An on-premises router in this context means a Layer 2 (L2) or Layer 3 (L3) device you configure to enable Partner Interconnect.

- For Layer 2 (L2) connections, configure your on-premises switch after your service provider has configured your VLAN attachments as described in the Partner Interconnect overview (/interconnect/docs/concepts/partner-overview#connectivity-type)
- For Layer 3 (L3) connections, configuring BGP on your on-premises router is not required as the partner configures BGP on their edge routers as described in the Partner Interconnect overview (/interconnect/docs/concepts/partner-overview#connectivity-type).

To configure settings on your on-premises devices, see the Dedicated Interconnect page for configuring on-premises routers (/interconnect/docs/how-to/dedicated/configuring-onprem-routers).

Use the following information on your on-premises switch or router to establish a BGP session with your Cloud Router:

- The interface IP address and peering IP address provided by your activated Partner Interconnect VLAN attachment (/interconnect/docs/how-to/partner/activating-connections).
- The VLAN ID provided by your service provider.

Note that using Partner Interconnect, your on-premises device physically connects with partner devices rather than with a Google Edge device. For this reason, the Partner Interconnect L2 configuration can be exactly the same as the example configuration or different from it, depending on whether the partner implementation uses a port channel or not.

Follow these best practices to ensure effective connectivity to Google Cloud from your on-premises devices when using Cloud Interconnect 99.9% and 99.99% topologies.

- Ensure that the same MED values are exchanged across all BGP sessions.
- Enable Equal-cost multi-path routing (ECMP) (https://wikipedia.org/wiki/Equal-cost_multi-path_routing) in your BGP configuration.
- Enable Graceful restart or distribute interconnect attachments among multiple Cloud Routers in same region. That is, ensure that no two Cloud Routers are restarted at same time for code upgrades.
- If you are configuring two on-premises devices, connect both devices to each other using any routing protocol. If you are configuring your device to use redistribution, use either IBGP or IGP.

- Make sure that higher MED values are applied on the Cloud Router side, and on the on-premises device side, to avoid asymmetric routing.
- Enable Graceful restart or distribute interconnect attachments among multiple Cloud Routers in same region. That is, ensure that no two Cloud Routers are restarted at same time for code upgrades.
- If you are configuring two on-premises devices, make sure that both devices have Layer 3 connectivity to each other. If you are configuring your device to use redistribution, use either IBGP or IGP.

Check that your BGP sessions are working between your on-premises network and your Google Virtual Private Cloud network. For more information, see Viewing Router Status and Advertised Routes (/router/docs/how-to/viewing-router-details) in the Cloud Router documentation.