# Automatic Virtual Machine Activation in Windows Server

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Automatic Virtual Machine Activation (AVMA) acts as a proof-of-purchase mechanism, helping to ensure that Windows products are used in accordance with the Product Use Rights and Microsoft Software License Terms.

AVMA lets you activate Windows Server virtual machines (VM) on a Windows Server Hyper-V host that is properly activated, even in disconnected environments. AVMA binds the VM activation to the licensed virtualization host and activates the VM when it starts up. When you use AVMA, you can get real-time reporting on usage and historical data on the license state of the VM. Reporting and tracking data is available on the virtualization host.

## **Practical applications**

On virtualization hosts, AVMA offers several benefits.

Server data center managers can use AVMA to do the following tasks:

- Activate VMs in remote locations.
- Activate VMs with or without an internet connection.
- Track VM usage and licenses from the virtualization host, without requiring any access rights on the virtualized systems.

Service Provider License Agreement (SPLA) partners and other hosting providers don't have to share product keys with tenants or access a tenant's VM to activate it. VM activation is transparent to the tenant when AVMA is used. Hosting providers can use the server logs to verify license compliance and to track client usage history.

## System requirements

For a virtualization server host to run guest VMs, you must activate it. To do so, obtain keys through the Volume Licensing Service Center ♂ or your OEM provider.



In a failover cluster, each virtualization server host in the cluster must be activated for guest VMs to stay activated, regardless of which server they run on.

AVMA requires a Windows Server Datacenter edition with the Hyper-V server host role installed. The Windows Server version of the host determines which versions it can activate in a guest VM. The following table lists the guest VM versions that each host version is able to activate. A host version can access all the editions (Datacenter, Standard, or Essentials) of its eligible guest VM versions.

**Expand table** 

| Server host version          | Windows<br>Server 2025<br>guest VM | Windows<br>Server 2022<br>guest VM | Windows<br>Server 2019<br>guest VM | Windows<br>Server 2016<br>guest VM | Windows<br>Server 2012<br>R2 guest VM |
|------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------------|
| Windows<br>Server 2025       | X                                  | X                                  | X                                  | X                                  | X                                     |
| Windows<br>Server 2022       |                                    | Х                                  | Х                                  | Х                                  | Х                                     |
| Windows<br>Server 2019       |                                    |                                    | Х                                  | Х                                  | Х                                     |
| Windows<br>Server 2016       |                                    |                                    |                                    | Х                                  | Х                                     |
| Windows<br>Server 2012<br>R2 |                                    |                                    |                                    |                                    | Х                                     |

① Note

AVMA does not work with other server virtualization technologies.

## How to implement AVMA

To activate VMs with AVMA, you use a generic AVMA key (detailed in AVMA keys) that corresponds to the version of Windows Server that you want to activate. To create a VM and activate it with an AVMA key, follow these steps:

 On the server that hosts the VMs, install, and configure the Microsoft Hyper-V Server role. Ensure that the server is successfully activated. For more information, see Install Hyper-V Server. 2. Create a virtual machine and install a supported Windows Server operating system on it.

#### (i) Important

The <u>Data Exchange integration service</u> (also known as Key-Value Pair Exchange) must be enabled in the VM settings for AVMA to work. It is enabled by default for new VMs.

3. After installing Windows Server on the VM, install the AVMA key on the VM. From PowerShell or an elevated command prompt, run the following command:

```
PowerShell

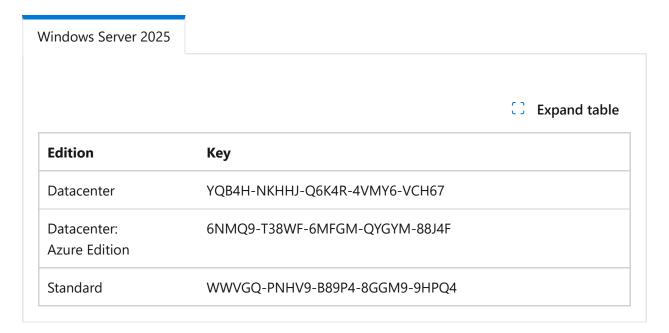
slmgr /ipk <AVMA_key>
```

The VM automatically activates, providing that the virtualization host itself is activated.



You can also add the AVMA keys in any **Unattend setup file**.

### **AVMA** keys



# Reporting and tracking

The Key-Value Pair (KVP) exchange between the virtualization host and the VM provides real-time tracking data for the guest operating systems, including activation information. This activation information is stored in the Windows registry of the VM. Historical data about AVMA requests is logged in Event Viewer on the virtualization host.

For more information about KVP, see Data Exchange: Using key-value pairs to share information between the host and guest on Hyper-V.

#### ① Note

KVP data is not secured. It can be modified and is not monitored for changes.

#### (i) Important

KVP data should be removed if the AVMA key is replaced with another product key (retail, OEM, or volume licensing key).

Since the AVMA activation process is transparent, error messages aren't displayed. However, AVMA requests are also logged on the virtualization host in Event Viewer in the Application log with Event ID 12310, and on the VM with Event ID 12309. The following events are captured on the VMs:

**Expand table** 

| Notification         | Description  |
|----------------------|--|
| AVMA Success         | The VM was activated.  |
| Invalid Host         | The virtualization host is unresponsive. This event can happen when the server isn't running a supported version of Windows.                                     |
| Invalid Data         | This event usually results from a failure in communication between the virtualization host and the VM, often caused by corruption, encryption, or data mismatch. |
| Activation<br>Denied | The virtualization host couldn't activate the guest operating system because the AVMA ID didn't match.   |

#### **Feedback**