Cisco Networking Academy Program

New CCNA Curricula

November 2006
Agenda

- Customer Expectations
- Cisco’s Evolving Focus
- Product Portfolio
- New CCNA Curricula
  - Benefits and Features
  - Equipment
  - Instructor Training
  - Migration
  - Articulation
  - Translation
  - Availability
Current CCNA Instructor and Student Feedback

**Improve Student Experience**
- Better engage students - align with their interests and capabilities
- Optimize balance of theory, practice, and application for targeted audience
- Retain students with lower reading and math levels

**Improve Quality**
- Improve accuracy and flow of course content
- Ensure content is relevant and up-to-date
- Address advanced technologies

**Increase Flexibility**
- Make curricula more efficient to localize
- Facilitate curriculum delivery and class administration
- Provide high and low bandwidth delivery capabilities
Rising Expectations
IT Professional Educational Paths

- From **one size fits all**
  All upper secondary level and higher education institutions

- To **improved student experience**

**Advanced Learning**

Student has advanced problem-solving and analytical skills typically associated with students pursuing degrees in engineering, math, or science

**Foundational Learning**

Student has basic PC usage skills
Evolving our Focus

- “One size fits all” courses no longer appropriate
  
  Differences in student goals, educational level and environment dictate a segmented approach
  
  The new CCNA curricula teaches the same applied skills to help prepare students for CCNA certification but in a different way

- Student success requires skills tied to the evolving networking job market
  
  Gaps in skilled IT workers exist in every region of the world

  Demand for IT professionals is expected to increase through 2009, especially for those with advanced networking skills
Networking Academy Product Portfolio Today

CAREERS

Enterprise Networking

Small and Medium Business Networking

Network Installer

Basic IT Support

System Admin

FUNDAMENTALS
ITE I and II Panduit NIE

CCNA
Basics Routing Switching WANs

CCNP
Advanced Routing Remote Access Multilayer Switching Troubleshooting

Security

Wireless

Student Networking Knowledge and Skills
Two New CCNA Curricula
Both Prepare Students for CCNA Certification and Professional Careers

CCNA-A*  
Advanced Learning

- Part of an integrated technology curriculum or continuing education program at postsecondary institutions; typically at career and technical schools, colleges, and universities
- Student has advanced problem solving and analytical skills typically associated with students pursuing degrees in engineering, math, or science

CCNA-B*  
Foundational Learning

- Independent curriculum or possibly integrated into broader course of study at upper-secondary institutions, career and technical schools, and colleges
- Student has basic PC usage skills

* These are not official names. Formal names will be communicated upon new curricula availability.
New CCNA Curricula
Benefits

- Motivates and excites students by matching curriculum with teaching methodologies, student interests, and goals
- Features:
  - Imbedded “e-doing” (learning by doing)
  - Enhanced instructional features
  - Introduction to advanced technologies and converged networks
  - Updated course GUI
  - More efficient translation

CCNA-A

- Allows students to learn skills in a more rigorous, comprehensive, theoretical, and practical way; reflective of educational practices at the college and university levels
- Offers complex and challenging hands-on labs to engage the advanced learner
- Designed for students who want to pursue additional technology or engineering educations while preparing for IT careers

CCNA-B

- Provides a hands-on approach to learning networking
- Uses step-by-step labs and teaches general theory needed to build networks
- Engages students and allows for quick application of learned concepts
- Designed to encourage students to consider additional education in IT and help them prepare for entry-level IT careers
# Feature Comparison

<table>
<thead>
<tr>
<th></th>
<th>CCNA v3.1</th>
<th>CCNA-A</th>
<th>CCNA-B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected Student Capabilities</strong></td>
<td>Basic PC usage skills</td>
<td>Advanced problem-solving and analytical skills typically associated with pursuing a degree in engineering, math, or science</td>
<td>Basic PC usage skills</td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td>Four courses – structured by protocols and technology</td>
<td>Four courses – structured by protocols and technologies within various topologies</td>
<td>Four courses – structured by practical network environments PLUS: - e-Doing - Introduction to advanced technologies - Helps prepare students for entry-level IT careers by teaching applied skills as early as the end of the second course of the four course series</td>
</tr>
<tr>
<td><strong>Business Rules</strong></td>
<td>Required minimum of six months to complete all four courses</td>
<td>• Goal is to offer more relaxed business rules to reduce teaching time • Courses structured to increase flexibility and efficiency in course sequence</td>
<td>Required minimum of one year to complete all four courses</td>
</tr>
<tr>
<td><strong>Time to Learn</strong></td>
<td></td>
<td>70 hours per course</td>
<td></td>
</tr>
</tbody>
</table>
## CCNA-A
Changes Compared to Current CCNA

<table>
<thead>
<tr>
<th>Course Changes</th>
<th>CCNA v3.1</th>
<th>CCNA-A</th>
<th>% content change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking Basics</td>
<td>Networking Fundamentals</td>
<td>53%</td>
<td>• Intro to Advanced Technologies and Converged Networks</td>
</tr>
<tr>
<td>Routers and Routing Basics</td>
<td>Routing Protocols and Concepts</td>
<td>9%</td>
<td>• Can be taught before, with, or after Switching</td>
</tr>
<tr>
<td>Switching Basics and Intermediate Routing</td>
<td>LAN Switching and Wireless</td>
<td>22%</td>
<td>• Can be taught before, with, or after Routing Protocols and Concepts</td>
</tr>
<tr>
<td>WAN Technologies</td>
<td>WAN Technologies</td>
<td>23%</td>
<td>• De-emphasize ISDN</td>
</tr>
</tbody>
</table>

- Removed IGRP, TCP and ICMP
- Added VLSM, OSPF, EIGRP
- Added ACLs, VPN concepts
- More challenging labs
## CCNA-B
### Changes Compared to Current CCNA

<table>
<thead>
<tr>
<th>CCNA v3.1</th>
<th>Curriculum Framework</th>
<th>CCNA-B</th>
<th>Course Content</th>
</tr>
</thead>
</table>
| CCNA 1    | Networking Basics    | Networking for Home and Small Businesses | • Introduction to networking  
• Basic cabling for SOHO  
• LAN addressing and network services  
• Basic wireless and security  
• Troubleshooting – plan/build home network |
| CCNA 2    | Routers and Routing Basics | Networking at a Small-to-Medium Business or an ISP | • Intro to OSI model/TCP model  
• SMB routing and switching  
• WAN technology  
• IP addressing  
• Network devices and cabling  
• Security / disaster recovery |
| CCNA 3    | Switching Basics and Intermediate Routing | Introducing Routing and Switching in the Enterprise | • Enterprise overview  
• LAN/WAN performance  
• IP addressing – VLSM and subnetting  
• Advanced switching and routing  
• EIGRP, OSPF, VLANs, VTP, Frame Relay  
• LAN/WAN/VLAN troubleshooting |
| CCNA 4    | WAN Technologies     | Designing and Supporting Computer Networks | • Design concepts and equipment selection  
• IP addressing on a LAN/WAN  
• Network design  
• Cisco device configuration upgrade  
• Stronger theoretical notion of converged networks |
Equipment

- The new curricula is still under development and we are unable to provide detailed equipment lists at this time
- Listed on the next two slides are estimated NTE (Not to Exceed) costs to consider for budget planning purposes

- Networking Academy discount is not reflected in U.S. list price
- Typical discount is 50% but this may vary by country
- Current CCNA bundle url: http://cisco.netacad.net/cnams/content/library/curriculum/Ccna.jsp
## Equipment

### Current Academy Migrating to New Curricula

<table>
<thead>
<tr>
<th>CCNA-A</th>
<th>CCNA-B</th>
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<tbody>
<tr>
<td><strong>Incremental costs if Academy has a current CCNA bundle:</strong></td>
<td>None</td>
</tr>
<tr>
<td>Incremental costs is estimated at US List price NTE $500 per pod before Academy discount</td>
<td></td>
</tr>
<tr>
<td><strong>Number of pods of real equipment required on premises:</strong></td>
<td>At least one</td>
</tr>
<tr>
<td><strong>One pod optimally serves:</strong></td>
<td>No more than four students simultaneously</td>
</tr>
<tr>
<td>No more than eight students simultaneously</td>
<td></td>
</tr>
<tr>
<td><strong>Standard pod includes:</strong></td>
<td><strong>Standard pod includes:</strong></td>
</tr>
<tr>
<td>- 3 IOS routers</td>
<td>- 2 LinkSys wireless routers or equivalent SOHO wireless routers</td>
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<td>- 2 IOS switches</td>
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<tr>
<td>- Linksys wireless routers or equivalent SOHO wireless routers</td>
<td>- Serial cables</td>
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<tr>
<td><strong>In addition to the standard pod a typical lab configuration includes:</strong></td>
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<td>- 3 desktop PCs</td>
<td>- 3 desktop PCs</td>
</tr>
<tr>
<td>- Ethernet cables</td>
<td>- Ethernet cables</td>
</tr>
<tr>
<td>- Cable-making and -testing equipment</td>
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</tr>
<tr>
<td><strong>Note:</strong> Same additional components as current CCNA v3.1</td>
<td></td>
</tr>
<tr>
<td><strong>Optional equipment:</strong></td>
<td><strong>Optional equipment:</strong></td>
</tr>
<tr>
<td>Wireless devices and Integrated Services Routers (ISRs); As an interim solution, the embedded e-Doing in the new curricula can help address exercises requiring wireless devices</td>
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## Equipment

### New Academy Adopting New Curricula

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<tr>
<td>Estimated U.S. list price:</td>
<td>NTE US$10,000 per pod before Academy discount</td>
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<td>The estimated price per pod does not include the price of these additional components.</td>
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Instructor Training

- Training environments include in-person, remote, blended and independent learning
  Independent or self-paced distance learning will only be available for current instructors who choose to pursue retraining upon initial rollout of new curricula

- Wide variety of training materials
  Instructor guides, PowerPoint presentations, case studies, lab materials, and activities
## Instructor Training

### CCNA-A
- Optional but strongly recommended
- Our goal is to offer a self-paced distance learning solution for current CCNA instructors at no extra cost*
- (min. 4-8 hours per course)

### CCNA-B
- (min. 8-10 hours per course)

### Current Instructor
- In person training required. ~ 60-80 hours per course; similar to current CCNA v3.1
- Costs generally range from US$50 to US$150 per day depending on location

### New Instructor

**NOTE:**
- Training Academies may offer additional training opportunities to instructors. There may be fees associated with these learning events, as determined by the training Academies. Please refer to your training Academy for exact costs.

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CCNA-A and CCNA-B Migration

- For institutions midway through delivering CCNA v3.1, the institution should continue with the CCNA v3.1 curriculum.

- Countries with translated versions of CCNA v3.1 courses may choose to wait until a translated version of the new CCNA curricula is available, or adopt the English version.

- There are no immediate plans to retire the CCNA v3.1 courses. This curriculum will continue to be made available to existing and new Academies as long as it aligns with customer needs and certification requirements.
CCNA-A and CCNA-B Articulation

- While articulation agreements are generally developed at the institution level based on existing programs and pathways, Cisco offers the following information about the course content:
  
  CCNA-B courses 1 and 2 (+ additional VLSM practice activity included in CCNA-B course 2) should enable students to earn CCNA-A course 1 equivalent credit

  Students who complete CCNA-A (courses 1 – 4) or CCNA-B (courses 1 – 4) will be prepared to start the CCNP curriculum

  Additionally, an institution may choose to grant credit for CCNA-A curriculum for students who complete the CCNA-B curriculum
CCNA-A and CCNA-B Translation

- **Goals**
  - Reduced cost and time-to-market
  - Increased quality and scalability

- **Strategy**
  - Design course GUIs for translation
  - Create processes to implement Cisco-sponsored and locally-sponsored translations
  - Execute trials to optimize process and measures

- **Timing of CCNA-A and CCNA-B Translations**
  - Cisco-sponsored translations – including roadmap for selected languages – to be announced in the June–August 2007 timeframe
New CCNA Curricula Availability

- **New CCNA Curricula Announcements**: Nov 2006
- **Prototype Tests**: Dec 2006
- **Small Market Trials Begin**: Jan 2007
- **General Availability CCNA-A 1 and 2 CCNA-B 1 and 2 (English Versions)**: Feb 2007
- **General Availability CCNA-A 3 and 4 CCNA-B 3 and 4 (English Versions)**: Mar 2007
- **General Availability CCNA-A 3 and 4 CCNA-B 3 and 4 (English Versions)**: Jun/July/Aug 2007
CCNA-A: Flexibility in Course Sequence
THE EDUCATION SYSTEM IN THE UNITED STATES

Figure A-9. Levels of education in the United States, by age and year of schooling: 2004

Education levels defined according to the International Standard Classification of Education (ISCED)

Postsecondary and tertiary
University, college, community college

Upper secondary
High school

Lower secondary
Middle school/junior high

Primary
Elementary school

Preprimary
Kindergarten and Prekindergarten

NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in the United States.

Source: National Center for Education Statistics, Comparative Indicators of Education in the United States and Other G8 Countries: 2004, published Feb. 2005