

Volume Licensing Product Terms Explained



Product Terms Explained

Table of Contents

Introduction.....	1
Overview	1
Using This Guide.....	1
Key Terms and Acronyms.....	1
Licensing Basics	2
What Is Intellectual Property?	2
What Is a License?	2
What Is Microsoft Volume Licensing?	3
What Is Microsoft Software Assurance?.....	3
What Is a License Agreement?	3
License Life Span	3
Introduction to the Product Terms	3
What Is the Product Terms document?	3
How to Find License Terms for Specific Products	4
Accessing the Current Product Terms.....	4
What Happened to the Product Use Rights and Product List Documents?	4
Licensing Models Used in Volume Licensing.....	4
Why Does Microsoft Use Different Licensing Models?	4
Initiative 1: Desktop Hardware Purchase	6
Initiative 2: File and Print Sharing	8
License Requirements.....	9
Initiative 3: Development and Testing	10
License Requirements.....	10
Initiative 4: Enterprise Email and Calendaring	10

Product Terms Explained

License Requirements..... 11

License Order Summary..... 12

Initiative 5: Collaboration Portal..... 12

License Requirements..... 13

License Order Summary..... 14

Initiative 6: IT Management..... 15

License Requirements..... 15

License Order Summary..... 16

Additional Resources..... 16

Microsoft Volume Licensing Product Terms Explained

Introduction

Overview

Microsoft makes hundreds of products that help businesses operate. Considering this, understanding your options as a customer licensing a particular product can be a challenge. If you would like to better understand how Microsoft products are licensed through Microsoft Volume Licensing programs, this guide is a great place to begin.

In the guide, you will find information about licensing basics and why Microsoft uses different models for licensing its products. These models are described in detail in the [Microsoft Volume Licensing Product Terms](#) document. Although the Product Terms is a vital legal document and part of your Microsoft Volume Licensing agreement, we know that it takes significant time to read and understand the full document. To help you, we have created a licensing story that walks you through examples of how the Microsoft licensing models are applied when using various “real-world” technology solutions. We invite you to follow the director of IT for a midsize company as she finds the best way to license the Microsoft products and services her company needs for a series of IT initiatives.

Using This Guide

Use this guide and the customer scenarios within it to improve your understanding of the models and rules for licensing Microsoft products through Microsoft Volume Licensing programs. It is not intended to guide you in choosing Microsoft products and services. The examples presented in this guide are illustrative. To focus on licensing concepts, we have simplified product names. For help determining the right technology solution for your organization or if you are unsure about the license requirements for a specific product or scenario, please consult with your Microsoft reseller, your Microsoft account team, or the licensing support contact for your region. You can also visit the Microsoft Volume Licensing Worldwide website at www.microsoft.com/licensing/worldwide.aspx to find your local Microsoft Volume Licensing website.

This guide does not supersede or replace any of the legal documentation covering use rights for Microsoft licensed products. Specific product license terms are detailed in the Microsoft Volume Licensing Product Terms document, which is available at the Microsoft Volume Licensing website at www.microsoft.com/licensing/products/products.aspx.

Key Terms and Acronyms

CAL: Client Access License permitting access to software running on a server

Core: Smaller processing unit on a processor

Device: Desktop PC, server, mobile phone, or any other machine on which the software is run or accessed

Instance: An installed copy of the software

L&SA: License and Software Assurance Pack used to acquire both a license and Software Assurance coverage for the license

ML: Management License permitting operating system environments to be managed by a management server

MDOP: Microsoft Desktop Optimization Pack

Operating system environment (OSE): The computing environment on the physical machine (physical OSE) or virtual machine (virtual OSE) where the operating system and applications run

Physical machine: An actual hardware device, such as a desktop PC, mobile phone, or server

Processor: A complete computation engine that is fabricated on a single chip and performs the “work” of the computer (also referred to as a “microprocessor” or “CPU”)

Microsoft Volume Licensing Product Terms Explained

Product List: see Product Terms.

Product Terms: Monthly publication that provides information regarding the acquisition of licenses available through Microsoft Volume Licensing programs (formerly provided through the Product List) and the terms and conditions governing software deployment and use (formerly provided through the Product Use Rights (PUR)). Product Terms are organized by Product, and addresses product availability by program, acquisition prerequisites (such as which products qualify for the Windows desktop operating system upgrade licenses), use rights, Software Assurance rights, and migration rights. The Product Terms is available at the Microsoft Volume Licensing website at www.microsoft.com/licensing/products/products.aspx.

Product Use Rights (PUR): See Product Terms.

Run: To copy, install, use, access, display, or otherwise interact with the software

User: Person using the software product or service

SL: Subscription License used to license access to certain Microsoft online services

VDA: Windows Virtual Desktop Access

Virtual machine (VM): An emulated software version of a computer that executes programs like a separate physical computer

Virtual processor: Processor execution unit supporting a virtual machine

Virtualization: Running software in a virtual operating system environments

Licensing Basics

What Is Intellectual Property?

People tend to think of software as a commodity—something you buy off the shelf from a retailer, like a computer or a television. When you buy a commodity, you own the physical object, and all or most of the commodity's value is intrinsic to that object. However, with software, you license it, rather than purchase it. When you license software, the primary value comes not from an object (such as the disk it is stored on) but from the knowledge of the people who wrote the software. You do not own that knowledge; you are merely acquiring a limited right to use it. In other words, software is an intellectual property, much like the words in a book or musical notes on a song sheet.

Intellectual property includes ideas and creative expressions that may have commercial value. These items are intangible and not easily defined or identified by their physical parameters. As a result, they are copyrighted. A copyright is an intellectual property right (IPR) and is protected by international copyright laws. IPRs include copyrights, trademarks, and patents. These laws enable the owners of the intellectual property to decide who can access and use their property and to protect it from unauthorized use

What Is a License?

A license does not necessarily include the rights to media, manuals, or support. The way in which the software can be used is determined by the Microsoft Software License Terms. When you acquire a software license, you must agree to those terms to use the software. Some companies refer to those terms of use as an End User License Agreement (EULA). At Microsoft, we refer to them as Microsoft Software License Terms.

License enforcement and compliance protects a software developer's investment in his or her intellectual property. As a user, proper compliance ensures that your use of the software is covered by the terms of the license. Proper compliance also protects you from pirated and potentially corrupted or malfunctioning software. In addition, when acquiring your license, you often can choose to receive technical services and support to maximize your investment.

Microsoft Volume Licensing Product Terms Explained

What Is Microsoft Volume Licensing?

Simply stated, licensing software in volume makes it easier and more affordable to run software on multiple computers within a single licensing organization.

By acquiring software licenses through Microsoft Volume Licensing programs, you pay only for the software license. Boxed software, on the other hand, includes media (the CD-ROM or DVD), a user's guide, and other packaging items. Eliminating these physical costs and purchasing licenses in volume often reduces cost and provides more customized licensing options and improved software management. Depending on the Volume Licensing program you choose, you may receive media, and you can choose to download or otherwise acquire media (or supplemental media), documentation, and product support separately as needed.

What Is Microsoft Software Assurance?

Software Assurance (SA) is a comprehensive maintenance offering from Microsoft that can help you get the most out of your software investment. It combines the latest software with benefits such as phone support, partner services, training, and IT tools. You can choose to include Software Assurance at the time that you purchase the licenses and begin using your benefits immediately for the term of your coverage.

What Is a License Agreement?

When you participate in a Microsoft Volume Licensing program, you are required to accept a license agreement between your organization and Microsoft. This license agreement defines the Software License Terms. For instance, it determines whether the software can be installed on more than one PC or other device and for how long it can be used. When you acquire and install new software, you must accept the license agreement to use that software legally. It is important to understand the content of license agreements and the differences between specific licensing programs.

License Life Span

Licenses can have different life spans. They can be either "perpetual" or "non-perpetual."

- ▶ **Perpetual licenses** are everlasting and valid if the software is being used according to the license agreement and its Software License Terms.
- ▶ **Non-perpetual licenses**, or subscription licenses, are temporary and provide the right to use a particular licensed product as described in the license agreement (for example, until the end of that agreement's term or until the anniversary of the effective date of that agreement) if the software is being used in accordance with the license agreement and its Software License Terms. It is available only through certain comprehensive Microsoft Volume Licensing programs or available for certain products such as Microsoft Online Services, Microsoft Desktop Optimization Pack, and Windows Virtual Desktop Access.

Introduction to the Product Terms

What Is the Product Terms Document?

The Microsoft Volume Licensing Product Terms document is part of your Microsoft Volume Licensing agreement. It is the successor document to the Product Use Rights and the Product List (both retired June 2015). When you need to know how to license a particular product or the specifics of what you can do with that product under the terms of your license agreement, the Product Terms generally has the information you need.

The Product Terms details product availability by Volume Licensing program as well as terms and conditions for the deployment and use of software. The Product Terms is structured around product entries that point to supporting

Microsoft Volume Licensing Product Terms Explained

sections of the document for terms that apply more broadly, such as the Universal License Terms and the terms of the licensing models under which Volume Licensing products are available. Some products have logical deployment scenarios that may necessitate special use rights or exceptions. These are also outlined in the product entries in the Product Terms. The number of licenses required for a particular Microsoft product is determined by the licensing model used for that particular product and how you plan to deploy that product.

How to Find License Terms for Specific Products

The License Terms for products generally include Universal License Terms, License Model terms, and product-specific terms. When you use the Product Terms to find the license terms for a specific product, starting with the product entry, you can see in one place the relevant License Model, the subset of common licensing terms applicable to that product, as well as any product-specific exceptions, and all of the additional rights conveyed under Software Assurance. The Use Rights section of the product entries provides the License Terms that govern deployment and use under the base license. The Software Assurance section addresses additional rights and other License Terms associated with Software Assurance coverage. Content in tables in these sections of the product entry are presented as intra-document links that make it easier to navigate to the Universal License Terms and the License Model terms as well as other supporting content in the document. Mouseover text that pops up definitions from the Glossary is also used in the document.

Accessing the Current Product Terms

You can download the current Product Terms by visiting the Volume Licensing website at www.microsoft.com/licensing/products/products.aspx.

What Happened to the Product Use Rights and Product List Documents?

The Product Terms replaces the Product Use Rights and Product List, both retired June 2015. For more information about the relationship of these documents, and how to know which documents apply to you, see the Product Terms FAQ at <http://www.microsoft.com/en-us/Licensing/product-licensing/FAQ-product-licensing.aspx>.

Licensing Models Used in Volume Licensing

Different models are used for licensing products through Microsoft Volume Licensing. These models are outlined in the Product Terms.

Why Does Microsoft Use Different Licensing Models?

When determining how best to license a specific Microsoft product, consider a number of factors. Some factors are product-specific:

- ▶ How will the product be used?
- ▶ How will it be accessed?
- ▶ How many people or devices will access it?
- ▶ Will it run on a client device (PC, smartphone, etc.)?
- ▶ Are additional products required to run it?

Other factors may be Microsoft-specific or solution-specific, thus requiring the need to strike a balance between competing licensing priorities. Examples include the following:

- ▶ **Simplicity versus flexibility:** Although it might be simpler for every product to use the same licensing model, that would remove the flexibility to match the model to the typical use scenarios.

Microsoft Volume Licensing Product Terms Explained

- ▶ **Predictability versus adaptability:** Our customers and partners tell us that adding or changing licensing models can cause some disruption. At the same time, it may make sense to adapt the way a product is licensed based on changes to how it is used—such as virtualization or other new, emerging use scenarios—so that the model works better for more people.

Ultimately, Microsoft strives to find the right balance between these and a number of other priorities to find licensing models that work best for everyone.

Microsoft Volume Licensing Product Terms Explained

A Customer's Journey



Meet Wendy. She is the Director of IT for Trey Research, a growing firm that helps clients implement a research-based approach to online marketing. As part of its strategic planning process, Wendy and a team of Trey Research executives outlined six IT initiatives aimed at building a core IT infrastructure to help their employees provide the best service to their clients.

Wendy is responsible for guiding the six IT initiatives through to completion—on time and within budget. To do so, Wendy chooses her technology vendors carefully and pays close attention to how Trey Research procures its hardware and software so it maximizes its return on investment (ROI).

Microsoft is a key vendor for Trey Research, and Wendy makes it a priority to understand the options the company has for acquiring its Microsoft software licenses so that it is getting all of the licenses the company needs in the most cost-effective way. When it comes to procuring software licenses, Wendy puts a high priority on total cost of ownership (TCO) and long-term value. That is one of the reasons she includes Microsoft Software Assurance with all of Trey Research's Microsoft licenses. She believes the benefits of Software Assurance provide significant added value that saves the company money in the long term.

Let's follow Wendy as she acquires licenses for the six IT initiatives that use Microsoft software and services.

Initiative 1: Desktop Hardware Purchase

Like many organizations, Trey Research is gaining new customers and adding employees to meet the demand. To support this growth, Trey Research is purchasing 50 new PCs. On each PC, the company needs an operating system and also wants a suite of desktop PC productivity applications.

For the operating system on its new PCs, Wendy has selected the Windows Enterprise operating system. She also wants the added benefits of Software Assurance for Windows, including Microsoft Desktop Optimization Pack (MDOP) and Windows Software Assurance per User Add-on.

Desktop applications are typically software programs that one user uses to perform a task on their PC. For example, you may use Microsoft Word to draft a business letter or the Microsoft PowerPoint to create a sales presentation. Desktop PC applications are installed on devices, which can be anything from desktop PCs to laptops to tablets to mobile phones. They may even be installed on servers so a user can access them from their PC.

For desktop applications, Trey Research uses Microsoft Office, which has all of the familiar applications it needs. Wendy has chosen Microsoft Office Professional Plus as the desktop PC application suite for the new PCs.

Licensing Model Summary: Desktop Applications

One license is required for each physical device running or accessing the application. This includes situations where you run the software on your local device or access the software on another device like a server. Additional licenses are not required for running the application on any virtual machines running on the licensed physical device.

Microsoft Volume Licensing Product Terms Explained

Licensing Model Summary: Desktop Operating Systems

One license is required for each device on which you access and use the software, whether the software is running directly on the device or running on another device and accessed remotely.

Quick Facts: License SKU Types

Five main stock-keeping unit (SKU) types are sold through Microsoft Volume Licensing. They are:

License: Used to license a specific version and edition of the software.

Software Assurance: Used only to renew/extend Software Assurance coverage. In addition to other benefits, it permits you to upgrade to new releases of the software made available during the Software Assurance term.

License and Software Assurance Pack (L&SA): Used to acquire both a license and Software Assurance coverage for the license.

Monthly Subscription: Used to license products and services offered on a monthly subscription basis through Volume Licensing.

Software Assurance Step-Up: Used to migrate from a lower edition of a qualifying product (such as Windows Server Standard) that is covered by Software Assurance to a higher edition (such as Windows Server Datacenter).

License Requirements

Windows Pro

Windows Enterprise is available only as an Upgrade license through Microsoft Volume Licensing. To qualify for the Windows Enterprise Upgrade license, Trey Research needs a full license for a Qualifying Operating System (QOS) for each new PC. Because full base licenses are not available in Volume Licensing for Windows desktop operating systems, the most cost-effective way to get the full license is by having the PC manufacturer (the original equipment manufacturer, or OEM) license and preinstall a QOS on each PC. In this case, Wendy has the OEM preinstall Windows Pro on the PCs, which is a QOS.

Windows Enterprise Upgrade with Software Assurance

To upgrade the new PCs to Windows Enterprise and get the added benefits of Software Assurance, Trey Research also acquires 50 Windows Enterprise Upgrade licenses with Software Assurance through Microsoft Volume Licensing.

Microsoft Office Professional Plus

In general, no matter what the device, if Trey Research wants to use a Microsoft desktop PC application on it, it needs to license the device for that application. This is true whether the software is installed on the device that the user uses or on the device from which the user accesses the application. After the device is licensed, the company can install as many copies of the application (or a prior version of the application) on the device as it wants.

In this case, Trey Research orders one License and Software Assurance Pack for Office Professional Plus through Microsoft Volume Licensing for each new PC.



Figure 1

Microsoft Volume Licensing Product Terms Explained

Licensing Model Summary: Processor/Client Access License (CAL)

One processor license is required for every two physical processors on the server. A CAL is required for each user or device that accesses the server software. An optional External Connector license replaces CALs for non-employees requiring external access to the server.

Quick Facts: CALs

A CAL is not software; it is a license granting access to the server software.

CALs are available on a per user or per device basis.

CALs must be for the same or a later version of the server software. For example, to access Windows Server 2008, you need a Windows Server 2008 CAL or a Windows Server 2012 CAL. There are some exceptions to this rule that are located in the Product Terms document. For example you can access a server running Windows Server 2012 R2 with a Windows Server 2012 CAL.

Any given user or device needs only one CAL to access any instance of the server software running across the organization.

CALs must be assigned to a device or user for at least 90 days before they may be reassigned. You can temporarily reassign your device CAL to a loaner device while the first device is out of service or your user CAL to a temporary worker while the user is absent.

License Order Summary

Product	Quantity	Ordered Through
Windows Pro	50	OEM (Preinstalled)
Windows Enterprise Upgrade with Software Assurance (U&SA)	50	Microsoft Volume Licensing
Office Professional Plus (L&SA)	50	Microsoft Volume Licensing

Initiative 2: File and Print Sharing

The next IT initiative for Trey Research is to network its PCs for sharing files and printers. To enable this functionality, Wendy determined she needs to purchase a new server with the Windows Server Standard operating system.

As the Windows desktop operating system is to a PC, so is Windows Server to a server device—the operating system provides the basis for interacting with the server. Microsoft server operating system products (which include most Windows Server editions) are licensed using a Processor/Client Access License (CAL) model. (The only exception is Windows Server Essentials, which is licensed under the Specialty Server model.) This means the company needs to license every physical processor on the server running the server software, plus a CAL for each user or device accessing the server.

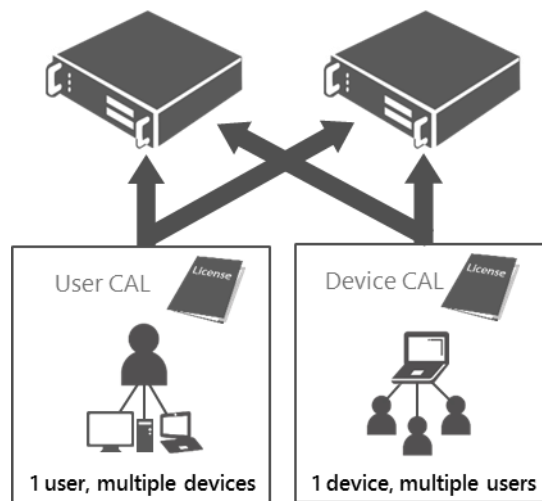


Figure 2

Microsoft Volume Licensing Product Terms Explained

License Requirements

Windows Server Standard

Wendy purchases a new two-processor server from the OEM, but purchases the Windows Server Standard license and Software Assurance Pack through Microsoft Volume Licensing.

Windows Server CALs

Next, Wendy needs to figure out how many CALs the company needs. She can choose user CALs or device CALs, and Wendy wants to make sure she is making the most cost-effective choice. In this case, each of the 120 employees has a PC and smartphone that can connect to the server. Because Trey Research has fewer people than devices, Wendy decides to go with user CALs. She orders 120 Windows Server user CALs with Software Assurance through Microsoft Volume Licensing.

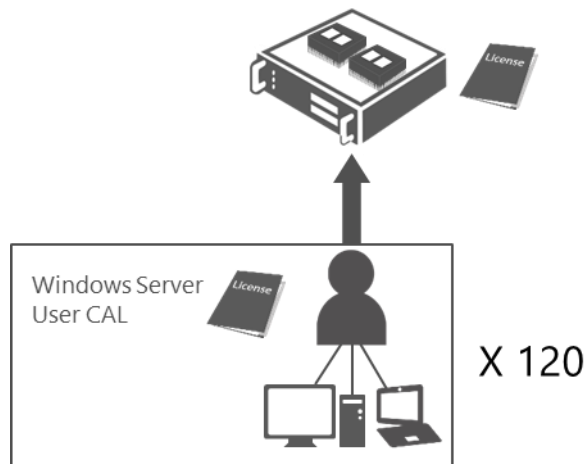


Figure 3

License Order Summary

Product	Quantity	Ordered Through
Windows Server Standard (L&SA)	1	Microsoft Volume Licensing
Windows Server User CAL (L&SA)	120	Microsoft Volume Licensing

Note: Each Windows Server Standard or Datacenter license can license up to two processors.

Microsoft Volume Licensing Product Terms Explained

Licensing Model Summary: Developer Tools

One license is required for each person who accesses or uses the software. As long as only licensed users have access to the software, you can install as many copies of the software on as many devices as you like.

You can use the software only for design development, testing, and demonstration purposes.

Initiative 3: Development and Testing

A group of developers and testers at Trey Research is planning to build a new custom application that will help their account managers track and report web traffic statistics and other key performance indicators (KPIs) for individual clients. Trey Research has three developers and six testers. To provide them with the tools they need for this project (and future projects), the developers will be licensed for the Microsoft Visual Studio Professional development system with the MSDN developer program, and the testers will be licensed with Visual Studio Test Professional with MSDN. Visual Studio Professional with MSDN provides access to the widest range of Microsoft software for design, development, testing, and demonstration purposes. In addition, it includes other benefits that help the developers and testers in their application building process.

These products are licensed using the Developer Tools model, which is a per user model. You need a license for each person that accesses or uses the software. As long as only licensed users have access to the software, you can install as many copies of the software on as many devices as you like. This is significant, because it allows the developers and testers to run the software on multiple devices (such as for testing purposes) without having to license each device.

License Requirements

Visual Studio Professional with MSDN

Wendy orders three License and Software Assurance Packs for Visual Studio Professional with MSDN—one for each developer.

Visual Studio Test Professional with MSDN

Wendy orders six License and Software Assurance Packs for Visual Studio Test Professional with MSDN—one for each tester.

License Order Summary

Product	Quantity	Ordered Through
Visual Studio Professional with MSDN (L&SA)	3	Microsoft Volume Licensing
Visual Studio Test Professional with MSDN (L&SA)	6	Microsoft Volume Licensing

Initiative 4: Enterprise Email and Calendaring

With new PCs and file and print network setup, Wendy is ready to improve the way employees at Trey Research communicate both in the office and in the field by upgrading the company's email platform from accounts hosted on its web domain to a more powerful, enterprise solution based on Microsoft Exchange Server. The solution runs on the same server it is using for file and print sharing.

Microsoft Volume Licensing Product Terms Explained

Licensing Model Summary: Server/CAL

One server license is required for each instance of the server software running at the same time. A CAL is required for each user or device that accesses the server software. External users' access to base server functionality is included with the server license.

Quick Facts: Assigning Licenses

Assigning licenses to a device (such as assigning an Exchange Server license to a server) is not a formal process. It means you need to track your licenses so that you know that you have the appropriate license for a given device.

Quick Facts: Base and Additive CALs

Server software that requires CALs offers one base CAL and may offer one or more additive CALs. Base CALs license access to basic server functionality. Additive CALs license access to advanced server functionality and must be licensed in addition to the corresponding base CAL.

For details, see the Volume Licensing brief [Base and Additive Client Access Licenses: An Explanation](#).

Exchange Server is licensed using a Server/CAL model, which is a good fit for Trey Research. "What I like about the Server/CAL model is that once we make the initial investment in the server license and hardware, we can scale out the solution to more and more employees without incurring big costs, because all we need to do is buy more CALs," Wendy says.

To provide a comprehensive solution for managing time and information, Exchange Server integrates with the Microsoft Outlook messaging and collaboration client. Outlook is included with the Microsoft Office suite licenses the company already has, so they do not need to acquire separate licenses for Microsoft Outlook.

Wendy already has a server that she can use that is licensed with Windows Server Standard, allowing her to run up to two virtual instances, so she does not need to purchase a Windows Server license. However, if she decides that she needs to be able to run more virtual instances in the future she can either choose to purchase a Windows Server Datacenter edition, which will allow her to run an unlimited number of virtual instances, or purchase additional Windows Server Standard licenses to assign to that same server to increase the number of allowed virtual instances by two with each license. For example, if she assigns two Windows Server Standard licenses to a server, she can now run up to four virtual instances at a given time. She also, already has Windows Server CALs for all of the users that will be accessing the server.

License Requirements

Exchange Server Standard

To meet their server license requirement, Wendy orders one Exchange Server Standard License and Software Assurance Pack through Microsoft Volume Licensing and assigns it to the server.

Exchange Server CALs

CALs are required for every user or device accessing the Exchange Server software. Having already learned about user CALs and device CALs for Windows Server, it was easy for Wendy to choose between user CALs and device CALs for Exchange Server. Each of the 120 employees needs to be licensed for two devices: a desktop and a smartphone. To achieve this, user CALs are the most cost-effective. They order 120 Exchange Server Standard User CALs with Software Assurance.

In addition to the "base" CAL, some products offer "additive" CALs that provide access to incremental functionality. Wendy has identified 10 employees who require the additional functionality of Managed Email Folders (Custom Folders), and so Wendy orders 10 Exchange Server Enterprise CALs with Software Assurance for those users. Users who need additive functionality need both the Standard CAL (base) and the Enterprise CAL (additive)

Microsoft Volume Licensing Product Terms Explained

Quick Facts: External User Access

The server license permits external users' (such as customers or vendors) access to base functionality.

Licensing Model Summary: Online Services

Online Services are subscription-based and provide access to software and services. Licensing under this model consists of one or more of the following:

User or Device Subscription License (User SL or Device SL): For offerings that require these, User SLs or Device SLs are needed for each user or device that accesses the online service.

Add-On Subscription License (Add-on SL): This license sometimes is used instead of or in addition to User SLs or Device SLs, depending on the particular online service. For example, it can apply to a specified number of consumed units, such as gigabytes of storage, or it can apply to a single server accessed by external users. Add-on subscription licenses are not always required.

Licensing Model Summary: Per Core

To license a physical server, you must license all the cores in the server, with a minimum of four core licenses required for each physical processor in the server. Core licenses are sold in packs of two.

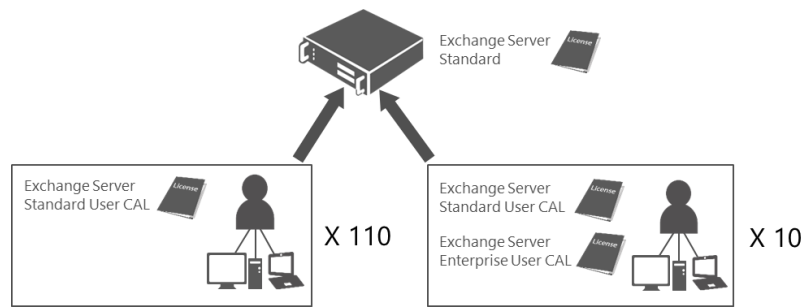


Figure 4

License Order Summary

Product	Quantity	Ordered Through
Exchange Server Standard (L&SA)	1	Microsoft Volume Licensing
Exchange Server Standard User CAL (L&SA)	120	Microsoft Volume Licensing
Exchange Server Enterprise User CAL (L&SA)	10	Microsoft Volume Licensing

Initiative 5: Collaboration Portal

Executives at Trey Research understand that the ways in which people communicate and collaborate are changing. To keep pace with this changing world of work—and to take advantage of the efficiencies it offers—they want their employees to have self-service access to the information they need when they need it. That is why they directed Wendy to establish a new collaboration portal—where employees can share and access business intelligence (BI) data, calendars, documents, scorecards, and more—as her next IT initiative.

For a collaboration portal platform, Wendy chooses Microsoft SharePoint Server. SharePoint Server, like Exchange Server, is licensed on a Server/CAL basis. SharePoint Server Standard CAL provides access to the portal and its content management and search capabilities. SharePoint Server Enterprise CAL is an additive CAL that provides additional functionality, allowing access to BI and business process and tools functionality. Wendy will add a new server for running SharePoint Server, knowing that she can likely also use some of its resources for future solutions.

SharePoint Server uses Microsoft SQL Server software as an enabling technology. SQL Server provides the back-end database engine that allows Trey Research to centralize data from various sources and deliver BI information through the user-friendly interface of SharePoint Server and Microsoft Office. To prepare for the increased workloads that are required of

Microsoft Volume Licensing Product Terms Explained

the server running SQL Server as new initiatives are rolled out, Wendy decides to add a separate server for SQL Server.

SQL Server is unique in that it can be licensed in the following two ways, depending on which edition is licensed:

- ▶ Server/CAL (Standard and Business Intelligence editions)
- ▶ Per Core (Standard and Enterprise editions)

Wendy is very familiar now with the Server/CAL model, so she looks more closely at the Per Core model. Under the Per Core model, instead of licensing the server and the access by users and devices separately, she can buy licenses for the number of cores in the server and then gain access for an unlimited number of users and devices. Core licenses are sold in two-core packs, and each physical processor requires a minimum of four core licenses. Core licenses cost more than server licenses, so the deciding factor between the two models is often how many CALs are required for the Server/CAL model.

License Requirements

Windows Server Standard

Wendy will stay with Windows Server Standard as the operating system for the two new servers (both of which have two processors and will never run more than two virtual instances on each machine at any point in time), so she orders two licenses with Software Assurance for Windows Server Standard through Microsoft Volume Licensing, one license for each server (since one license covers two processors and allows her to run up to two virtual instances). Her users are already covered by Windows Server CALs, so she just needs the licenses for the processors on the server. Wendy picks Standard edition because she does not plan on running Windows Server on more than the permitted four virtual machines (two on each server) immediately and in the future. If she were planning on running a highly virtualized deployment, she would have considered the Datacenter edition, which allows for unlimited virtual instances.

SharePoint Server

To meet their server license requirement, Wendy orders one SharePoint Server License and Software Assurance Pack through Microsoft Volume Licensing and assigns the license to the server.

SharePoint Server Standard CALs

Wendy orders SharePoint Server Standard CALs with Software Assurance for each of their 120 users.

SharePoint Server Enterprise CALs

Because Trey Research executives are committed to providing BI across the organization, they buy SharePoint Server Enterprise User CALs with Software Assurance for all 120 users in addition to the required SharePoint Server Standard CALs.

Microsoft Volume Licensing Product Terms Explained

SQL Server Standard

Wendy has her Microsoft reseller quote the price of four SQL Server Standard core licenses (one for each core in the server device) compared to one SQL Server Standard server license plus 120 SQL Server User CALs. As it turns out, the cost for eight core licenses is more than the cost for one server license plus 120 CALs.

Considering this, you might expect her to choose the Server/CAL model. This is where Wendy's involvement in the other IT initiatives on her list pays off. After Trey Research adds an external website, it will have hundreds of external users and devices accessing SQL Server data, so it will need to license SQL Server on a per-core basis. Knowing this, she decides to purchase the eight SQL Server Standard core licenses with Software Assurance now, which can help save the company money in the long term.

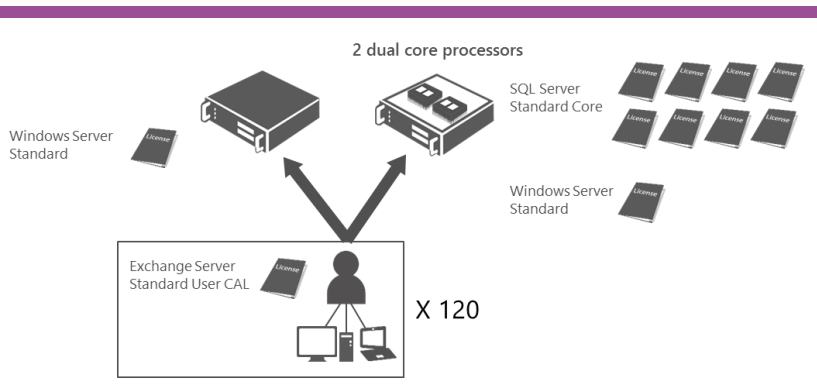


Figure 5

License Order Summary

Product	Quantity	Ordered Through
Windows Server Standard (L&SA)	2	Microsoft Volume Licensing
SharePoint Server (L&SA)	1	Microsoft Volume Licensing
SharePoint Server Standard User CAL (L&SA)	120	Microsoft Volume Licensing
SharePoint Server Enterprise User CAL (L&SA)	120	Microsoft Volume Licensing
SQL Server Standard Core Two-Pack (L&SA)	4	Microsoft Volume Licensing

Microsoft Volume Licensing Product Terms Explained

Quick Facts: OSEs

An operating system environment (OSE) is the computing environment on the physical machine (physical OSE) or virtual machine (virtual OSE) where the operating system and applications run.

Licensing Model Summary: Management Servers

You need a Management License for each managed OSE. Separate Management Server software licenses are NOT required.

Initiative 6: IT Management

Now that the employees of Trey Research have a lot of foundational technology to help them be more efficient and successful, Wendy is researching the best way to ensure that their devices stay up to date, healthy, and manageable. Naturally, she considers how technology can help, starting with finding the right tools to centrally manage their IT infrastructure. Microsoft System Center fits the bill. It provides a comprehensive solution to assess, deploy, and update Windows clients, servers, and devices across the IT environment.

To license System Center, which is under the Management Servers licensing model, you must acquire and assign the appropriate Management License (ML) for the device or OSE that will be managed. Included with the ML are the rights to run the corresponding Management Server Software. Separate Management Server software licenses are NOT required. When managing OSEs of the server type, such as Windows Server, you need a Server Management License (Server ML) for each managed OSE on a device.

When managing OSEs of a non-server type, such as the Windows desktop operating system, you need a client ML for each managed OSE on a device. Two types of client MLs are available: OSE MLs and User MLs:

- ▶ **OSE client MLs:** You need one OSE client ML for each OSE that you want to manage. If you use OSE client MLs, you do not need to worry about who is using the device on which the OSE resides.
- ▶ **User client MLs** are used to license managing any number of client OSEs a person uses. If you manage the client OSEs by user, then any user who accesses the managed OSEs needs a user client ML.

Budgets are tight, and Wendy's top priority is for her IT staff to centrally manage the employee's PCs and smartphones. She decides not to include managing their server OSEs at this point knowing that she can add server management later by ordering Server MLs.

Wendy already has a server that she can use that is licensed with Windows Server Standard, allowing her to run up to two virtual instances at a given time, so she does not need to purchase a Windows Server license. She also already has Windows Server CALs for all of the users who will be accessing the server.

License Requirements

System Center Client ML

Much like when deciding between device CALs and user CALs, Wendy decides to go with user client MLs with Software Assurance for each employee because the company has fewer users than devices. This permits managing any client OSE on any device Trey Research's employees are using.

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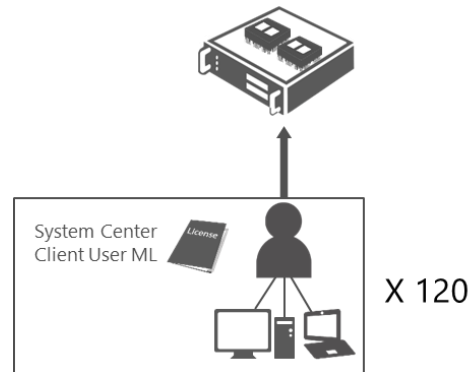


Figure 6

License Order Summary

Product	Quantity	Ordered Through
System Center Client User ML (L&SA)	120	Microsoft Volume Licensing

Additional Resources

Microsoft Volume Licensing website: Learn about your options for acquiring licenses and Software Assurance through Microsoft Volume Licensing at www.microsoft.com/licensing.

Microsoft Product Licensing website: Get product licensing details and briefs and download the current Microsoft Volume Licensing Product Terms document at www.microsoft.com/licensing/products/products.aspx.

Microsoft Online Services: Find information about Microsoft products delivered as a subscription service hosted by Microsoft at www.microsoft.com/licensing/online-services/default.aspx.

Microsoft Volume Licensing Service Center (VLSC): Track license orders, activate Software Assurance benefits, and download licensed software at <https://www.microsoft.com/licensing/servicecenter/home.aspx>.

CAL Guide: Learn more about Client Access Licenses at www.microsoft.com/resources/sam/lic_cal.msp.

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