

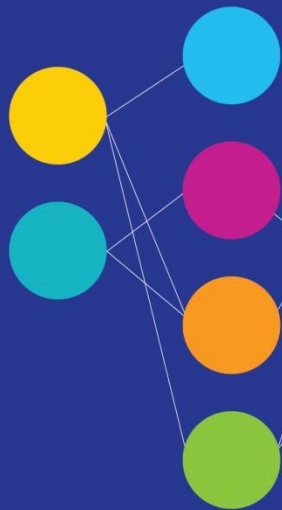


# Connecting the dots

Neum 27-29/3/2019

Saša Kranjac MVP, MCT

NetWork 



# Connecting the dots

Neum 27-29/3/2019

Praktičan vodič za  
monitoring Azure  
infrastrukture i virtualnih  
mreža

NetWork 

# NetWork

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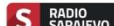
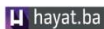
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# NetWork 9



Saša Kranjac  
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*Custom & Vendor Courses, Consulting, Architecture*



Microsoft Azure MVP  
Microsoft Certified Trainer, MCT Regional Lead  
Microsoft Certified Solution Expert  
Certified EC-Council Instructor  
+60 certifications  
[@SasaKranjac](#)





# NetWork 9

## Installation, Storage, and Compute with Windows Server 2016: Microsoft 70-740 MCSA Exam Guide

Implement and configure storage and compute functionalities in Windows Server 2016

**Packt**  
www.packt.com

Sasha Kranjac and Vladimir Stefanovic

## Identity with Windows Server 2016: Microsoft 70-742 MCSA Exam Guide

Deploy, configure, and troubleshoot identity services and Group Policy in Windows Server 2016

**Packt**  
www.packt.com

Vladimir Stefanovic and Sasha Kranjac

**KOD ZA 40%  
POPUSTA!  
ISCWS40**

**70-741  
MCSA Exam Guide  
Dolazi uskoro!**

# What is Network Watcher?



- A regional service
- Works at a network level
- Uses RBAC

What Network  
Watcher can do  
for me?



- Monitor
- Diagnose
- Log analysis

# Network Watcher

## Topology

- Visualize your network

## Packet Capture

- Initiate packet capture from portal or programmatically
- Captures stored in .cap format

## IP Flow Verify

- Identify configured NSG rules blocking traffic

## VPN Diagnostics

- Troubleshoot VPN Gateway and Connections and identify issues like
  - Preshared Key mismatch
  - Unsupported IKE policies
  - Gateway Unreachable
  - Gateway instance under maintenance

## Connectivity

- Diagnose connectivity and latency issues between VM and an Endpoint (VM, FQDN, URI, IPv4 Address)
- Identify configuration issues impacting connectivity

### Add packet capture

Dashboard > Network Watcher - IP flow verify

#### Network Watcher - IP flow verify

Microsoft

Overview

Monitoring

- Topology
- Connection monitor
- Network Performance Monitor

Network diagnostic tools

- IP flow verify
- Next hop
- Effective security rules
- VPN troubleshoot
- Packet capture
- Connection troubleshoot

Metrics

- Usage + quotas

Logs

- NSG flow logs
- Dagnostic logs
- Traffic Analytics

Network Watcher IP flow verify checks if a packet is allowed or denied to or from a virtual machine based on 5-tuple information. The security group decision and the name of the rule that denied the packet is returned. [Learn more](#)

Specify a target virtual machine with associated network security groups, then run an inbound or outbound packet to see if access is allowed or denied.

\* Subscription ⓘ

Microsoft Azure Sponsorship

Resource group\* ⓘ

AVset

Virtual machine\* ⓘ

MyWindowsVM0

Network interface\* ⓘ

BackendVMNic0

#### Packet details

Protocol

- ☒ TCP
- ☐ UDP

Direction

- ☒ Inbound
- ☐ Outbound

Local IP address\* ⓘ

10.0.2.4

Local port\* ⓘ

Remote IP address\* ⓘ

Remote port\* ⓘ

Check

OK



# Connectivity

Destination unreachable.  
Platform or configuration issue?

Source config OK / Destination config OK  
Why is connectivity broken

Connection Sluggish.  
Which hop is causing latency?

VM unable to reach OnPremise machine?

VM unable to reach an Azure service endpoint

Dashboard > Network Watcher - Connection troubleshoot

### Network Watcher - Connection troubleshoot

Microsoft

Search (Ctrl+/)

- Overview
- Monitoring
  - Topology
  - Connection monitor
  - Network Performance Monitor
- Network diagnostic tools
  - IP flow verify
  - Next hop
  - Effective security rules
  - VPN troubleshoot
  - Packet capture
  - Connection troubleshoot
- Metrics
  - Usage + quotas
- Logs
  - NSG flow logs
  - Dagnostic logs
  - Traffic Analytics

Resource group: MCSAcertGuideLab

Source type: Virtual machine

Virtual machine: CL1w10

Destination:  
☐ Select a virtual machine ☒ Specify manually

URI, FQDN or IPv4: www.live.com ✓

Probe Settings

Protocol: ☒ TCP ☐ ICMP

Destination port: 80 ✓

Advanced settings

Check

Status: ✓ Reachable Agent extension version: 1.4 Source virtual machine: CL1w10

Grid view [Topology view](#)

Hops

NAME	IP ADDRESS	STATUS	NEXT HOP IP ADDRESS	RTT
CL1w10	192.168.1.7	✓	204.79.197.212	-
Destination (www.live.com)	204.79.197.212	✓	-	-

# Network Security Groups



- What are the effective results?

# IP Flow

- Test port access to VMs



# Connectivity Check



- Is the connectivity problem result of network misconfiguration or else?

# Network Topology



- How my network looks like?

## Next Hop



- I want to know how Azure routes traffic

# VPN



- Where is the problem:  
Azure or on-premises?



Da vidimo kako to  
radi...





# DA LI VAM SE SVIDJELO OVO PREDAVANJE?

## Ocijenite ga i osvojite vrijedne nagrade!

Ocjenjivanje predavanja kojima ste prisustvovali je moguće na dva načina:

1. Posjetom web stranici

**<https://www.networkkonferencija.ba/profile/evaluation>** vršite evaluaciju u sklopu svog korisničkog profila.

2. Ocijenite predavanja kroz konferencijske mobilne aplikacije pod nazivom NetWork Conference koje su dostupne za Android i iOS mobilne uređaje.

U oba slučaja potrebno je prijaviti se sa korisničkim računom sa kojim ste se registrovali za učešće na konferenciji.

*Ispunjavanjem upitnika, pomažete Organizatoru u organizaciji narednih konferencija.*

