Microsoft Application License Control in virtual environments

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Introduction

Today, many organizations are using virtualization technologies to deliver applications and desktops to users across the enterprise. Presentation virtualization using Microsoft Windows® Terminal Services and Citrix® XenApp have been the most popular means of delivering a virtual environment to users, however, a whole new generation of hosted virtual desktops and application virtualization solutions are emerging. While these solutions provide the ability to centrally manage desktops and applications, in turn reducing cost and improving security, license compliance then becomes an enterprise challenge that needs to be resolved.

This whitepaper, written with the support of Microsoft, will provide you with an overview on how Microsoft applications are licensed, and how to achieve license compliance in virtualized environments. It also explains some of the more common misunderstandings associated with Microsoft licensing models along with the official Microsoft positioning.

This paper goes on to explain how AppSense Application Manager can enforce application access by computer or connecting device, enabling compliance with Microsoft device-based licensing models. Additionally, a Microsoft written appendix answers the most common questions regarding their licensing.

Background on Microsoft application licensing

Many Microsoft applications, including Microsoft Office™, Project™ and Visio™, are licensed on a per-device basis. This means a desktop application license is required for each device that is able to access the application. A device may be a PC, notebook, PDA, thin client, workstation, terminal, or any digital electronic device that is able to access the application.

This model is simple to adhere to when applications are only available through local install on a PC or notebook, but requires more consideration when applications are installed centrally and accessed in a variety of ways or delivered to a range of devices.

Microsoft licensing in Windows® Terminal Services and other presentation virtualization environments

A common misunderstanding is the assumption that by 'publishing' applications to a limited user group, that group is compliant with the Microsoft license agreement - in other words, Microsoft licenses their applications per user.

Microsoft desktop applications are licensed per device; meaning any device that can access the application requires a separate desktop application license. In Windows® Terminal Services environments, therefore, a license is required for each client that can connect to the server where the application is installed.

Therefore, 'publishing' applications to a limited user group is not a valid approach to license restriction, since users within the group can potentially access the application from any device that can connect to the Windows® Terminal Server hosting the application binaries.

This means desktop application licenses may need to be purchased for devices where the user of that device does not actually use the application.

Microsoft technologies such as group policies and software restriction policies cannot be used as a means of enforcing licensing control, as these methods apply to users, or groups of users. For Microsoft applications which are licensed on a per device basis application access must be controlled at the device level.

## Microsoft licensing in hosted virtual desktop environments

Common misconceptions also exist regarding Microsoft licensing in hosted virtual desktop environments. Similar to presentation virtualization environments, if a user can access a Microsoft desktop application in a virtual desktop from multiple devices, a license is required for each device, not for the user.

If more than one device can access a virtual desktop where only one instance of an application is installed, a desktop application license is still required for that application for each potential access device.

Similar to a Windows® Terminal Services environment, Microsoft group policies and software restriction policies cannot be used to control application access and enforce license control for applications licensed on a per device basis as these policies only apply at a user level.

Microsoft licensing in application virtualization environments

Application virtualization technology, such as Microsoft App-V™, enables applications to be delivered to any client device with access typically being defined at the user level. As such, the same licensing misconceptions exist here as with Windows® Terminal Services and virtual desktops. Since applications can be delivered to any client device, a desktop application license must be obtained for every device the virtual application server has the ability to deliver an application to, not just the person using the desktop application.
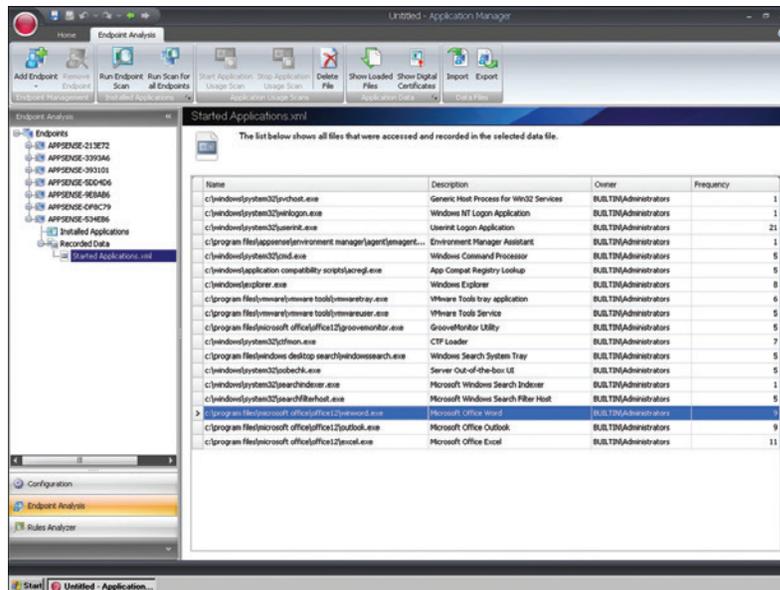
How does AppSense Application Manager provide visibility on and control licensing?

AppSense Application Manager operates with a kernel level filter driver within the Windows operating system. This filter intercepts all file execution requests prior to an application actually launching, to determine if the request is to be authorized or prohibited. Any unauthorized requests are blocked and the user receives a message, configurable by the administrator, stating that execution has been denied.

A flexible and granular rule set enables the administrator to restrict access to applications by device name or IP address. This enables AppSense Application Manager to effectively control, manage and in most cases, reduce the required number of Microsoft licenses.

AppSense Application Manager also provides detailed insight into user activity and application usage through reporting and auditing functionality. By reporting on application usage at a user and device level, AppSense Application Manager helps organizations verify compliance with Microsoft desktop application license models and provide estimates of license volume typically required across the user base.

Example

Consider an organization with Microsoft Project™ installed on Windows® Terminal Services or installed in a virtual desktop. Microsoft Project™ is required to be used by only a limited number of users. In this case the organization must license Microsoft Project™ for each and every device that may connect to Windows® Terminal Services or the virtual desktop. In this example, the organization is required to purchase more Microsoft Project™ licenses than there are users who will be using the application.

AppSense Application Manager verifies client device names and/or IP addresses to control device based-access to MSProject. exe. By using AppSense Application Manager, the organization is able to define which devices can run Microsoft Project™ and prevent access from other devices, therefore restricting access and minimizing the number of licenses required.

If more users require access to Microsoft Project™ in the future, their client device details can be added to the AppSense Application Manager configuration once additional Microsoft Project™ licenses have been purchased.

Additionally, AppSense Application Manager can be run in 'passive mode', where rather than enforcing application access by device, application usage across the user/device community can be monitored, enabling an estimate to be obtained as to what application licenses are required, and what enforcement policies will be needed.
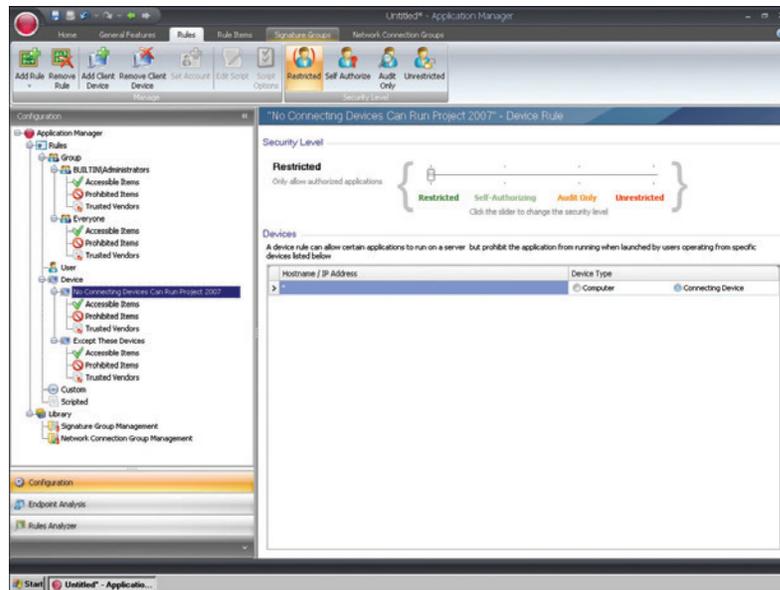
Microsoft acknowledgment of AppSense Application Manager

AppSense Application Manager enables IT administrators to reliably and effectively enforce software licensing policies on client devices, and therefore gain greater control over the deployment of applications in a Windows® Terminal Services or virtual desktop environment.

"Today's IT organizations are constantly striving to lower the total cost of ownership of their infrastructure while getting the maximum value from their IT investment. With the onset of multiple delivery technologies, efficient software license management is a key component of today's IT strategy. Microsoft acknowledge AppSense Application Manager as a solution that enterprises could use as part of software asset management to provide device-based license management in a Windows® Terminal Services, virtual desktop or virtualized streamed environment."

Sam Bramwell
Licensing, Anti-Piracy and SAM Audience Marketing Manager, Microsoft Limited

AppSense Customers

Today, AppSense Application Manager enables over 3,500 organizations such as EDS, Alstom, HP, Deutsche Bank, National Blood Service, British Telecom, Home Shopping Network, Daimler Chrysler, CSC and BAA to ensure complete control of their application environment and provide effective license management within their Windows® Terminal Services farms and virtual desktop environments.

AppSense Application Manager also provides a comprehensive method of preventing the execution of unauthorized and unwanted applications in desktop, notebook, Windows® Terminal Services, Citrix XenApp and virtual desktop environments. This provides enhanced system security and improves the reliability of servers and desktops.

We have a wide variety of desktop applications, ranging from the Microsoft Office suite and Adobe Acrobat through to multimedia education titles, Tome explains. The problem has always been how to best ensure the number of simultaneous instances of those apps being run never exceeds the number specified in our license agreements.

By defining rules within AppSense, Tome has been able to restrict access to applications based either on particular groups of users, such as teaching or administration staff, or the number of client devices.

St Ritas College: Dean Tome, Network Admin

AppSense Application Manager gives us the ability to control the users and devices that have access to specific applications, thereby avoiding the purchase of an enormous number of superfluous licenses.

In a server farm environment where anywhere up to 750 users have access and there are approximately 25 applications, the cost of maintaining software license compliancy could be literally staggering. Being approved by Microsoft and other software vendors as a preferred means to exercise license control in a terminal server/Citrix environment, AppSense Application Manager ensures Chandler Macleod's desktop application licensing costs accurately reflects the number of authorized users.

Chandler Macleod:
Dave Thomas, CIO

Further Reading

For more information on AppSense Application Manager and controlling application access within your organization please visit
www.appsense.com/application-control

A full list of all AppSense White Papers and documentation is available from
www.appsense.com/documents

The official Microsoft licensing policy for applications in a server-based computing and virtual desktop environment can be accessed here **www.microsoft.com/licensing/resources/volbrief.mspx**

Appendix 1: FAQs

Q. How does Microsoft application user license agreements (EULAs) address a Windows® Terminal Services or virtual desktop environment where the app is accessed on the server and not on the client desktop?

A. Microsoft licenses it's applications on a per device basis. This means that a license is required for each device that is able to access the software. A device is a personal computer, a laptop computer, PDA, workstation, thin client, terminal, or other device that allows access to the application.

Q. If Microsoft Office™ is not actually installed on a device that accesses Microsoft Office™ on the server do I need a license for that device?

A. The Microsoft Office™ End User License Agreement (EULA) states alternative rights for storage/network use. You may install a copy of the software on a network storage device, such as a server computer, and allow one access device, such as a personal computer, to access and use that licensed copy of the software over a private network.

You must obtain a license to the software for each additional device that accesses and uses the software installed on the network storage device, except as permitted. The product may not be shared or used concurrently by different devices. Therefore, in a terminal services or virtual desktop environment, you must acquire a license for all devices that will be accessing a Microsoft software app product (for example, Microsoft Office™) from Windows® Terminal Services or virtual desktop.

Q. Is a Microsoft Office™ license required for Windows® Terminal Services hosting the application?

A. No, but a license is required for each device that can access Microsoft Office™ on the server.

Q. If Microsoft Office™ is installed on Windows® Terminal Services and 100 desktops can access the server, but at any given time only 25 will be using Microsoft Office™. How many Microsoft Office™ licenses are required?

A. 100. How the network is set up and how access is provided to Microsoft application software has no impact on the licensing of the application itself. Microsoft Office™ (as well as other Microsoft Desktop applications) does not license on concurrent use. If there are 100 desktops on the network, 100 Microsoft Office™ licenses are required. This is the same as if all 100 devices had Microsoft Office™ installed locally.

Q. If Microsoft Office™ is installed as part of a virtual desktop image and 100 desktops can access the virtual desktop, but at any given time only 25 will be using Microsoft Office™. How many Microsoft Office™ licenses are required?

A. 100. How the network is set up and how access is provided to Microsoft application software has no impact on the licensing of the application itself. Microsoft Office™ (as well as other Microsoft Desktop applications) does not allow concurrent use. If there are 100 desktops on the network, 100 Microsoft Office™ licenses are required. This is the same as if all 100 devices had Microsoft Office™ installed locally.

Q. If Microsoft Office™ is being streamed to only 25 users, but there are 100 devices on the site, how many Microsoft Office™ licenses are required?

A. 100. How the network is set up and how access is provided to Microsoft application software has no impact on the licensing of the application itself. Microsoft Office™ (as well as other Microsoft Desktop applications) does not allow concurrent use. If there are 100 desktops on the network, 100 Microsoft Office™ licenses are required. This is the same as if all 100 devices had Microsoft Office™ installed locally.

Appendix 2: Example Scenarios

Scenario 1

A customer has 50 Windows®-based workstation devices in a call center and would like to use Microsoft Office™ on all these workstations. Two Windows® Terminal Services servers support the 50 Windows®-based workstations. The customer will need to acquire 50 Microsoft Office™ licenses - one for each computer that will access Microsoft Office™. Even if a workstation is expected to access Microsoft Office™ only infrequently, the customer will still need to acquire and dedicate a Microsoft Office™ license for that workstation.

Scenario 2

A customer has 100 Windows®-based workstations in a call center and would like to use Microsoft Office™ on all of them. The workers who sit at these workstations work in three eight-hour shifts, so the 100 terminals support 300 workers. Whenever a shift change takes place, the current worker closes Microsoft Office™ and logs off of the server in order for a new worker to logon and to begin running Microsoft Office™. The customer will need to acquire 100 Microsoft Office™ licenses - one for each computer than will run Microsoft Office™.

Note: the number of computers, and not the number of workers, is important to this licensing scenario.

Scenario 3

A customer has 40 Windows®-based workstations and 30 employees who will use Microsoft Office™ on all 40 workstations. The customer will need to acquire 40 Microsoft Office™ licenses. This is consistent with the per-device licensing policy.

Scenario 4

A customer has portable computers that already have Microsoft Office™ licensed and installed on them. The users of these portable computers occasionally connect to Windows® Terminal Services or virtual desktop to run Microsoft Office™ remotely while they are using a dial up or broadband connection. The customer does not need to acquire any more Microsoft Office™ licenses in this case; the devices are already licensed to run Microsoft Office™. It does not matter whether Microsoft Office™ is run locally or remotely on Windows® Terminal Services or virtual desktop.

Scenario 5

A customer has 50 Windows®-based workstations in a call center. All workstations will run Microsoft Office™ on a recurring basis, but only 25 workstations will ever run Microsoft Office™ at any given time. The customer will still need to acquire 50 copies of Microsoft Office™. Microsoft application licenses cannot be used concurrently (shared across multiple computers simultaneously).

Scenario 6

Company employees remotely access a corporate network from home, using personal computers that they own. While dialed in, the employees use Windows® Terminal Services or virtual desktops to run Microsoft Office™. A Microsoft Office™ license is required for the home personal computer in this scenario. That license may either be a personal license acquired by the employee or a "home use rights" license acquired by the company for the employee.

Note: if an employee is using a corporate-owned portable computer instead of an employee-owned computer (portable or otherwise), then there is no licensing issue - this use of Microsoft Office™ would be covered under the Microsoft Office™ EULA's portable-use rights for portable computers.

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