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Exam : AZ-700

Title : Designing and
Implementing Microsoft
Azure Networking Solutions

Version : DEMO

1. Topic 1, Litware. Inc Case Study 1

Overview

Litware. Inc. is a financial company that has a main datacenter in Boston and 20 branch offices across the United States. Users have Android, iOS, and Windows 10 devices.

Existing Environment:

Hybrid Environment

The on-premises network contains an Active Directory forest named litwareinc.com that syncs to an Azure Active Directory (Azure AD) tenant named litwareinc.com by using Azure AD Connect.

All the offices connect to a virtual network named Vnet1 by using a Site-to-Site VPN connection.

Azure Environment

Litware has an Azure subscription named Sub1 that is linked to the litwareinc.com Azure AD tenant. Sub1 contains resources in the East US Azure region as shown in the following table.

Name	Type	Description
Vnet1	Virtual network	Uses an IP address space of 192.168.0.0/20
GatewaySubnet	Virtual network subnet	Located in Vnet1 and uses an IP address space of 192.168.15.128/29
VPNGW1	VPN gateway	Deployed to Vnet1
Vnet2	Virtual network	Uses an IP address space of 192.168.16.0/20
SubnetA	Virtual network subnet	Located in Vnet2 and uses an IP address space of 192.168.16.0/24
Vnet3	Virtual network	Uses an IP address space of 192.168.32.0/20
cloud.litwareinc.com	Private DNS zone	None
VMScaleSet1	Virtual machine scale set	Contains four virtual machines deployed to SubnetA
VMScaleSet2	Virtual machine scale set	Contains two virtual machines deployed to SubnetA
storage1	Storage account	Has the public endpoint blocked
storage2	Storage account	Has the public endpoint blocked

There is bidirectional peering between Vnet1 and Vnet2. There is bidirectional peering between Vnet1 and Vnet3. Currently, Vnet2 and Vnet3 cannot communicate directly.

Requirements:

Business Requirements

Litware wants to minimize costs whenever possible, as long as all other requirements are met.

Virtual Networking Requirements

Litware identifies the following virtual networking requirements:

* Direct the default route of 0.0.0.0/0 on Vnet2 and Vnet3 to the Boston datacenter over an ExpressRoute circuit.

- * Ensure that the records in the cloud.litwareinc.com zone can be resolved from the on-premises locations.
- * Automatically register the DNS names of Azure virtual machines to the cloud.litwareinc.com zone.
- * Minimize the size of the subnets allocated to platform-managed services.
- * Allow traffic from VMSSet1 to VMSSet2 on the TCP port 443 only.

Hybrid Networking Requirements

Litware identifies the following hybrid networking requirements:

- * Users must be able to connect to Vnet1 by using a Point-to-Site (P2S) VPN when working remotely. Connections must be authenticated by Azure AD.
- * Latency of the traffic between the Boston datacenter and all the virtual networks must be minimized.
- * The Boston datacenter must connect to the Azure virtual networks by using an ExpressRoute FastPath connection.
- * Traffic between Vnet2 and Vnet3 must be routed through Vnet1.

PaaS Networking Requirements

Litware identifies the following networking requirements for platform as a service (PaaS):

- * The storage1 account must be accessible from all on-premises locations without exposing the public endpoint of storage1.
- * The storage2 account must be accessible from Vnet2 and Vnet3 without exposing the public endpoint of storage2.

You need to connect Vnet2 and Vnet3. The solution must meet the virtual networking requirements and the business requirements.

Which two actions should you include in the solution? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. On the peerings from Vnet2 and Vnet3, select Use remote gateways.
- B. On the peering from Vnet1, select Allow forwarded traffic.
- C. On the peering from Vnet1, select Use remote gateways.
- D. On the peering from Vnet1, select Allow gateway transit.
- E. On the peerings from Vnet2 and Vnet3, select Allow gateway transit.

Answer: AD

2.DRAG DROP

You need to prepare Vnet1 for the deployment of an ExpressRoute gateway. The solution must meet the hybrid connectivity requirements and the business requirements.

Which three actions should you perform in sequence for Vnet1? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions

- Create a VPN gateway by using the VPNGW1 SKU.
- Assign a user-defined route to GatewaySubnet.
- Set the subnet mask of GatewaySubnet to /27.
- Delete VPNGW1.
- Create a VPN gateway by using the Basic SKU.

Answer Area

Answer:

Actions

- Create a VPN gateway by using the VPNGW1 SKU.
- Assign a user-defined route to GatewaySubnet.
- Set the subnet mask of GatewaySubnet to /27.
- Delete VPNGW1.
- Create a VPN gateway by using the Basic SKU.

Answer Area

- Set the subnet mask of GatewaySubnet to /27.
- Create a VPN gateway by using the Basic SKU.
- Assign a user-defined route to GatewaySubnet.

3.HOTSPOT

You need to implement a P2S VPN for the users in the branch office. The solution must meet the hybrid networking requirements.

What should you do? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

On the VPN gateway in Vnet1,
set the P2S VPN tunnel type to:

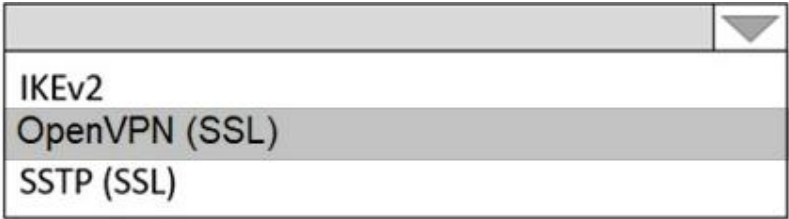
	▼
IKEv2	
OpenVPN (SSL)	
SSTP (SSL)	

In the litwareinc.com tenant:

	▼
Create a device object	
Create a managed identity	
Grant consent to an Azure AD application	

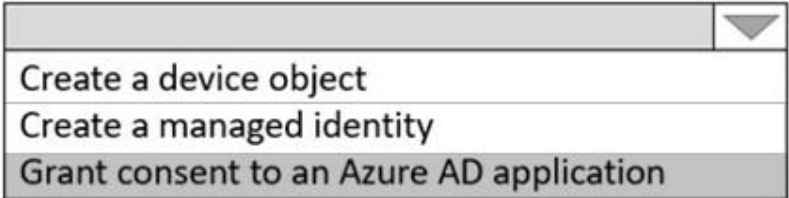
Answer:

On the VPN gateway in Vnet1,
set the P2S VPN tunnel type to:



IKEv2
OpenVPN (SSL)
SSTP (SSL)

In the litwareinc.com tenant:



Create a device object
Create a managed identity
Grant consent to an Azure AD application

Explanation:

Reference: <https://docs.microsoft.com/en-us/azure/vpn-gateway/openvpn-azure-ad-tenant>

4. You need to provide connectivity to storage1. The solution must meet the PaaS networking requirements and the business requirements.

What should you include in the solution?

- A. a service endpoint
- B. Azure Front Door
- C. a private endpoint
- D. Azure Traffic Manager

Answer: C

Explanation:

To provide connectivity to the storage1 account while meeting the PaaS networking requirements and the business requirements, you should consider what each of the options offers:

A. Service Endpoint: Service Endpoints provide secure and direct connectivity to Azure services over the Azure backbone network. When you enable a service endpoint for a particular service in your virtual network, traffic from your VNet to the service will always stay on the Azure backbone network. However, this does not fully restrict access to the service to only your VNet, as the public endpoint for the service is still accessible over the internet.

B. Azure Front Door: Azure Front Door is a scalable and secure entry point for fast delivery of your global web applications. It combines various traffic-routing and load-balancing services but does not inherently restrict access to a storage account from a network security perspective.

C. Private Endpoint: A private endpoint is a network interface that connects you privately and securely to a service powered by Azure Private Link. A private endpoint uses a private IP address from your VNet, effectively bringing the service into your VNet. All traffic to the service can be routed through the private IP address, making it the most suitable option for securing and privatizing the network connection.

D. Azure Traffic Manager: Azure Traffic Manager is a DNS-based traffic load balancer that enables you to distribute traffic optimally to services across global Azure regions while providing high availability and responsiveness. However, it is not a solution for securing access to a storage account.

Considering the requirement to make the storage1 account accessible from all on-premises locations without exposing the public endpoint, the correct choice would be:

C. a private endpoint.

This is because a private endpoint allows the storage account to be accessed over a private link. The traffic between the on-premises network and the storage account traverses through the private link, never entering the public internet, thus not exposing the public endpoint of the storage1 account. This meets both the PaaS networking requirements and the business requirement of not exposing the storage account to public access.

5.HOTSPOT

You need to recommend a configuration for the ExpressRoute connection from the Boston datacenter. The solution must meet the hybrid networking requirements and business requirements.

What should you recommend? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Set the ExpressRoute gateway type to:

	▼
High Performance (ERGW2AZ)	
Standard Performance (ERGW1AZ)	
Ultra Performance (ERGW3AZ)	

To minimize latency of traffic to Vnet2:

	▼
Create a dedicated ExpressRoute circuit for Vnet2	
Connect Vnet2 directly to the ExpressRoute circuit	
Configure gateway transit for the peering between Vnet1 and Vnet2	

Answer:

Set the ExpressRoute gateway type to:

	▼
High Performance (ERGW2AZ)	
Standard Performance (ERGW1AZ)	
Ultra Performance (ERGW3AZ)	

To minimize latency of traffic to Vnet2:

	▼
Create a dedicated ExpressRoute circuit for Vnet2	
Connect Vnet2 directly to the ExpressRoute circuit	
Configure gateway transit for the peering between Vnet1 and Vnet2	

Explanation:

For the first question, only ExpressRoute GW SKU Ultra Performance support FastPath feature. For the second question, vnet1 will connect to ExpressRoute gw, once Vnet1 peers with Vnet2, the traffic from on-premise network will bypass GW and Vnet1, directly goes to Vnet2, while this feature is under public preview.

Reference: ExpressRoute virtual network gateway is designed to exchange network routes and route network traffic. FastPath is designed to improve the data path performance between your on-premises network and your virtual network. When enabled, FastPath sends network traffic directly to virtual machines in the virtual network, bypassing the gateway.

To configure FastPath, the virtual network gateway must be either:

Ultra Performance

ErGw3AZ

VNet Peering - FastPath will send traffic directly to any VM deployed in a virtual network peered to the one connected to ExpressRoute, bypassing the ExpressRoute virtual network gateway.

<https://docs.microsoft.com/en-us/azure/expressroute/about-fastpath>

Gateway SKU

<https://docs.microsoft.com/en-us/azure/expressroute/expressroute-about-virtual-network-gateways>