

DFWCUG

Zero to CCNA in 120 Days and Preparing for other Advanced Certifications

Beau Williamson
CCIE R&S 1346 Emeritus

T-Mobile

Housekeeping

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**Please turn off all Cell Phones
and (and for the Dinosaurs in the
room) Pagers!**

Opening Statements

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- **Some of this content is solely my opinion.**
 - YMMV
- **Other people here may have other ideas.**
 - If so, please speak up.
 - We want to benefit from your knowledge.

Agenda

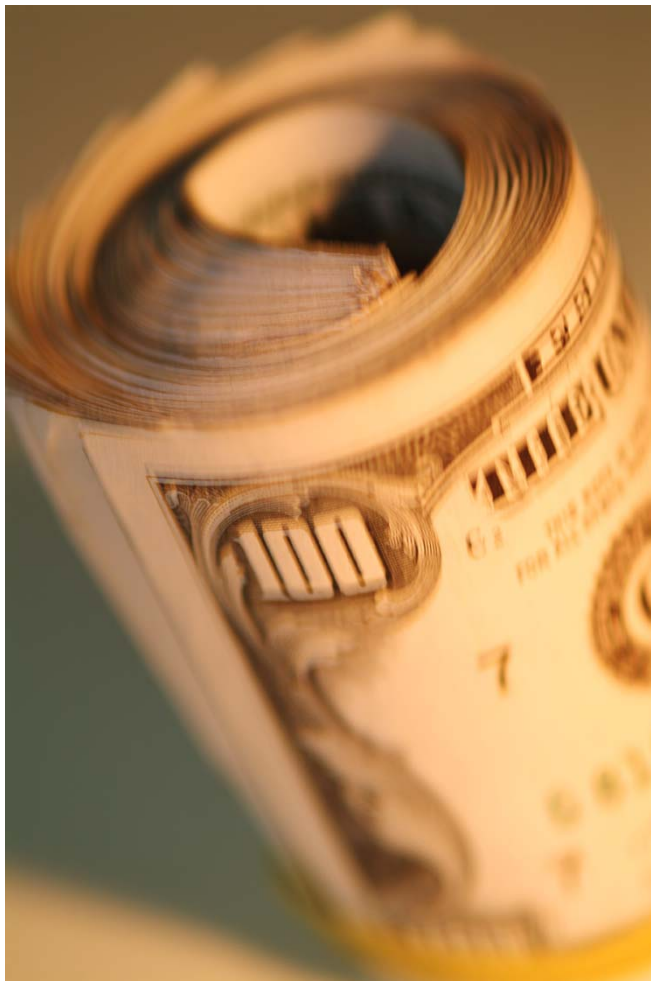
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- **Why Certify?**
- **Getting your priorities straight.**
- **What you need to know.**
- **Learning Resources**
- **Getting Organized**
- **Valuable(?) Tips**

Why Certify?

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Here's what it's worth to you.



Certification	Pay Range¹
CCNA	\$40K - \$59K
CCNP	\$60K - \$120K
CCIE	\$120K & up

¹ Depends on experience as well as location. YMMV

Agenda

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Getting your priorities straight.

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- **Money**

- **What did your Bachelor's degree cost¹?**
 - **\$40,000?**
 - **\$80,000?**
 - **\$120,000 or more**
- **Did it get you that Network Job you wanted?**
 - **Probably not if you're here listening to this.**
- **How much are you willing to spend to certify?**
 - **For a CCNA, CCNP, CCIE???**
 - **(Remember those salary ranges in the previous slide.)**

¹ I'm assuming here you have one. Even if you don't this still applies.

Getting your priorities straight.

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- **Time**

- **How many years did that Bachelors take?**

- **4 Years**

- **6 Years**

- **(In my case) 16 Years!!!!**

- **How many hrs/wk are you willing to devote for that salary?**

- **15 Hours (3 hrs * 5 days)?**

- **10 Hours (2 hrs * 5 days)?**

- **5 Hours? (1 hr * 5 days)?**

- **None**

- **I have to many important TV shows / PC Games to study**

Agenda

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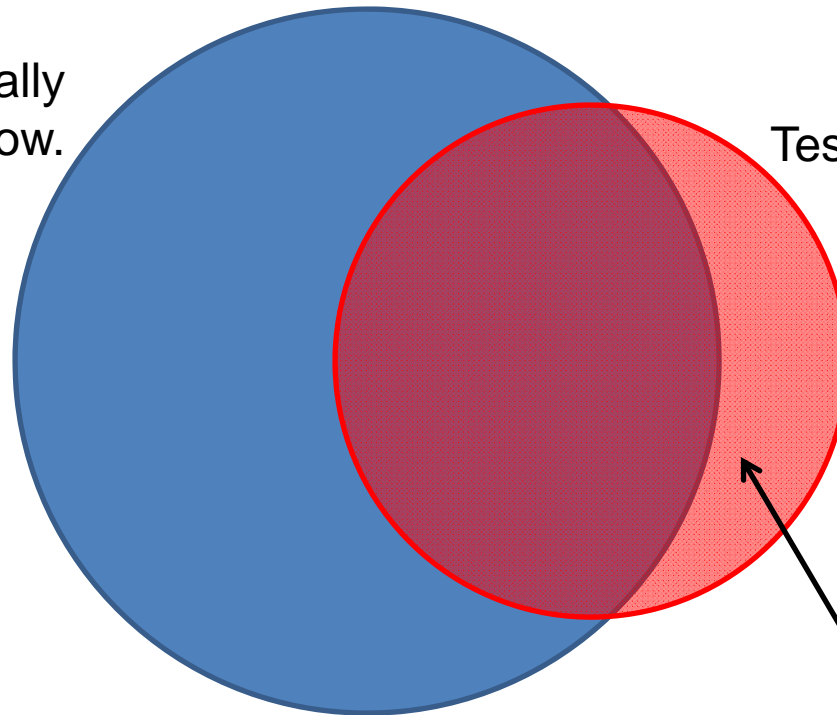


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Reality – What you need to know

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What a CCNA really
needs to know.



Test Questions

Stupid Questions

Example: Stupid Questions



- What is the pin-out of a straight through Ethernet cable?

- Match the wire colors to pin numbers.

Blue	Pin-1
Blue-White	Pin-2
Orange	Pin-3
Orange-White	Pin-4
Green	Pin-5
Green-White	Pin-6
Brown	Pin-7
Brown-White	Pin-8

- **Stupidity Rational**

- How often do you build your own cables?
- Why would you trust your memory for this?
- If you want to know if the cable is straight-through, compare the ends. If they are the same, it's a straight-through cable.

Example: Stupid Questions

- What is the correct IOS command to adjust EIGRP Hello time to 5 seconds?
 - a) R1(conf)# ip eigrp hello interval 10 5
 - b) R1(conf-int)# ip eigrp hello-interval 5 10
 - c) R1(conf-int)# ip eigrp hello interval 5 10
 - d) R1(conf)# ip eigrp hello-interval 10 5
- **Stupidity Rational**
 - This is what CLI help is for!!!

Dealing with Stupid Questions

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- **Memorize everything in the book**
 - Sure, if you have photographic memory.
 - Or if your name is Kim Peek
- **Use Practice Exams**
 - Best defense against stupid questions.

What you need to know

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- **ICND1**

- **Networking Fundamentals**

- **The TCP/IP and OSI Networking Models**
 - **Fundamentals of Ethernet LANs**
 - **Fundamentals of WANs**
 - **Fundamentals of IP v4 Addressing & Routing**

- **Ethernet LANs and Switches**

- **Building Ethernet LANs with Switches**
 - **Installing and Operating Cisco LAN Switches**
 - **Implementing Ethernet Virtual LANs**
 - **Troubleshooting Ethernet LANs**

What you need to know

- **ICND1 (cont)**
 - **IP Version 4 Addressing and Subnetting**
 - **Perspectives on IPv4 Subnetting**
 - **Analyzing Classfull IPv4 Networks**
 - **Analyzing Subnet Masks**
 - **Analyzing Existing Subnets**
 - **Implementing IP Version 4**
 - **Operating Cisco Routers**
 - **Learning IPv4 Routes with OSPFv2**
 - **Configuring and Verifying Host Connectivity**
 - **Advanced IPv4 Addressing Concepts**
 - **Subnet Design**
 - **Route Summarization**

What you need to know

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- **ICND1 (cont)**
 - **IPv4 Services**
 - **Basic IPv4 Access Control Lists**
 - **Advanced IPv4 ACLs and Device Security**
 - **Network Address Translation**
 - **IP Version 6**
 - **Fundamentals of IP Version 6**
 - **IPv6 Addressing and Subnetting**
 - **Implementing IPv6 Addressing on Routers**
 - **Implementing IPv6 Addressing on Hosts**
 - **Implementing IPv6 Routing**

What you need to know

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- **ICND2**
 - **LAN Switching**
 - Virtual LANs
 - Spanning Tree Protocol
 - Troubleshooting LAN Switching
 - **IP Version 4 Routing**
 - Troubleshooting Routing
 - Creating Redundant First-Hop Routers
 - Virtual Private Networks
 - **IP Version 4 Routing Protocols**
 - Implementing OSPF for IPv4
 - Implementing EIGRP for IPv4
 - Troubleshooting Routing Protocols

What you need to know

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- **ICND2 (cont)**
 - **Wide Area Networks**
 - **Implementing Point-to-Point WANs**
 - **Frame Relay Concepts & Implementation**
 - **Identifying Other Types of WANs**
 - **IP Version 6**
 - **Troubleshooting IPv6 Routing**
 - **Implementing OSPF for IPv6**
 - **Network Management**
 - **Managing Network Devices**
 - **Managing IOS Files**
 - **Managing IOS Licensing**

Agenda

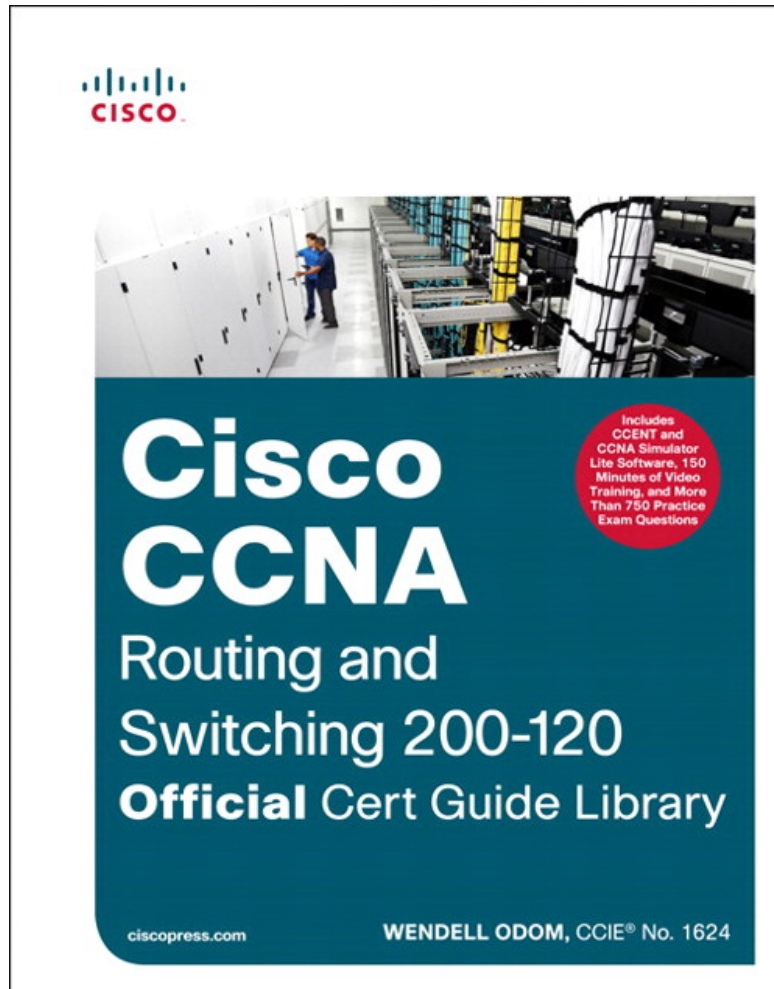
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Books

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CCNA 200-120 Official Cert Library, Updated 3rd Edition

by Odom, Wendell

Cisco Press

ISBN-10: 1-58714-387-9

ISBN-13: 978-1-58714-387-8

•2 Book Set w/DVD's

- ICND1 100-101 Official Cert Guide
- ICND2 200-101 Official Cert Guide
- 26 free CCNA Network Simulator labs

Available:

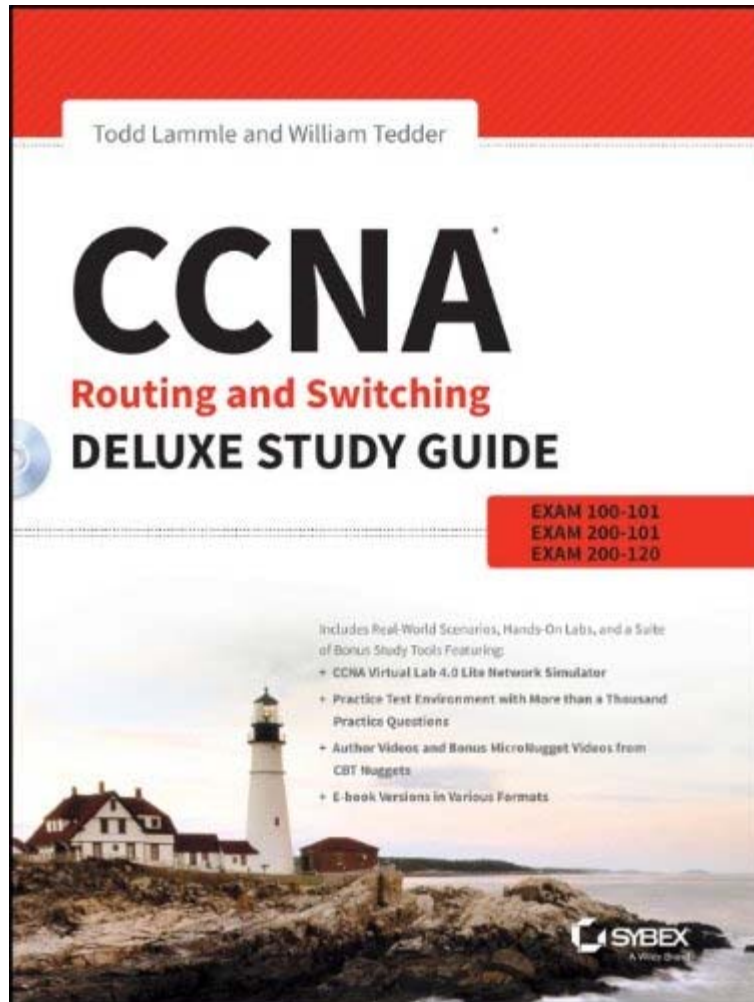
www.nerdbooks.com

1681 Firman Drive

Richardson, TX 75081

Books

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CCNA Deluxe Study Guide, 1st Edition

by Todd Lammle & William Tedder

Sybex

ISBN-10: 1118789709

ISBN-13: 978-1118789704

•Includes Bonus Study Tools

- Practice Test Environment with > 1000 Questions
- CCNA Virtual Lab 4.0 Lite Network Simulator
- Audio and Video from CBT Nuggets
- E-Book Versions available

Available:

www.nerdbooks.com

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Books

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**CCNA Routing & Switching
Certification Kit**
Exams 100-101, 200-201, 200-120
by Todd Lammle & William Tedder
Sybex
ISBN-10: 111878958X
ISBN-13: 978-1118789582

- **Boxed Set**
 - CCNA Routing and Switching Study Guide
 - CCNA Virtual Lab, Titanium Edition 4.0
 - CCNA Review Guide, with CDROM

Available:

www.nerdbooks.com

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Search Engines

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- **Use as a supplement to your reading**
 - **Read something and you still don't get it?**
 - **Not every author's explanation will work for you.**
 - **Google the topic**
 - **Tons of sites will come up**
 - **Try to Google a specific question to narrow the results**
 - **One of them should explain it in a way that works for you.**

Forums

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- **Discussions**
- **Post Questions**
 - **Cisco Learning Network**
learningnetwork.cisco.com
 - **Official Cisco Certification Web Site**
 - **Cisco Support Community**
supportforums.cisco.com
 - **Many others**
 - **Google a question to find other Forums**

CCO - Cisco Connection On-Line

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- **Get access to all Cisco Documentation**
 - **Command Reference**
 - **Configuration Guide**
- **Create an account if you don't have one**
 - **You'll need it anyway.**

CCO - Cisco Connection On-Line



Worldwide [change] | Welcome, Beau Williamson | Account | Log Out | My Cisco

Products & Services | Support | How to Buy | Training & Events | Partners

Support & Downloads

Worldwide - English

Product Support | Downloads | Contacts / Support Cases | Services / SMARTnet

Select a Product

- Routers
- Switches
- Wireless
- Security (VPN, Firewall)
- Networking Software (IOS & NX-OS)**
- Collaboration Endpoints (Phones)
- Unified Communications (CallManager, Jabber)
- All Products

More Categories

- Application Networking Services
- Cloud and Systems Management
- Conferencing (Video, WebEx)
- Connected Safety & Security
- Customer Collaboration
- Interfaces & Modules
- Optical Networking
- Servers - Unified Computing
- Service Exchange
- Storage Networking
- Universal Gateways & Access Servers
- Video


My Recently Viewed Products | My Added Devices

- Cisco IOS 15.3M&T
- Cisco VPN Client
- Cisco ASR 9010 Router - Download
- Cisco Catalyst 2950 24 Switch - Download
- Software on Chassis : Cisco 3640 Multiservice Platform - Download
- Cisco Unified Communications Manager (CallManager)
- Cisco Unified Communications Manager Express

Edit My Recently Viewed Products List

CCO - Cisco Connection On-Line





Networking Software (IOS & NX-OS)

Browse All Cisco IOS and NX-OS Software Categories

NX-OS Software	IOS XR Software	IOS XE 3SG			
IOS Packaging	IOS XE 3S	IOS XE Software, Release 2			

IOS 15 Releases

15.3M&T	15.1M&T	15.1SY	15.3S	15.1S	15.0SE
15.2M&T	15.0M	15.0SY	15.2S	15.0S	

IOS 12 Releases

12.4 Mainline	12.3 Mainline	12.2 S	12.2 SR		
12.4 Special and Early Deployments	12.3 T	12.2 SE	12.2 SX		
	12.2 Mainline	12.2 SG	12.2 T		

12.4 T

[Cisco DocWiki: IOS and NX-OS Software](#)

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Networking Software (IOS & NX-OS)

Cisco IOS 15.3M&T

[HOME](#)

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[PRODUCT SUPPORT](#)

[CISCO IOS AND NX-OS SOFTWARE](#)

Cisco IOS 15.3M&T

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[Troubleshoot and Alerts](#)



Automate Network Status and Inventory

Free service sends product status, alerts and more.

[Learn how](#)

Most Requested Resources

[Bug Search](#)

[Cisco Notification Service](#)

[Command Lookup Tool](#)

[Error Message Decoder](#)

[Software Advisor](#)

[Support Case Manager](#)

Support Community Discussions

Sorry you have encountered a temporary system error.

[See All Related Community Content](#)

Releases

[IOS Software Release 15.3\(1\)T](#)

[IOS Software Release 15.3\(3\)M](#)

[IOS Software Release 15.3\(2\)T](#)

[Software Downloads, Release and General Information](#)

[Download Software](#)

[Release Notes](#) (1)

[Reference Guides](#)

[Command References](#) (71)

[Command References](#) (71)

[Configure](#)

[Configuration Examples and TechNotes](#) (2)

[Configuration Guides](#) (65)

[Troubleshoot and Alerts](#)

[Troubleshooting TechNotes](#) (1)

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Networking Software (IOS & NX-OS)

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[Command References \(71\)](#)

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[Configuration Examples and TechNotes \(2\)](#)

[Configuration Guides \(65\)](#)

[Troubleshoot and Alerts](#)

[Troubleshooting TechNotes \(1\)](#)



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[High Availability Configuration Guide, Cisco IOS Release 15M&I](#)

IP

[First Hop Redundancy Protocols Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Addressing Configuration Guide Library, Cisco IOS Release 15M&T](#)

[IP Application Services Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Switching Cisco Express Forwarding Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Switching Cisco IOS Switching Paths Overview Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Switching Configuring Multicast Distributed Switching Configuration Guide, Cisco IOS Release 15M&T](#)

[IPv6 Configuration Library, Cisco IOS Release 15M&T](#)

[Service Advertisement Framework Configuration Guide, Cisco IOS Release 15M&T](#)

IP Multicast

[IP Multicast Configuration Guide Library, Cisco IOS Release 15M&T](#)

IP Routing

[IP Routing: BFD Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Routing: BGP Configuration Guide, Cisco IOS Release 15M&T](#)

 [IP Routing: EIGRP Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Routing: ISIS Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Routing: LISP Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Routing: ODR Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Routing: OSPF Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Routing: Protocol-Independent Configuration Guide, Cisco IOS Release 15M&T](#)

[IP Routing: RIP Configuration Guide, Cisco IOS Release 15M&T](#)

[Performance Routing Configuration Guide, Cisco IOS Release 15M&T](#)

LAN Switching

[LAN Switching Configuration Guide, Cisco IOS Release 15M&T](#)

Medianet

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IP Routing: EIGRP Configuration Guide, Cisco IOS Release 15M&T

- EIGRP
- EIGRP MIB
- EIGRP MPLS VPN PE-CE Site of Origin
- EIGRP Nonstop Forwarding (NSF) Awareness
- EIGRP Prefix Limit Support
- EIGRP Support for Route Map Filtering
- IPv6 Routing: EIGRP Support
- Add Path Support in EIGRP
- EIGRP IPv6 VRF-Lite
- EIGRP Stub Routing
- BFD Support for EIGRP IPv6
- EIGRP Route Tag Enhancements
- EIGRP Wide Metrics
- EIGRP/SAF HMAC-SHA-256 Authentication
- IP EIGRP Route Authentication
- EIGRP Support for 6PE/6VPE
- EIGRP Over the Top
- EIGRP Classic to Named Mode Conversion

IP Routing: EIGRP Configuration Guide 15M&T

Click the links on the left to view the individual chapters in HTML format.



[Download the complete book](#) (PDF - 4.04MB)



[Download the complete book](#) (ePub - 710.0KB)

[Terms & Conditions](#) | [Privacy Statement](#) | [Cookie Policy](#) | [Trademarks](#)

Videos

- **Bowler CBT DVD's**
 - **Cisco R&S Series 1 and 2**
 - **Covers R&S CCNA through CCIE**
 - RIP, OSPF, EIGRP, BGP Redistribution, ACL's, etc
 - Uses GNS3
 - Allows you to pause video and follow along.
 - **Currently (continuously?) on sale \$125**
 - List Price: \$499
 - **Other courses available**

Videos

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- **CBT Nuggets**

- **CCNA through CCIE**

- **R&S, Data Center, Wireless, more . . .**

- **ICND1 Course**

- <http://www.cbtnuggets.com/it-training/cisco-ccna-icnd1-100-101>

- **ICND2 Course**

- <http://www.cbtnuggets.com/it-training/cisco-ccna-icnd2-200-101>

- **Virtual Labs**

- **Offline Training**

- **Practice Exams**

- **Coaches**

Videos

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- **CBT Nuggets**

- **Pricing**

- **Free – Seven Day Trial**

- **Basic Plan – Monthly \$99**

- **Premium Plan – Six Months \$564**

- **Test Prep, Virtual Lab, Mobile Device, Coaches**

- **Contact Heidi and get free T-Shirt or Hat**

- » **Tell her you learned about CBT Nuggets @ DFWCUG**

CUG Study Group

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- **DFW Cisco Users Group**
 - **Periodic Study Groups**
 - **CCNA, CCNP, CCIE**
 - **Typically meet once a week**
 - **Check with CUG Training Officer**
 - **Collective Learning**
 - **No Instructor**
 - **Each member takes turn presenting a topic to group.**
 - **OSPF, EIGRP, STP, etc**

Mentor

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- **Friend or Relative**
 - **CCNP, CCIE or equivalent experience**
 - **Get together via WebEx or Citrix**
 - **Review/Discuss Reading Material**
 - **Work on Lab together**

Classroom Training

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- **Cisco Academy**
 - **DCCCD & TCC**
 - **CCNA Courses (1 Semester each)**
 - **Cisco Exploration 1 - Network Fundamentals**
 - **Cisco Exploration 2 - Routing Protocols & Concepts**
 - **Cisco Exploration 3 - LAN Switching and Wireless**
 - **Cisco Exploration 4 - Accessing the WAN**
 - **Uses “Packet Tracer” Simulator**

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 - Cisco Exploration 3 - LAN Switching and Wireless
 - Cisco Exploration 4 - Accessing the WAN
 - **CCNP Courses (1 Semester each)**
 - CCNP Routing - Implementing IP Routing
 - CCNP Switch - Implementing IP Switching
 - CCNP TSHOOT - Maintaining & Troubleshooting IP Networks

Classroom Training

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- **Global Knowledge**
 - **CCNA Courses**
 - **CCNAX v2.0 - CCNA R&S Boot Camp**
 - 5 Day Course
 - \$3695 USD or 37 Cisco Learning Credits
 - **ICND1 - Interconnecting Cisco Network Devices 1**
 - 5 Day Course
 - \$3295 USD or 33 Cisco Learning Credits
 - **ICND2 - Interconnecting Cisco Network Devices 2**
 - 5 Day Course
 - \$3295 USD or 33 Cisco Learning Credits

Classroom Training

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- **INE (Internetwork Experts)**
 - **CCNA**
 - **CCNA Routing & Switching Online Workbooks**
 - **CCNA Routing & Switching Courses**
 - **CCNA Routing & Switching Practice Exams**
 - **CCNA Routing & Switching Training Bundle**
 - **Free On-Line CCNA Course Material!!**
 - **Google “INE CCNA Free”**
 - **“640-802 CCNA Exam Course - Introduction - INE.com”**
 - **Old test material but still very useful**
 - **Also on INE Training YouTube Channel**

Classroom Training

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- **Bootcamps**
 - **CCNA, CCNP & CCIE Exam/Lab Bootcamps**
 - **Intense 1-2 Week Course**
 - **Prepares you for all aspects of the Exam/Lab**
 - **Most CCNA Exam Simulators don't have all CLI Commands**
 - » You need to know exactly “how” they expect you to solve the problem.
 - » Your preferred solution may not be acceptable even though it is a good answer.
 - **Basically there are 3 ways to answer**
 - » The right way
 - » The wrong way
 - » The CCNA way ← You want this one

Classroom Training

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- **Bootcamps**

- **Question:**

- *Why are there 3 ways to answer!!!*

- **Answer:**

- **CCNA/CCNP Training teaches Routing like you were in Elementary School.**
 - They often omit certain details to simplify the protocol.
 - **The Exams often assume this level of knowledge.**
 - This can result in you giving the wrong “right” answer if you have studied the protocol in depth.
 - Bootcamps help teach you what is the “right” wrong answer for the test!

IETF RFC's

- **Read the Protocol RFC's**
 - **CCIE Study Only!!!**
 - Remember there's the Right Way, Wrong Way & CCNA Way!
 - This isn't the case for the CCIE Test.
 - **Knowing exactly how the protocol works often beats trying to memorize configuration commands.**
 - If you know how the protocol works you can often use CLI Help to find what you need.

Practice Tests

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- **Boson Practice Tests**

- **Money Back Guarantee**

- Fail within 60 days of purchase

- **CCNA**

- **ExSim-Max for Cisco 100-101 ICND1 \$99**
 - **ExSim-Max for Cisco 200-101 ICND2 \$99**
 - **ExSim-Max for Cisco 200-120 CCNA \$119**

- **CCNP**

- **ExSim-Max for Cisco 300-101 ROUTE \$99**
 - **ExSim-Max for Cisco 300-115 SWITCH \$99**
 - **ExSim-Max for Cisco 300-135 TSHOOT \$99**

Practice Tests

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- **Free Practice Tests¹**

- **Google for “ExamCollection”**

- **Requires Visual Exam Certification software**

- Demo version is free (limited usage count)

- Full version is <\$30

- **Download practice tests for free**

- Cisco, Microsoft, others

- Complete test in a single .vce file

- **Google for “9tut”**

- **Practice questions on web site**

¹Warning: Some of these sites may be considered illegal by Cisco! Use at your own risk.

Network Simulators

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GNS3 Jungle

Beta

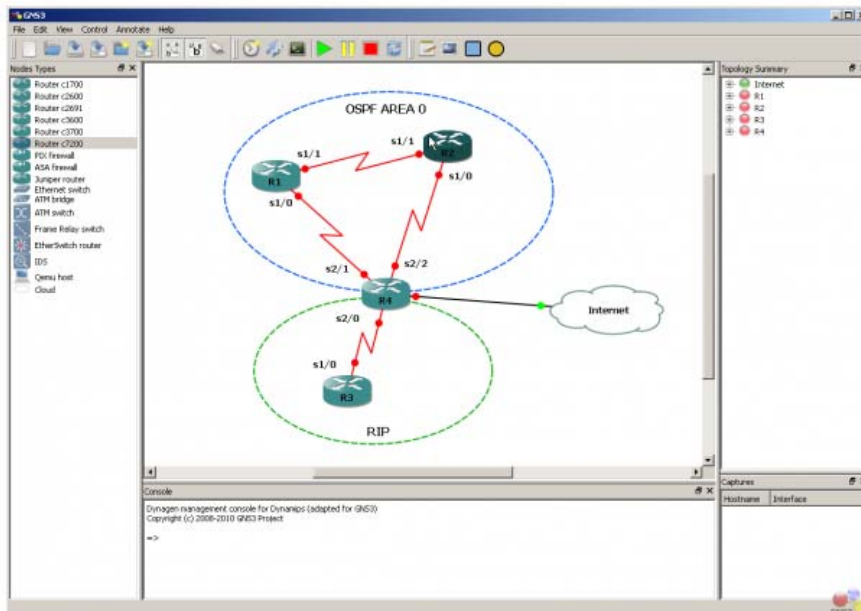
Graphical Network Simulator

Cost: Free

Allows you to build networks
Get “hands-on” experience

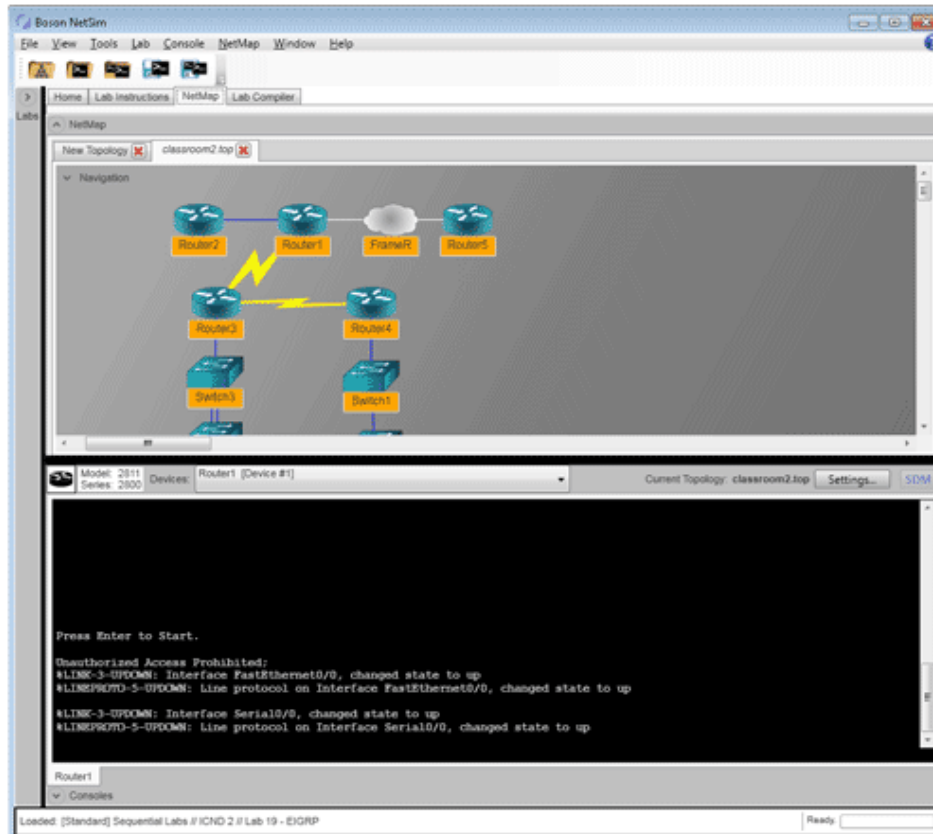
www.gns3.com

- Requires a copy of an IOS Image.
 - You want 15.0 code for CCNA
- Requires some configuration to get it to run reliably.



Network Simulators

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Boson CCNA Simulator

Graphical Network Simulator

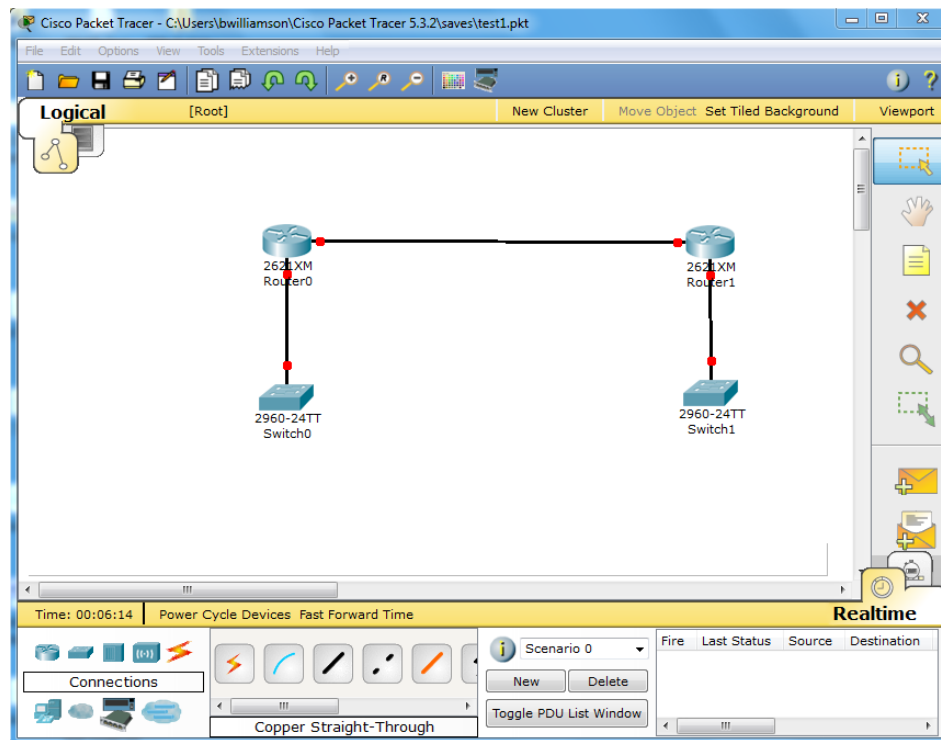
Cost: \$179

Allows you to build networks
Get “hands-on” experience

www.boson.com

Network Simulators

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Cisco Packet Tracer

Graphical Network Simulator

Cost: Free

- (Only through Cisco Academy)

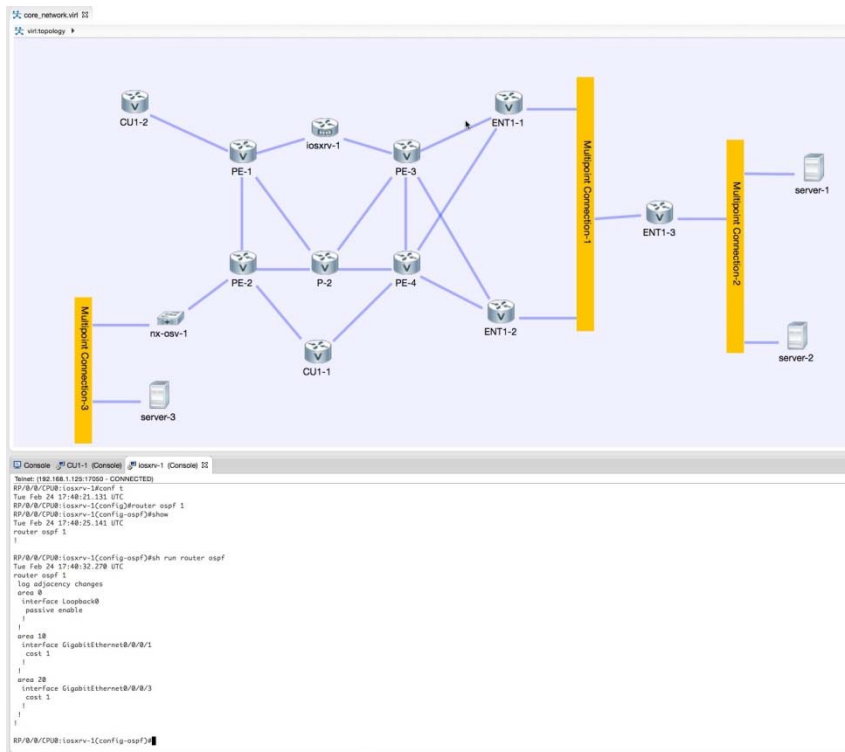
Allows you to build networks

Get “hands-on” experience

Not a full IOS CLI set (CCNA only)

Network Simulators

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Cisco VIRL

Graphical Network Simulator

Cost: \$199/year

Allows you to build networks

Get “hands-on” experience

Covers IOS, IOS-XR, IOS-XE and NX-OS

- Intro Video by CBT Nuggets
<http://www.cbtnuggets.com/it-training/cisco-virtual-internet-routing-lab-virl>
- Cisco VIRL YouTube Channel
<https://www.youtube.com/channel/UC41WuzXIJCGY5qLsuZ8aHkQ>

Network Simulators

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- **Cisco VIRL Videos**
 - **CBT Nuggets**
 - **Cisco VIRL Webinar**
 - **1:22 – 15:00** – **Overview**
 - **50:20 – 58:05** – **Sneak Peek at what's next**

Agenda

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- **Why Certify?**
- **Getting your priorities straight.**
- **What you need to know.**
- **Learning Resources**
- **Getting Organized**
- **Valuable(?) Tips**

How do you eat an Elephant?

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“One bite at a time!”

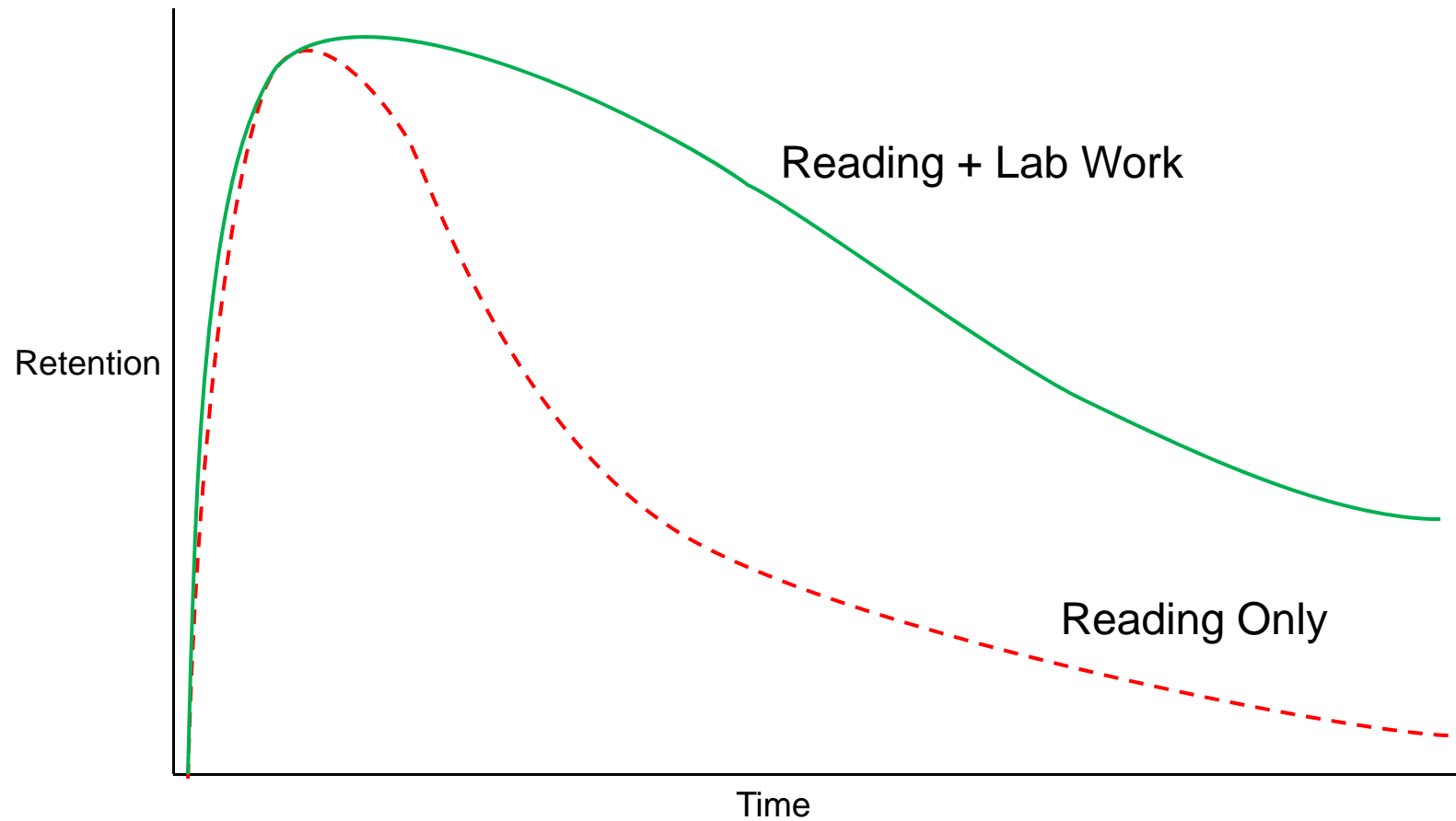
Eating the CCNA Elephant

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- **Split it into two parts**
 - **ICDN1 Test**
 - **CCENT Certification**
 - **ICDN2 Test**
 - **CCENT + ICDN2 Test = CCNA**

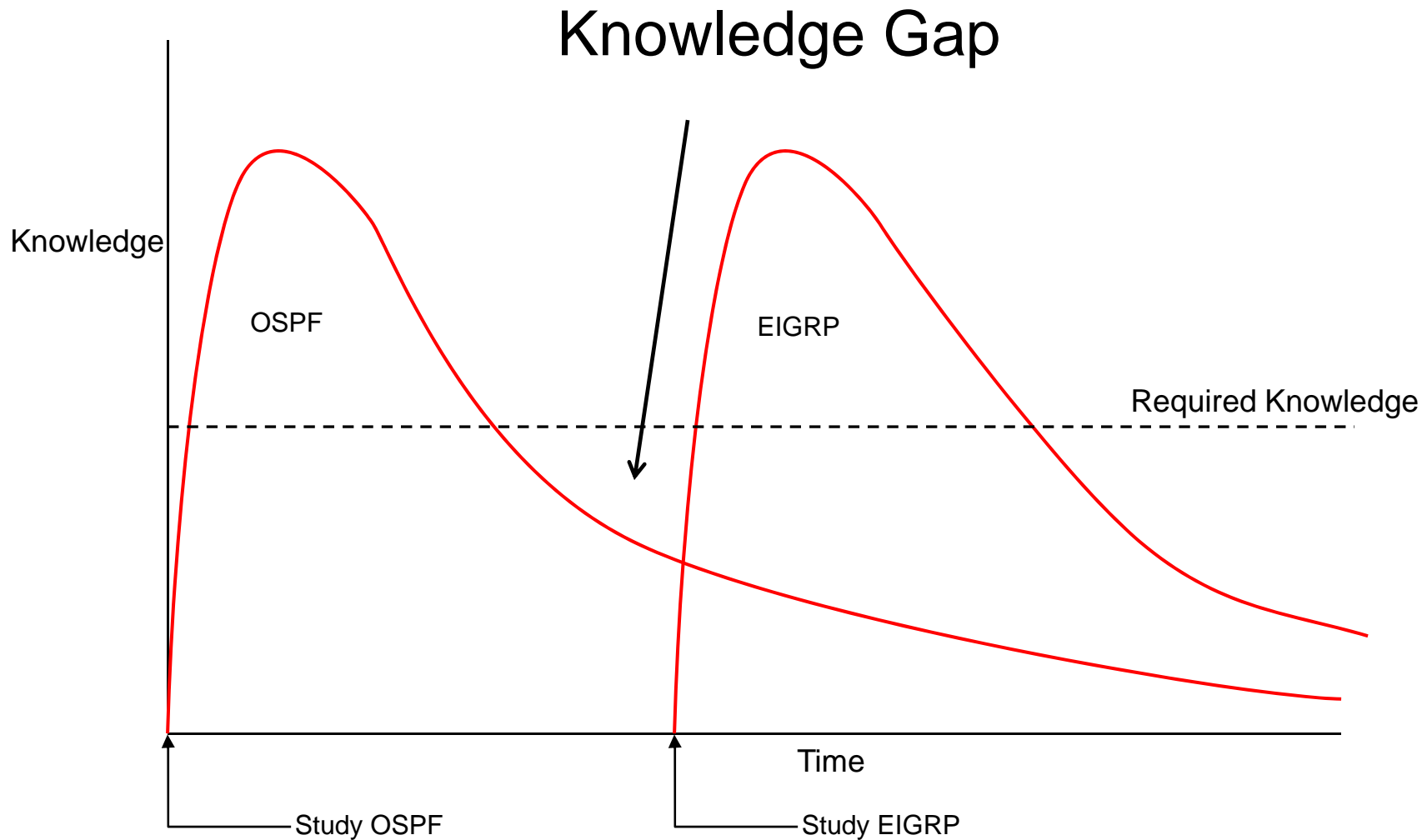
Knowledge Mental Vapor Pressure

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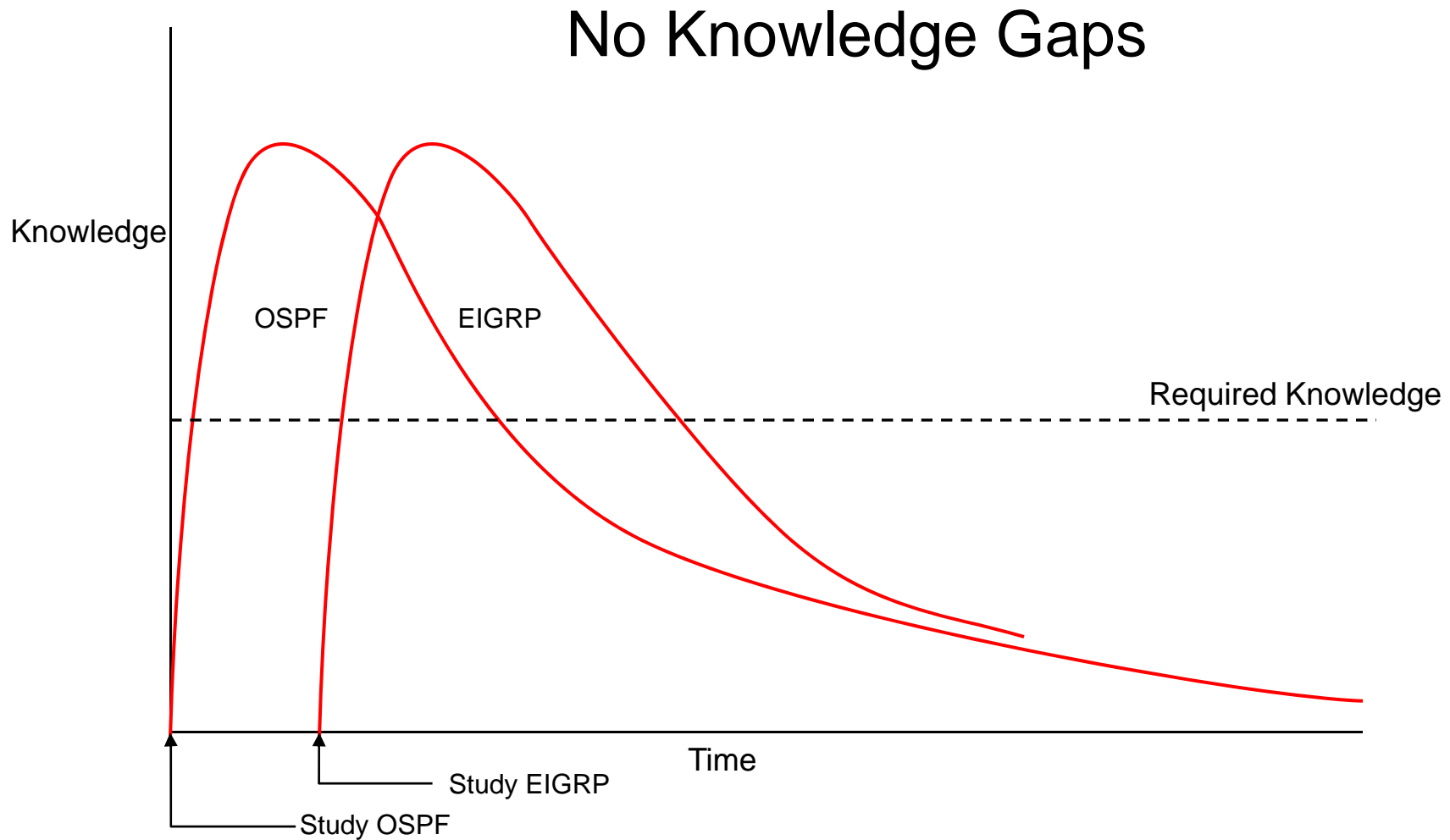
Knowledge Mental Vapor Pressure

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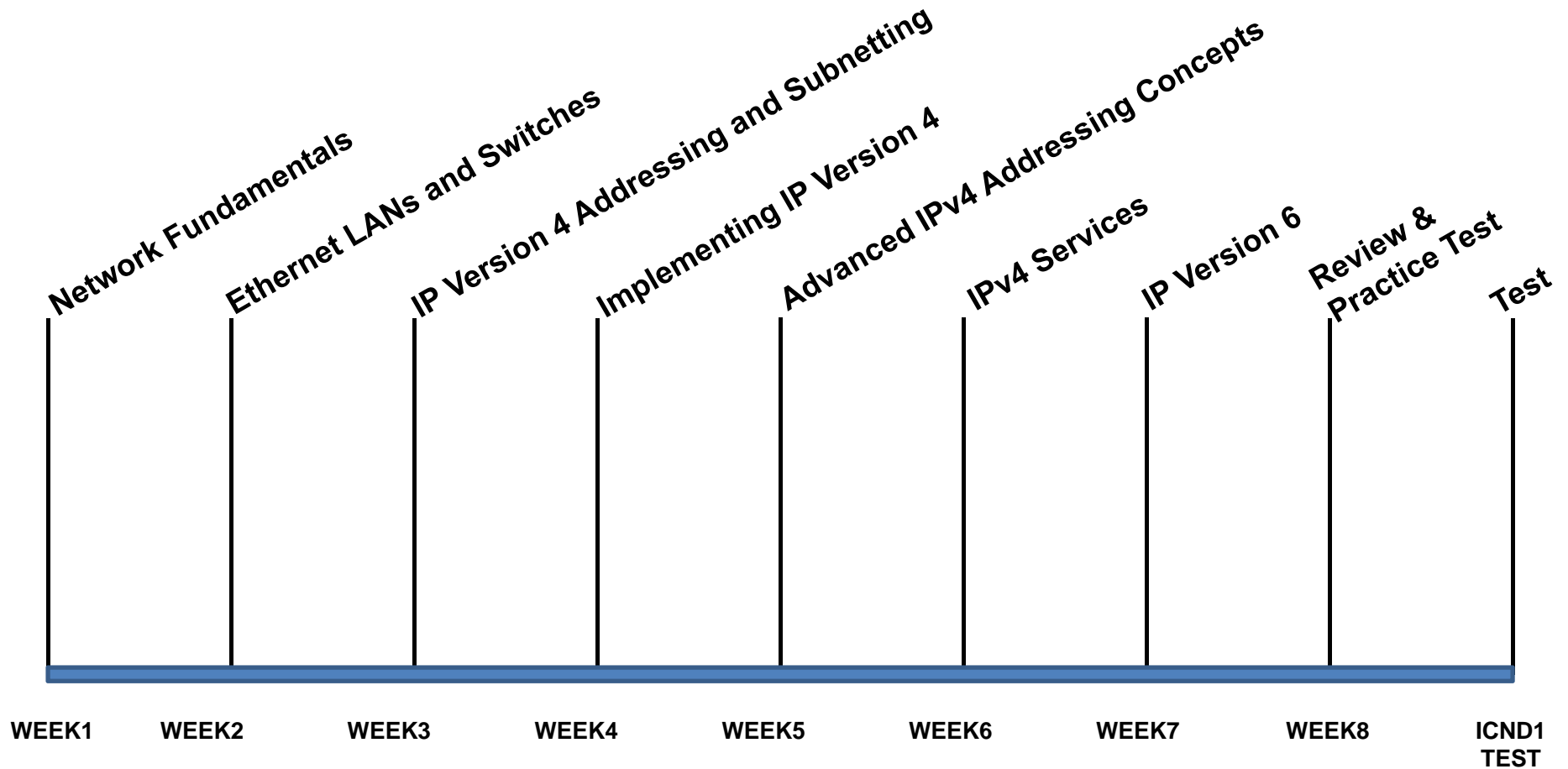
Knowledge Mental Vapor Pressure

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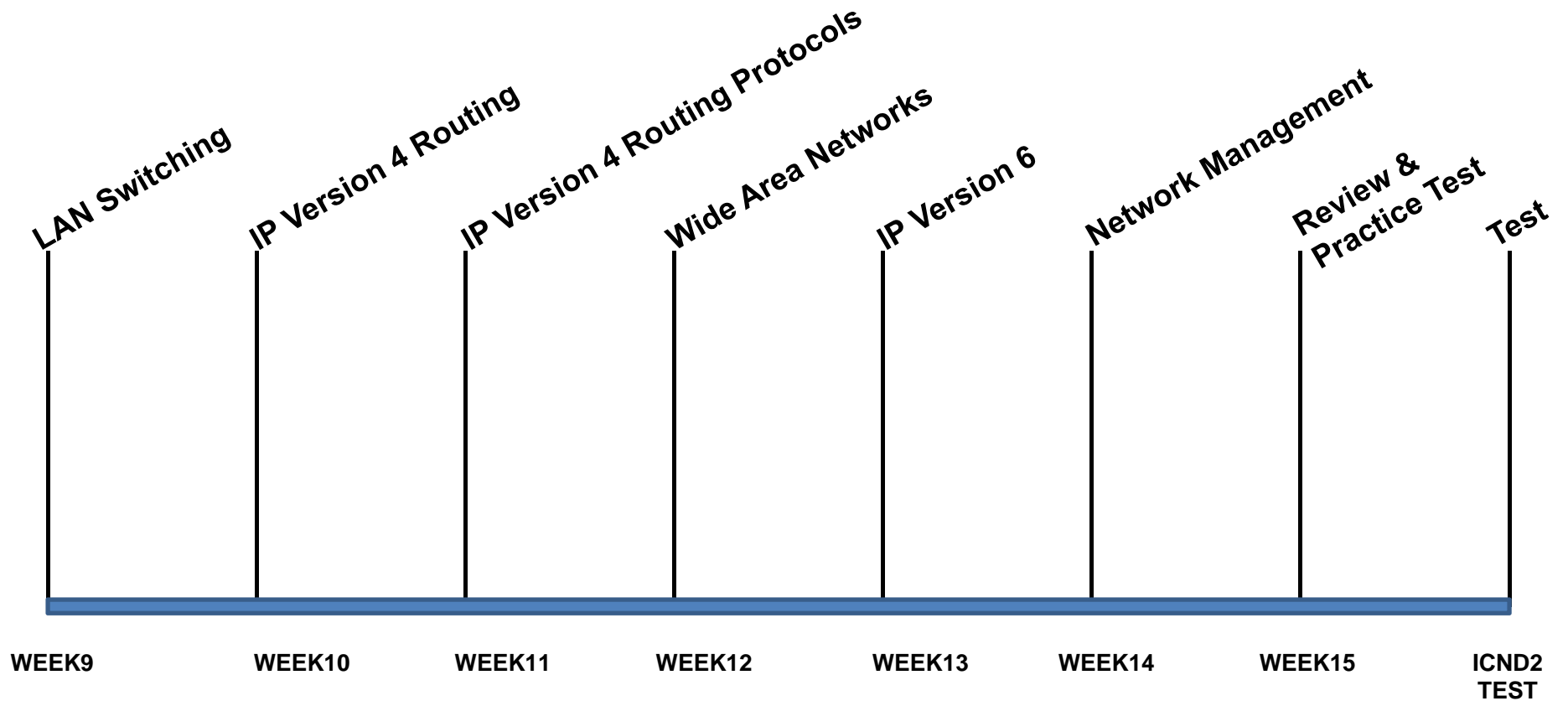
Timeline

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Timeline

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Agenda

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- **Why Certify?**
- **Getting your priorities straight.**
- **What you need to know.**
- **Learning Resources**
- **Getting Organized**
- **Valuable(?) Tips**

Subnet Calculator

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/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS

/CIDR

MASK

SUBNET-START

SUBNET-END

NEXT-SUBNET

Subnet Calculator

DFWCUG

/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS

10.222.5.21

/CIDR

/29

MASK

255.255.255.248

SUBNET-START

10.222.5.16

SUBNET-END

10.222.5.23

NEXT-SUBNET

10.222.5.24

Subnet Calculator

DFWCUG

/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS

192.168.3.176

/CIDR

/27

MASK

255.255.255.224

SUBNET-START

192.168.3.160

SUBNET-END

192.168.3.191

NEXT-SUBNET

192.168.3.192

Subnet Calculator

DFWCUG

/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS /CIDR MASK
 10.222.133.21 /20 255.255.240.0

SUBNET-START SUBNET-END NEXT-SUBNET
 10.222.128.0 10.222.143.255 10.222.144.0

Subnet Calculator

DFWCUG

/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS

10.222.5.21

/CIDR

/29

MASK

255.255.255.248

SUBNET-START

10.222.5.16

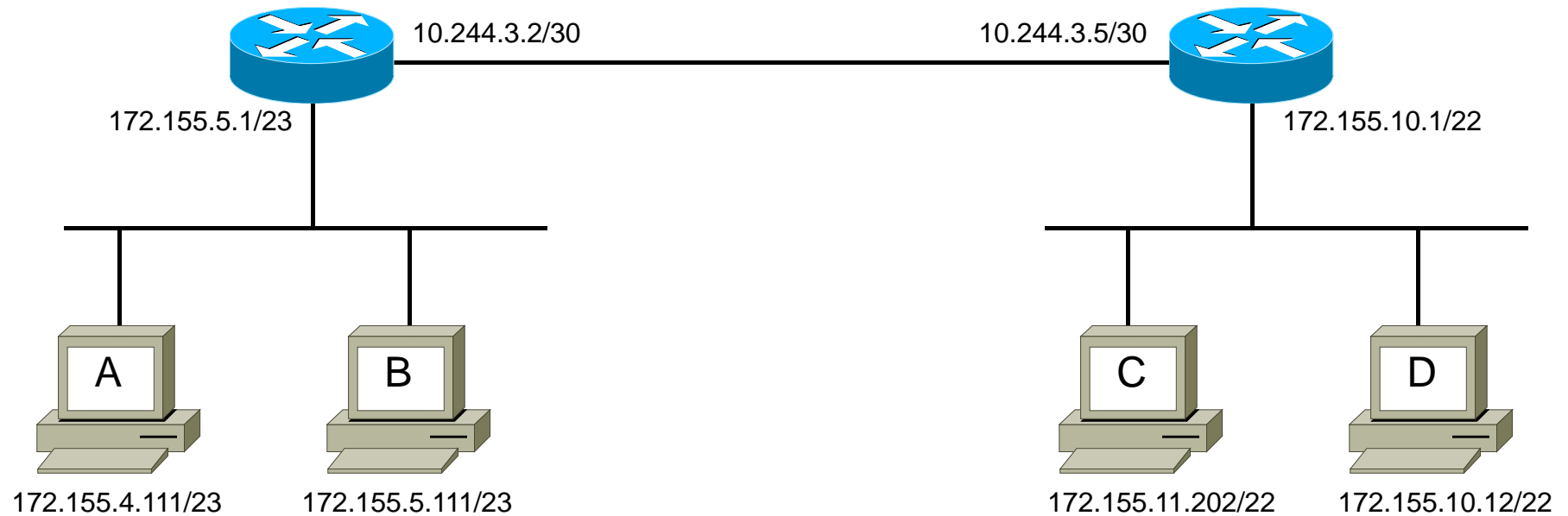
SUBNET-END

10.222.5.23

NEXT-SUBNET

10.222.5.24

Subnet Practice



Host "A" is unable to communicate with Host "C". Why?

Subnet Calculator

DFWCUG

/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS

172.155.5.1

/CIDR

/23

MASK

255.255.254.0

SUBNET-START

172.155.4.0

SUBNET-END

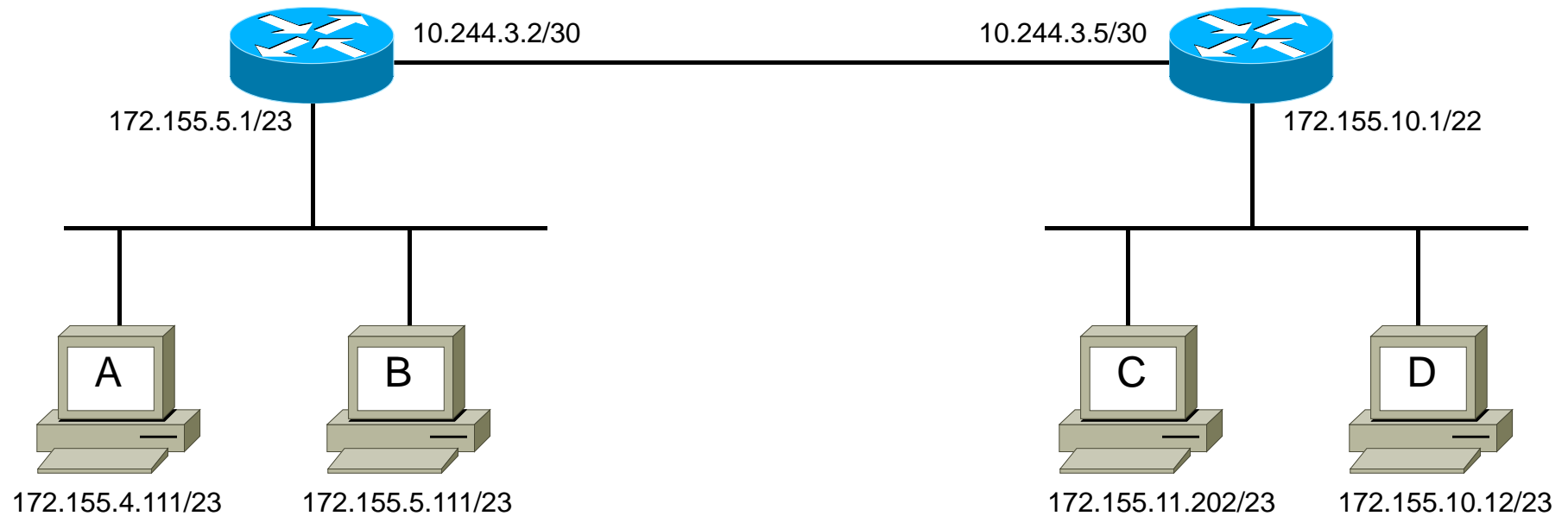
172.155.5.255


NEXT-SUBNET

172.155.6.0

Subnet Practice

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172.155.4.0 - 172.155.5.255 

Subnet Calculator

DFWCUG

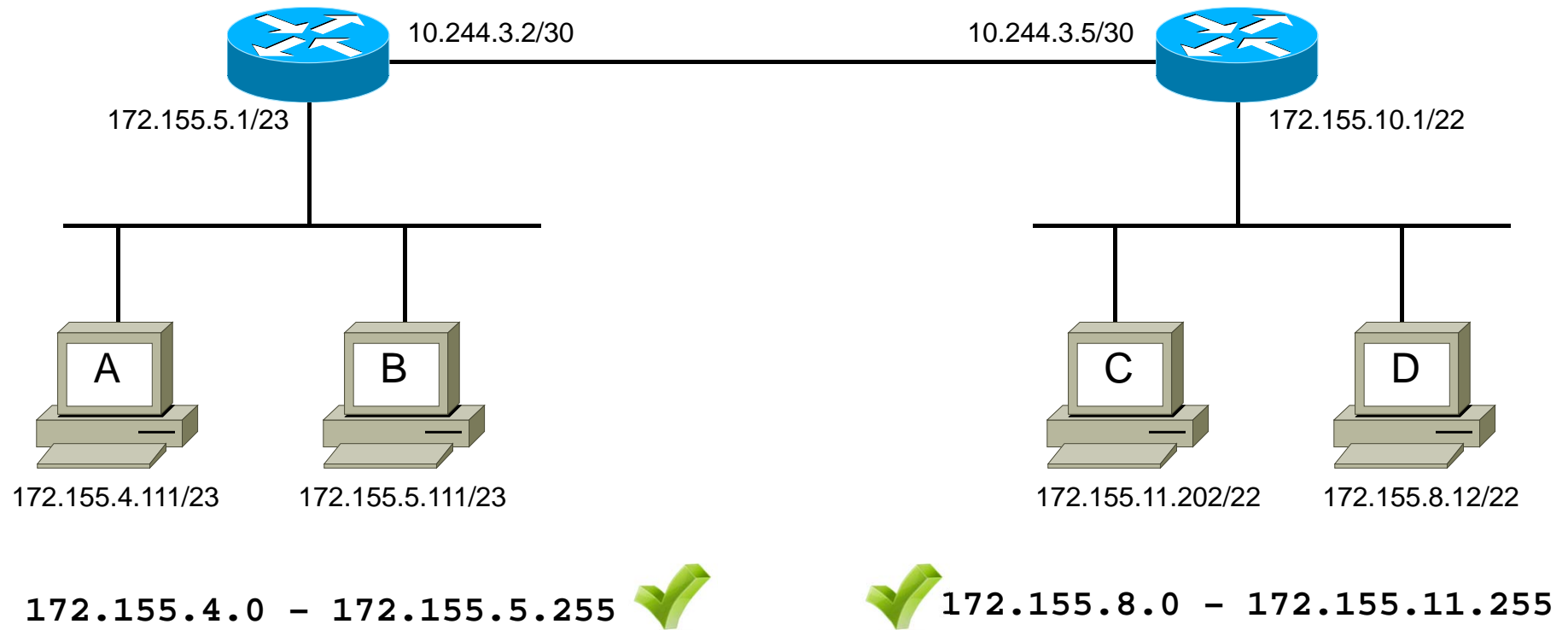
/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS /CIDR MASK
 172.155.10.1 /22 255.255.252.0

SUBNET-START SUBNET-END NEXT-SUBNET
 172.155.8.0 172.155.11.255 172.155.12.0

Subnet Practice

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Subnet Calculator

DFWCUG

/0	/1	/2	/3	/4	/5	/6	/7	-	CIDR1
/8	/9	/10	/11	/12	/13	/14	/15	-	CIDR2
/16	/17	/18	/19	/20	/21	/22	/23	-	CIDR3
/24	/25	/26	/27	/28	/29	/30	/31	/32	CIDR4
256	128	64	32	16	8	4	2	1	HOST
0	128	192	224	240	248	252	254	255	MASK

ADDRESS

10.244.3.2

/CIDR

/30

MASK

255.255.255.252

SUBNET-START

10.244.3.0

SUBNET-END

10.222.3.3

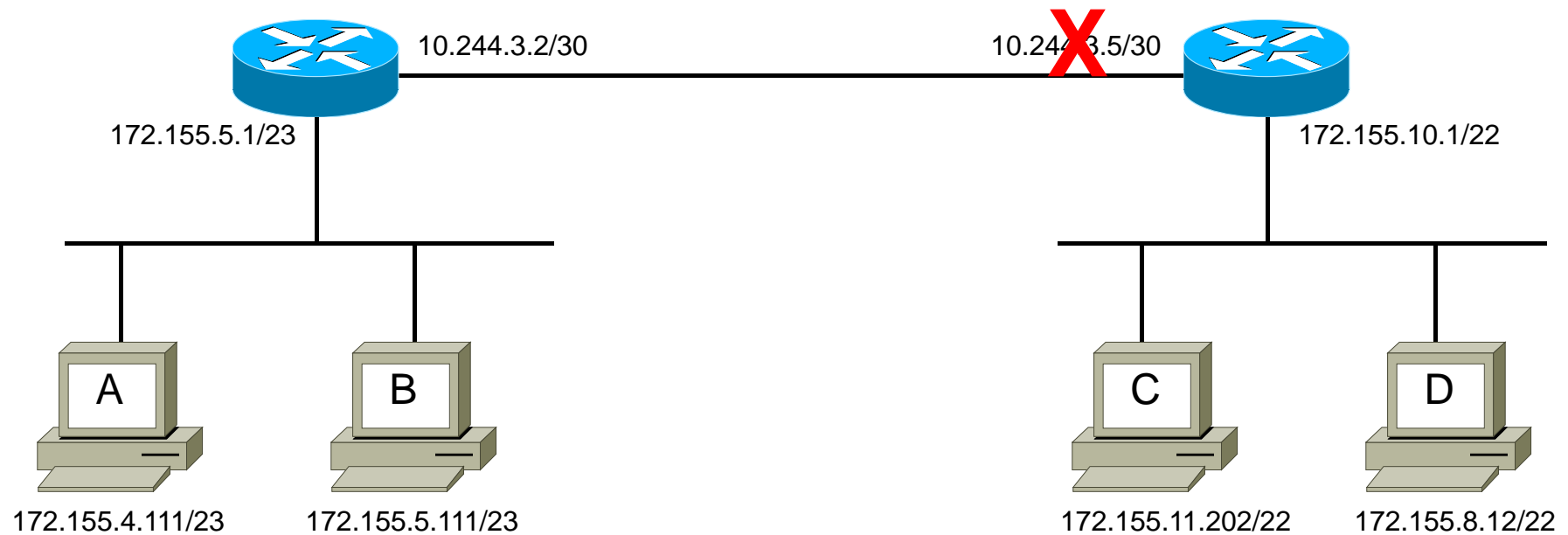
NEXT-SUBNET

10.244.3.4

Subnet Practice

DFWCUG

10.244.3.0 - 10.244.3.3



172.155.4.0 - 172.155.5.255 ✓

✓ 172.155.8.0 - 172.155.11.255