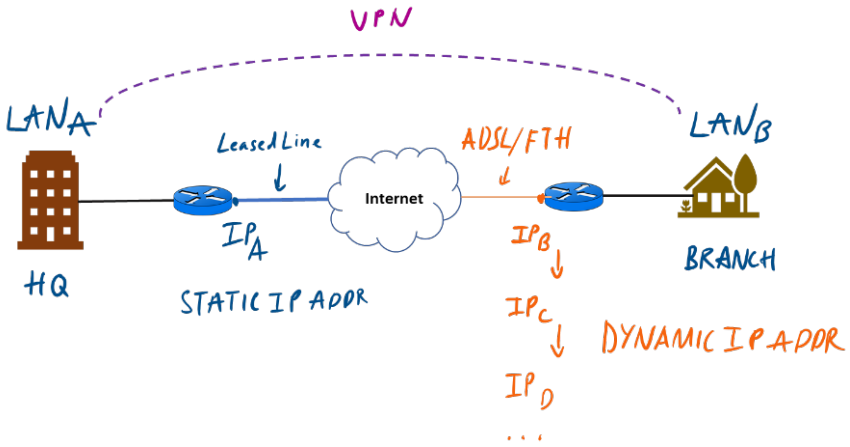
Genie Monitor Skill for Disaster

Introduction:

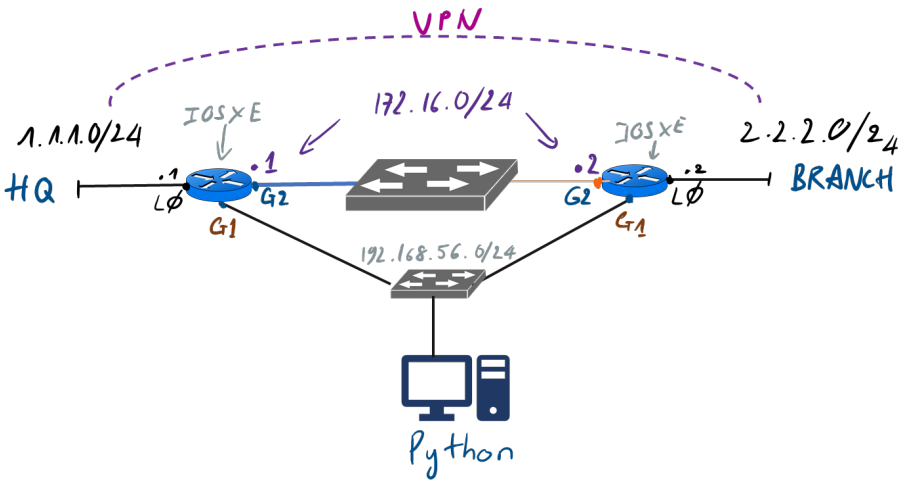
Bank of America, BoA has opened its branch at one of the most northern places where ADSL is the only internet service available. Like every other bank, BoA wants to have secure connections with its branches to collect data. And usually, VPN Site-to-Site is the first option. Unfortunately, the remote sites with ADSL connections cannot maintain a VPN tunnel due to dynamic IP Address (public IP) assignments. Without static IP, the VPN tunnel will drop when the ISP assigns a new IP.



As an IT engineer, your job is to find a solution to this problem. However, you cannot change the nature of the Network. Instead, you can apply your automation skills to solve this problem programmatically.

LAB Setup:

To simplify the problem, you can set up your lab as the figure below:



The Python machine is our VM LAB machine. HQ router will be your CSR1000v router (IOS XE). For the branch router, you can import another CSR1000v router to your **VirtualBox**.

By default, there is only one port (G1) on CSR1000vs. However, to get the G2 interface for internet connections (172.16.0.0/24), you can change the Setting of each router in **VirtualBox**:

1. Turn off the routers if they are running. Then repeat the following steps for each router.
2. Select a router in **VirtualBox**, then click on ***Setting***.
3. Then select ***Network*** on the left, select ***Adapter 2*** on the right.
4. In the ***Adapter 2*** tab, check ***Enable Network Adapter*** option.
5. Select ***Bridged Adapter*** from ***Attached to*** drop-box.
6. Select an option from ***Name:*** drop-box but make sure you have the same selection for both routers.
7. Expand ***Advanced*** and select ***Paravirtualized Network*** from ***Adapter Type*** drop-box
8. Click *OK* to finish the setup. Now, G2 interfaces will appear on your routers.

For your convenience, I have the VPN configuration here, CSR1 is for HQ, and CSR2 is the branch.