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Exam : CV1-003

Title : CompTIA Cloud+ Certification Beta Exam

Version : DEMO

1.SIMULATION
A company has decided to scale its e-commerce application from its corporate datacenter to a commercial cloud provider to meet an anticipated increase in demand during an upcoming holiday.

The majority of the application load takes place on the application server under normal conditions. For this reason, the company decides to deploy additional application servers into a commercial cloud provider using the on-premises orchestration engine that installs and configures common software and network configurations.

The remote computing environment is connected to the on-premises datacenter via a site-to-site IPSec tunnel. The external DNS provider has been configured to use weighted round-robin routing to load balance connections from the Internet.

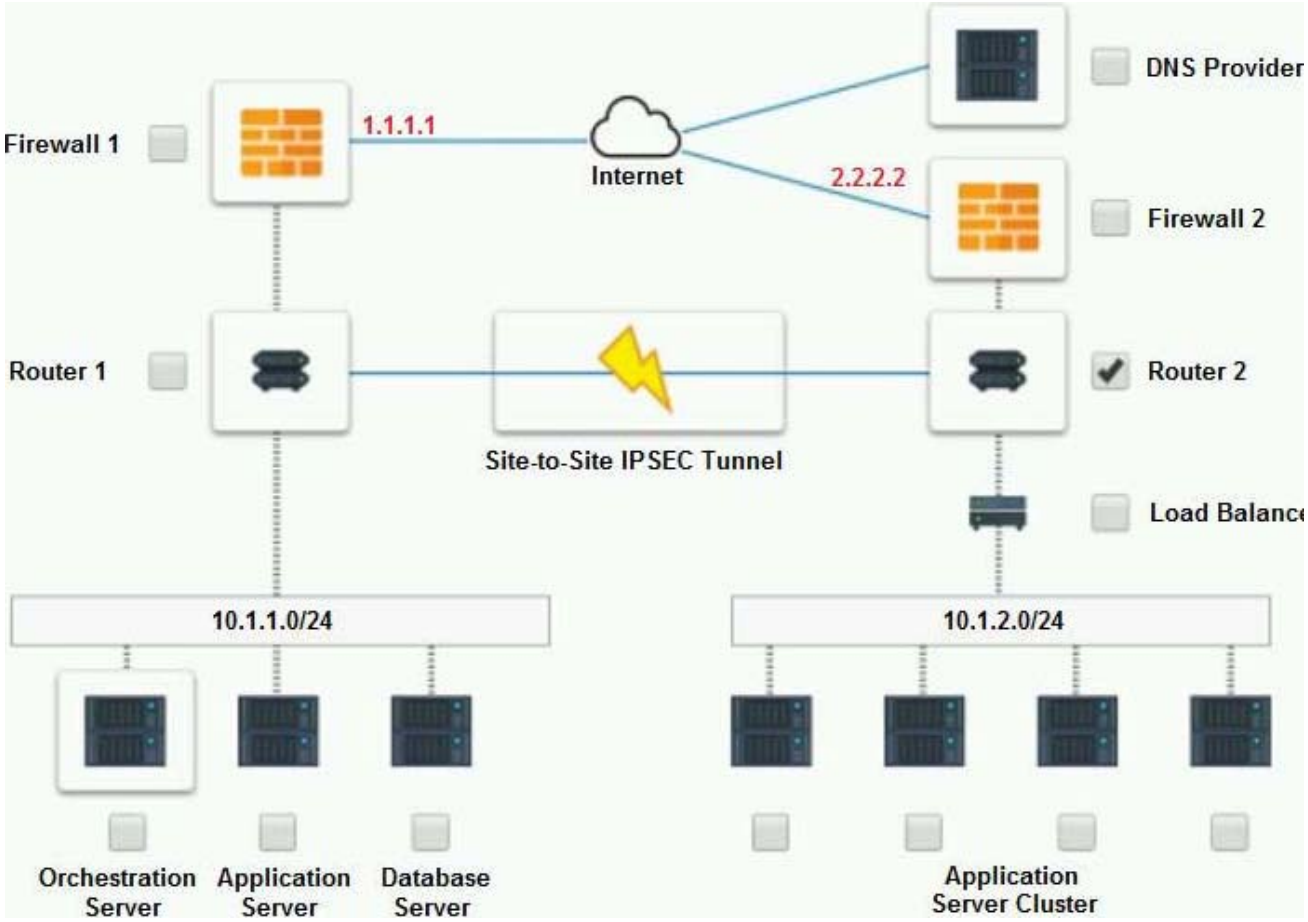
During testing, the company discovers that only 20% of connections completed successfully.

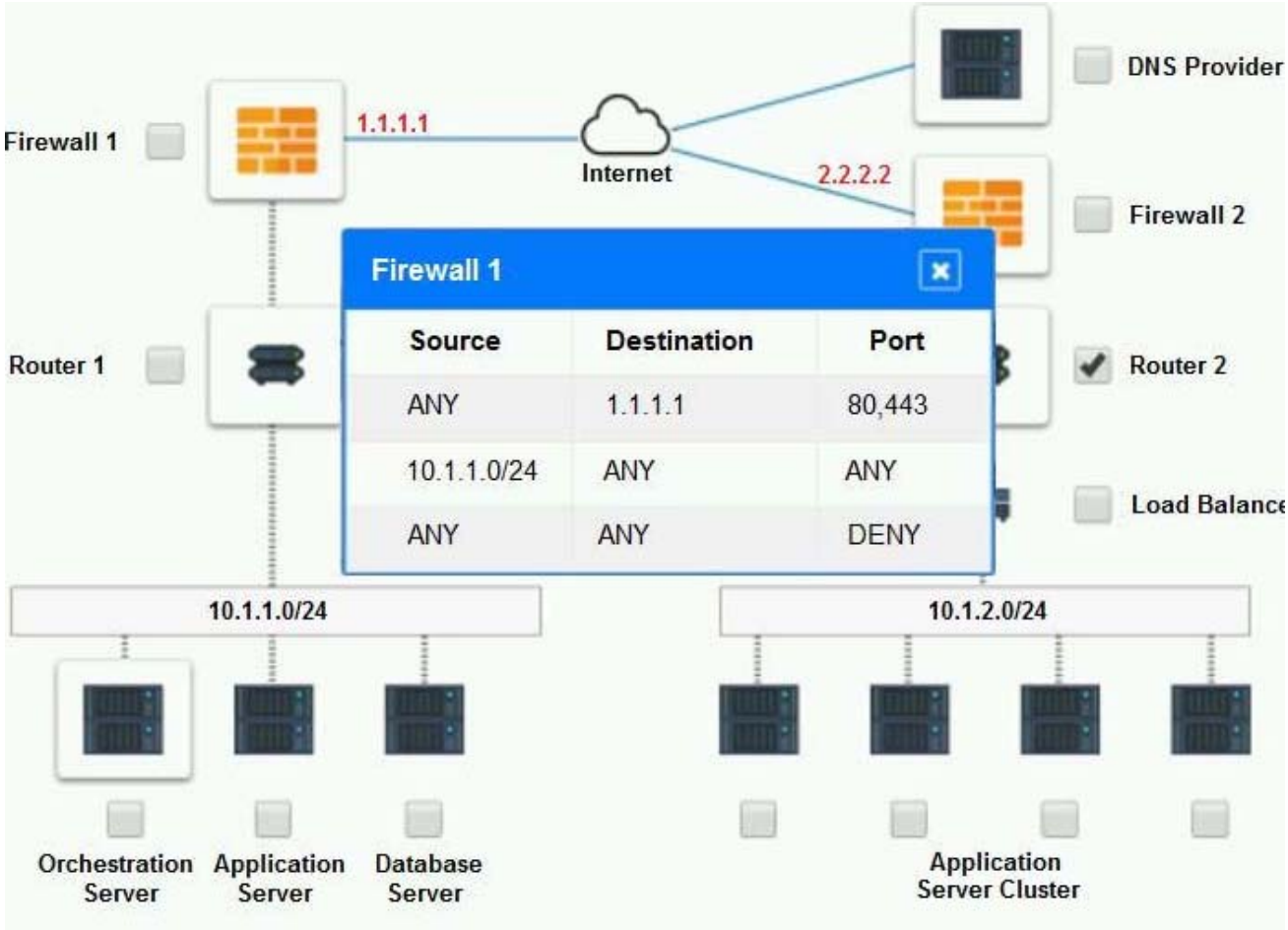
INSTRUCTIONS
Review the network architecture and supporting documents and fulfill these requirements:

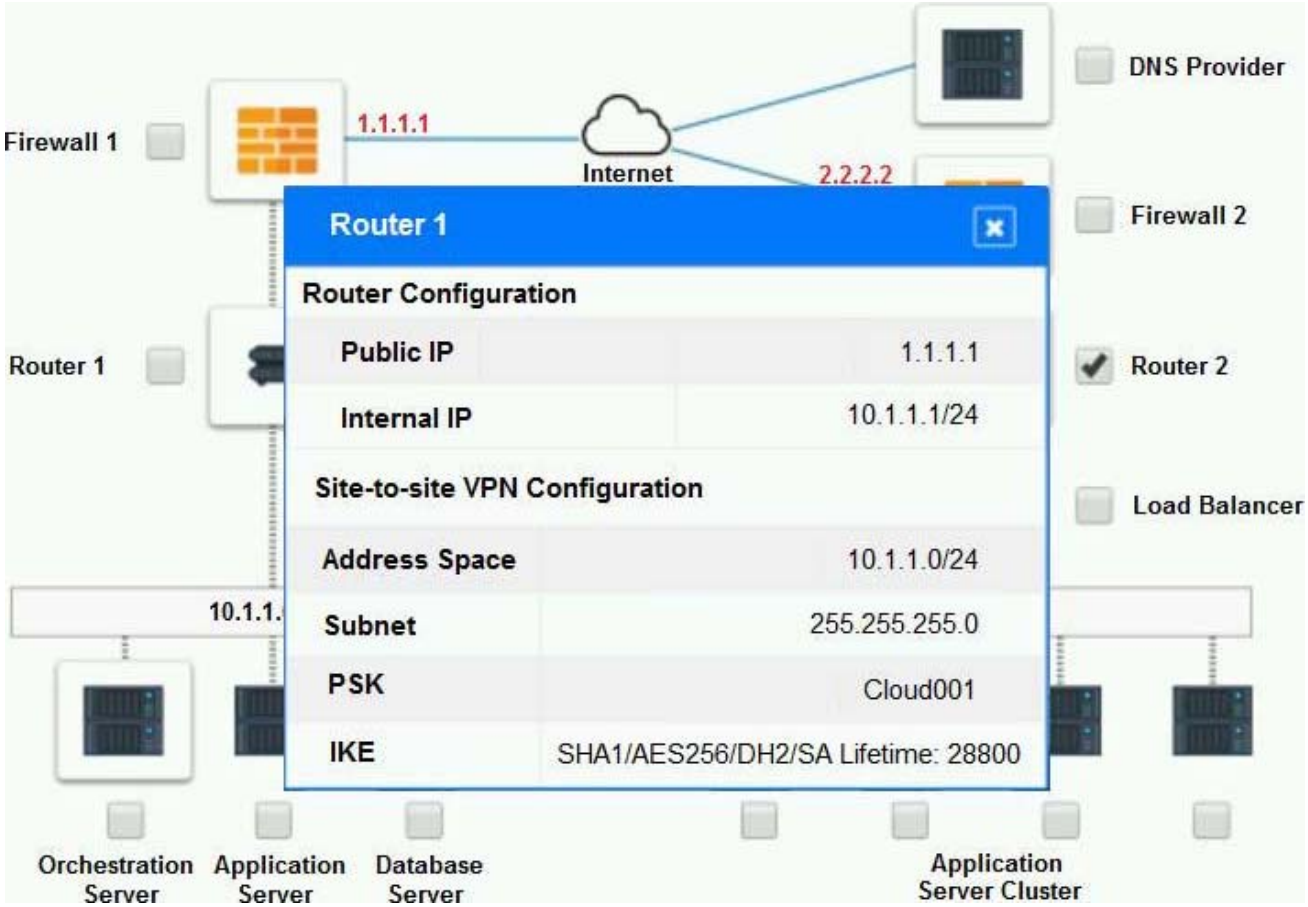
Part 1:
- Analyze the configuration of the following components: DNS, Firewall 1, Firewall 2, Router 1, Router 2, VPN and Orchestrator Server.
- Identify the problematic device(s).

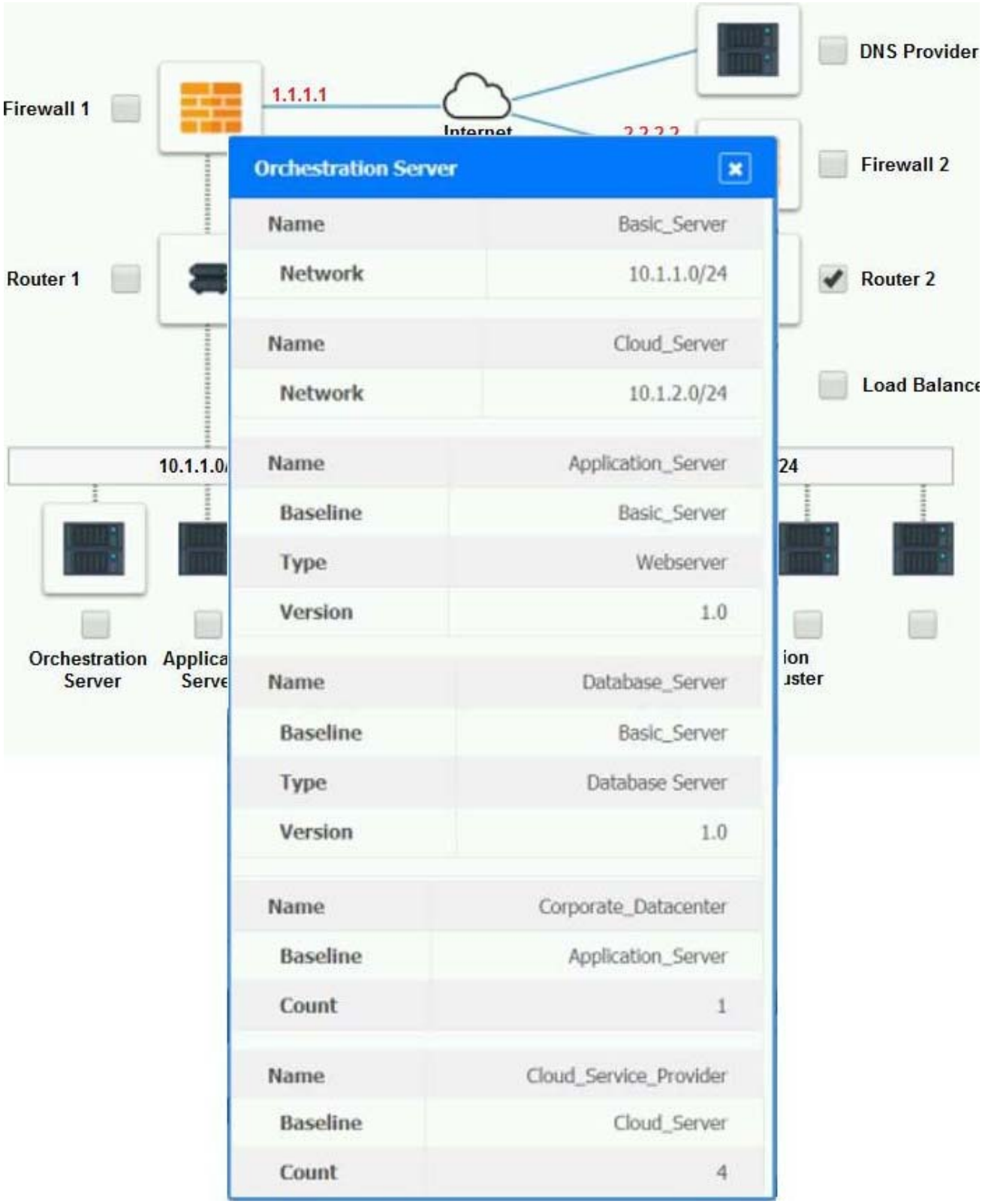
Part 2:
- Identify the correct options to provide adequate configuration for hybrid cloud architecture.
If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.

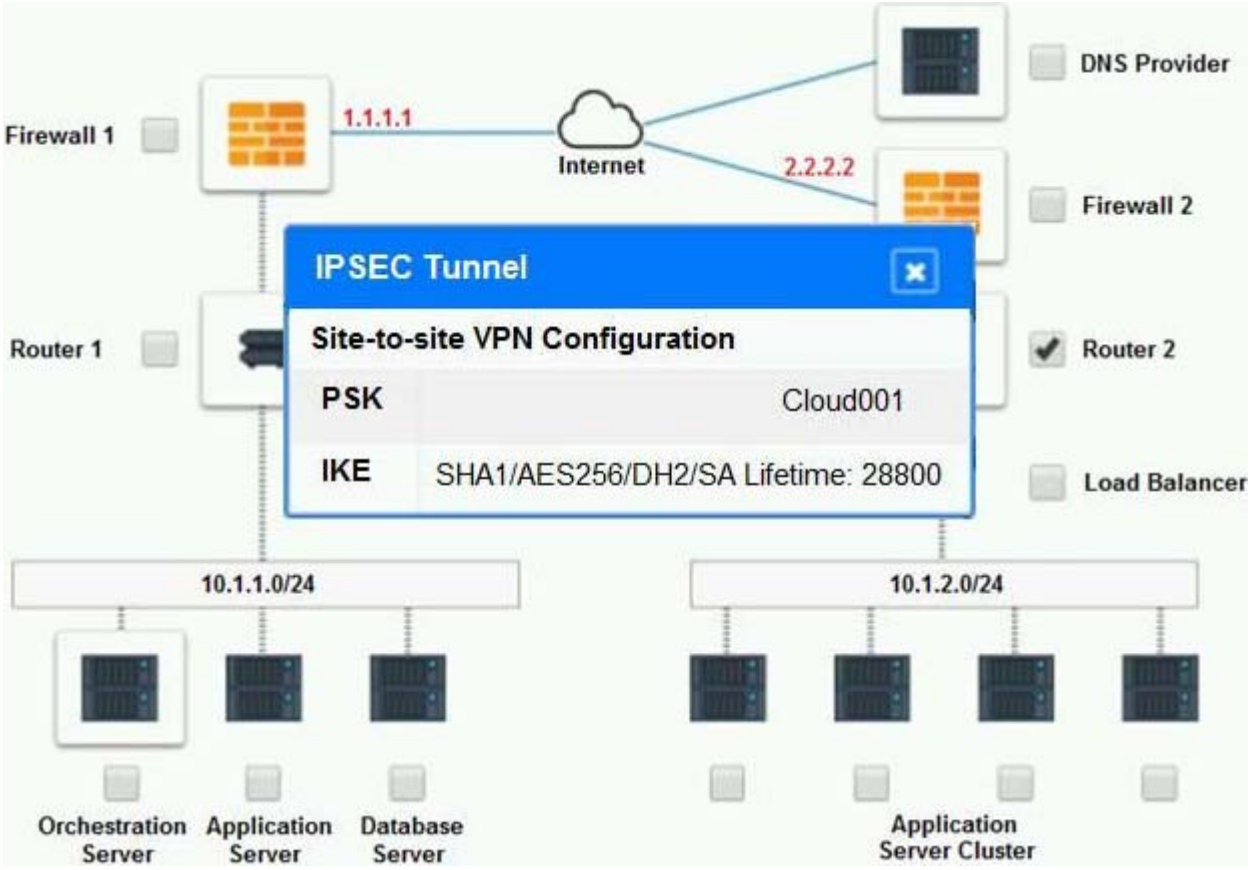
Part 1:
Cloud Hybrid Network Diagram

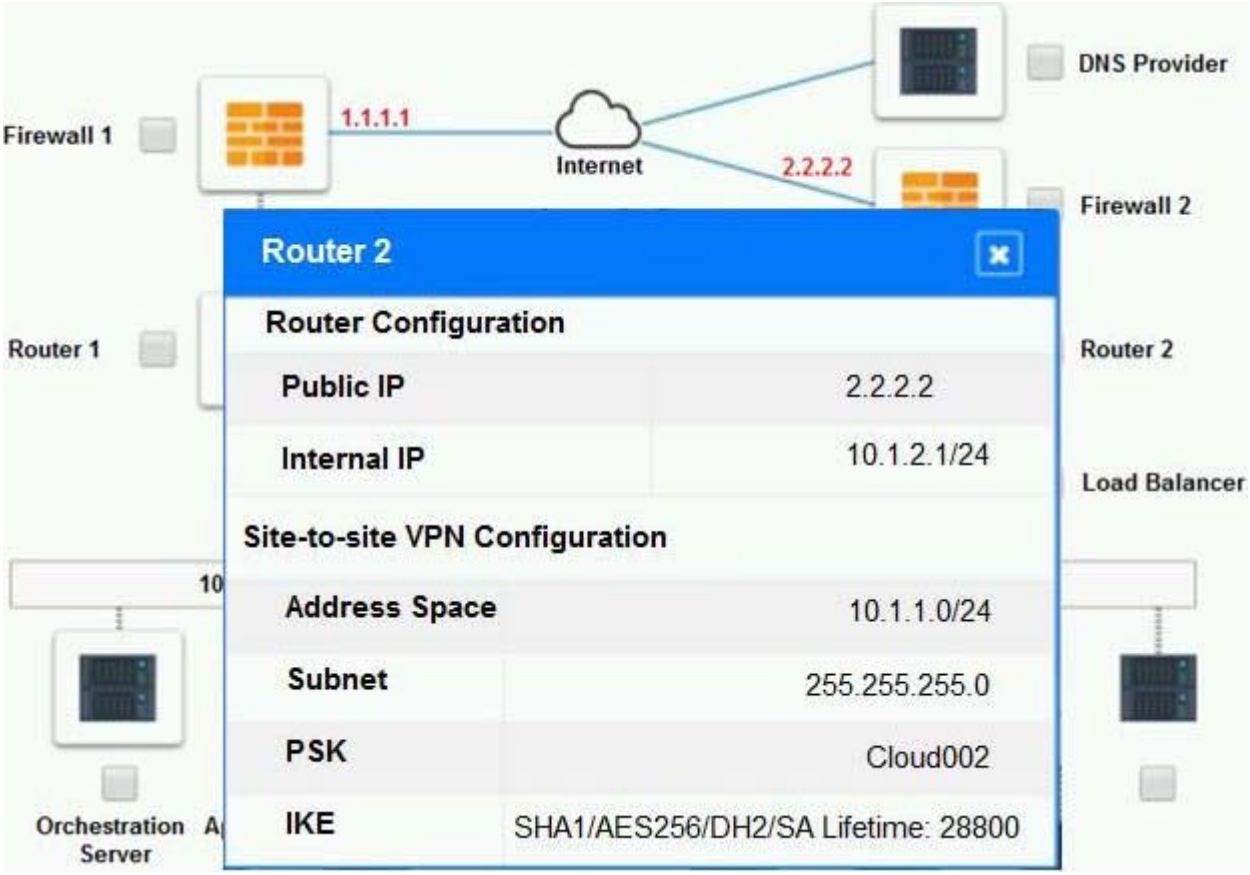

DNS Provider
Firewall 1
1.1.1.1
Internet
2.2.2.2
Firewall 2
Router 1
Router 2
Site-to-Site IPSEC Tunnel
Load Balanc
10.1.1.0/24
10.1.2.0/24
Orchestration Server
Application Server
Database Server
Application Server Cluster

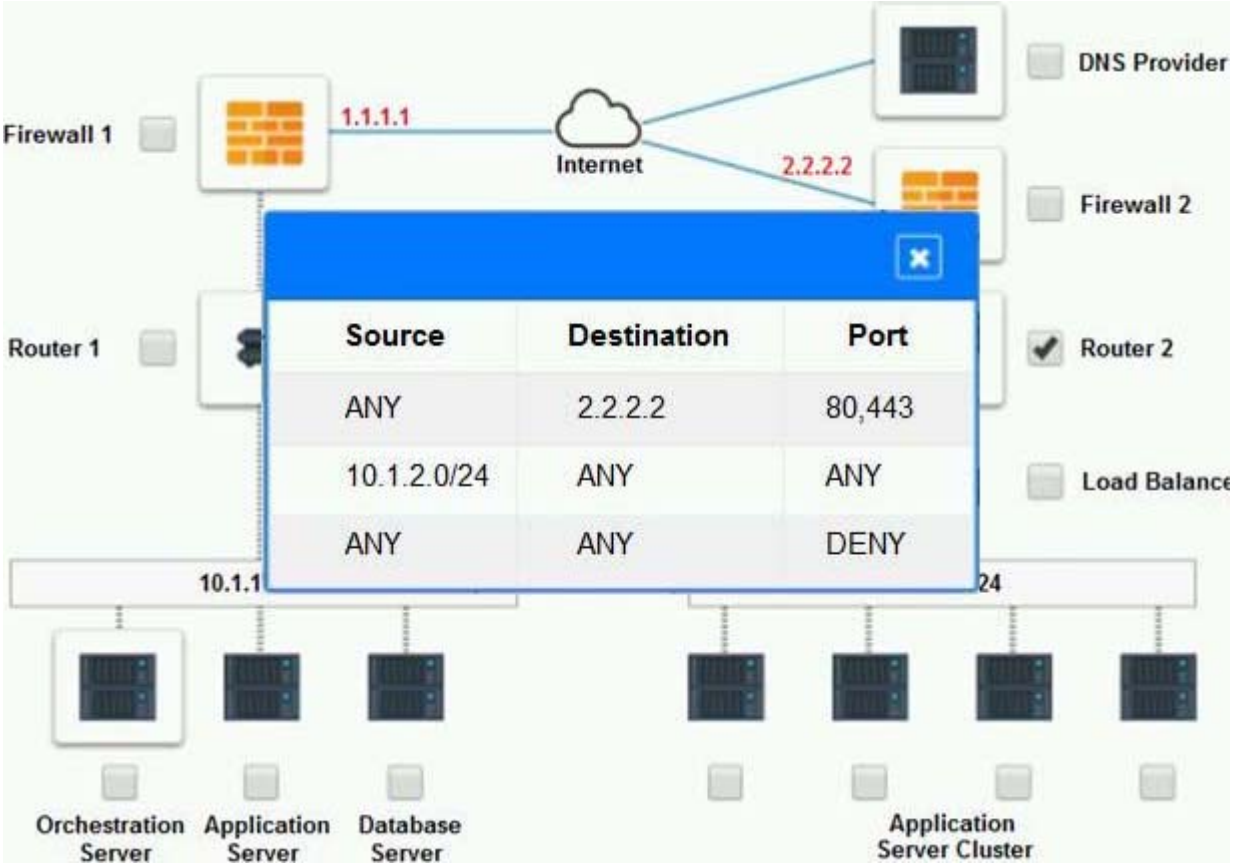

DNS Provider
Firewall 1
1.1.1.1
Internet
2.2.2.2
Firewall 2
Firewall 1
Source
Destination
Port
ANY
1.1.1.1
80,443
10.1.1.0/24
ANY
ANY
ANY
ANY
DENY
Router 1
Router 2
Load Balance
10.1.1.0/24
10.1.2.0/24
Orchestration Server
Application Server
Database Server
Application Server Cluster


DNS Provider
Firewall 1
1.1.1.1
Internet
2.2.2.2
Firewall 2
Router 1
Router 2
Load Balancer
10.1.1.
Orchestration Server
Application Server
Database Server
Application Server Cluster
Router 1
Router Configuration
Public IP 1.1.1.1
Internal IP 10.1.1.1/24
Site-to-site VPN Configuration
Address Space 10.1.1.0/24
Subnet 255.255.255.0
PSK Cloud001
IKE SHA1/AES256/DH2/SA Lifetime: 28800

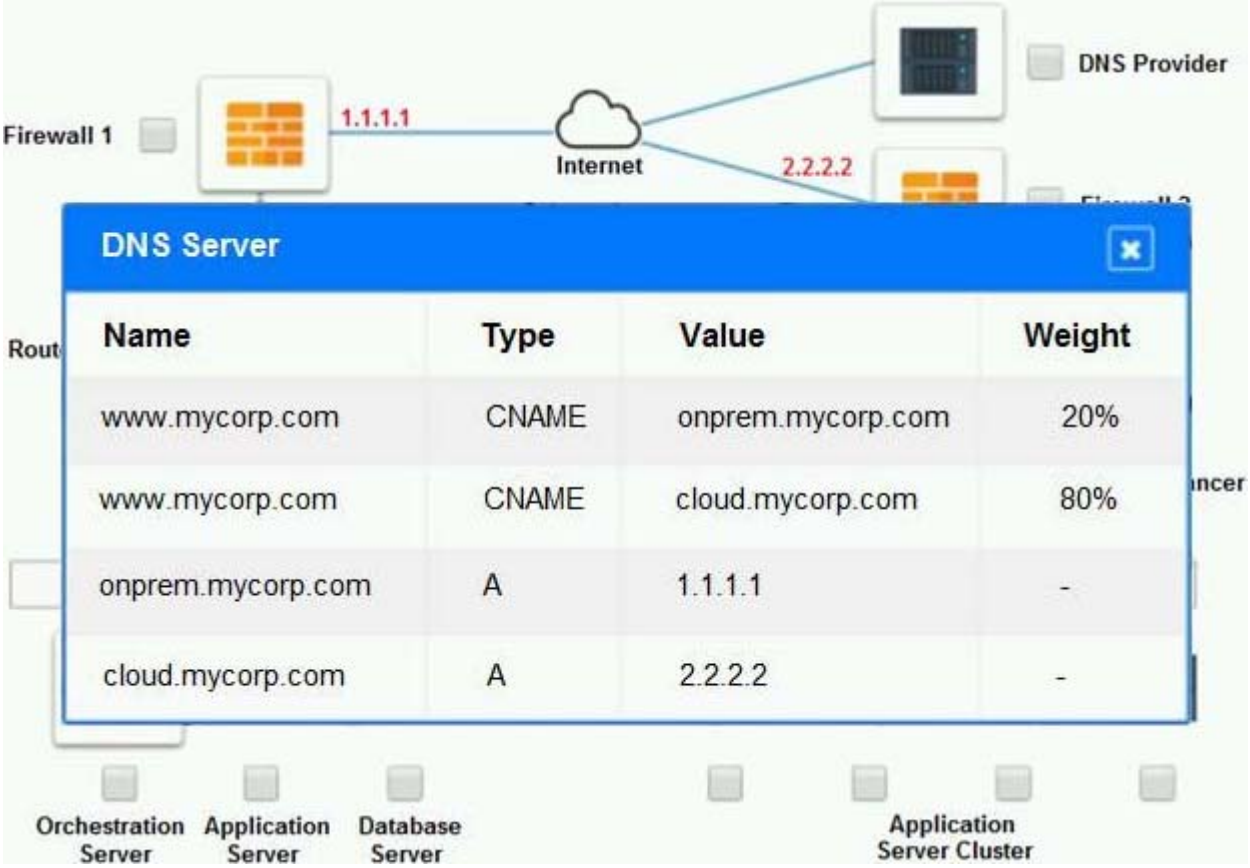

DNS Provider
Firewall 1
1.1.1.1
Internet
Firewall 2
Router 1
Router 2
Load Balance
10.1.1.0
24
Orchestration Server
Orchestration Server
Name Basic_Server
Network 10.1.1.0/24
Name Cloud_Server
Network 10.1.2.0/24
Name Application_Server
Baseline Basic_Server
Type Webserver
Version 1.0
Name Database_Server
Baseline Basic_Server
Type Database Server
Version 1.0
Name Corporate_Datacenter
Baseline Application_Server
Count 1
Name Cloud_Service_Provider
Baseline Cloud_Server
Count 4


DNS Provider
Firewall 1
1.1.1.1
Internet
2.2.2.2
Firewall 2
IPSEC Tunnel
Site-to-site VPN Configuration
PSK
Cloud001
IKE
SHA1/AES256/DH2/SA Lifetime: 28800
Router 1
Router 2
Load Balancer
10.1.1.0/24
10.1.2.0/24
Orchestration Server
Application Server
Database Server
Application Server Cluster


DNS Provider
Firewall 1
1.1.1.1
Internet
2.2.2.2
Firewall 2
Router 2
Router Configuration
Public IP
2.2.2.2
Internal IP
10.1.2.1/24
Router 1
Router 2
Load Balancer
Site-to-site VPN Configuration
Address Space
10.1.1.0/24
Subnet
255.255.255.0
PSK
Cloud002
IKE
SHA1/AES256/DH2/SA Lifetime: 28800
Orchestration Server



Source	Destination	Port
ANY	2.2.2.2	80,443
10.1.2.0/24	ANY	ANY
ANY	ANY	DENY



DNS Server

Name	Type	Value	Weight
www.mycorp.com	CNAME	onprem.mycorp.com	20%
www.mycorp.com	CNAME	cloud.mycorp.com	80%
onprem.mycorp.com	A	1.1.1.1	-
cloud.mycorp.com	A	2.2.2.2	-

Part 2:

Only select a maximum of TWO options from the multiple choice question

- ☐ Deploy a Replica of the Database Server in the Cloud Provider.
- ☐ Update the PSK (Pre-shared key) in Router 2.
- ☐ Update the A record on the DNS from 2.2.2.2 to 1.1.1.1.
- ☐ Promote deny All to allow All in Firewall 1 and Firewall 2.
- ☐ Change the Address Space on Router 2.
- ☐ Change internal IP Address of Router 1.
- ☐ Reverse the Weight property in the two CNAME records on the DNS.
- ☐ Add the Application Server at on-premises to the Load Balancer.

Answer:
1. Change the Address Space on Router2
2. Update the PSK (Pre-shared key in Router2)

2.SIMULATION
The QA team is testing a newly implemented clinical trial management (CTM) SaaS application that uses a business intelligence application for reporting. The UAT users were instructed to use HTTP and HTTPS.

Refer to the application dataflow:
1A – The end user accesses the application through a web browser to enter and view clinical data.
2A – The CTM application server reads/writes data to/from the database server.
1B – The end user accesses the application through a web browser to run reports on clinical data.
2B – The CTM application server makes a SOAP call on a non-privileged port to the BI application server.
3B – The BI application server gets the data from the database server and presents it to the CTM application server.

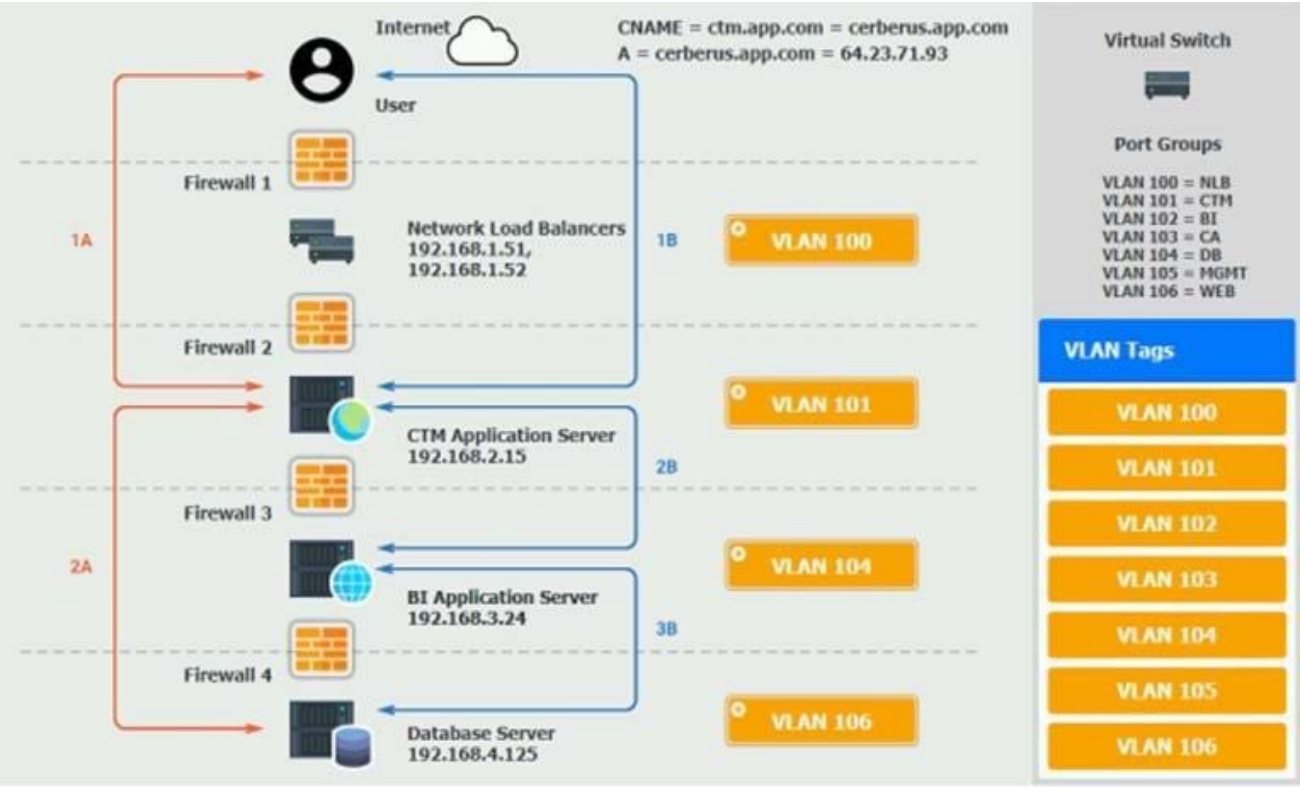
When UAT users try to access the application using https://ctm.app.com or http://ctm.app.com, they get a message stating: “Browser cannot display the webpage.” The QA team has raised a ticket to troubleshoot the issue.

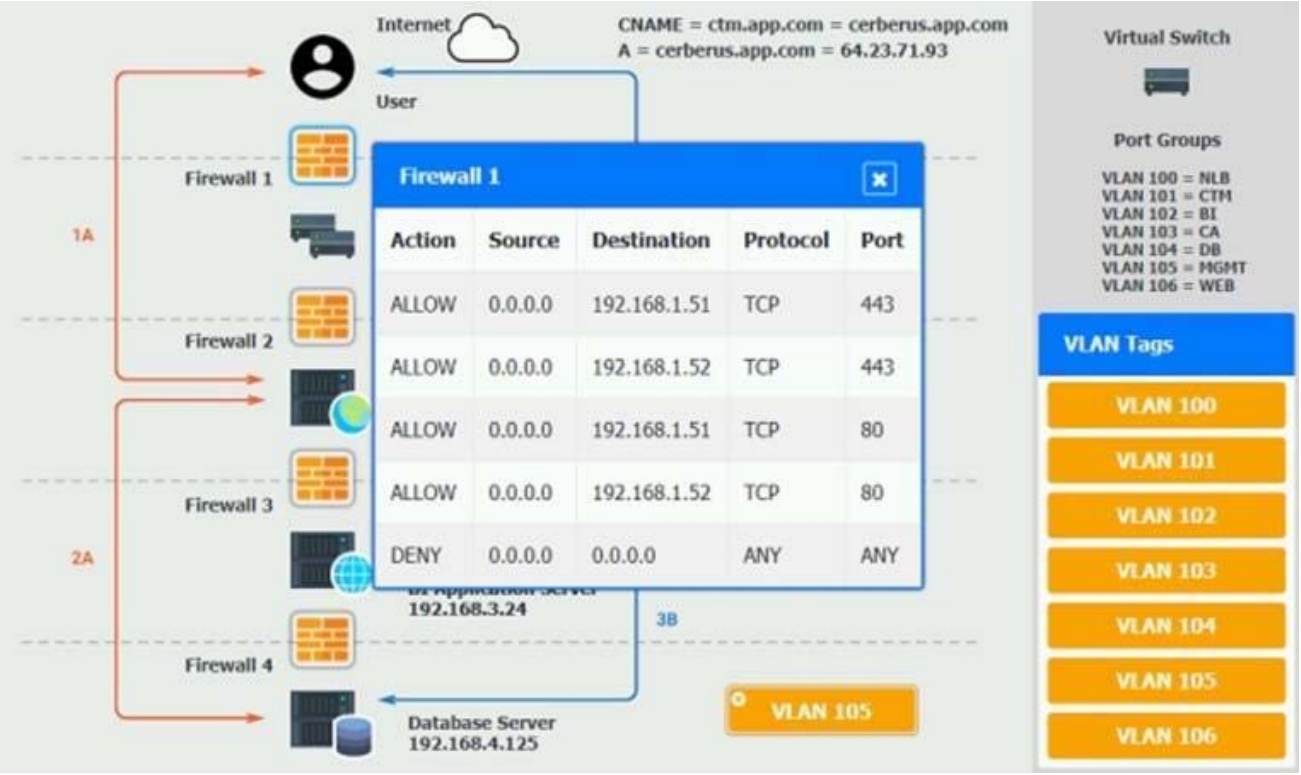
INSTRUCTIONS
You are a cloud engineer who is tasked with reviewing the firewall rules as well as virtual network settings.

You should ensure the firewall rules are allowing only the traffic based on the dataflow.
You have already verified the external DNS resolution and NAT are working.
Verify and appropriately configure the VLAN assignments and ACLs. Drag and drop the appropriate VLANs to each tier from the VLAN Tags table. Click on each Firewall to change ACLs as needed.

If at any time you would like to bring back the initial state of the simulation, please click the Reset All

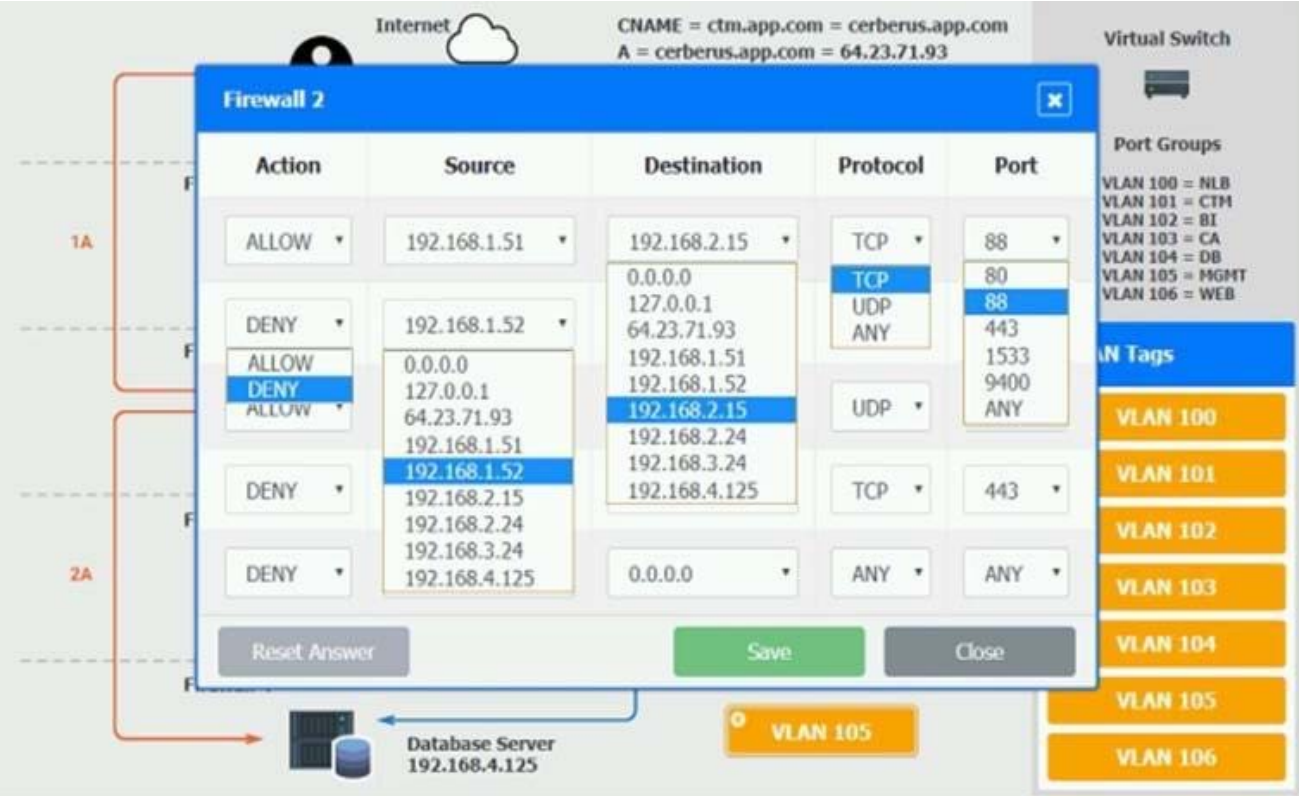
button.



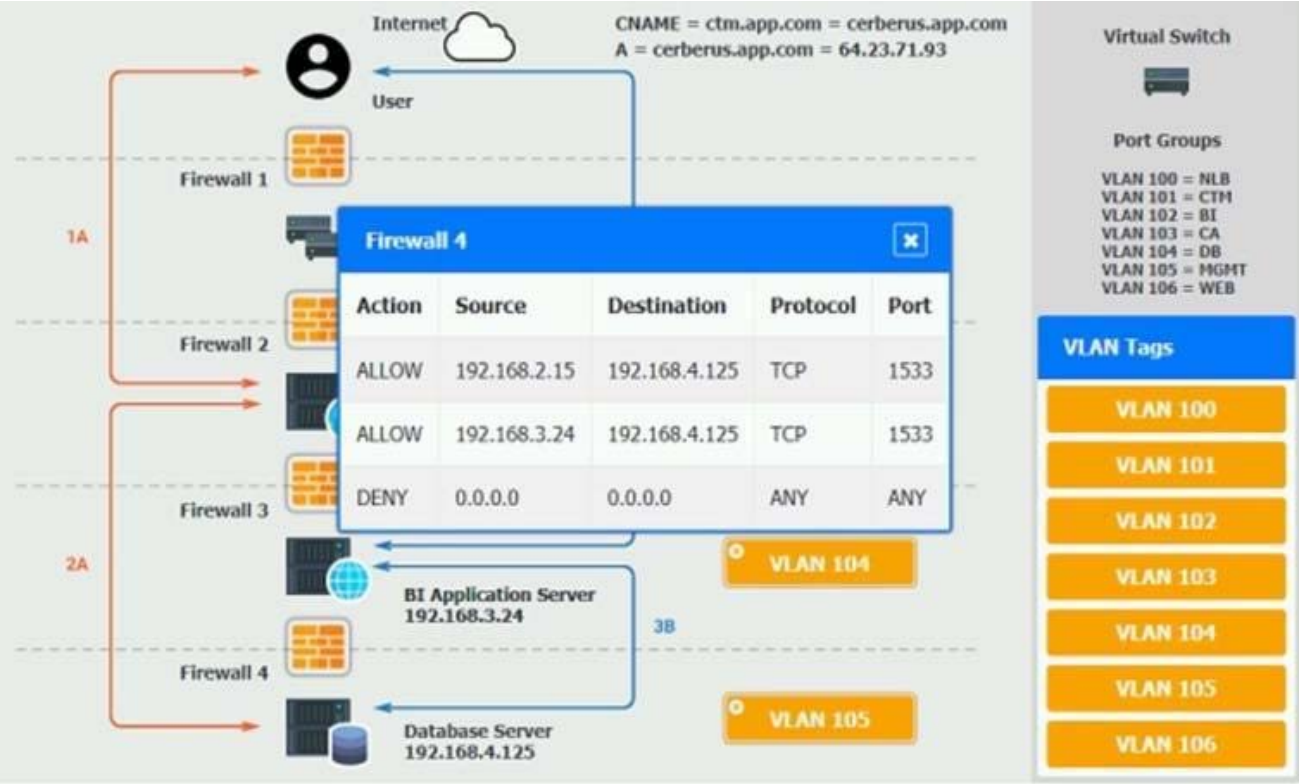


Firewall 1

Action	Source	Destination	Protocol	Port
ALLOW	0.0.0.0	192.168.1.51	TCP	443
ALLOW	0.0.0.0	192.168.1.52	TCP	443
ALLOW	0.0.0.0	192.168.1.51	TCP	80
ALLOW	0.0.0.0	192.168.1.52	TCP	80
DENY	0.0.0.0	0.0.0.0	ANY	ANY


Internet
CNAME = ctm.app.com = cerberus.app.com
A = cerberus.app.com = 64.23.71.93
Virtual Switch
Firewall 2
Action
Source
Destination
Protocol
Port
ALLOW
192.168.1.51
192.168.2.15
TCP
88
DENY
192.168.1.52
UDP
443
ANY
0.0.0.0
Reset Answer
Save
Close
Port Groups
VLAN 100 = NLB
VLAN 101 = CTM
VLAN 102 = BI
VLAN 103 = CA
VLAN 104 = DB
VLAN 105 = MGMT
VLAN 106 = WEB
VLAN 100
VLAN 101
VLAN 102
VLAN 103
VLAN 104
VLAN 105
VLAN 106
1A
2A
Database Server
192.168.4.125
VLAN 105

Internet
CNAME = ctm.app.com = cerberus.app.com
A = cerberus.app.com = 64.23.71.93
Virtual Switch
User
Firewall 3
Action
Source
Destination
Protocol
Port
DENY
0.0.0.0
ANY
ALLOW
192.168.2.15
192.168.3.24
TCP
9400
192.168.4.125
1533
Reset Answer
Save
Close
Port Groups
VLAN 100 = NLB
VLAN 101 = CTM
VLAN 102 = BI
VLAN 103 = CA
VLAN 104 = DB
VLAN 105 = MGMT
VLAN 106 = WEB
VLAN 100
VLAN 101
VLAN 102
VLAN 103
VLAN 104
VLAN 105
VLAN 106
1A
2A
192.168.3.24
3B
Firewall 4
Database Server
192.168.4.125
VLAN 105



Answer:
On firewall 3, change the DENY 0.0.0.0 entry to rule 3 not rule 1.

3.A DevOps administrator is automating an existing software development workflow. The administrator wants to ensure that prior to any new code going into production, tests confirm the new code does not negatively impact existing automation activities.
Which of the following testing techniques would be BEST to use?
A. Usability testing
B. Regression testing
C. Vulnerability testing
D. Penetration testing
Answer: B
Explanation:
Reference: https://www.softwaretestinghelp.com/regression-testing-tools-and-methods/

4.A marketing team is using a SaaS-based service to send emails to large groups of potential customers. The internally managed CRM system is configured to generate a list of target customers automatically on a weekly basis, and then use that list to send emails to each customer as part of a marketing campaign. Last week, the first email campaign sent emails successfully to 3,000 potential customers. This week, the email campaign attempted to send out 50,000 emails, but only 10,000 were sent.
Which of the following is the MOST likely reason for not sending all the emails?
A. API request limit
B. Incorrect billing account
C. Misconfigured auto-scaling
D. Bandwidth limitation

Answer: A
Explanation:
Reference: https://developers.google.com/analytics/devguides/config/mgmt/v3/limits-quotas

5.A VDI administrator has received reports of poor application performance.
Which of the following should the administrator troubleshoot FIRST?
A. The network environment
B. Container resources
C. Client devices
D. Server resources
Answer: D