

# AZ-900T0x

## Module 01:

# Cloud concepts

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# Module Outline



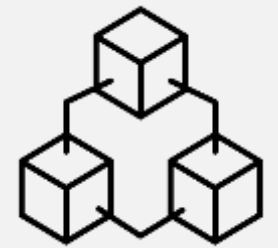
# Module 01 - Outline

You will learn the following concepts:

- **Cloud Network**
- **Cloud Storage**



# Cloud Models



**Describe Azure architecture and  
services - Networking**

# Virtual Network

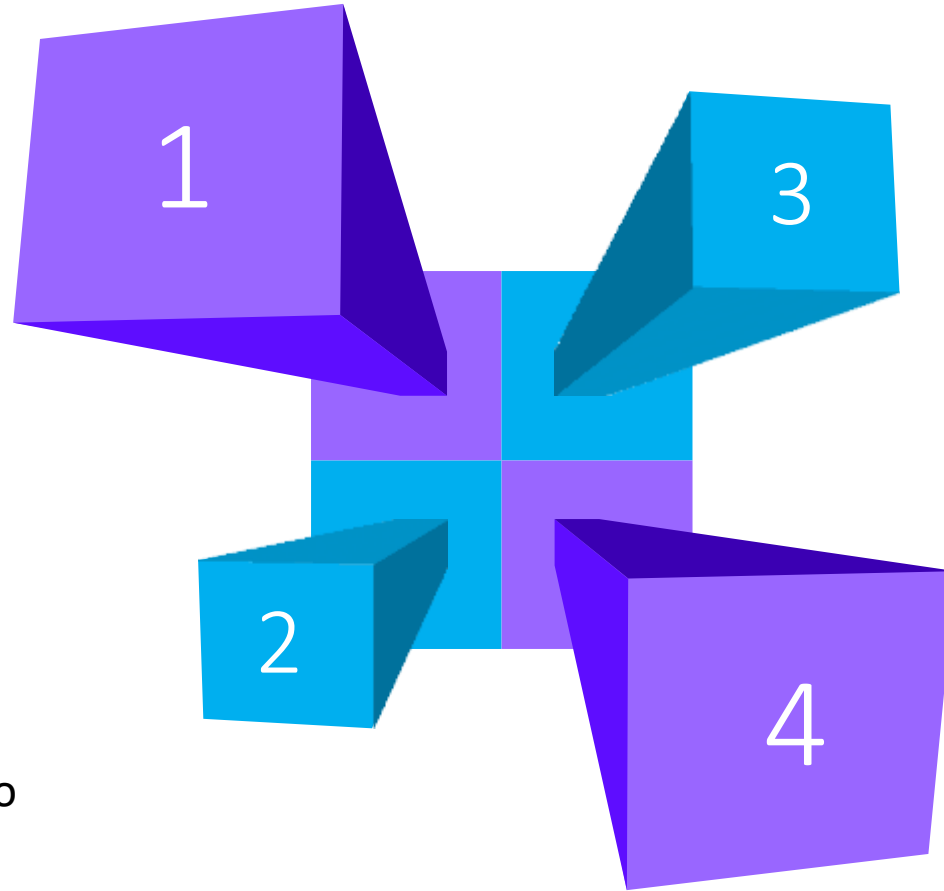
# Virtual Network

## Isolated

This is an isolated network on Azure cloud.

## Managed

Here you don't need to deploy an infrastructure to have a network in place.



## Resources

You can then place resources such as Azure virtual machines within the virtual network.

## Internet

By default all resources in the virtual network can communicate outbound with the internet.





# **Security Groups**



# Network Security Groups

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- This is used to filter network traffic in an Azure virtual network.
- You define different rules as part of the Network Security Group. You have Inbound and Outbound rules.
- For each rule you mention the source and destination of traffic, the port and protocol.



# Application Security Groups

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- This is used when you want to apply network filtering rules for a group of machines.
- Instead of mentioning the IP address of the machine, you can make the machine part of an Application Security Group.
- And then you can mention the Application Security Group in the Network Security Group.





**Connectivity**

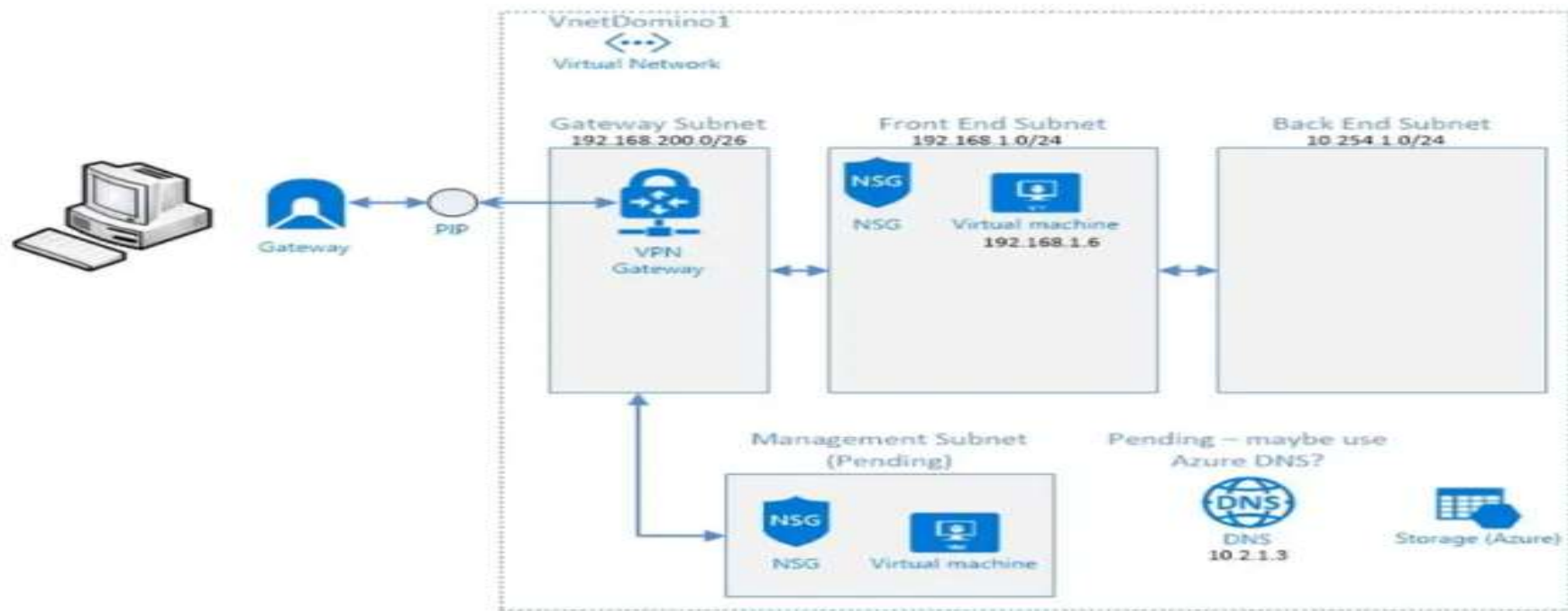
# Azure VPN Gateway

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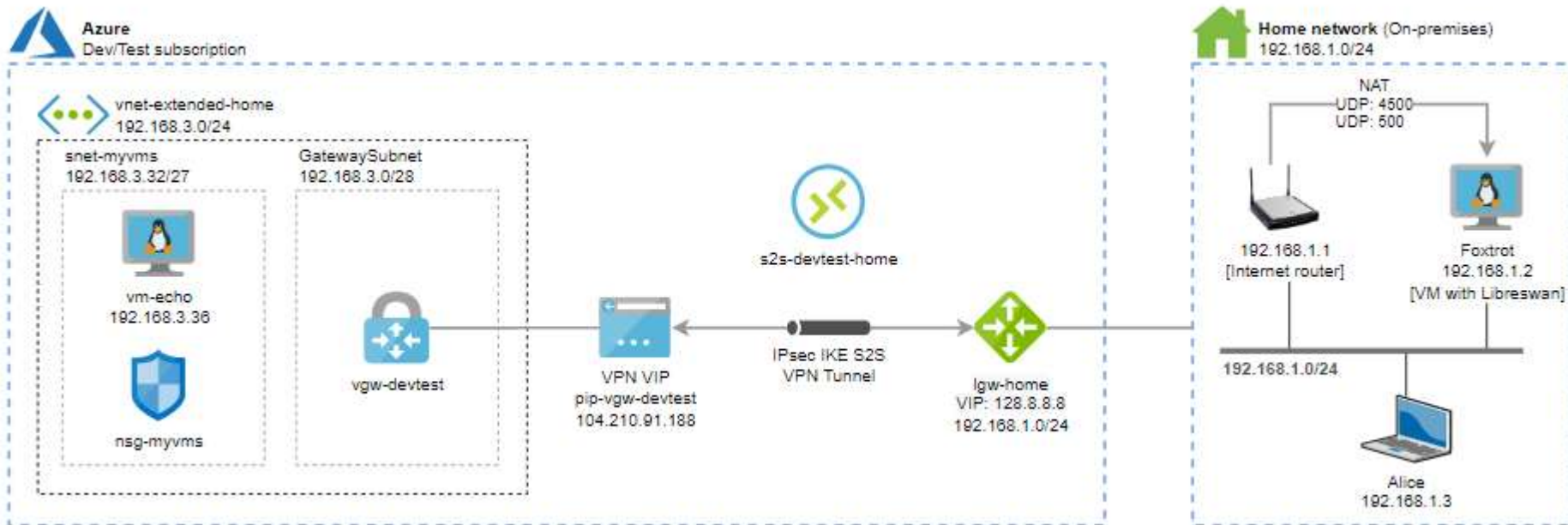
- An Azure VPN gateway can be used to send encrypted traffic between an Azure virtual network and on-premises location over the Internet.
- **Point-to-Site VPN** – This lets you create a secure connection from the Azure virtual network to an individual client computer.
- **Site-to-Site VPN** – This provides connectivity between an on-premises network and an Azure virtual network.



## Point To Site

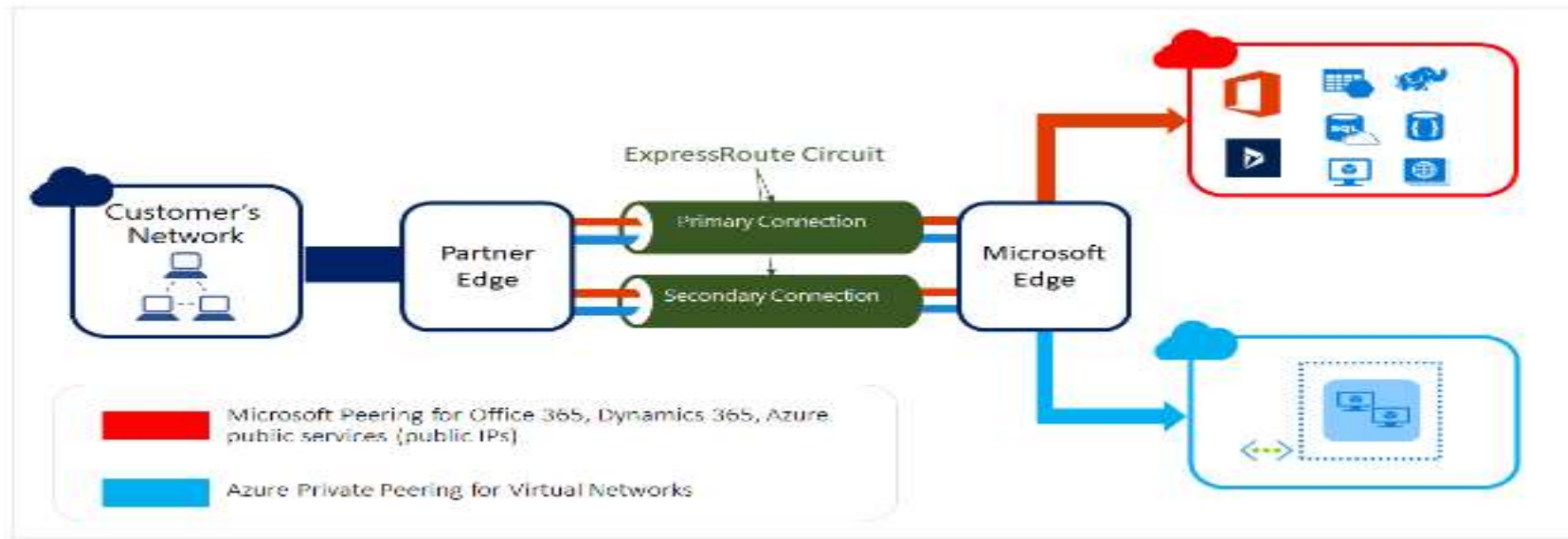


## Site 2 Site



Azure Site-to-Site VPN for DevTest

## Express Route



# Azure Load Balancer



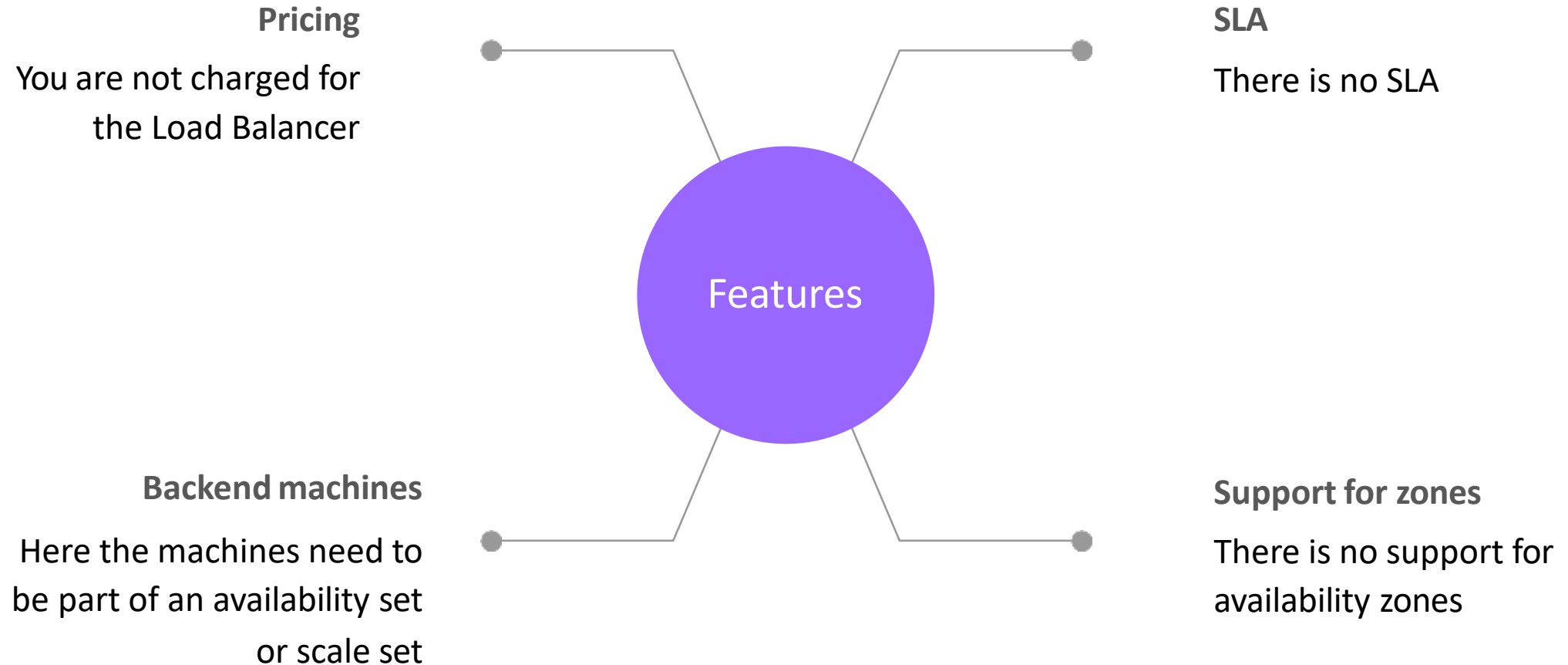
# What is the Azure Load Balancer

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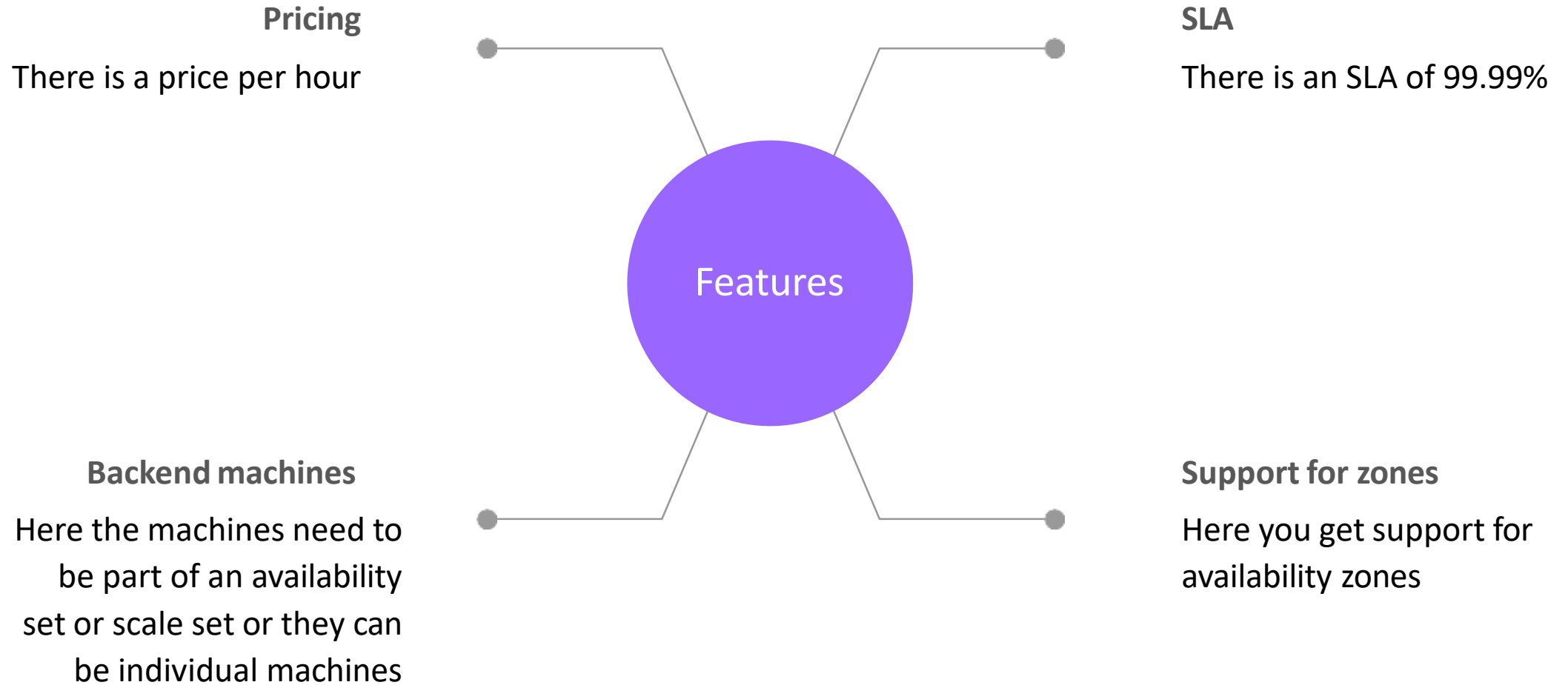
- This service is used to distribute the incoming network traffic across a group of backend resources of servers
- You can define two types of load balancers – Public or Private Load Balancers
- You have 2 SKUs for the Load Balancer – Standard and Basic Load Balancer



# Basic Load Balancer



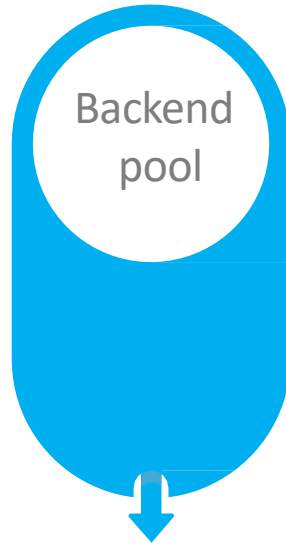
# Standard Load Balancer



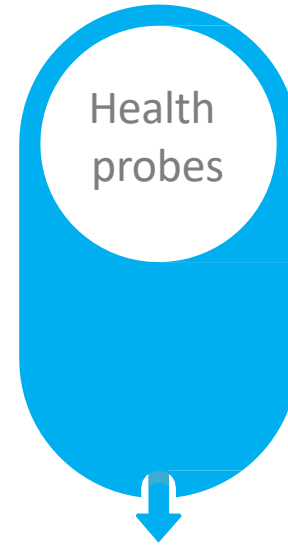
# Components of a Load Balancer



Here you define an IP address for the load balancer



This contains the backend virtual machines



This helps to check the status of the backend pool



The Load Balancing rules define how to distribute the incoming traffic



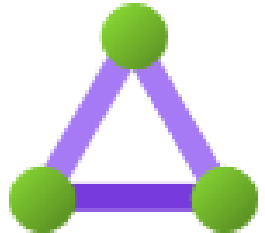
# Azure networking services



**Azure Virtual Network (VNet)** enables Azure resources to communicate with each other, the internet, and on-premises networks.



**Virtual Private Network Gateway (VPN)** is used to send encrypted traffic between an Azure virtual network and an on-premises location over the public internet.

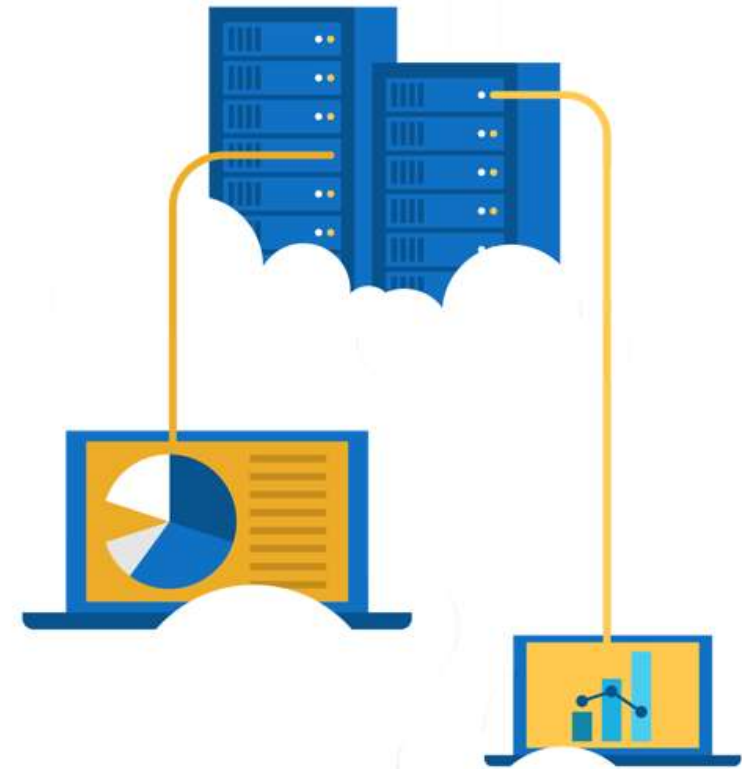


**Azure Express Route** extends on-premises networks into Azure over a private connection that is facilitated by a connectivity provider.

# Walkthrough - Create a virtual network

Create a virtual network with two virtual machines and then test connection between the machines.

1. Create a virtual network.
2. Create two virtual machines.
3. Test the connection.



# Module 02 Review



Microsoft Learn Modules  
([docs.microsoft.com/Learn](https://docs.microsoft.com/Learn))

- Microsoft provides more global presence than any other cloud provider with over 60 regions distributed worldwide
- Azure Management tools
- Azure's multiple services ( networking, storage)
- Azure Marketplace