Microsoft

AZ-700

Tag 3

Module 07

Design and implement private access to Azure Services

Guten Morgen!

AZ-700 Agenda

Module 01: Introduction to Azure Virtual Networks

Module 02: Designing and Implementing Hybrid Networking

Module 03: Designing and Implementing Azure ExpressRoute

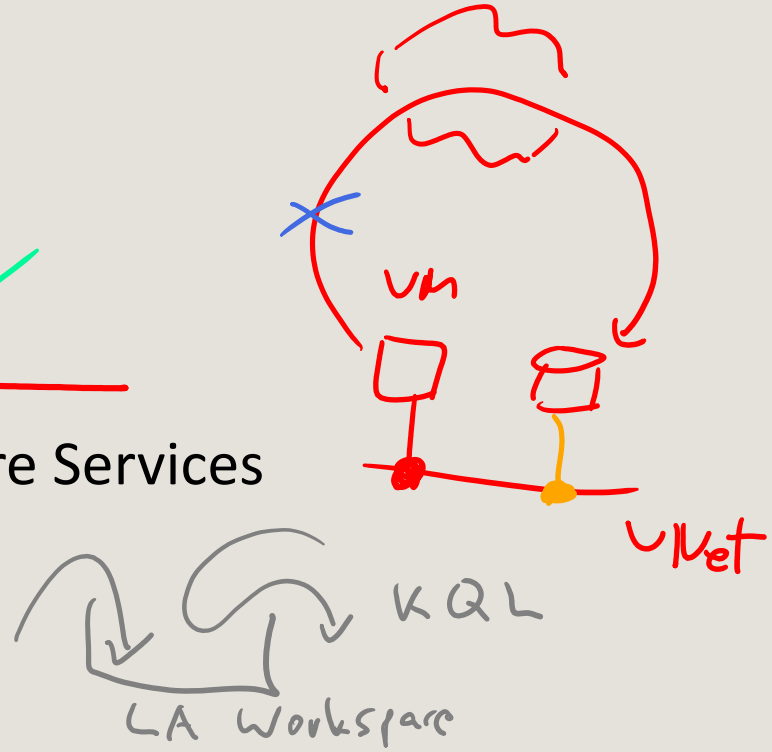
Module 04: Load balance non-HTTP(S) traffic in Azure

Module 05: Load balance HTTP(S) traffic in Azure

Module 06: Design and Implement Network Security

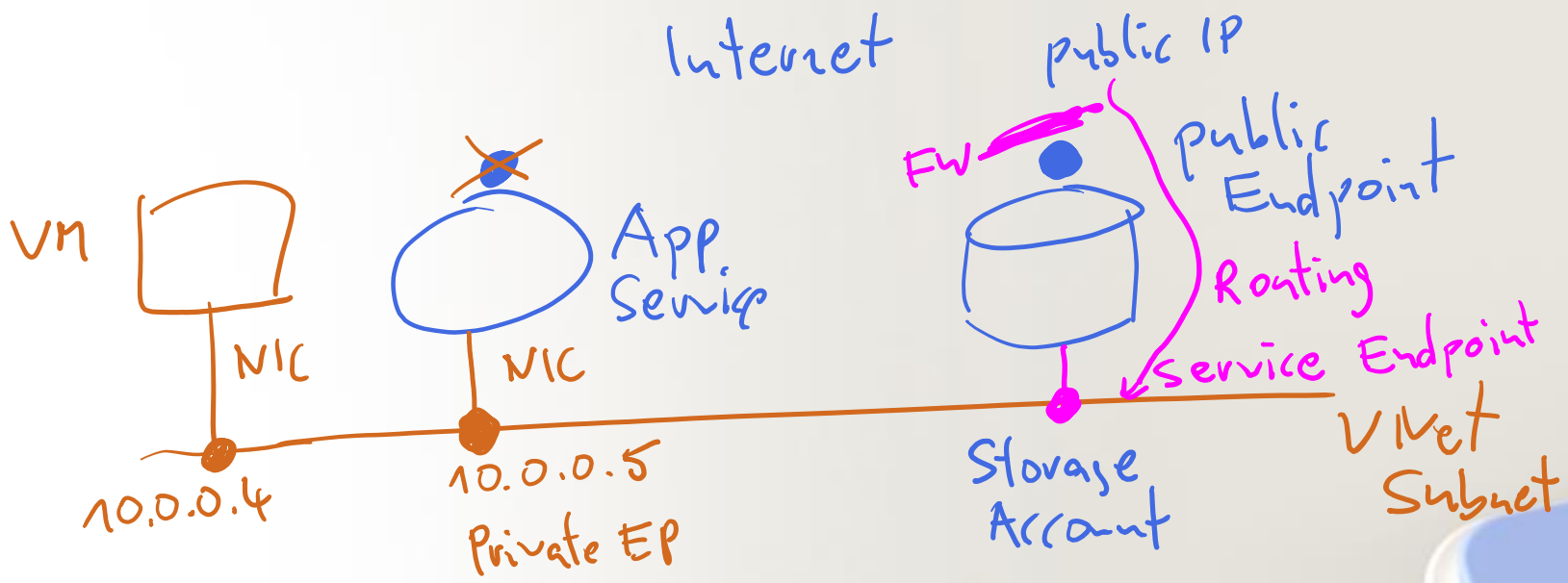
Module 07: Design and Implement private access to Azure Services

Module 08: Design and Implement Network Monitoring



Design and Implement Private Access to Azure Services

- Explain Virtual Network Service Endpoints
- Define Private Link Services and Private Endpoints
- Integrate Private Endpoint with DNS
- Exercise – Restrict network access to PaaS resources with virtual network service endpoints
- Exercise – Create an Azure Private Endpoint using Azure PowerShell

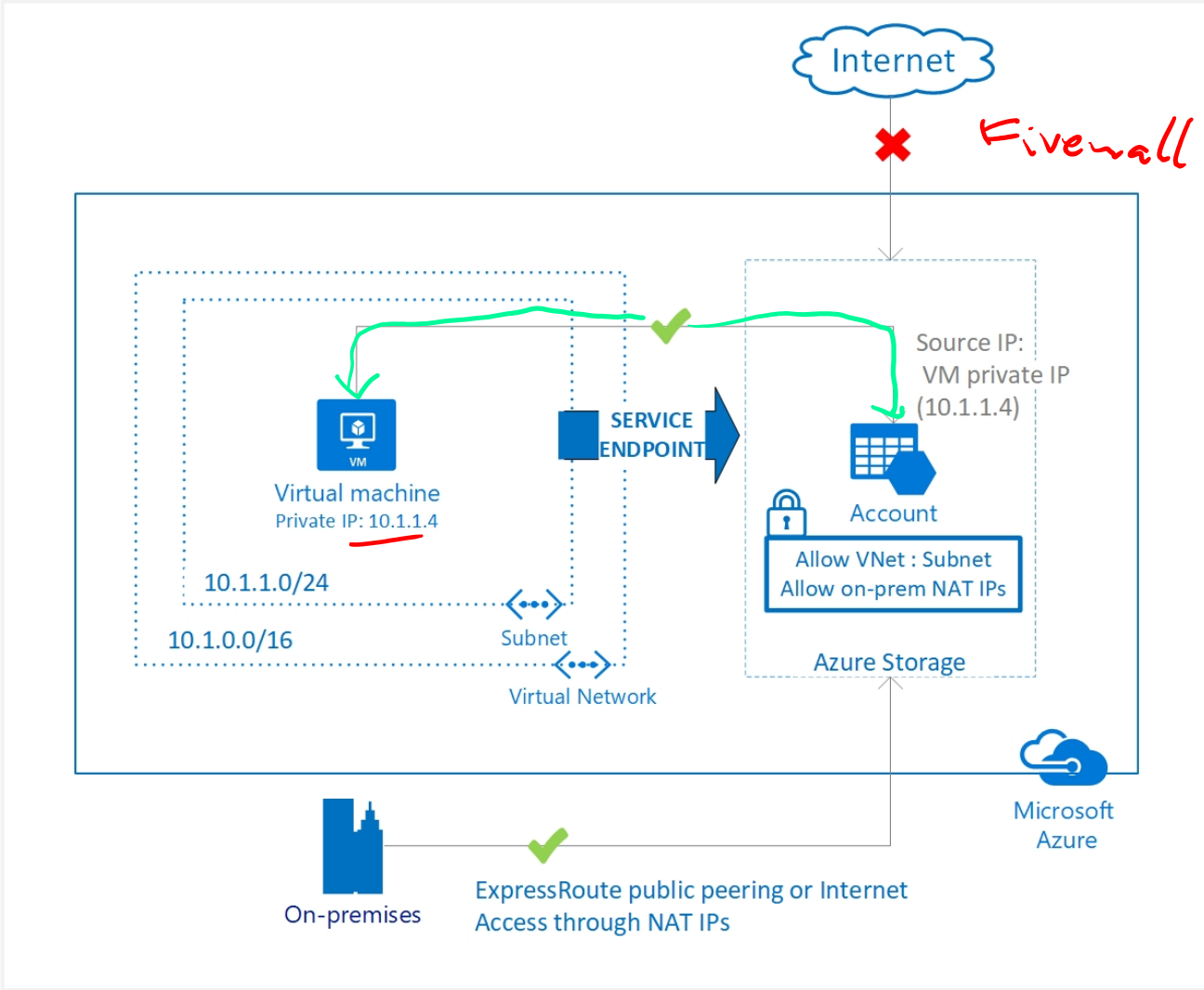


Explain Virtual Network Service Endpoints

What is Service Endpoint?

Secure and direct connectivity to Azure services over an optimized route over the Azure backbone network

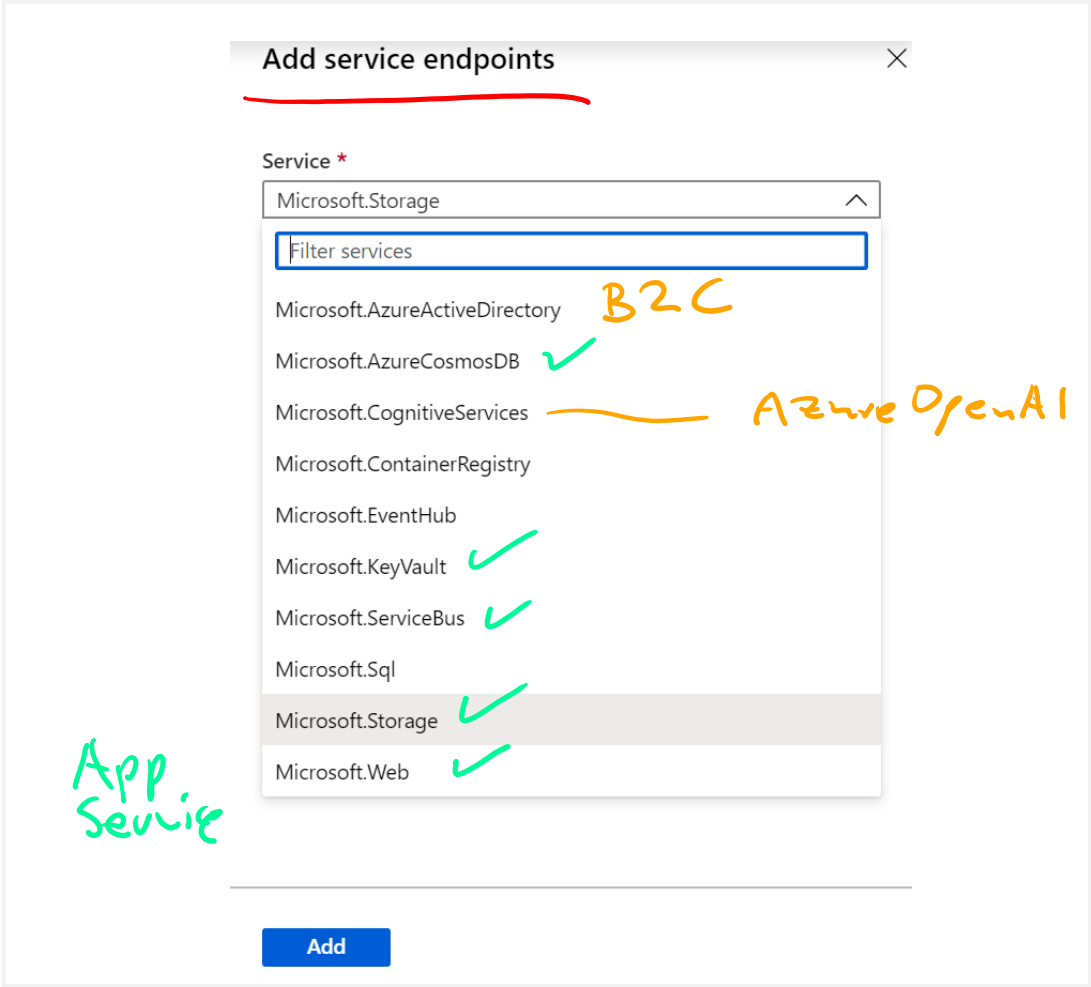
Optimal routing for Azure service traffic from your virtual network



Add Service Endpoints to a subnet

There are many services that support endpoints

Adding service endpoints can take up to 15 minutes to complete



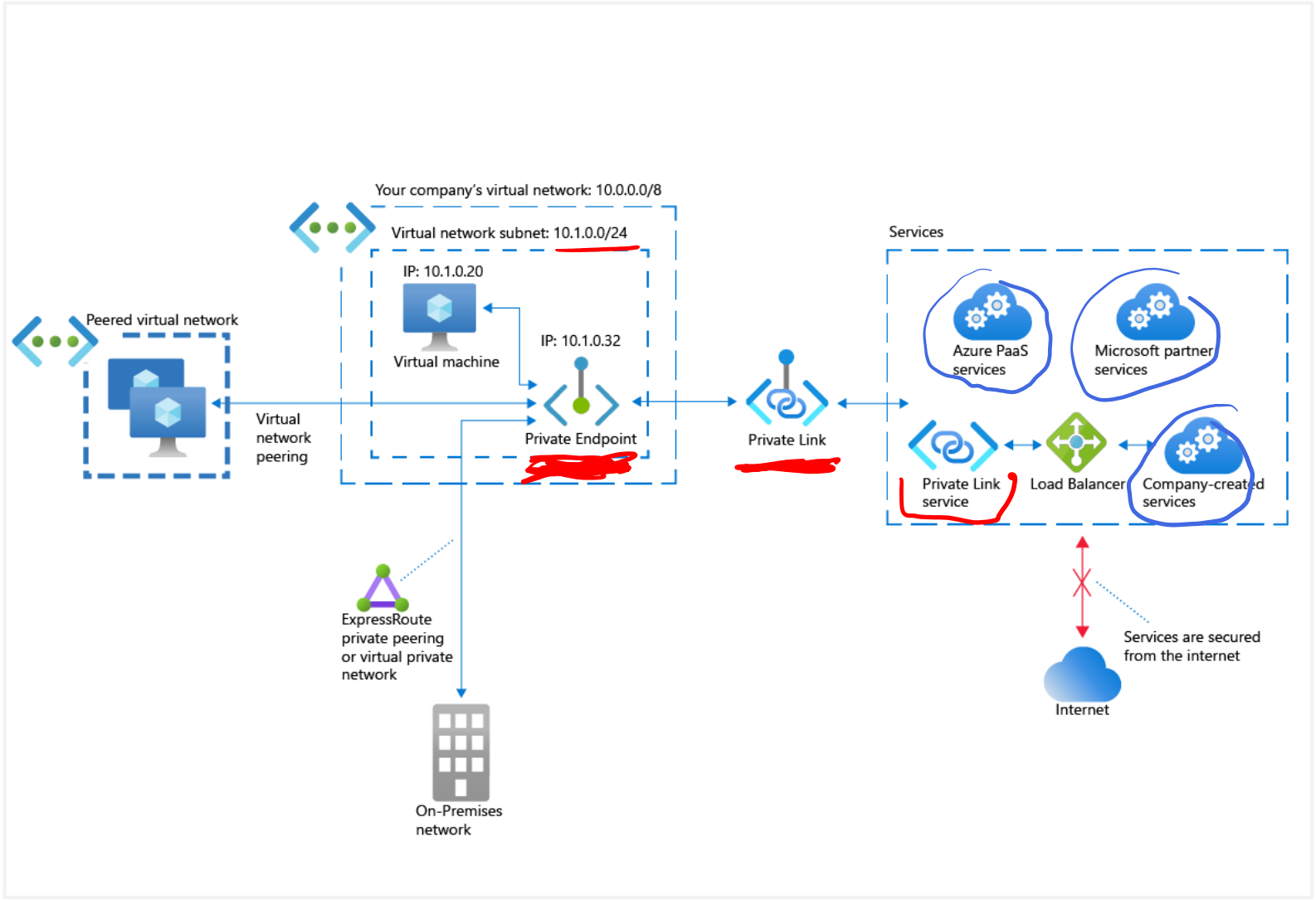
Define Private Link Services and Private Endpoints

What is Azure Private Link ?

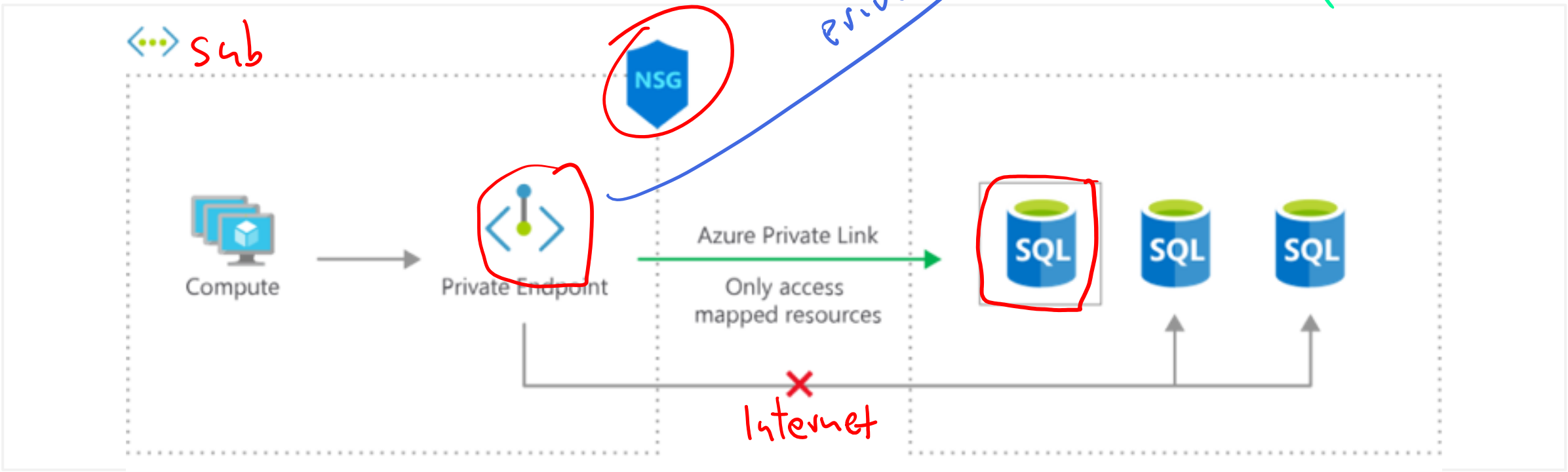
Integration with on-premises and peered networks

In the event of a security incident within your network, only the mapped resource would be accessible

Private connectivity to services on Azure. Traffic remains on the Microsoft network, with no public internet access



What is Azure Private Endpoint ?

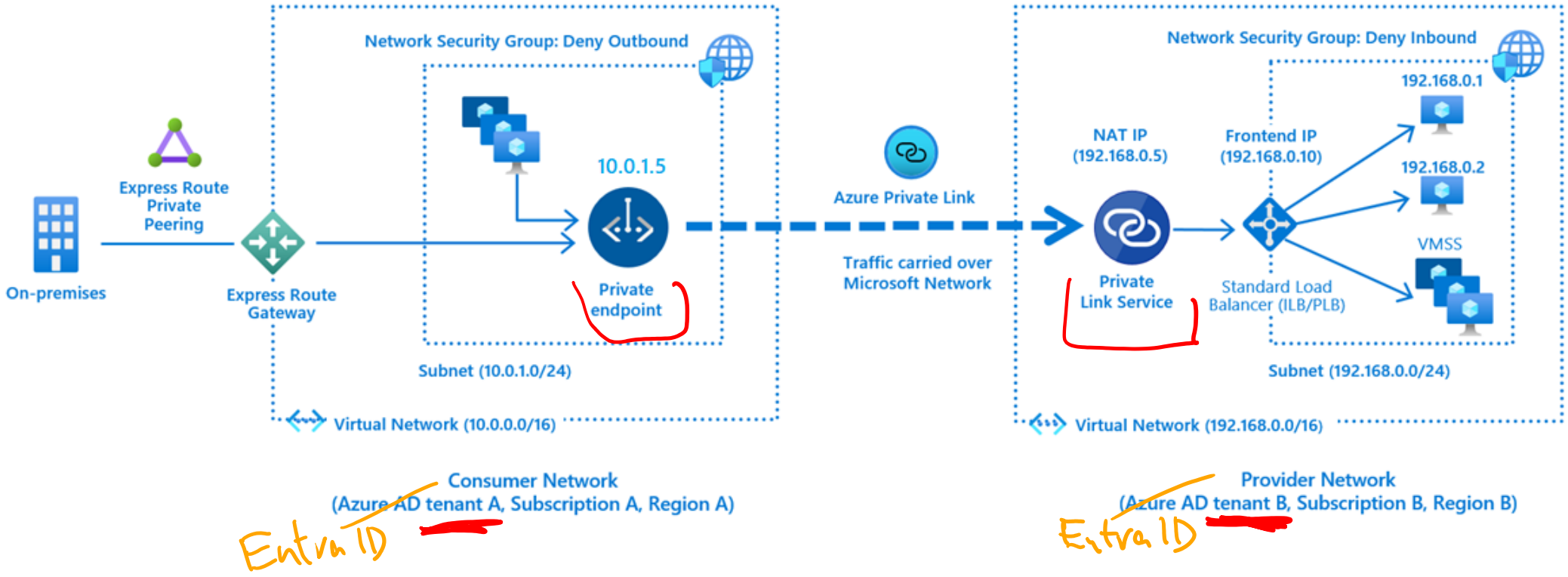


The Azure resource becomes, in a sense, a part of your virtual network.

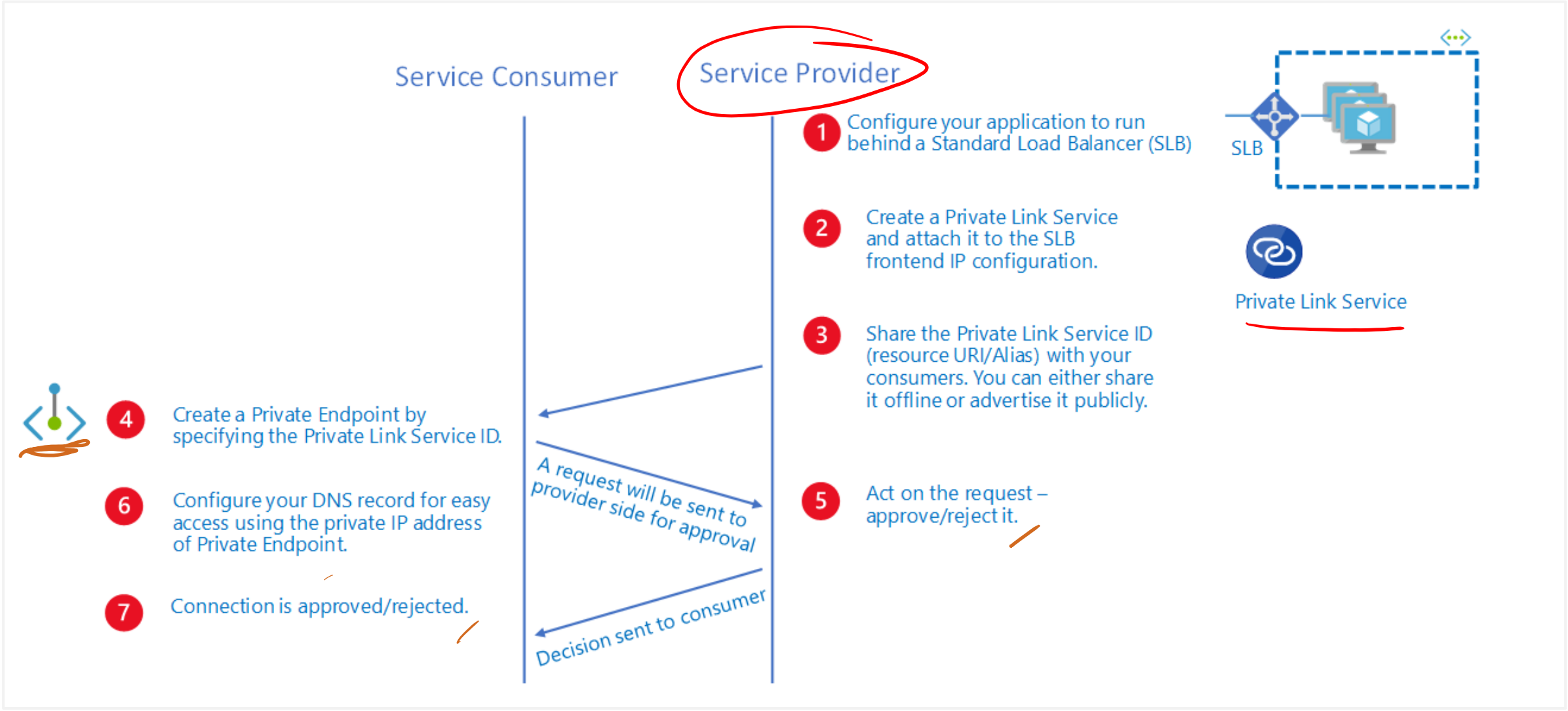
The connection to the resource now uses the Microsoft Azure backbone network instead of the public internet

Configure the Azure resource to no longer expose its public IP address, which eliminates that potential security risk.

What is Azure Private Link service?

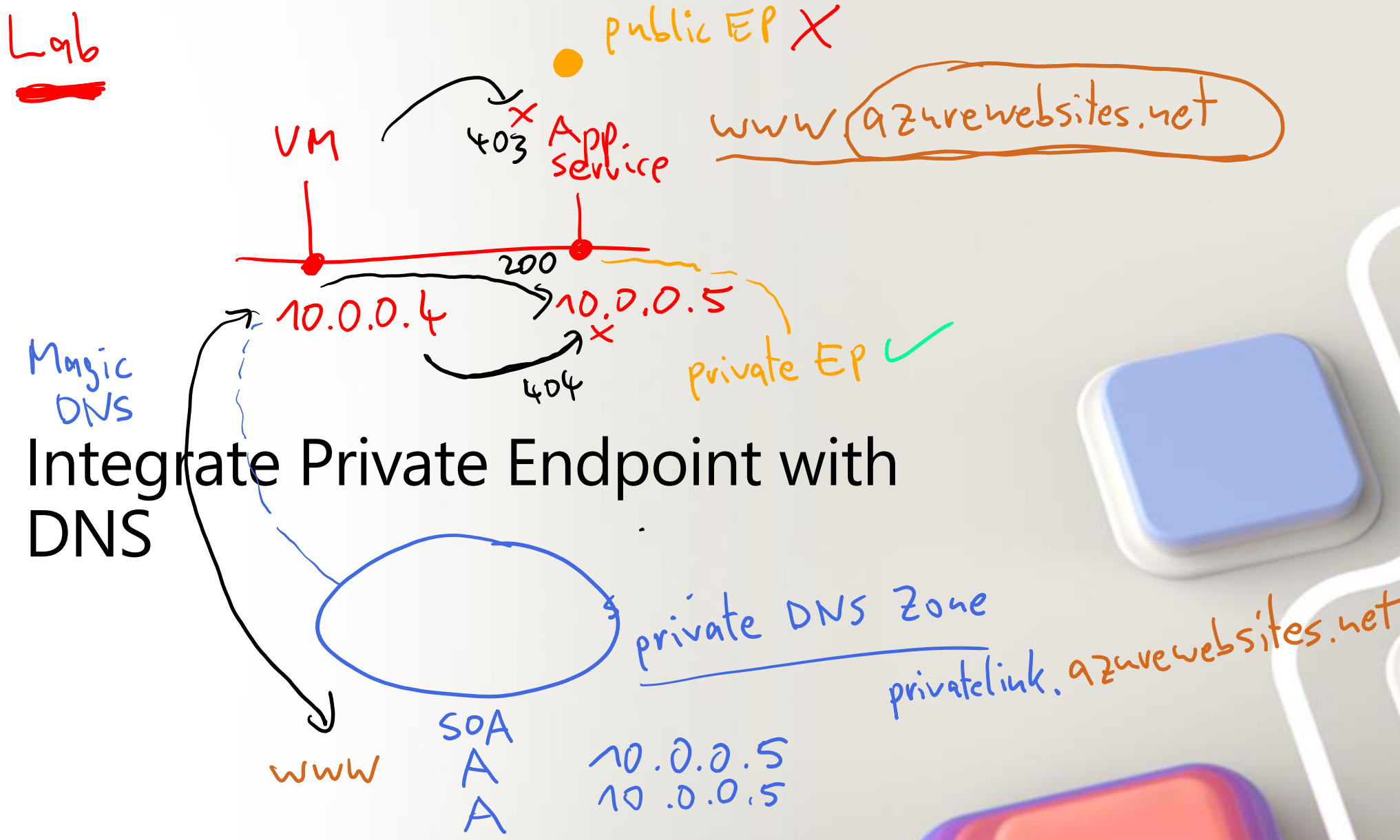


Private Link service workflow



Private Endpoint properties

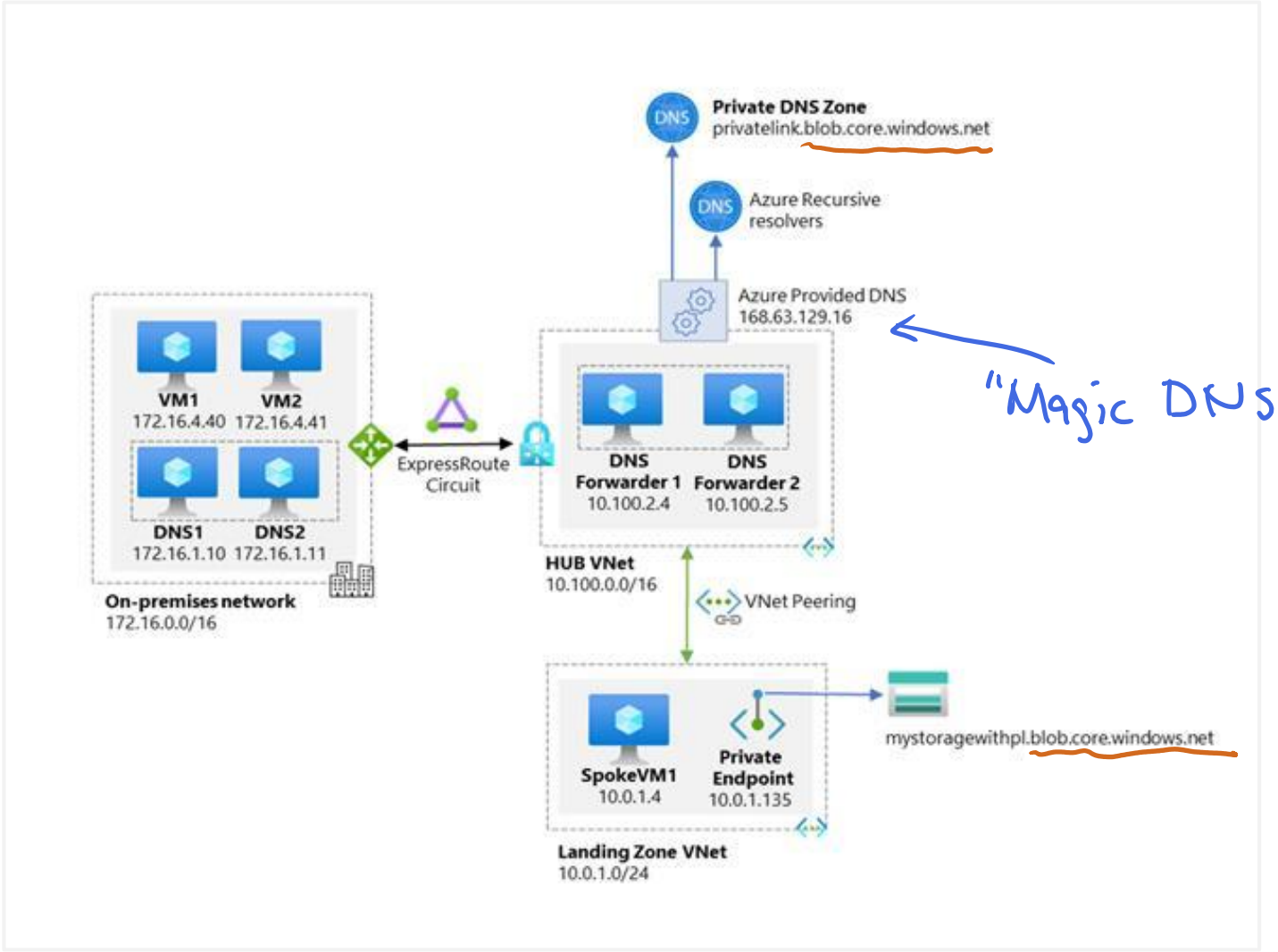
Property	Description
Name	A unique name within the resource group.
Subnet	The subnet to deploy and allocate private IP addresses from a virtual network
Private Link Resource	The private link resource to connect using resource ID or alias, from the list of available types. A unique network identifier will be generated for all traffic sent to this resource.
Target subresource	The subresource to connect. Each private link resource type has different options to select based on preference.
Connection approval method	Automatic or manual. Based on Azure role-based access control (Azure RBAC) permissions, your private endpoint can be approved automatically. If you try to connect to a private link resource without Azure RBAC, use the manual method to allow the owner of the resource to approve the connection.
Request Message	You can specify a message for requested connections to be approved manually. This message can be used to identify a specific request.
Connection status	A read-only property that specifies if the private endpoint is active. Only private endpoints in an approved state can be used to send traffic. Additional states available: **Approved:** Connection was automatically or manually approved and is ready to be used. **Pending**: Connection was created manually and is pending approval by the private link resource owner. **Rejected**: Connection was rejected by the private link resource owner. **Disconnected:** Connection was removed by the private link resource owner. The private endpoint becomes informative and should be deleted for cleanup.



Integrate Private Endpoint with DNS

Azure Private Endpoint DNS configuration

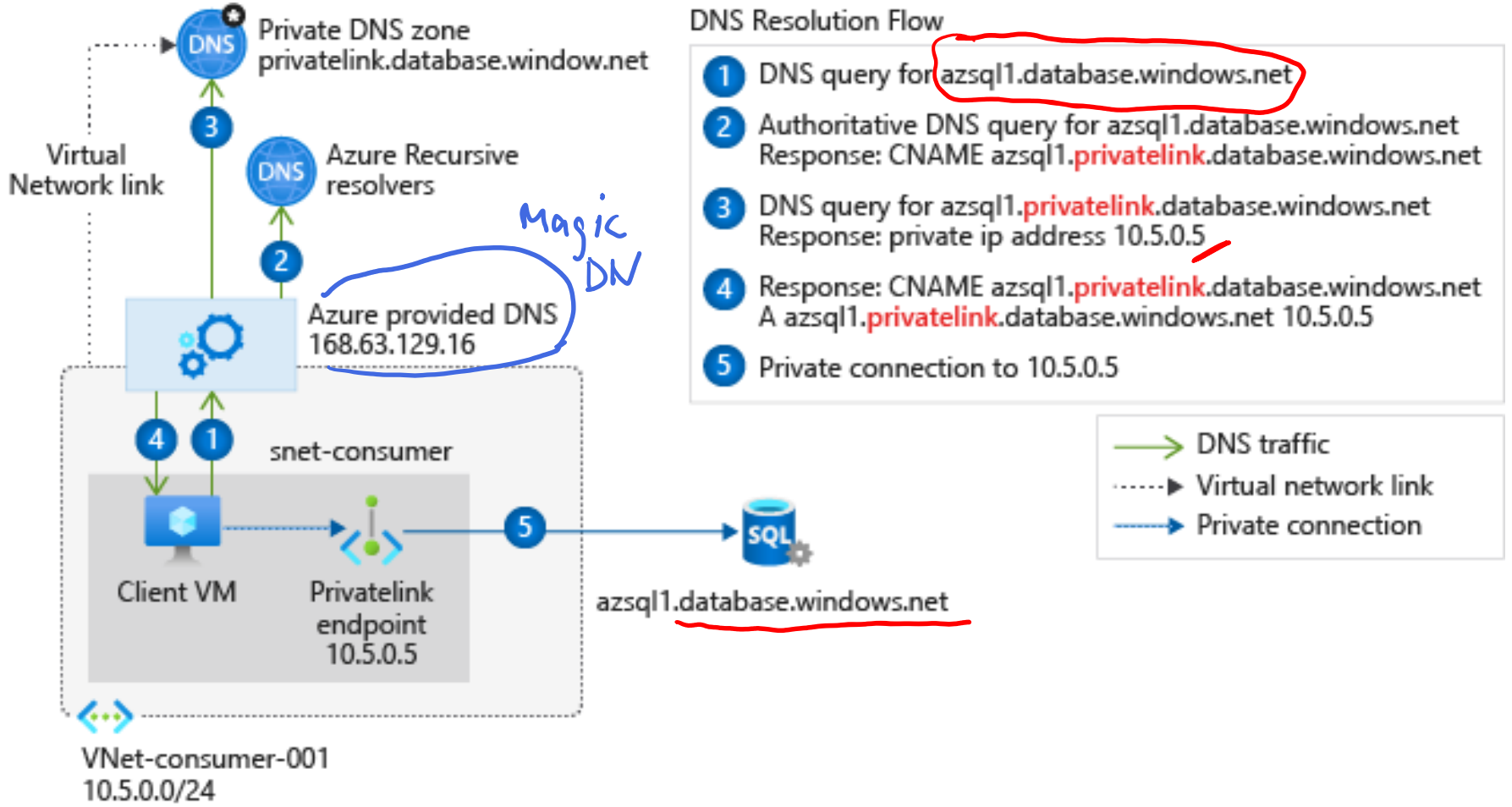
High-level architecture for enterprise environments with central DNS resolution and where name resolution for Private Endpoint resources is done via Azure Private DNS



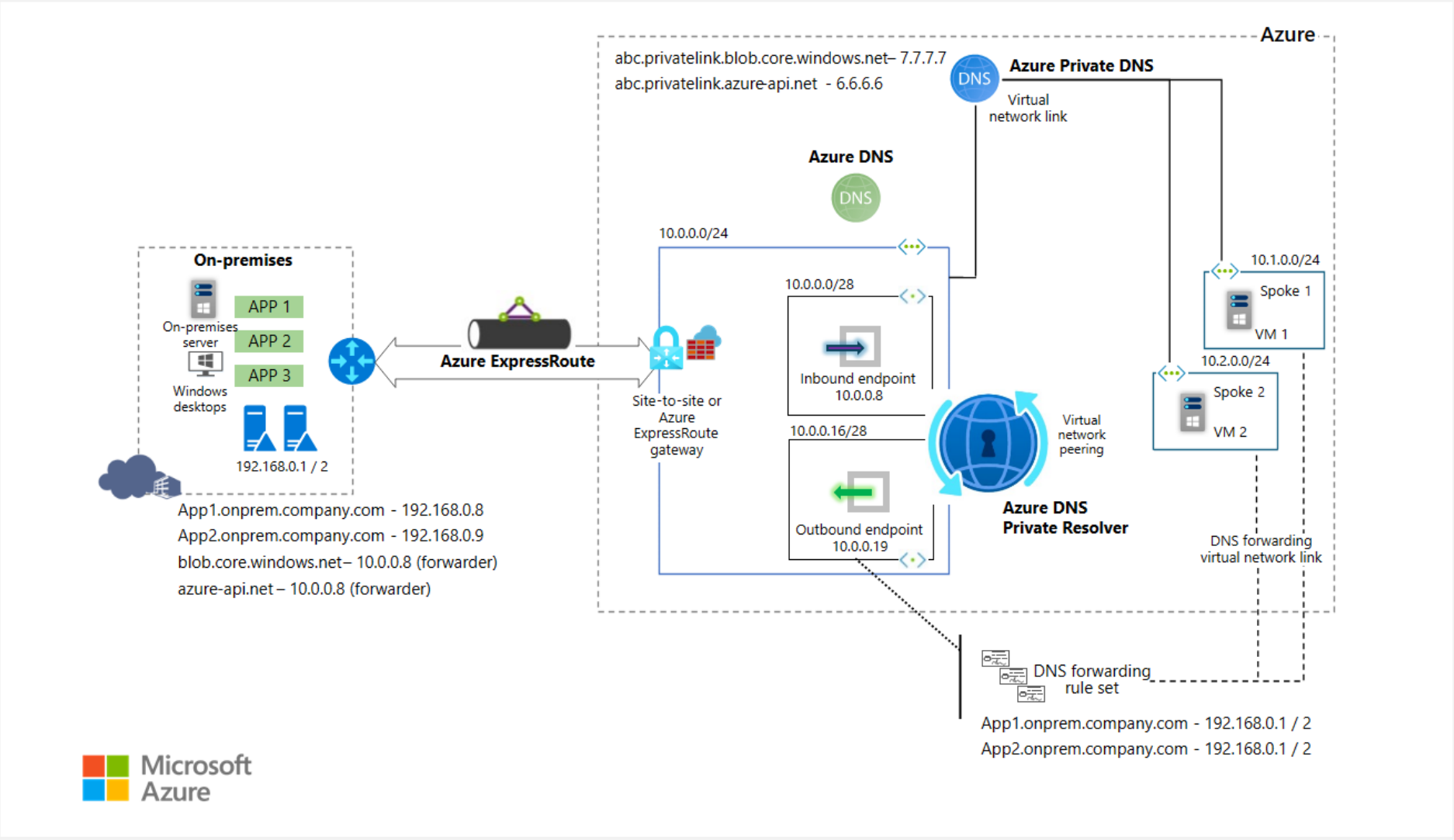
Azure services Private DNS zone configuration examples

Private Link resource type / Subresource	Private DNS zone name
Azure Automation / (Microsoft.Automation/automationAccounts) / Webhook, DSCAndHybridWorker	privatelink.Azure-automation.net
Azure SQL Database (Microsoft.Sql/servers) / sqlServer	privatelink.database.windows.net
Azure Synapse Analytics (Microsoft.Sql/servers) / sqlServer	privatelink.database.windows.net
Azure Synapse Analytics (Microsoft.Synapse/workspaces) / Sql	privatelink.sql.Azuresynapse.net
Storage account (Microsoft.Storage/storageAccounts) / Blob (blob, blob_secondary)	privatelink.[Service].core.windows.net blob
App Service	privatelink.azurewebsites.net

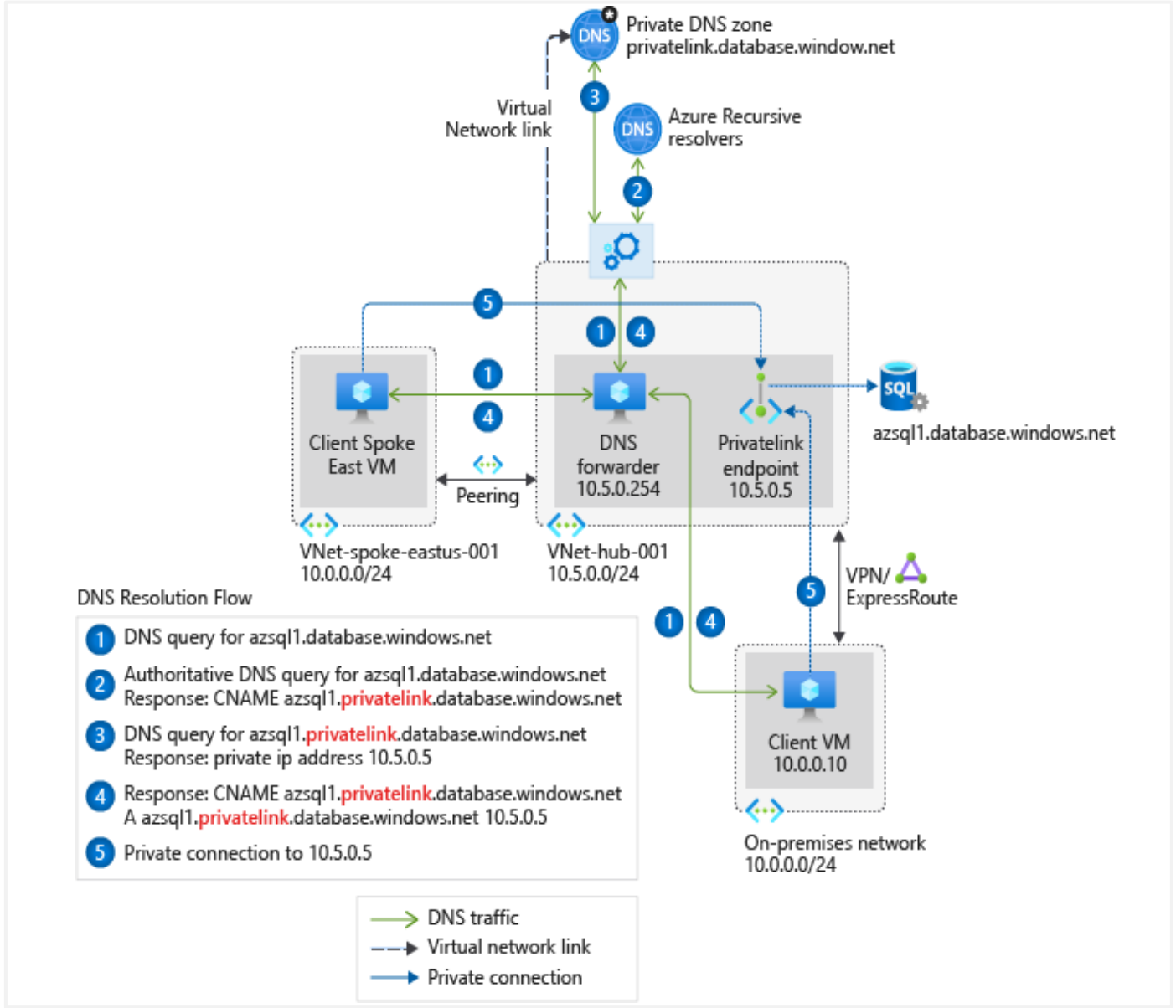
Virtual network workloads without custom DNS server



On-premises workloads using Azure DNS Private Resolver



Virtual network and on-premises workloads using a DNS forwarder

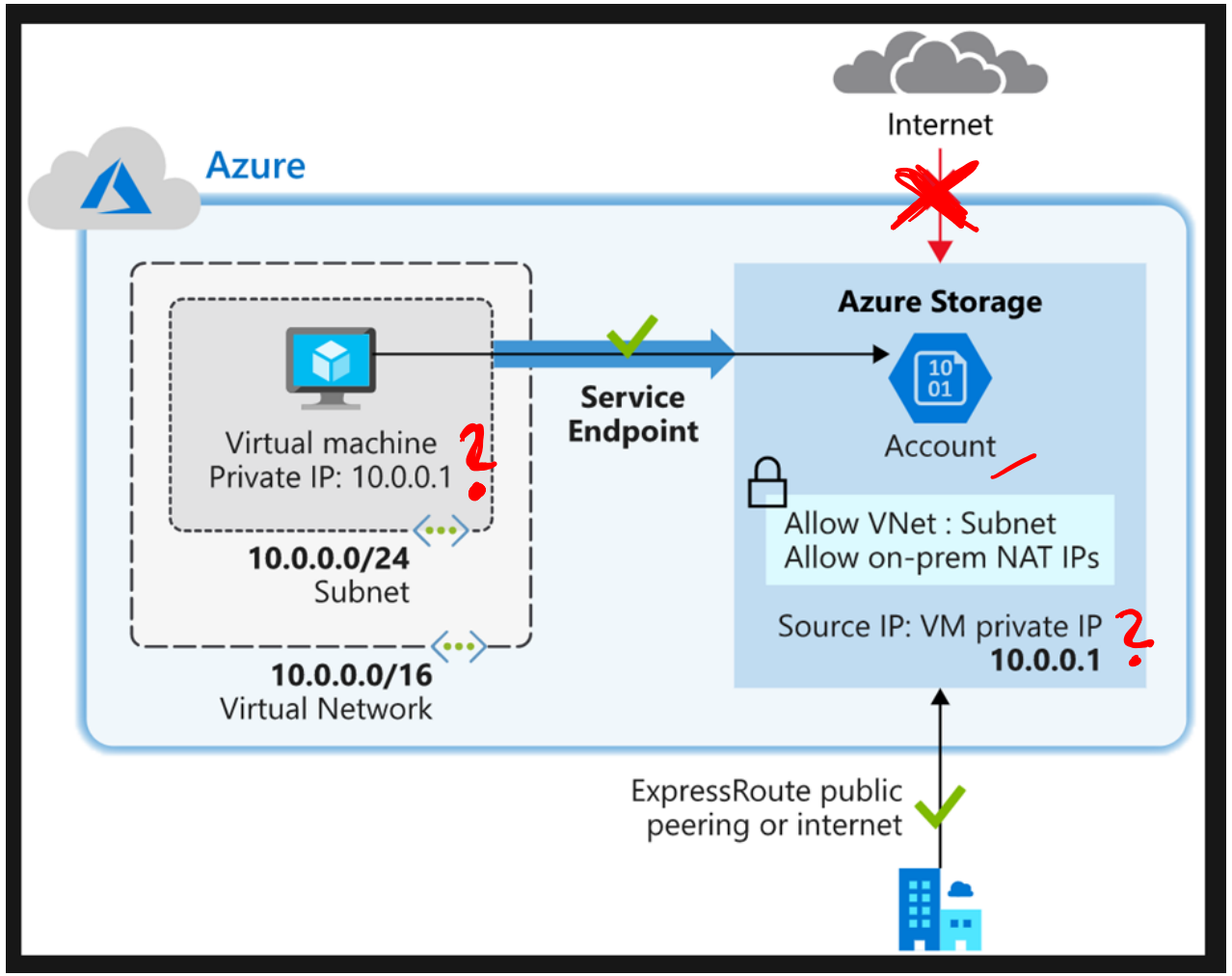


1. Teil

Exercise - Restrict network access to PaaS resources with virtual network service endpoints

Restrict network access to PaaS resources with virtual network service endpoints

- Create a virtual network
- Enable a service endpoint
- Restrict network access for a subnet
- Add additional outbound rules
- Allow access for RDP connections
- Restrict network access to a resource
- Create a file share in the storage account
- Restrict network access to a subnet
- Create virtual machines
- Confirm access to storage account
- Clean up resources



Teil 2

Exercise - Create an Azure Private Endpoint using Azure PowerShell

Portal

Create an Azure Private Endpoint using Azure PowerShell

PowerShell

Task 1: Create a resource group

Task 2: Create a virtual network and bastion host

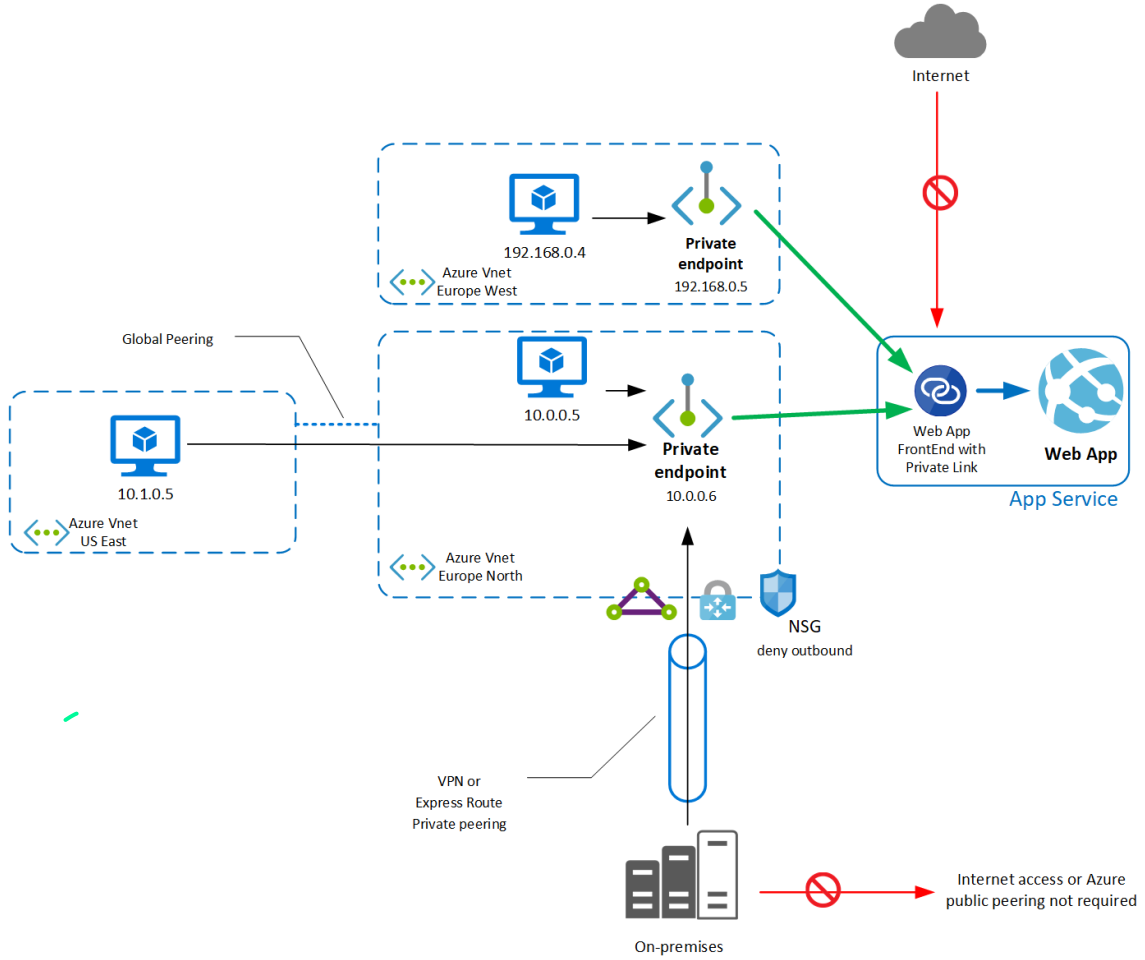
Task 3: Create a test virtual machine

Task 4: Create a Private Endpoint

Task 5: Configure the private DNS zone

Task 6: Test connectivity to the Private Endpoint

Task 7: Clean up resources



End of presentation