

IT352: Information Assurance and Security

Lab Assignment 1

Summary Of CISCO Packet Tracer

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CISCO Packet Tracer includes servers, firewalls, routers, and switches, and even wireless connections. It provides security with AAA, DNS, file servers, secure web browsing, email servers.

It provides three main menus that allow you to

- add devices and connect them via cables or wireless
- select, delete, inspect, label, and group components within your network
- manage your network

The network management menu allows you to:

- open an existing/sample network
- save your current network
- modify your user profile or your preferences

The Device-Type Selection Box in the bottom left corner of Packet Tracer:

1. Network devices:

When network devices are selected, down below we have specific subcategories.

- **Routers**

- ☐ Cisco 1841 ISR router

The Cisco 1841 Integrated Services Router provides two fixed 10/100 (100BASE-TX) Ethernet ports, two integrated High-Speed WAN Interface Card (HWIC) slots that are compatible with WAN Interface Card (WICs) and Voice/WAN Interface Cards (VWICs), and one internal Advanced Integration Module (AIM) slot.

- ☐ Cisco 2620XM ISR router

The Cisco 2620XM Multiservice Router provides a one-network module slot platform with one fixed 10/100 (100BASE-TX) Ethernet port, two integrated

WAN Interface Card (WIC) slots, and one Advanced Integration Module (AIM) slot.

❑ Cisco 2621XM ISR router

The Cisco 2621XM Multiservice Router provides a one-network module slot platform with two fixed 10/100 (100BASE-TX) Ethernet ports, two integrated WAN Interface Card (WIC) slots, and one Advanced Integration Module (AIM) slot. The 2621XM supports the same modules that the 2620XM supports.

❑ Cisco 2811 ISR router

The Cisco 2811 Integrated Services Router provides one Enhanced Network-Module slot with two fixed 10/100 (100BASE-TX) Ethernet ports, four integrated High-Speed WAN Interface Card (HWIC) slots that are compatible with WAN Interface Card (WICs), Voice Interface Cards (VICs) and Voice/WAN Interface Cards (VWICs), and dual Advanced Integration Module (AIM) slots.

❑ Cisco 1941 ISR router

The Cisco 1941 Integrated Services Router (ISR) delivers highly secure data, mobility, and application services. Key features include two integrated 10/100/1000 Ethernet ports, 2 enhanced High-Speed WAN Interface Card slots, HWIC1 Internal Services Module slot, Fully integrated power distribution to modules supporting 802.3af Power over Ethernet (PoE) and Cisco Enhanced PoE.

❑ Cisco 2901 ISR router

It includes 2 integrated 10/100/1000 Ethernet ports and 4 enhanced high-speed WAN interface card slots. This router's key features are hardware-accelerated VPN encryption, integrated threat control, and 802.3af Power over Ethernet (PoE).

❑ Cisco 2911 ISR router

The Cisco 2911 Integrated Services Router (ISR) provides 2 integrated 10/100/1000 Ethernet ports, 4 enhanced high-speed WAN interface card (WIC) slots, 2 onboard digital signal processor (DSP) slots and 1 onboard Internal Service Module for application services.

❑ Cisco 819 ISR router

The Cisco 819 Integrated Services Router (ISR) supports machine-to-machine (M2M) applications that can enable enterprises to use 3G wireless WAN network services.

- ❑ Cisco 829 ISR router

Cisco 829 Industrial Integrated Services Routers provide highly secure, reliable, and easy-to-manage 3G/4G LTE WAN cellular and Wireless LAN connectivity for mobile environments.

- ❑ Cisco CGR 1240 rugged router

The CGR 1240 is a ruggedized communication platform, designed for use in Field Area Network (FAN) power distribution grids that require outdoor, pole-mounted routers.

- ❑ Cisco 4321 ISR router

The Cisco 4000 Series Integrated Services Routers (ISR) revolutionize WAN communications in the enterprise branch.

- ❑ Cisco 4331 Integrated Services Router

Provides IOS image resilience through secure boot-image and secure boot-config commands and adds network programmability support to Packet Tracer through NETCONF / YANG protocols. Cisco ISR 4000 series support a large range of WAN or LAN connectivity options such as T1, T3/, serial, 10Gigabit Ethernet, and 4G LTE capabilities.

- Switches

- ❑ Cisco 2960 Switch

- ❑ Cisco Generic Switch

- ❑ Cisco 2950-24 Switch

- ❑ Cisco 2950T Switch

- Hubs

- ❑ Cisco Generic Hub

- Wireless devices

- Security

- Wide-area networks

- ❑ DSL Modem

- ❑ Cable Modem

2. End devices

- PCs

- Laptops

- Servers

- phones

- Home that includes smoke detectors, fans, smart door, garage door sensors, and lamps

- Smart city

- Industrial
- Power Grid
- 3. Components**
 - Boards
 - Actuators
 - Sensors
- 4. Connections**
 - copper straight-through cables
 - phone line cables
 - coax wires
 - fiber optic
- 5. Miscellaneous category**
 - Commonly used routers and PCs
- 6. Multi user connections:**

Utilize multiple Packet Tracer applications connecting together through a real, physical network to create larger labs.

In the right bar of Packet Tracer, we have different categories.

- 1. Select tool**
 - drag and highlight groups of devices
 - move them around or delete them
- 2. Note tool**
 - create notes anywhere on my screen
- 3. Delete Tool**
 - delete groups of devices or individual devices
- 4. Magnifying inspect tool**
 - quick details of what a device is actually doing with the network
- 5. Utilizing shapes tool**
 - Create shapes like circles, squares etc.
 - for documentation and grouping devices in order to have a nice, logical topology
- 6. Resize Tool**
 - Resize shapes
- 7. PDU (Protocol Data Unit) tool**
 - to do reachability tests very quickly