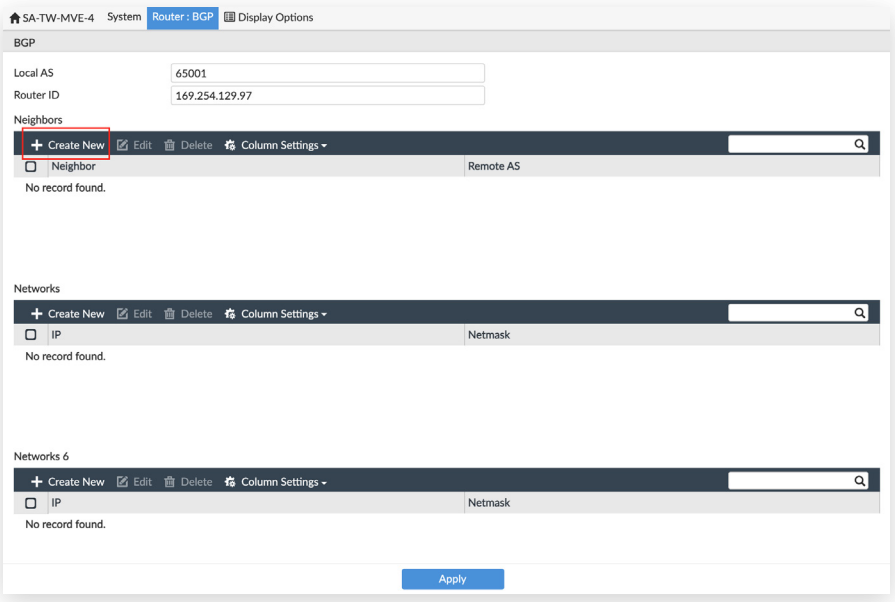
At this point, we have created the interface and next we need to create the BGP session.

1. In FortiManager, go to **Router > BGP.**



2. Provide this information:

- **Local AS** – Provide the ASN for the MVE connection. Specify the **Peer ASN** that you defined in the BGP configuration for the VLAN attachment in the Google Cloud console.
- **Router ID** – Specify the **Cloud Router BGP IP** from the VLAN attachment details in the Google Cloud console.



3. In Neighbors, click **+Create New.**
4. For the neighbor **IP,** add the **Cloud Router BGP IP** from the VLAN attachment details in the Google Cloud console.
5. For **Remote ASN,** enter the Google Cloud ASN of 16550. This is a fixed value, and appears in the connection details on the Google console.
6. Click **OK.**
7. Click **Apply.**

Note
Google Cloud requires BGP multihop support. You can configure multihop support from the Fortinet CLI with these commands:

```
config router bgp
config neighbor
edit "<neighbor ip>"
set ebgp-enforce-multihop enable
next
end
```

Validating Your Google Cloud Connection

You can review connection details, including the connection state, from the Fortinet CLI with these commands:

- `get system interface` – Displays configuration details and current status for the device interfaces.
- `get router info bgp neighbor <ip-address>` – Displays configuration details and current status for the BGP neighbors.

September 28, 2021 12:14 AM

1243501-0-0-EN