

Integrations: Integrate Netskope IPSec with Silver Peak EdgeConnect

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About Netskope IPSec and Silver Peak EdgeConnect

The Netskope Security Cloud provides distributed enterprises with unrivaled visibility and real-time data and threat protection when accessing cloud services, websites, and private applications from anywhere, on any device. Netskope understands the cloud and takes a data-centric approach that empowers security teams with the right balance of protection and speed required to secure their digital transformation journeys.

Silver Peak and Netskope have tested and verified product interoperability between the Unity EdgeConnect™ SD-WAN edge and the Security Cloud platforms, enabling enterprises to use EdgeConnect to connect branch and remote office locations to the full range of Netskope cloud security applications and services delivered over Netskope NewEdge network infrastructure. Learn more at www.netskope.com. This guide focuses on using Netskope IPSec tunnels.

Silver Peak EdgeConnect Use Cases

Silver Peak supports two ways to configure and deploy an EdgeConnect appliance with Netskope.

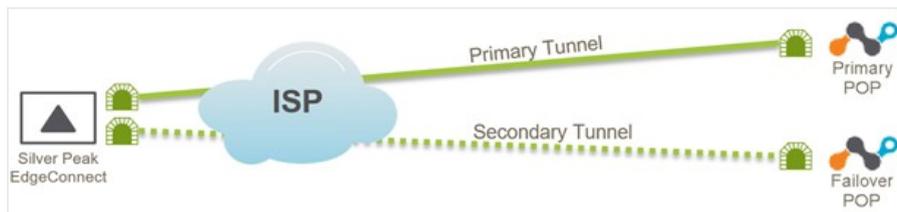
- [Active - Backup Internet Breakout](#)
- [Active - Active Internet Breakout](#)

Use Silver Peak Unity ECOS™ (ECOS) version 8.1.9.x or later and Silver Peak Unity Orchestrator version 8.8.5 or later.

Netskope Security Cloud accepts HTTP and HTTPS traffic on standard (80 and 443) or custom ports.

Active - Backup Internet Use Case

When an EdgeConnect appliance has access to the Internet using a single internet service provider (ISP), the appliance can create IPsec tunnels to a primary Netskope Point of Presence (POP) and a secondary Netskope POP, as shown in the following figure.



In this scenario, the tunnel to the primary POP carries all traffic unless the tunnel or POP become unavailable. In this case, traffic will automatically failover to the secondary POP.

Create a Tunnel on Netskope

1. Log in to your Netskope tenant.
2. On the Home page, click **Settings** in the bottom left.
3. Under Settings, click **Security Cloud Platform**.
4. Under Traffic Steering, click **IPSec**. The IPSec page lists all your configured IPSec tunnels.
5. Click **Add New Tunnel**. The Add New IPSec Tunnel page opens.

Add New IPsec Tunnel
✕

Tunnel Peers
Traffic will be steered from your source devices to Netskope points of presence(POPs). For best performance, select the geographically closest POPs. Only IKEv2 is supported

Note: Use the Netskope POP's IP address as tunnel's remote identity.

TUNNEL NAME *



SOURCE IP ADDRESS ⓘ

SOURCE IDENTITY *

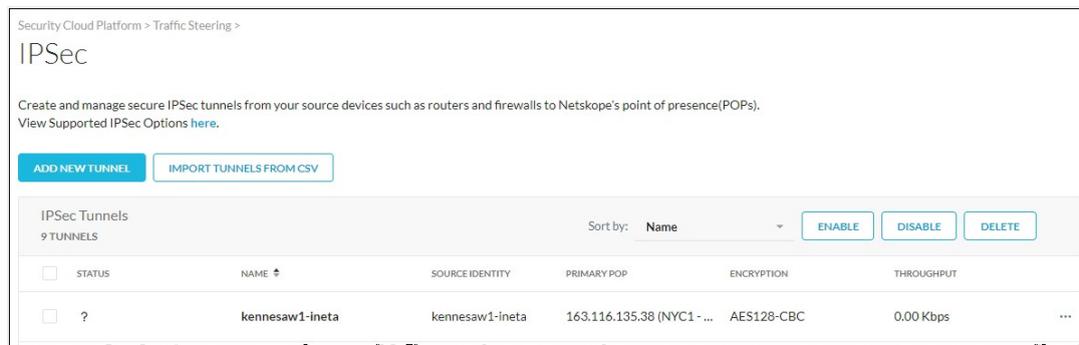
6. Enter or select the new tunnel parameters as follows:

Parameter	Description
Tunnel Name	Enter a descriptive name for the tunnel. For example, use some combination of the appliance name and interface name.
Source IP Address (optional)	The public IP address of the WAN interface on the EdgeConnect appliance that will originate the IPsec tunnel. In Unity Orchestrator, you can determine an interface's public IP address on the Interfaces page (Configuration > Networking > Interfaces).
Source Identity	Enter a unique name that will identify the EdgeConnect source for this tunnel. You will use the source identity as the Local IKE Identifier when configuring the tunnel on the EdgeConnect appliance.

Parameter	Description
Primary Netskope POP	Select a primary Netskope POP that is geographically closest to the EdgeConnect appliance that will originate the tunnel.
Failover Netskope POP	Select a failover POP from the list of those available.
Pre-shared Key	Enter a complex pre-shared key that both sides of the tunnel will use to authenticate one another. You will need to use the same pre-shared key when configuring the tunnel on the EdgeConnect appliance.
Encryption Cipher	Select AES128-CBC or AES256-CBC for encrypting the connection.
Maximum Bandwidth	Select the maximum bandwidth to allow on the tunnel.

7. When the tunnel configuration is complete, click **Add**.

You should see the new tunnel displayed on the Netskope IPsec page.



Configure Tunnels on EdgeConnect

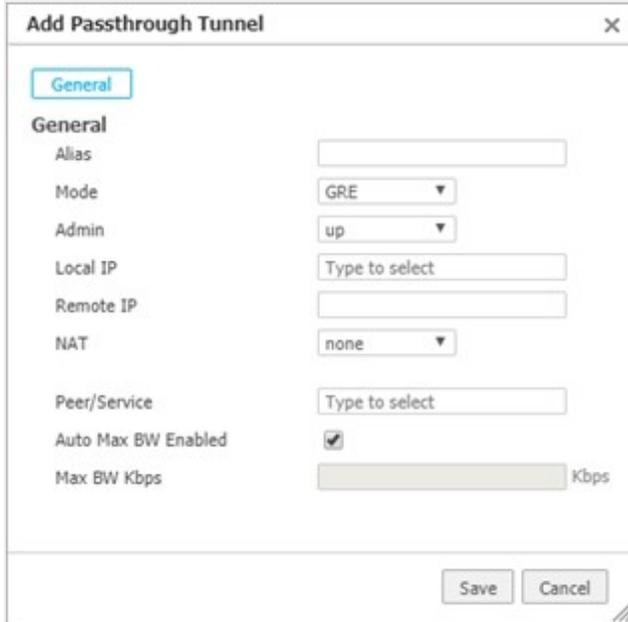
Follow the steps below to configure IPsec tunnels. You will need to create an IPsec VPN tunnel to the primary POP and an IPsec VPN tunnel to the failover POP.

Create a Tunnel to a Primary POP

1. Log in to Silver Peak Unity Orchestrator.
2. In the device tree on the left, select the EdgeConnect appliance where you want to configure the tunnel to Netskope.
3. Open the Tunnels tab (click Configuration > Networking > Tunnels > Tunnels).

4. Click the edit icon  on the left of any row in the table.
5. On the tunnels detail page, click **Passthrough** at the top of the table, and then click **Add Tunnel**.

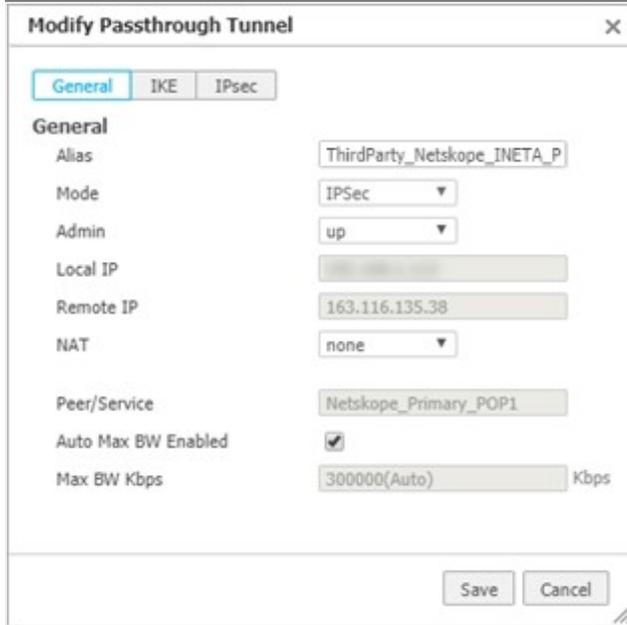
The Add Passthrough Tunnel dialog opens.



6. Enter or select the new tunnel parameters as follows:

Parameter	Description
Alias	Enter a descriptive name for the tunnel.
Mode	Select IPSec .
Admin	The administrative state of the tunnel. You can leave this at the default value of up .
Local IP	The IP address of the WAN interface that will originate the IPSec tunnel. Click into this field and select the IP address from those available.
Remote IP	Enter the IP address of the primary Netskope POP that you configured in Netskope.
NAT	This should be set to none .
Peer/Service	Enter the name of a new service that will use this tunnel. You will use this service for configuring breakout to Netskope under Business Intent Overlays.
Auto Max BW Enabled	Leave this checkbox selected to let the appliance auto-negotiate the maximum tunnel bandwidth.

Parameter	Description
Max BW Kbps	This field is not available when auto bandwidth is enabled.



- Click **IKE** in the Add Passthrough Tunnel dialog.
- Enter or select the new tunnel parameters as follows:

Set the IKE Version to IKE v2 first at the bottom because this will change some of the other fields availability.

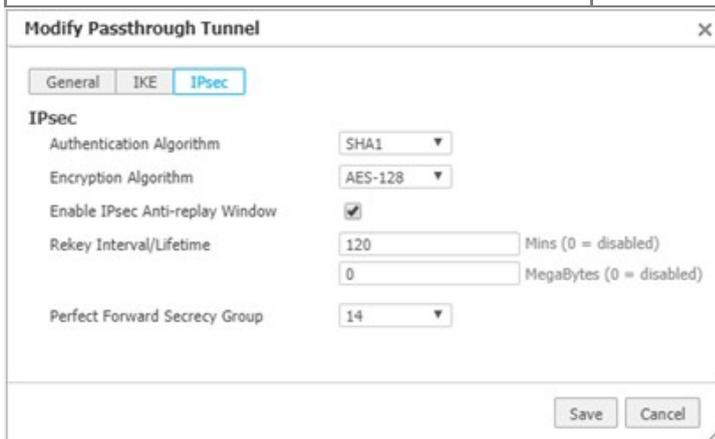
Parameter	Description
IKE Version	Set to IKE v2 .
Preshared Key	Enter the same preshared key that you created on Netskope.
Authentication Algorithm	Select SHA1 .
Encryption Algorithm	Select the same algorithm as on Netskope (AES-128 or AES-256).
Diffie-Hellman Group	Select 14 .
Rekey Interval/Lifetime	Leave the default value of 480 .
Dead Peer Detection	Leave the delay time at its default value, and retry count cannot be changed.
Local IKE Identifier	Enter the Source Identity that you assigned to the tunnel on Netskope.
Remote IKE Identifier	Enter the IP address of the primary Netskope POP that you configured in Netskope.
Phase 1 Mode	This value cannot be changed.



9. Click the **IPsec** button at the top of the Add Passthrough Tunnel dialog.

10. Enter or select the new tunnel parameters as follows:

Parameter	Description
Authentication Algorithm	Select SHA1 .
Encryption Algorithm	Select AES-128 .
Enable IPsec Anti-Replay Window	Leave this checkbox selected.
Rekey Interval/Lifetime	You can leave these values at their defaults.
Perfect Forward Secrecy Group	This can be left at the default value of 14 .



11. When the settings for General, IKE, and IPSec are complete. Click **Save** to create the new tunnel.

Create a Tunnel to a Failover POP

1. Click **Add Tunnel** to create a second tunnel to the failover POP.
2. Use the same values that you used for the first tunnel except for the following:
 - Alias: Use a different name for the second Silver Peak tunnel.
 - Remote IP: Enter the IP address of the failover POP that you configured in Netskope.
 - Peer/Service: Create a new service name that will direct traffic to the failover POP.
 - Remote IKE Identifier: Use the IP address of the failover POP.

Configure Business Intent Overlay Policies

Complete the following steps to configure BIO policies to associate with Netskope.

After creating the IPsec tunnels from the EdgeConnect appliance to the primary and failover POPs, create a business intent overlay (BIO) that points to those IPsec tunnels. Using access control lists (ACL), specify the applications that you want to forward to Netskope on the BIO screen.

Before creating a BIO, create ACLs on the **Configuration > Template** screen and apply them on the EdgeConnect appliance. Refer to the BIO and ACL online help for more information.

1. On the Orchestrator home screen, select **Configuration > Business Intent Overlays**.

The **Business Intent Overlays** tab opens.

Business Intent Overlays										
Apply Overlays Regions Hubs View Overlay Stats Interface Labels										
Priority	Overlay	Region	Topology	Hubs +	Primary Interfaces	Backup Interfaces	QoS & Security +	Policy Order	Primary Interfaces	Backup Interfaces
1	GUEST Match Traffic GUEST	Global Regions ▶	Regional Hub & Spoke		INETA INETB High Quality Waterfall: Overall Quality	LTEA LTEB If Pri & Sec Down		1 Netskope_Prima... 2 Netskope_Backu... 3 Backhaul		
2	REALTIME Match Traffic REALTIME	Global Regions ▶	Regional Hub & Spoke		TRANSIT1 INETA INETB INETC High Availability Waterfall: Overall Quality	LTEA LTEB SAT1 If Pri & Sec Down		Branch EAST3-Google 1 Backhaul 2 Break out Waterfall: Latency	EAST2-AWS AP31-Azure AUS1-AWS EM	INETA INETB INETC LTEA NOTUN
3	BATCH Match Traffic BESTEFFORT	Global Regions ▶	Regional Hub & Spoke		INETA INETB INETC High Throughput Balanced Link Capacity ...	LTEA LTEB SAT1 If Pri & Sec Down		Branch EAST3-Google 1 Backhaul 2 Netskope_Prima... 3 Netskope_Backu... Balanced	EAST2-AWS AP31-Azure AUS1-AWS EM	INETA INETB INETC LTEA NOTUN
4	BUSINESS Match Traffic BUSINESS	Global Regions ▶	Regional Hub & Spoke		TRANSIT1 INETA INETB INETC High Quality Waterfall: Overall Quality	LTEA LTEB SAT1 If Pri & Sec Down		1 Netskope_Prima... 2 Netskope_Backu... 3 Backhaul Waterfall: Auto		INETA INETB INETC LTEA NOTUN
5	RECREATIONAL Match Traffic RECREATIONAL	Global Regions ▶	Regional Hub & Spoke		INETA INETB High Quality Waterfall: Overall Quality	LTEA If Pri & Sec Down		1 Break out 2 Backhaul Waterfall: Fixed Order		INETA INETB INETC LTEA NOTUN
6	UNCLASSIFIED Match Traffic Overlay ACL	Global Regions ▶	Regional Hub & Spoke		TRANSIT1 INETA INETB INETC High Quality Waterfall: Overall Quality	LTEA LTEB SAT1 If Pri & Sec Down		1 Break out 2 Backhaul Waterfall: Fixed Order		INETA INETB INETC LTEA NOTUN

In this example, the BIO references a **CriticalApps** ACL that already exists on the EdgeConnect appliance.

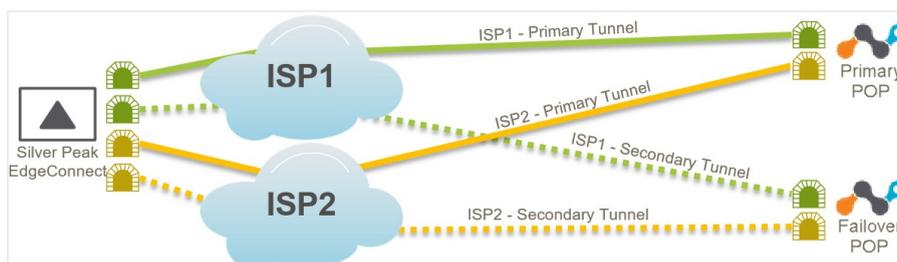
- Click any cell in the SD-WAN Traffic to Internal Subnets column. This opens the BIO edit dialog.
- Select the **Link Bonding Policy** you want to apply to your ACL.
- Go to the, **Breakout Traffic to Internet & Cloud Services** tab.
- Select the pencil icon next to **Available Policies**. The Services screen opens.
- For **Service Name**, select the name assigned to the primary POP. This service references the traffic sent to the primary POP.
- Click **Add**.
- For **Service Name**, select the name assigned to the failover POP.
- Click **Add**, and then click **Save**. The two services will be listed in the **Available Policies** section.

10. Drag the services to the **Preferred Policy Order** section.
11. In the **Preferred Policy Order** section, move the primary POP service above the failover POP service. By moving the primary POP to the top of the list, traffic is automatically forwarded to the primary POP.
12. Click **OK**.
13. Click **Save** and **Apply changes to the Overlay**. You have now configured a business intent overlay that points to the new IPsec VPN tunnels.

Your changes will be highlighted in the BIO table, but they have not yet been applied.

Active - Active Internet Use Case

When an EdgeConnect appliance has access to the Internet using two internet service providers, **ISP1** and **ISP2**, the appliance can create four IPsec VPN tunnels to the primary and failover POPs as shown in the following figure. Only the primary tunnels from both **ISP1** and **ISP2** carry the traffic to the primary POP unless one of the primary tunnels or the primary POP is unavailable.



When you create the IPsec tunnels on the Business Intent Overlay screen, you allow the EdgeConnect appliance to load balance traffic to the primary POP using **ISP1** and **ISP2** by providing the same service name for the primary tunnels from both ISPs. This is a flow-based load balancing method.

Create a Second Tunnel on Netskope

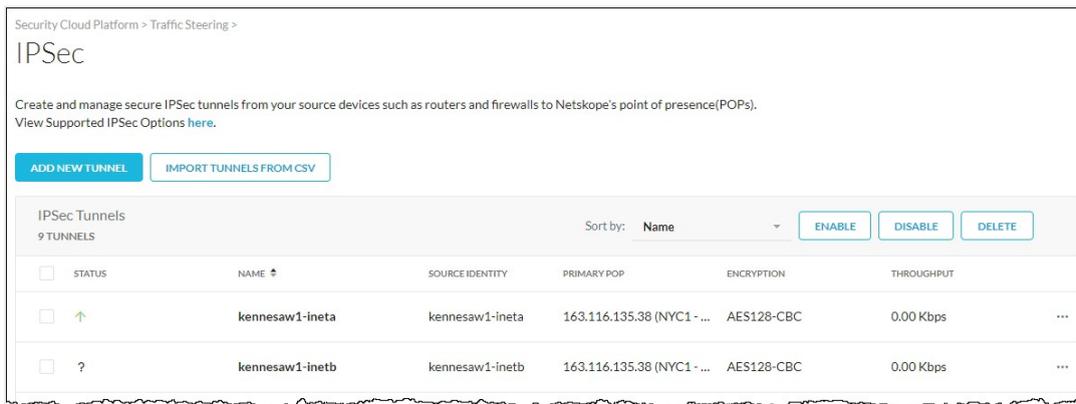
1. Log in to the Netskope portal.
2. On the Home page, click **Settings** in the bottom left.

3. Under Settings, click **Security Cloud Platform**.
4. Under Traffic Steering, click **IPSec**. The IPSec page will list all your configured IPSec tunnels.
5. Click the **Add New Tunnel** button at the top of the page. The Add New IPSec Tunnel page opens.
6. Enter or select the new tunnel parameters as follows:

Parameter	Description
Tunnel Name	Enter a descriptive name for the tunnel. For example, use some combination of the appliance name and interface name.
Source IP Address	The public IP address of the WAN interface on the EdgeConnect appliance that will originate the IPSec tunnel. In Unity Orchestrator, you can determine an interface's public IP address on the Interfaces page (Configuration > Networking > Interfaces).
Source Identity	Enter a unique name that will identify the EdgeConnect source for this tunnel. Use the source identity as the Local IKE Identifier when configuring the tunnel on the EdgeConnect appliance.
Primary Netskope POP	Select the same primary Netskope POP that was used for the first tunnel.
Failover Netskope POP	Select the same failover POP that was used for the first tunnel.
Pre-shared Key	Enter a complex pre-shared key that both sides of the tunnel will use to authenticate one another. Use the same pre-shared key when configuring the tunnel on the EdgeConnect appliance.
Encryption Cipher	Select AES128-CBC or AES256-CBC for encrypting the connection.
Maximum Bandwidth	Select the maximum bandwidth to allow on the tunnel.

7. When the tunnel configuration is complete, click **Add**.

You should see the new tunnel displayed on the Netskope IPSec page.



Configure Additional Tunnels on EdgeConnect

To enable the active - active breakout scenario, you will create two additional IPsec tunnels to the same primary POP and the same failover POP from a secondary internet interface on your EdgeConnect appliance.

Create a Tunnel to a Primary POP

1. Log in to Silver Peak Unity Orchestrator.
2. In the device tree on the left, select the EdgeConnect appliance where you want to configure the tunnel to Netskope.
3. Open the Tunnels tab (click Configuration > Networking > Tunnels > Tunnels).
4.  Click the edit icon to the left of any row in the table of tunnels.
5. On the tunnels detail page, click the **Passthrough** button at the top of the table, and then click the **Add Tunnel** button. The Add Passthrough Tunnel dialog appears.

6. Enter or select the new tunnel parameters as follows:

Parameter	Description
Alias	Enter a descriptive name for the tunnel.
Mode	Select IPSec .
Admin	The administrative state of the tunnel. You can leave this at the default value of up .
Local IP	The IP address of the WAN interface that will originate the IPSec tunnel. This should be the WAN interface associated with your second ISP.
Remote IP	Enter the IP address of the primary Netskope POP that you configured in Netskope.
NAT	This should be set to none .
Peer/Service	Enter the same service that was used for the first EdgeConnect tunnel.

Parameter	Description
Auto Max BW Enabled	Leave this checkbox selected to let the appliance auto-negotiate the maximum tunnel bandwidth.
Max BW Kbps	This field is not available when auto bandwidth is enabled.

The screenshot shows the 'Add Passthrough Tunnel' dialog box with the 'General' tab active. The configuration is as follows:

- Alias: ThirdParty_Netskope_INETB_P
- Mode: IPSec
- Admin: up
- Local IP: [blurred]
- Remote IP: 163.116.135.38
- NAT: none
- Peer/Service: Netskope_Primary_POP1
- Auto Max BW Enabled:
- Max BW Kbps: [empty] Kbps

- Click **IKE** in the Add Passthrough Tunnel dialog.
- Enter or select the new tunnel parameters as follows:

Set the IKE Version to IKE v2 first as it will change some of the other fields available.

Parameter	Description
IKE Version	Set this to IKE v2 .
Preshared Key	Enter the same preshared key that you created on Netskope.
Authentication Algorithm	Select SHA1 .
Encryption Algorithm	Select the same algorithm as on Netskope (AES-128 or AES-256).
Diffie-Hellman Group	Select 14 .
Rekey Interval/Lifetime	Leave this at the default value of 480 .
Dead Peer Detection	You can leave the delay time at its default value, and retry count cannot be changed.
Local IKE Identifier	Enter the Source Identity that you assigned to the second tunnel on Netskope.
Remote IKE Identifier	Enter the IP address of the primary Netskope POP that you configured in Netskope.

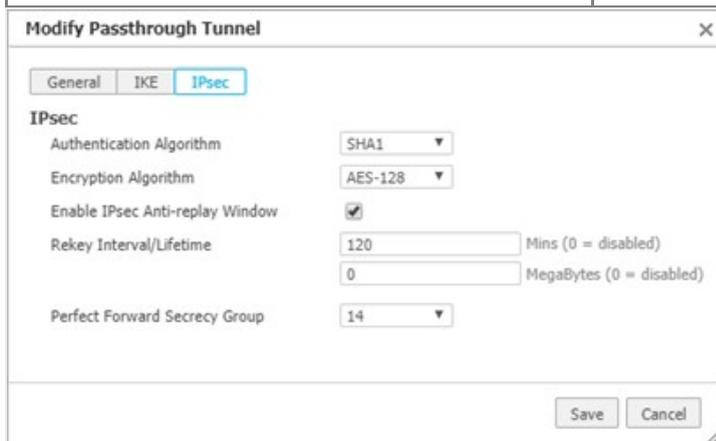
Parameter	Description
Phase 1 Mode	This value cannot be changed.

The screenshot shows the 'Modify Passthrough Tunnel' dialog box with the 'IKE' tab selected. The 'Phase 1 Mode' dropdown is set to 'Aggressive'. Other visible settings include: Preshared Key (masked), Authentication Algorithm (SHA1), Encryption Algorithm (AES-256), Diffie-Hellman Group (14), Rekey Interval/Lifetime (480 Mins), Dead Peer Detection (Delay time: 10 Secs, Retry Count: 3, DPD effective timeout: 34 Secs), Local IKE Identifier (masked), Remote IKE Identifier (163.116.135.38), and IKE Version (IKE v2). 'Save' and 'Cancel' buttons are at the bottom.

9. Click **IPSec** in the Add Passthrough Tunnel dialog.

10. Enter or select the new tunnel parameters as follows:

Parameter	Description
Authentication Algorithm	Select SHA1 .
Encryption Algorithm	Select AES-128 .
Enable IPsec Anti-Replay Window	Leave this checkbox selected.
Rekey Interval/Lifetime	You can leave these values at their defaults.
Perfect Forward Secrecy Group	This can be left at the default value of 14 .



11. When the settings for General, IKE, and IPSec are complete, click **Save** to create the

new tunnel.

Create Tunnel to Failover POP

1. Click **Add Tunnel** to create a second tunnel to the failover POP.
2. Use the same values that you used for the first tunnel except for the following:
 - **Alias:** Use a different name for the second Silver Peak tunnel.
 - **Remote IP:** Enter the IP address of the failover POP that you configured in Netskope.
 - **Peer/Service:** Enter the same service name to direct traffic to the failover POP (same as the second EdgeConnect tunnel).
 - **Remote IKE Identifier:** Use the IP address of the failover POP.

After creating the IPsec tunnels from the EdgeConnect appliance to the primary and failover POPs using **ISP1** and **ISP2**, there are no additional changes to be made to the existing BIO. Proceed to, [Configure Business Intent Overlay Policies](#) if needed.

Configure Business Intent Overlay Policies

Complete the following steps to configure BIO policies to associate with Netskope.

After creating the IPsec tunnels from the EdgeConnect appliance to the primary and failover POPs, create a business intent overlay (BIO) that points to those IPsec tunnels. Using access control lists (ACL), specify the applications that you want to forward to Netskope on the BIO screen.

Before creating a BIO, create ACLs on the **Configuration > Template** screen and apply them on the EdgeConnect appliance. Refer to the BIO and ACL online help for more information.

1. On the Orchestrator home screen, select **Configuration > Business Intent Overlays**.

The **Business Intent Overlays** tab opens.

Business Intent Overlays										
Apply Overlays Regions Hubs View Overlay Stats Interface Labels										
Priority	Overlay	Region	Topology	Hubs +	Primary Interfaces	Backup Interfaces	QoS & Security +	Policy Order	Primary Interfaces	Backup Interfaces
1	GUEST Match Traffic GUEST	Global Regions ▶	Regional Hub & Spoke		INETA INETB INETC High Quality Waterfall: Overall Quality	LTEA LTEB If Pri & Sec Down		1 Netskope_Prima... 2 Netskope_Backu... 3 Backhaul		
2	REALTIME Match Traffic REALTIME	Global Regions ▶	Regional Hub & Spoke		TRANSIT1 INETA INETB INETC High Availability Waterfall: Overall Quality	LTEA LTEB SAT1 If Pri & Sec Down		Branch EAST3-Google 1 Backhaul 2 Break out Waterfall: Latency	EAST2-AWS AP31-Azure AUS1-AWS EM	INETA INETB INETC LTEA NOTUN
3	BATCH Match Traffic BESTEFFORT	Global Regions ▶	Regional Hub & Spoke		INETA INETB INETC High Throughput Balanced Link Capacity ...	LTEA LTEB SAT1 If Pri & Sec Down		Branch EAST3-Google 1 Backhaul 2 Netskope_Prima... 3 Netskope_Backu... Balanced	EAST2-AWS AP31-Azure AUS1-AWS EM	INETA INETB INETC LTEA NOTUN
4	BUSINESS Match Traffic BUSINESS	Global Regions ▶	Regional Hub & Spoke		TRANSIT1 INETA INETB INETC High Quality Waterfall: Overall Quality	LTEA LTEB SAT1 If Pri & Sec Down		1 Netskope_Prima... 2 Netskope_Backu... 3 Backhaul Waterfall: Auto		INETA INETB INETC LTEA NOTUN
5	RECREATIONAL Match Traffic RECREATIONAL	Global Regions ▶	Regional Hub & Spoke		INETA INETB INETC High Quality Waterfall: Overall Quality	LTEA If Pri & Sec Down		1 Break out 2 Backhaul Waterfall: Fixed Order		INETA INETB INETC LTEA NOTUN
6	UNCLASSIFIED Match Traffic Overlay ACL	Global Regions ▶	Regional Hub & Spoke		TRANSIT1 INETA INETB INETC High Quality Waterfall: Overall Quality	LTEA LTEB SAT1 If Pri & Sec Down		1 Break out 2 Backhaul Waterfall: Fixed Order		INETA INETB INETC LTEA NOTUN

In this example, the BIO references a **CriticalApps** ACL that already exists on the EdgeConnect appliance.

2. Click any cell in the SD-WAN Traffic to Internal Subnets column. This opens the BIO edit dialog.
3. Select the **Link Bonding Policy** you want to apply to your ACL.
4. Go to the, **Breakout Traffic to Internet & Cloud Services** tab.
5. Select the pencil icon next to **Available Policies**. The Services screen opens.
6. For **Service Name**, select the name assigned to the primary POP. This service references the traffic sent to the primary POP.
7. Click **Add**.
8. For **Service Name**, select the name assigned to the failover POP.
9. Click **Add**, and then click **Save**. The two services will be listed in the **Available Policies** section.
10. Drag the services to the **Preferred Policy Order** section.
11. In the **Preferred Policy Order** section, move the primary POP service above the

failover POP service. By moving the primary POP to the top of the list, traffic is automatically forwarded to the primary POP.

12. Click **OK**.
13. Click **Save** and **Apply changes to the Overlay**. You have now configured a business intent overlay that points to the new IPsec VPN tunnels.

Your changes will be highlighted in the BIO table, but they have not yet been applied.