Network Topology and Connectivity -Azure Cheat Sheet

by haraldthegrey via cheatography.com/210542/cs/45408/

Network Architecture: Design Principles

- ☐ **Segmentation:** Use *VNets* for workload separation. *Subnets* for different applications (web, database, API).
- ☐ **Security:** Apply *NSGs* for traffic filtering.
- ☐ **Regional Architecture:** Implement *Availability Zones* for high availability.
- ☐ **Scalability:** Design for automated scaling and modular structures.

Security Solutions and Standards

- ☐ **Azure Firewall:** Centralized access management. Integrates with *Azure Sentinel*.
- ☐ **Network Security Groups:** Control traffic via *IP*, *port*, and *protocol for subnets* and *VMs*.
- ☐ **Azure Private Link:** Secure access via *private endpoints*, isolated from the public internet.
- ☐ **Compliance Standards:** *ISO27001* and *NIS²* for documented security policies.

Network Connectivity: On-Premises Integration

VPN Gateway: Cost-effective secured connections with limited bandwidth.

ExpressRoute: Dedicated connection with high bandwidth and no internet dependency.

Scalability: Dynamic scaling with Azure Virtual WAN and modular extensions.

Key Metrics to Monitor

- ☐ **Performance:** Check bandwidth and latency for both *VPN* and *ExpressRoute*.
- ☐ **Usage:** Analyze traffic patterns with *Azure Monitor*.

Hybrid Network Infrastructure

- ☐ **Architecture Components:** On-Premises Datacenter linked via *VPN Gateway* or *ExpressRoute*.
- ☐ **Firewalls:** Local security segmentation and Azure integration.
- ☐ **Security Mechanisms:** Use Private Link for secure traffic; monitor via *Azure Monitor*.

Regional Network Infrastructure

- ☐ **Regions:** Select nearest *Azure region* to minimize latency; use multiple for redundancy.
- ☐ **Availability Zones:** Protect against datacenter-level failures.
- ☐ **Documentation:** Keep security and network topology updated.

Best Practices

- ☐ **Monitoring:** Utilize *Azure Monitor* and *Log Analytics* for insights.
- ☐ **Updates:** Regularly revise policies per *ISO27001* and *NIS²* standards.

Example Architecture

- ☐ **Connectivity:** On-Premises VPN Gateway ↔ *Azure VPN Gateway*.
- ☐ **Redundancy:** *Primary* and *Secondary Regions* configured.
- ☐ **Security:** *Azure Firewall* and *NSGs* filter traffic.

Connections Overview

- ☐ Use VPN for secure connections or *ExpressRoute* for dedicated bandwidth.
- ☐ Prioritize security through *AZs* and *NSGs*.

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