

MICROSOFT AZURE NETWORKING

Traditional networking engineers entering the world of public cloud for the first time often feel like Alice in Wonderland. Everything looks and sounds familiar, and yet it all feels a bit different – ACLs sit in front of servers instead of on a router, there is no router, NAT happens somewhere behind the scenes...

This one-day workshop will help demystify the networking aspects of Microsoft Azure. We'll start with the high-level concepts, cover security aspects, and conclude with complex routing and hybrid cloud implementations.

TOPICS COVERED

The workshop focuses on networking aspects of Microsoft Azure:

- Geographies, regions and availability zones
- High availability in Azure
- Azure virtual networks
- Private and public addressing
- Packet forwarding in Azure
- Network security
- Internet access and NAT
- VPN connectivity and direct connectivity to on-premises infrastructure (ExpressRoute)
- Provisioning and orchestration

VIRTUAL NETWORKS

- Virtual Network address prefixes and subnets
- IPv4 subnet addressing
- IPv6 support
- Packet forwarding in Azure virtual networks
- User-defined routes and service chaining
- BGP routing with Virtual Network Gateway

ADDRESSING

- Internal and external addresses
- Multiple IP addresses per VM instance
- Public IP addresses

- Using IPv6
- DNS and DHCP

SECURITY

- Network and Application Security groups
- Network security monitoring and troubleshooting
- Network Virtual Appliances
- Virtual Network TAP

BEYOND A SINGLE VIRTUAL NETWORK

- Internet access and NAT
- Virtual network peering
- Virtual Network Gateways (VNG)
- Site-to-Site and Remote Access VPN connectivity
- VPN high availability
- ExpressRoute
- Building hybrid clouds

SIMPLE DEPLOYMENT SCENARIOS

- Simple web service
- Scale-out web service with load balancing
- Multi-tier service with load balancing
- Private and public subnets
- Bring-your-own firewall
- Inspection of intra-VNet traffic
- High-availability hybrid cloud

TAKEAWAYS

After attending this workshop you'll be able to:

- Map network infrastructure requirements into Azure concepts and objects;
- Design complex Azure networking infrastructure;
- Design security, Internet access and inbound load balancing for Azure workloads;
- Build hybrid clouds by connecting Azure workloads with external networks.

AVAILABILITY

Microsoft Azure Networking is a one-day on-site workshop. The workshop can be extended by in-depth technical details or discussions of customer's specific design challenges.

WHO SHOULD ATTEND

This workshop targets architects and designers who are planning, designing or building networking infrastructure within Microsoft Azure, or connecting Azure workloads with on-premises data centers.

It will also help server, virtualization, security and networking engineers understand the advantages and limitations of Azure virtual networks and related security and load balancing solutions.

ABOUT THE AUTHOR

Ivan Pepelnjak, CCIE#1354 Emeritus, is an independent network architect, book author, blogger and regular speaker at industry events and conferences. He has been designing and implementing large-scale service provider and enterprise networks since 1990, and is currently using his expertise to help multinational enterprises and large cloud- and service providers design next-generation data center and cloud infrastructure using Software-Defined Networking (SDN) and network automation approaches and technologies.

Ivan is the author of [several books covering data center technologies](#), highly praised [webinars](#), and dozens of [data center](#) and [cloud](#)-related technical articles published on [his blog](#).