

Azure Arc

Secure and Manage workloads with Azure services anywhere



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Hybrid and multicloud is a reality

Complexity

"I need to have health visibility in a single pane of glass to all my existing and future infrastructure and applications."

Compliance

"I need to manage security and incident management across my public cloud and datacenter assets."

Inconsistency

"I want my on-prem skills to work in the cloud, and my cloud skills to work on-prem."

Regulation

"Our DB layer must remain on-premises due to regulatory requirements."

Latency

"We can't take a dependency on the internet. If we lose connectivity, we still want to be able to access the data."

Legacy

"I want to leverage the latest cloud innovation for my legacy workloads and reduce labor costs."



Multicloud



Datacenter



Edge

Microsoft Azure



Single control plane with Azure Arc

Infrastructure

Connect and operate
hybrid resources as native
Azure resources

Azure Arc-enabled infrastructure

Services

Deploy and run Azure services
outside of Azure while still
operating it from Azure

Azure Arc-enabled services



Arc
Server



K8s



Windows



SQL
Server



SQL
DB



PostgreSQL



Web
Apps



Functions



Logic
Apps



Machine
Learning



Multi-cloud



Datacenter



Edge

Azure Arc-enabled infrastructure

Bring on-premises and multi-cloud infrastructure to Azure with Azure Arc



Azure Arc-enabled servers

Organize, inventory, and monitor
Governance and Security
Simplified role-based operations
Physical, Virtual, Windows, Linux



AWS Linux 2

GENERALLY AVAILABLE



Azure Arc-enabled SQL Server

Organize, inventory, and monitor
Governance and Security
Use with your existing SQL servers
Free SQL Assessment



GENERALLY AVAILABLE



Azure Arc-enabled Kubernetes

Organize, inventory, and monitor
Governance and Security
Monitoring and Policy
GitOps-based zero-touch deploy



RANCHER

OpenShift

AKS on Azure
Stack HCI

GENERALLY AVAILABLE

Azure SQL and PostgreSQL enabled by Azure Arc

IaaS

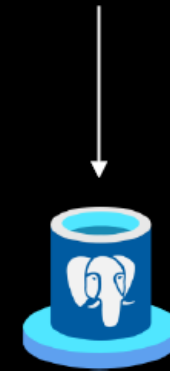
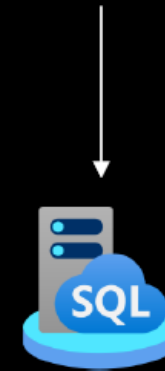
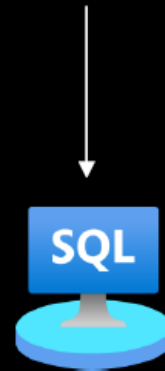
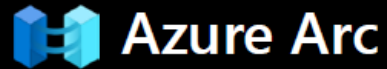
PaaS



SQL Server on Azure
virtual machines

Azure SQL Managed
Instance

Azure PostgreSQL



SQL Server on Azure Arc-
enabled servers

Azure Arc-enabled SQL
Managed Instance

Azure Arc-enabled
PostgreSQL
(In Preview)

Azure SQL enabled by Azure Arc

Azure Arc extends Azure services to your Data Center

Configuration management | Observability | Governance | Security



Microsoft
Copilot
for Azure



Microsoft
Defender
for Cloud



Azure
Monitor



Microsoft
Sentinel



Azure
Policy



Azure
Update
Manager



Configuration
Management



Inventory
Management

← Azure Services across your infrastructure →



Azure
Stack HCI

vmware



ORACLE



Azure
IoT



Datacenter, multicloud, and edge



Azure Arc-enabled Servers pricing

Azure Arc is **FREE** to install. Basic management services like inventory, tagging, server organization, RBAC, and querying with Azure Resource Graph are free. Paid services are:



Microsoft Defender for Cloud \$5/server/month (Plan 1) or \$15/server/month (Plan 2)

Free for the first 30 days, with 500MB/server included data. \$0.02/server/hr.



Azure Monitor \$2.30/GB [pay-as-you-go]

Billed for log analytics, tests, metrics, alerts, and notifications. 5GB per billing account/month is included



Microsoft Sentinel \$2/GB-ingested [pay-as-you-go]

Billed for volume of data ingested for analysis in Microsoft Sentinel, stored in the Azure Monitor Log Analytics workspace



Azure Update Manager \$5/server/month [pay-as-you-go]

Charged at a daily prorated value of \$0.16/server/day. Only charged for days when Arc servers are connected and managed



Azure Policy Guest Configuration \$6/server/month

Policies assigned by Defender for Cloud, ESUs, or on Azure Stack HCI resources are exempt

Azure Arc-enabled servers pricing

Example 1

Scenario 1: A customer onboards 50 Windows (or Linux) servers that are running on-premises to Azure with Azure Arc and tags these servers in Azure, applies RBAC, organizes these servers into management groups and queries properties with Azure Resource Graph. In addition, the customer also applies a set of common Azure Policy Guest Configurations across all these servers.

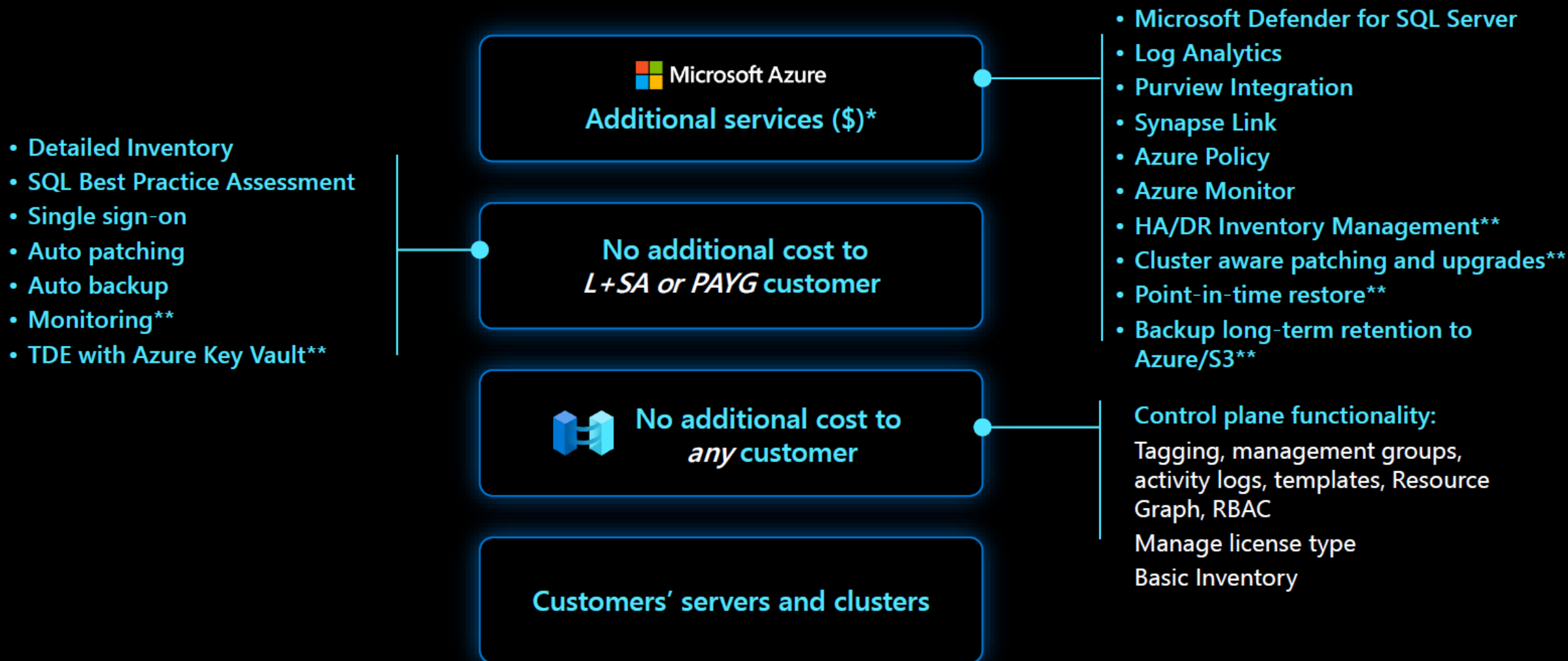
The applicable cost components are:

Component	Cost
Connectivity to Azure Arc, Tagging, RBAC, Management Groups and Azure Resource Graph	\$0
Azure Policy Guest Configurations	\$6/server/month (Unlimited policies)

For more details on Azure Arc pricing visit our pricing page: <https://aka.ms/azurearcpricing>

The Azure Arc-Enabled SQL Opportunity

SQL Server enabled by Azure Arc pricing model



*Pricing for Azure Arc-enabled services and additional management services is consistent with Azure pricing.

** Not available today. On the product roadmap

New cloud billing model for SQL Server

Better cost efficiency when paying only for what you use



SQL Server pay-as-you-go
licensing enabled by Azure Arc
(per core per month/hour)

Pricing	Monthly rate	Hourly rate
Standard Edition	\$73	\$0.100
Enterprise Edition	\$274	\$0.375



Flexible licensing options

Choose from consumption-based licensing and perpetual SQL Server license



Cost efficiency

Pay by the hour for spikes and ad-hoc usage.
No need for full upfront investment



Supports hybrid deployment

Consistent purchasing option across on-premise and in 3rd party cloud

SQL PAYG vs Other SQL agreements

	SQL subscription/EA/EAS/OV/OVS	Pay-as-you-Go
Infrastructure environment	On-premise	On-premise
Commitment	1 year or 3 year	✓ No commitment
Payment terms	Upfront	✓ Monthly (will be part of Azure bill)
CAPEX/OPEX	CAPEX	✓ OPEX
Purchase order	Required	✓ Not required
Charging granularity	Per Year	✓ Per Hour
VM/SQL Server instance is stopped	Charge	✓ No Charge
Decrease the #cores	Not Possible	✓ Any time
Increase the #cores	Another commitment with new start/end date	✓ Any time
Switch from SQL Std to Enterprise or vice versa	Not Possible Another commitment with new start/end date	✓ Any time
Compliancy	Need to follow up actual usage for any changes	✓ No need for follow up. Done automatically
Arc Agent	Not required	✓ Required
SQL Server – Fail-over Rights	Yes	Yes
Internet Connectivity	Not required	✓ Not required at all times. The usage is reported and accounted for by the billing logic when the connectivity is restored.

Copilot for SQL Server

A first-look* into the future

Enable self-help for day-to-day management

Gain insights on running a performant, secure and reliable SQL Server environment at scale

Simplify inventory management even further

Azure Resource Graph query to track instance and database level info



Demo at BUILD 2024

* This feature is not available for public yet.

The screenshot shows the Azure portal interface for a SQL Server instance named 'SQLVM-1'. The left sidebar contains navigation options like Overview, Activity log, Access control (IAM), Diagnose and solve problems, Resource visualizer, Settings, Security, Data management, Monitoring, Migration, Assessments (preview), and Automation. The main pane displays the 'Essentials' section with various properties: Resource group (l0wazurarc01g), Mode (Connected), Location (East US 2), Subscription (AzureSQL_bobward), Subscription ID (0efc44aa-c965-420f-aac4-ff305dbc97), Version (SQL Server 2022), Edition (Enterprise), Computer name (SQLVM-1), Operating system (windows), Always On role (Availability Group Replica), Inventory upload (5/11/2024, 15:36:07 UTC), and Usage upload (5/11/2024, 14:27:08 UTC). On the right, the 'Copilot' sidebar is open, displaying a message about migration readiness and a table of Availability Groups.

AG Name	Sync State
sqlag	NOT SYNCHRONIZING

Currently, there is only one Availability Group named 'sqlag' configured for your Arc SQL Server instance. Please note that the synchronization state of this Availability Group is 'NOT SYNCHRONIZING'. This means that the secondary databases are not currently synchronized.

This screenshot shows the same Azure portal interface, but the 'Copilot' sidebar now displays a query result for wait types. The query identifies the top wait types and their durations in milliseconds.

Wait Type	Wait Time (ms)
SOS_SCHEDULER_YIELD	38224
PAGELATCH_SH	3512
MSQL_XP	196954
LCK_M_U	1065
ID_COMMIT	38903957
PAGELATCH_LB	45250.333333333336
PAGELATCH_EX	8778
HADR_AG_MUTEX	2834
BACUPRTHEAD	118
BACKUPRO	160
WAIT_ON_SYNC_STATISTICS_REFRESH	168
HADR_SYNC_COMMIT	4802
ASYNC_NETWORK_IO	159082
WRITE_COMPLETION	94760
WRITELOG	8936
PAGELATCH_EX	710316
PAGELATCH_SH	1465
PAGELATCH_EX	4784

Please note that the wait times are in milliseconds. The 'LCK_M_S' wait type has the longest wait time, followed by 'WRITELOG', 'MSQL_XP', 'ASYNC_NETWORK_IO', and 'HADR_SYNC_COMMIT'.

Questions?

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