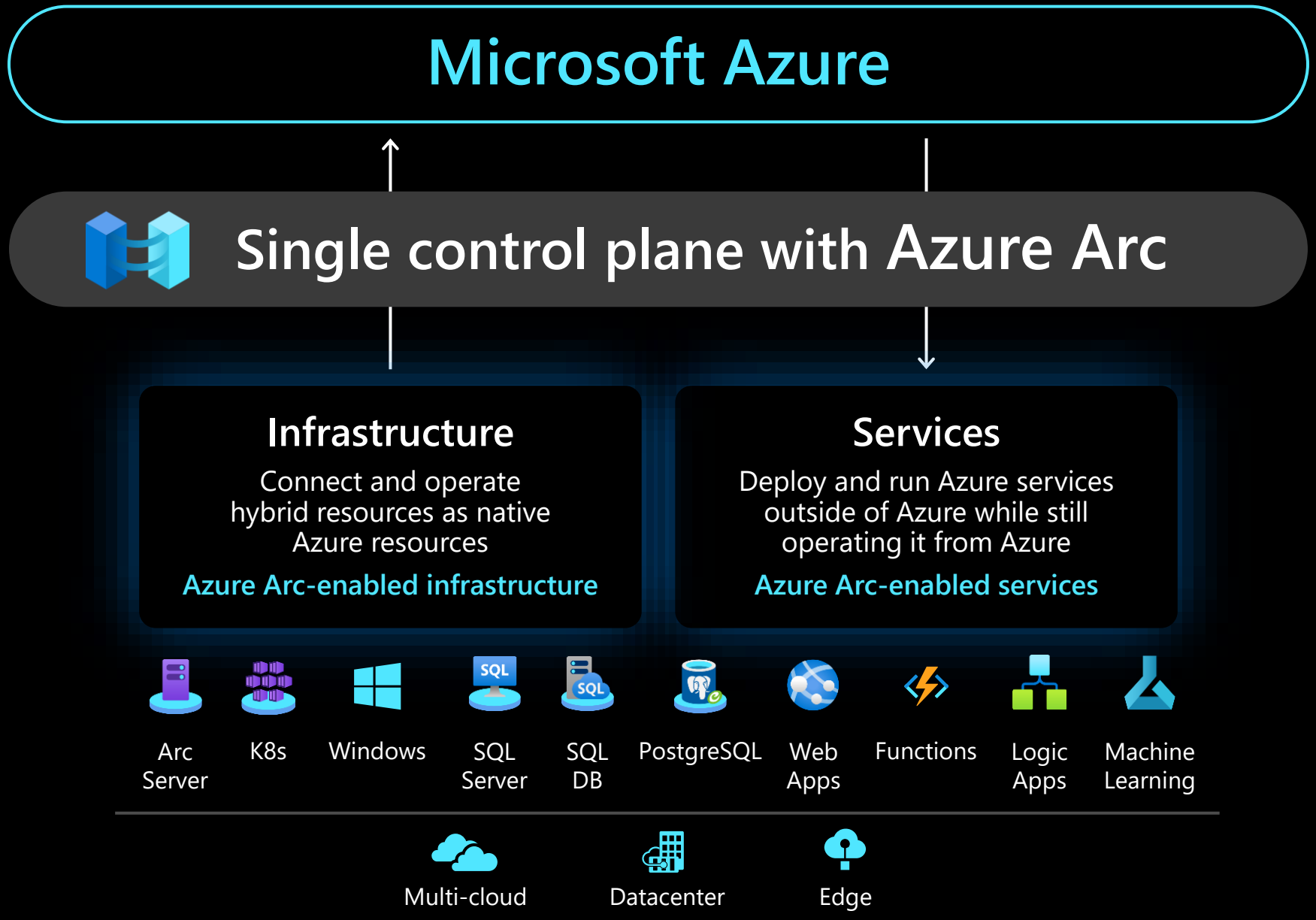
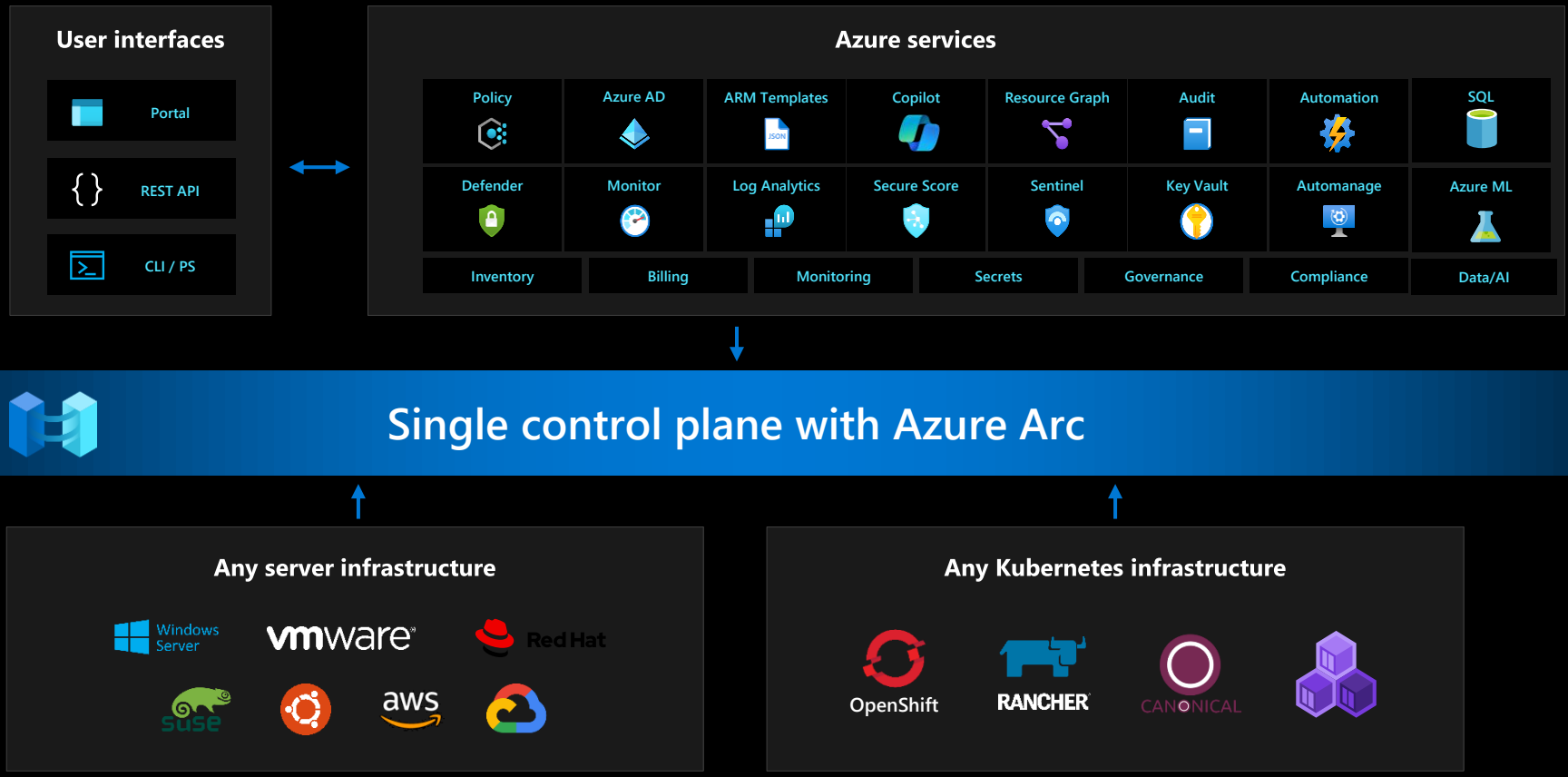
Microsoft

Azure Arc


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

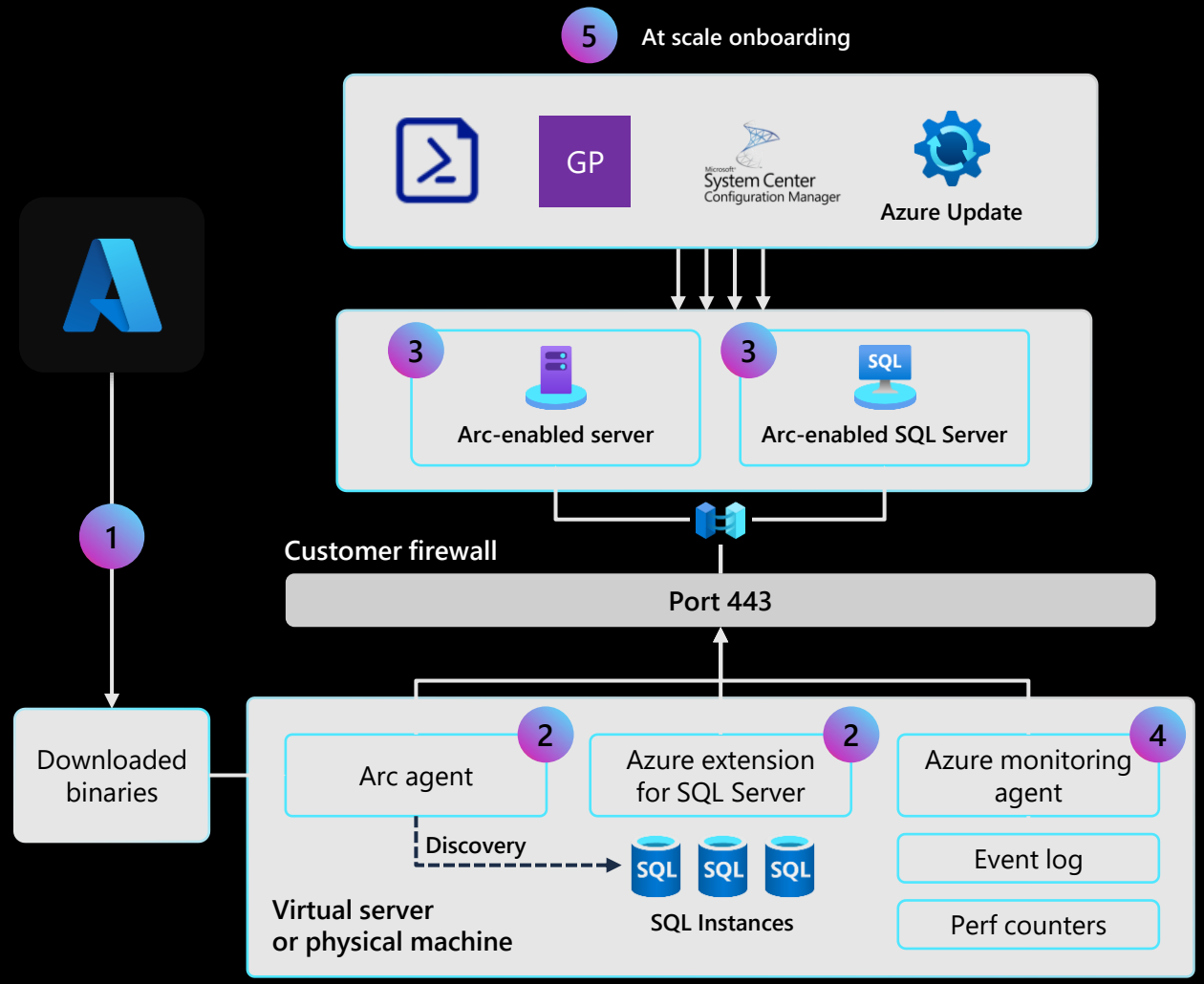
Azure Arc: extends Azure management & security to any infrastructure



Manage your private, public and edge environment in a consistent way

SQL Server enabled by Azure Arc architecture

1. Generate script and execute on Server
2. Local services created
3. Arc-enabled server and Arc-enabled SQL Server resources created
4. Azure monitoring agent
5. Onboard at scale



SQL Server enabled by Azure Arc pricing model

- SQL Best Practices Assessment
- Auto patching
- Auto backup to local storage
- Monitoring
- Point-in-time restore
- TDE with Azure Key Vault**

Microsoft Azure

Additional services ($)*

- Microsoft Defender for SQL Server
- Log Analytics
- Purview Integration
- Synapse Link
- Azure Policy
- Azure Monitor
- Cluster aware patching and upgrades**
- Backup long-term retention to Azure/S3**

No additional cost to L+SA or PAYG customer

No additional cost to L-only customer

- Tagging, management groups, activity logs, templates, Resource Graph, RBAC
- Manage license type
- Detailed Inventory
- Migration Assessment
- Failover cluster instances
- Always-on availability groups

Customers' servers and clusters

*Pricing for Azure Arc-enabled services and additional management services is consistent with Azure pricing.
** Not available today. On the product roadmap

Enabled features by license type

Not supported | Supported | Future support

Built-in capabilities	License Only	License with Software Assurance or SQL subscription	Pay-as-you-go
Connect to Azure	Included	Included	Included
SQL Server inventory	Included	Included	Included
Detailed database inventory		Included	Included
Azure AD auth		Included	Included
Best practices assessment		Included*	Included*
Auto patching		Included	Included
Auto backup		Included	Included
Monitoring		Included	Included
TDE with Azure Key Vault		Included	Included
Defender for SQL Server	Additional Cost	Additional Cost	Additional Cost
Purview premium	Additional Cost	Additional Cost	Additional Cost
HA/DR inventory management		Additional Cost	Additional Cost
License compliance management		Additional Cost	Additional Cost
Cluster aware patching and upgrades		Additional Cost	Additional Cost
Point-in-time restore		Additional Cost	Additional Cost
Backup long-term retention to Azure and S3		Additional Cost	Additional Cost

*Might incur additional charge on Log Analytics Workspace. Detailed example included in the next slide.

Pricing example

	Customer inputs	Pricing	Cost calculation
Log Analytics Workspace	Run Best Practice Assessment once a month for **100** instances **3.5MB** per run per instance	**$2.76** per GB per month First **5GB** per month is free	**100 × 3.5MB × $2.76/GB = $0.97** per month
Defender for SQL Server	**100** instances	**$15** per instance/month	**$1500** per month
Purview Integration	Put all **100** instances into the same resource group	DevOps policies **$2** per month	DevOps = **$2** per month
			Total: **$1502.97**

How to onboard SQL Server to Azure Arc

Range of different onboarding tools

- **SQL Server 2022 setup**
  Integrated UI to connect to Azure Arc during installation
- **Automatic registration via Azure policy**
  One-click action applies to all servers already connected to Azure Arc
- **Onboarding individual SQL Servers from Azure portal**
  Run auto-generated script from the target machine
- **Tenant scope auto-registration**
  Work with your account team on a consent email to allow Microsoft devops do it for you
- **Future –** Auto-registration during the hosting server onboarding
  SQL Server configuration included into the default auto-manage profile

How to select license type for SQL Server

Customer control over cost optimization

Pay-As-You-Go

- Triggers Pay-As-You-Go hourly billing after SQL Server is connected
- Enables core Arc features

Software assurance or SQL Subscription

- Provides license usage visibility in Cost management + Billing via distinct $0 meters
- Enabled core features

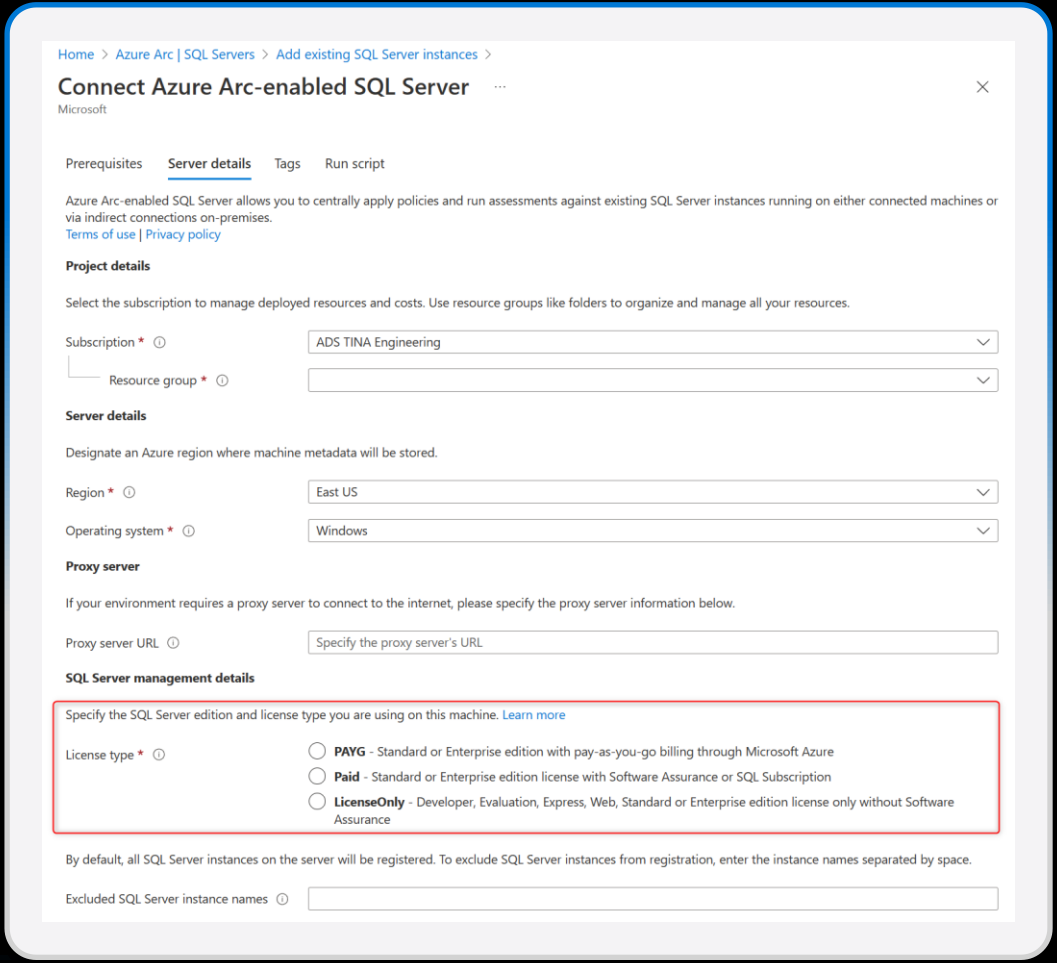
License only

- Provide license usage visibility in Cost management + Billing via distinct $meters
- Disables core features

Can alter the selection at any time

Use Azure portal or script to change between license types

Takes effect the next hour



New cloud billing model for SQL Server (Pay As You Go*)

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

Available on SQL Server 2014, 2016, 2017, 2019, and 2022

* Traditional Licensing Options are still available. More here.

Optimize asset capitalization

- Organizations that focus on EBITDA and capitalized expenses prefer to purchase their licenses. Customers that bill on a cost-plus or other expense-based chargeback model will prefer the Pay-As-You-Go model.

Optimize upfront costs

- Pay-As-You-Go doesn't have any upfront costs and is billed monthly but in the long term it may have a higher TCO

Optimize for periodic consumption

- Reduced IP cost of periodic workloads such as of ERP, payroll, giving campaigns and others
- Scale down the entire VM or stop SQL Server instance

Extended security updates enabled by Azure Arc

Flexible billing and savings

Monthly billing model centralized in Azure to run end-of-support operating systems

Visibility and reliability

Ensure consistent Windows Server 2012/R2 and SQL Server 2012 performance with high availability and visibility over your entire data and server estate

Security and compliance

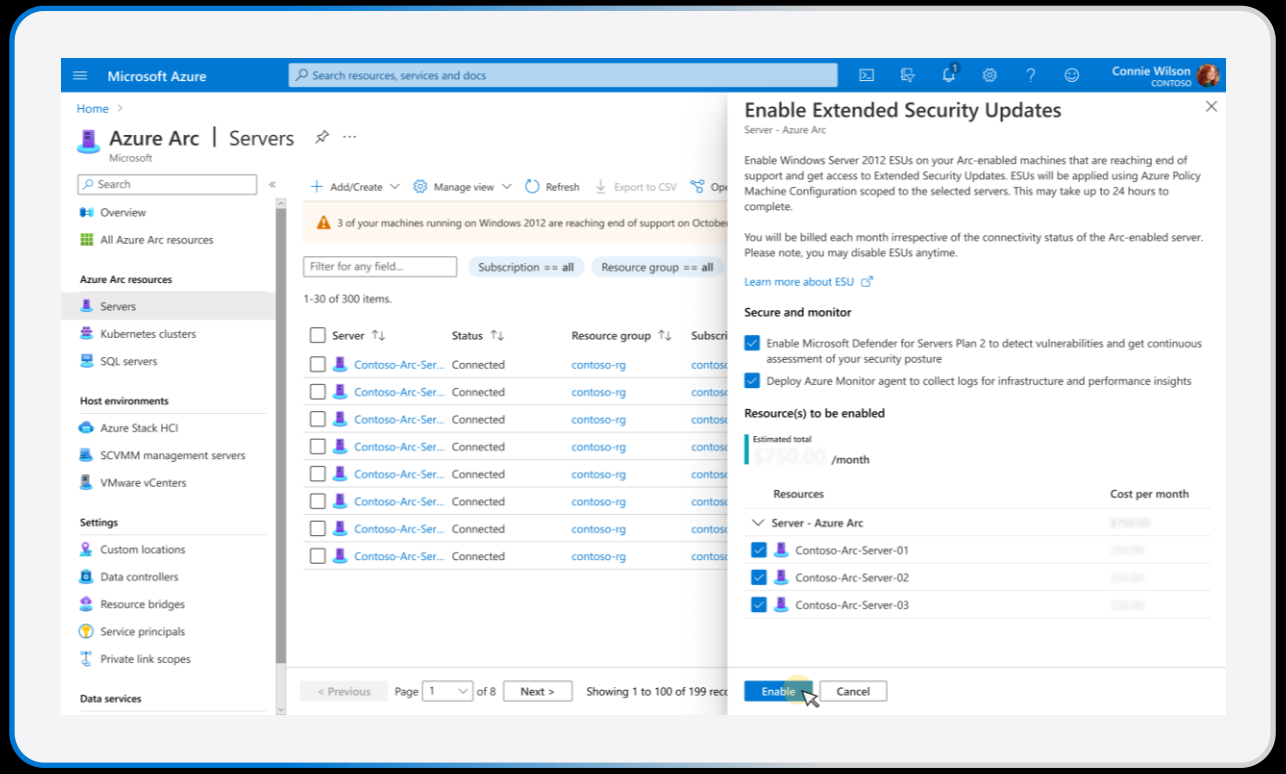
Seamlessly extend Azure security and governance to your environment and stay compliant with supported software

Microsoft Defender for Cloud

Microsoft Sentinel

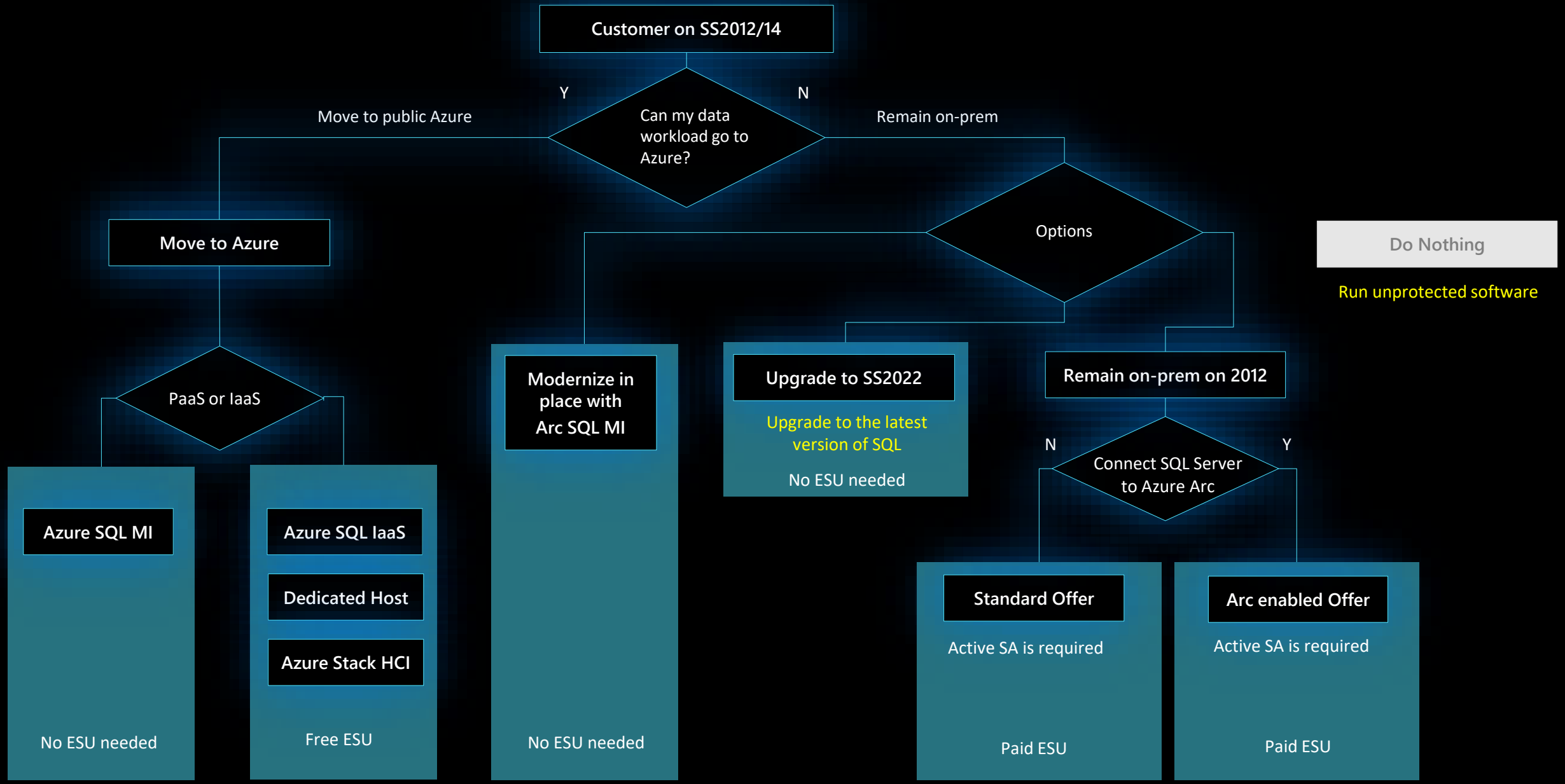
Azure Policy

Azure Monitor



Enroll and purchase ESUs directly in the Azure Portal

SQL Server EOS/ESU Flow



THE WORLD BANK

Read full story here

> [Azure Arc] ensured our entire SQL estate, on-premises & multicloud, were meticulously prepared for migration to Azure, guaranteeing a smoother and highly successful migration experience.
>
> —Chandra Kala Macha, Information Officer II, World Bank

SITUATION

Sprawling IT operations across 130+ locations

Various IT teams using multiple cloud providers and tools to manage the complex backend

Difficult and time-consuming to monitor and secure on-premises SQL Server given the fact multiple teams need to be aligned and coordinated

SOLUTION

Consolidate: World Bank adopted Azure Arc to address multiple issues including inventory management of their SQL estate, streamlining maintenance tasks such as backups and patching, best practices assessment, and gaining insights on migration readiness

Unify: World Bank wanted a solution that could be used to manage both Azure and AWS servers, but that would also work with its Microsoft SQL Server stack

Expand: The Information Security Office at World Bank uses Defender for Cloud, Microsoft Purview. With Azure Arc, they extended those services to entire SQL estate, on-premises and across multicloud

IMPACT

90% cost saving from consolidating tools for monitoring, security and compliance

Streamline cloud migration journey using Azure Arc

Significantly **reduced security risks and non-compliance** at the levels of both compute resources and data workloads

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, of any other category, or on Azure Stack HCI resources are exempt