

# Design and Implement Name Resolution

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# Overview



**Design name resolution for Azure VNets**

**Configure Azure DNS zones**

- Public
- Private



# Relevant Exam AZ-700 Skills

## **Design and Implement Core Networking Infrastructure (20–25%)**

### **Design and implement name resolution**

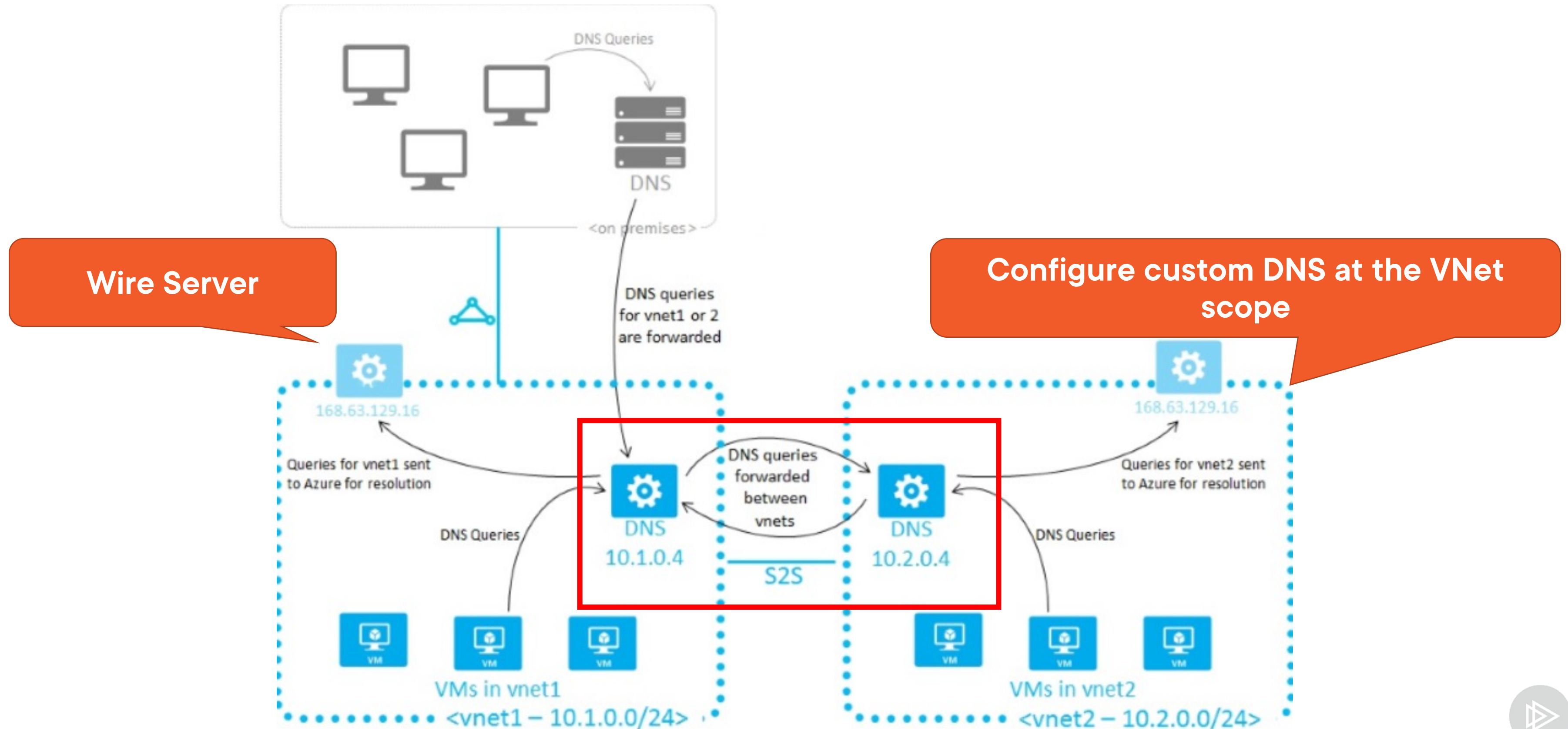
- design public DNS zones
- design private DNS zones
- design name resolution inside a VNet
- configure a public or private DNS zone
- link a private DNS zone to a VNet

# Design VNet Name Resolution

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# Azure Virtual Network Name Resolution



# Demo



1

**Distribute domain controller IP to the VNet**

**Join Windows VM to domain**

- Show NSG default VNet rule that allows traffic



# Configure an Azure DNS Public Zone

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# Azure DNS Public Zone



**Delegate your public zone to Azure**

- Azure isn't the domain registrar

**Manage zone using consistent ARM APIs and tools**





# Public Zone Delegation Process - Step 1

Microsoft Azure Search resources, services, and docs (G+)

tim@timw.info TIMW.INFO (TIMW.INFO)

Dashboard > DNS zones >

## Create DNS zone

Basics Tags Review + create

A DNS zone is used to host the DNS records for a particular domain. For example, the domain 'contoso.com' may contain a number of DNS records such as 'mail.contoso.com' (for a mail server) and 'www.contoso.com' (for a web site). Azure DNS allows you to host your DNS zone and manage your DNS records, and provides name servers that will respond to DNS queries from end users with the DNS records that you create. [Learn more.](#)

**Project details**

Subscription \* Microsoft Azure Sponsorship

Resource group \* TIM [Create new](#)

**Instance details**

☐ This zone is a child of an existing zone already hosted in Azure DNS ⓘ

Name \* zoeywarner.org ✓

Resource group location ⓘ East US

[Review](#) [Create a zone in Azure DNS](#)



# Public Zone Delegation Process - Step 2

Microsoft Azure

Search resources, services, and docs (G+)

tim@timw.info  
TIMW.INFO (TIMW.INFO)

Dashboard > Microsoft.DnsZone-20210716191727049 >

**zoeywarner.org**  
DNS zone

Search (Ctrl+ /)

+ Record set + Child zone → Move ▾ Delete zone Refresh

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Properties

Locks

Monitoring

Alerts

Metrics

Automation

Tasks (preview)

Export template

Support

Essentials

Resource group (change)  
tim

Subscription (change)  
Microsoft Azure Sponsorship

Subscription ID  
2fbf906e-1101-4bc0-b64f-adc44e462fff

Tags (change)  
Click here to add tags

You can search for record sets that have been loaded on this page. If you don't see what you're looking for, you can try scrolling to allow more record sets to load.

Search record sets

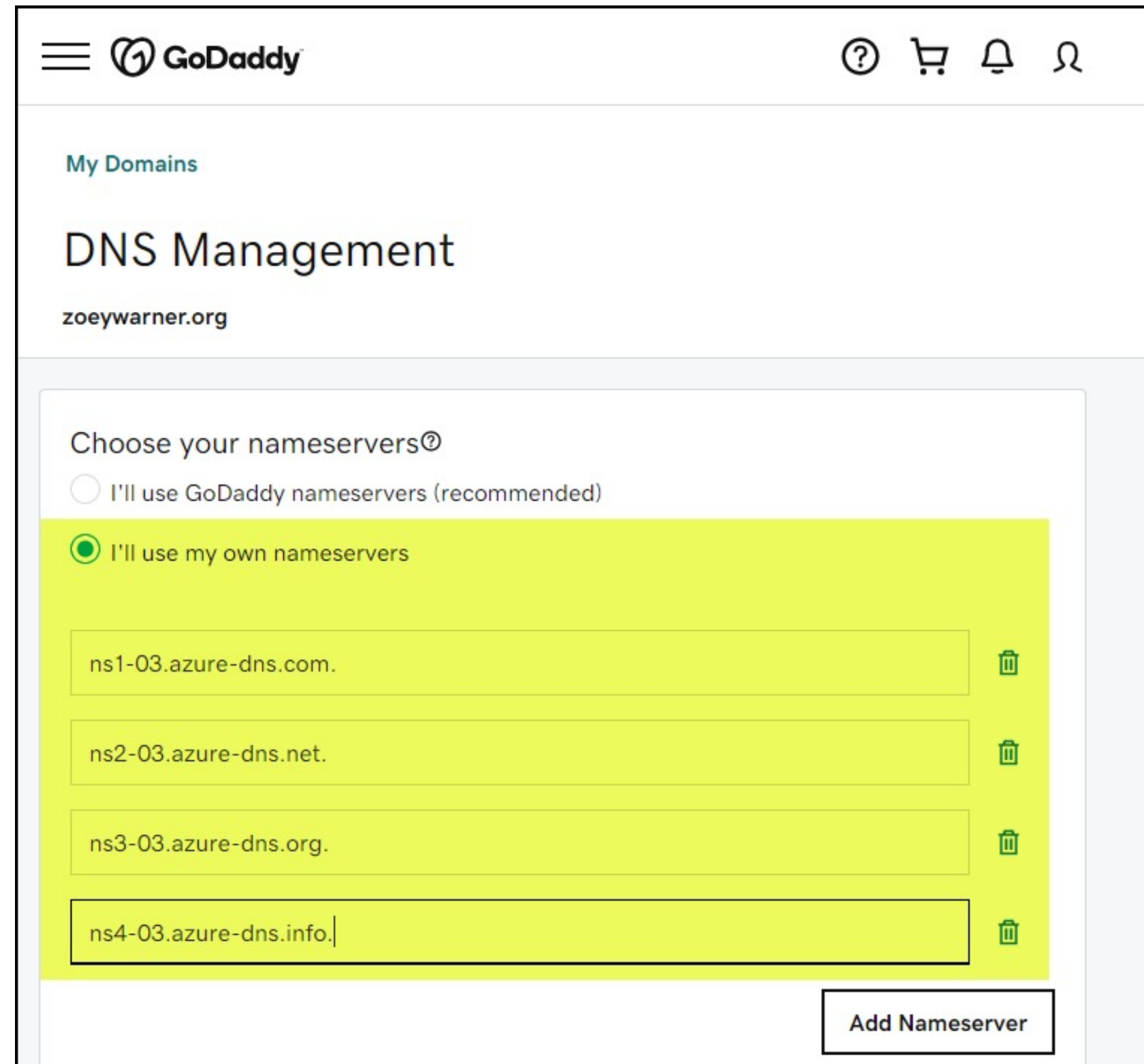
Name	Type	TTL	Value	Alias resou
@	NS	172800	ns1-03.azure-dns.com. ns2-03.azure-dns.net. ns3-03.azure-dns.org. ns4-03.azure-dns.info. Email: azuredns-host... Host: ns1-03.azure-d... Refresh: 3600	

Serial number: 1

**Copy Azure DNS name servers**



# Public Zone Delegation Process - Step 3



GoDaddy

My Domains

## DNS Management

zoeywarner.org

Choose your nameservers®

☐ I'll use GoDaddy nameservers (recommended)

☒ I'll use my own nameservers

ns1-03.azure-dns.com.

ns2-03.azure-dns.net.

ns3-03.azure-dns.org.

ns4-03.azure-dns.info.

Add Nameserver

**Replace existing NS records with Azure name servers**



# Public Zone Delegation Process - Step 4

```
Administrator: PowerShell 7 (x64)
PS C:\> nslookup -type=SOA zoeywarner.org
Server:  cdns01.comcast.net
Address:  2001:558:feed::1

Non-authoritative answer:
zoeywarner.org
    primary name server = ns1-03.azure-dns.com
    responsible mail addr = azuredns-hostmaster.microsoft.com
    serial      = 1
    refresh    = 3600 (1 hour)
    retry      = 300 (5 mins)
    expire     = 2419200 (28 days)
    default TTL = 300 (5 mins)
PS C:\> █
```

Verify the delegation



# Configure an Azure DNS Private Zone

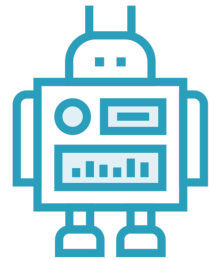
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# Azure DNS Private Zone Benefits



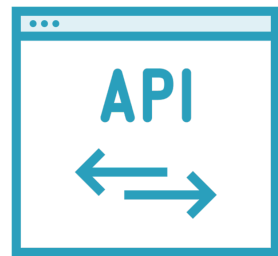
**Eliminates the need for a custom DNS solution**



**Automatic record management**



**Name resolution between virtual networks**



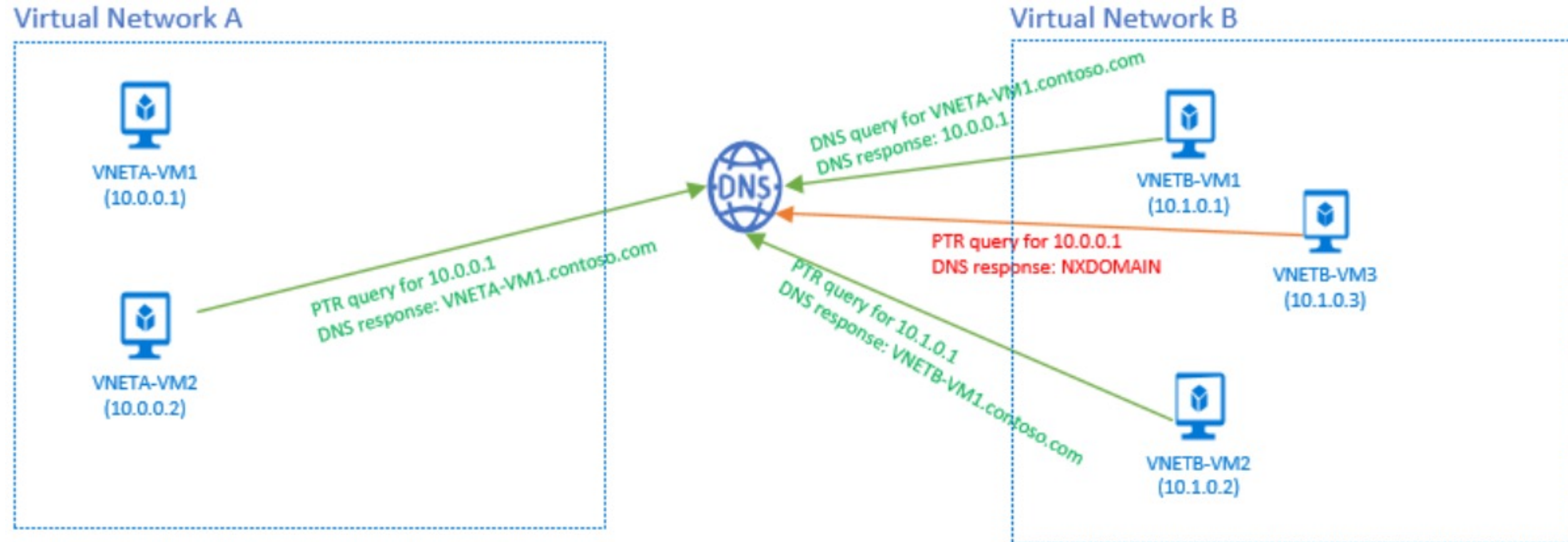
**Consistent APIs**



**Split-horizon DNS support**



# Azure DNS Private Zone in Action



**DDNS auto-registration**

**No need to update VNet**

Private Zone records

VNETA-VM1 IN A 10.0.0.1 (auto registered)
VNETA-VM2 IN A 10.0.0.2 (auto registered)
VNETB-VM1 IN A 10.1.0.1 (manual record)
VNETB-VM2 IN A 10.1.0.2 (manual record)
VNETB-VM3 IN A 10.1.0.3 (manual record)

**Split horizon is possible**

**Integrates with private endpoints**



# Demo



# 2

**Create private DNS zone**

**Link Vnets**

**Add private endpoint with hostname**

**Test connectivity**





# Summary



**Azure gives you lots of DNS flexibility**

- Azure DNS service

**Remember you can integrate the wire server with custom DNS**

**Next module: *Design and Implement Cross-VNet Connectivity***



# Demo



1

**Distribute domain controller IP to the VNet**

**Join Windows VM to domain**

- From local net and across peering
- Show NSG default VNet rule that allows traffic



# Demo



# 2

**Create private DNS zone**

**Link Vnets**

**Add private endpoint with hostname**

**Test connectivity**

