

SOFTWARE-DEFINED WAN (SD-WAN)

Device Bootstrapping User Guide

This SD-WAN Bootstrapping Guide will take you through the necessary steps to connect your device to the network. There are two important actions that need to be taken which include:

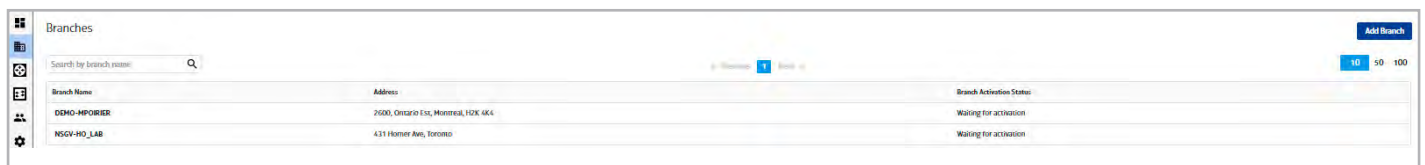
1. Login to our Self-Service Portal at <https://sdwanportal.cogecopeer1.com>. Find and add the branch on the portal. You do not need the device to complete this step.
2. Connect to the device on the LAN port with your laptop or computer. This will allow you to finalize the bootstrapping of the device.

Activity 1: Add the branch on the portal

Please complete the following steps:

1. Login to our Self-Service Portal <https://sdwanportal.cogecopeer1.com>
2. Navigate to the Branches page.

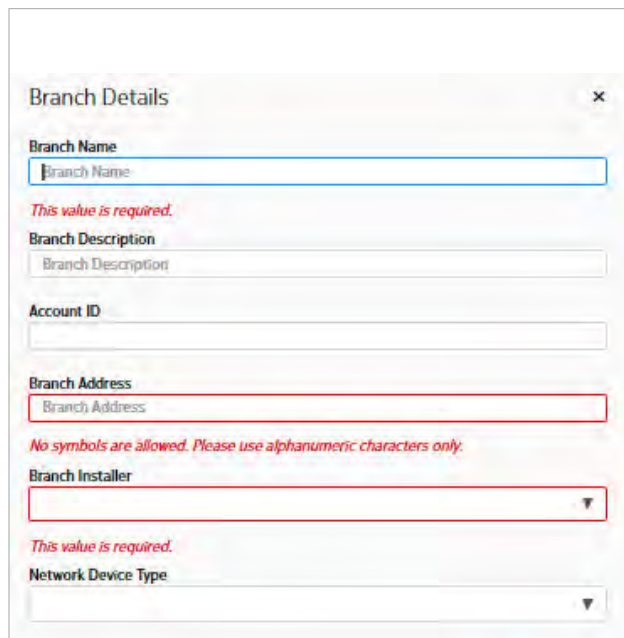
Click 'Branches' in the top left menu. The Branches page will open.



Branch Name	Address	Branch Activation Status
DDHO-HPORBER	2500, Ontario St, Montreal, L2K 6K4	Waiting for activation
NSGV-HO_LAB	433 Homer Ave, Toronto	Waiting for activation

Click <Add Branch>. The Branch Details page will open.

Complete the following Branch Details:



Branch Details

Branch Name
Branch Name
This value is required.

Branch Description
Branch Description

Account ID

Branch Address
Branch Address
No symbols are allowed. Please use alphanumeric characters only.

Branch Installer
Branch Installer
This value is required.

Network Device Type

- Branch Name (Required)
- Branch Description (Optional)
- Account ID (Optional; alphanumeric string of up to 128 characters, *not required in this version of portal software*)
- Branch Address (Required)
- Select the 'Branch Installer' from a list of users already defined within the organization

Note: Cogeco Peer 1 will make available specific bandwidth and location-dependent device profile for your organization. Please contact your Cogeco Peer 1 representative about available options.

- Select the 'Network Device Type:' from the drop-down menu of available devices (Network Devices are those listed above).

Click <OK>

Activity 2: Bootstrap the device by connecting to LAN port

In order to actually bootstrap the device, you would require:

1. Internet access with Ethernet media (can be NAT'ed or not NAT'ed).
2. A laptop or computer with standard Ethernet port.

Once the branch has been added and the bootstrap notification email has been generated, the branch bootstrapping can be initiated.

WAN IP address consideration

The following applies if you are using static IP or if the SD-WAN device is behind a NAT'ing device. If you are using dynamic public IP on the WAN interface with no NAT, then this is the default configuration and you can proceed to "**Connecting to SD-WAN device on LAN port and bootstrapping**" section below.

*Note: The WAN interface must have an IP address that can reach our controllers and proxies. The WAN interface IP can be assigned from DHCP or can be statically assigned on the portal. The **default is DHCP or Dynamic**. If the IP needs to be assigned statically, then it can be edited on the WAN interface settings, after the branch has been added.*



- Choose 'Static' from the Connection Type drop-down and put in IP Address/ Netmask/ Gateway/ DNS information and click 'SAVE'.

Uplink Connection

Connection Type: Static

Role: Primary

IP Address: [] Netmask: []

Gateway: []

DNS: []

CANCEL SAVE

Please note that if the WAN interface IP is behind a NAT device, then you can also choose whether it is behind 1-to-1 NAT or Full NAT (PAT). This can be accomplished from 'Edit port' icon.

- Click 'Edit Port' icon.



- Choose None, Full or One to One depending on whether the device WAN IP is non-NAT'ed, NAT'ed one too many (PAT or Full) or One to One.



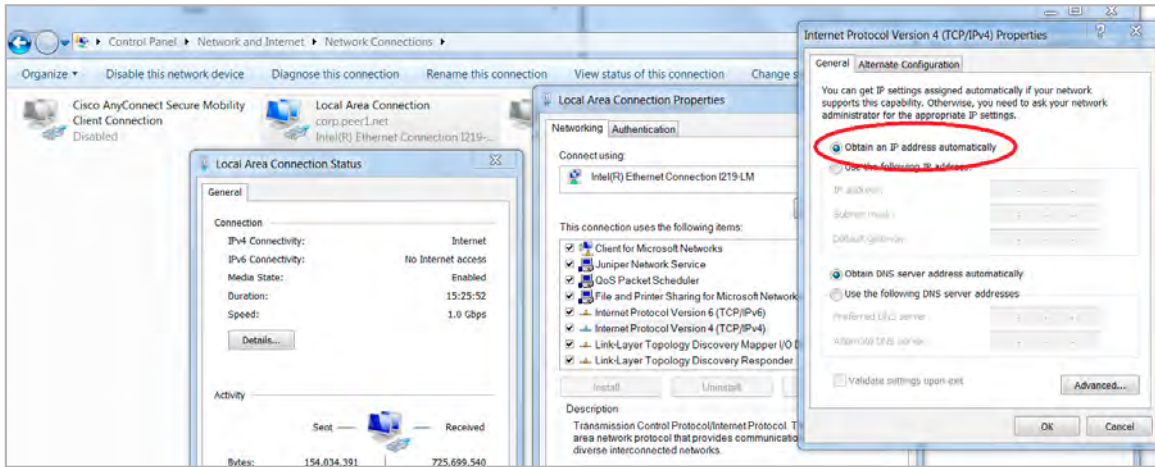
Note: If the device is behind a firewall and outbound access through the firewall is controlled, then you need to allow specific ports from your 'trusted'/ 'inside' side towards the Internet/ 'outside'/ 'untrusted' zone. Please contact your Cogeco Peer 1 representative for further details about port requirements.

Connecting to SD-WAN device on LAN port and bootstrapping

Once the bootstrap email has been received, the installer needs to connect their laptop through an Ethernet port to **port 3 on the NSG-C** or **port 6 on the NSG-E** and set their laptop NIC to DHCP.

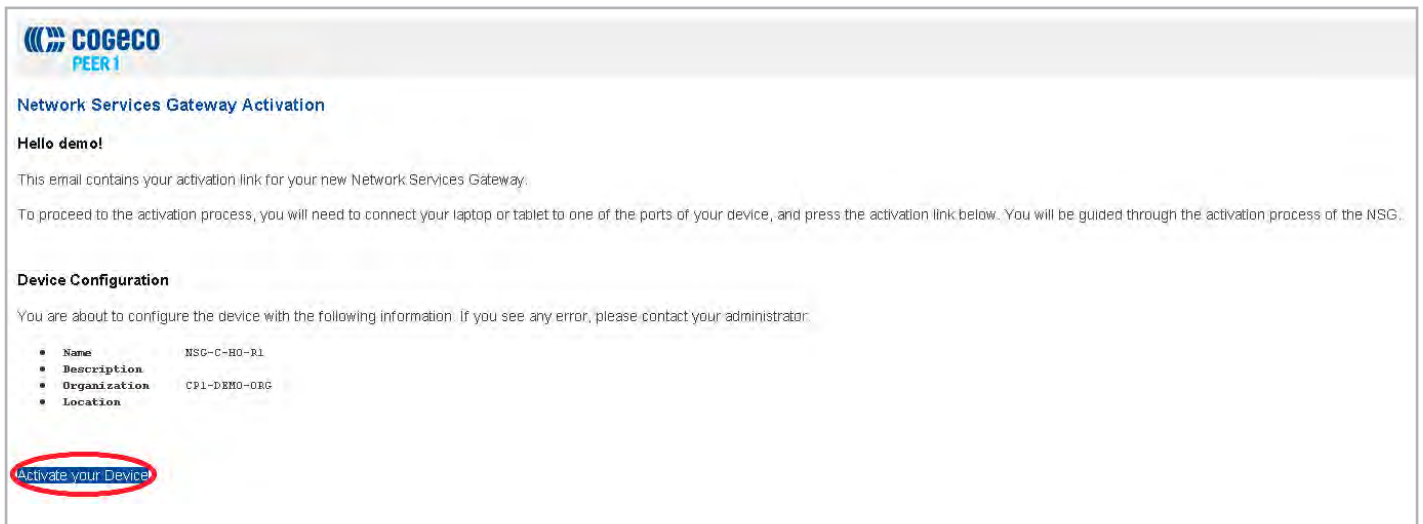
- To set your network card for DHCP on Windows, follow these steps:
 1. Click the Start button
 2. Click Control Panel
 3. Click Network and Internet
 4. Click View network status and tasks under Network and Sharing Center
 5. Click Change adapter settings on the left navigation bar
 6. Right-click on the network adapter you wish to change, here 'Local Area Connection'
 7. Select Properties
 8. Highlight Internet Protocol Version 4 (TCP/IPv4)
 9. Click Properties
 10. In the General tab, ensure that Obtain an IP address automatically radio button is selected
 11. Click OK twice and exit back to the Desktop

Note: This is the default setting on Windows machines. Prior to making the change, write down the IP, Subnet Mask and Default Gateway information as it will be lost if Obtain an IP address automatically is selected so you may change the network information at a later time.



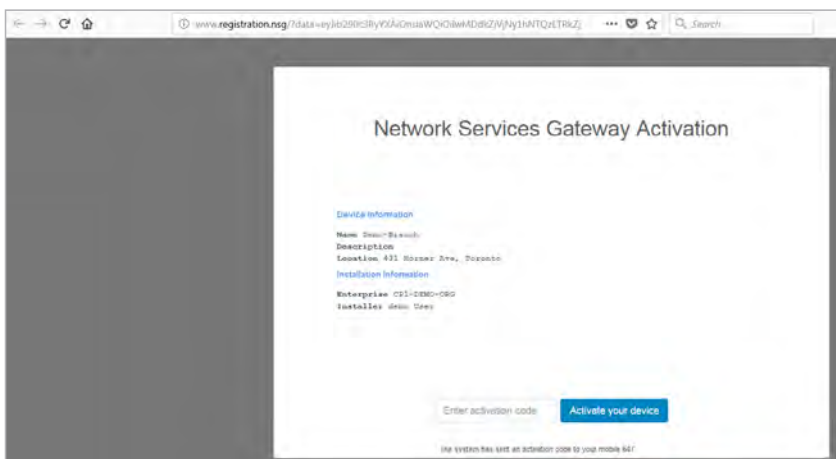
Once the laptop is connected to the NSG device port, the NSG devices become a DHCP server on the connected LAN port for the laptop and provide the laptop with IP address and DNS resolution in order for bootstrapping to proceed.

With the laptop connected to **LAN port 6 (NSG-E)** or **LAN port 3 (NSG-C)**, click on the **“Activate your device”** link in the notification email:



Once the 'Activate your device' link from email is clicked, a bootstrapping wizard will guide you through bootstrapping the device. You need to have your mobile device with you to accomplish two-factor authentication by entering the SMS code that would be generated upon adding the branch on the portal.

- Please input the SMS code into the 'Enter activation code' box and click 'Activate your device'

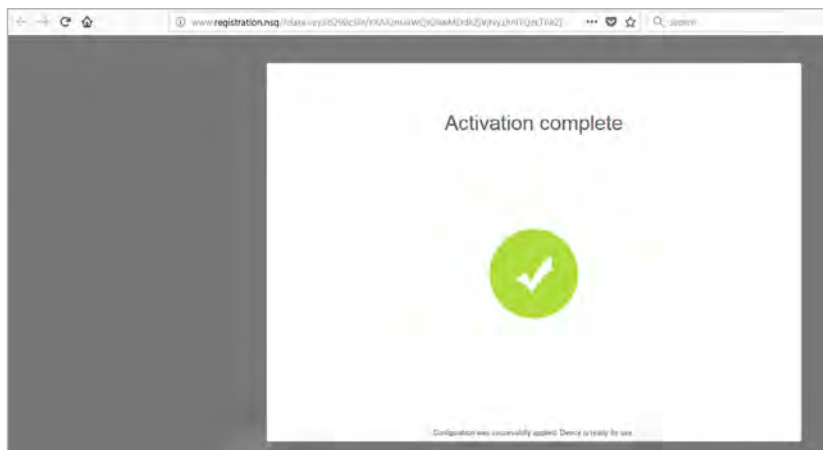


- You will be presented with the following:



Depending on software on the device from the factory, the device will download updated software and reboot and come back. However, no operator intervention is required through that process.

- Once the device is fully bootstrapped and upgraded, you will be presented with the following screen:



Note: Under certain circumstances, if there is no available laptop on branch site equipped with Ethernet NIC, then the device can be bootstrapped from a USB key. However, this is not possible from the current version of the portal. Please contact your Cogeco Peer 1 representative in such instances.

Once the device is bootstrapped, a specific LAN port can be “linked” to a network defined in the network page and traffic can flow.



ABOUT COGECO PEER 1

Cogeco Peer 1 is a wholly-owned subsidiary of Cogeco Communications Inc. (TSX:CCA) and is a global provider of essential business-to-business products and services, such as colocation, network connectivity, hosting, cloud and managed services that allow customers across Canada, Mexico, the United States and Western Europe to focus on their core business. With 16 data centers, extensive FastFiber Network® and more than 50 points of presence in North America and Europe combined, Cogeco Peer 1 is a trusted partner to businesses small, medium and large, providing the ability to access, move, manage and store mission-critical data worldwide, backed by superior customer support.

To learn more about how our services can help your organization, please visit www.cogecopeer1.com or email us at info@cogecopeer1.com

