What’s new in Azure Infrastructure

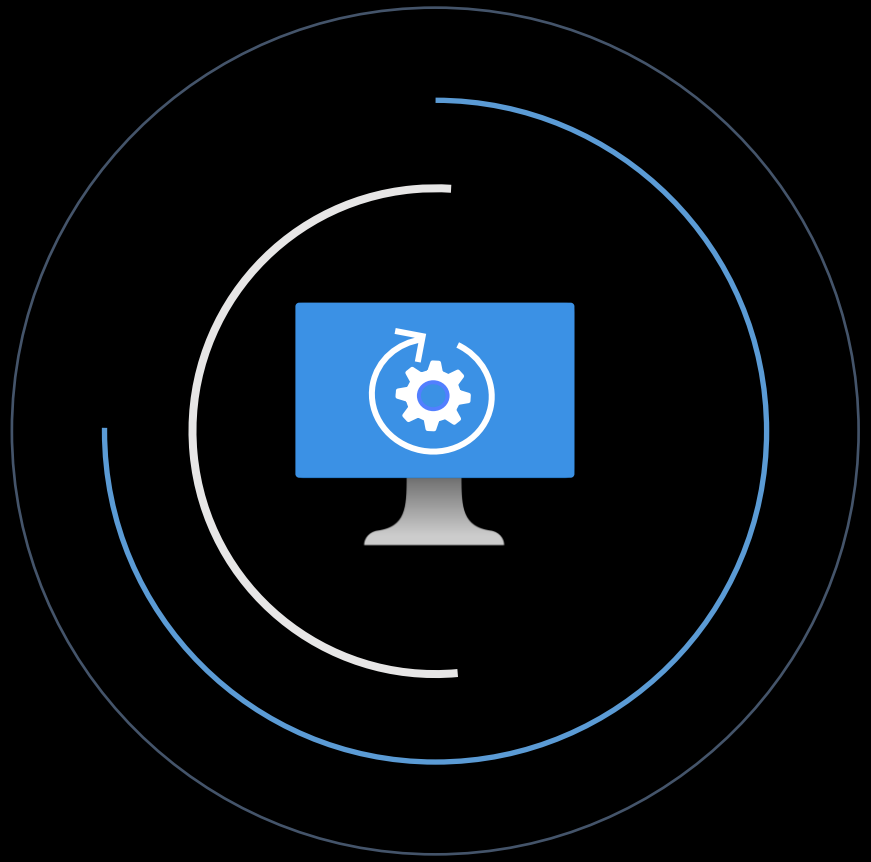
- Jesper Fütterer Bing
- Azure MVP
- Cloud Architect, APENTO
- @jefutte

Agenda

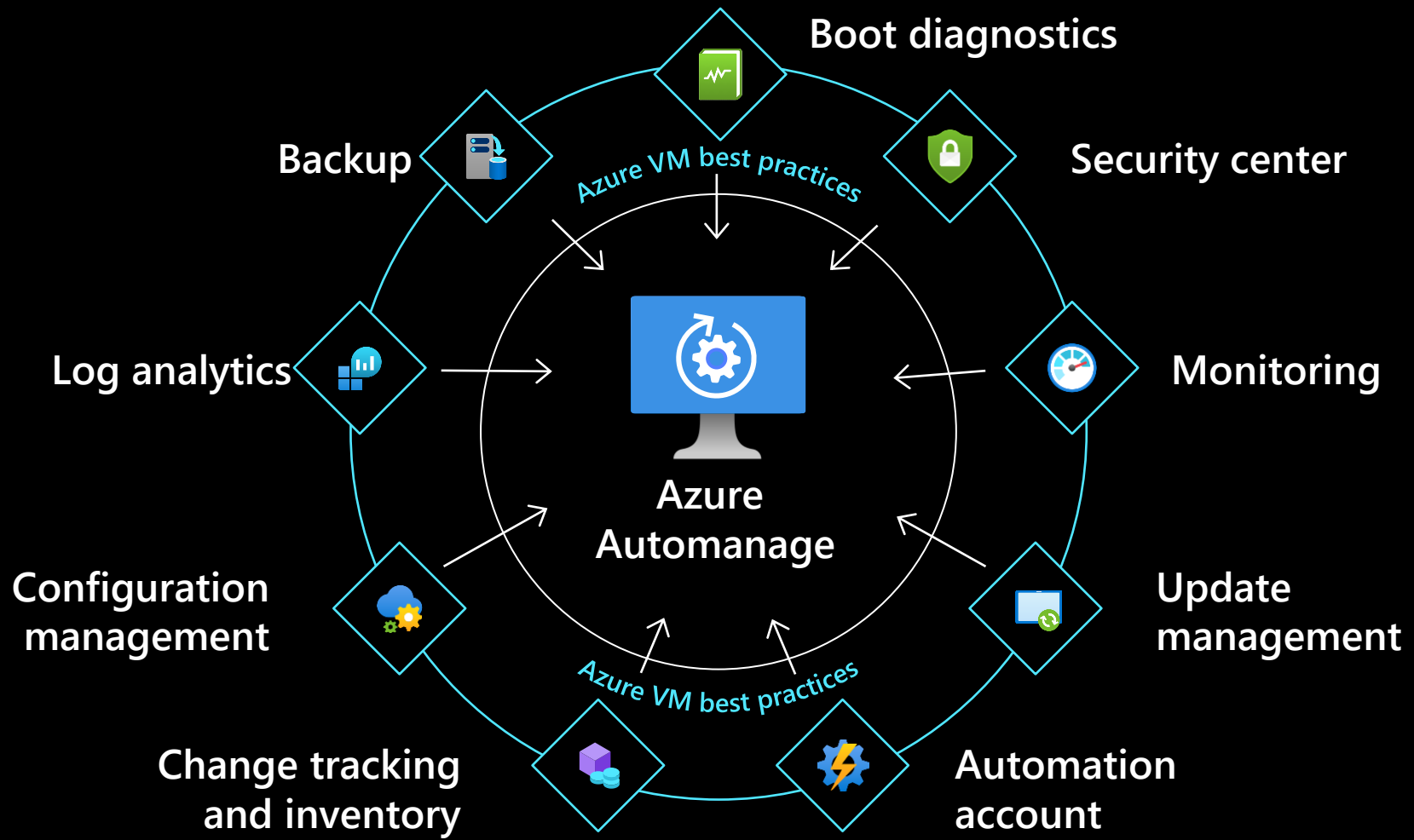
- Compute
- Networking
- Storage
- Management

Microsoft Azure

Azure Automanage - GA

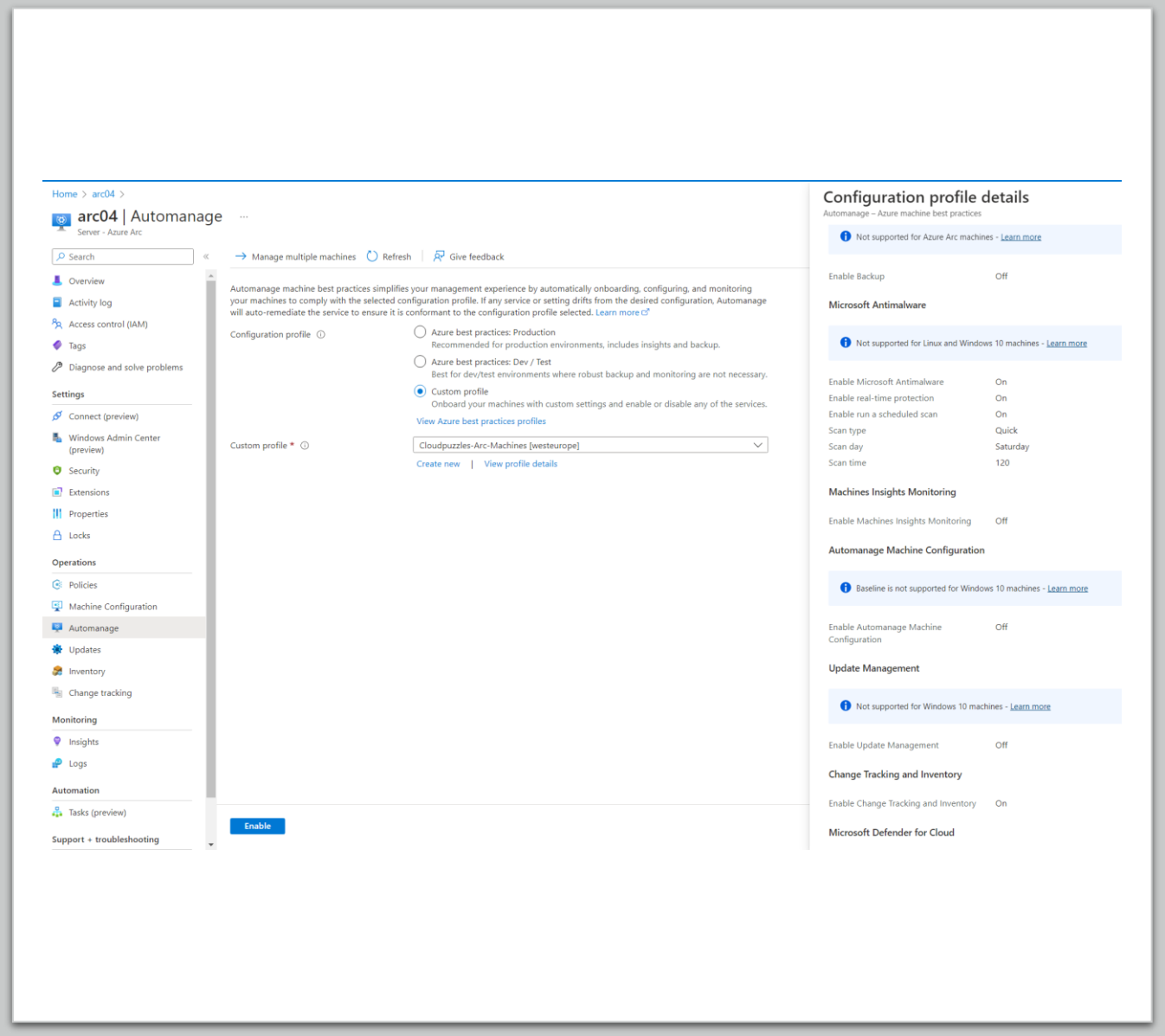


Intelligently onboard to select Azure services

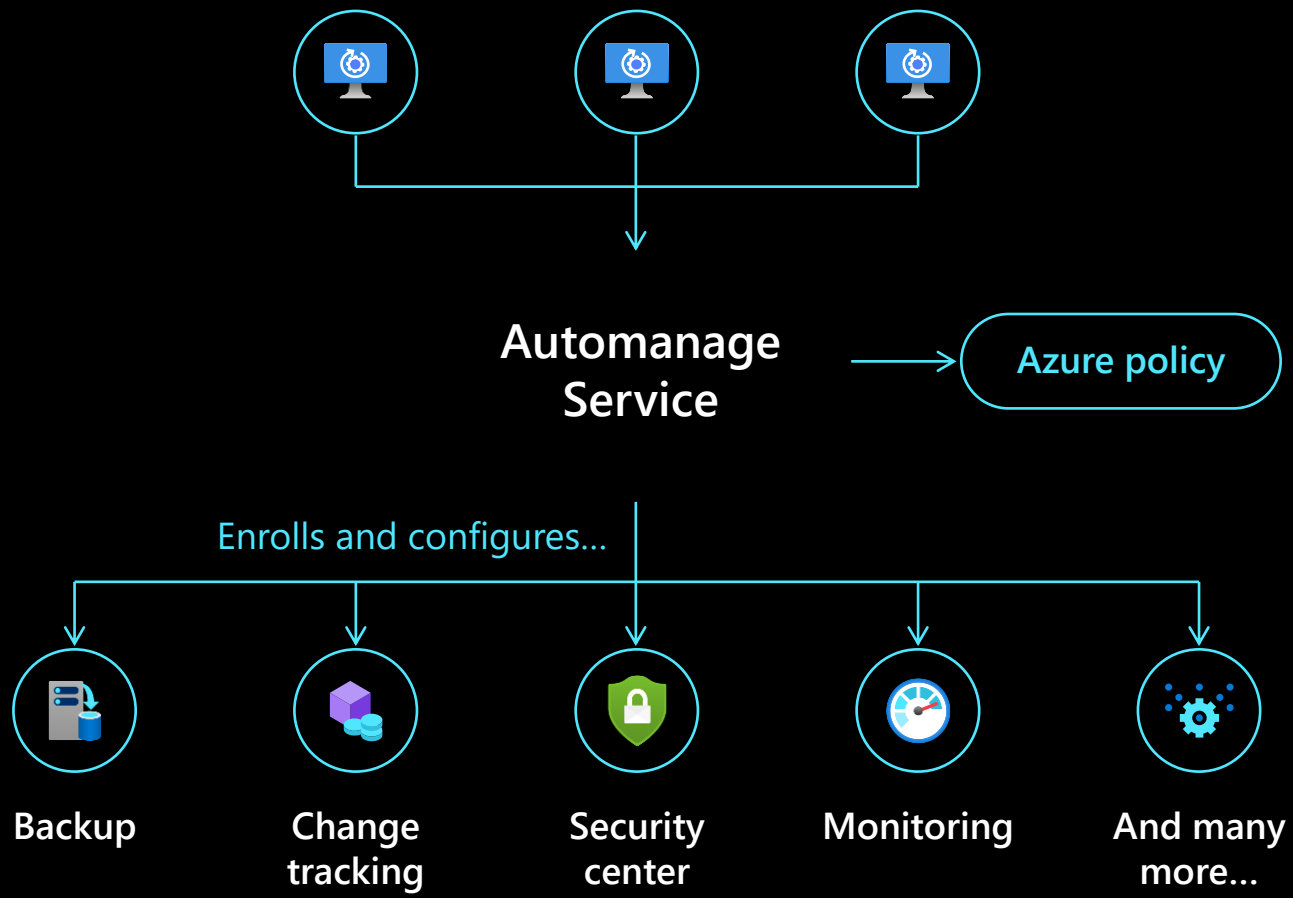


Managed through profiles

Define profiles centrally, and assign automaticcal with Azure Policy



Architecture view of Azure Automanage



HOW IT WORKS

1. Users enable Automanage with set of parameters
2. Automanage service calls each service and configures with correct settings
3. Automanage creates policies
4. Automanage monitors the policies on a regular cadence
5. If drift is detected, Automanage brings the VM/associated resource back into the desired state

Generally available

Windows Admin Center in the Azure portal

Administration of Windows Server VMs with a familiar UI, from the Azure portal

Windows Admin Center

Tools

Search Tools

- Overview
- Certificates
- Devices
- Events
- Files & file sharing
- Firewall
- Installed apps
- Local users & groups
- Packet monitoring
- Performance Monitor
- PowerShell
- Processes
- Registry
- Remote Desktop
- Roles & features
- Scheduled tasks
- Security
- Services
- Storage
- Updates
- Settings

Overview

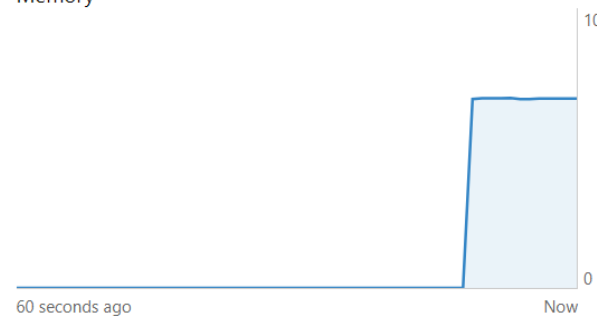
Connect | Enable Disk Metrics | Refresh

Computer name arc04	Domain WORKGROUP (Workgroup computer)	Operating system Microsoft Windows Server 2022 Datacenter	Version 10.0.20348	Installed memory (RAM) 4 GB
Disk space (Free / Total) 22.37 GB / 44.08 GB	Processors 11th Gen Intel(R) Core(TM) i5-1145G7 @ 2.60GHz	Manufacturer Microsoft Corporation	Logical processors 1	NIC(s) 1
Up time 12:18:47:43	Logged in users 1	Microsoft Defender Antivirus Real-time protection: On	Model Virtual Machine	Windows Defender Application Control (WDAC) Not Enforced

CPU

Utilization **6.3%**
Handles 56960
Speed 1.75GHz
Processes 131
Threads 1446

Memory

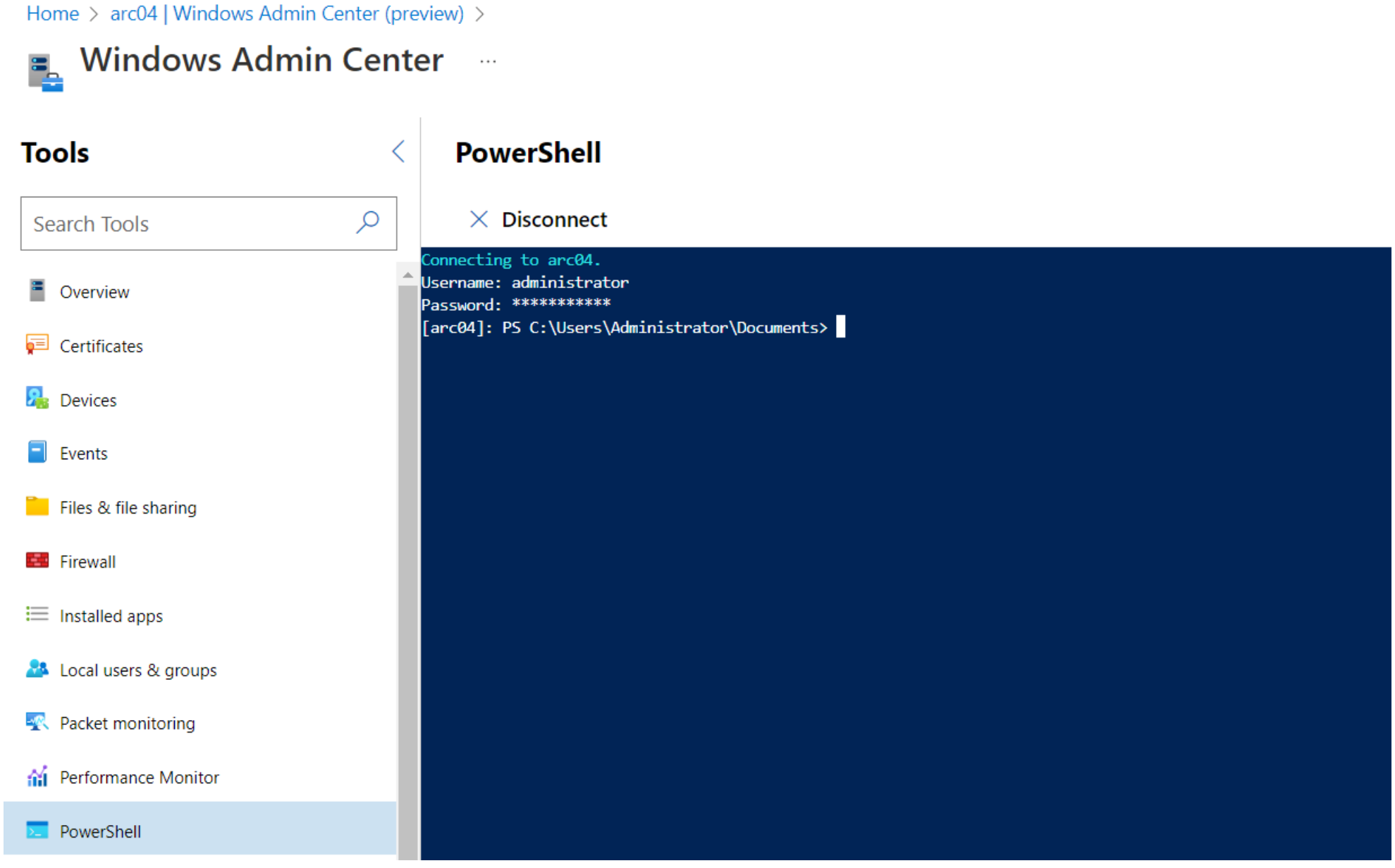


Utilization **67.65%**
Committed 2.4GB
Total 4GB
Cached 1.3GB
In use 2.7GB
Paged pool 244.8MB
Available 1.3GB
Non-paged pool 119.4MB

Ethernet (Ethernet)

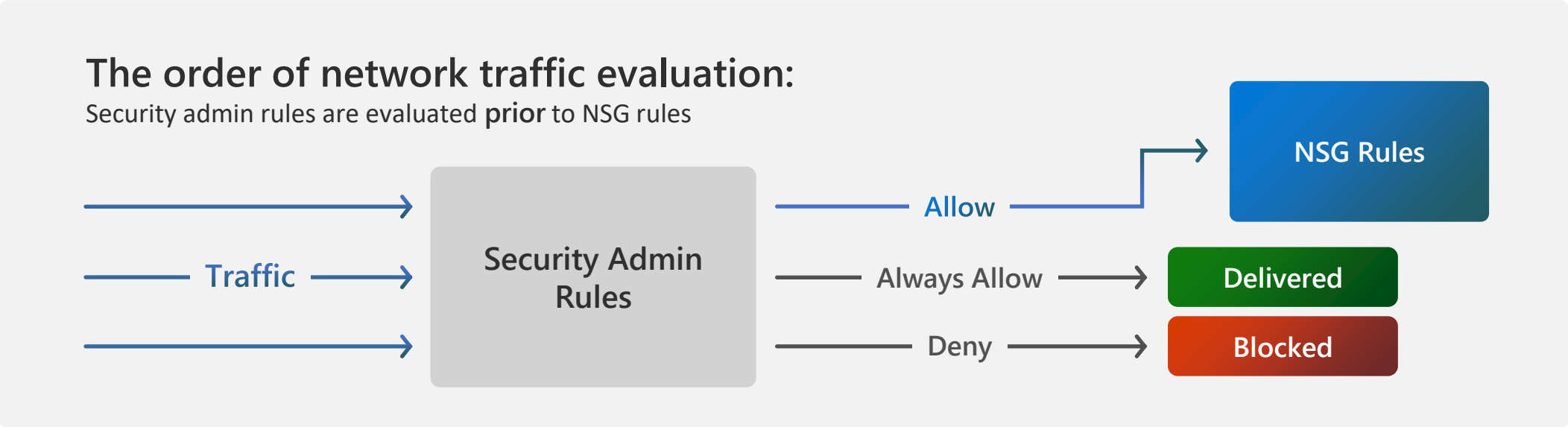
Send **32 Kbps**
Receive **104 Kbps**

Manage from everywhere



Generally available

Azure Virtual Network Manager

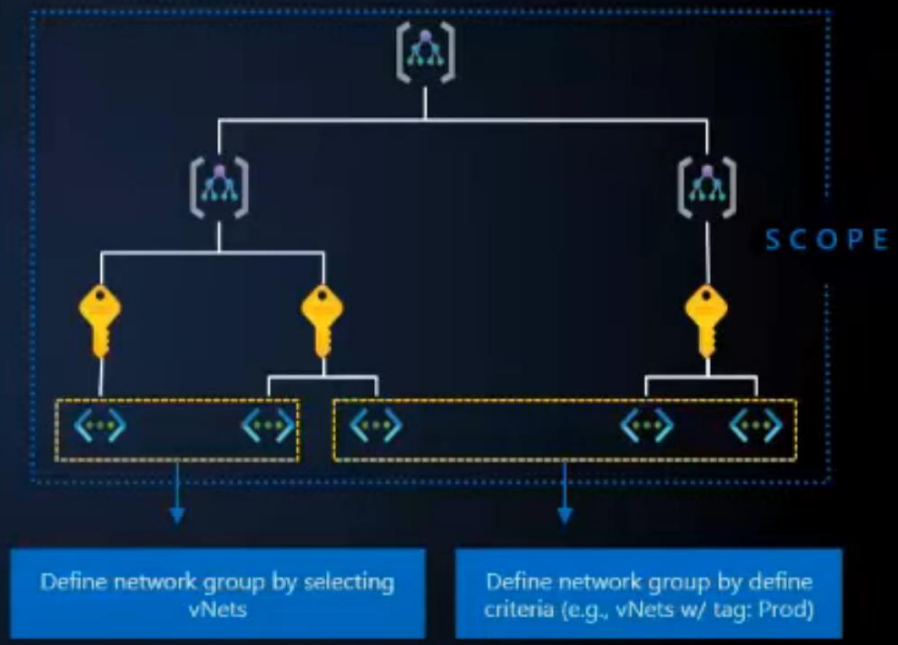


Protect your network resources at scale using security admin rules

Why we need security admin rules: Security at Scale

Protect resources in virtual networks at scale

- Day 0 Protection
  - As a network administrator, I want to have all resources protected by default from the moment they're provisioned.
- Emergency Patching at Scale
  - As a security operator, I want to quickly block high-risk traffic and protect all machines at scale once I identify it.

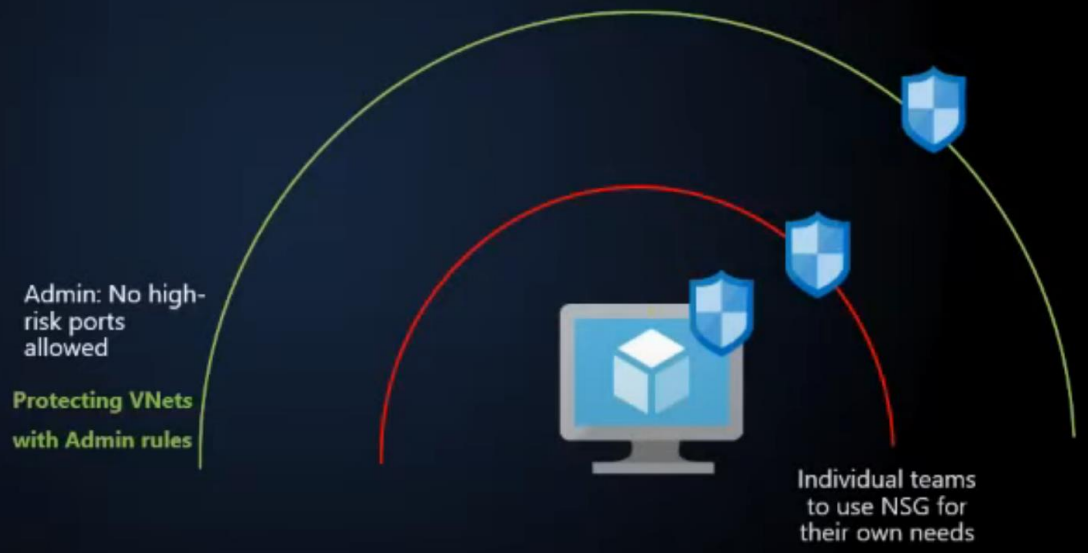


Security admin rules

Secure at scale with admin rules

Admin rule (not NSG)

- **Target audience: network admins, central governance teams, etc.**
- Admin level rules applied to all resources in desired network groups
  - Admin rules to enforce admin's desired network security rules
- Input: security policy --> Output: admin rule
- New VMs will get these rules after they are created
- Enforced rules



New network security solutions

Cost-effective network security solutions for SMB customers

In preview

Azure Firewall Basic

In preview

Azure DDoS IP Protection

Azure Firewall SKUs

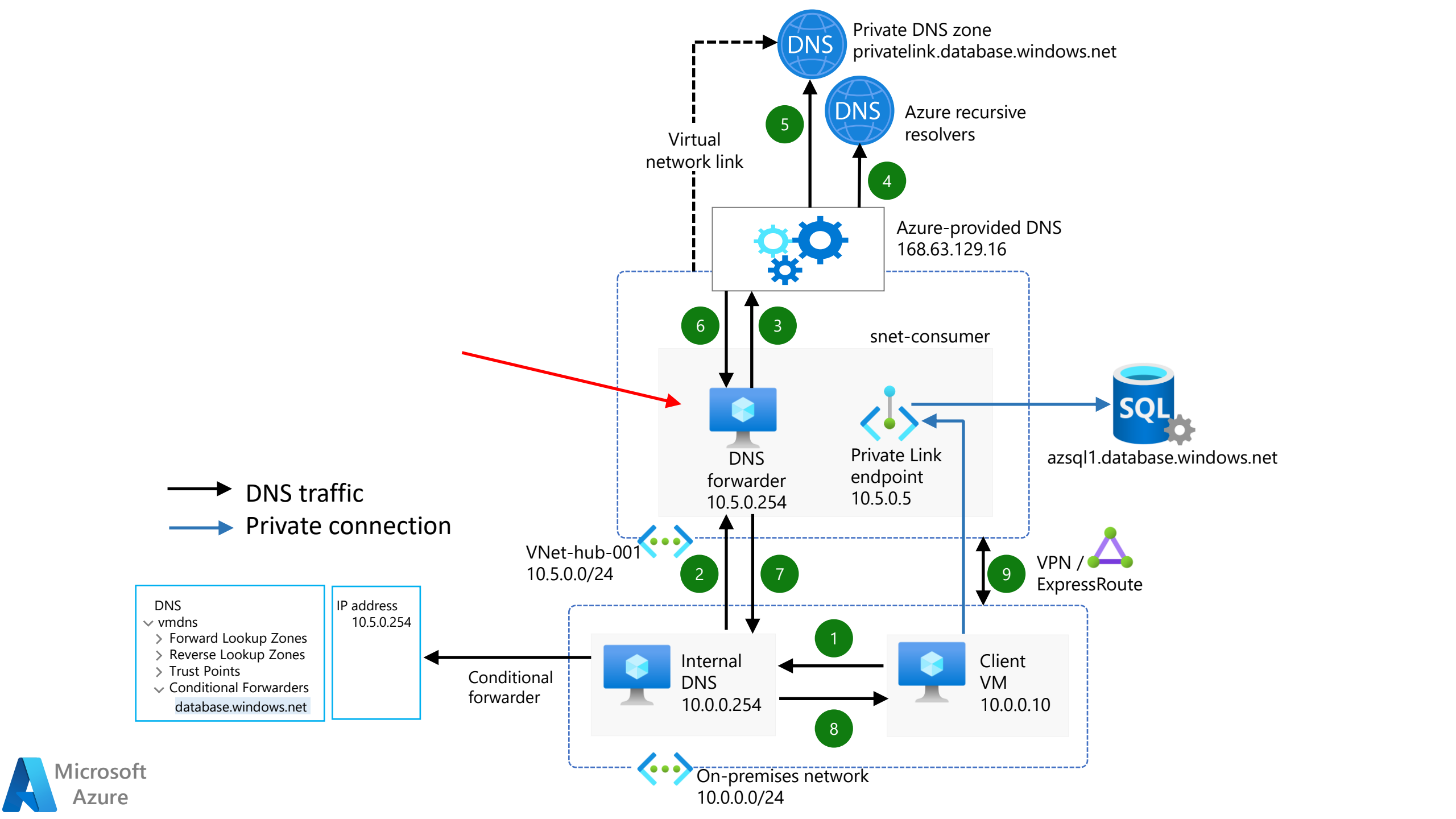
Feature Category	Feature	Firewall Basic *Public Preview*	Firewall Standard	Firewall Premium
L3-L7 Filtering	Application level FQDN filtering (SNI based) for HTTPS/SQL	✓	✓	✓
	Network level FQDN filtering – all ports and protocols		✓	✓
	Stateful firewall (5 tuple rules)	✓	✓	✓
	Network Address Translation (SNAT+DNAT)	✓	✓	✓
Reliability & Performance	Availability zones	✓	✓	✓
	Built-in HA	✓	✓	✓
	Cloud scalability (auto-scale as traffic grows)	Up to 250Mbps	Up to 30 Gbps	Up to 100 Gbps
	Fat Flow support	N/A	1 Gbps	10 Gbps
Ease of Management	Central management via Firewall Manager	✓	✓	✓
	Policy Analytics (Rule Management over time)	✓	✓	✓
Enterprise Integration	Full logging including SIEM integration	✓	✓	✓
	Service Tags and FQDN Tags for easy policy management	✓	✓	✓
	Easy DevOps integration using REST/PS/CLI/Templates/ Terraform	✓	✓	✓
	Web content filtering (web categories)		✓	✓
	DNS Proxy + Custom DNS		✓	✓
Advanced Threat Protection	Threat intelligence-based filtering (known malicious IP address/ domains)	Alert	✓	✓
	Inbound TLS termination (TLS reverse proxy)			Using App GW
	Outbound TLS termination (TLS forward proxy)			✓
	Fully managed IDPS			✓
	URL filtering (full path - incl. SSL termination)			✓

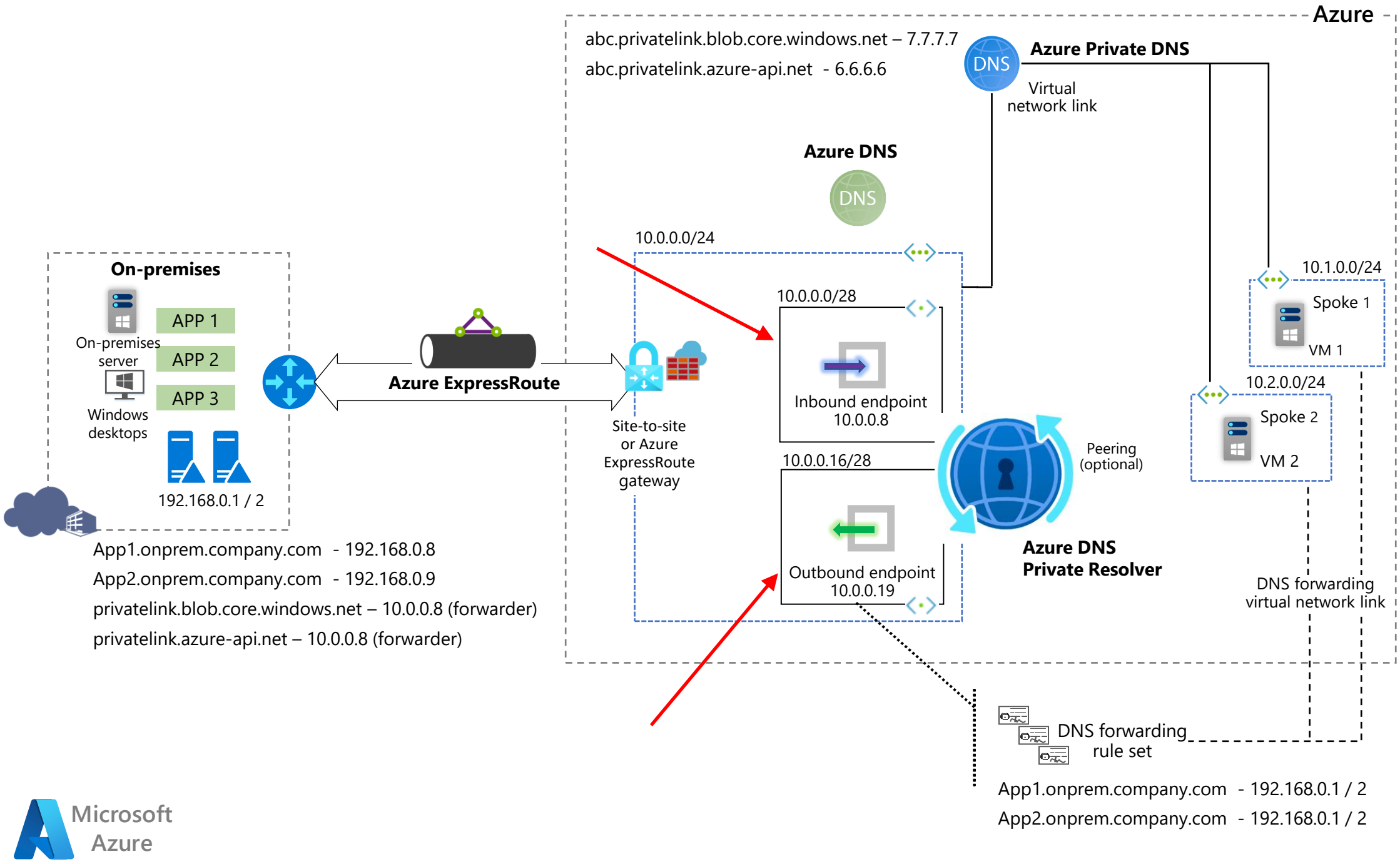
Azure DDoS SKUs

Feature	DDoS IP Protection (Preview)	DDoS Network Protection
Active traffic monitoring & always on detection	✓	✓
L3/L4 Automatic attack mitigation	✓	✓
Automatic attack mitigation	✓	✓
Application based mitigation policies	✓	✓
Metrics & alerts	✓	✓
Mitigation reports	✓	✓
Mitigation flow logs	✓	✓
Mitigation policies tuned to customers application	✓	✓
Integration with Firewall Manager	✓	✓
Azure Sentinel data connector and workbook	✓	✓
DDoS rapid response support		✓
Cost protection		✓
WAF discount		✓

Azure DNS Private Resolver - GA

- Fully managed DNS resolver
- Inbound endpoints – query private Azure DNS zones from on-premises
- Outbound endpoints – Conditional forwarding from Azure to on-premises
  - Requires dedicated subnet


Private DNS zone
privatelink.database.windows.net
Azure recursive
resolvers
Virtual
network link
Azure-provided DNS
168.63.129.16
snet-consumer
DNS
forwarder
10.5.0.254
Private Link
endpoint
10.5.0.5
azsql1.database.windows.net
DNS traffic
Private connection
VNet-hub-001
10.5.0.0/24
VPN /
ExpressRoute
DNS
vmdns
Forward Lookup Zones
Reverse Lookup Zones
Trust Points
Conditional Forwarders
database.windows.net
IP address
10.5.0.254
Conditional
forwarder
Internal
DNS
10.0.0.254
Client
VM
10.0.0.10
On-premises network
10.0.0.0/24



Microsoft Azure

Generally available

Azure Disk Storage Premium SSD v2

Data-intensive workloads

Low latency and high performance

Flexible provisioning

Shared block storage

Up to **64TiB** capacity

Up to **80K** IOPS

<1ms avg latency

1200 MB/s throughput

In preview

Azure Elastic SAN

Cloud native

Fully managed

Massively scalable

- 1-100 TiB
- 500.000 IOPS
- 8.000 MB/s

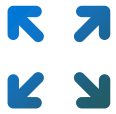
Cost efficient

Azure Monitor

Best-in-class observability solution for cloud and hybrid

Monitoring is just there and works across Azure and hybrid

Ability to observe at any level and across the stack



Open and extensible platform for innovation

Enterprise ready for mission critical scenarios

New Azure Monitor capabilities further modernize your environments for agility and optimize costs

Generally available

Predictive autoscale

Intelligently scale your Virtual Machine Scale Sets ahead of demand

Generally available

Basic logs and data archive

Ingest logs at a fifth of current costs and archive data for up to 7 years

Generally available

Azure Monitor Agent

Migration tool GA – Move from old Log Analytics Agent

Windows 10/11 GA

Update Management Center

- Central overview of all machines the user has access to through RBAC