Packet Tracer 5.0

As networking systems evolve, new curricula and learning tools are needed to help students acquire skills and understand the complexities of information and communication technology (ICT). To thrive in a globally networked, increasingly information-driven economy, students require connected methods of engagement that correspond to the ways they interrelate and communicate outside the classroom. Packet Tracer 5.0 e-learning software was designed to help individuals more easily develop networking technology skills in a rapidly changing environment by providing new opportunities for social learning, experimentation, and collaboration.

Cisco Networking Academy and the Packet Tracer Solution

Cisco Networking Academy is an innovative education initiative that supports the development of ICT skills to help students improve their career and economic opportunities in communities around the world. For more than ten years, the Networking Academy has delivered technology skills training to more than two million students in partnership with academies located in over 160 countries.

To help students fully integrate new networking skills, Cisco Networking Academy has developed Packet Tracer 5.0, a comprehensive, instructional software program with powerful simulation, visualization, authoring, assessment, and collaboration capabilities. Packet Tracer supplements the CCNA curricula, allowing instructors to easily teach and demonstrate complex technical concepts and networking systems design. With Packet Tracer, instructors can customize individual or multiuser activities, providing hands-on lessons for students that offer value and relevance in their classrooms. Students can build, configure, and troubleshoot networks using virtual equipment and simulated connections, alone or in collaboration with other students. Most importantly, Packet Tracer helps students and instructors create their own virtual “network worlds” for exploration, experimentation, and explanation of networking concepts and technologies.

Packet Tracer 5.0 Overview

Packet Tracer 5.0 provides a simulation-based environment for CCNA-level networking training. It offers a unique combination of visualization tools, complex assessment and activity authoring capabilities, and opportunities for multiuser collaboration and competition.

For students, Packet Tracer offers extensive learning benefits:

- Provides a versatile practice and visualization environment for the design, configuration, and troubleshooting of network environments
  - Offers an exploratory development environment that enables users to design, build, and configure networks with drag-and-drop devices
  - Allows users to observe virtual packets in real time by modeling network traffic and packet behaviors
- Affords the opportunity and flexibility for practice outside of the classroom
  - Runs on home computers or mobile laptops
  - Supports the development of problem-solving and troubleshooting skills
  - Enables users to create and configure complex topologies that extend beyond the constraints of equipment availability
• Provides a rich learning environment to support the development of networking technology skills
  – Encourages students to explore new concepts and test their knowledge of various protocols
  – Provides valuable hands-on experience that can be applied on the job and in the classroom
  – Offers multiuser functionality for collaboration, competition, and engaging learning opportunities

For instructors. Packet Tracer is powerful teaching software:
• Helps instructors teach complex CCNA-level networking concepts
  – Provides a visual demonstration of complex technologies and configurations
  – Allows instructors to author customized, guided activities that provide immediate feedback using the Activity Wizard
  – Facilitates numerous learning activities such as lectures, individual and group lab activities, homework, assessments, games, network design, troubleshooting, modeling tasks, case studies, and competitions
• Supplements classroom equipment and increases opportunities for complementary learning activities
  – Enables visualization, animation, and detailed modeling for exploration, experimentation and explanation in new visual ways
  – Supports self-paced learning outside the classroom
  – Supports social learning processes by enabling collaboration and competition
  – Simulates essential protocols including HTTP, Telnet, SSH, TFTP, DHCP, TCP, UDP, IPv4, IPv6, ICMPv4, and ICMPv6; RIP, EIGRP, multi-area OSPF, static routing, route redistribution, Ethernet/802.3, 802.11, HDLC, Frame Relay, PPP, ARP, CDP, STP, RSTP, 801.1q, VTP, DTP, and PAgP.
  – Supports the majority of protocols and technologies taught in the following curricula: CCNA v3.1, CCNA Discovery, and CCNA Exploration. May also be used to teach concepts from IT Essentials and CCNP Building Scalable Internetworks.

The Teaching Experience
Packet Tracer provides multiple opportunities for instructors to demonstrate networking concepts. Although Packet Tracer is not a substitute for real equipment, it allows students to practice using a command-line interface. This “e-doing” capability is a fundamental component of learning how to configure routers and switches from the command line.

Packet Tracer’s simulation mode allows instructors to demonstrate processes that were formerly hidden to students. Showing internal functions through visually-engaging tables and diagrams simplifies the learning process. The simulation mode also decreases instructor presentation time by replacing the whiteboard and static slides with real-time visuals.
The Student Experience

Students who spend more time in a hands-on mode of learning, with simulation and interactive capabilities, will be better equipped to apply concepts and configuration fundamentals when exposed to real equipment. As students gain practical experience with tasks such as troubleshooting, they become more confident in their abilities.

Packet Tracer provides an opportunity for social learning, allowing students to compete with each other and play games that enhance the learning experience. Students can connect networking equipment in many different combinations, allowing for experimentation and encouraging a deeper understanding of networking protocols.

Multiuser games provide fun learning opportunities for collaboration and competition.

Key Features

In the Simulation and Visualization Mode, students can see and control time intervals, the inner workings of data transfer, and the propagation of data across a network. This helps students understand the fundamental concepts behind network operations. A solid understanding of network fundamentals can help accelerate learning about related concepts.

The physical view of devices such as routers, switches, and hosts presents graphical representations of modular equipment and expansion cards. The physical view also provides geographic representations, including multiple cities, buildings, and wiring closets.

Detail, Physical View
The Activity Wizard allows users to set up scenarios using text, basic network topologies, and predefined packets. Users can create customized network scenarios and add instructional text. The Activity Wizard also includes grading and feedback capabilities.

The Real-Time Mode gives students a viable alternative to real equipment and allows them to gain configuration practice before working with real equipment.

Additional Features
- Lab grading function
- Modular devices
- User-friendly CLI and integrated help feature
- Different device models for creating custom networks
- Tutorial
- International language support

Compatible Platforms
Packet Tracer 5.0 is compatible with the following platforms: Windows (Windows XP, Windows 2000); Vista (Vista Basic, Vista Premium); and Linux (Ubuntu, Fedora)

For more information
Cisco Networking Academy Program: www.cisco.com/go/netacad
Networking Academy Course Catalogue: www.cisco.com/edu/courses
Locate a networking academy: www.cisco.com/edu/locate
Certifications: www.cisco.com/go/certifications

©2008 Cisco Systems, Inc. All rights reserved. Cisco, the Cisco logo, and Cisco Systems are registered trademarks or trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries. All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company.