Getting Started with Huawei eNSP

1.   Overview

Enterprise Network Simulation Platform (eNSP) is an extensible, and graphic network simulation platform developed by Huawei. By simulating Huawei enterprise routers, switches, WLAN devices, and firewalls, it demonstrates device deployment scenarios. eNSP can simulate large-sized networks. Users can perform trial tests and learn network technologies without using real devices.

> ⏁ NOTICE:
> To protect the legitimate rights and interests of you, the community, and third parties, do not release content that may bring legal risks to all parties.

2.   Installation

2.1.   System Requirements and Software Dependencies

Downloading and installing eNSP is just as simple as downloading and installing other Windows software. But when you install eNSP, note the following:

❶   eNSP can only be installed and run on Windows systems.

❷   eNSP has requirements for system configuration, and it can operate normally only when the system configuration meets the minimum configuration requirements. The system requirements are shown in Table 2-1.

❸   Before installing eNSP, you need to install WinPcap, Wireshark and VirtualBox in your system. Wireshark is used as a tool for data packet analysis. Oracle VM VirtualBox is a free, open source, cross-platform application for creating, managing and running virtual machines (VMs). The simulated devices run on VirtualBox. The software dependencies of eNSP are shown in Table 2-2.

Table 2-1 eNSP System Configuration Requirements

Item	Minimum Configuration	Recommended Configuration	Expanded Configuration
CPU	Dual-core 2.0 GHz or faster	Dual-core 2.0 GHz or faster	Dual-core 2.0 GHz or faster
Memory (GB)	2	4	$4 + n$ ($n > 0$)
Free disk space (GB)	2	4	4
Operating system	Windows XP Windows Server 2003 Windows 7 Windows 10	Windows XP Windows Server 2003 Windows 7 Windows 10	Windows XP Windows Server 2003 Windows 7 Windows 10
VirtualBox	xp/win7: VirtualBox 4.2.3 above win10: VirtualBox 5.0 above	xp/win7: VirtualBox 4.2.3 above win10: VirtualBox 5.0 above	xp/win7: VirtualBox 4.2.3 above win10: VirtualBox 5.0 above
Maximum number of networking devices	10	24	$24 + 10*n$

> ⏁ NOTE:
> Each virtual device on eNSP needs to use some resources. Each computer supports a different number of virtual devices based on the configuration. In the Table 2-1, n is an integer that indicates the increased memory size, and the maximum number of networking devices in the expanded configuration increases according to the increased memory size and cannot exceed 50.

Table 2-2 eNSP Software Dependencies

Software	Recommended Version
Npcap	The Wireshark installer contains the latest Npcap installer. If you don't have Npcap installed, you won't be able to capture live network traffic but you will still be able to open saved capture files. By default, the latest version of Npcap will be installed. If you don't wish to do this or if you wish to reinstall or prefer to install Npcap manually or want to use a different version than the one included in the Wireshark installer, you can download Npcap from the main Npcap site at https://nmap.org/npcap/.
Wireshark	3.2.7
VirtualBox (Recommemded!!!)	Win 10: VirtualBox 5.2.22, 5.2.28, 5.2.30 suggested. eNSP does not support VirtualBox 6 and above.

2.2.   Installation

Step 1: Download and install VirtualBox. **Run as Administrator.** <mark>Do not check "Run after installation Oracle VM VirtualBox …".</mark>

Step 2: Download and install Npcap. **Run as Administrator.**

Step 3: Download and install Wireshark. **Run as Administrator.**

Step 4: Download and install eNSP. **Run as Administrator.**

> Downloading the file "eNSP V100R003C00SPC100 Setup.zip" in the **folder** "**Huawei eNPS**" from 北理云盘 (**http://pan.bit.edu.cn**) to your local computer, unzip the file to the specified directory. Right click on **eNSP_Setup.exe** in the specified directory, select **Run as Administrator** to start eNSP installation. Select the installation language, click the "OK" button to enter the installation wizard, and follow the instructions of the wizard.

Where can you download eNSP?

Before downloading the file, you must join in the group **CNCD** first.

Open http://pan.bit.edu.cn, login to the system successfully, then click "我的群组"

button   , then click   群组搜索   in the left menu, then click Search

button   at the right of the menu bar, search **CNCD**, 点击【申请加入】。

After your application to join the group of CNCD is approved, you can download eNSP.

3.   Launch

You may prompt for administrator privilege when starting eNSP program.

After completion of installing progress bar, you can select "function eNSP", uncheck "Show update log", then click "complete" to launch eNSP. You can also launch eNSP from Desktop or Start Menu.

After eNSP starts, two firewall dialog boxes will pop up, Windows Security center alert. Select "private network" and "Public network", click "allow access to", click "OK".

After eNSP is installed and started successfully, its main interface looks something as Figure 3-1 below.
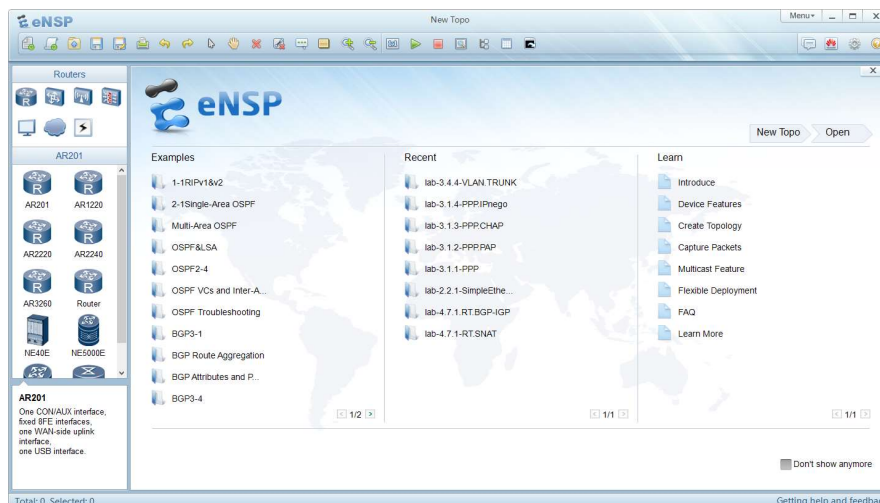
Figure 3-1 eNSP main window

Click on icon 🔘 in the upper right corner, you can get eNSP help. You can find descriptions about main interface, menu, toolbar, etc. in the section "Main Interface and Menu", find out how to create network topology, capture packets, test, etc. in the section "Quick Start", and How to in the section "FAQ" in the opened help file.

4. Device Registration

In order to simulate real network devices, eNSP needs to register and install the virtual host of the network device in VirtualBox, and load the VRP file of the network device in the virtual host.

To register devices, click on ⬚Menu▾ in the upper right corner, select "Tools" ➜ "Register Device", the "Register" device dialog box (as shown in Figure 4-1) will pop up. On the right side of the dialog box, check "AR_Base" (you can uncheck or check "AC_Base", "AP_Base", "AD_Base", and "SAP_Base"), then click the "register" button to complete the registration of the network device. The Register dialog box will display which network devices are successfully registered (as shown in Figure 4-2). If the device registration fails, please re-register the device until the registration is successful. Now, you can deploy those successfully registered network devices in eNSP.
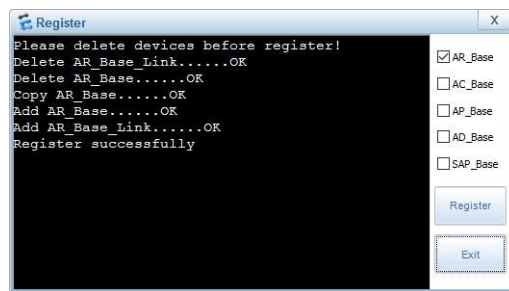
Figure 4-1 "Register" device dialog box   Figure 4-2 device registration information