



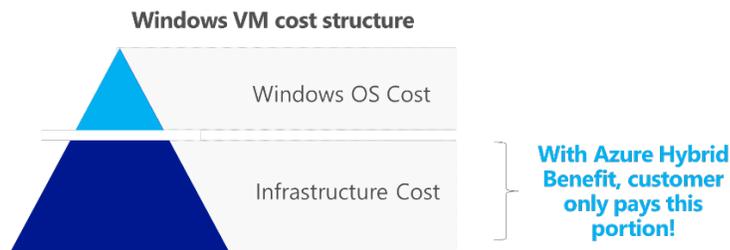
Azure Hybrid Benefit for Windows Server

Overview

You can enable great savings in Azure with Windows Server Software Assurance by using Azure Hybrid Benefit for Windows Server.

Azure Hybrid Benefit for Windows Server allows you to use your on-premises Windows Server licenses and run Windows virtual machines in Microsoft Azure at a reduced cost (i.e. at Linux rates). You can use your licenses for Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016. The Azure Hybrid Benefit for Windows Server is applicable to Windows Server Standard and Datacenter editions as well as other versions obtained via custom images.

With Azure Hybrid Benefit for Windows Server, you can save 40 percent or more¹ on Windows Server virtual machines by paying only the base compute² rates—adding value to your Software Assurance investments. The benefit is available across all Azure regions.



To qualify for the benefit, use your active Software Assurance (SA) or subscription licenses, including your Enterprise Agreement subscription, Server and Cloud Enrollment subscription, or Open Value subscription) for your Windows Server licenses.

For each Windows Server 2-processor license with active SA or subscription and each set of 16 Windows Server core licenses with SA or subscription, you can run Windows Server on Azure on up to 16 virtual cores across up to two Azure base instances. Each additional set of 8 core licenses with SA or subscription entitles you to use up to 8 virtual cores and one base instance.

¹ Savings vary by instance type, region etc.

² Base compute equals Linux rates.

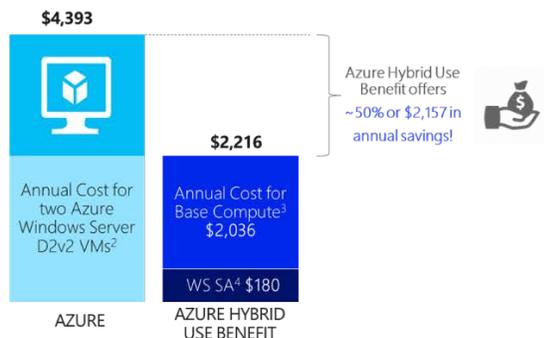
License with SA/Subscription	Virtual machines and cores granted	How they can be used
Windows Server Datacenter (16 cores or a 2-proc L)	Up to two virtual machines and up to 16 cores	Run virtual machines both on premises and in Azure
Windows Server Standard (16 cores or a 2-proc L)	Up to two virtual machines and up to 16 cores	Run virtual machines <u>either</u> on premises or in Azure ³

You can run virtual machines in Azure using Azure Hybrid Benefit for Windows Server only during your SA or subscription term. When approaching SA or subscription expiration, you have an option to either renew your SA or subscription or convert your virtual machines to be billed at standard Windows Server rates.

Examples of savings using Azure Hybrid Benefit for Windows Server:

Running Full Time

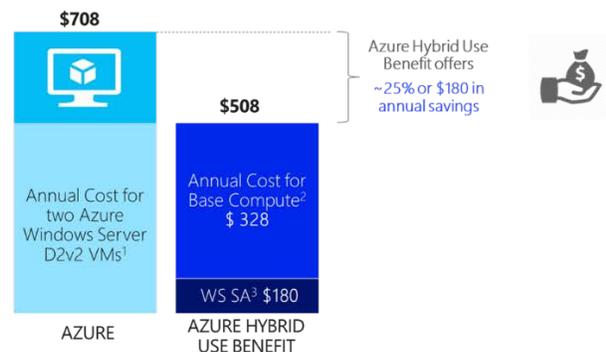
Example Scenario: Customer running two Azure D2v2 VMs full time¹



1. 744 hours/month for 12 months
2. US East 2 region rate as of Oct 09, 2017
3. SUSE Linux Enterprise rate for US East 2 as of Oct 09, 2017
4. SA cost (Level A) for one 2-proc WS Standard license or 16 cores as of Oct 09, 2017

Running Part Time

Example Scenario: Customer running two Azure D2v2 VMs part-time at 4 hours/day for 1 year



1. US East 2 rate as of Oct 09, 2017
2. SUSE Linux Enterprise rate for US East 2 as of Oct 09, 2017
3. SA cost (Level A) for one 2-proc WS Standard license or 16 cores as of Oct 09, 2017

Use the following table to better understand the benefit. The green column shows the number of same-type virtual machines and the blue row shows the core density of each virtual machine. The yellow cells show the number of 2-processor licenses (or sets of 16 cores) that you will need to spin up a certain number of virtual machines of a certain core density.

³ 90-day license reassignment rule applies.

Windows Server SA and subscription requirements

		VM Core Density											
		1	2	4	8	10	12	16	20	32	64	128	Examples:
Number of same-type VMs	1	1	1	1	1	1	1	1	2	2	4	8	1. To run 2 VMs of 4 cores each (such as A3) you need 1 WS license. 2. To run 5 VMs of 16 cores each (such as D5V2) you need 5 WS licenses 3. To run 10 VMs of 64 cores each (such as M64S) you need 40 WS licenses
	2	1	1	1	1	2	2	2	3	4	8	16	
	3	2	2	2	2	3	3	3	6	6	12	24	
	4	2	2	2	2	4	4	4	8	8	16	32	
	5	3	3	3	3	5	5	5	10	10	20	40	
	6	3	3	3	3	6	6	6	12	12	24	48	
	7	4	4	4	4	7	7	7	14	14	28	56	
	8	4	4	4	4	8	8	8	16	16	32	64	
	9	5	5	5	5	9	9	9	18	18	36	72	
	10	5	5	5	5	10	10	10	20	20	40	80	


 Number of WS licenses covered with SA or WS subscriptions needed for each scenario*

Azure Hybrid Benefit for Windows Server also provides you the flexibility to run configurations based on your needs as well as combine virtual machines of different types.

Example configurations for several licensing positions

	Example 1: Maximize vCPUs	Example 2: Maximize VMs and vCPUs	Example 3: Maximize VMs
For 16 vCPUs or one 2-proc WS license	VM #1  = D14 (16 vCPUs) VM #2  = X Total: 1 VM ¹ , 16 vCPUs (max)	VM #1  = D13 (8 vCPUs) VM #2  = D13 (8 vCPUs) Total: 2 VMs (max), 16 vCPUs (max)	VM #1  = D2 (2 vCPUs) VM #2  = D2 (2 vCPUs) Total: 2 VMs (max), 4 vCPUs ²
For 24 vCPUs	VM #1  = D14 (16 vCPUs) VM #2  = D13 (8 vCPUs) VM #3  = X Total: 2 VMs ³ , 24 vCPUs (max)	VM #1  = D13 (8 vCPUs) VM #2  = D13 (8 vCPUs) VM #3  = D13 (8 vCPUs) Total: 3 VMs (max), 24 vCPUs (max)	VM #1  = D14 (16 vCPUs) VM #2  = D2 (2 vCPUs) VM #3  = D2 (2 vCPUs) Total: 3 VMs (max), 20 vCPUs ⁴

¹One VM unused ²Twelve vCPUs unused ³One VM unused ⁴Four vCPUs unused

For 32 vCPUs or two 2-proc licenses for WS (Stacking Licenses)			
Example 1: Stacking Licenses	Example 2: Maximize vCPUs	Example 3: Maximize VMs and vCPUs	Example 4: Maximize VMs
VM #1  = G5 (32 vCPUs) VM #2  = X VM #3  = X VM #4  = X Total: 1 VM ¹ , 32 vCPUs (max)	VM #1  = D14 (16 vCPUs) VM #2  = D14 (16 vCPUs) VM #3  = X VM #4  = X Total: 2 VMs ² , 24 vCPUs (max)	VM #1  = D13 (8 vCPUs) VM #2  = D13 (8 vCPUs) VM #3  = D13 (8 vCPUs) VM #4  = D13 (8 vCPUs) Total: 4 VMs (max), 24 vCPUs (max)	VM #1  = D2 (2 vCPUs) VM #2  = D2 (2 vCPUs) VM #3  = D2 (2 vCPUs) VM #4  = D11 (2 vCPUs) Total: 4 VMs (max), 8 vCPUs ³

¹Three VMs unused ²Two VMs unused ³Twenty-four vCPUs unused

How to maintain compliance

Customers that want to apply Azure Hybrid Benefit for Windows Server to their Windows Server virtual machines in Azure need to verify the number of eligible licenses and respective coverage period of customer SA or subscription before any deployment of Azure Hybrid Benefit for Windows Server virtual machines and apply the guidelines above to deploy the correct number of virtual machines with the benefit.

If you already have Azure Hybrid Benefit for Windows Server instances running, you will need to perform an inventory of how many units you are running, and check against the licenses you have. You must account for all virtual machines in all subscriptions to cross check against Windows Server licenses.

To see and count all virtual machines deployed with Azure Hybrid Benefit for Windows Server in a subscription, you can do one of the following:

1. Run the following PowerShell command from your subscription:

PowerShellCopy

```
$vms = Get-AzureRMVM  
  
foreach ($vm in $vms) {"VM Name: " + $vm.Name, " Azure Hybrid Benefit for Windows Server: " +  
$vm.LicenseType}
```

2. Review your bill to determine how many virtual machines with Azure Hybrid Benefit for Windows Server you are running. The information about the number of instances with the benefit appears under 'Additional Info:'

```
"{"ImageType":"WindowsServerBYOL","ServiceType":"Standard_A1","VMName":"","Usag  
eType":"ComputeHR"}"
```

Billing does not apply in real time—expect a few hours delay after you've spun up a virtual machine using the Azure Hybrid Benefit for Windows Server before the benefit shows on the bill.

You can then populate the results in the [Azure Hybrid Benefit for Windows Server SA Count Tool](#) available online to get to the number of Windows Server licenses covered with SA or subscriptions that you are required to have.

After you have confirmed that you are fully licensed for the number of Azure Hybrid Benefit for Windows Server instances you are running, there is no need for any further action. If you discovered that there is room for spinning up additional Azure Hybrid Benefit for Windows

Server instances, you may want to optimize costs further by switching to running instances with the benefit versus the full cost.

If you discovered that you do not have enough eligible Windows Server licenses for your planned deployment or for the instances you have already deployed, you need to purchase Windows Server on-premises licenses covered with Software Assurance through one of the channels listed below to qualify for the benefit. You can buy core licenses in increments of 8 cores to qualify for each additional Azure Hybrid Benefit for Windows Server virtual machine.

Windows Server Software Assurance and/or subscriptions are available for purchase through the following Microsoft licensing channels:

Channel	Open	OVS	Select/ Select Plus	MPSA	EA/EAS
Typical size (number of devices)	5-250	5-250	>250	>250	>500
SA / Subscription	Optional	Included	Optional	Optional	Included

Software Assurance offers far more than cost savings on cloud deployment with the Azure Hybrid Benefit for Windows Server. Software Assurance also offers a range of deployment and management benefits, including new product version rights and planning services, as well as training, support, and specialized benefits, including the following:

- Reducing costs with rights to new software releases and cost-efficient upgrades.
- Helping you achieve improved operational efficiency through access to unique technologies and licensing rights,
- Providing increased security for running an instance of the software on a 'cold' server for disaster recovery purposes,
- Enabling an ability to deploy and operate Nano Server in production.⁴

If you are using Azure Hybrid Benefit, you must renew SA or subscriptions when approaching your end-of-coverage date to maintain compliance and use the benefit correctly.

- If your company's licensing position does not reflect the number of Azure Hybrid Benefit for Windows Server virtual machines you are running in Azure and you do not plan on

⁴ To learn more, visit Microsoft Software Assurance website at www.microsoft.com/softwareassurance

purchasing additional licenses, you need to immediately switch virtual machines using Azure Hybrid Benefit for Windows Server to full-cost Windows Server virtual machines.

- Microsoft reserves the right to audit customers at any time to verify eligibility for Azure Hybrid Benefit.

To identify the right Windows Server edition for your purposes, consider that a Datacenter Edition might be a better choice for companies of all sizes. The following table summarizes how Windows Server editions work for different customer use cases.

Standard Edition	Datacenter Edition
Small and medium-sized businesses that need advanced features, support for distributed office locations and require a flexible way to virtualize their environment	Companies of all sizes that have demanding IT workloads, require advanced storage, virtualization and application development
<ul style="list-style-type: none"> • Unlimited users/devices, based on CALs • 2 virtual machines • 2 Hyper-V containers* • Unlimited Windows Server containers <p>*One physical or one virtual + Hyper-V</p>	<ul style="list-style-type: none"> • Unlimited users/devices, based on CALs • Unlimited virtual machines • Unlimited Hyper-V containers • Unlimited Windows Server containers • Storage features including Storage Replica and Storage Spaces Direct • New networking stack • Shielded Virtual Machines and Host Guardian Service

Note: Remember that you can run a Datacenter Edition license under Azure Hybrid Benefit for Windows Server instances in Azure and also run it on premises simultaneously. Standard edition licenses, however, will have to be decommissioned if used in Azure, which means that you will need to uninstall the on-premises instances to ensure Azure Hybrid Benefit for Windows Server is used correctly.

Deployment guidance

Microsoft offers pre-built gallery images for all customers and enables partners to perform deployments on customers' behalf.

[Find instructions](#) for all available deployment options, including the following:

- Detailed video highlighting the new deployment experience utilizing pre-built gallery images.
- Detailed instructions on uploading a custom-built virtual machine.
- Detailed instructions on migrating existing virtual machines with Azure Site Recovery using PowerShell.

[Learn more](#) about Azure Hybrid Benefit for Windows Server.