Microsoft Azure Administrator: Monitor and Troubleshoot Virtual Networking

INSPECTING AZURE VIRTUAL NETWORK TRAFFIC

Tim Warner

AUTHOR EVANGELIST, PLURALSIGHT

@TechTrainerTim   TechTrainerTim.com

Overview

Understand this course

Use Network Watcher

Use Network Performance Monitor

Troubleshoot VNet connectivity

Exercise Files

Exercise Files

Understand this Course

Microsoft Azure Administrator

Objective Domain

Exam AZ-104: Microsoft Azure Administrator – Skills Measured

Configure and manage virtual networking (30-35%) — *Functional Group*

Monitor and troubleshoot virtual networking — *Objective*

- monitor on-premises connectivity
- use Network Performance Monitor
- use Network Watcher
- troubleshoot external networking
- troubleshoot virtual network connectivity

Skills

Network Watcher

Network Watcher

Monitoring toolset for Azure virtual networks

Analyze VNet topologies

Diagnose and solve

- VNet traffic filtering problems
- Network routing problems
- VPN/gateway connectivity problems

Network Watcher Toolset

Topology	View VNet layout
	Download as SVG image
Connection monitor	Track connection reachability
	Measure latency and topology changes
IP flow verify	5-tuple connectivity check from Azure VM
Next hop	Verify routing paths
Effective security rules	Analyze NSG rules
VPN troubleshoot	Deep logging of Azure VPN Gateway
Packet capture	Gather Ethernet frames and analyze with MMA or Wireshark
Connection troubleshoot	Check direct TCP connection with any endpoint
	More comprehensive analysis than IP flow verify

Lab Topology
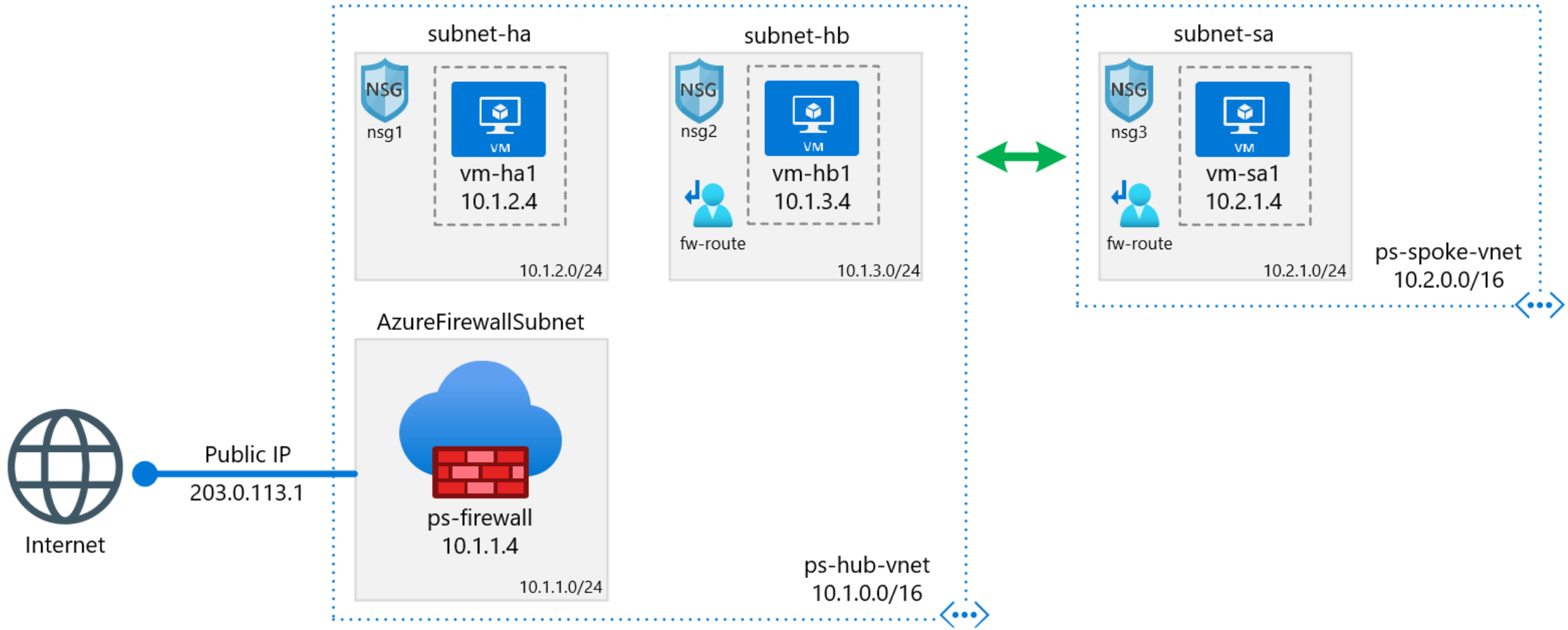
Demo

1

Network Watcher extension

Tour the main tools

Network Performance Monitor

Network Performance Monitor

One of several Azure management solutions

Dependent on an Azure Log Analytics workspace
- Sometimes called "Azure Monitor Logs"

Visibility into Azure and/or local networks

NPM Toolset

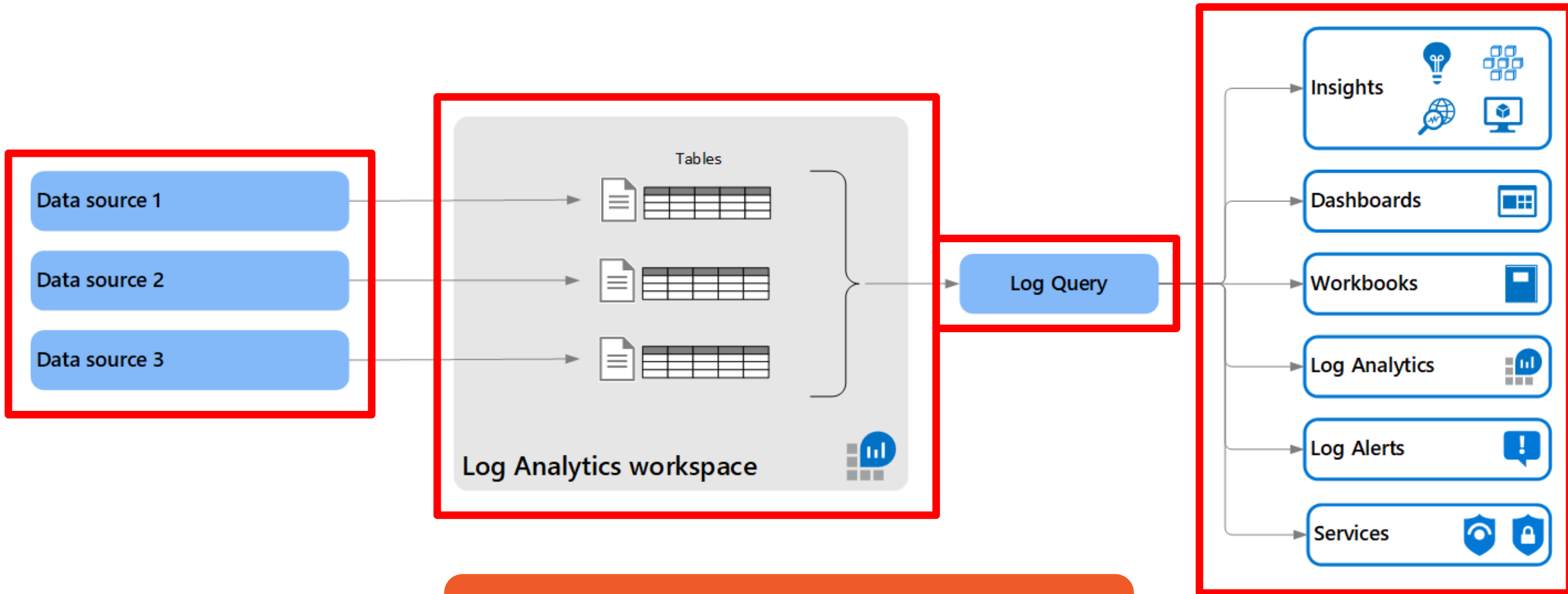|	
Performance Monitor	Monitor packet loss and latency
	Hybrid cloud aware
	No need for SNMP
Service Connectivity Monitor	Monitor any TCP endpoint
	APIs, SaaS, PaaS applications
	Office 365
	Azure SQL Database
ExpressRoute Monitor	Bandwidth utilization
	Network topology discovery

Azure Log Analytics

Management solutions integrate with Log Analytics

Lab Topology
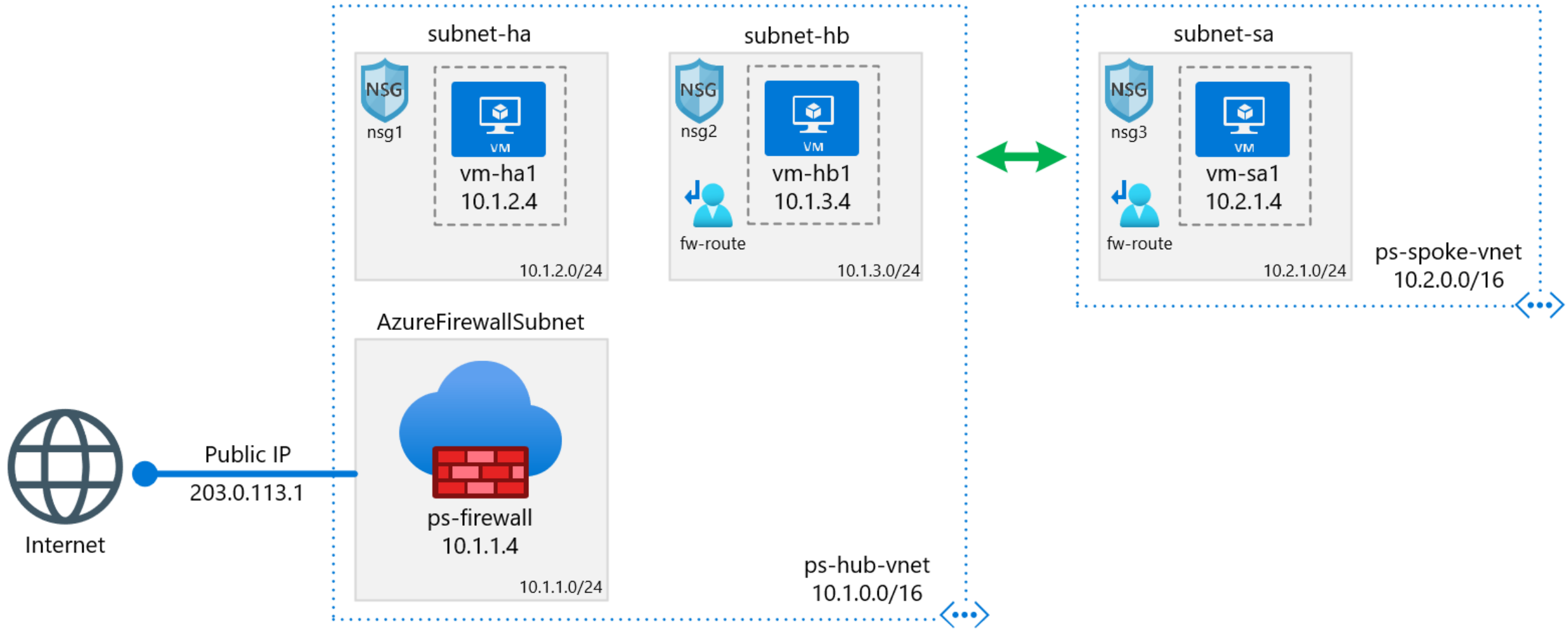
Demo

2

Create workspace

View other management solutions

Install and configure NPM
- Focus on Azure and M365

Summary

Given we'll probably never visit an Azure datacenter, it's great how much network visibility we can gain

- Latency
- Packet capture

Management solutions are a great entry point into log search

- Kusto Query Language (KQL)

Next module: Inspecting Azure Hybrid Cloud Network Traffic