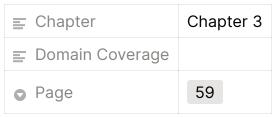
# **Azure Core Networking Services**



#### Summary

Network Addression

Routing

Domain Name Service (DNS)

Virtual Private Network (VPN)

Load Balancer

ExpressRoute

Content Delivery Network (CDN)

Exam Essentials

Describe core resources available in Azure

Additional Resources

## Summary

### **Network Addression**

- Devices on a network are assigned a network address, which identifies the device and enables routing to and from devices.
- Subnets create virtual networks to segregate devices within an address space.
- When you create a resource in Azure you specify the address segment in which it will reside allowing either static or dynamic address allocation.

## Routing

• Routers move move network traffic between segments.

Allow Private & Public networks to communicate.

## **Domain Name Service (DNS)**

• Host-to-address resolution, allow applications to determine IP by hostname.

## **Virtual Private Network (VPN)**

Creates an encrypted tunnel between two private networks.

#### **Load Balancer**

• Distributes traffic to a group of servers or services, enabling load sharing.

## **ExpressRoute**

- Azure ExpressRoute
  - Enables you to establish a secure VPN connection between your onpremises network and Azure through a third-party provider.
- **Azure ExpressRoute Direct** enables you to connect your on-premises network directly to the Microsoft global network.

## **Content Delivery Network (CDN)**

Places content near users, reduces latency and network traffic.

## **Exam Essentials**

## Describe core resources available in Azure

- VNets
  - You create VNets in Azure to segregate and organize hosts and services.
  - Each VNet is scoped to a single subscription and region but you can create multiple VNets.

#### Virtual Network Peering

Enables you to connect VNets across regions.

#### Load-Balancing Services

Allows you to balance traffic between multiple servers.

#### Azure Application Gateway

Used for regional load balancing of web applications.

#### Azure Front Door

Intended for globally distributed applications.

#### Azure Traffic Manager

- Intended for regional or global DNS-based load balancing. not able to fail over as quickly as Front door.
- https://azure.microsoft.com/en-us/services/traffic-manager/

#### Virtual Private Networks (VPNs)

Allows you to establish a secure tunnel between two private networks.

#### Azure VPN Gateway

- Use to establish VPN tunnels between Azure VNets and between Azure and on-premises networks.
- Supports
  - Site-to-Site
    - <a href="https://docs.microsoft.com/en-us/azure/vpn-gateway/tutorial-site-to-site-portal">https://docs.microsoft.com/en-us/azure/vpn-gateway/tutorial-site-to-site-portal</a>
    - The **local network gateway** is a specific object that represents your on-premises location (the site) for routing purposes.
  - Multi-Site
  - Point-to-Site
  - VNet-to-Vnet

#### Azure ExpressRoute

 Provides VPN connectivity between your on-premise network and Azure with higher speeds using third-party network providers.

#### • Azure ExpressRoute Direct

 Even higher speeds that connects you directly to the Microsoft Network

#### Content Delivery Networks (CDNs)

• Enable you to place content where users are located, improving performance, minimizing network traffic, and reducing latency.

## **Additional Resources**

https://docs.microsoft.com/en-us/learn/modules/azure-networking-fundamentals/azure-virtual-network-fundamentals