Licensing the Windows Desktop for VDI Environments

How does Microsoft license the Windows® desktop for virtual environments?

Microsoft licenses Windows for virtual desktops by access device:

- Virtual desktop access rights are a benefit of Windows Client Software Assurance (SA). Customers who intend to use PCs covered under SA have access to their Virtual Desktop Infrastructure (VDI) desktops at no additional charge.
- Customers who want to use devices that do not qualify for Windows Client SA, such as thin clients, will need to license those devices with Windows Virtual Desktop Access (VDA) in order to access a Windows VDI desktop. Windows VDA is also applicable to third party devices, such as contractor or employee-owned PCs.

What is Windows Virtual Desktop Access (VDA)?

Windows VDA is a device based subscription designed to help organizations license devices that do not qualify for Windows Client SA, such as thin clients and contractor-owned PCs, so these devices can access a virtual desktop. Windows VDA is available for $100 / year / device through all major Microsoft Volume Licensing (VL) programs. Pricing is retail pricing in USD, and prices may vary depending on your location and agreement with Microsoft. Microsoft reserves the right to change prices at any time.

What if I intend to use my PCs to access my VDI environment? Do I still need Windows VDA?

As of July 1st, 2010, the rights to access virtual desktops have been included as a benefit of Windows Software Assurance. Hence, if you intend to use PCs already covered with SA to access your VDI environment, no additional licensing is required. However, if your PCs are not covered under SA, contact your Microsoft representative to understand how to get SA for those PCs, so you can avail of the virtual desktop access rights through Software Assurance today.

How do you calculate the number of Windows VDA licenses required?

Since Windows VDA is based on the number of access devices, the total number of Windows VDA licenses required equals the total number of thin clients and other non-SA devices that will access the VDI environment.

Does Windows Client SA / Windows VDA provide me any licensing rights for applications?

No, Windows Client SA / Windows VDA only provides licensing rights for the Windows client operating system (OS) itself. Please consult with your application vendor to understand application use rights and licensing for virtual environments. In order to access Microsoft® Office in a virtual machine (VM), each device accessing Microsoft Office needs the corresponding license for it.

How much does Windows VDA cost?

At retail, Windows VDA costs $100 / year / device. Pricing is retail pricing in USD, and prices may vary depending on your location and agreement with Microsoft. Microsoft reserves the right to change prices at any time.

I'm buying VDI software from VMware / Citrix / another vendor. Do I still need Windows VDA?

Yes. If you are accessing a Windows client OS as your guest operating system in the datacenter from any non-SA device (including thin clients, iPads, etc), Windows VDA is the appropriate licensing vehicle regardless of the VDI software vendor you choose. The only scenario where you would not need Windows VDA is if you were using PCs covered under Software Assurance as the access devices, since virtual desktop access rights are included as a benefit of SA.

What benefits does Windows VDA provide?
OR
What does my Windows VDA subscription include?

Windows VDA delivers a number of benefits:

- Access Windows 7, Windows Vista®, or Windows XP on virtual machines on any combination of hardware and storage
- Unlimited movement between servers and storage
- Access corporate desktop images from non-corporate PCs
- The primary user of a Windows VDA device has extended roaming rights, so they can access their VDI desktop while roaming outside of the corporate domain from any non-corporate device, such as a home PC or Internet kiosk
- Includes Software Assurance benefits, such as 24x7 call support, training vouchers, access to Enterprise versions of Windows, etc.
- Eligibility for other Software Assurance products, such as Microsoft Desktop Optimization Pack (MDOP) purchase rights and Windows Thin PC
- Single Windows VDA license allows concurrent access for up to four virtual machines
- Reassignment rights to another device after 90 days, or in the case of endpoint failure
- Dynamic desktop licensing enabled through KMS/MAK activation
- Unlimited backups of both running and stored virtual machines

Why is Windows VDA subscription only?

The optimal model for licensing software-as-a-service is the subscription model. Because Windows VDA lets you deliver desktops-as-a-service, Microsoft uses subscription pricing for it. This keeps Windows VDA consistent with the Software Assurance subscription for delivering the same benefit to PCs.

I do not want to pay a subscription. Can I purchase Windows VDA outright?

No, you cannot purchase Windows VDA outright. It is only available as a subscription.

Can I use Windows FPP (retail licenses) to support my VDI implementations instead of Windows VDA?

Windows VDA has been designed specifically for VDI scenarios. Full package product (FPP) licenses obtained through the retail channel for Windows desktop operating systems, such as Windows 7 Professional, Windows Vista Business, and Windows XP Professional were not designed for a VDI scenario, but may be used for VDI in the following situations:

- The physical server on which the virtual desktop is installed is assigned only to one user, and is not shared with other VDI

desktops. Microsoft does not recommend this configuration for VDI, as it would lead to increased costs of your virtual environment.

- In a standard VDI environment where multiple users need access to VMs running on the same server, the access device being used to remote into the VDI desktop is a PC that is licensed with the same version of Windows as the FPP VM. However, customers using Windows-based devices to access virtual desktops can alternatively acquire Software Assurance coverage on those devices with a VL upgrade at a much lower cost, and hence avail of virtual desktop benefits without the need to purchase FPP, while getting all of the other benefits of Microsoft Software Assurance at the same time.

The following restrictions on FPP licensing apply to VDI scenarios:

- Each FPP license permits use of only a single VM per user. Hence, each VM needs its own licensed copy of Windows for VDI. For users who need access to multiple VMs, this may prove expensive.
- Multiple simultaneous users cannot share VMs, as each VM licensed with an FPP copy of Windows needs to be assigned to one user at a time.
- The FPP licensed VM can only exist on a single computer at any given time. If you have to move the VM to another server, it has to be completely moved off the original machine.
- Since the access device needs to be licensed with the same version of Windows as the FPP VM, this effectively leads to two desktops with the same OS version, thereby not offering any distinct productivity gains or cost savings compared to just running the FPP on the PC.

With VDA, customers gain the following advantages over FPP:

1. Access to all SA benefits for their covered VDI desktops
2. Opportunity to purchase MDOP and use Windows Thin PC
3. Ability to access multiple VMs from a single licensed device, and the ability to run up to four VMs concurrently
4. Access to their VDI desktops from other non-corporate devices, such as a home PC or Internet kiosk

Hence, for customers using non-qualified SA devices, including thin clients, to access their VDI environment, Windows VDA is the only appropriate license for the scenario.

Note: Windows 7 Professional, Windows Vista Business, or Windows XP Professional obtained through VL upgrade, when purchased on top of a qualifying operating system license, has all the limitations of an FPP license, as well as the added limitation of not being allowed to move off the device on which the OS is first installed. This means the VM cannot be dynamically moved across servers, thereby not allowing business continuity and load balancing scenarios, and negating the advantages of VDI.

Do I need to pay for Windows VDA if I use Windows Server as a client operating system in my virtual machine?
OR
I've heard that I can avoid paying for Windows VDA by using Windows Server as my VDI desktop OS (i.e. run Windows Server OS in a VM as my primary desktop). Is this true?

Running a Windows Server® OS within a VM in a VDI scenario does not require Windows VDA, but there are many reasons why you should use a Windows client OS as your VDI desktop:

- The user experience with a server OS as the desktop is different from using a Windows client OS
- Many applications for end users were written for a client OS and not a server OS. Each of your applications would need to be retested to ensure compatibility with a server OS. Additionally, most vendors do not offer support for client applications running on servers.
- Clients and servers are on different patch cycles, adding to management complexity.
- Most of the VDI ecosystem will support the Windows client in the datacenter, not server operating systems.

However, if you do decide to deploy a dedicated Windows Server OS within the VM for every user as their VDI desktop, please note that you will need to purchase an RDS-CAL (Windows Server 2008 R2 Remote Desktop Services Client Access License) to correctly license that scenario.

Is Windows VDA a device-based or user-based license?
OR
Can I pay for Windows VDA per user?

Windows VDA is licensed per access device. There is currently no option to license Windows VDA per user. However, the extended roaming benefit allows the primary user of a Windows VDA device to access their VDI desktop from any non-corporate device outside of the corporate network, thereby providing tremendous flexibility.

If I have a single Windows VDA license for a device, how many different VDI desktops can I connect to at once?

One Windows VDA license entitles the device to connect to up to four VMs concurrently.

Can you explain the extended roaming rights in Windows VDA?

The primary user of a VDA licensed device at work can access their VDI desktop from any device that is not owned or affiliated with the user's organization, without the need for an additional Windows VDA license. This enables VDI users to access their secure corporate desktops through an unmanaged device such as a home PC or an Internet kiosk, without the need for a laptop. However, if the user does not have a primary VDA device a work, and needs to access his VDI desktop from a non-corporate device such as a home PC, then that device would need to be covered with a separate Windows VDA license. Roaming rights are only applicable while roaming outside of the corporate domain, hence any device accessing a Windows virtual desktop within the corporate domain needs to be licensed with either Windows Client SA or Windows VDA.

Can I access my Microsoft Office applications (such as Outlook and Word) while roaming?

The single primary user of an SA / VDA device at work has roaming rights on non-corporate devices outside of the corporate domain. These roaming rights apply to the Windows client OS itself, and not to any applications installed on the OS. In order to get similar roaming rights for Microsoft Office applications on the VM, the device needs to be covered with Microsoft Office SA.

I am a hoster who wants to provide Windows desktops as a hosted service. Do my customers need to pay for Windows VDA?
OR
Is there a Service Provider Licensing Agreement (SPLA) for Windows VDA so hosters can provide Windows desktops as a service to third parties?

Currently, there is no SPLA model for Windows VDA. Hence, customers who subscribe to desktops from a third-party hoster will need to pay Microsoft for a Windows VDA license for each device accessing Windows client virtual machines in the datacenter. Additionally, hosters need to ensure they isolate the hardware and other resources for each company. Any hardware running an instance of Microsoft software (OS or application) must be dedicated to a single customer. For example, a SAN device that is not running any Microsoft software may be shared by more than one customer; whereas, a server or SAN device that runs Microsoft software may only be used by one customer.

What licensing programs can I buy Windows VDA licenses from?

Windows VDA is available under the Enterprise Agreement (EA), Select, Open Value, and Campus programs.

What licensing do I need if I want to run Windows in a VM locally on my PC using a Type I hypervisor?

Some virtualization vendors provide technology that enables you to run Windows within a VM on a local PC, using Type I hypervisor technologies. The Windows 7 Professional OEM license that shipped with the PC allows the user to run one copy of Windows 7 Professional in a VM on that PC. However, if more than one VM needs to run concurrently on the PC, it needs to be covered with either a Windows Client SA or Windows VDA license. Each Windows Client SA / Windows VDA license provides the right to run up to four VMs concurrently on the PC, in addition to all other SA benefits, such as 90 day reassignment rights.

Licensing VDI Infrastructure and Management Software from Microsoft

What do I need in order to license VDI infrastructure and management in a Microsoft environment?

To license VDI infrastructure and management, you will have the following options:

OPTION 1

A Remote Desktop Services CAL (RDS-CAL) is the license required for the Microsoft VDI infrastructure, irrespective of whether you deploy VMs or sessions.

By adding MDOP to the purchase, the customer can add application management capabilities to their VDI environment. And to add virtual machine management for VDI, System Center Virtual Machine Manager (SCVMM) use rights are now part of System Center Configuration Manager (SCCM) CML with active SA, as well as part of the CAL Suites with active SA. This means that customers who have either SCCM CML or one of the CAL Suites with active SA, together with MDOP, will only need to purchase an RDS-CAL to complete a VDI environment.

OPTION 2

The VDI Suites

The VDI Suites are a cost-effective subscription suite offering that includes a restricted RDS-CAL as well as a restricted set of SCCM CML use rights; they can be purchased with the option to include MDOP or not.

What are the key benefits of the VDI Suites? As a customer, why should I care?

The Microsoft VDI Suites provide the following key benefits:

- Simplified licensing: The Microsoft VDI Suites provide a simple licensing vehicle for Microsoft VDI infrastructure and manage-ment. It complements Windows SA or Windows VDA and follows the same device subscription license model.
- Excellent value: For environments that don't have a requirement for session desktops or applications, the VDI Suites provide a significantly less expensive option to license VDI infrastructure and management than competitive offerings. Together with partner solutions such as Citrix XenDesktop, an enterprise-ready VDI solution is available at a cost-effective price point.

How does Citrix complement the Microsoft VDI offerings?

Microsoft and Citrix have been partners for more than 20 years, and have a joint go-to-market strategy around VDI. With the RDS-CAL and the VDI Suites, Microsoft provides great options to license platform capabilities for a combined VDI solution, and helps make the licensed Microsoft and Citrix solutions more cost-effective and easier to purchase. The Microsoft VDI offerings, combined with Citrix XenDesktop, offer advanced functionality such as Microsoft Application Virtualization, integrated management, single instance management, and broad support for Citrix HDX endpoints across multiple device and network configurations. XenDesktop Enterprise and XenDesktop Platinum bring additional capabilities, such as support for session-based desktops and applications, service-level monitoring and reporting, and other enterprise-grade VDI function-ality. Customers who want to gain extra desktop deployment flexibil-ity provided with session-based desktop delivery using the RDS-CAL can choose to add XenDesktop Enterprise or XenDesktop Platinum, which will provide them with a powerful, session-based desktop and application delivery solution unmatched by VMware.

When will the VDI Suite subscriptions be available and for which programs?

The VDI Suite offerings will be added to the Microsoft price list in April 2012 and will be available to Microsoft Volume Licensing customers in the following programs: EA, Open, Select, School, and Campus, which are the same programs where Windows VDA is available.

What's included in the Microsoft VDI Suites?

The VDI Suites include the basic infrastructure and management components required for the deployment of pooled virtual desktops or personal virtual desktops, and are available as a device-based subscription, complementing the Windows VDA license.

The Microsoft VDI Suites include:

- Windows Server 2008 R2 Remote Desktop Services (RDS): Complete VDI remoting infrastructure for delivering pooled virtual desktops or personal virtual desktops (but no session desktops or applications)
- Microsoft Desktop Optimization Pack (MDOP): Allowing custom-ers to implement technologies such as Application Virtualization for virtual or physical desktops
- System Center Configuration Manager Client Management License with restricted use rights to VMM CML use rights only

What is the difference between the RDS-CAL use rights included in the VDI Suites and the RDS-CAL as a standalone license?

Windows Server 2008 R2 Remote Desktop Services (RDS) use rights included in the VDI Suites are limited to RDS components (RD Connection Broker, RD Gateway, etc.) used to deliver virtual desktop pools or personal virtual desktops only. In contrast, when

purchasing a standalone RDS-CAL, a customer can also take advantage of session-based desktops and applications, which provides additional deployment options and the greatest flexibility for their VDI environment. The VDI Suites are targeted at users accessing a virtual machine-based VDI desktop and does not include RDS use rights for session desktop or session application scenarios.

What are the restrictions on RDS with the VDI Suites? For example, can I use the VDI Suites to run traditional session-based desktops or applications (formerly known as Terminal Services)?

The VDI Suites provide use rights for all RDS components (RD Connection Broker, RD Gateway, etc.) as long as the host endpoint is a virtual machine (i.e. a virtual desktop pool or personal virtual desktop). The VDI Suites do not provide use rights for the traditional session virtualization scenario in which the host endpoint is a Windows server session.

Suite licenses usually provide a discount compared with licensing the individual products; is that the case for the VDI Suites? As a customer who wants to deploy VDI to certain users, what kind of discount do I enjoy by buying the VDI Suite over its individual components?

The VDI Suites have built-in discounts over the individual suite components. For example, buying the VDI Suites for a virtual machine-based VDI environment delivers roughly a 70% discount over a three-year time period compared with its individual components.

Do the VDI Suites include the Windows VDA license, as well?

No, Windows VDA is not included in the VDI Suites from Microsoft. To license the Windows desktop running in a centralized environment, organizations need Windows VDA (or Windows SA) irrespective of the server VDI solution they choose to implement. Windows VDA provides organizations with a cost-effective way to license virtual copies of the Windows client OS for a virtual desktop infrastructure. It provides the best value and the licensing flexibility needed to support the virtual environment where IT administrators can create and deploy desktops dynamically, and move them across multiple combinations of servers and storage.

Windows VDA includes extended roaming rights; do the VDI Suites also come with roaming rights?

Yes, the VDI Suites offer the extended roaming rights that are also found in Windows VDA.

Which specific System Center licenses are included in the VDI Suites?

The new VDI Suites only include Virtual Machine Manager Client Management (VMM CML) use rights for VDI.

What use rights does the standalone RDS-CAL VDI provide?

RDS-CAL use rights include use rights for all RDS components used in a traditional session virtualization scenario, including App-V for RDS (which is part of the RDS-CAL), above and beyond the use rights as they apply to virtual machine-based VDI.

Windows Server 2008 R2 Service Pack 1 now ships with "RemoteFX." How do I license RemoteFX for VDI; do I need a separate license for RemoteFX?

RemoteFX is a feature of Windows Server 2008 R2 SP1, more specifically a feature of the Remote Desktop Services workload in Windows Server 2008 R2 SP1. As such, it is licensed the same way as Remote Desktop Services, either via the RDS-CAL or the VDI Suites (which include RDS-CAL use rights). For virtual machine-based VDI scenarios with RemoteFX, a VDI Suite is sufficient. For VDI scenarios that involve RemoteFX for session desktops, an RDS-CAL is required. No additional license beyond the RDS-CAL or VDI Suite is required to take advantage of RemoteFX.

What if I already own MDOP? Why should I buy additional MDOP licenses through the VDI Suites?

VDI Suite subscriptions are sold either with or without an MDOP subscription. If you already own MDOP licenses for those devices accessing a Microsoft VDI environment, you can purchase VDI Suite licenses without MDOP. Please check with your Microsoft sales representative or partner for availability and pricing of this alternative offering.

The VDI Suite subscriptions can be purchased with MDOP, but I understand that Software Assurance is a prerequisite for MDOP. So do I get SA as part of the VDI Suite? Or can I deploy MDOP without SA if I buy MDOP with the VDI Suite subscriptions?

The VDI Suite and MDOP licenses acquired together contain full use rights to all the MDOP components as part of the package, but the same prerequisite for Windows desktop operating system Software Assurance applies. In order to be fully compliant, customers need to cover the device to which they are assigning the VDI Suite and MDOP license with Software Assurance. One option is to license that device with Windows VDA (which is required for VDI with thin clients anyway). If the device is already covered under Windows desktop operating system Software Assurance, then you have the rights to deploy MDOP immediately.

Do I need additional Windows Server licenses or Windows Server CALs in addition to the RDS-CAL or the VDI Suite licenses to deploy Microsoft VDI?

For a dedicated VDI host environment (i.e. a host environment with virtualized desktop workloads only), Microsoft Hyper-V Server is a good virtualization platform. For a mixed-host environment that also includes virtualized server workloads, Windows Server 2008 R2 SP1 with Hyper-V is a better choice. Also, depending on the environment, it may make sense to run certain RDS components,

such as the RD Connection Broker or RD Gateway, on a separate Windows Server host requiring a Windows Server license. Finally, other non-VDI-specific shared Windows services (e.g. Microsoft Active Directory® for authentication of VDI users) may run on their own Windows Server environment. Whenever a user or device directly or indirectly accesses any functionality of Windows Server, then a Windows Server CAL is required. A Windows Server CAL is not required for users or devices connecting to Microsoft Hyper-V Server. The correct number of Server OS licenses is always required.

How do I know how many VDI Suite licenses I need? For example, I plan to use 100 desktops / thin clients to access my VDI Suite environment, but I have 200 VMs running. How many VDI Suite licenses do I need?

VDI Suites are licensed on a per device basis, which means that only the number of devices accessing the VDI environment matters for the number of VDI Suite licenses required. The number of VMs accessed by each device does not matter for the number of VDI Suite licenses needed. This means, for the example in the question, that the correct number of VDI Suite licenses needed is 100.

For customers who buy PCs via OEMs and distributors, how can they license VDI from Microsoft?

The VDI Suite subscriptions are available through the usual Volume Licensing channels. Please contact your Microsoft sales person if you are a Volume Licensing customer.