



Interleak Redistribution for MP-BGP

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Overview Interleak Redistribution for MP-BGP

This topic provides how to configure an interleak redistribution in the Cisco Application Centric Infrastructure (ACI) fabric using Cisco Application Policy Infrastructure Controller (APIC).

In Cisco ACI, a border leaf node on which Layer 3 Outsides (L3Outs) are deployed redistributes L3Out routes to the BGP IPv4/IPv6 address family and then to the MP-BGP VPNv4/VPNv6 address family along with the VRF information so that L3Out routes are distributed from a border leaf node to other leaf nodes through the spine nodes. Interleak redistribution in the Cisco ACI fabric refers to this redistribution of L3Out routes to the BGP IPv4/IPv6 address family. By default, interleak happens for all L3Out routes, such as routes learned through dynamic routing protocols, static routes, and directly-connected subnets of L3Out interfaces, except for routes learned through BGP. Routes learned through BGP are already in the BGP IPv4/IPv6 table and are ready to be exported to MP-BGP VPNv4/VPNv6 without interleak.

Interleak redistribution allows users to apply a route-map to redistribute L3Out routes selectively into BGP to control which routes should be visible to other leaf nodes, or to set some attributes to the routes, such as BGP community, preference, metric, and so on. This redistribution enables selective transit routing to be performed on another border leaf node based on the attributes set by the ingress border leaf node or so that other leaf nodes can prefer routes from one border leaf node to another.

Applying a route map to interleak redistribution from OSPF and EIGRP routes has been available in earlier releases.

Beginning in the Cisco APIC 4.2(1) release, applying a route map to interleak redistribution from static routes is supported.

Beginning in the Cisco APIC 4.2(6h) release, applying a route map to interleak redistribution from direct subnets (L3Out interfaces) is supported.

Beginning in the Cisco APIC 4.2(6h) release, you can configure **deny** action in the route-map for interleak redistribution for static routes and direct subnets.

Configuring a Route Map for Interleak Redistribution Using the GUI

Route maps for interleak redistribution can be created under **Tenant > Policies > Protocol > Route Maps for BGP Dampening, Inter-leak**.

Beginning in the Cisco Application Policy Infrastructure Controller (APIC) 4.2(2e) release, the folder **Route Maps for BGP Dampening, Inter-leak** was renamed to **Route Maps for Route Control**. For simplicity, the procedure specifies **Route Maps for BGP Dampening, Inter-leak**, but look for **Route Maps for Route Control** as appropriate.

Before you begin

Create the tenant.

Procedure

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- Step 1** On the menu bar, click **Tenants**.
- Step 2** In the Work pane, double click the tenant's name.
- Step 3** In the **Navigation** pane, expand *tenant_name* > **Policies > Protocol > Route Maps for BGP Dampening, Inter-leak**.
- Step 4** Right-click **Route Maps for BGP Dampening, Inter-leak** and click **Create Route Maps for BGP Dampening, Inter-leak**.
- Step 5** In the **Create Route Maps for BGP Dampening, Inter-leak** dialog box, perform the following actions:
- In the **Name** field, enter a name for the route map to control interleak (redistribution to BGP).
 - In the **Type** field, you must choose **Match Routing Policy Only**.
- Beginning in the Cisco APIC 4.2(5) release, the **Type** field is no longer available.
- Step 6** In the **Contexts** area, click the + sign to open the **Create Route Control Context** dialog box, and perform the following actions:
- Populate the **Order** and the **Name** fields as desired.
 - In the **Action** field, choose **Permit** or **Deny**.
- Beginning with the 4.2(6h) release, the **Deny** action for interleak is supported, and only for static routes and direct subnets.
- A route control context is equivalent to a sequence in a route map. Hence, the context without a match rule will match all routes. However, to prevent an unintended configuration outcome with the **Deny** action, there are some configuration requirements.
- A context without a match rule cannot be configured with the **Deny** action. If you wish to deny all routes, you must explicitly configure a match rule with a prefix-list for all routes such as 0.0.0.0/0 with the aggregate option.
- A context without a match rule cannot be configured with the **Permit** action if the same route map contains another context to deny all routes explicitly. If you wish to permit all routes, you must first delete the context that denies all routes.

- c) In the **Match Rule** field, choose your desired match rule or create a new one.
- d) In the **Set Rule** field, choose your desired set rule or create a new one.
- e) Click **OK**.

Repeat this step for each route control context that you need to create.

Step 7 In the **Create Route Maps for BGP Dampening, Inter-leak** dialog box, click **Submit**.

Applying a Route Map for Interleak Redistribution Using the GUI

A route map to customize interleak redistribution from a specific L3Out must be applied through the L3Out.

Before you begin

Create the tenant, VRF, and L3Out.

Procedure

- Step 1** On the menu bar, click **Tenants**.
 - Step 2** In the Work pane, double click the tenant's name.
 - Step 3** In the **Navigation** pane, expand *tenant_name* > **Networking** > **L3Outs** > *L3Out_name*.
 - Step 4** Click the **Policy** > **Main** tab to access the **Properties** window for this L3Out.
 - Step 5** For the OSPF or EIGRP routes, perform the following actions:
 - a) In the **Route Profile for Interleak** field, choose or create a route map/profile.
 - b) In the Work pane, click **Submit**, then **Submit Changes**.
 - Step 6** For static routes or direct subnets of L3Out interfaces, perform the following actions:
 - a) In the **Route Profile for Redistribution** field, click + icon.
 - b) In the **Source** field, choose **static** for static routes as the source for the interleak redistribution. Beginning in the 4.2(6h) release, you can instead choose **direct** for direct subnets.
 - c) Click **Update**.
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