Introduction to GNS3

Introduction to GNS3

GNS3 is an open source software that simulates complex networks that appear very much like real networks. GNS3 is a graphical network simulator but it actually uses emulators like Dynamips and Qemu to create software equivalents of hardware devices. GNS3 provides an intuitive point-and-click interface to create network topologies that consist of network devices like routers as well as hosts. You can connect your GNS3 networks also to external virtual machines and physical devices, which makes GNS3 absolutely flexible not only for certification studies but also for proof of concept scenarios.

This lab covers how to setup GNS3 on Microsoft Windows or Macintosh OS X from scratch. You will find detailed instructions with screenshots to download, install, and configure the new GNS3 1.3.2. You should use the GNS3 1.3.2 all-in-one package that includes Dynamips, Qemu, PuTTY, VPCS, WinPcap and Wireshark among others:

* **Dynamips:** Dynamips is a software that emulates Cisco routers on a personal computer. You must provide your own Cisco IOS (Internetwork Operating System) images for Cisco routers emulated by Dynamips. The hardware supported by Dynamips includes Cisco 1700 series (1710, 1720, 1721, 1750, 1751 and 1760), 2600 series (2610 to 2651XM and 2691), 3600 series (3620, 3640 and 3660), 3700 series (3725 and 3745), and 7200. Dynamips 0.2.10 is bundled with GNS3 0.8.6 all-in-one package.
* **Qemu:** Qemu is an open source emulator used by GNS3 to run Cisco ASA (Adaptive Security Appliance), PIX (Private Internet eXchange) and IDS (Intrusion Detection System). It can also emulate conventional operating systems like Microsoft Windows and Linux. Qemu 0.11.0 is bundled with GNS3 0.8.6 all-in-one package.
* **PuTTY:** PuTTY is an open source telnet and SSH client developed originally for the Windows platform. GNS3 1.3.2 all-in-one package bundles a custom build of PuTTY for the Windows platform.
* **VPCS:** VPCS (Virtual PC Simulator) is a simulator and not a machine emulator like Qemu. It provides only a few network commands like ping and traceroute. VPCS allows you to add lightweight hosts to your GNS3 networks in place of full-blown emulated machines. VPCS is included in GNS3 all-in-one package.
* **WinPcap:** WinPcap 4.1.3 is bundled with GNS3  all-in-one package and is needed by GNS3 to send packets to and receive packets from your NIC (network interface card).
* **Wireshark:** Wireshark is a network protocol analyzer and its packaged with GNS3  lets you look inside individual packets traveling across your network links.

You will need to have a Cisco IOS image if you wish to have router functions enables. Cisco IOS images are available when you buy a Cisco router or switch. Legally, you must own a CISCO device to have a copy of the IOS software (per licensing), therefore we cannot provide a copy to you without breaking licensing agreements.