



A large, semi-transparent watermark or background graphic is present across the slide. It features abstract, overlapping black, red, and blue geometric shapes (triangles and diamonds) of varying sizes. In the center, there is a faint silhouette of a city skyline with recognizable landmarks like a ferris wheel and a bridge. The overall aesthetic is modern and professional.

Helping you create a  
digitally secure future.

## PUBLIC CLOUD 202: AZURE VWAN INTERNET INBOUND

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Fortinet Cloud CSE

**FORTINET** | USA  
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# Azure Virtual WAN

Azure Networking and Routing

# Azure Routing

Other than Default Routing

User Defined



Azure Route Server

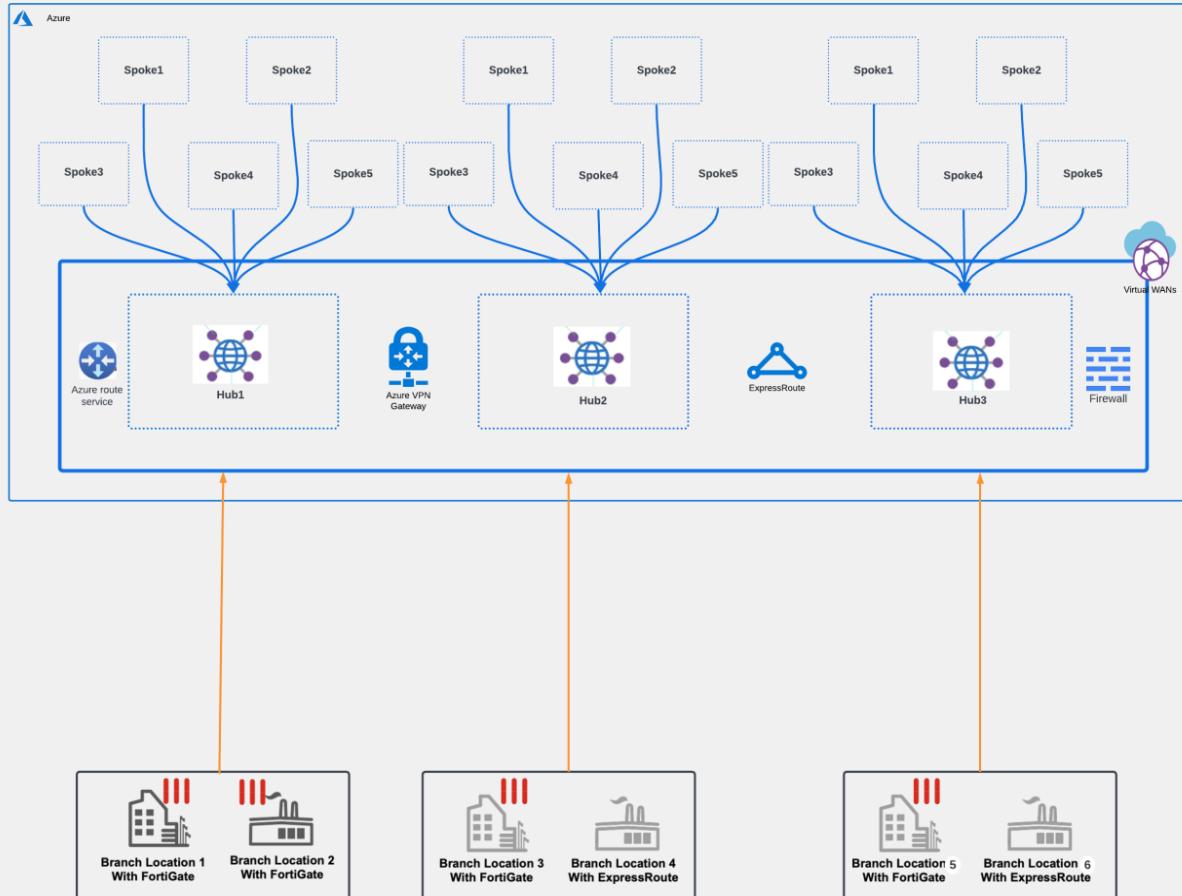


Azure Virtual WAN



# What is Azure Virtual WAN

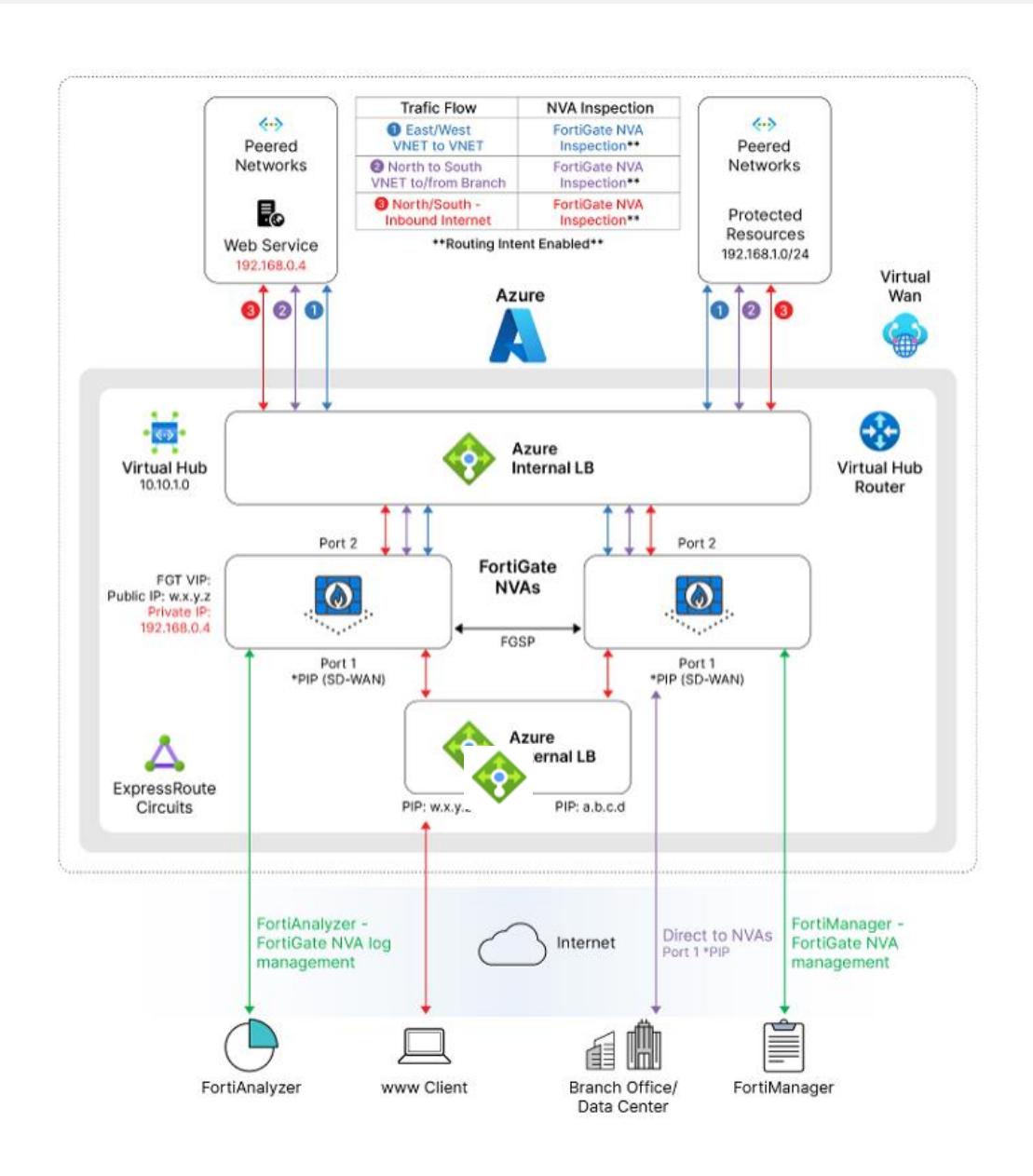
- Simplifies management hub and spoke deployments
- Large-scale branch connectivity with VPN and Express Route
- Unified network and policy management
- Optimized routing with Microsoft global network
- Advanced Routing – BGP and Routing Intent
- Integrates with Fortinet FortiGate solutions providing SD-WAN and NGFW services



# FortiGate Integration with Azure VWAN

The industry's first fully Integrated network virtual appliance providing **Secure SDWAN AND Next Generation Firewall Services**

- Simple and structured deployment model
  - Deployed via Azure portal – Managed service
  - SDWAN and/or NGFW deployment options
- High Availability and Resiliency
  - Active-Active – up to 5 FortiGates (NGFW)
- Performance and Scale
- Dynamic Routing Capabilities
- Single management interface – FortiManager – Appliance / VM
- Centralized logging – FortiAnalyzer – Appliance / VM
- Flexible licensing options
  - BYOL / FortiFlex
  - PAYG – New in Q2 2024



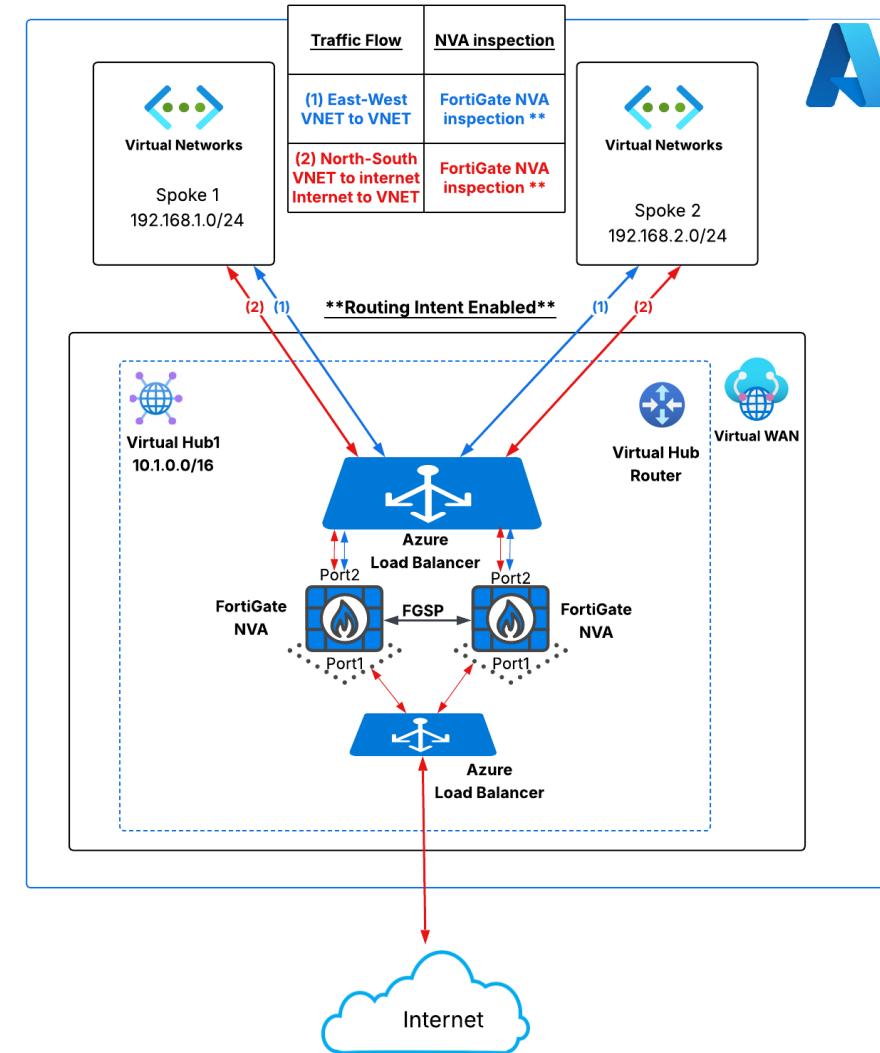
# Azure Marketplace Plan

- NGFW
- SD-WAN & NGFW

# NGFW Only - Option

- Inspects East-West and Internet bound traffic
  - Network inspection across VNETs connected to the Virtual WAN
  - Internet bound traffic inspection
- High Availability and resiliency
  - Active-Active - supports up to 5 VMs and 40 Gbps
- Performance and Scale
- Dynamic Routing Capabilities
- Single management interface – FortiManager – Appliance / VM
- Centralized logging – FortiAnalyzer – Appliance / VM
- Flexible licensing options
  - BYOL / FortiFlex
  - PAYG

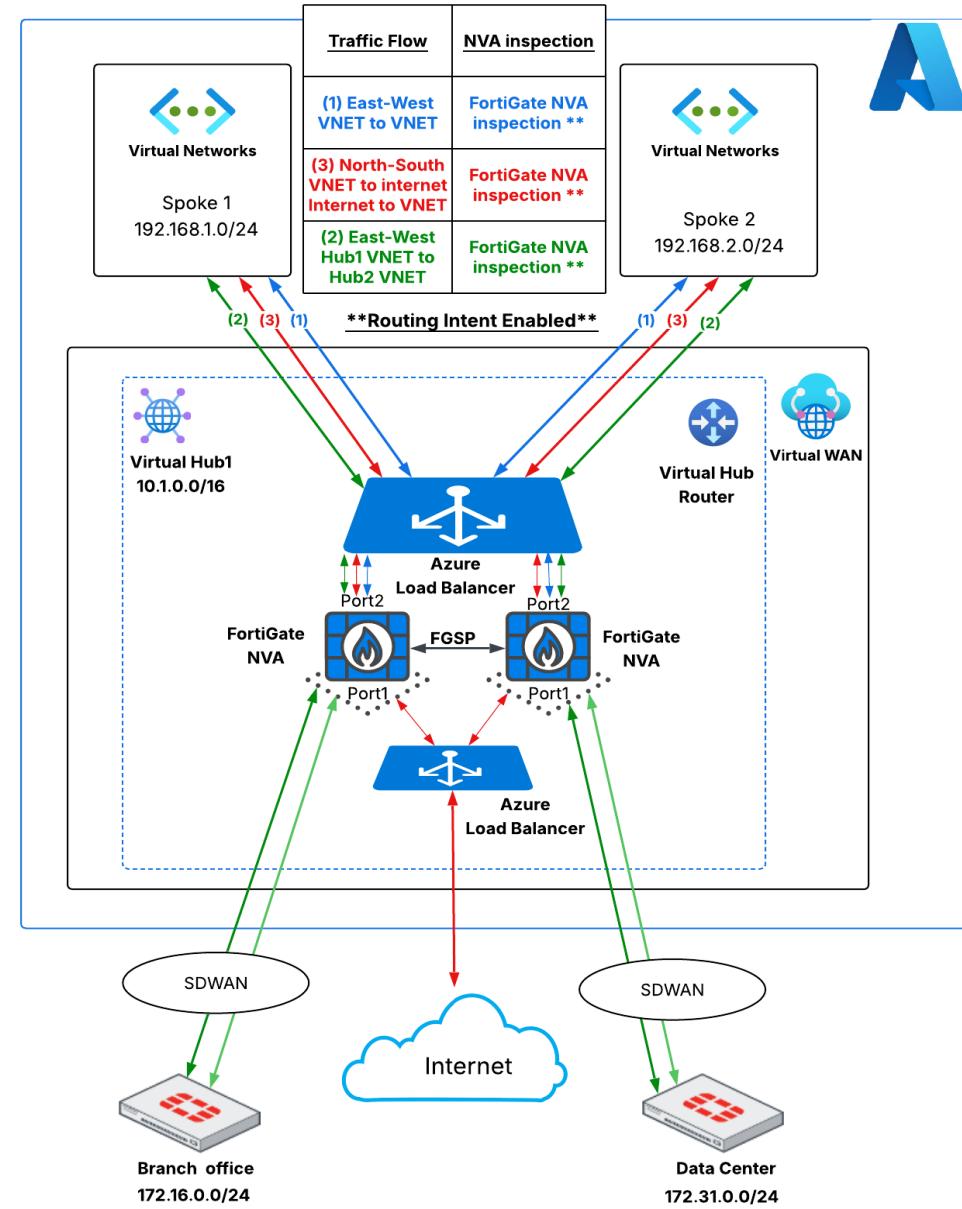
## Azure vWAN-Single Hub



# SDWAN & NGFW - Option

- North-South inspection for traffic destined to the Internet or the SDWAN connected networks. (See red & green traffic flows on the diagram)
- Inspection across vNETs connected to the virtual WAN (See blue traffic flow on the diagram)
- High Availability and resiliency
  - Active-Active – supports 2 VMs up to 10Gbps
- Performance and Scale
- Dynamic Routing Capabilities
- Single management interface – FortiManager – Appliance / VM
- Centralized logging – FortiAnalyzer – Appliance / VM
- Flexible licensing options
  - BYOL / FortiFlex
  - PAYG

## Azure vWAN-Single Hub





# Order Types in VWAN

# NGFW Only – Scale Units

The following table summarizes FortiGate vWAN license options:

Scale units	Bandwidth	Suggested license SKU	Security service (support included)	Instance count
2	1 Gbps	FortiGate-VM (2 CPU)	UTP Bundle	2
4	2 Gbps	FortiGate-VM (4 CPU)	UTP Bundle	2
10	5 Gbps	FortiGate-VM (8 CPU)	UTP Bundle	2
20	10 Gbps	FortiGate-VM (16 CPU)	UTP Bundle	2
40	20 Gbps	FortiGate-VM (16 CPU)	UTP Bundle	3
60	30 Gbps	FortiGate-VM (16 CPU)	UTP Bundle	4
80	40 Gbps	FortiGate-VM (16 CPU)	UTP Bundle	5



Scale units cannot change dynamically. If you want to use a different scale unit after deploying the NVAs, you must redeploy the NVAs.

# SDWAN & NGFW – Scale Units

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20	10 Gbps	FortiGate-VM (16 CPU)	UTP Bundle	2



Scale units cannot change dynamically. If you want to use a different scale unit after deploying the NVAs, you must redeploy the NVAs.

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# Lab Overview



# 5x columns

Paragraph Text



## Overview

- Connect to Azure Environment
- Review Resources



## Deploy

- Deploy FortiGate NVAs in Azure vWAN Hub
- Deploy 2nd vWAN Hub
- Deploy Linux VMs



## Configure

- Configure FortiGates
- Configure FGSP
- Firewall Policies
- Configure VNET peering



## Route

- Configure FortiGate Static Routes
- Ensure BGP peering
- Configure Azure Routing Intent
- Configure Internet Ingress



## Verify

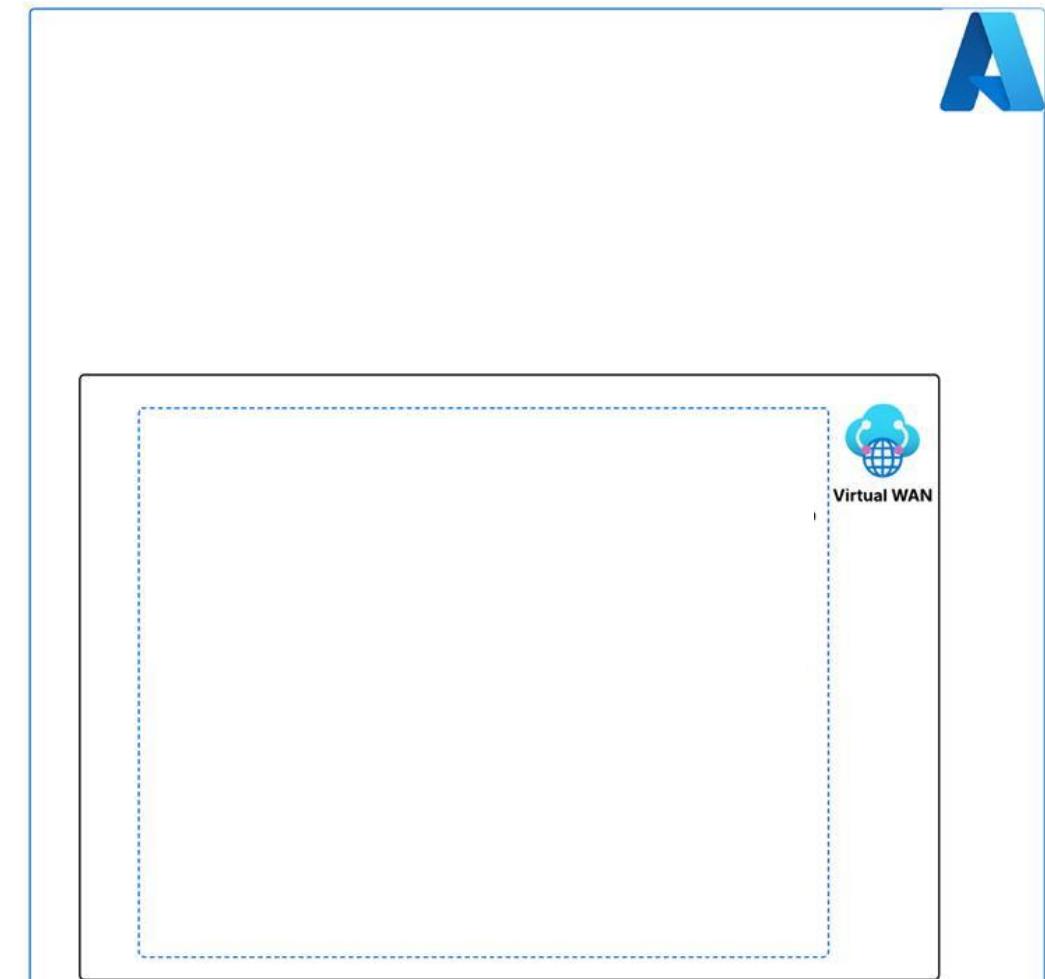
- Verify Spoke to Spoke
- Verify Spoke to Internet
- Verify Internet to Spoke
- Verify Hub to Hub



# Virtual WAN Components – Virtual WAN

- Managed Service deployed from Azure portal
- Simple deployment template
  - Name
  - Region
  - Resource Group
  - Type (connectivity options)
    - Standard
    - Basic

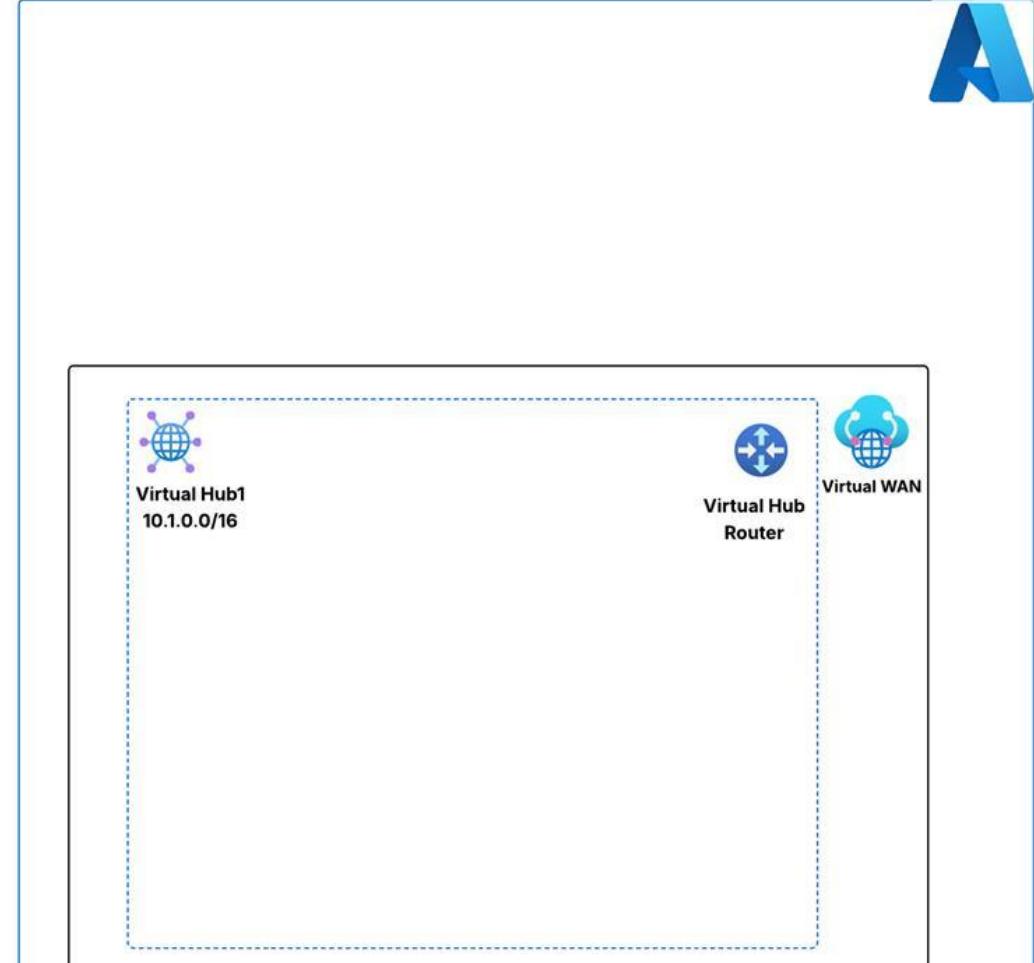
\*\*Already deployed



# Virtual WAN Components – Virtual Hub

- Managed Service deployed from Azure portal
- Simple deployment template
  - Name
  - Region
  - Resource Group
  - Address space
  - Capacity (Scale Units)
  - Routing Preference
    - AS Path
    - Express Route
    - VPN
    - Additional Services

\*\*Already deployed



# Virtual WAN Components – Virtual Networks

- VNets deployed from Azure portal
- Comprehensive deployment template
  - Name
  - Region
  - Resource Group
  - Address space
  - Subnets
  - Additional Services
  - Virtual Machines

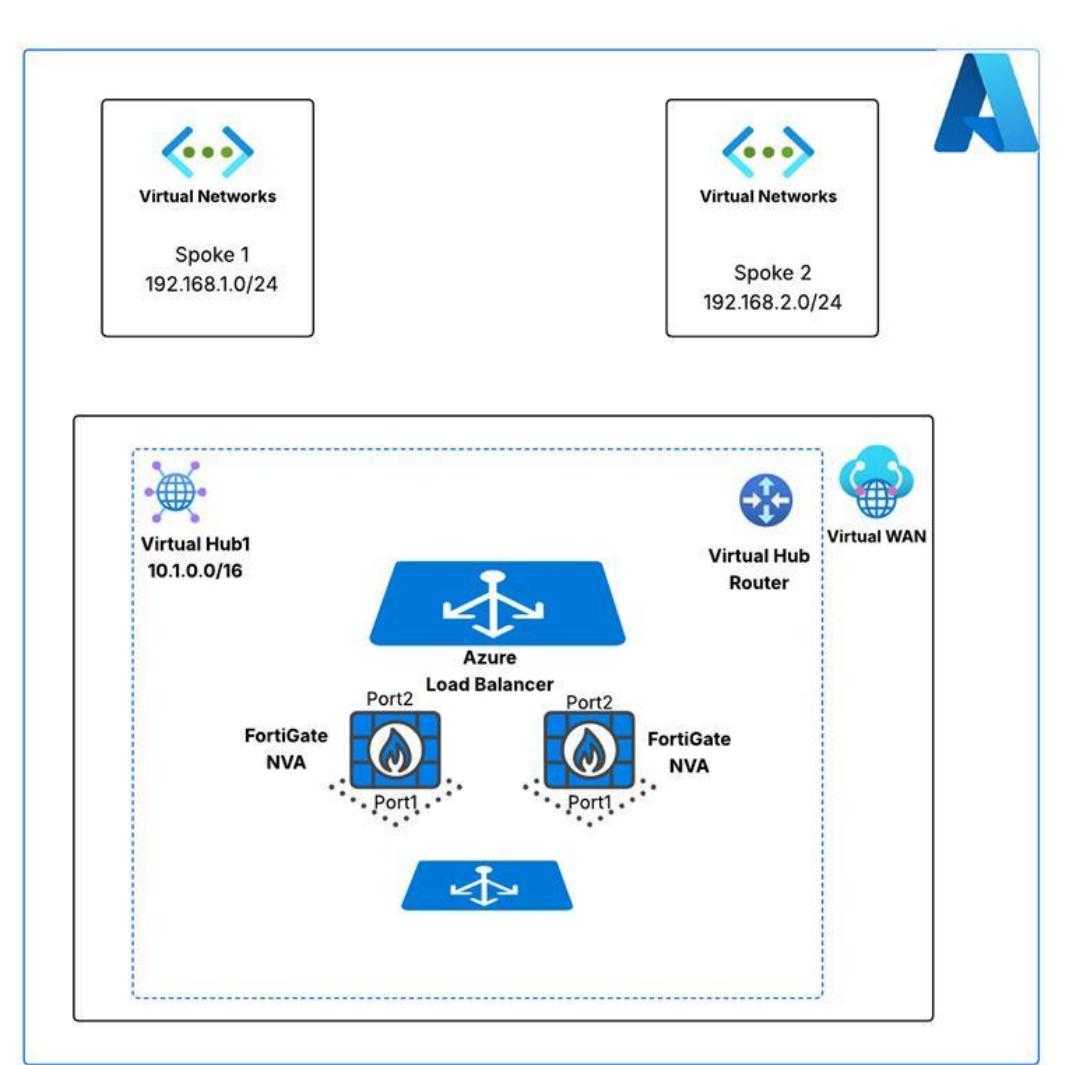
\*\*Already deployed



# Virtual WAN Components – FortiGate NVA

- FortiGate NVAs deployed from Azure portal - VWAN Hub page
- Simple deployment template
  - Name
  - Region
  - Resource Group
  - Address space
  - Subnets
  - Additional Services
    - Ingress Public IP
    - Ingress External Load Balancer
  - Virtual Machines

\*\*Attendee will deploy



# Questions

# Getting Started

- Moderated by instructors
- Username assignments
- <https://fortinetcloudcse.github.io/azure-202-advanced>
- Review lab material



The Fortinet logo, featuring the word "FORTINET" in a bold, white, sans-serif font. The letter "O" is uniquely designed with a red horizontal bar through its center.