



Cisco Networking Academy Program

## All Academy Day: Router Configuration and Troubleshooting Event Details

### Overview

#### Description

Each team is employed by an ISP. They have been given a work order that directs them to install a home router into the WAN created between the two Cisco routers. They manage the first area of the WAN and must make sure the home computer can get to the second router.

#### Related curriculum

CCNA 2-4

#### Number of players

Two teams made up of 4 to 5 competitors each

#### Time required to prepare for or set up this event

40 minutes for preparation: setting up the room, testing the equipment, printing documents, downloading configuration files

#### Length of time to play

We suggest giving the contestants 45 to 60 minutes, per team, to complete the activity and the judges 10 minutes to judge and score the results, then 5 minutes to reset the challenge for the next team.

#### Important note

The Router Configuration and Troubleshooting set-up and judging instructions, rules, work order, and configuration files are kept on a secure site. Cisco Networking Academy instructors and administrators may request access to the site by sending an e-mail to [allacademyday@external.cisco.com](mailto:allacademyday@external.cisco.com). Please include your name, Academy Connection ID, and Academy name.

### Rules

#### Object of the game

- Troubleshoot an ISP router and connect a home router into the WAN created between two Cisco routers.

#### Playing the game

- Each team is an area ISP that is responsible for hooking up home customers to the Internet.
- Each team will be presented with a work order and a topology diagram. Teams will then fill the work order, which includes configuring Cisco and home-type routers, in the time allotted.

- Teams may use their own cable tester to check the cable.
- The members of the team can help each other.

## Scoring

- Judges will score each team based on a judging sheet (work order).
- Scoring will be based on the following tasks:
  - Home connection (physical/configuration)
  - Layer 1 troubleshooting (connections, devices)
  - Console configuration (able to talk to router/switch)
  - End-to-end connection (ping/telnet home to Web server)
- In case of a tie the shortest amount of time will determine the best router configuration team.

## All Academy Day scoring

- Each team can earn up to 100 points in the router configuration event.
- Enter the Team Grand Total from the router configuration scoring form into the All Academy Day scoring sheet.

## Equipment List

Each Academy is different. These are our recommendations for a general topology and judging sheet. Feel free to modify these so that they fit your equipment.

## Supplies

- Two Cisco routers with serial and Ethernet ports per team plus backup routers
- One Linksys home router per team plus backup routers
- One Cisco switch per team plus backup routers
- One set V. 35, DCE and DTE cables per router set plus backup set
- Three patch cables per team plus backup cables
- One rollover cable plus backup cables
- One crossover cable plus backup cables
- One power strip
- Two laptops per team with Ethernet and com ports (teams supply their own)
- Two laptops, also with Ethernet and com port, for judges
- Timer or stopwatch
- Pens for the judges
- Router Configuration sign for the room or area

## Judges

- Three judges

## Downloads

- Topology (print 1 for each team plus 1 for each judge)
- Set-up and judging instructions (print 1 for each judge)
- Rules (print 1 for each team plus 1 for each judge)
- Work order / judging form (print 1 for each team plus 1 for each judge)
- Configuration files with errors in them (recommended that one judge have these files on a laptop with a com port)
  - AAD Router comp-online.txt
  - AAD Router adacswitch.txt
  - AAD Router RBC.txt

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## Room setup

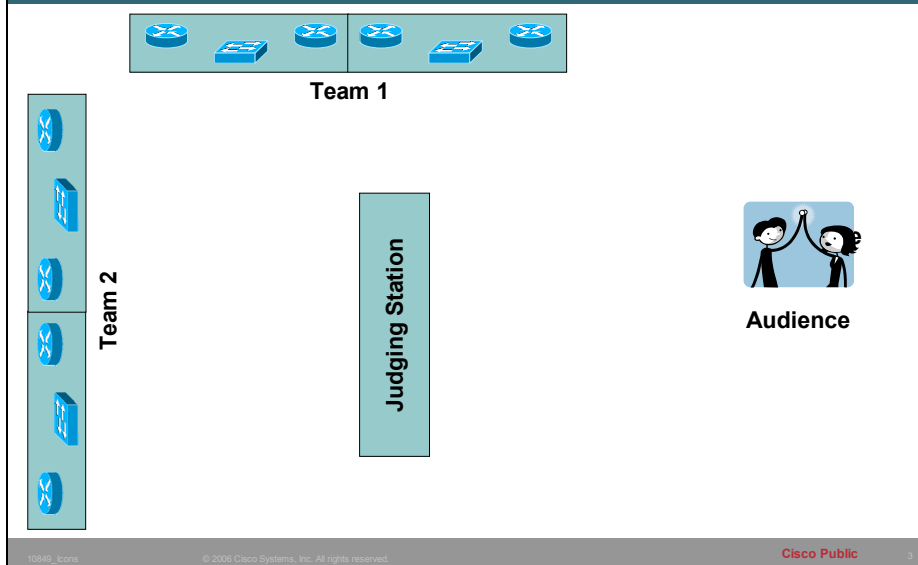
- Five 6-foot tables
- Enough chairs for contestants, judges, and audience

## Room setup

### General room setup

- Post a Router Configuration Event sign on the door to or section of the room.
- Place two 6-foot tables end to end to form one 12-foot table. Each team should have two tables.
- Place the remaining table in the center of the room to serve as a judging center.
- Seat the audience members so they can see the teams.

## Router Configuration and Troubleshooting Event Floor Plan



### Place the following on the work area for each team:


- Two Cisco routers
- One Cisco switch
- One set V. 35, DCE and DTE cables per router set
- Three patch cables
- One rollover cable
- One crossover cable
- One Linksys home router – place at the far end of the table.
- One power strip
- One work order / judging form
- One problem/rules
- One topology drawing

### Each team will bring the following to their table when they compete:

- Two laptops with Ethernet and com ports

### Place the following on the judges' table:

- Two laptops with router and switch configurations already installed
- Timer or stopwatch
- Three judging instructions (one per team)

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- Three work orders / judging forms (1 per judge)
  - Three problem/rules (1 per judge)
  - Three topology drawings (1 per judge)
  - Backup Cisco routers
  - Backup Cisco switches
  - Backup patch cables
  - Backup rollover cables
  - Backup crossover cables
  - Backup Linksys home routers
  - One backup set V. 35, DCE, and DTE cables

### **Hints for success**

- Test each router and switch before the contest begins.
- Have Academies and students read the rules before they come to the event.



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