МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ
Федеральное государственное автономное образовательное учреждение
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«КРЫМСКИЙ ФЕДЕРАЛЬНЫЙ УНИВЕРСИТЕТ им. В. И. ВЕРНАДСКОГО»
ФИЗИКО-ТЕХНИЧЕСКИЙ ИНСТИТУТ
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Basic Route Summarization

Отчет по лабораторной работе № 11
по дисциплине «Компьютерные сети»
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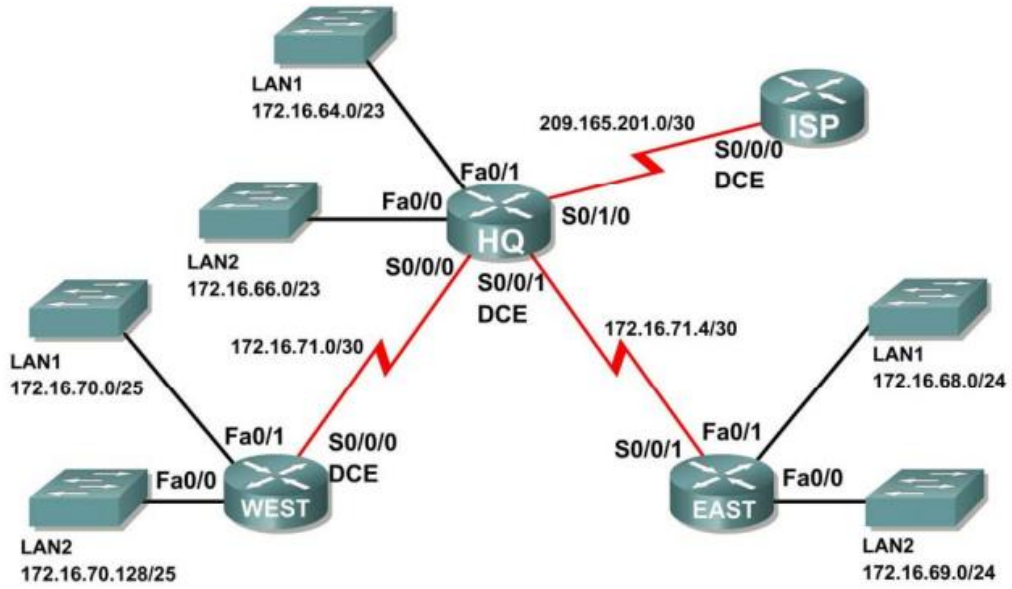
Topology Diagram



Addressing Table

Subnet	Network Address
HQ LAN1	172.16.64.0/23
HQ LAN2	172.16.66.0/23
EAST LAN1	172.16.68.0/24
EAST LAN2	172.16.69.0/24
WEST LAN1	172.16.70.0/25
WEST LAN2	172.16.70.128/25
Link from HQ to EAST	172.16.71.4/30
Link from HQ to WEST	172.16.71.0/30
Link from HQ to ISP	172.16.71.8/30

Task 1: Determine the Summary Route for the HQ LANs.

Step 1: List the HQ LAN1 and LAN2 in binary format.

LAN1_____

LAN2_____

LAN1 10101100.00010000.0100000|0.00000000

LAN2 10101100.00010000.0100001|0.00000000

Step 2: Count the number of left-most matching bits to determine the mask for the summary route.

1. How many left-most matching bits are present in the two networks? _____
2. What is the subnet mask for the summary route in decimal format?

_____

1. 22
2. /22

_____

Step 3: Copy the matching bits and then add all zeros to determine the summarized network address.

1. What are the matching bits for the two networks?

_____

2. Add zeroes to make up the remainder of the network address in binary form.

_____

3. What is the network address for the summary route in decimal format?

_____

1. 10101100.00010000.01
2. 10101100.00010000.01000000.00000000
3. 172.16.64.0

Task 2: Determine the Summary Route for the EAST LANs.

Step 1: List the EAST LAN1 and LAN2 in binary format.

LAN1_____
LAN2_____

LAN1 10101100.00010000.01000100. |00000000

LAN2 10101100.00010000.01000101. |00000000

Step 2: Count the number of left-most matching bits to determine the mask for the summary route.

1. How many left-most matching bits are present in the two networks? _____
2. What is the subnet mask for the summary route in decimal format?
   _____

1. 23
2. /23

_____

Step 3: Copy the matching bits and then add all zeros to determine the summarized network address.

1. What are the matching bits for the two networks?
   _____
2. Add zeroes to make up the remainder of the network address in binary form.
   _____
3. What is the network address for the summary route in decimal format?
   _____

1. 10101100.00010000.010001
2. 10101100.00010000.01000100.00000000
3. 172.16.68.0

Task 3: Determine the Summary Route for the WEST LANs.

Step 1: List the WEST LAN1 and LAN2 in binary format.

LAN1_____

LAN2_____

LAN1 10101100.00010000.01000110.0|0000000

LAN2 10101100.00010000.01000110.1|0000000

Step 2: Count the number of left-most matching bits to determine the mask for the summary route.

1. How many left-most matching bits are present in the two networks? _____
2. What is the subnet mask for the summary route in decimal format?

   _____

1. 24
2. /24

_____

Step 3: Copy the matching bits and then add all zeros to determine the summarized network address.

1. What are the matching bits for the two networks?

   _____
2. Add zeroes to make up the remainder of the network address in binary form.

   _____
3. What is the network address for the summary route in decimal format?

   _____

1. 10101100.00010000.01000110
2. 10101100.00010000.01000110.00000000
3. 172.16.70.0

Task 4: Determine the Summary Route for the HQ, EAST, and WEST LANs.

Step 1: List summary networks for the HQ, EAST, and WEST LANs in binary format.

HQ Summary Route_____

EAST Summary Route_____

WEST Summary Route_____

1. 172.16.64.0 /22 (10101100.00010000.01000000.00000000)
2. 172.16.68.0 /23 (10101100.00010000.01000100.00000000)
3. 172.16.70.0 /24 (10101100.00010000.01000110.00000000)

Step 2: Count the number of left-most matching bits to determine the mask for the summary route.

1. How many left-most matching bits are present in the two networks? _____
2. What is the subnet mask for the summary route in decimal format?

1. 21
2. /21

_____

Step 3: Copy the matching bits and then add all zeros to determine the summarized network address.

1. What are the matching bits for the two networks?
   _____
2. Add zeroes to make up the remainder of the network address in binary form.
   _____
3. What is the network address for the summary route in decimal format?
   _____

1. 10101100.00010000.01000
2. 10101100.00010000.01000000.00000000
3. 172.16.64.0 /21