Microsoft Volume Activation 2.0 at University of Cincinnati

What is the difference between MAK and KMS activation and how it is used?

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General Microsoft Volume Activation 2.0 FAQ

What is Volume Activation 2.0?

Volume Activation 2.0 is Microsoft’s replacement to the old Volume License Key that was previously used for activating Microsoft products for volume license customers. Volume Activation 2.0 consists of two methods for activating Microsoft products, Multiple Activation Key (MAK) and Key Management Server (KMS). Each activation method is independent of the other and both have their own pros and cons.

What Microsoft Products use Volume Activation 2.0?

Volume license editions of Windows Vista (including Windows Server 2008) and above along with Microsoft Office 2010 uses Volume Activation 2.0.

Retail version of Windows Vista and above and Microsoft Office 2010 do NOT use Volume Activation 2.0.

What is Multiple Activation Key (MAK) Activation?

MAK Activation is very similar in concept to the old Volume License Key (VLK) used in Windows XP and Office 2007. Each volume license customer gets one MAK key for use on all of their installations of that product. However, unlike the old VLK method there are only a finite number of activations available for any specific MAK key. For example, a corporation with 500 employees may be given a MAK key with only 500 activations available. This activation limit was imposed in order to combat software piracy that was common with the old VLK.

When MAK activation is performed, the product trying to activate will contact Microsoft directly with various information such as the productions installation ID and the product key used for activation. Microsoft will then respond back to that product saying whether or the activation is valid (this includes checking if that particular MAK key has reached its activation limit or not). If the activation was success, then that product is considered “Genuine".
What are the Pros and Cons of MAK Activation?

Pros

. Similar to the previous VLK activation method
. Requires activation only one time
. Does not require periodic access to the corporate LAN

Cons

. Input of a product key is required
. The MAK key could run out of activations
. The MAK could be leaked and result in being blacklisted.
. Could require that the product be rekeyed if the MAK is blacklisted

When Should MAK Activation Be Used?

MAK activation should only be in circumstances where the computer in question will not be on the corporate network for more than 180 days.

What is Key Management Server (KMS) Activation?

KMS activation is a method of activating volume license products that does not require any communication with Microsoft. A corporation that uses KMS activation would have at least one server setup as a “KMS Host”. This host is configured in a special way to automatically validate the activation of supported Microsoft products on that corporate LAN. This method of activation does not require any data to be sent to Microsoft, no product key is required, and no MAK activations are used.

Unlike MAK activation which only has to activate one time, KMS activated products must periodically contact the corporations KMS Host in order to “reactivate”. If a KMS activated product does not reactivate with the KMS Host within 180 days of the last reactivation, then the functionality of the product could be interrupted.
What are the Pros and Cons of KMS Activation?

Pros

. No product key is required
. Will not be blacklisted
. Does not consume MAK activations
. No limit on number of activations
. Completely transparent to the end user

Cons

. Require at least periodic access to the corporate LAN

When Should KMS Activation Be Used?

KMS Activation should be used in circumstances where the computer will have constant or periodic access to the corporate LAN. This includes physical access (through a wired connection), wireless access (through a wireless connection), and remote access (through a VPN connection). If the computer will be unable to access the corporate network for longer than 180 days, then KMS activation should not be used.

How is Volume Activation 2.0 Implemented at University of Cincinnati

Volume or Retail?

UC is a mixed environment in that there are both volume and retail version of Windows Vista, Windows 7, and Office 2010 used on our network.

However, all media sold in the bookstores are retail editions and therefore have a unique retail product key assigned to each CD/DVD. The instructions in this document only pertain to volume license editions of Windows Vista, Windows Server 2008, Windows 7, Windows Server 2008 R2, and Office Professional 2010.
KMS Activation

UC utilizes KMS activation for volume license editions of Windows Vista and later along with Office 2010. The hostname for UC’s KMS Host is ucapmeiw11.ad.uc.edu and it listens on the default port, TCP 1688. There is an SRV record in AD’s DNS server for the KMS hosts. These SRV records will tell AD joined machines where they can find the KMS server.

If the computer is not joined to AD, then an administrator will have to explicitly tell the computer what the hostname of UC’s KMS Host is. Please refer to the Appendix at the end of this document for these instructions.

MAK Activation

UC utilizes MAK activation for all volume license editions of Windows Vista and later along with Office 2010. However, this is not the preferred method of activation due to the added complexity of actually requiring product, the limit on the number of MAK activations, and the complexity of managing these activations.

Windows Operating System and Office Activation Scenarios

**It is not required that a computer be joined AD in order to use KMS**

Computer always on the UC network
KMS activation should always be used, since the computer can always talk to UC’s KMS Hosts.

Laptop used for working on and off campus
KMS activation should always be used since the computer will periodically be on the UC network.

Computer that is never physically on the UC Network, but will occasionally VPN into UC
KMS activation should still be used since the user will periodically be connected to one of the VPN services at UC.

Microsoft’s activation service.
Computer is never physically on the UC Network and will never use any UC VPN service
MAK activation should be used since there is no way for the computer talk to UC’s KMS Hosts.
Office 2010 Gotchas

Students, faculty, and staff have obtaining Office 2010 for use on their personal computers; purchasing the media from the bookstore. The version they can purchase from the bookstore is a retail version and comes with its own retail key that is unique to each CD/DVD.

Appendix

Appendix A: Common Windows Operating System Activation Commands

All command must be run from an elevated command prompt

To display detailed license information for the current activation:

> cscript c:\windows\system32\slmgr.vbs -dlv

To install a new product key or replace and existing key (where <product key> is the key you want to install:

> cscript c:\windows\system32\slmgr.vbs -ipk <product key>

To activate windows:

> cscript c:\windows\system32\slmgr.vbs -ato

To manually specify the hostname and port number for UC's KMS host:

> cscript c:\windows\system32\slmgr.vbs –skms ucapmeiw11.ad.uc.edu:1688
   If command above doesn’t work they use try the following:
   cscript c:\windows\system32\slmgr.vbs –skms 10.23.1.58:1688
Appendix B: Common Usage Scenarios for Windows Activation Commands at UC

Using KMS Activation for Microsoft Windows When Computer is joined to AD

No special instructions are needed. Volume License editions of Windows Vista or later will automatically activate with UC’s KMS Host once the machine is joined to AD.

Using KMS Activation for Microsoft Windows When a Computer is NOT joined to AD.

1. Install the OS as normal
   a. If prompted for a product key, then do not provide one and just click “Next”

2. Manually specify the KMS Hosting with the following command:

   > cscript C:\Windows\System32\slmgr.vbs -skms ucapmeiw11.ad.uc.edu:1688

3. Manually activate windows to make sure activation is successful

   > cscript C:\Windows\System32\slmgr.vbs –ato

Using MAK activation

1. Install the OS as normal

2. When prompted for a product key, enter the MAK key you retrieved from the bookstore.

Switching from MAK Activation to KMS Activation on an AD joined Computer

1. Obtain the appropriate KMS Client Setup Key for your version of Windows from


2. Issue the following command to tell Windows to activate with KMS (substitute <product key> for the key obtain from step 1):

   > cscript C:\Windows\System32\slmgr.vbs -ipk <product key>

3. Issue the following command to activate windows manually to verify you are using KMS:

   > cscript C:\Windows\System32\slmgr.vbs -ato
Switching from MAK Activation to KMS Activation on a Computer NOT joined to AD


2. Issue the following command to tell Windows to activate with KMS (substitute <product key> for the key obtain from step 1):

   > cscript C:\Windows\System32\slmgr.vbs -ipk <product key>

3. Issue the following command to manually specify the hostname of UC’s KMS Host:

   > cscript C:\Windows\System32\slmgr.vbs –skms ucapmeiw11.ad.uc.edu:1688

4. Issue the following command to activate windows manually to verify you are using KMS:

   > cscript C:\Windows\System32\slmgr.vbs -ato

Appendix C: Common Microsoft Office 2010 Activation Commands

All commands must be run from an elevated command prompt from within the Office 2010 installation directory. The default install directory is “C:\Program Files\Microsoft Office\Office14”. If 32-bit Office is installed on 64-bit Windows, then the default installation directory will be “C:\Program Files (x86)\Microsoft Office\Office14”.

To display license information for installed product keys:

   > cscript ospp.vbs /dstatus

To display license information for installed licenses:

   > cscript ospp.vbs /dstatusall
To install a new product key (where <product key> is the new key you want to install):

> cscript ospp.vbs /inpkey:<product key>

To uninstall an installed product key (where <partial key> can be found by running ‘cscript ospp.vbs /dstatus’)

> cscript ospp.vbs /unpkey:<partial key>

To manually specify the hostname for UC’s KMS Host:

> cscript ospp.vbs /sethst:ucapmeiw11.ad.uc.edu

To activate Office:

> cscript ospp.vbs /act

**Appendix D: Common Usage Scenarios for Microsoft Office 2010 Activation Commands at UC.**

All commands must be run from an elevated command prompt from within the Office installation directory. The default install directory is “C:\Program Files\Microsoft Office\Office14”. If 32-bit Office is installed on 64-bit Windows, then the default installation directory will be “C:\Program Files (x86)\Microsoft Office\Office14”.

Using KMS Activation for Microsoft Office 2010 When Computer is joined to AD

No special instructions are needed. Volume License editions of Microsoft Office 2010 will automatically activate with UC’s KMS Host if the machine is joined to AD

Using KMS Activation for Microsoft Office 2010 When a Computer is NOT joined to AD

1. Install the Microsoft Office 2010 as normal

2. Manually specify the KMS Hosting with the following command:

> cscript ospp.vbs /sethst:ucapmeiw11.ad.uc.edu

3. Manually activate Office to make sure activation is successful:

> cscript ospp.vbs /act
Using MAK activation

1. Install Office 2010 as normal

2. When prompted for to activate and/or a product key, enter the MAK key you retrieved from the UC Bookstore.

Switching from MAK Activation to KMS Activation on an AD joined Computer

1. Obtain the appropriate KMS Client Setup Key for your edition of Microsoft Office 2010 from

2. Issue the following command to tell Office 2010 to activate with KMS (substitute <product key> for the key obtain from step 1):
   > cscript ospp.vbs /inpkey:<product key>

3. Issue the following command to activate Office 2010 manually to verify you are using KMS:
   > cscript ospp.vbs /act

Switching from MAK Activation to KMS Activation on a Computer NOT joined to AD

1. Obtain the appropriate KMS Client Setup Key for your edition of Microsoft Office 2010 from

2. Issue the following command to tell Windows to activate with KMS (substitute <product key> for the key obtain from step 1):
   > cscript ospp.vbs /inpkey:<product key>

3. Manually specify the KMS Hosting with the following command:
   > cscript ospp.vbs /sethst:ucapmeiw11.ad.uc.edu

4. Issue the following command to activate Office 2010 manually to verify you are using KMS:
   > cscript ospp.vbs /act

Appendix E: Common KMS Server activate clients in multiple domains.

Yes, the KMS Client activation is supported in multi-domain environment in which the KMS host belongs to one domain and needs to cater to the clients in others. This is done by adding others domain entries into the Key Management Server “DNSDomainPublishList”