CompTIA Network+ Domain 2 Study Guide
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2.0 Network Media and Topologies

Domain 2 comprises approximately 20 % of the entire exam, or approximately 20 questions. This portion of the test requires a lot recall of memorized specifications for cables and topology applications such as data rates, and frequencies. There is a lot of bad or miss-interpreted information about these subjects on the Internet. Cables are used not only for networking, but also many cables are used for electronic applications, and telephone, multimedia, video and sound. When used for other than network cable applications, the specifications are often different. Be careful and take note of the source of information and be sure to identify if the writer is presenting the cable application for networking or for multimedia applications. Also be aware that many manufacturers rate their cables at a much higher standard than what an IEEE network standard has stated. Always use the IEEE standard when applicable, not the manufacturers rating.

This study guide is provided by www.RMRoberts.com Please feel free to use it as a classroom handout when preparing your students for the CompTIA Network+ certification exam.

There is a corresponding practice exam located at www.RMRoberts.com at the following link (link here). Do not take the practice exam until you have completed the study guide.

2.1 Categorize standard cable types and their properties.

Type:

• CAT3, CAT5, CAT5e, CAT6

Complete Table below for CAT cables.

Type	Frequency	Data Rate
CAT3		
CAT5		
CAT5e		
CAT6		

What is the difference between CAT5 and CAT5e?

• STP, UTP

• Multimode fiber, single-mode fiber

• Coaxial

o RG-59

o RG-6

• Serial

• Plenum vs. Non-plenum

Properties:

• Transmission speeds

• Distance

• Duplex

• Noise immunity (security, EMI)

• Frequency

2.2 Identify common connector types.

• RJ-11

• RJ-45

• BNC

• SC

• ST

• LC

• RS-232

2.3 Identify common physical network topologies.

Draw or describe each topology.

• Star

• Mesh

• Bus

• Ring

• Point to point

• Point to multipoint

• Hybrid

2.4 Given a scenario, differentiate and implement appropriate wiring standards

Memorize the color code for 568A and 568B.

Describe the difference between a 568A and 568B connector.

• 568A

• 568B

• Straight vs. cross-over

• Rollover

• Loopback

2.5 Categorize WAN technology types and properties.

Type:

Frame relay

• E1/T1

• ADSL

• SDSL

• VDSL

• Cable modem

• Satellite

• E3/T3

• OC-x

• Wireless

• ATM

• SONET

• MPLS

• ISDN BRI

• ISDN PRI

• POTS

• PSTN

Properties.

• Circuit switch

• Packet switch

• Speed

• Transmission media

• Distance

2.6 Categorize LAN technology types and properties

Questions related to LAN technologies are often based upon data rates and actual physical cable descriptions such as cable core materials as well as maximum application distances in meters. For each LAN technology below list the physical characteristics and maximum network distances.

Types:

• Ethernet

• 10BaseT

• 100BaseTX

• 100BaseFX

• 1000BaseT

- 1000BaseX

- 10GBaseSR

- 10GBaseLR

- 10GBaseER

- 10GBaseSW

- 10GBaseLW

- 10GBaseEW

- 10GBaseT

Properties.

Provide a brief description of each LAN property below.

• CSMA/CD

• Broadcast

• Collision

• Bonding

• Speed

• Distance

2.7 Explain common logical network topologies and their characteristics.

• Peer to peer

• Client/server

• VPN

• VLAN

2.8 Install components of wiring distribution.

Provide a brief description of each component listed below. Also identify the common location in a network system when applicable.

• Vertical and horizontal cross connects

• Patch panels

• 66 block

• MDFs

• IDFs

• 25 pair

• 100 pair

• 110 block

• Demarc

• Demarc extension

• Smart jack

• Verify wiring installation

• Verify wiring termination

This study guide has been provided by www.RMRoberts.com No answers will be provided for this study guide. Please feel free to use this study guide to prepare your students for the CompTIA Network+ certification exam.