

SUSTech Blackboard

计算机科学与工程系 周思呈 (Zhou Sicheng)

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Take Test: lab\_assignment2\_part1

★ Test Information

Description

Instructions

Multiple Attempts This test allows 3 attempts. This is attempt number 1.

Force Completion This test can be saved and resumed later.

Your answers are saved automatically.

🔖 Question Completion Status:

QUESTION 1

10 points

Saved

PC1 (IP: 192.168.1.101/24, Gateway: 192.168.1.1) and PC2 (IP: 192.168.2.202/24, Gateway: 192.168.2.1) are connected via router R1. PC1 connects to R1's interface GE0/1(IP: 192.168.1.1/24), PC2 connects to R1's interface GE0/2(IP: 192.168.2.1/24).  
Do the following test: PC1 clears its ARP table using the "arp - d" command, and then initiates a "ping"test to PC2. Which of the following descriptions are correct:  

✗

Due to the fact that ICMP protocol belongs to network layer, when PC1 initiates "ping" tests (regardless of which network the Ping's destination is on), it only needs to know the Ping's destination's network layer address to generate ICMP request messages, without the need to know the Ping's destination's physical address.

✗

In this test, since PC2 and PC1 are not on the same network, when PC1 initiates an ARP query, the "target IP address" field of the ARP query is the IP address of PC2.

✓

In this test, since PC2 and PC1 are not on the same network, when PC1 initiates an ARP query, the "target IP address" of the query is the IP address of PC1's gateway.

☐

In this test, for the ICMP query packet sent from PC1 to PC2, the "destination MAC address" is the MAC address of PC1's gateway, and the "destination IP address" is the IP address of PC1's gateway

☐

In this test, for the ICMP query packet sent from PC1 to PC2, the "destination MAC address" is the MAC address of PC2, and the "destination IP address" is the IP address of PC2.

☒

In this test, for the ICMP query packet sent from PC1 to PC2, the "destination MAC address" is the MAC address of PC1's gateway, and the "destination IP address" is the IP address of PC2.

QUESTION 2

10 points

Saved

What are the possible reasons for receiving ICMP messages with "destination unreachable " during the "ping" testing?  

☐

The switch received an ICMP request message, extracted the "MAC destination address" of this message, and found that there is no relevant information to this destination in the forwarding table

☒

The router received an ICMP request message, extracted the "IP destination address" of this message, and found that there is no relevant information to go to this destination in the routing table

☐

The router received an IP packet from its interface A and found that the "don't fragment" field was 1. After comparing the packet length with the MTU of interface A, it was found that fragment was necessary for the current packet, resulting in a conflict.

☒

The router received an IP packet and found that the "don't fragment" was 1. After checking the routing table, it was found that the packet needed to be forwarded by its interface B. After comparing the packet length with the MTU of interface B, it was found that fragment was necessary for the current packet, resulting in a conflict

QUESTION 3

10 points

Save Answer

Build a network topology on eNSP, as shown in the last page of courseware lab12(R1 connects to PC1, R2 and R3, R2 connects to R1,R3 and R4, R3 connects to R1,R2 and R4, R4 connects to R2, R3 and PC2 ). The type of the link from R2 to R4 is "serial", and the type of other links are Ethernet with a bandwidth of 1000M. If all four routers (R1, R2, R3, R4) have started the same routing protocol and completed basic configuration, which of the following description is the correct path for ICMP request packet transmission when PC1 initiates a "ping" test to PC2.  

✓

If the RIP protocol is configured on all routers, the delivery path for ICMP request messages is: PC1->R1->R2->R4->PC2

✓

If the OSPF protocol is configured on all routers, the delivery path for ICMP request messages is: PC1->R1->R3->R4->PC2

☐

If the RIP protocol is configured on all routers, the delivery path for ICMP request messages is: PC1->R1->R2->R3->R4->PC2

☐

If the OSPF protocol is configured on all routers, the delivery path for ICMP request messages is: PC1->R1->R2->R3->R4->PC2

QUESTION 4

10 points

Save Answer

There are several routing table entries on router RA, which ones can be used for routing aggregation:  
1) Destination network : 192.168.101.0 24, nexthop: 192.168.1.1 interface: Ge0/1  
2) Destination network : 192.168.102.0 24, nexthop: 192.168.2.1 interface: Ge0/2  
3) Destination network : 192.168.103.0 24, nexthop: 192.168.2.1 interface: Ge0/2  
4) Destination network : 192.168.104.0 24, nexthop: 192.168.1.1 interface: Ge0/1  

☐

1) and 2)

☒

1) and 4)

☐

1), 2), 3) and 4)

☒

2) and 3)

QUESTION 5

10 points

Save Answer

The following network topology was built on eNSP, with PC1 (IP: 10.0.0.101/8, Gateway: 10.0.0.254) and PC2 (IP: 20.0.0.202/8, Gateway: 20.0.0.254) connected through two routers(R1 and R2 ). PC1 is connected to the GE0/0/1 of R1, the GE0/0/0 of R1 is connected to the GE0/0/0 of R2, and the GE0/0/2 of R2 is connected to PC2. PC1 and the GE0/0/1 of R1 belong to the 10.0.0.0/8 network segment, the GE0/0/0 of R1 and the GE0/0/0 of R2 belong to the 12.0.0.0/8 network segment, and PC2 and the GE0/0/2 of R2 belong to the 20.0.0.0/8 network segment.  
  
Here is the routing-table of R1 and R2

R1's Routing-table	Destination/Mask	Proto	Pre	Cost	Flags	NextHop	Interface
	10.0.0.0/8	Direct	0	0	D	10.0.0.254	GigabitEthernet0/0/0
	10.0.0.254/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
	12.0.0.0/8	Direct	0	0	D	12.0.0.254	GigabitEthernet0/0/1
	12.0.0.254/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
	20.0.0.0/8	Static	60	0	RD	12.0.0.254	GigabitEthernet0/0/0
	127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
	127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0
R2's Routing-table	Destination/Mask	Proto	Pre	Cost	Flags	NextHop	Interface
	12.0.0.0/8	Direct	0	0	D	12.0.0.1	GigabitEthernet0/0/0
	12.0.0.1/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
	20.0.0.0/8	Direct	0	0	D	20.0.0.1	GigabitEthernet0/0/2
	20.0.0.1/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/2
	10.0.0.0/8	Static	60	0	RD	12.0.0.254	GigabitEthernet0/0/0
	127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
	127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0

A "ping" test was initiated from PC1 to PC2, and a "request timeout" prompt was found. Without changing the existing physical connection of the network and the configurations on PC1 and PC2, please modify the router configuration to achieve network connectivity.  

1) Swap the IP address of the R1's GE0/0/0 with the IP address of R1's GE0/0/1

2) Swap the IP address of the R2's GE0/0/0 with the IP address of R2's GE0/0/2

3) Modify the IP address of the R2's GE0/0/0 to 20.0.0.254.

4) Modify the IP address of the R2's GE0/0/2 to 20.0.0.254.

5) Set the static routing of R1 to: the next hop address to the destination network 20.0.0.0/8 is the IP address of R2's GE0/0/0.

6) Set the static routing of R1 to: the next hop address to the destination network 20.0.0.0/8 is the IP address of R1's GE0/0/0

✓

1) 4) 5)

☐

2) 5)

☐

1) 3) 6)

☐

3) 6)

QUESTION 6

10 points

Save Answer

When a network node receives an IP packet, which of the following descriptions about IP fragment are correct:  

☐

After receiving the IP packet, analyze the "don't segmentation" field in the IP header. If the value of this field is 1, it indicates that the original IP packet has been fragmented.

☐

After receiving the IP packet, analyze the "fragment offset" of the IP header. If the value of this field is 0, it indicates that the original IP packet has been fragmented, and this is the first shard among all shards.

✓

After receiving the IP packet, analyze the "more fragments" field in the IP header. If the value of this field is 1, it indicates that the original IP packet has been fragmented, and this is not the last shard.

✓

After receiving multiple IP packets, analyze the "identification" field in the IP header. If the value of this field is the same, it indicates that these shards are likely to belong to the same original IP packet.

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers

Save and Submit