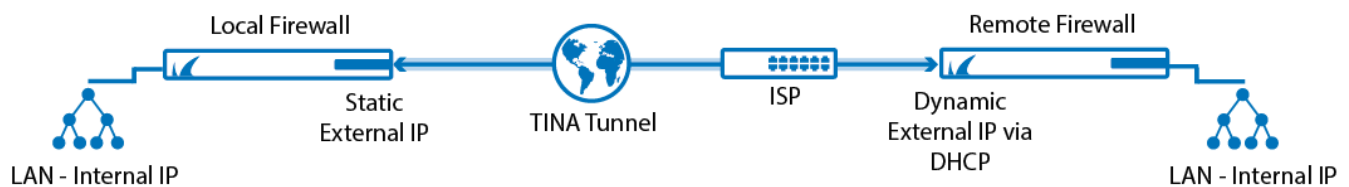


## How to Configure a TINA Site-to-Site VPN Tunnel When One Side is Using a Dynamic IP

<https://campus.barracuda.com/doc/73719187/>

In this example setup, two CloudGen Firewalls are connected via a TINA site-to-site VPN tunnel over the Internet. The firewall on the local site is using a WAN connection with a static public IP address. The remote firewall uses a dynamic WAN connection. Since the dynamic IP address of the remote firewall is volatile and can change the remote firewall must be configured as the active VPN endpoint of the VPN tunnel.



The following table refers to the image and serves as an example. You must adjust the settings to your specific network and host IP values.

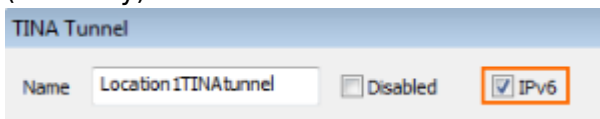
	Local Firewall	Remote Firewall
<b>External IP address</b>	62.99.0.21/32 (static)	Dynamic via DHCP
<b>Local Networks</b>	10.0.10.0/25	10.0.80.0/24
<b>Remote Networks</b>	10.0.80.0/24	10.0.10.0./25
<b>State of Tunnel Server</b>	Passive	Active

### Step 1. Configure the TINA Site-to-Site VPN Tunnel on the Local Firewall

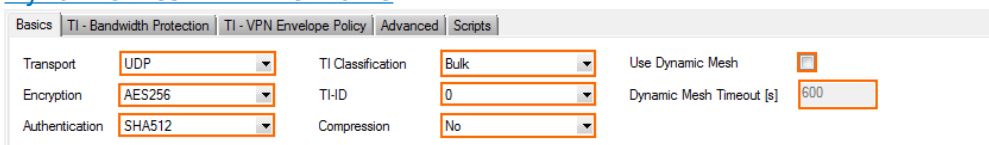
Traffic coming from the internal network 10.0.80.0/24 behind the remote firewall is forwarded through the TINA site-to-site VPN tunnel to the internal network 10.0.10.0/25 behind the local firewall. Since the public IP address of the remote firewall is dynamic, the **Call Direction** of the local firewall must be set to **Passive**.

1. Log into the local firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > your virtual server > Assigned Services > VPN > Site to Site**.
3. Click **Lock**.
4. Click the **TINA Tunnels** tab.
5. Right-click the table, and select **New TINA tunnel**.
6. In the **Name** field, enter the name for the new VPN tunnel.

7. (IPv6 only). Select **IPv6**.



8. Configure the **Basic** TINA tunnel settings. For more information, see [TINA Tunnel Settings](#).
- **Transport** – Select the transport encapsulation: **UDP** (recommended), **TCP**, **TCP&UDP**, **ESP**, or **Routing**.
  - **Encryption** – Select the encryption algorithm: **AES**, **AES256**, **3DES**, **CAST**, **Blowfish**, **DES**, or **Null**.
  - **Authentication** – Select the hashing algorithm: **MD5**, **SHA**, **SHA256**, **SHA512**, **NOHASH**, **RIPEMD160**, or **GCM**.
  - **(optional) TI Classification / TI-ID** – For more information, see [Traffic Intelligence](#).
  - **(optional) Compression** – Select **yes** to enable VPN compression. Do not use in combination with WAN Optimization.
  - **(optional) Use Dynamic Mesh / Dynamic Mesh Timeout** – For more information, see [Dynamic Mesh VPN Networks](#).

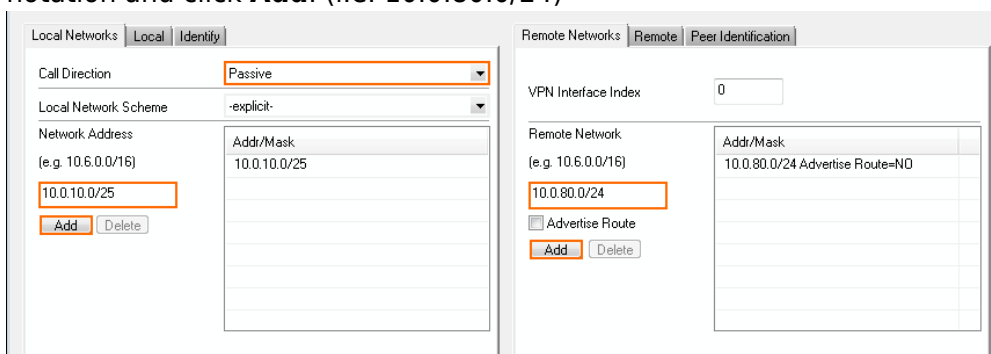


9. Configure the **Local Networks** tab:

- **Call Direction** – Set to **Passive** so that the local firewall listens for incoming VPN tunnel requests.
- **Networks Address** – Enter the **Network Address(es)** of your local network(s) in CIDR-notation and click **Add**. (i.e. 10.0.10.0/25)

10. Configure the **Remote Networks** tab:

- **Remote Network** – Enter the local network address(es) of the remote peer in CIDR-notation and click **Add**. (i.e. 10.0.80.0/24)



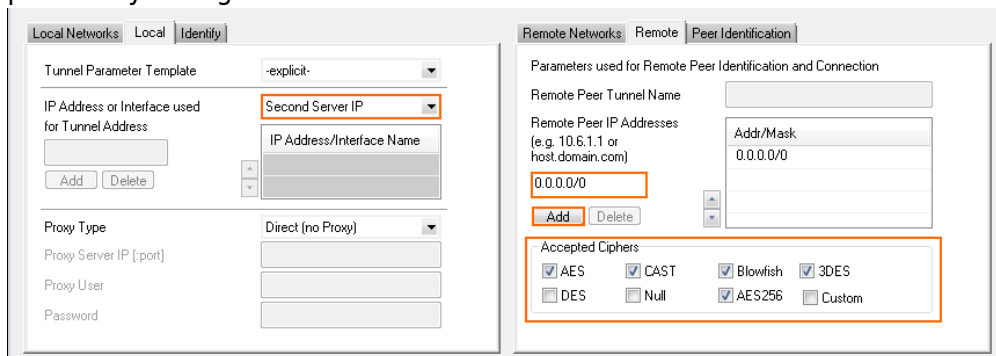
11. Click the **Local** tab, and configure the **IP address or Interface used for Tunnel Address**:

- **First Server IP** – First IP address of the virtual server the VPN service is running on.
- **Second Server IP** – Second IP address of the virtual server the VPN service is running
- **Explicit** – For each IP address, click + and enter the IPv4 addresses in the **Explicit Service IPs** list.

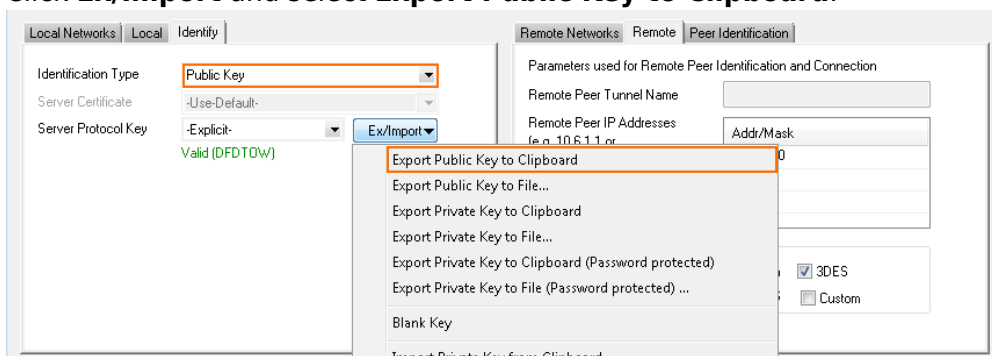
12. Configure the **Remote** tab:

- **Remote Peer IP Addresses** – Enter 0.0.0.0/0 for tunnel requests coming from the second firewall via the Internet and click **Add**.
- **Accepted Ciphers** – To use a cipher, the list must match the **Encryption** settings

previously configured.



13. Click the **Identity** tab.
14. From the **Identification Type** list, select **Public Key**.
15. Click **Ex/Import** and select **Export Public Key to Clipboard**.

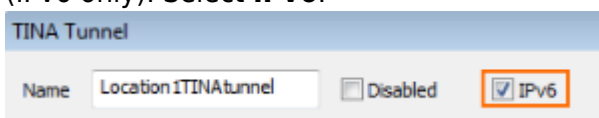


16. Click **OK**.
17. Click **Send Changes** and **Activate**.

## Step 2. Configure the TINA Site-to-Site VPN Tunnel on the Remote CloudGen Firewall

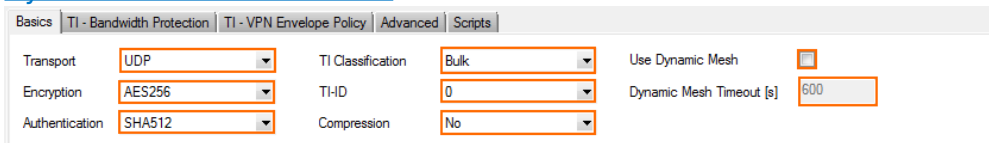
Since the local firewall's tunnel is working in passive mode, only the remote firewall can initiate a tunnel connection. Therefore, the **Call Direction** must be set to **Active**.

1. Log into the remote firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > your virtual server > Assigned Services > VPN > Site to Site**.
3. Click **Lock**.
4. Click the **TINA Tunnels** tab.
5. Right-click the table, and select **New TINA tunnel**.
6. In the **Name** field, enter the name for the new VPN tunnel.
7. (IPv6 only). Select **IPv6**.



8. Configure the **Basic** TINA tunnel settings. For more information, see [TINA Tunnel Settings](#).

- **Transport** – Select the transport encapsulation: **UDP** (recommended), **TCP**, **TCP&UDP**, **ESP**, or **Routing**.
- **Encryption** – Select the encryption algorithm: **AES**, **AES256**, **3DES**, **CAST**, **Blowfish**, **DES**, or **Null**.
- **Authentication** – Select the hashing algorithm: **MD5**, **SHA**, **SHA256**, **SHA512**, **NOHASH**, **RIPEMD160**, or **GCM**.
- **(optional) TI Classification / TI-ID** – For more information, see [Traffic Intelligence](#).
- **(optional) Compression** – Select **yes** to enable VPN compression. Do not use in combination with WAN Optimization.
- **(optional) Use Dynamic Mesh / Dynamic Mesh Timeout** – For more information, see [Dynamic Mesh VPN Networks](#).



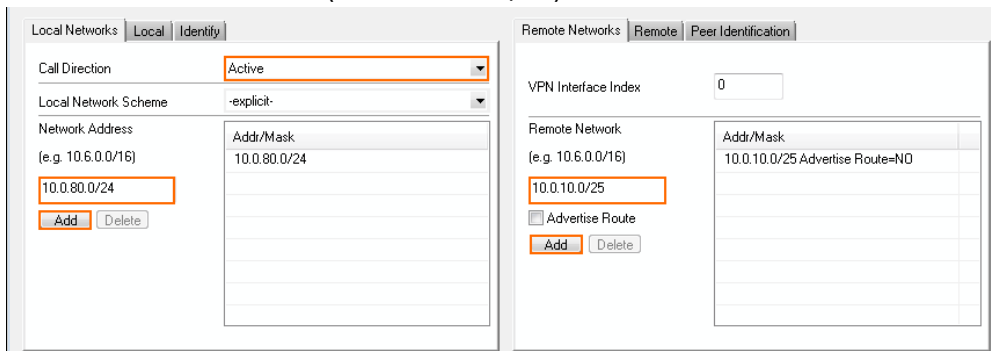
Transport	UDP	TI Classification	Bulk	Use Dynamic Mesh	<input type="checkbox"/>
Encryption	AES256	THID	0	Dynamic Mesh Timeout [s]	600
Authentication	SHA512	Compression	No		

9. Configure the **Local Networks** tab:

- **Call Direction** – Set to **Active** so that the firewall can initiate a VPN tunnel after being connected to the Internet via DHCP.
- **Networks Address** – Enter the **Network Address(es)** of your local network(s) in CIDR-notation and click **Add**. (i.e. 10.0.80.0/24)

10. Configure the **Remote Networks** tab:

- **Remote Network** – Enter the local network address(es) of the remote peer in CIDR-notation and click **Add**. (i.e. 10.0.10.0/25)



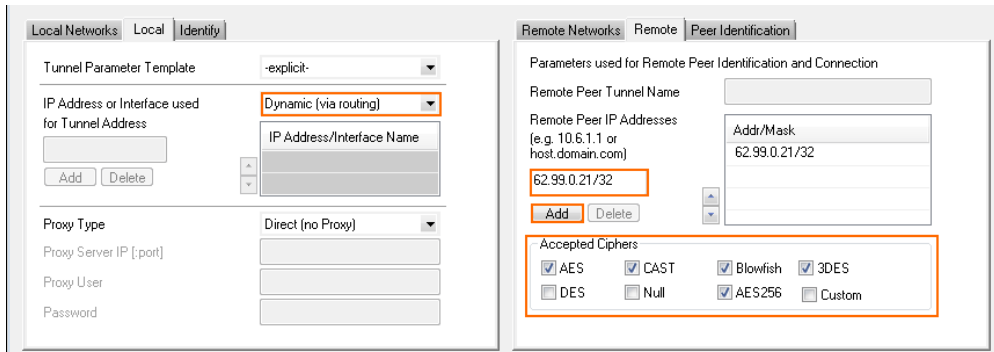
Local Networks		Remote Networks	
Local	Identify	Remote	Peer Identification
Call Direction	Active	VPN Interface Index	0
Local Network Scheme	-explicit-	Remote Network	10.0.10.0/25 Advertise Route=NO
Network Address	Addr/Mask	Advertise Route	<input type="checkbox"/>
(e.g. 10.6.0.0/16)	10.0.80.0/24	Add	Delete
10.0.80.0/24			

11. Click the **Local** tab, then configure:

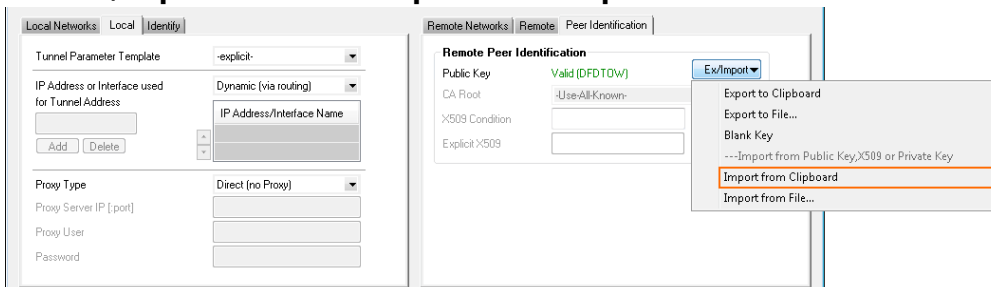
- **Tunnel Parameter Template** – Select **explicit**.
- **IP address or Interface used for Tunnel Address** – The firewall must do a routing table lookup to determine the IP address.

12. Configure the **Remote** tab:

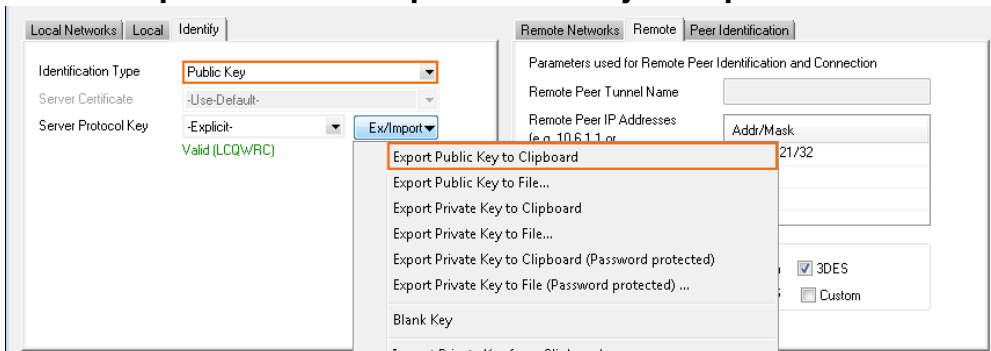
- **Remote Peer IP Addresses** – Enter the point of entry of the first firewall, and click **Add**. (i.e., 62.99.0.21).
- **Accepted Ciphers** – To use a cipher, the list must match the **Encryption** settings configured in Step 8.



13. Click on the **Peer Identification** tab.
14. Click **Ex/Import** and select **Import from Clipboard**.



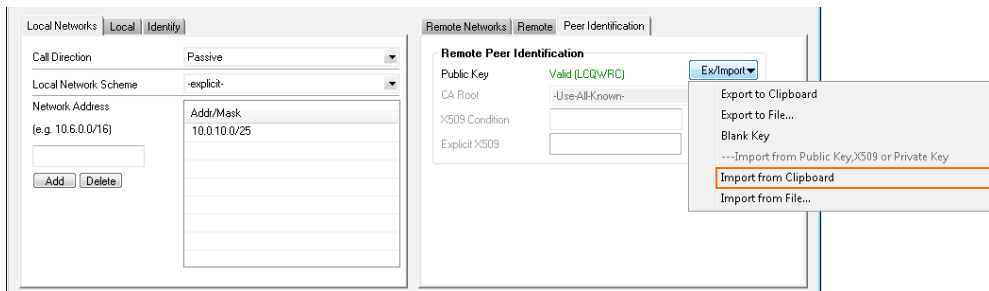
15. Click the **Identity** tab.
16. From the **Identification Type** list, select **Public Key**.
17. Click **Ex/Import** and select **Export Public Key to Clipboard**.



18. Click **OK**.
19. Click **Send Changes** and **Activate**.

### Step 3. On the Local Firewall, Import the Public Key from the Remote Firewall

1. Log into the local firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > your virtual server > Assigned Services > VPN-Service > Site to Site**.
3. Click **Lock**.
4. Open the configuration for the TINA site-to-site tunnel created on the first firewall.
5. Click the **Peer Identification** tab.
6. Click **Ex/Import** and select **Import from Clipboard**.



7. Click **OK**.
8. Click **Send Changes** and **Activate**.

## Access Rules

You must create Pass access rules on both systems to allow traffic between the two peers. For more information, see [How to Create Access Rules for Site-to-Site VPN Access](#).

Verify that the TINA site-to-site tunnel is established on both firewalls:

DASHBOARD CONFIGURATION CONTROL FIREWALL ATP **VPN** PROXY LOGS STATISTICS EVENTS SSH

Site-to-Site Client-to-Site Status

Name	Tunnel	Local IP	Key	Internal	Info	Auth.	Idle	bit/s
NGF1TINA2B02DHCP	TINA		11s				3h 51m...	0
Bulk (0)	TINA	62.99.0.21	11s	FW2Fw-NGF1TINA2B02DHCP		MD5	3h 51m...	0

DASHBOARD CONFIGURATION CONTROL FIREWALL **VPN** LOGS STATISTICS EVENTS SSH

Site-to-Site Client-to-Site Status

Name	Tunnel	Local IP	Key	Internal	Info	Auth.	Idle	bit/s
B01DHCPTINA2NGF1	TINA		1m 18s				3h 52...	0
Bulk (0)	TINA	80.130.45.106	1m 18s	FW2Fw-B01DHCPTINA2NGF1		MD5	3h 52...	0

## Figures

1. tina\_tunnel\_isp.png
2. select\_ipv6.png
3. configure\_encryption\_basics.png
4. loc\_fw\_loc\_rem\_networks.png
5. loc\_fw\_loc\_rem\_peers.png
6. loc\_fw\_copy\_public\_key.png
7. select\_ipv6.png
8. configure\_encryption\_basics.png
9. rem\_fw\_loc\_rem\_networks.png
10. rem\_fw\_loc\_rem\_peer.png
11. rem\_fw\_import\_rem\_peer\_key.png
12. rem\_fw\_copy\_public\_key.png
13. loc\_fw\_import\_rem\_peer\_key.png
14. TINA\_tunnel\_first\_firewall.png
15. TINA\_tunnel\_second\_firewall.png

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