# Assignment 2 (v.1.0)[1]: VPN on ACME co.

In this assignment, you have to properly configure two new services running on the ACME co.'s networks. In particular, a VPN for the road warriors employee and a VPN tunnel between the Main and the Internal routers (running on two different branch offices). The two VPNs have to work with IPv4, whereas IPv6 is optional.

The VPN for the road warriors has to be implemented with the openvpn option of OPNsense, while the internal tunnel must be implemented with IPSec.

ACME co. topology
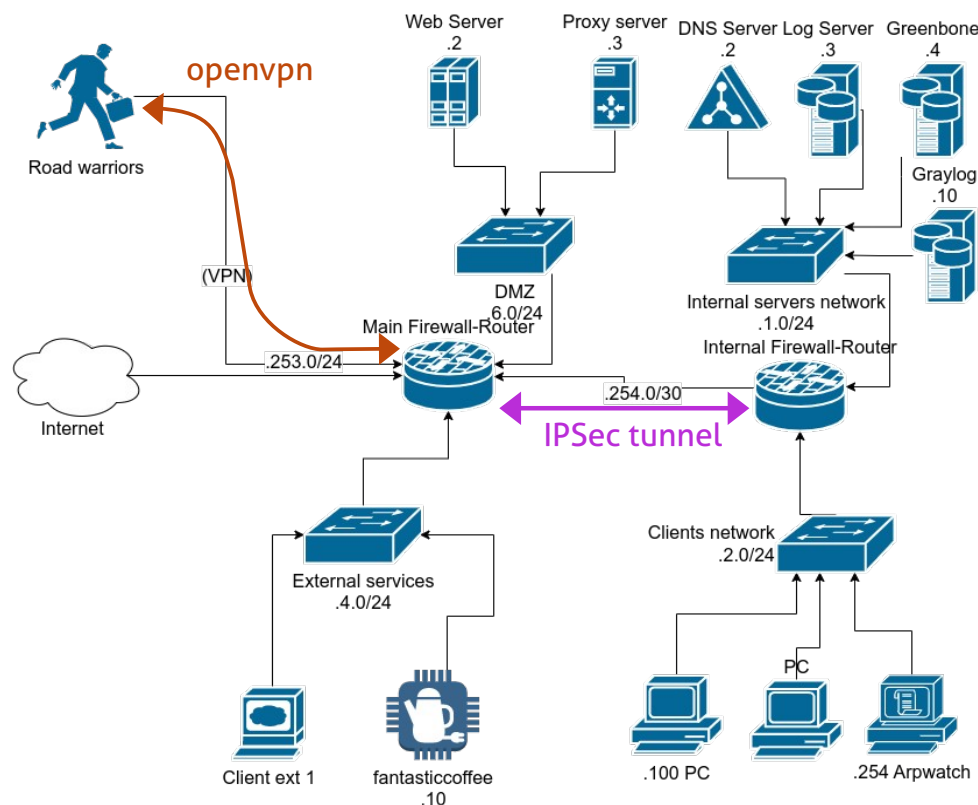
Road-warriors VPN requirements

The **Main-firewall has to act as the VPN gateway**, namely a gateway for the road warriors of ACME co. All the VPN users of the company should have access from the Internet, using the public IP address assigned to WAN interface of the Main-firewall. The VPN allows the road warriors to access the inner networks of the company.

The ACME co.'s network has three types of road warrior users: **Standard User, Power User** and **Administrator**. The standard user can access the DMZ network, the power user can access both the DMZ and the server networks, while the administrator can access all the networks of the company. The authentication mechanism must rely on a Public Key Infrastructure (X.509).

You have to create the following users:

- Alice, standard user,
- Bob, power user,
- Christina, administrator.

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1 Changelog: 21/05/25

Main-Internal VPN tunnel

You have to properly setup a VPN tunnel between the two routers, since the actual connection is running on an insecure medium: any packet running between the two routers should go through an **IPSec tunnel**. You can decide the security level and the implementation details.

Scheme of your hand-in

You have to prepare a document that reports the activity you have performed to realize the assignment. When uploading your report in classroom, you have also to include the details about how you tested the VPN connections of the three accounts above mentioned and the site-to-site VPN.

The document should be named ACME_XX_a2_report.pdf and should be included together with the exported firewall configurations in a .zip file named ACME_XX_a2.zip. The zip file is **the only thing** your group has to hand-in in classroom (only one of the members). The document should be clear and concise (few pages, please...) and have at least the following pieces of information:

1. Group number

2. Student names and numbers

3. Initial brainstorming, where you write your considerations and observations about what to do and how. Here you have to motivate the choice you made for the whole setup.

4. Details about the VPN setup for the road warriors (namely, the installation procedure, together configuration files, if any, and account setup).

5. Details about the VPN for the Main-Internal VPN tunnel.

6. Test of the new configuration.

7. Final remarks.

Hand-in dates

The assignment has to be handed-in before taking the written exam. The evaluation will be done considering both the completeness, clearness and proficiency.