



Cisco's Packet Tracer



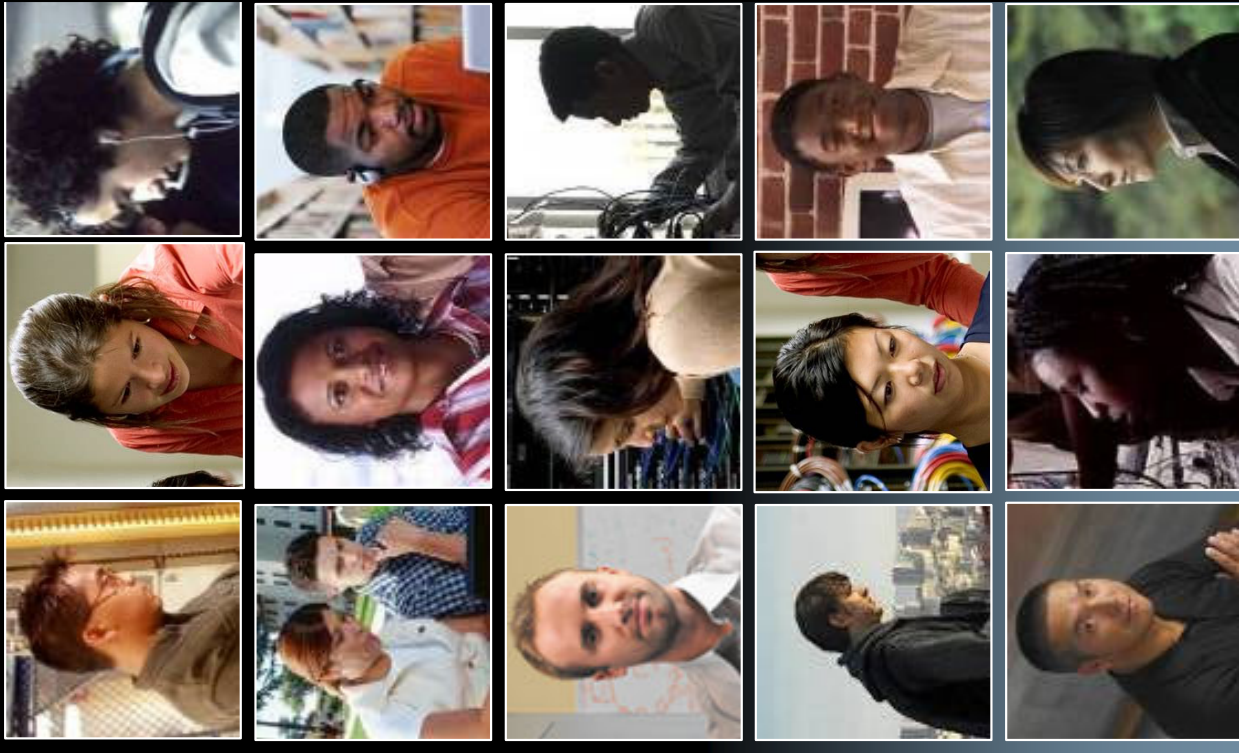
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Technical Manager – LATAM

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NCE-UFRJ



Agenda

- **Packet Tracer Overview**
 - *What is Packet Tracer?*
 - *Activity Wizard*
 - *Multouser*
- **Packet Tracer v5.2**
 - *PT Skills Based Assessments*
- **Packet Tracer v5.3**
 - *What's coming...*





Packet Tracer v5.2

Overview



What is Packet Tracer?

- *Comprehensive networking technology teaching and learning software developed by Cisco Networking Academy*
- *Offers a unique combination of realistic simulation and visualization experiences, complex assessment and activity authoring capabilities, and opportunities for multiuser collaboration and competition*





Simulation, Visualization, Collaboration

Simulate IOS Commands

Visualize Network Traffic

Collaborate on Multiuser Activities

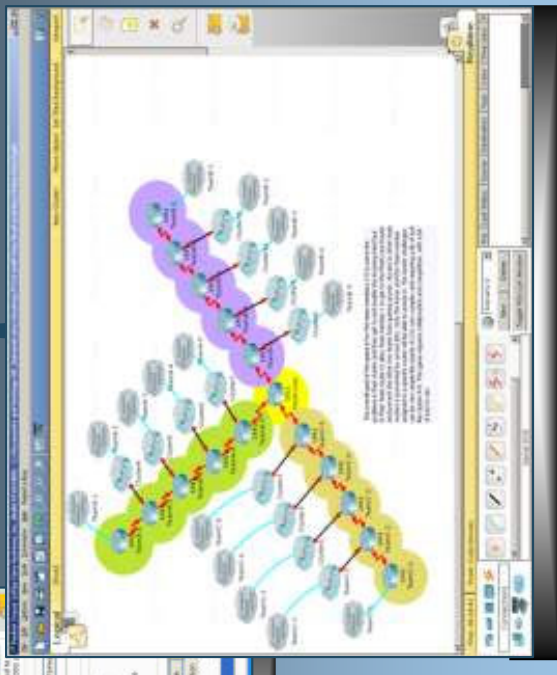
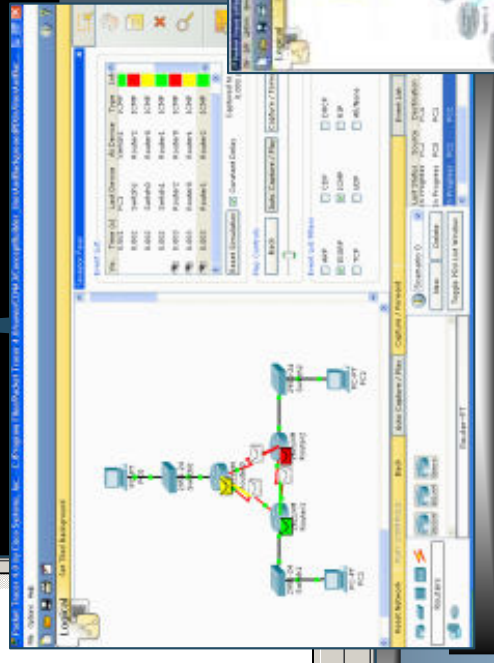
```

C>
Physical | config | C-1
-----
IOS Command Line Interface
to RUI1, loading done

S100>
S100#sh ip route
Codes: C - connected, S - static, I - IGRP, D - EIGRP, M - mobile, B - BGP
       E - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       O1 - OSPF external type 1, O2 - OSPF external type 2, I - IGRP
       * - candidate default, U - user, R - RIPv2, R1 - RIPv1 timer area
       * - candidate default, U - user, RIPv2 timer, S - BGP
       I - possible next-hop address only

Gateway of last resort is not set

192.168.0.0/24 is variably subnetted, 7 subnets, 3 masks
C       192.168.0.0/25 is directly connected, FastEthernet0/1
C       192.168.0.128/25 is directly connected, FastEthernet0/24
C       192.168.0.160/27 is directly connected, FastEthernet0/0
O       192.168.0.192/27 [110/65] via 192.168.0.234, 00:00:20, Serial0/0
O       192.168.0.224/30 [110/148] via 192.168.0.234, 00:00:20, Serial0/1
C       192.168.0.224/30 is directly connected, Serial0/1
C       192.168.0.232/30 is directly connected, Serial0/0
S100#sh ip route-5-ADJCHG: Process 1, Nr 192.168.0.234 on FastEthernet0/1 from E
XCHANGE to RUI1, Exchange Done
00:00:51: OSPF-5-ADJCHG: Process 1, Nr 192.168.0.234 on FastEthernet0/1 from E
XCHANGE to RUI1, Exchange Done
  
```





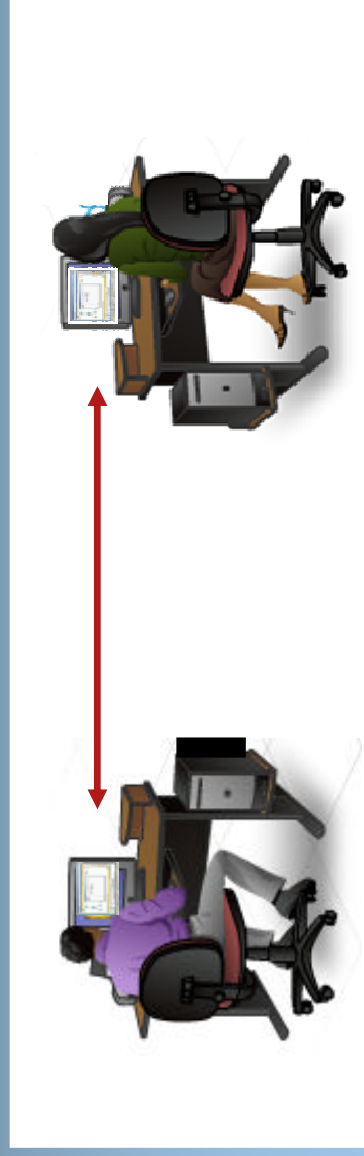
Feature: Activity Wizard

- *Anyone can author, the PT Activity Wizard guides you.*
- *The process is basically write instructions, build a correct answer network, specify grading, specify an initial network, save.*
- *Ability to create your own learning activities, tasks, labs, games and complex assessments.*
- *Build formative and summative assessments.*



Feature: Multiuser

- *PT is a network-capable (peer to peer) application, using the real network (TCP socket connections) to carry the Packet Tracer virtual packets.*
- *The PT application running on one computer can communicate with the PT application running on 1 or more other computers.*
- *This connectivity between multiple instances of PT supports teamwork, classroom games, collaboration, competition, remote instructor-student interaction, and social networking.*





Cisco Networking Academy

Packet Tracer Usability

ROUTE:
Implementing IP Routing

SWITCH:
Implementing IP Switched Networks

TSHOOT:
Troubleshooting and Maintaining IP Networks



CCNA Security

Network Fundamentals
Routing Protocols and Concepts
LAN Switching and Wireless
Accessing the WAN

Networking for Home and Small Businesses
Working at a Small-to-Medium Business or ISP
Introducing Routing and Switching in the Enterprise
Designing and Supporting Computer Networks

IT Essentials:
PC Hardware and Software

Security

Exploration

Discovery

Essentials

Packet Tracer

Network Professional

Network Specialist

Network Associate

Network Technician

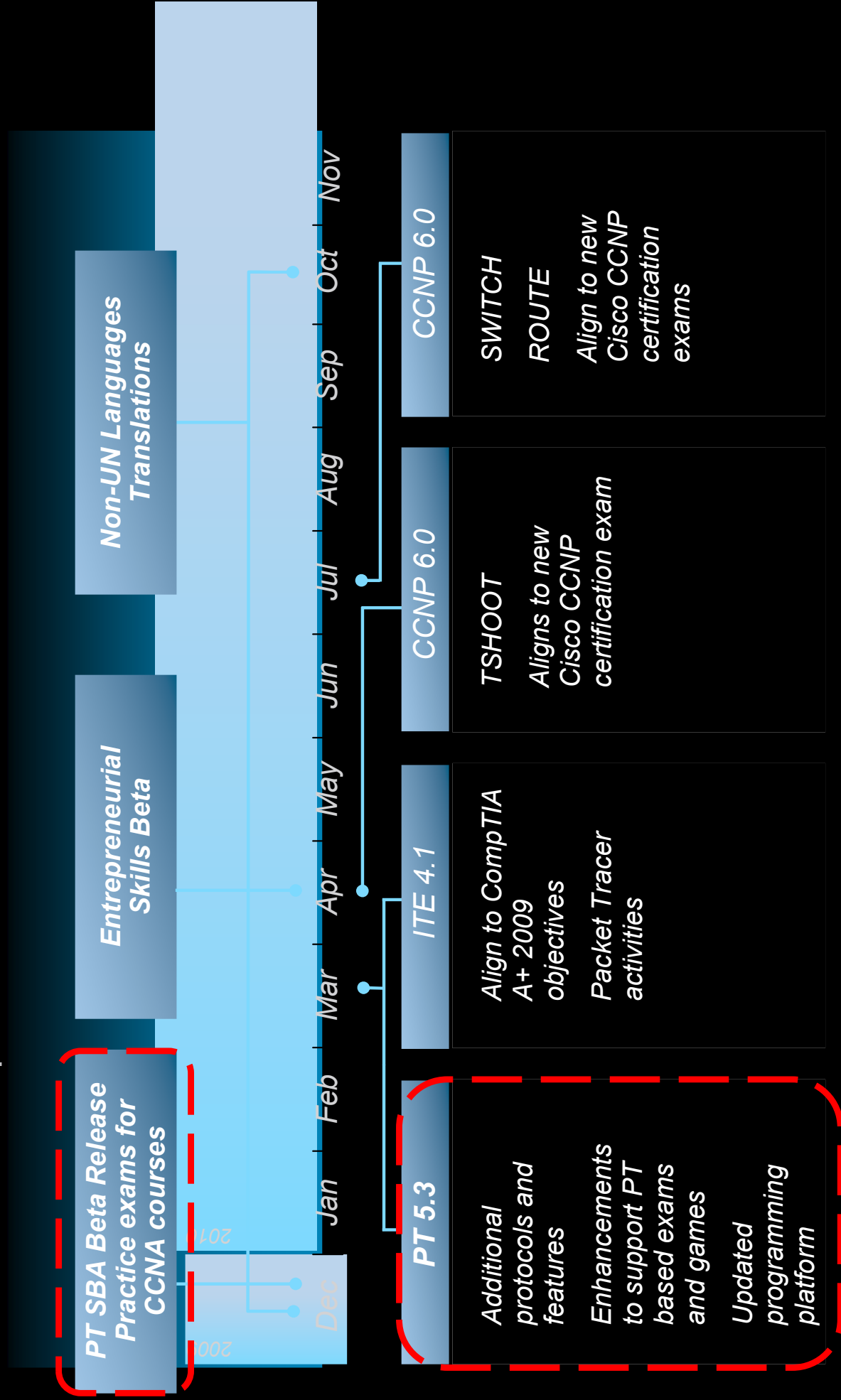
IT Technician

Student Networking Knowledge and Skills



Cisco Networking Academy

Product Roadmap 2010





Packet Tracer v5.2

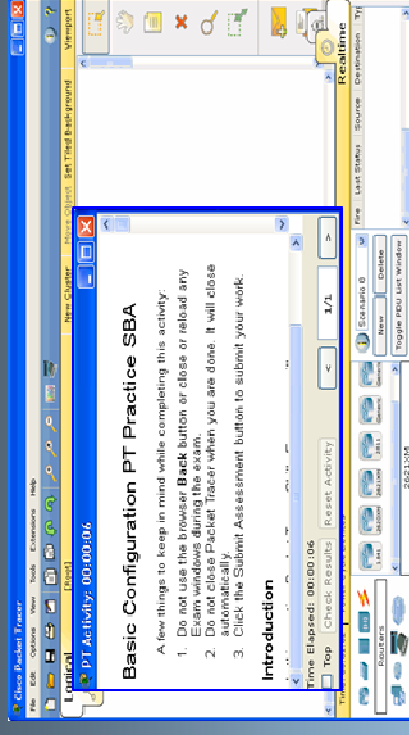
Skills Based Assessments





Packet Tracer: Skills Based Assessments

- New type of formative performance assessment.
 - Helps students who are preparing for final hands-on SBA's.
- Beta release: giving an early opportunity to identify areas of improvement.
- Packet Tracer SBA environment presents:
 - Complex & Authentic Tasks
 - Immediately scores the exam
 - Provides rich detailed feedback
 - Integrated into the gradebook
 - Simple activation
- Software requirements:
 - Packet Tracer v5.2.1
 - Java version 1.6 or higher



Packet Tracer SBA Exam Experience



Feedback

Based on your performance on this assessment, this table expects your performance on similar future assessments. The table also indicates the performance components that you need to focus on to improve your score.

Scoring

Total Points Possible = 100
Total Earned Points = 69

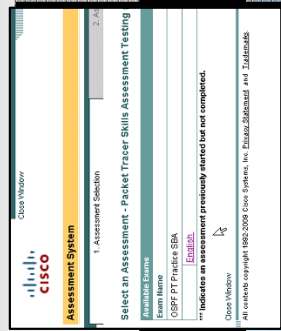
Performance Component: Device Connection

Description: The student can connect network devices and hosts for both LAN and WAN access. The student can establish a console connection and navigate the IOS. Maximum Points = 6
Earned Points = 6

Performance Components

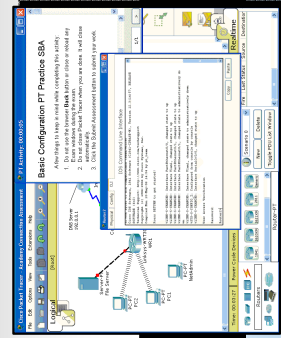
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Maximum Points = 6
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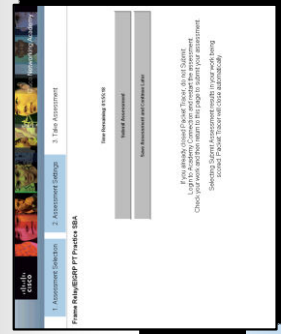
Launch

1



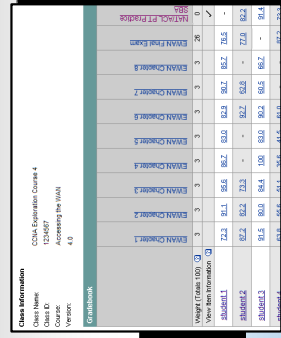
Take Exam

2



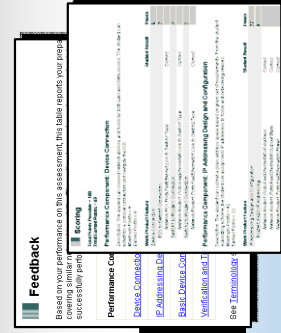
Submit It

3



Automatically Scored

4



View Feedback

5



Packet Tracer SBA Detailed Feedback

Proficiency Estimates

Feedback

Based on your performance on this assessment, this table reports your preparedness for taking and successfully perform these networking tasks on a repeatable basis.

Performance Components	Proficiency Estimates		
	None	Novice	Partial Proficient
Device Connection			✓
Basic Device Configuration		✓	
Trunk Configuration			✓
VTP and VLAN Configuration			✓
VLAN Access Configuration		✓	
Spanning Tree Configuration	✓		
Inter-VLAN Routing Configuration			✓
Port Security		✓	
VLAN Implementation	✓		

See [Terminology](#) section for an explanation of terms.

The following feedback summarizes why you received less than proficient on any of the estimates

Detailed Scoring Feedback

Scoring

Total Points Possible = 100
Total Earned Points = 69

Performance Component: Device Connection

Description: The student can connect network devices and hosts for both LAN and WAN access. The student establish a console connection and navigate the IOS.
Maximum Points = 6
Earned Points = 6

Work Product Feature	Student Result
Device Connection	
PC1 to Switch1 Connection	
Network:PC1:Ports:FastEthernet0/24.Link to Switch1.Type	Correct
Switch1 to Router1 Connection	
Network:Router1:Ports:FastEthernet0/0.Link to Switch1.Type	Correct
Switch2 to Router1 Connection	
Network:Router1:Ports:FastEthernet0/1.Link to Switch2.Type	Correct

Performance Component: IP Addressing Design and Configuration

Description: The student can subnet a given address space based on given set of requirements. From the subnetting scheme, the student can assign valid IP addresses to hosts and networking devices.
Maximum Points = 42
Earned Points = 22

Work Product Feature	Student Result
IP Addressing Design and Configuration	
Router1 Fa0/0 IP Addressing	
Network:Router1:Ports:FastEthernet0/0:IP Address	Correct
Network:Router1:Ports:FastEthernet0/0:Subnet/Mask	Correct
Network:Router1:Ports:FastEthernet0/0:Power	Correct

Helps Students Identify Areas for Improvement



**Available
Now!!!**

Beta Release of Packet Tracer SBAs

CCNA Discovery

Exam Name

Networking for Home and Small Businesses
 Working at a Small-to-Medium Business or ISP
 Introducing Routing and Switching in the Enterprise
 Designing and Supporting Computer Networks

Dhomesb Basic Configuration PT Practice SBA
 DsmbISP Basic Configuration PT Practice SBA
 DRSEnt OSPF/ACL PT Practice SBA
 DComNetwk ED/ELCDD DT Practice SBA

CCNA Exploration

Exam Name

Network Fundamentals
 Routing Protocols and Concepts
 LAN Switching and Wireless
 Accessing the WAN

ENetwork Basic Configuration PT Practice SBA
 ERouting OSPF PT Practice SBA
 ESwitching Basic Switching/Wireless PT Practice SBA
 EWAN NAT/ACL PT Practice SBA

Note: PT Skills-based Assessments Are Available in English Only But Are Available for Use in Non-English Classes



Beta Progress

Participating...	Global	Europe
Academies	536	125
Classes	649	167
Registered Students	9596	2234
Active Students	3277	829

- If you are already a participant - *Thank you!*
- *Please remind your students and instructors to submit their surveys*
- If you are not a participant - *please take a look at:*

[Cisco Packet Tracer Beta Skills Based Assessment Announcement](#)



Packet Tracer v5.3

The future...



Packet Tracer v 5.3: New Features

- Currently in Beta state - testing & bug fixes
 - Release date: **24th March 2010**
- New features include...
 - **Improved Linksys Models & Wireless Security**
 - **Activity Wizard enhancements**
 - **Supports basic BGP commands**
 - **POP & SMTP**
 - Now supporting email services on server devices
 - Ability to create, get, read, & send emails
 - **VoIP capabilities**
 - Cisco IP Phone
 - Cisco IP Communicator on PC
 - **Call Manager Express**
- Will continue to handle Packet Tracer SBA's for Discovery & Exploration



PT v5.3: CCNA and CCNP Curricula

Version 5.3 enhancements provide new or enhanced functionality to help illustrate the following topics:

- **CCNA Discovery**

D1: Improved Linksys and Wireless

D2: Better DNS, improved DHCP, wireless security, new FTP, SMTP, POP3,

D3: Improved Multiarea OSPF, EIGRP, BGP

D4: New ISR VOIP, Call Manager Express

- **CCNA Exploration**

E1: Improved HTTP, DNS, DHCP, new FTP, SMTP, POP3

E2: Improved Multiarea OSPF, EIGRP, new BGP

E3: Improved Linksys models, wireless security, 802.11

E4: Enhanced IPsec, Cable and DSL enhancements

- **CCNP**

Improved Multiarea OSPF, EIGRP, new BGP



Packet Tracer 5.3 Protocol Support

- **Application**

FTP, SMTP, POP3, HTTP, TFTP, Telnet, SSH, DNS, DHCP, NTP, SNMP, AAA, ISR VOIP, cRTP, RTP, RTCP, SIP/SCCP config and calls ISR command support, Call Manager Express

- **Transport**

TCP and UDP, TCP Nagle Algorithm & IP Fragmentation, GRE VPN

- **Network**

BGP, IPv4, ICMP, ARP, IPv6, ICMPv6, IPsec, RIPv1/v2/ng, Multi-Area OSPF, EIGRP, Static Routing, Route Redistribution, Multilayer Switching, L3 QoS, NAT, CBAL, Zone-based policy firewall and Intrusion Protection System on the ISR

- **Network Access/Interface**

Ethernet (802.3), 802.11, HDLC, Frame Relay, PPP, PPPoE, STP, RSTP, VTP, DTP, CDP, 802.1q, PAgP, L2 QoS, SLARP, Auto Secure, Simple WEP, WPA, EAP

***New in PT 5.3**

***Enhanced in PT 5.3**



Packet Tracer: Availability

- *Packet Tracer is available free to all Networking Academy instructors, students and alumni on Academy Connection*
- **To obtain Packet Tracer**
Log in to Academy Connection

Click the Packet Tracer image on the left side of your Home Page



Select the appropriate download option

- **Recommendation**
Download to a local server at your academy and have students install Packet Tracer from the local server



Quiz Questions

- In which month and year is Packet Tracer v5.3 being released?

March 2010

- For which courses can the Packet Tracer Skills Based Assessments be used?

CCNA Discovery & CCNA Exploration

- Which feature of Packet Tracer allows two or more users to connect and work collaboratively?

Multiuser

