

Presenter Speaker Notes: PT Overview

	<p>Topic, Audience, Goal/Purpose of this PowerPoint presentation:</p> <ol style="list-style-type: none"> Who is the intended audience? All Academy Roles (External and Internal); primarily related to CCNA content What is the intended learning environment for using this PPT? Remote; 30 minute session using WebEx and the WebEx Internet Phone feature. You may use another web conferencing tool along with a conference call or a phone bridge. Also, these materials may be easily modified for use in an in-person environment. What is the goal/purpose of these materials? For internal academy staff and for instructors, LMCs, Curriculum Leads, etc. to become familiar with Packet Tracer <ul style="list-style-type: none"> ▪ What is Packet Tracer? ▪ Why is PT beneficial? ▪ How to acquire PT ▪ Packet Tracer Forum ▪ Tools for Teaching PT ▪ Distribution of PT ▪ Reporting Bugs <p>NOTE: This PPT and Speaker Notes were created by updating the “Overview of Packet Tracer” PPT and Presenter Notes. The updates are based on PT5.2 and higher (RC1) on July 20, 2009.</p>
 <p>Title Slide</p>	<p>Cisco Networking Academy Program Packet Tracer: Overview Session</p> <p>Welcome. This 30-minute session will not allow much opportunity for you to speak so during the session please feel free to type questions in the WebEx chat window.</p> <p>Thank you for participating in this overview of Packet Tracer. To get an idea of the experience-level of this group, I would like to ask you a few questions and ask you to use the “yes” and “no” indicators to respond. If you look in the right-hand side of the WebEx window you should see the yes and no buttons. Click on the yes button to demonstrate that you have found it. Thank you.</p> <p>Have you seen or tried any version of PT before? Have you used any version of PT before in your teaching?</p> <p>The goal of this session is to acquaint you with PT so that you are prepared to talk about PT with the Academy community.</p>
 <p>Slide 2</p>	<p>Slide 2 – Packet Tracer Overview Agenda</p> <p>Here is an outline of today’s overview session:</p> <ul style="list-style-type: none"> • What is Packet Tracer (PT)? • Why is PT beneficial? • PT features • How to acquire PT • Packet Tracer Forum • Tools for Teaching PT • Distribution of PT • Reporting Bugs

 <p>Slide 3</p>	<p>Slide 3 – Packet Tracer</p> <p>Packet Tracer simulation software can be used to teach complex CCNA-level networking concepts and to supplement classroom equipment. With PT instructors and students can design, build, configure, and troubleshoot networks using virtual equipment. PT provides a simulation and visualization environment with continuous real-time updates of underlying network logic and activity. It provides a common environment for instructors to demonstrate technologies and configurations, making it extremely useful for lectures, group and individual labs, homework and competitions. Students use PT to explore concepts, conduct experiments and test their understanding.</p> <p>Use PT for:</p> <ul style="list-style-type: none">• Lecture demonstrations• Individual labs and group labs• Homework• Assessments and games• Network design, troubleshooting, and modeling tasks• Reinforcement of hands-on lab activities• Case studies• Competitions• Problem-solving activities in concept-building, skill-building, design, and troubleshooting
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Key Benefits of PT

- Based on three learning principles: learning is **active**, learning is **social**, and learning is **contextual**
- Integrated in **CCNA Discovery, CCNA Exploration, and CCNA Security** courses
- Includes a variety of **new features**
 - Improvement in visualization both in simulation (QoS Packet Queuing) and Physical view
 - New Client/Server protocol implementation
 - Additional protocols modeled
 - Improved modeling of existing protocols
 - Improved GUI
 - Activity Wizard improvements
- Supplements** hands-on lab equipment
 - Each student can build, configure and troubleshoot networks using virtual equipment

Slide 4

Slide 4 – Key Benefits of PT

Key benefits are to make learning and teaching easier and to supplement lab equipment in the classroom.

- Packet Tracer is based on three learning principles: learning is **active**, learning is **social**, and learning is **contextual**. Hence, it is meant to facilitate the creation of engaging, collaborative, and localized instructional materials.
- Packet Tracer is a foundational teaching tool for **CCNA Discovery, CCNA Exploration, and CCNA Security**. Those curricula include embedded e-doing, which applies the principle that people learn best by interacting with computer-based activities. Interactive learning promotes the exploration of networking concepts and experimentation with tools such as Packet Tracer and Flash-based activities to help students develop a greater understanding of networking technologies. Packet Tracer activities are embedded in the new course content.
- Packet Tracer includes a variety of **new features** over the previous releases:
 - Improvement in visualization both in simulation (QoS Packet Queuing) and Physical view
 - New Client/Server protocol implementation
 - Additional protocols modeled
 - Improved modeling of existing protocols
 - Improved GUI
 - Activity Wizard improvements
 - Multiuser capability allowing for connections between two or more instances of PT
- Packet Tracer is a **supplement to hands-on lab equipment** and is not a replacement for lab equipment. The Networking Academy program recommends the use of physical equipment for hands-on learning. This is a key differentiator relative to other programs. Packet Tracer simulations, which are embedded in the new curricula, are supplemental and designed to provide learning opportunities for environments that are not possible to re-create in the classroom.

Various uses of PT include:

- Teach complex CCNA-level networking concepts
- Design, build, configure and troubleshoot networks using virtual equipment
- Demonstrate technologies and configurations
- Supplement classroom equipment
- Empower students to explore concepts, conduct experiments, and test their understanding

Slide 5

Slide 5 – Features of PT

Logical Workspace is the primary workspace for creating networks of any size and CCNA-level configuration.

Physical Workspace promotes an intuitive interaction with physical devices, with physical layout and distance representation including intercity, city, building, wiring closet, and device views. They include a cluster function to group devices, a custom device creation tool, and an array of devices (routers, switches including a layer3 3560 switch, hubs, functional servers, Linksys gear, WAN clouds, a Multiuser connection and cable and DSL modems.) The functional servers support HTTP, DHCP, TFTP, and DNS services.

Real-time Mode models real-time protocol updates and medium-fidelity Cisco IOS CLI configuration of switches and routers.

Simulation Mode allows for a detailed study of protocol interactions.

The list of supported **protocols** has grown to now also include 802.11 wireless, VTP, DTP, STP, RSTP, HTTP, DHCP, Telnet (with SSH), TFTP, DNS, single and multiple area OSPF, and CDP. The list of protocols to filter in the Event List has increased to allow the user to filter on most of these additional protocols.

Global event list (packet sniffer): The packet sniffer in Packet Tracer allows students to see some of the same kinds of information that they would see with a commercial packet sniffing program, such as Wireshark. This functionality allows students to see just the amount of information that is appropriate for a CCNA level student without overwhelming them with the amount of information that would be seen in the commercial product.

The **GUI** has zoom view tools, edit functions (copy, paste, and undo), improved window management, and ability to show/hide link lights and device labels. All pop-up windows are treated as independent window units so they can be placed anywhere on the desktop and manipulated independent of each other. Windows can be maximized, minimized and accessed by taskbar buttons or the <Alt><Tab> combination. The user can have as many windows open as needed.

Multiple languages are supported. Instructions are included for self-translation into other languages. To locate these instructions, go to the Help file and click on **Translation Process** in the navigation pane.

Physical interfaces model realistic equipment set up including adding and removing components.

Knowledge representations offer discovery learning by enabling "what if?" scenarios using the simulation-mode and visualization features that allow the student to "freeze time".

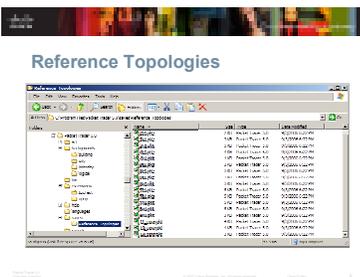
Activity Wizard enables instructors to create automatically scored practice activities and enables instructors and students to easily create and share network templates. New features have been added to Activity Wizard. These features include enhancements to the user interface, feedback on performance in completing an activity, assessment of user-created PDUs, and the addition of the Variable Manager. The Variable Manager enables the instructor to create multiple activities based on a single activity and the use of variables. These variables may be used in the activity instructions and initial values to create different correct answers each time.

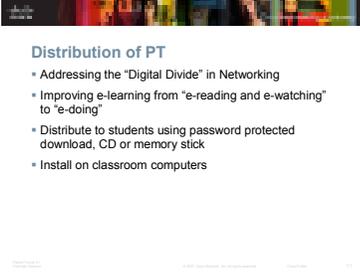
You will also notice on this slide the various other features and limitations. Packet Tracer allows activity authoring for almost all of the topics and skills required for CCNA certification.

Features

- Logical and Physical Workspaces
- Real-time and Simulation Modes
- Global event list (packet sniffer); Adjustable Windows
- LAN: Ethernet (including CSMA/CD*), 802.11 wireless
- Switching: VLANs, 802.1q, trunking, VTP, DTP, STP, RSTP
- TCP/IP: HTTP, DHCP, Telnet, TFTP, DNS, TCP*, UDP, IP, ICMP, and ARP including IPv6
- Routing: static, default, RIPv1, RIPv2, EIGRP, OSPF (single and multiple area) and inter-VLAN routing
- WAN: Frame Relay, PPP, HDLC
- Multiuser Connection: to allow peer to peer collaboration
- VPN, IDS, IPS, IPSec, CBAC, Outside NAT, AAA, GRE, SNMPv1 and 2, parser views, NTP (with a PT based server), Firewall and Zone based firewall, Syslog, Diffserv QOS
- Activity wizard enhancements

Note: Current version of Packet Tracer runs in Linux and there is a pack available (can be shared) on how to use PT on Mac OSx using an emulator.

 <p>Slide 6</p>	<p>Slide 6: What is New in PT 5.x? Protocols added in PT 5.x: IPv6, Multi-area OSPF, Route Redistribution, Multilayer switching with the addition of a 3560 switch, SSH (Secure Shell) for Secure telnet access and Rapid Spanning Tree Protocol (RSTP). There are also many commands which were not supported by the previous versions which have now been added. The Multi-user collaboration allows for two or more instances of PT 5.x to connect via Multiuser Connections connected via TCP/IP within a single PC, or between distinct PCs across a LAN or across a WAN cloud VPN, IDS, IPS, IPSec, CBAC, Outside NAT, AAA, GRE, SNMPv1 and 2, parser views, NTP (with a PT based server), Firewall and Zone based firewall, Syslog, Diffserv QOS, ISAKMP, TACACS+, Radius, SNMP, HTTPS, SYSLOG Support for CCNA and CCNA Security Improved Wireless Security modelling with WPA, WPA2, WPA-PSK, WPA2-PSK Activity wizard enhancements</p>
 <p>Slide 7</p>	<p>Slide 7 – How to Acquire PT PT is now available for download on the Academy Connection Website homepage of the user. Just click on the icon shown here which will appear in the left panel on the Academy Connection. This will open a page describing PT with links to FAQ, Datasheet, Training Materials, the Interactive Course Guide, and several download options for the program with or without the tutorials http://cisco.netacad.net/go/pt</p>
 <p>Slide 8</p>	<p>Slide 8 – Packet Tracer Forum To reach it from the Academy home page click on Resources::Forums and Chat/Instructor Community/Packet Tracer. You will find here:</p> <ul style="list-style-type: none"> • another link for downloading the latest PT software, • some Promo videos and • most importantly current Discussion threads from the instructor community where you can: <ul style="list-style-type: none"> • Participate in discussions about instructional uses of PT. • share .pkt and .pka files • Share success stories • Report bugs • Make suggestions for possible future versions
 <p>Slide 9</p>	<p>Slide 9 – Reference Topologies PT comes with a number of built-in Activities which can be found in the “saves” folder. Notice the directory path in this slide. . Currently, the Exploration and Discovery directories shown in this slide will not be there. They will be available from the same locations as the rest of the auxiliary materials. Although the program includes some activities, we strongly encourage you to share activities that you create with others in the CCNA teaching and learning community.</p>

 <p>Slide 10</p>	<p>Slide 10 – Help and Tutorials</p> <ul style="list-style-type: none"> • PT Help includes a keyword search tool. To use the search, click on Search. • Built into are Help contents (.html) and Tutorials (.swf) • “My First PT Lab” - Research has shown that users who master some basic tasks early get much more out of the software. This lab is designed to familiarize you with Packet Tracer's features. This lab is accessible through the Help Contents.
 <p>Slide 11</p>	<p>Slide 11 – Distribution of PT</p> <p>Please distribute PT to Academy students. For details about the User Agreement, proprietary rights and licensing, please read the Copyrights section of the Help contents within PT.</p> <ul style="list-style-type: none"> • Addressing the “Digital Divide” in Networking • Improving e-learning from “e-reading and e-watching” to “e-doing” • Distribute to students using password protected download, CD or memory stick • Install on classroom computers
 <p>Slide 12</p>	<p>Slide 12 – Please Communicate</p> <ul style="list-style-type: none"> • Share .pkt and .pka files • Share success stories • Report bugs using the Packet Tracer Discussion Forum on the Academy Connection website • Make suggestions for possible future versions • PTZ files <p>Note: Packet Tracer Zip (PKZ) files are introduced. The Packet Tracer team is interested in learning what new features would be most useful to the community.</p>
 <p>Slide 13</p>	<p>Slide 13 – Q and A</p>
 <p>Slide 14</p>	