AZURE CHEAT SHEET

All pricing in this document is based on US EAST Pricing as of Q1, 2025

AZURE CHEAT SHEET

nerdio

1 START

AZURE IDENTITY

Entra ID (formerly Azure AD) - Does not support kerberos and GPOs: Relies on Intune for management

Active Directory Domain Services (ADDS) - Typical VM DC, full domain capability, kerberos, GPO support: requires patching and maintenance of Azure

Entra Domain Services (AADDS) – PaaS Domain bolt-on to Entra ID; similar to ADDS except no maintenance required

2 TYPES OF AZURE-BASED VDIs

Multi-Session AVD ($$) - Most common type of VDI, users get a pooled desktop

Single Session AVD ($$$) - VIP users get personal desktop that can auto-scale

RemoteApps ($) - If you want an app published but do not want to give someone full desktop

Windows 365 ($$$$) - Easy deployment, fixed cost, personal desktops for VIP, Frontline, and GPU users.

3 BREAKDOWN OF AN AZURE VM SKU

[VM Family] + [# of Cores] + [Attributes] + [Gen Ver.]

ATTRIBUTES LEGEND

d - Has a temp disk, used for EOSD, Page File, SQL Logs, etc

a - AMD CPU; AMDs have higher ACU than Intel

s - Compatible with Premium SSDs

-# - CPU constraint VM; ideal for SQL workloads where CPU is not needed but high memory is required. Avoid paying high SQL licensing cost based on lower number of vCPUs

TIP: Upgrade VMs to v6 for best performance (if available). Make sure to swap out RIs after making the switch.

EXAMPLES:

E8ads_v4 - Memory Optimized 8 vCPU 64GB RAM AMD/w Temp Disk, Premium Storage compatible, version 4

D2s_v6 - Standard 2 vCPU 8GB RAM Intel Premium Storage compatible, version 6

E8-4ads_v5 - Memory Optimized 4 vCPU 64GB RAM AMD/w Temp Disk, Premium Storage compatible, version 5

NV16as_v4 - Radeon GPU 16 vCPU 56GB RAM AMD/w Temp Disk, Premium Storage compatible, version 4

4 COMMON VM SKUS (INTEL BASED)—AMD VMS ARE TYPICALLY LOWER COST AND MORE POWERFUL

B series - Light weight workloads - DC's, small IIS, utility servers; burstable
B2ls_v2 | 2vCPU | 4GB RAM | 3750IOPS/85MB/s | 10000IOPS/960MB/s max burst
B2s_v2 | 2vCPU | 8GB RAM | 3750IOPS/85MB/s | 10000IOPS/960MB/s max burst

D series - Standard workloads - File, App, Light SQL servers; balanced CPU/RAM
D2s_v6 | 2vCPU | 8GB RAM | 3750IOPS/106MB/s | 40000IOPS/1250MB/s Max Burst
D4s_v6 | 4vCPU | 16GB RAM | 6400IOPS/212MB/s | 40000IOPS/1250MB/s Max Burst
D8s_v6 | 8vCPU | 32GB RAM | 12800IOPS/424MB/s | 40000IOPS/1250MB/s Max Burst
D16s_v6 | 16vCPU | 64GB RAM | 256000IOPS/848MB/s | 40000IOPS/1250MB/s Max Burst

E series - Memory workloads - SQL Servers*, App, AVD Hosts; double RAM
E2s_v6 | 2vCPU | 16GB RAM | 3750IOPS/106MB/s | 40000IOPS/1250MB/s Max Burst
E4s_v6 | 4vCPU | 32GB RAM | 6400IOPS/212MB/s | 40000IOPS/1250MB/s Max Burst
E8s_v6 | 8vCPU | 64GB RAM | 12800IOPS/424MB/s | 40000IOPS/1250MB/s Max Burst
E16s_v6 | 16vCPU | 128GB RAM | 256000IOPS/848MB/s | 40000IOPS/1250MB/s Max Burst

F series – High CPU Single Proc workloads–App, CPU crunching; 'l' and 'm' variants available
F2as_v6 | 2vCPU | 8GB RAM | 4000IOPS/90MB/s | 20000IOPS/1250MB/s max burst
F4as_v6 | 4vCPU | 16GB RAM | 7600IOPS/180MB/s | 20000IOPS/1250MB/s max burst
F8as_v6 | 8vCPU | 32GB RAM | 15200IOPS/360MB/s | 20000IOPS/1250MB/s max burst

NVv4 series - Radeon GPU workloads - CAD/CAM, AutoDesk, Solidworks; AMD GPUs
NV8as_v4 | 8vCPU | 28GB RAM | 4GB Radeon Instinct MI25| 176GB Temp Disk
NV16as_v4 | 16vCPU | 56GB RAM | 8GB Radeon Instinct MI25| 352GB Temp Disk
N32as_v4 | 32vCPU | 112GB RAM | 16GB Radeon Instinct MI25| 704GB Temp Disk

NVv5 series - nVidia GPU workloads - CAD/CAM, AutoDesk, Solidworks; nVidia GPUs
NV6ads_A10_v5 | 6vCPU | 55GB RAM | 4GB nVidia A10 GPU| 180GB Temp Disk
NV12ads_A10_v5 | 12vCPU | 110GB RAM | 8GB nVidia A10 GPU| 360GB Temp Disk
NV18ads_A10_v5 | 18vCPU | 220GB RAM | 12GB nVidia A10 GPU| 720GB Temp Disk
NV36ads_A10_v5 | 36vCPU | 440GB RAM | 24GB nVidia A10 GPU| 720GB Temp Disk

Consider CPU Constraint E Series for extreme high-end SQL performance workloads, and limit spend on SQL Licensing or Ebds VMs for large databases.

5

PREMIUM SSD PERFORMANCE & PRICING

DISK SIZE	IOPS (BURST)	THROUGHOUT (BURST)	PRICE
P10 128 GB	500 (3,500)	100 MBps (170 MBps)	$19.71
P15 256 GB	1100 (3,500)	125 MBps (170 MBps)	$38.02
P20 512 GB	2300 (3,500)	150 MBps (170 MBps)	$73.22
P30 1 TB	5000 (30,000)	200 MBps (1000 MBps)	$135.17
P40 2 TB	7500 (30,000)	250 MBps (1000 MBps)	$259.05
P50 4 TB	7500 (30,000)	250 MBps (1000 MBps)	$495.57

Azure charges a burst enablement fee of $24.576 and transaction fee of $0.005 per 10,000 transaction units for P30 disks and larger with bursting enabled. Any type of operation against the storage is counted as a transaction, including reads, writes, and deletes.

STANDARD SSD PERFORMANCE & PRICING

DISK SIZE	IOPS (BURST)	THROUGHOUT (BURST)	PRICE
E10 128 GB	500 (600)	100 MBps (150 MBps)	$9.60
E15 256 GB	500 (600)	100 MBps (150 MBps)	$19.20
E20 512 GB	500 (1000)	100 MBps (250 MBps)	$35.40
E30 1 TB	500 (1000)	100 MBps (250 MBps)	$76.80
E40 2 TB	500 (1000)	100 MBps (N/A)	$153.60
E50 4 TB	500 (N/A)	100 MBps (N/A)	$307.20

Azure charges $0.002 per 10,000 transaction units for Standard SSDs. Any type of operation against the storage is counted as a transaction, including reads, writes, and deletes. We use IO unit size of 256 KiB for counting the billable. There is a max hourly transaction limit on Standard SSDs.

STANDARD HDD PERFORMANCE & PRICING

DISK SIZE	IOPS (BURST)	THROUGHOUT (BURST)	PRICE
S10 128 GB	500 (N/A)	60 MBps (N/A)	$5.89
S15 256 GB	500 (N/A)	60 MBps (N/A)	$11.33
S20 512 GB	500 (N/A)	60 MBps (N/A)	$21.76
S30 1 TB	500 (N/A)	60 MBps (N/A)	$40.96
S40 2 TB	500 (N/A)	60 MBps (N/A)	$77.83
S50 4 TB	500 (N/A)	60 MBps (N/A)	$143.36

Azure charges $0.0005 per 10,000 transactions for Standard HDDs. Any type of operation against the storage is counted as a transaction, including reads, writes and deletes.

6 WINDOWS 365 SKUS AND PRICING

CLOUDPC SIZE	SSD	BUSINESS WITH WHB OR ENTERPRISE	FRONTLINE
2vCPU 4GB RAM	64GB SSD	$28.00	$42.00
2vCPU 4GB RAM	128GB SSD	$31.00	$47.00
2vCPU 4GB RAM	256B SSD	$40.00	$60.00
2vCPU 8GB RAM	128GB SSD	$41.00	$62.00
2vCPU 8GB RAM	256GB SSD	$50.00	$75.00
4vCPU 16GB RAM	128GB SSD	$66.00	$99.00
4vCPU 16GB RAM	256GB SSD	$75.00	$113.00
4vCPU 16GB RAM	512GB SSD	$101.00	$152.00
8vCPU 32GB RAM	128GB SSD	$123.00	$185.00
8vCPU 32GB RAM	256GB SSD	$132.00	$198.00
8vCPU 32GB RAM	512GB SSD	$158.00	$237.00

Standard GPU 4vCPU 16GB RAM 8GB GPU VRAM 512GB SSD $537.00/month	Super GPU 8 vCPU 56GB RAM 12GB VRAM 1 TB SSSD $1,029.00/month	Max GPU 16 vCPU 110GB RAM 16GB VRAM 1TB SSD $1,914.00/month

7 CSP SOFTWARE SUBSCRIPTION LICENSES FOR AHB

VENDOR SKU	SKU TITLE	DISTI PRICE	MSRP
DG7GMGF0DWBM:0003	SQL Server Standard - 2 Core License Pack - 1 year	$1,695.30	$1,863.00
DG7GMGF0DWBM:000	SQL Server Standard - 2 Core License Pack - 3 year	$4,257.90	$4,679.00
DG7GMGF0DVT9:000B	Windows Server 2025 Standard - 8 Core - 1 year	$250.25	$275.00
DG7GMGF0DVT9:000	Windows Server 2025 Standard - 8 Core - 3 year	$640.64	$704.00

Licensing AVD: Windows 10/11 E3/A3, VDA license or M365 Business Premium, E3, E5, A3, A5, F3.

VMs running on-prem or on other hyperscalers can benefit from using Azure Arc to extend Security Updates at a cost for Windows Server 2012 and SQL Server 2012. CSP SQL PAYG licensing can now extended to license on premise SQL servers. CSP Perpetual licensing does not apply to Azure servers.

8 VPN/NAT GATEWAY SKUS AND PRICING

Basic 100Mbps Bandwidth 10 S2S VPN Tunnels - $26.28

VPNGW1AZ 650Mbps Bandwidth 30 S2S VPN Tunnels: $263.53

VPNGW2AZ 1 Gbps Bandwidth 30 S2S VPN Tunnels: $411.72

NAT Gateway + 1 Static IP - $38.48 | Data Processed - $.045/GB

Need more Tunnels? Deploy a UTM Virtual Firewall

Inbound traffic to Azure is Free. Outbound egress traffic First 100GB is free.

FOR MORE HELPFUL INFO GO TO BACK

POST DEPLOYMENT CHECKLIST

1. Match deployed environment with quote
2. Configure auto-scaling properly
3. Turn on Azure Hybrid Benefits for qualified servers
4. Purchase 3-year reservations
5. Purchase CSP software subscription licenses
6. Track/document your Reserved Instances and AHB

RESERVATION RULES
(RESERVE ALL VMs RUNNING GREATER THAN 280 HRS)

1. VM RI SKU must match running VM
2. Reservation must match deployed region
3. VM reservations can be canceled without penalty
4. Always reserve a VM for 3 years for max savings
5. Microsoft is currently not enforcing cancellation penalties on RIs

Even if they did, purchasing RIs would provide you ROI after only three months of use

AZURE ACCURATE QUOTING QUESTIONNAIRE

1. Do you currently have Microsoft 365? If yes, what edition (Business Standard, Business Premium, E3, etc.)?
2. Is your email hosted or on-premises? If hosted, is it through Microsoft 365 or some other provider?
3. Are you using Entra ID, onsite AD, or no AD?
4. How many computer users do you have?
5. About how many concurrent users do you have?
6. How many servers do you have?
7. Can you provide a server list with details, including role, RAM, CPU, and used storage on all volumes?
8. How many remote users and locations?
9. What the are main applications used to run your business (Office, QuickBooks, etc.)?
10. What is your internet speed in the office?
11. What operating systems do you currently have on your computers (Win10/11)?
12. How much data do you have currently?
13. Do you have a current backup system, and how frequently are backups being performed?
14. Do you do a lot of printing or scanning?
15. What peripheral devices are used?
16. How many hours are in an average work week for your staff?
17. Are you using any graphic intensive programs for design, 3D modeling, video creation/editing, etc.? What specs are GPU Machine? Specify GPU model and GPU RAM.
18. Can you provide information on your users' web browsing habits (lots of open tabs, casual, watching videos, streaming music, etc.)?
19. What are your biggest challenges today regarding IT?

NERDIO'S COST ESTIMATOR INPUTS

1. About how many users overall will use virtual desktops (refers to the total amount of users that will use AVD/W365)?
2. Will any of those users need dedicated personal desktops? How many users need their own separate VM (think VIP users or users that need local admin to install software)?
3. How many users have GPU pooled desktop needs (refers to users that need GPU desktops for CAD, Adobe CS, etc.)?
4. Ideal VM sizes to use for Host Pools: E8s_v5 or E16s_v5
5. Enter server specs (always take advantage of RI and AHB for 3 years)
6. Consider what your plans for current DC are—moving to Azure?
7. FSLogix Profile (averages 20GBs per person)
8. Bandwidth, storage operations, log analytics (can be the default)
9. Optionally, enter desired margins and save the quote!

AZURE FILES PRICING/PERFORMANCE

1. **Azure Files Standard**: Pay for what you use: for flat file storage, pay for I/O. Comes in Hot, Cool, or Transaction-optimized.
2. **Azure Files Premium**: Pay for quota amount—performance-oriented storage for user profiles and other high performance/demanding storage needs.

Azure Files Storage can join a domain and get NTFS permissions without needing a VM file server; no maintenance is required for PaaS File Server. Azure Files can now be used with Entra ID joined AVD machines.

AZURE BACKUP OPTIONS

LRS: 3 copies of your data stored within the same region

GRS: 3 copies of data stored within local and second region

Inbound traffic to Azure is free. Outbound egress traffic: first 100GB is free, after that, the next 10TB is $0.08 per GB. GRS is ~2x the cost of LRS.

CIS INTEGRATION—NOW AVAILABLE

CIS Hardened Images comes with 350+ security controls already implemented for secure servers and desktops out of the box. CIS Hardened Images will be consumed at $.02/hour.
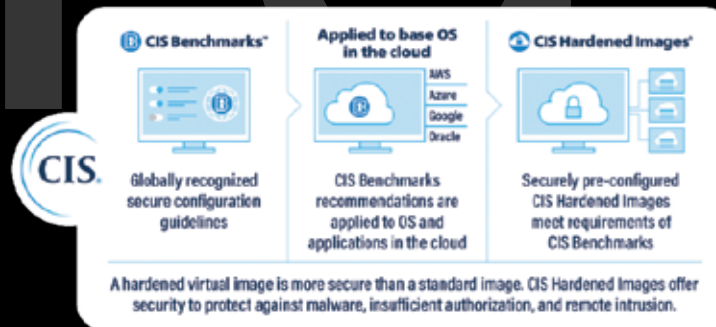
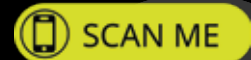PCI DSS, ISO. NIST, MITRE ATT&CK, FedRAMP, DoD, StateRAMP, CJIS, FISMA

FREE
HELPFUL TOOLS

GET ACCURATE & COMPLETE AZURE PRICING

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Still confused? Contact sales@getnerdio.com