



Meraki Configuration for TeleVoIPs

Follow the directions below to ensure proper configuration and QoS settings for Cisco Meraki firewalls. Please understand, instructions may vary based on the model and firmware version of your device.

General Information:

1. These routers do not have SIP ALG.
2. The UDP timeout value cannot be changed but should not cause an issue for voice traffic.

I. Required Changes

1. Log into the router.
2. Set up DDNS:
 - a. To use Dynamic DNS, the device must first be set to Routed mode. This is done under **Security & SD-WAN > Configure > Addressing & VLANs** in Dashboard.

Enabling Routed Mode

Deployment Settings

Mode

Routed

In this mode, the MX will act as a layer 3 gateway between the subnets configured below. Client traffic to the Internet is translated (NATed) so that its source IP becomes the uplink IP of the security appliance. Configure DHCP on the [DHCP settings page](#).

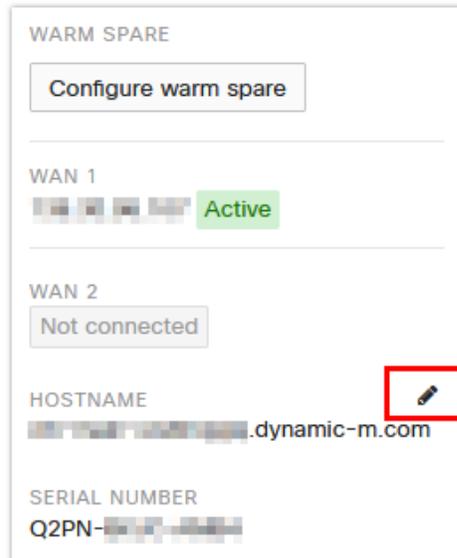
Passthrough or VPN Concentrator

This option can be used for two deployment models: in-line passthrough or one-arm concentrator. In a passthrough deployment, the security appliance acts as a Layer 2 bridge, and does not route or translate client traffic.

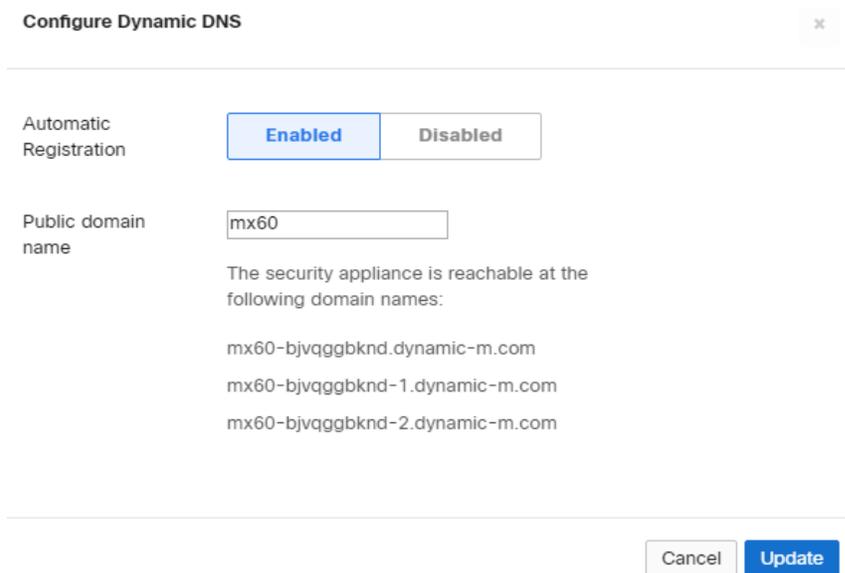
- b. Once the Meraki is set to Routed mode, the **Dynamic DNS** section will appear at the bottom of the **Security & SD-WAN > Configure > Addressing & VLANs** page with a link to the **Security & SD-WAN > Monitor > Appliance status** page.

3. Enable Dynamic DNS:

- a. Once on the **Security & SD-WAN > Monitor > Appliance status** page, select the pencil icon next to **Hostname**, located between the **WAN IP** and **Serial Number** on the left of the page.



- b. A dialog box will appear for configuring Dynamic DNS. Select **Enabled** in the dialog box and enter a public domain name if necessary, then select **Update**.



- c. After DDNS is enabled, you can confirm it is working by performing a DNS query for the MX DDNS hostname. Open a command prompt on any workstation and type "**nslookup <your dynamic DNS name>.**" The DNS response should return the current active public IP address of the MX.

II. Recommended Changes:

1. Navigate to Security appliance / Teleworker gateway > Traffic shaping
 - a. It is recommended **not** to use Load Balancing with VoIP on separate WAN links, as load balancing across different WAN links can cause traffic to appear to come from different WAN IPs which our network will interpret as jitter.
 - b. Click "details" on WAN 1 interface and specify the downlink and uplink speeds that you're paying for.
 - c. Global bandwidth limits may be used if you feel the need for it on your network.
2. Create a traffic shaping rule for your Meraki router under Traffic shaping
 - a. Click Add+ > Custom expressions

The Meraki uses slash notation to add these rules, so you simply add **<ipaddress>/20** to add a /20 block subnet to this list.
 - b. Bandwidth limit: Ignore network per-client limit (unlimited)
 - c. Priority: High
 - d. DSCP tagging: 46 (EF - Expedited Forwarding, Voice)
 - e. Click Save