BICOMMANDLINECONVERTER

Black Ice Software

MSI Installation Guide for Network Administrators

Table of Contents

Introduction

The MSI installer for BiCommandLineConverter designed for large scale deployment of BiCommandLineConverter in Active Directory environments. The MSI installer can install BiCommandLineConverter in silent mode without user interaction and provides custom installation for users.

The BiCommandLineConverter MSI installer can either be installed using command line parameters
or using Group Policy settings.

With the Group Policy Settings the BiCommandLineConverter recommended deployment method is assigning to computer and not publishing or assigning to users.

For Citrix VDI deployment, a special installer is required. You can request a special installer from sales@blackice.com. Please note: VDI deployment is not supported with individual license keys.

Caution: Before proceeding to install BiCommandLineConverter MSI all other BiCommandLineConverter version must be uninstalled from the computers where the MSI will be installed.

Requirement

.NET framework 4.8

Command Line Installation

Installing the BiCommandLineConverter on VDI

The BiCommandLineConverter can be installed on Azure VDI, AWS VDI, VMware VDI, or any VDI system from the master image.
The base requirement for **licensing** of the BiCommandLineConverter is the **BiCommandLineConverter Special Installer** with the licensing mechanism designed for VDI. The MSI or Interactive BiCommandLineConverter Special Installer can be requested from Black Ice Software Sales sales@blackice.com.

The Interactive or MSI BiCommandLineConverter Special Installer for VDI is not available for a single license and is not available from the online store only directly from Black Ice Software sales.

Installing the BiCommandLineConverter on Citrix VDI

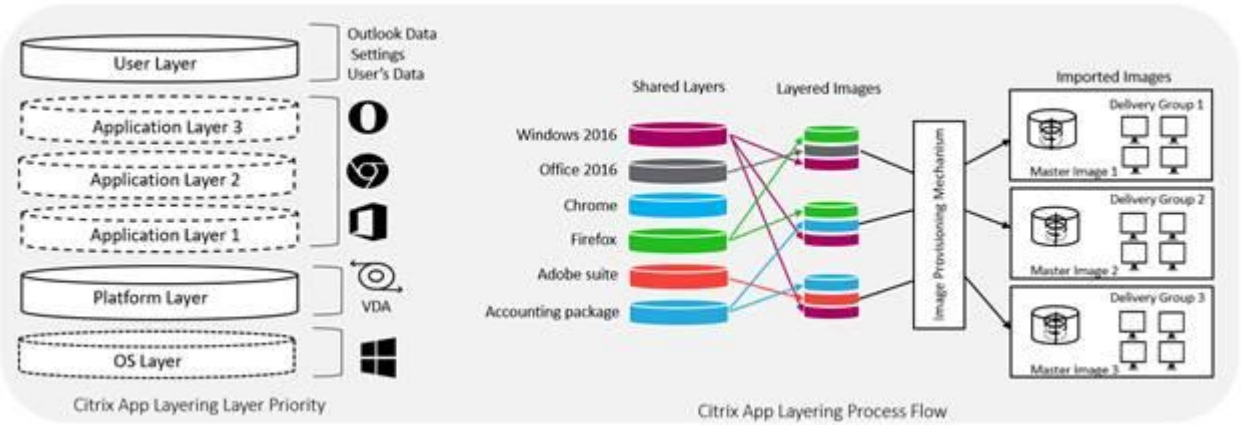
Installing the BiCommandLineConverter on Citrix VDI for Citrix Virtual Apps and Desktops.

The diagram below illustrates the Citrix App Layering. The **Citrix App Layering** actually puts **applications** on a plane separate from the OS and splits the **application** into three main **layers**. Each **layer is** stored as a virtual disk. The **base layer** contains the **OS itself**.

The BiCommandLineConverter should be **installed** and activated/registered on the **OS layer,** otherwise the BiCommandLineConverter will deactivate as soon as the desktop is delivered to users.
An **alternative** solution is to install the BiCommandLineConverter on the Master Image and **activate/register** on the **Master Image**. Installing the BiCommandLineConverter on the Master image could be cumbersome and time consuming. The BiCommandLineConverter should **not** be **installed** and **activated/registered** on the **Application Layer**.

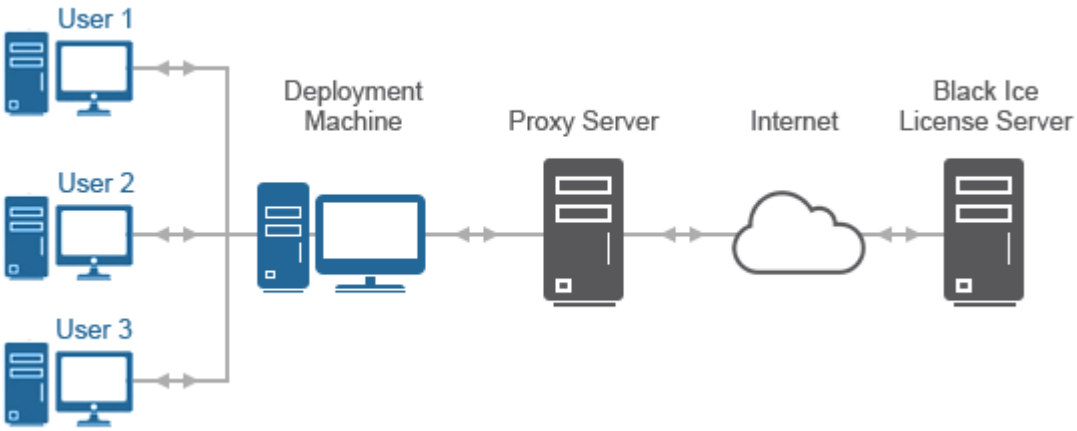
For the available installation parameters and examples, please see:
Available Parameters of the MSI install
Examples for Command Line installation

For Citrix VDI deployment, a special installer is required. You can request a **special installer** from sales@blackice.com. **Please note:** VDI deployment is not supported with individual license keys.



Registering through a Proxy server

In a secured environment where computers have no active Internet connection or Port 443 is being blocked by a firewall, the product can be registered through a **proxy server** with the **PTYPE parameter**.



Available options:

1. **Automatic Proxy setting**
   The Automatic Proxy uses the system proxy settings. When the Automatic Proxy setting is selected, the product uses the proxy IP address and port number configured in the *Control Panel > Internet Options > Connections > LAN Settings > Proxy Server area or in the Internet Explorer > Internet Options > Connections > LAN Settings > Proxy Server* area.

   Parameter: PTYPE=1
   Optional parameters: PIP, PPORT, PUSER, PPW

   NOTE: The registration process cannot read the Proxy Username and Proxy User password from the Windows system. If the Proxy server is using user authentication, the Username and Password must be specified by using the PUSER and PPW parameters.

To use authentication for the Proxy Server connection, please use the PTYPE=2 (HTTP proxy) or PTYPE=3 (SOCKS proxy) options.

2. **HTTP Proxy option**
   Use the HTTP proxy option to configure the HTTP Proxy IP Address and port number manually. The HTTP proxy server receives HTTP requests from the Black Ice Printer Driver during registration and license validation and then forwards the requests to licenseserver.blackice.com. The user needs to specify the Proxy IP address and port. The default port is 8080.

   Parameter: PTYPE=2
   Required parameters: PIP, PPORT
   Optional parameters: PUSER, PPW

NOTE: If the Proxy server is using user authentication, the Username and Password must be specified by using the PUSER and PPW parameters.

3. **SOCKS Proxy option**
   Use the SOCKS proxy option to configure the Proxy IP address and port number manually. SOCKS proxy servers establish a TCP connection to licenseserver.blackice.com and forward TCP messages from the Black Ice Printer Driver during registration and license validation. The user needs to specify the Proxy IP address and port. The default port is 1080.

   Parameter: PTYPE=3
   Required parameters: PIP, PPORT
   Optional parameters: PUSER, PPW

   NOTE: Please make sure what type of proxy is using the Proxy server. For example: If the proxy server using HTTP proxy, then use the PTYPE=2 parameter.

   NOTE: If the Proxy server is using user authentication, the Username and Password must be specified by using the PUSER and PPW parameters.

For more information about how to register the Printer Driver through a Proxy server, please see the Available Parameters of the MSI install section.

Available Parameters of the MSI install

BiCommandLineConverter can be installed using the following command:

NOTE: If the parameter value has **space** characters, then it is required to use the quotation marks (") on the beginning and end of the value.

msiexec /i "BiCommandLineConverter.msi" /q TARGETDIR="C:\Black Ice\BiCommandLineConverter" REGNUM=XXXXX-XXXXXXXX-XXXXXXXXXX

Parameters	*Meaning*
/i **Can be used for updating the BiCommandLineConverter.**	Installs the product. Command line only
/x	Uninstalls the product. Command line only
(optional) **/q** **Can be used for updating the BiCommandLineConverter.**	Silent installation that displays no user interface. Command line only
(optional) **/l* log.txt** *(lowercase "L")* **Can be used for updating the BiCommandLineConverter.**	Logs the MSI system calls to install the product to the "C:\temp\log.txt" file. Command line only

	For more information about the /l *(lowercase "L")* parameter, please refer to the Quick Reference Guide for Windows MSI installers section.
(optional) **REGNUM=**	Serial number received during purchase. Use REGNUM parameter for automatically registering the product for every user on the computer. **Note: The REGNUM parameter is registering the product for every user on the computer.**
(optional) **TARGETDIR=**	Set target installation directory. If this value is not specified, the product will be installed to "\Program Files\Black Ice Software LLC\BiCommandLineConverter"
(optional) **TRANSFORMS=** **Can be used for updating the BiCommandLineConverter.**	Install BiCommandLineConverter with a transformation file.
(optional) **LICSER=** **Can be used for updating the BiCommandLineConverter.**	License server domain name. "licenseserver.blackice.com"
(optional) **CPORT**=0 (default) Port number (0, 65536) **Can be used for updating the BiCommandLineConverter.**	Client port is out going port to connect to the Black Ice License server. Default and Recommended port parameter value is 0. When using port parameter CPORT=0, the installation automatically selects a TCP/IP port which is currently not used by any other process on the system. When using a specific port number for CPORT parameter, the installation uses the specified port on the system/PC for the registration. If the specified port is used by another process on the system/PC, the registration will be unsuccessful.
(optional) **SPORT**=1 **Can be used for updating the BiCommandLineConverter.**	The SPORT parameter defines the TCPI/IP port to connect to Black Ice License Server port. Default port is HTTPS port 443 the **SSL parameter must be 1**. Alternatively, the following TCP/IP ports can be used for the registration: 80, 3500, 15000 **NOTE: For using alternative TCP/IP ports (80, 3500, 15000) for the registration set the SSL parameter to 0.**

(optional) **BITRACE=** 0 disables the Trace log (default) 1 enables the Trace log **Can be used for updating the BiCommandLineConverter.**	By Enables detailed Trace log, will logs every event in the Custom Action section of the MSI installation, uninstallation, and registration. For more information about the Trace log and location of the Trace log, please refer to BiCommandLineConverter MSI trace log section.
(optional) **SSL**= 1 enable the SSL (default) 0 disable the SSL **Can be used for updating the BiCommandLineConverter.**	Set SSL parameter used for authentication for connecting to the license server. Parameter value set to 1, if using License Server port 443 for the registration. If the SSL= parameter is not specified, port 443 will be used by default. Parameter value set to 0, if using license server TCP/IP port 80, 3500, 15000 for the registration.
(optional) **PTYPE=** 0: Not using proxy server 1: Attempt to discover automatic proxy settings 2: Use HTTP proxy 3: Use SOCKS proxy **Can be used for updating the BiCommandLineConverter.**	Set proxy server type for the connection. In a secured environment where the port 443 cannot be enabled, the product can be registered through proxy server with the PTYPE parameter. The PTYPE=1 - Using the system proxy settings. (Optional parameters: PIP, PPORT, PUSER, PPW) **NOTE:** Automatic Proxy Configuration (PTYPE=1) uses the proxy settings of Internet Explorer, and it is only able to discover the proxy address and port. The MSI Installer cannot read the User Name and Password of the Proxy Server automatically. Please use (Permit all connection) without user name and password parameter, with the PTYPE=1. If you need **authentication** for the Proxy Server connection, please use the PTYPE=2 (HTTP proxy) or PTYPE=3 (SOCKS proxy) options. The PTYPE=2 – Using HTTP proxy settings (Required parameter: PIP, PPORT, Optional parameter: PUSER, PPW) The PTYPE=3 – Using SOCKS proxy settings (Required parameter: PIP, PPORT, Optional parameter: PUSER, PPW) **NOTE: Please make sure, that what type of proxy is using the Proxy server.**

	For example: If the proxy server using HTTP proxy, then use the **PTYPE=2** parameter.
(optional) **PIP=** **Can be used for updating the BiCommandLineConverter.**	The proxy server host name or IP address **NOTE: The PIP parameter is required, if the server using HTTP (PTYPE=2) or SOCKS (PTYPE=3) proxy settings.**
(optional) **PPORT=** **Can be used for updating the BiCommandLineConverter.**	The proxy server port number. The installation uses the specified port to reach the Proxy server. **NOTE: The PPORT parameter is required, if the server using HTTP (PTYPE=2) or SOCKS (PTYPE=3) proxy settings.**
(optional) **PUSER=** **Can be used for updating the BiCommandLineConverter.**	User name for proxy servers which require authentication. **NOTE: The PUSER parameter is optional, if the server using HTTP (PTYPE=2) or SOCKS (PTYPE=3) proxy settings.** **NOTE:** If the Proxy server and the computer, where you are doing the installation are in the same domain, **please do not use the domain name in the PUSER parameter**.
(optional) **PPW=** **Can be used for updating the BiCommandLineConverter.**	User password for proxy servers which require authentication. **NOTE: The PPW parameter is optional, if the server using HTTP (PTYPE=2) or SOCKS (PTYPE=3) proxy settings.**
(optional) **FORCEU=**	Possible values: 1: Force uninstallation of the BiCommandLineConverter, even if it was registered with a transferable license, and the license cannot be validated with the Black Ice License server. Caution: Upon network problems, this option could result that a transferable license will not be removed properly from the Black Ice License server. This parameter can be used when there is no active internet connection. 0 (default): The uninstaller will notify the user of the occurring errors during the uninstallation.
(optional) **FORCECHECK**= 0: Disabled (default) 1: Enabled.	The FORCECHECK parameter can be used during the uninstallation. This parameter uninstalls the BiCommandLineConverter and forces license type validation (static or transferable). This scenario is recommended, if product was

	initially registered and installed with a static serial number, but after installation the serial number was upgraded and converted to a transferable serial number by the Black Ice Sales team. Using the FORCECHECK parameter will allow the user to transfer the serial number. This parameter requires an active internet connection.
(optional) **NOSERIAL=** 0: Disabled (default). 1: Enabled.	The BiCommandLineConverter can be installed without registration with NOSERIAL=1 parameter. The BiCommandLineConverter cannot be used until BiCommandLineConverter is registered/activated for evaluation or with a license key by the Administrator after the installation.

Quotation Marks for the parameters:

If the parameter value has **space** characters, then it is required to use the quotation marks (") on the beginning and end of the value.

For example:
msiexec /i "BiCommandLineConverter.msi" /q TARGETDIR="C:\Black Ice\BiCommandLineConverter" REGNUM=XXXXX-XXXXXXXX-XXXXXXXXXX

Quotation marks are necessary to make sure the installer will take the value as a single parameter.

NOTE: Please make sure that you use regular double quotation marks. (Type the command directly to CMD, or copy and paste the command from this installation guide, or from Notepad.)

**Note: To connect to the Black Ice License Server (licenseserver.blackice.com) it is required to use secure internet connection (HTTPS) on port 443. The BiCommandLineConverter MSI Installer attempts to reach the Black Ice License Server three times during the registration to avoid momentary internet connection issues.*

NOTE: If REGNUM parameter is not used, the BiCommandLineConverter registers automatically as demo during the installation.

How to install the BiCommandLineConverter silently

To install the MSI installer silently, please open the Command Prompt as Administrator.

BiCommandLineConverter can be installed using the following command:

msiexec /i "<<PATH>>\BiCommandLineConverter.msi" /q TARGETDIR="C:\Black Ice\BiCommandLineConverter" REGNUM=XXXXX-XXXXXXXX-XXXXXXXXXX

NOTE: the XXXXX-XXXXXXXX-XXXXXXXXXX must be the serial number of the customer.
NOTE: If the parameter value has space characters, then it is required to use the quotation marks (") on the beginning and end of the value.

How to update BiCommandLineConverter

One can update Upgrade the BiCommandLineConverter without uninstalling and reinstalling the BiCommandLineConverter.

The upgrade process will keep the Users current configuration of the BiCommandLineConverter.
The BiCommandLineConverter Update does NOT require system restart.

BiCommandLineConverter MSI can be updated by using the following command:
msiexec /i "<<PATH>>\BiCommandLineConverter.msi"

Parameters that Unavailable for the MSI Installer with Update for the BiCommandLineConverter

Please make sure that following parameters are **not used for the BiCommandLineConverter Update**.
The following parameters will be ignored.

Parameters	*Meaning*
(optional) **REGNUM=**	Serial number received during purchase. Use REGNUM parameter for automatically registering the product for every user on the computer. **Note: The REGNUM parameter is registering the product for every user on the computer.**
(optional) **TARGETDIR=**	Set target installation directory. If this value is not specified, the product will be installed to "\Program Files\Black Ice Software LLC\BiCommandLineConverter"

How to uninstall the BiCommandLineConverter silently

The **recommended** command to silently uninstall BiCommandLineConverter:

msiexec.exe /x "<<PATH>>\BiCommandLineConverter.msi" /q

You must use the BiCommandLineConverter.msi file which was used for the installation. For example if BiCommandLineConverter MSI 1.22 is installed on the computer, you must use the same version 1.22 BiCommandLineConverter.msi file for the uninstallation.

Use this command before installing a newer versions or reinstalling previous versions. The above command will work even if there was no prior BiCommandLineConverter msi installation.

Examples for Command Line installation

(Administrator privilege required)

Please run the command line as administrator.

NOTE: If the parameter value has **space** characters, then it is required to use the quotation marks (") on the beginning and end of the value.

Example 1: Install BiCommandLineConverter as Demo, silently, the target directory is C:\Black Ice\BiCommandLineConverter

> **msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q TARGETDIR="C:\Black Ice\BiCommandLineConverter"**

Example 2: Install and register BiCommandLineConverter, silently, the target directory is C:\Black Ice\BiCommandLineConverter

> **msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q TARGETDIR="C:\Black Ice\BiCommandLineConverter" REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx**

Example 3: Install and register BiCommandLineConverter silently and generate log from the installation.

> **msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q /l*v "log.txt" REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx**

Example 4: Install and register BiCommandLineConverter silently to the default target directory into the Program Files folder.

> **msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx**

PowerShell Example (Terminal & Terminal (Admin)):
Example 4: Install and register BiCommandLineConverter silently to the default target directory into the Program Files folder.

> **msiexec.exe /i '"<<PATH>>\BiCommandLineConverter.msi"' /q REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx**

Example 5: Install BiCommandLineConverter silently with a transformation file:

msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" TRANSFORMS=<<PATH>>BiCommandLineConverter.mst /q

Example 6: Install and register BiCommandLineConverter silently using a port 80 to contact the Black Ice License Server, without SSL authentication.

msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx LICSER=licenseserver.blackice.com CPORT=0 SPORT=80 SSL=0

Example 7: Install and register BiCommandLineConverter silently, and generate a trace log from installation. Trace log could be very useful to identify and troubleshoot problems during the installation.

msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx BITRACE=1

Example 8: Install and register BiCommandLineConverter silently, and contact the Black Ice License Server through an automatically discovered proxy server.

msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx PTYPE=1

Example 9: Install BiCommandLineConverter silently without registration. In this case, the BiCommandLineConverter cannot be used until BiCommandLineConverter is registered/activated for evaluation or with a license key by the Administrator after the installation.

msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q NOSERIAL=1

Example 10: Install and register BiCommandLineConverter silently, and contact the Black Ice License Server through a HTTP proxy server.

msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx PTYPE=2 PIP=192.168.0.100 PPORT=8080 PUSER=John.Doe PPW=mypassword

The **PPORT** parameter specifies the HTTP Proxy server port that BiCommandLineConverter will use for connecting to the HTTP Proxy Server.

Please note that most HTTP Proxy Servers by default uses **port 8080**, therefore in most cases, the PPORT should be 8080.
If the specified HTTP Proxy server IP address or the HTTP Proxy server port is incorrect, **error code 57** occurs.
If the **PUSER** or **PPW** (Proxy User / Password) is incorrect **error code 81** occurs.
If the **PUSER** or **PPW** (Proxy User / Password) is **correct** and HTTP Proxy Server cannot connect to the Black Ice License Server, **error code 81** occurs.

Example 11: Install and register BiCommandLineConverter silently, and contact the Black Ice License Server through a SOCKS proxy server.

msiexec.exe /i "<<PATH>>\BiCommandLineConverter.msi" /q REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx PTYPE=3 PIP=192.168.0.100 PPORT=1080 PUSER=John.Doe PPW=mypassword

The **PPORT** parameter specifies the SOCKS Proxy server port that BiCommandLineConverter will use for connecting to the SOCKS Proxy Server.

Please note that most SOCKS Proxy Servers by default uses **port 1080**, therefore in most cases, the PPORT should be 1080.
If the specified SOCKS Proxy server IP address or the SOCKS Proxy server port is incorrect, **error code 57** occurs.
If the **PUSER** or **PPW** (Proxy User / Password) is incorrect **error code 81** occurs.
If the **PUSER** or **PPW** (Proxy User / Password) is **correct** and SOCKS Proxy Server cannot connect to the Black Ice License Server, **error code 81** occurs.

Example 12: Silently uninstall BiCommandLineConverter

msiexec.exe /x "<<PATH>>\BiCommandLineConverter.msi" /q

Example 13: Force uninstallation of the BiCommandLineConverter, even if it was registered with a transferable license, and the license cannot be validated with the Black Ice License server. Caution: Upon network problems, this option could result that a transferable license will not be removed properly from the Black Ice License server. This parameter can be used when there is no active internet connection.

msiexec.exe /x "<<PATH>>\BiCommandLineConverter.msi" /q FORCEU=1

Example 14: Uninstalls the BiCommandLineConverter silently and forces license type validation (static or transferable). This scenario is recommended, if product was initially registered and installed with a static serial number, but after installation the serial number was upgraded and converted to a transferable serial number by the Black Ice Sales team. Using the FORCECHECK parameter will allow the user to transfer the serial number. This parameter requires an active internet connection.

msiexec.exe /x "<<PATH>>\BiCommandLineConverter.msi" /q FORCECHECK=1

Quick Reference Guide for Windows MSI installers

The following section contains information about general parameters, and options which can be used with any Windows MSI installer, including the Black Ice MSI installations.

Applies to Windows ® Installer. V 5.0.7601.23432

msiexec /Option <Required Parameter> [Optional Parameter]

Install Options

</package | /i> <Product.msi>
Installs or configures a product

/a <Product.msi>
Administrative install - Installs a product on the network

/j<u|m> <Product.msi> [/t <Transform List>] [/g <Language ID>]
Advertises a product - m to all users, u to current user

</uninstall | /x> <Product.msi | ProductCode>
Uninstalls the product

Display Options

/quiet
Quiet mode, no user interaction

/passive
Unattended mode - progress bar only

/q[n|b|r|f]
Sets user interface level
n - No UI
b - Basic UI
r - Reduced UI
f - Full UI (default)

/help
Help information

Restart Options

/norestart
Do not restart after the installation is complete

/promptrestart
Prompts the user for restart if necessary

/forcerestart
Always restart the computer after installation

Logging Options

/l[i|w|e|a|r|u|c|m|o|p|v|x|+|!|*] <LogFile> *(lowercase "L")*

i - Status messages
w - Nonfatal warnings
e - All error messages
a - Start up of actions
r - Action-specific records
u - User requests
c - Initial UI parameters
m - Out-of-memory or fatal exit information
o - Out-of-disk-space messages
p - Terminal properties
v - Verbose output
x - Extra debugging information
+ - Append to existing log file
! - Flush each line to the log
* - Log all information, except for v and x options

/log <LogFile> *(lowercase "L")*

Equivalent of /l* <LogFile> *(lowercase "L")*

Update Options

/update <Update1.msp>[;Update2.msp]

Applies update(s)

/uninstall <PatchCodeGuid>[;Update2.msp] /package <Product.msi | ProductCode>

Remove update(s) for a product

Repair Options

/f[p|e|c|m|s|o|d|a|u|v] <Product.msi | ProductCode>

Repairs a product
p - only if file is missing
o - if file is missing or an older version is installed (default)
e - if file is missing or an equal or older version is installed
d - if file is missing or a different version is installed
c - if file is missing or checksum does not match the calculated value
a - forces all files to be reinstalled
u - all required user-specific registry entries (default)
m - all required computer-specific registry entries (default)
s - all existing shortcuts (default)
v - runs from source and recaches local package

Setting Public Properties

[PROPERTY=PropertyValue]

Consult the Windows ® Installer SDK for additional documentation on the command line syntax.

Group Policy / Active Directory Installation

How to create MST (transform file) for GPO deployment

How to use ORCA

How to set up a Group Policy Object for installing BiCommandLineConverter MSI on domain computers automatically

How to upgrade existing installation of BiCommandLineConverter using Group Policy Object

How to uninstall the BiCommandLineConverter MSI from computers with the Group Policy Object

How to create MST (transform file) for GPO deployment

With the help of transformation files (MST), one can customize the BiCommandLineConverter MSI install. Transformation files can be created using the ORCA tool. ORCA is available in the *Windows SDK Components for Windows Installer Developers*.

For more information about ORCA please see the following Microsoft Knowledge Base webpage: http://support.microsoft.com/kb/255905

How to use ORCA

1. Open BiCommandLineConverter.msi with ORCA.
2. Start a new transform by clicking on *Transform\New Transform.*
3. Select *Property* Table from tables (Figure 1).

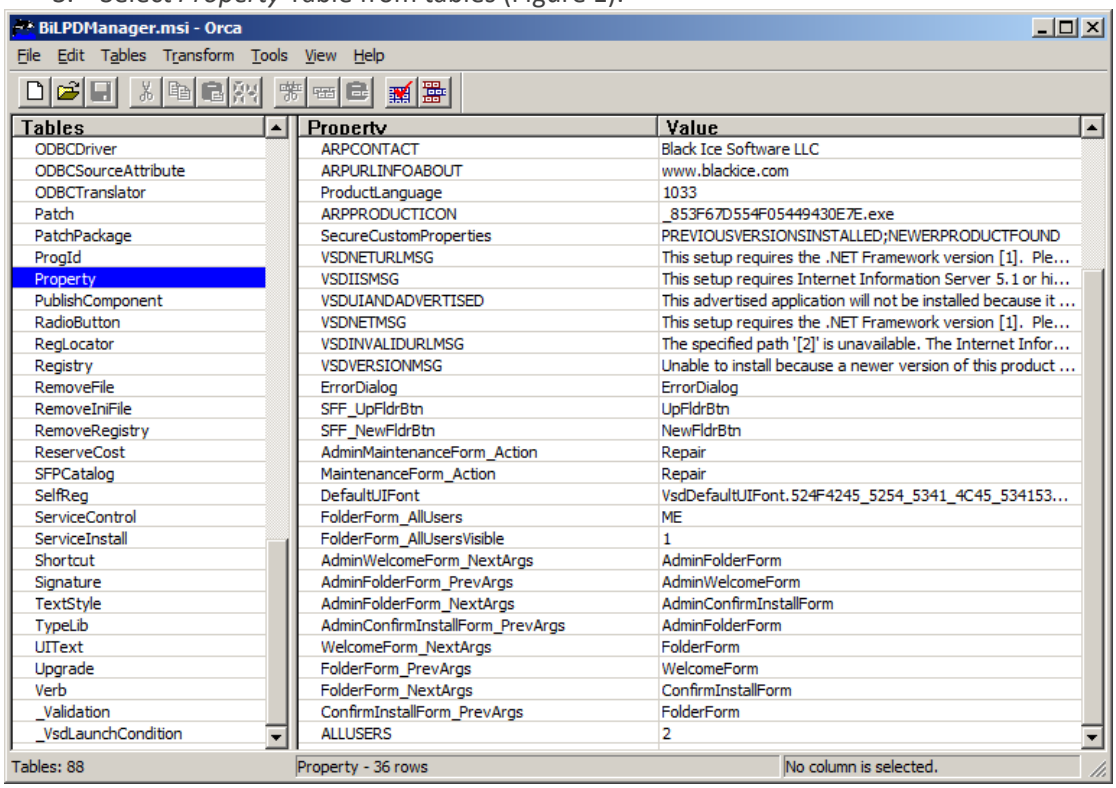


Figure 1

4. From the Table menu, select Add Row to display the Add Row dialog box.
5. Select Property name. You can specify the property names describe above. For example: TARGETDIR, REGNUM.
6. Select Value and enter Property Value.
7. Click OK.
8. Save Transform by clicking *Transform\Generate Transform…*menu.

Assign the transform file(s) in the Group Policy Manager when specifying the deployable software package (MSI).

If installing the BiCommandLineConverter from command line, the transformation file can be entered like this:

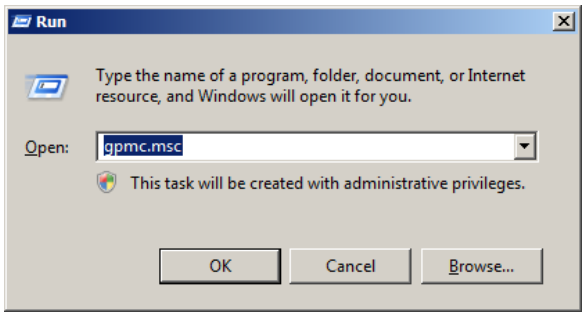
msiexec.exe /i " BiCommandLineConverter.msi" TRANSFORMS=BiCommandLineConverter.mst /q

How to set up a Group Policy Object for installing BiCommandLineConverter MSI on domain computers automatically

1. Copy the Install packages to a network share that **can be accessed from the computers** where the software needs to be installed.

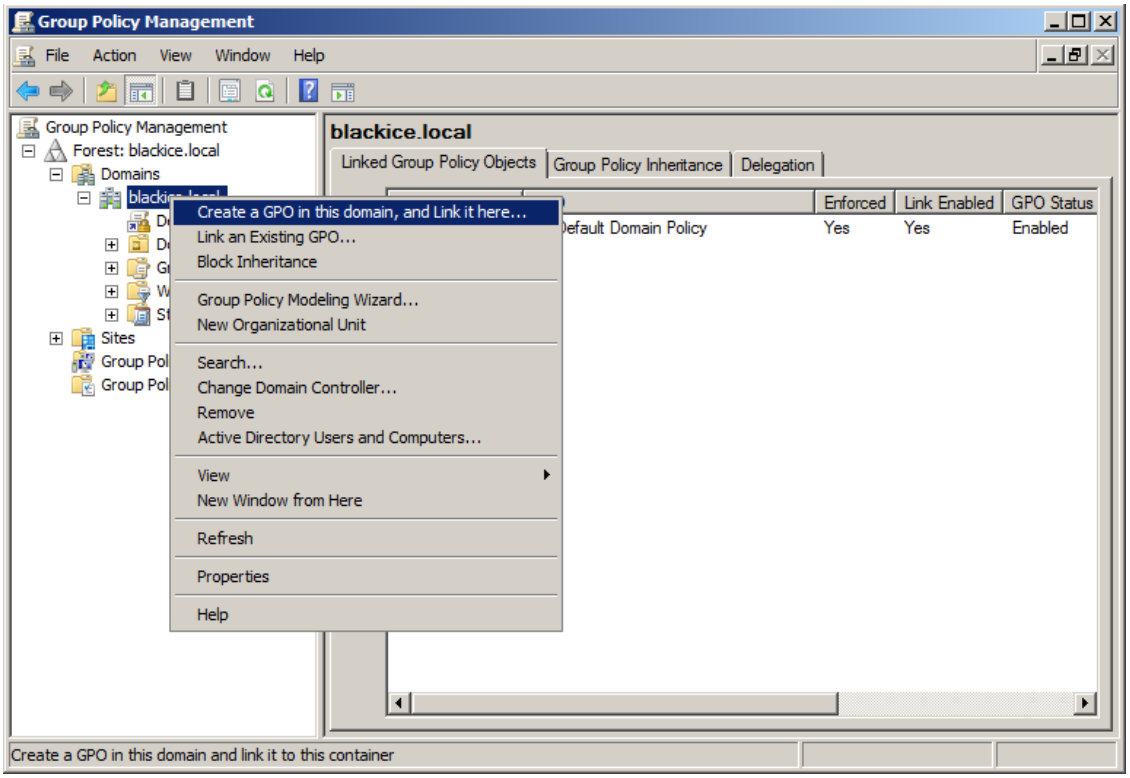
2. To set up a *Group Policy Object, start* the *Group Policy Management console* on a Domain controller computer.

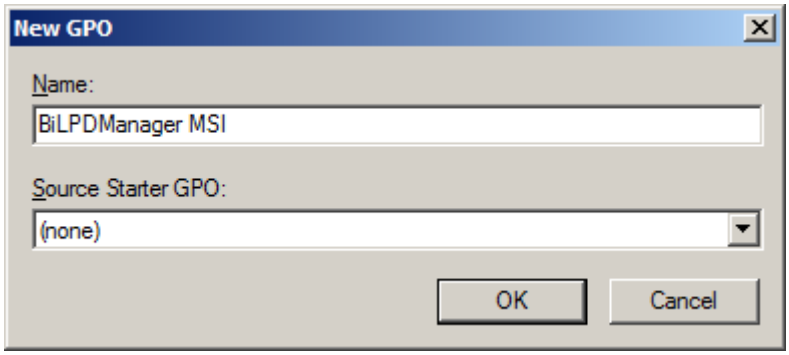
   Run *gpmc.msc*



3. Create a new Group Policy

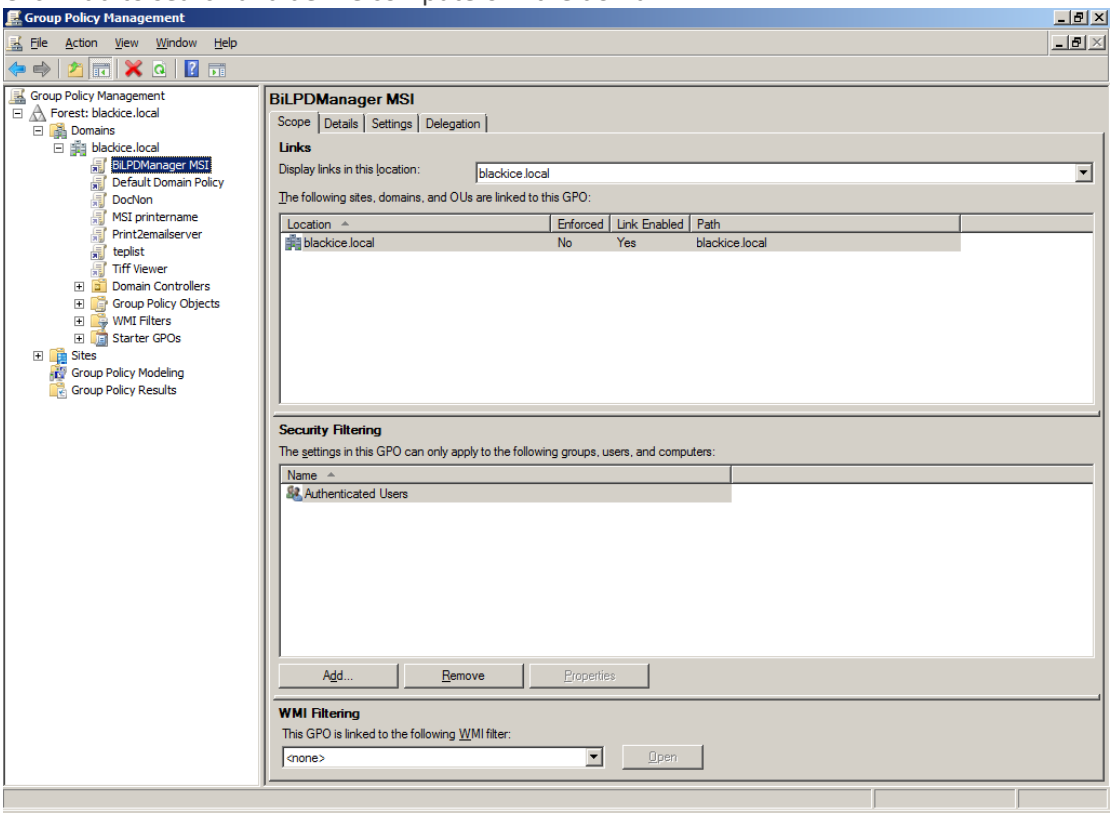
   Left click on the desired Domain and select "*Create a GPO in this domain, and Link it here…".* Define a new GPO by defining the name and press OK.



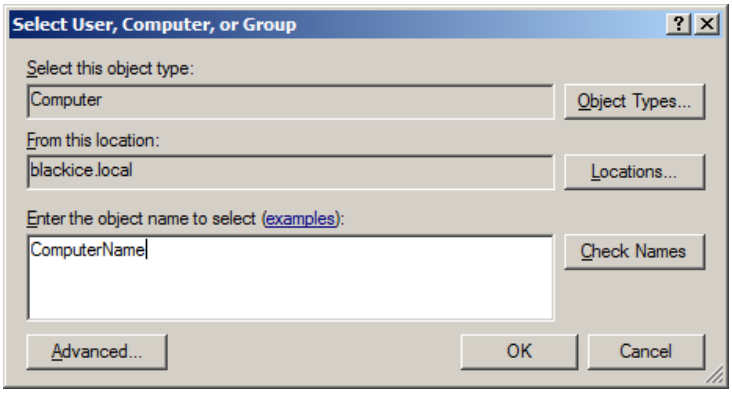


4. Define computers for the GPO.

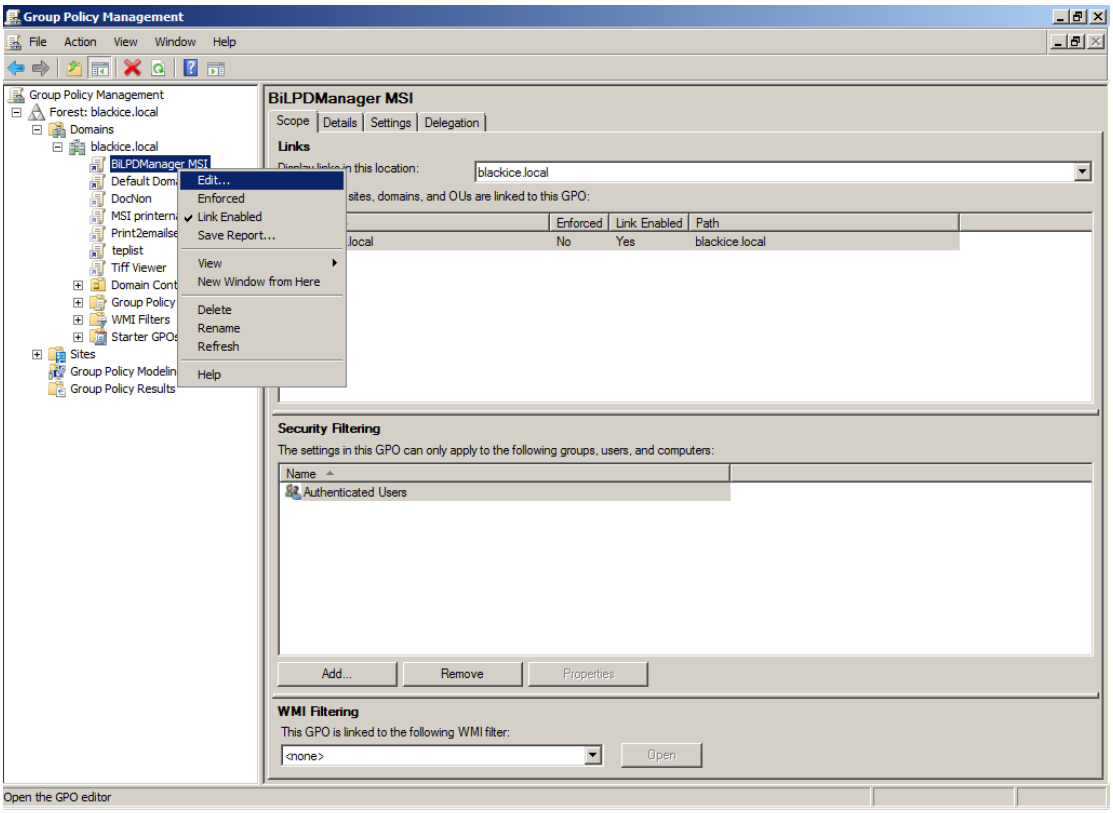
   Remove the default Groups and Users from the **Security Filtering Options**.
   Click **Add** to search and define computers in the domain.



5. Add computers

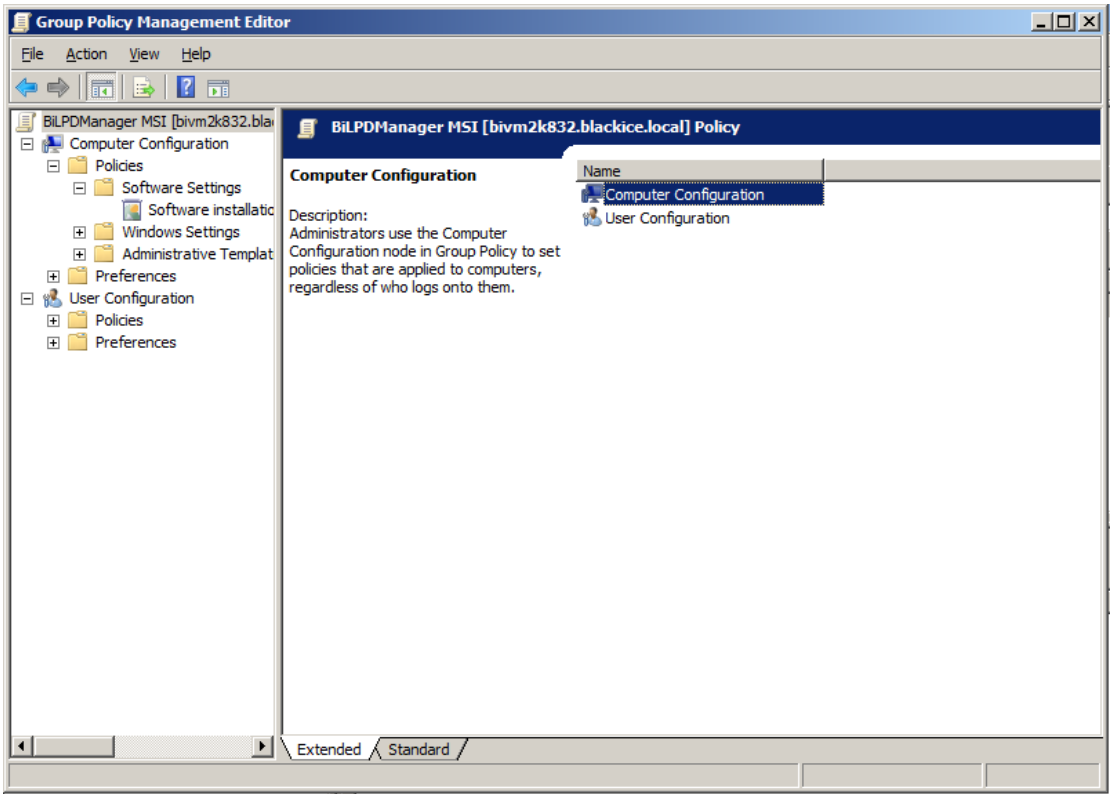


6. Edit Group Policy Object by left clicking on the GPO name and selecting **Edit**.



7. Change Privilege for the installation
   Navigate to: ***Computer Configuration \ Policies \ Administrative Templates \ Windows Components \ Windows Installer.***

   Modify the ***Always install with elevated privileges*** setting to **Enabled**.

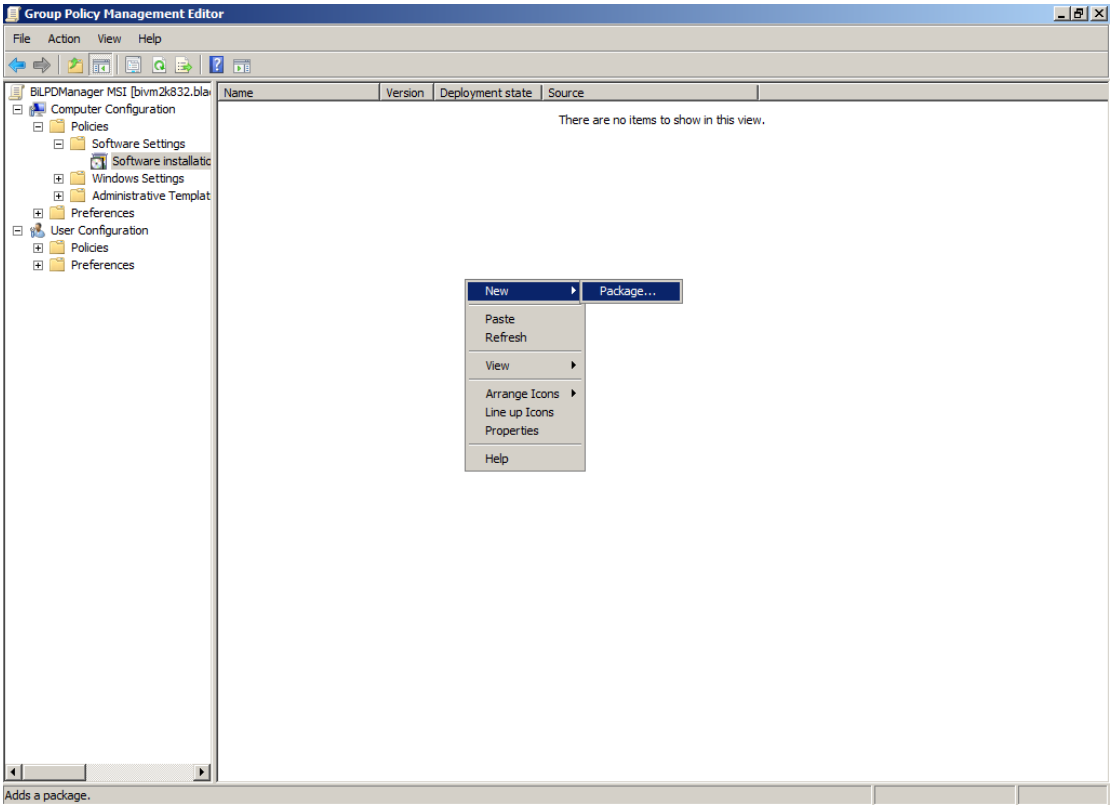


8. Prepare the mst configuration file with ORCA to be used with the install package.

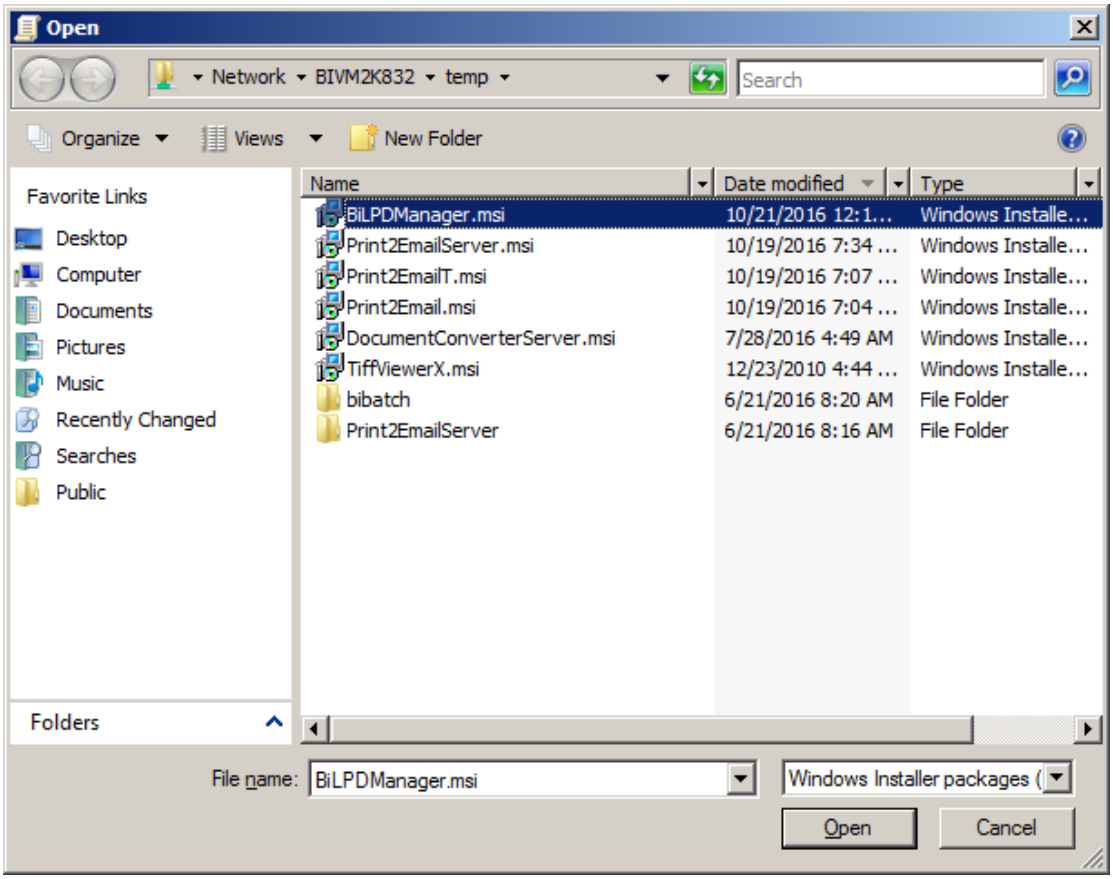
   See the **How to create MST (transform file) for GPO deployment** section of this documentation.

9. Add the BiCommandLineConverter MSI installer package.
   Navigate to: ***Computer Configuration \ Policies \ Software Settings \ Software installation***

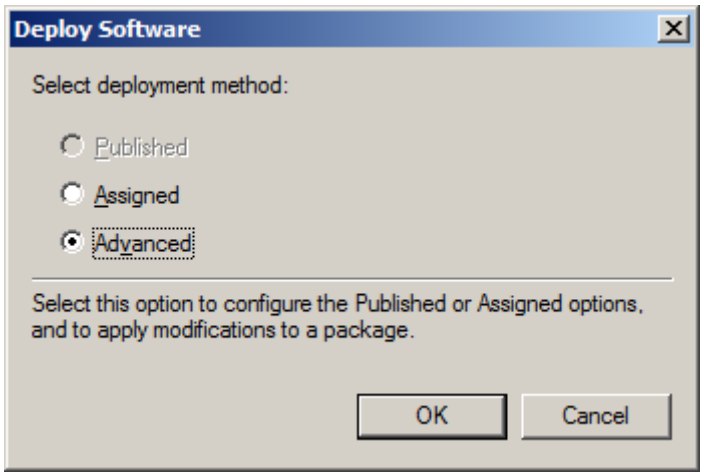
   Left click on the right pane, select **New > Package**



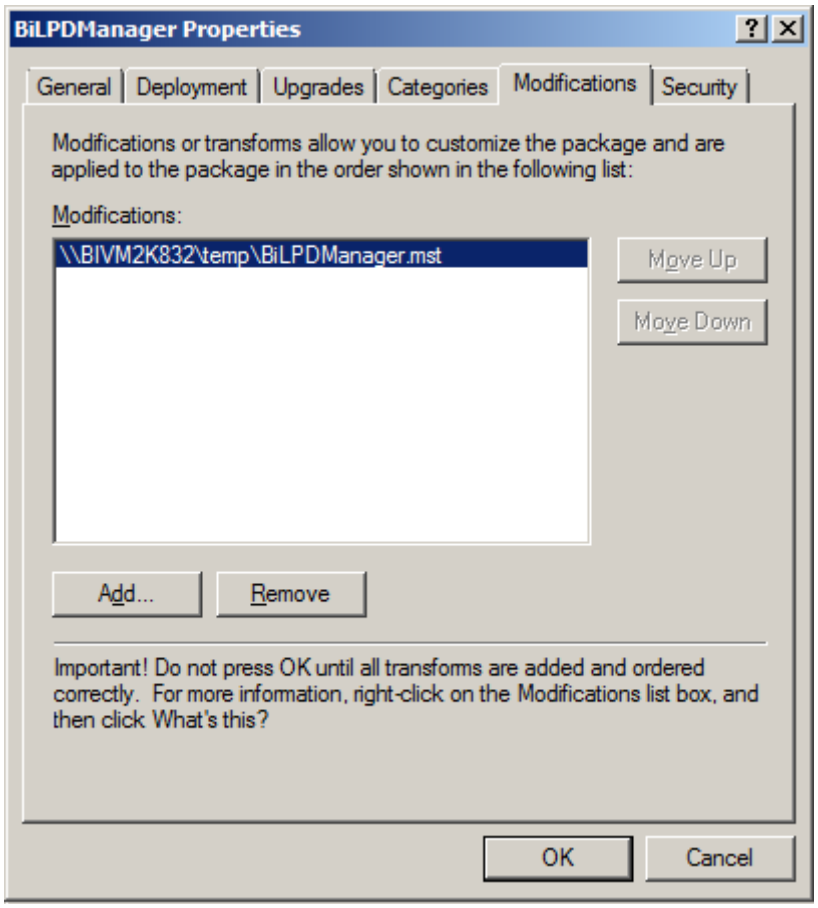
10. **Copy the Install packages to a network share** which is accessible from the computers where the software needs to be installed.



11. Select **Advanced** Software Deployment.

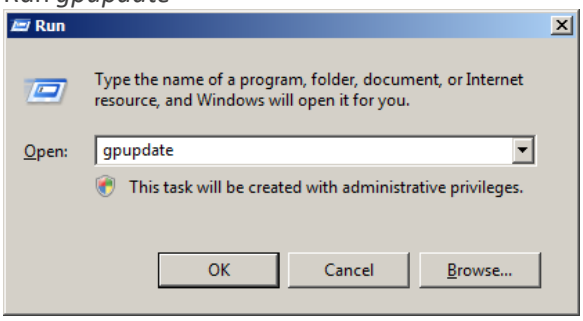


12. On the Modifications tab, please **add the previously created mst** file with the REGNUM and optionally the TARGETDIR or other properties. Click OK.



13. To Update the *Group Policies Object* please run the following command on the

    Run *gpupdate*

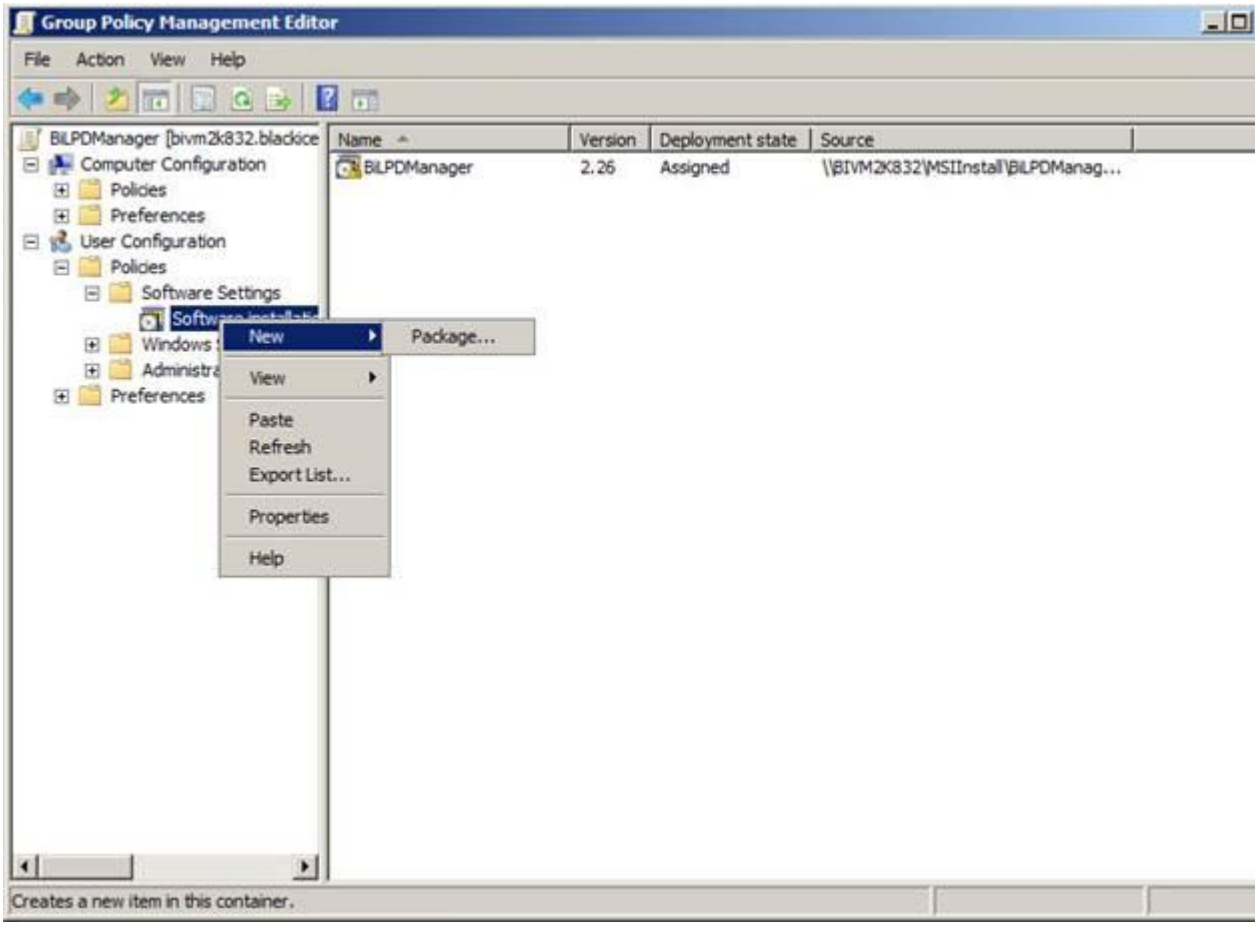


14. Restart the client computers to install the software.

How to upgrade existing installation of BiCommandLineConverter using Group Policy Object

One needs to add the new version of BiCommandLineConverter as a Software Package to the same Group Policy Object where the previous version of BiCommandLineConverter is located.

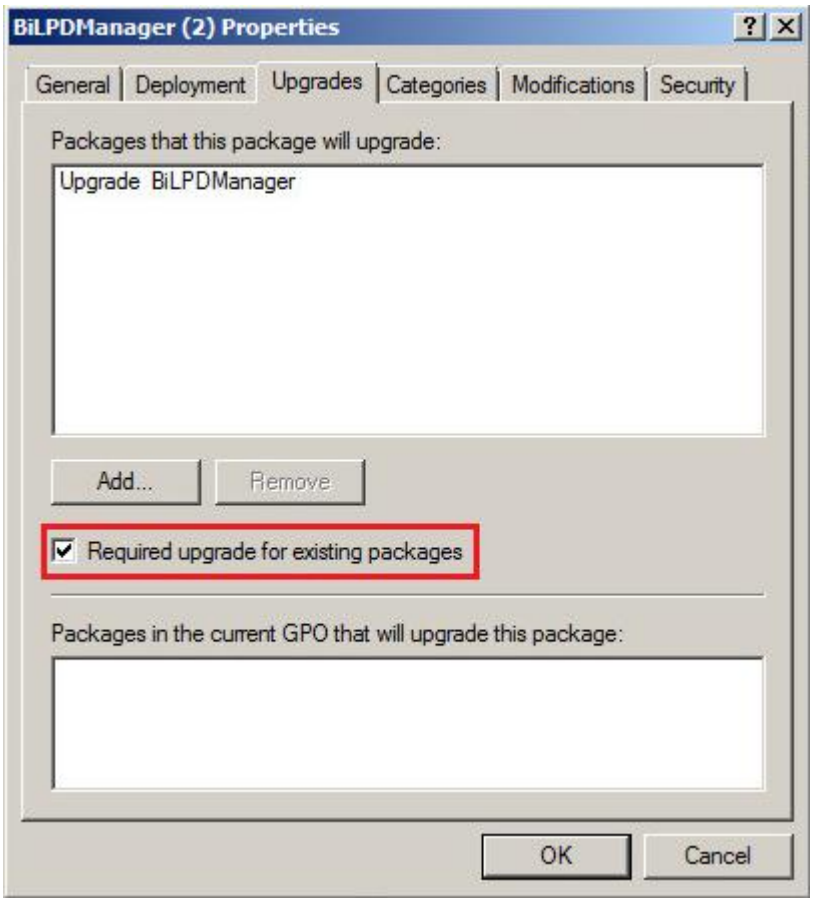
1. Navigate to **Policies > Software Settings > Software installation**



2. Right click in the open area, choose **New > Package...**

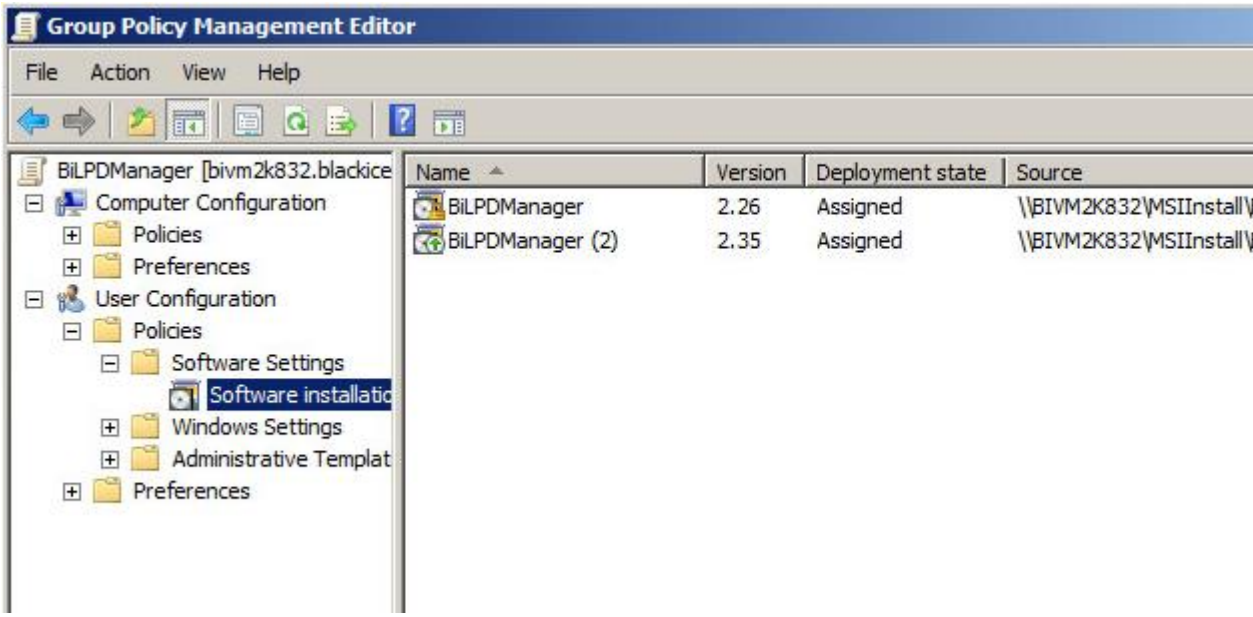
3. Navigate to the new version of the BiCommandLineConverter MSI you want to use to upgrade your existing installations.

4. In the **Upgrades** tab select **"Required upgrade for existing packages".**



The rest of the settings should be the same as the old version of the BiCommandLineConverter software package.

5. When the Group Policy Object configuration is finished the Software installation window should look similar to the picture below:


Group Policy Management Editor
File
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Help
BiLPDManager [bivm2k832.blackice
Computer Configuration
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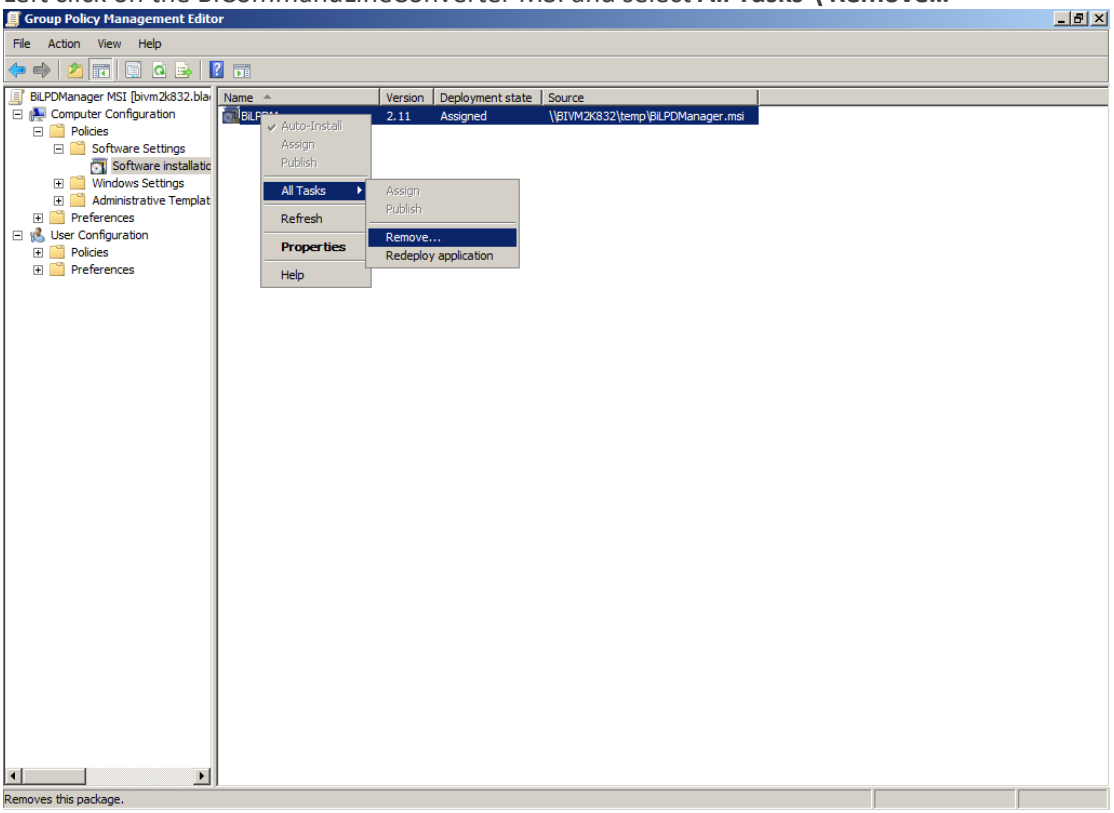
Preferences
User Configuration
Policies
Software Settings
Software installatio
Windows Settings
Administrative Templat
Preferences
Name
Version
Deployment state
Source
BiLPDManager
2.26
Assigned
\\BIVM2K832\MSIInstall\
BiLPDManager (2)
2.35
Assigned
\\BIVM2K832\MSIInstall\

How to uninstall the BiCommandLineConverter with MSI using GPO

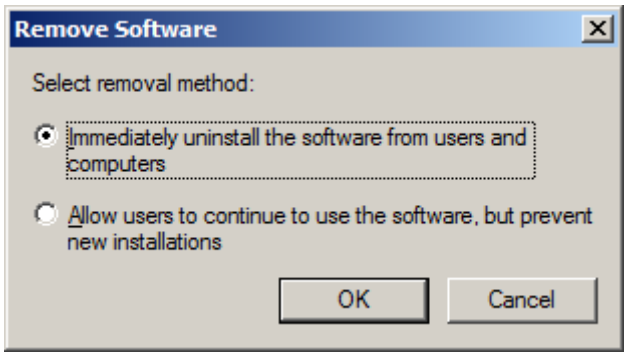
1. Navigate to and Edit the previously created Group Policy Object by left clicking on the GPO name and selecting **Edit**.

2. Select the BiCommandLineConverter MSI installer package.
   Navigate to: ***Computer Configuration \ Policies \ Software Settings \ Software installation***

   Left click on the BiCommandLineConverter MSI and select **All Tasks \ Remove…**



3. Select **Immediately Uninstall the Software from users and computers** option to remove the software from the computers.



4. Restart the client computers to uninstall the software.
   Note: Please make sure the new Group Policy has been updated on the client computers. In certain situations, the client computers might need to be rebooted twice.

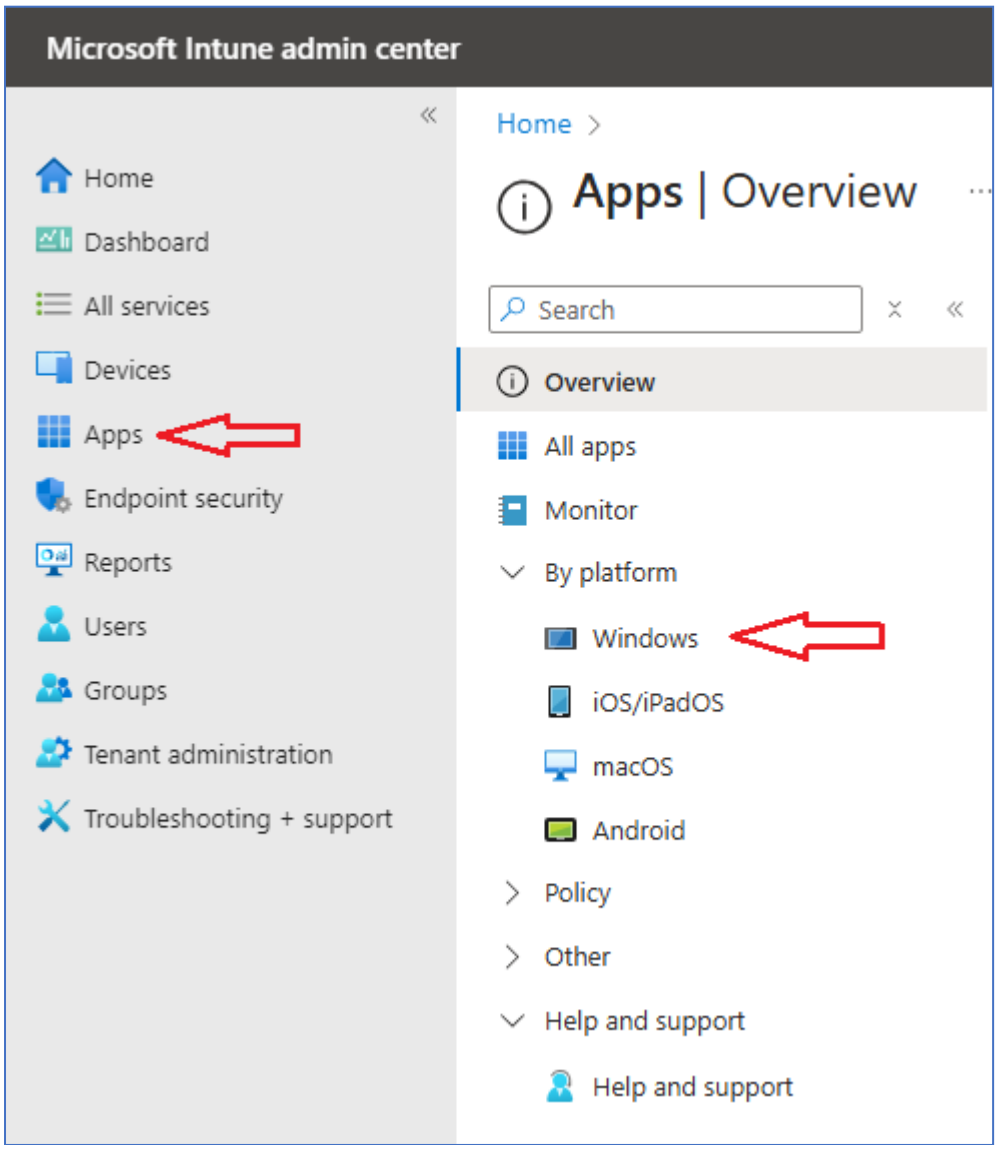
Intune Deployment of product using MSI Packages

This section includes a step-by-step description on how to deploy the MSI package to enrolled users and devices with the help of Microsoft Intune.

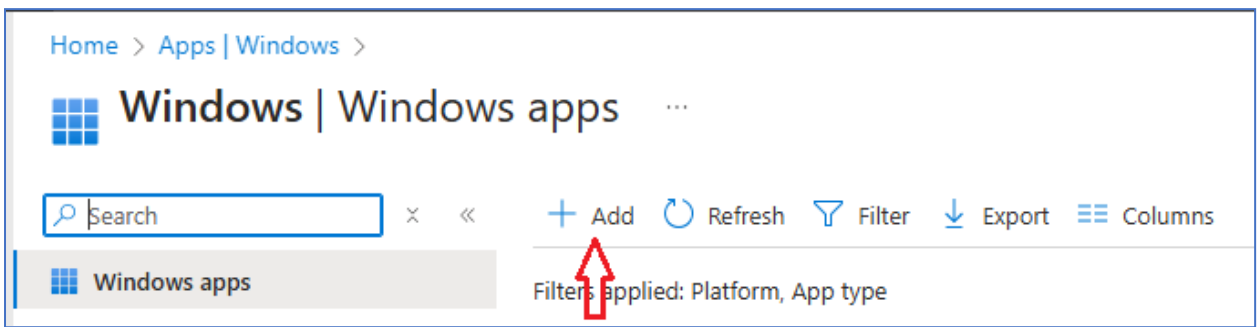
The following section demonstrates how to install any Black Ice product using Intune. We use the Black Ice Printer Driver as an example to show the simplicity of the process.

Install the MSI installer with the "Line-of-business app" option

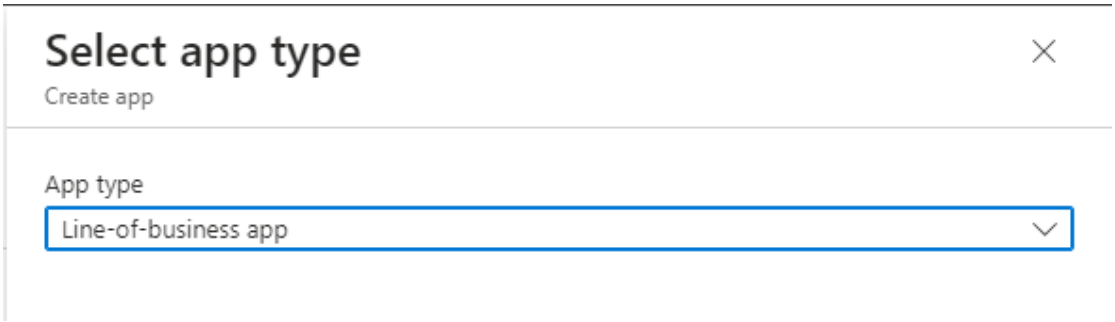
Login to [Microsoft Intune admin center]
Navigate to the Apps -> Windows:



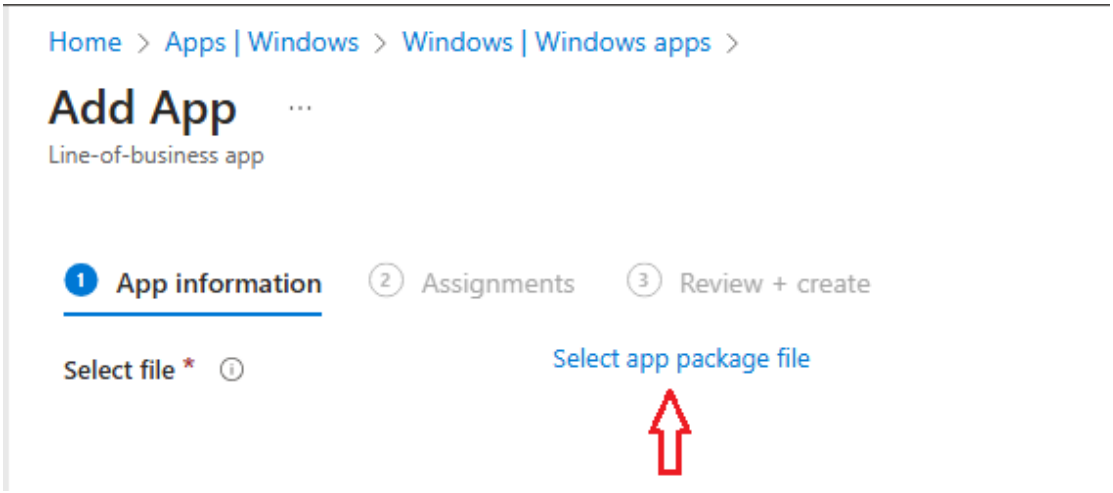
Click on **+Add** to add a new Intune application for deployment.



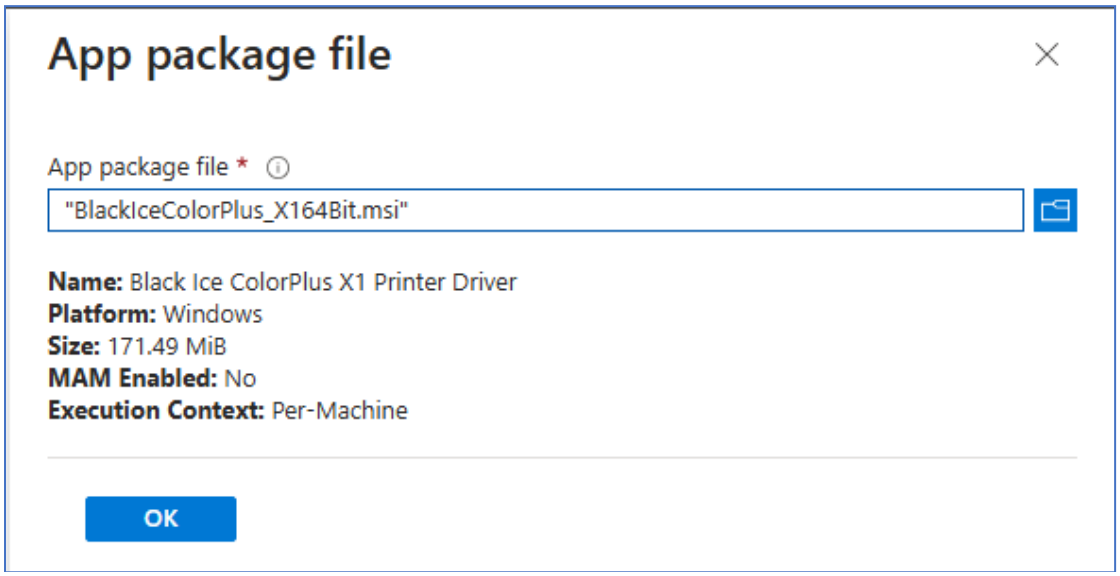
Select the **Line-of-Business app** - App Type drop-down menu from the Add app.



Click on the “Select app package file” to upload the BlackIceColorPlus_X164Bit.msi file to Intune.:

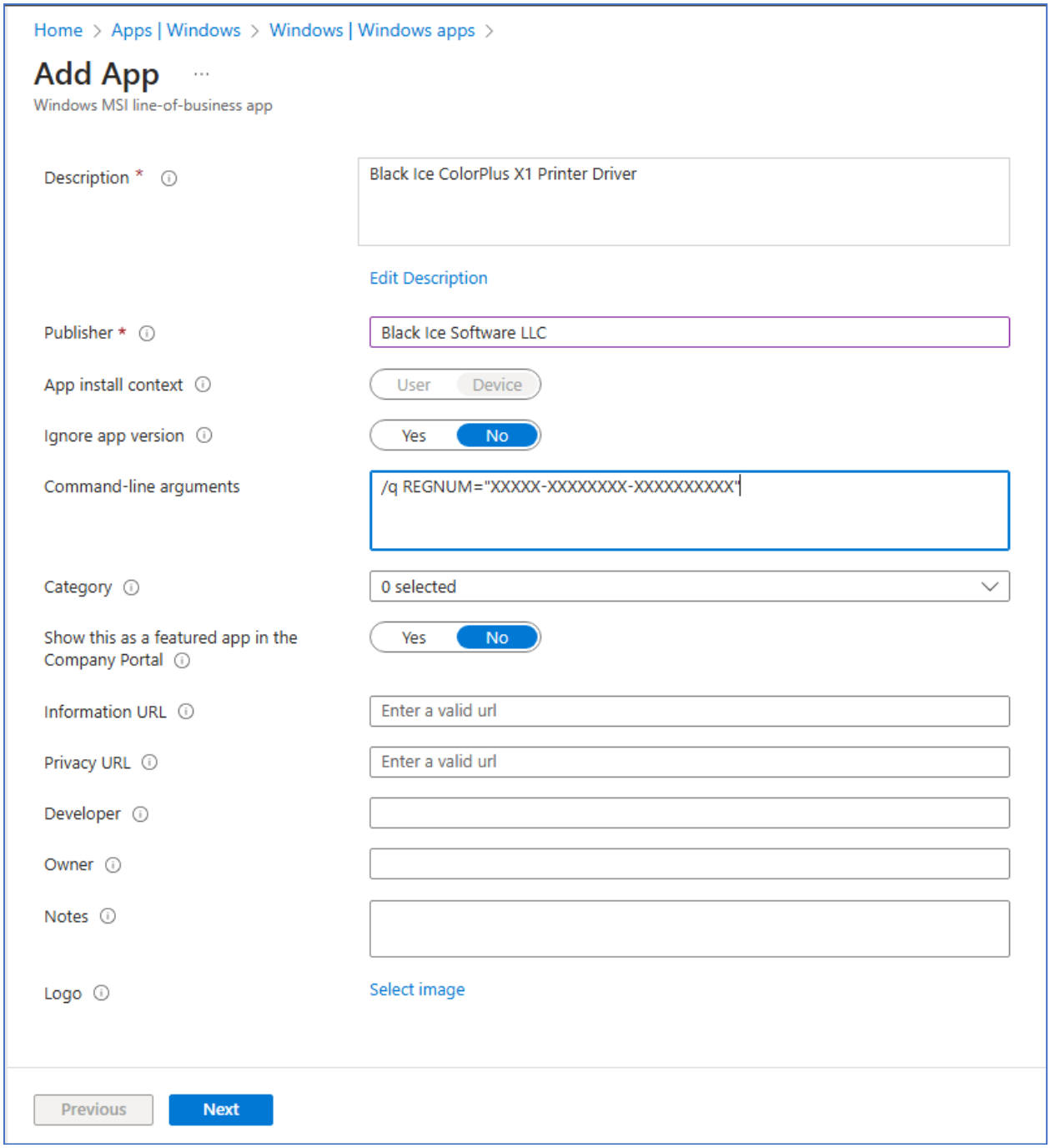


On the App package file, check out the following settings Name:



Click on OK on the App Package file.

Click on the App Information option from Add App in Intune Application Information Details.



Fill in the following information details in App Information.
Command-line Argument: /q REGNUM="XXXXX-XXXXXXXX-XXXXXXXXXX"
Note: the XXXXX-XXXXXXXX-XXXXXXXXXX must be the serial number of the customer.

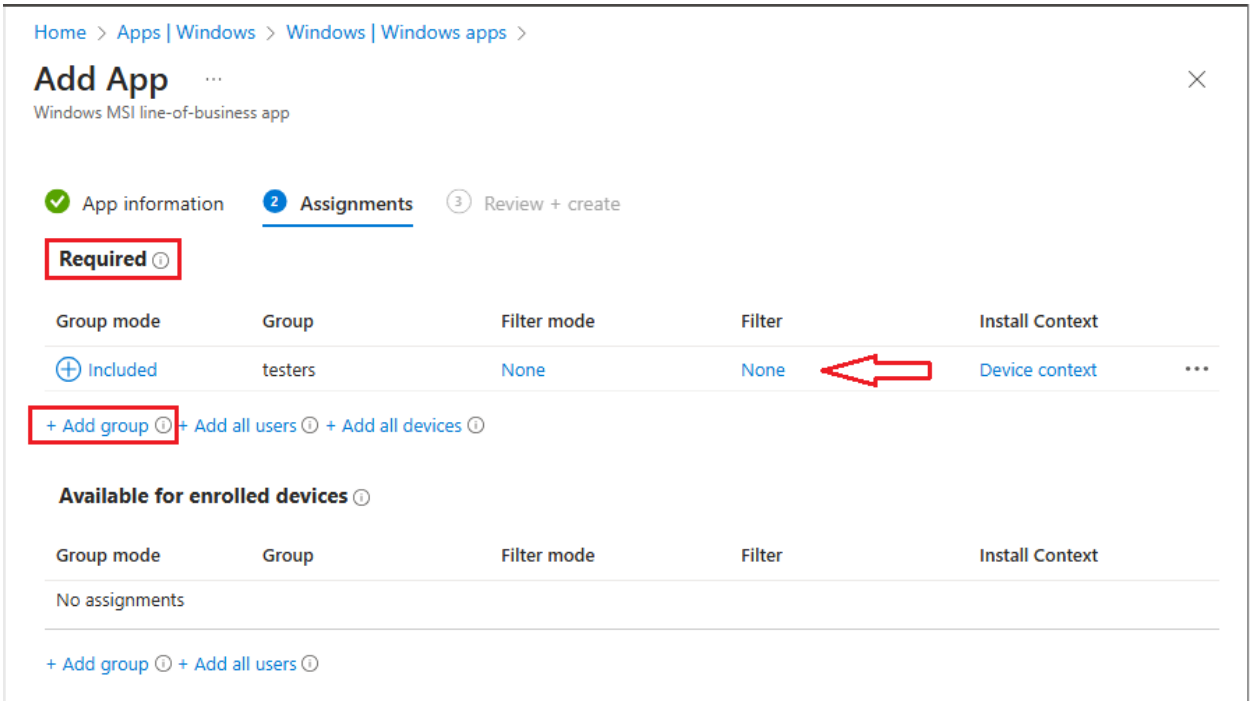
After filling in the information, click the Next option.
The next page will appear for Intune MSI Application Deployment - Assignment Options.

Click on the Add Group button from the Assignment tab of the application created.

Select groups where you want to assign this app from Add Group.
There are 3 (three) Assignment types - Select one assignment type.

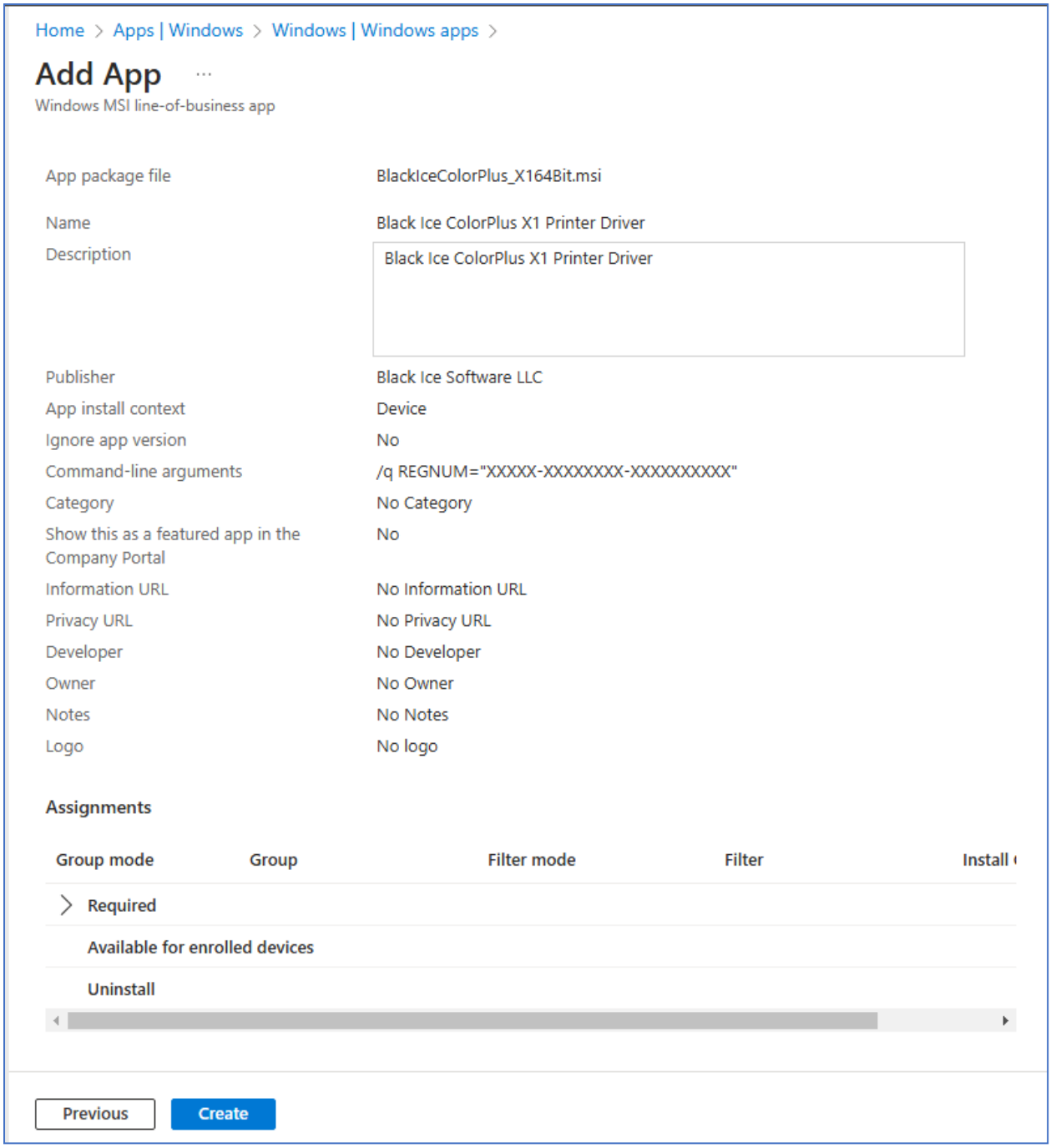
You can deploy the MSI application to **some group of devices** or **users** as required.
The MSI application is per machine then it will get installed in the machine context.
Select Required or Available for Enrolled Devices.
Click on Included Groups from **Add Group**.

Select the groups you want to make this app required or available from Assign.
Click on Select Groups to select a Group for the required assignment from Assign.
Search the Device/user Group in the search option in Select Groups and select the DEVICE/USER group that you want to deploy.



Click **Next** to save the Assignment.

On the following page, Review the values and settings you entered for the app.

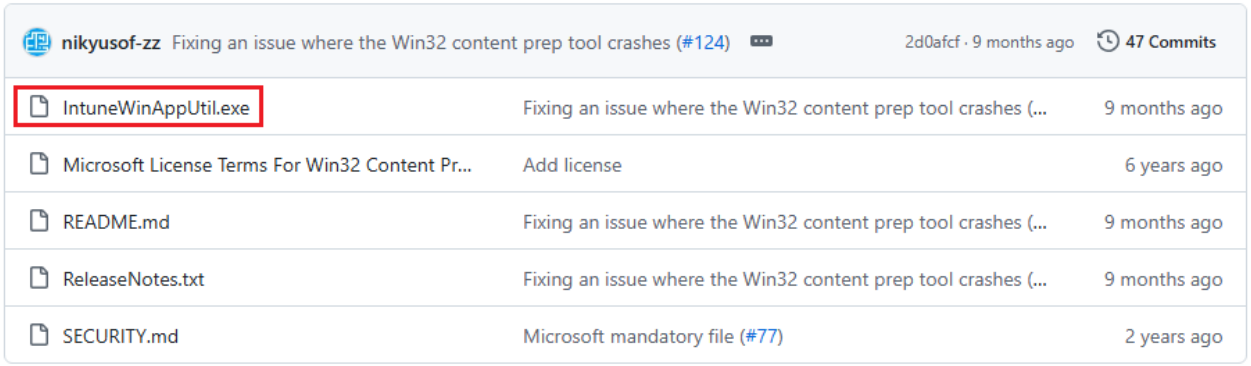


When you are done, click **Create** to add the app to Intune.

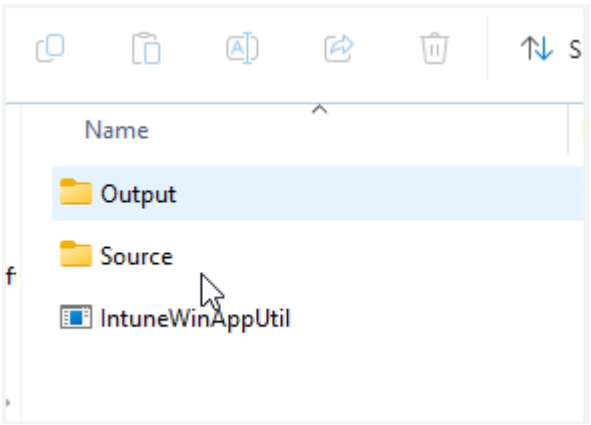
Install the MSI installer with the Windows app (Win32) option

First, the .MSI package needs to be converted into an .INTUNEWIN format so it can be uploaded to Intune.

Download the Microsoft Win32 Content Prep tool from Microsoft's official link. This tool is essential for converting your .MSI files into .INTUNEWIN format, suitable for Intune.



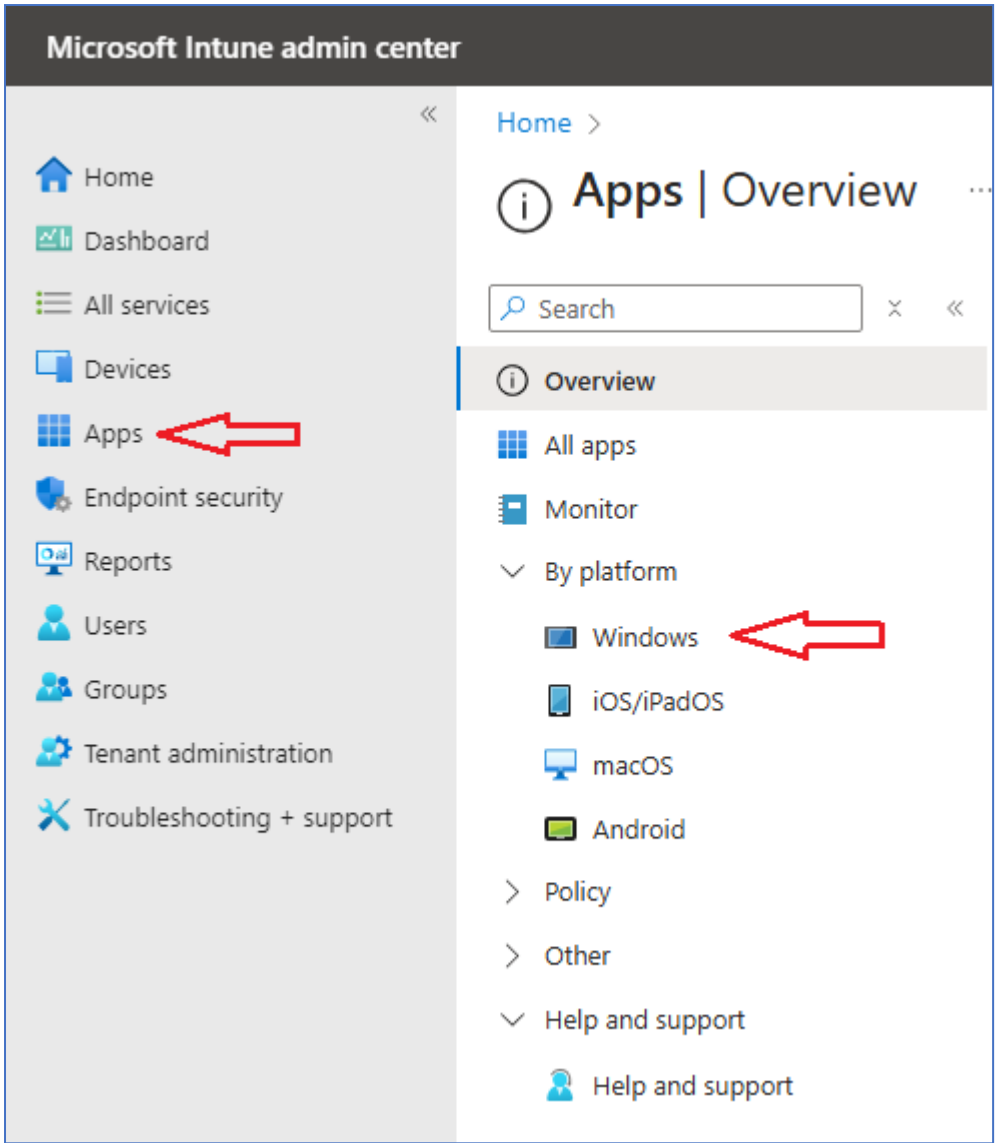
Organize Your Files: Create a dedicated folder, such as 'Microsoft Win32 Content Prep', and within it, establish Source and Output subfolders for better management of the original and converted files.



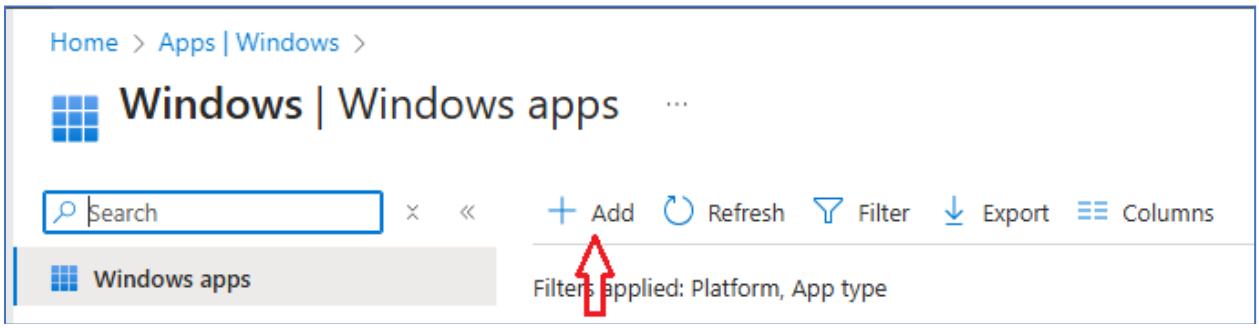
Run the **IntuneWinAppUtil** tool with the following parameters:
IntuneWinAppUtil.exe -c "C:\Microsoft Win32 Content Prep\Source" -s "BlackIceColorPlus_X164Bit.msi" -o "C:\Microsoft Win32 Content Prep\Output"

The **Output** folder contains the .INTUNEWIN file for installation.

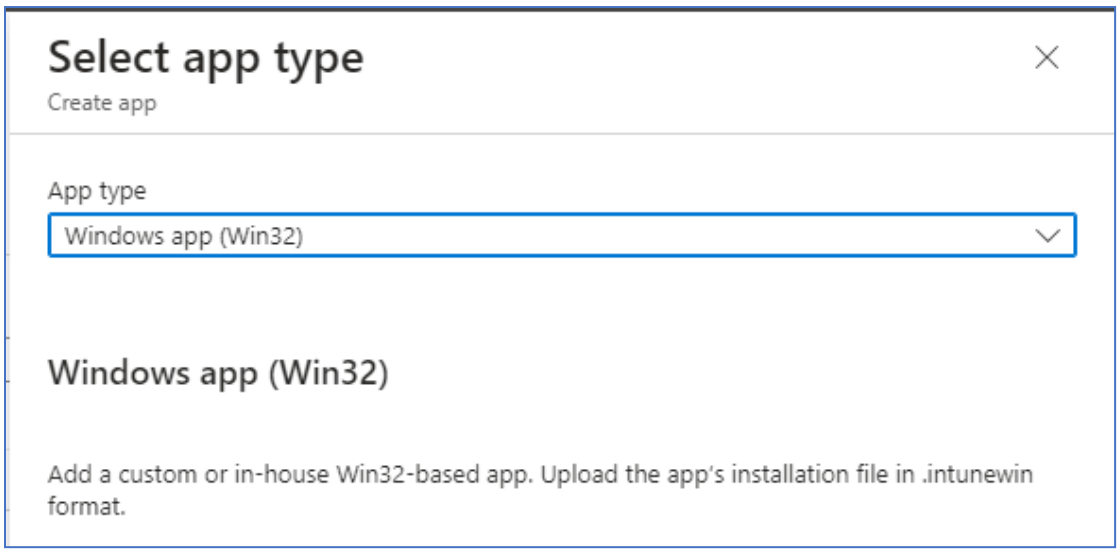
Login to Microsoft Intune admin center
Navigate to the Apps -> Windows:



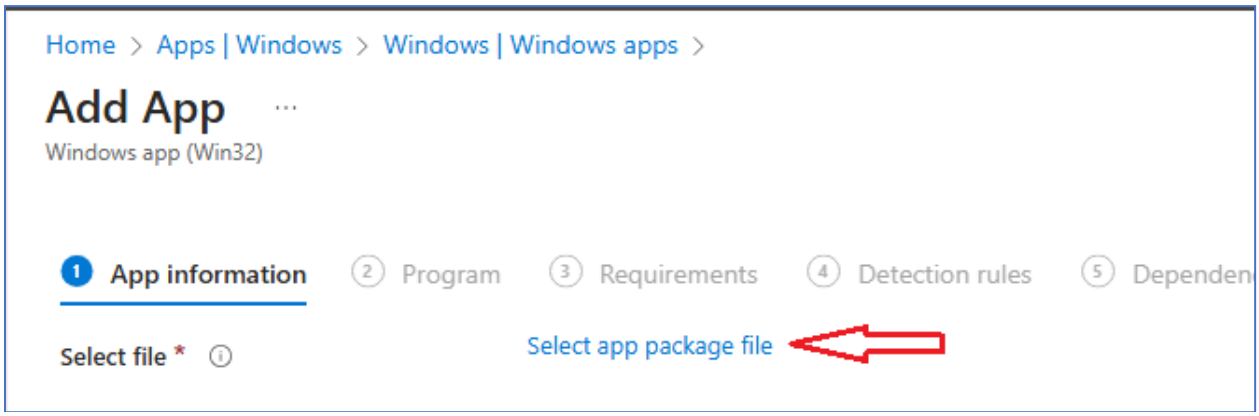
Click on **+Add** to add a new Intune application for deployment.



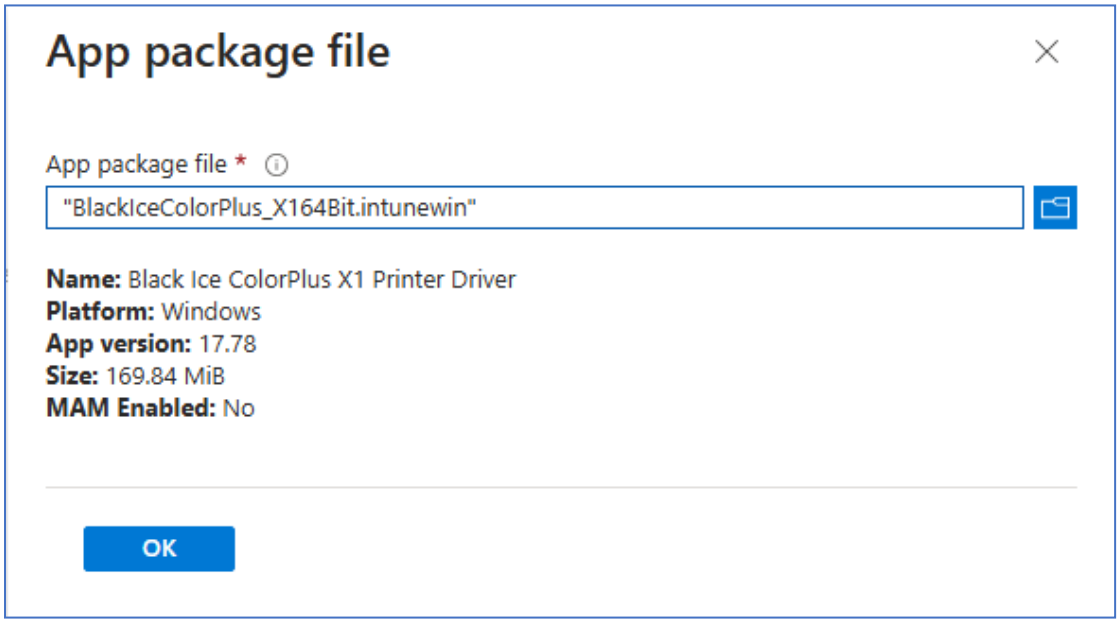
Select the **Line-of-Business app** - App Type drop-down menu from the Add app.



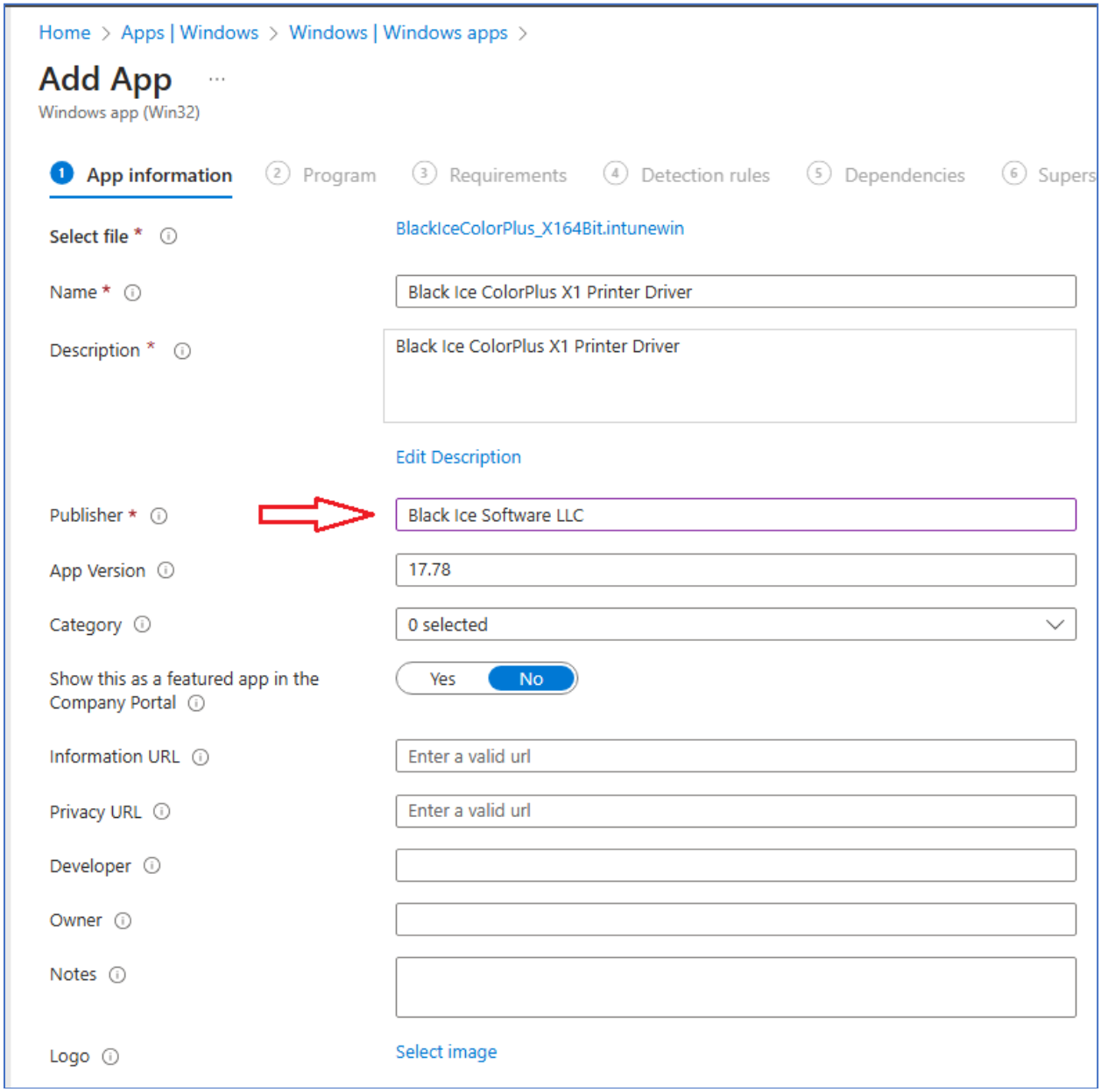
Click on the “Select app package file” to upload the BlackIceColorPlus_X164Bit.intunewin file to Intune.:



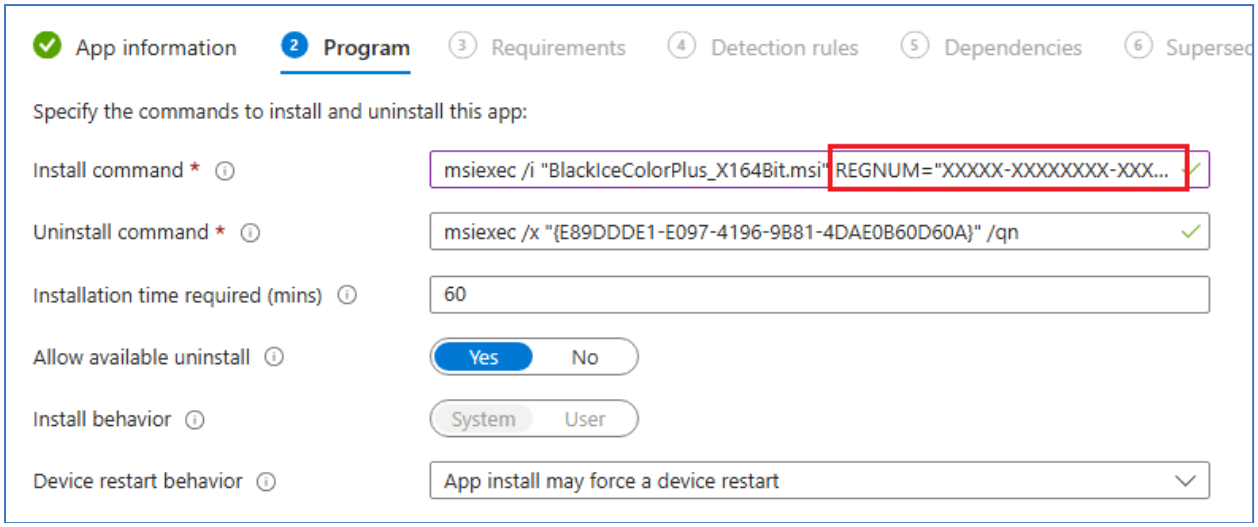
On the App package file, check out the following settings Name:



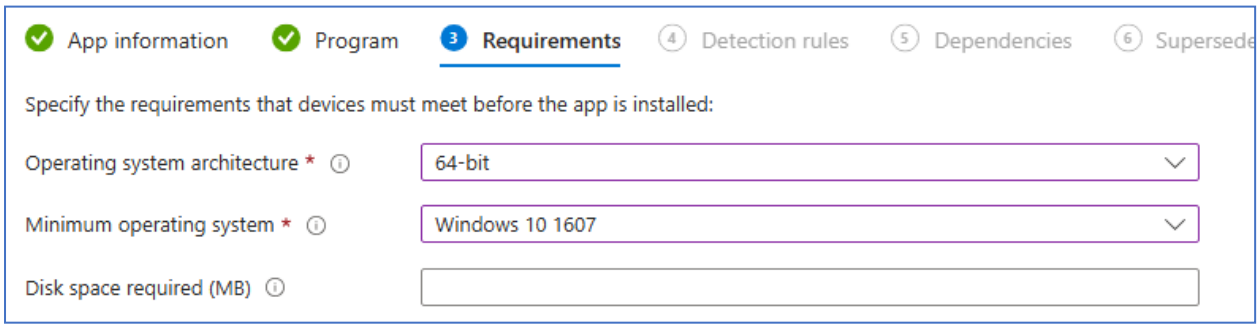
Click on OK on the App Package file.
Click on the **App Information** option from Add App in Intune Application Information Details.
Need to specify the Publisher field.



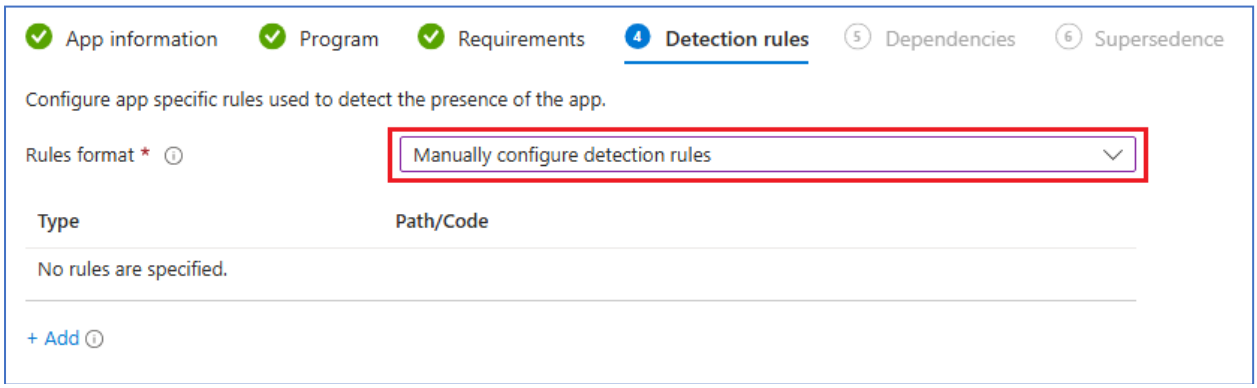
The Intune automatic field is the Install and Uninstall command field.
Important: Add the REGNUM="XXXXX-XXXXXXXX-XXXXXXXXXX" to the Install command field.
Note: the XXXXX-XXXXXXXX-XXXXXXXXXX must be the serial number of the customer.



On the Requirements page, specify the rules for the app to be installed on the device. I am going to require 64-bit for Operating System architecture and the Minimum operating system of Windows 10 1607. Specify the best choices based on your company's needs.

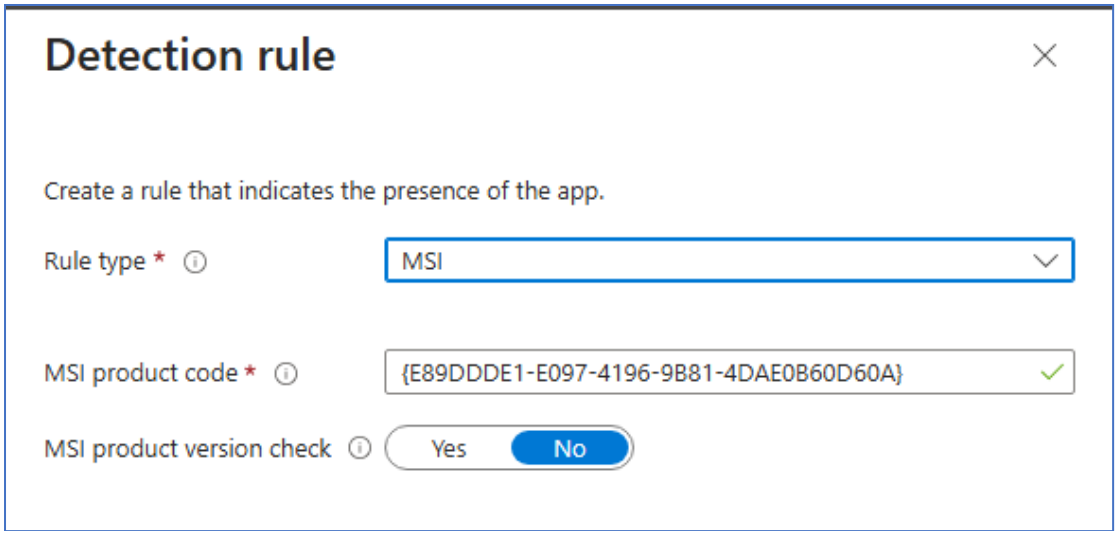


Next, the **Detection rules** allow us to check the device to see whether the application being deployed is already on that device or not. If the application version is already on that device, it will not install. However, if nothing is detected it will go ahead and deploy. There are two options: one is to Manually configure detection rules and the other is to use a custom detection script. We will use Manually configure detection rules > + Add:

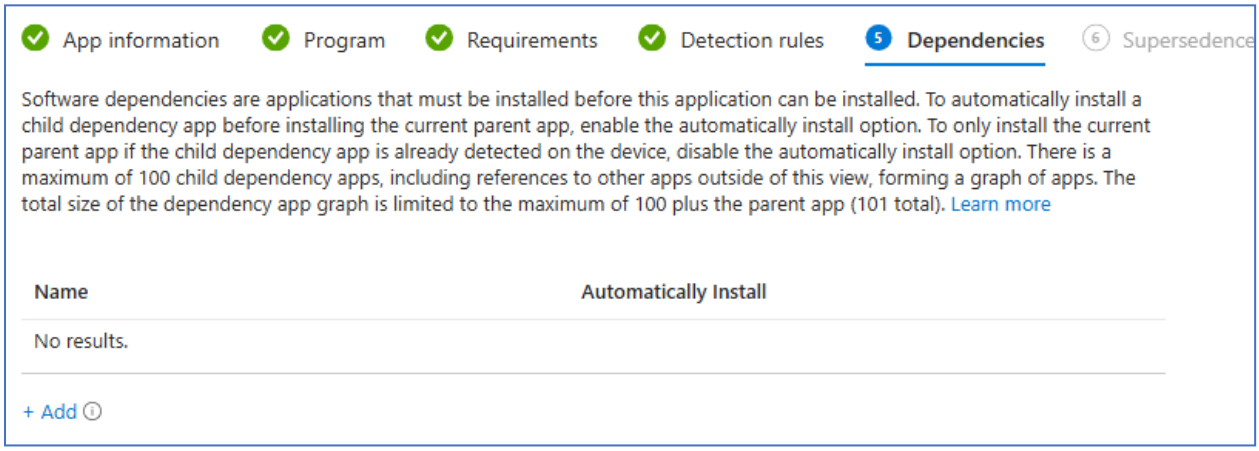


There are three Rule types to choose from: MSI, File, and Registry. Since we used an MSI package, it will automatically populate the MSI product code, so we will go ahead and click MSI.

See the rule here requires using the MSI Product code and I have the option to use the MSI Product version check. We will not need it in this case.

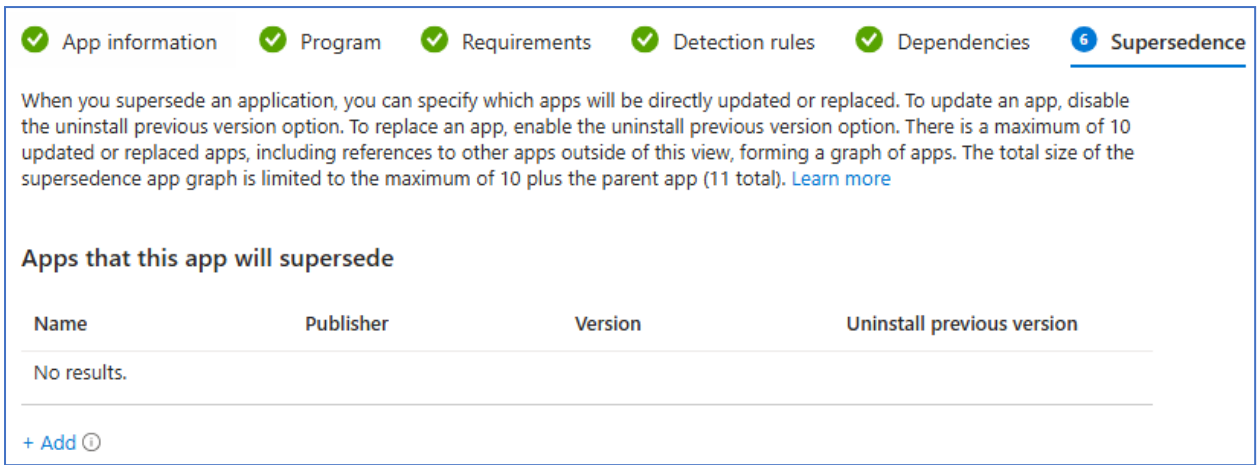


Next, **Dependencies** enables us to add apps that might need to be paired together for this application to be installed. We are selecting no dependencies in this case.



Next, **Supersedence** enables us to specify which apps will be either updated or replaced.

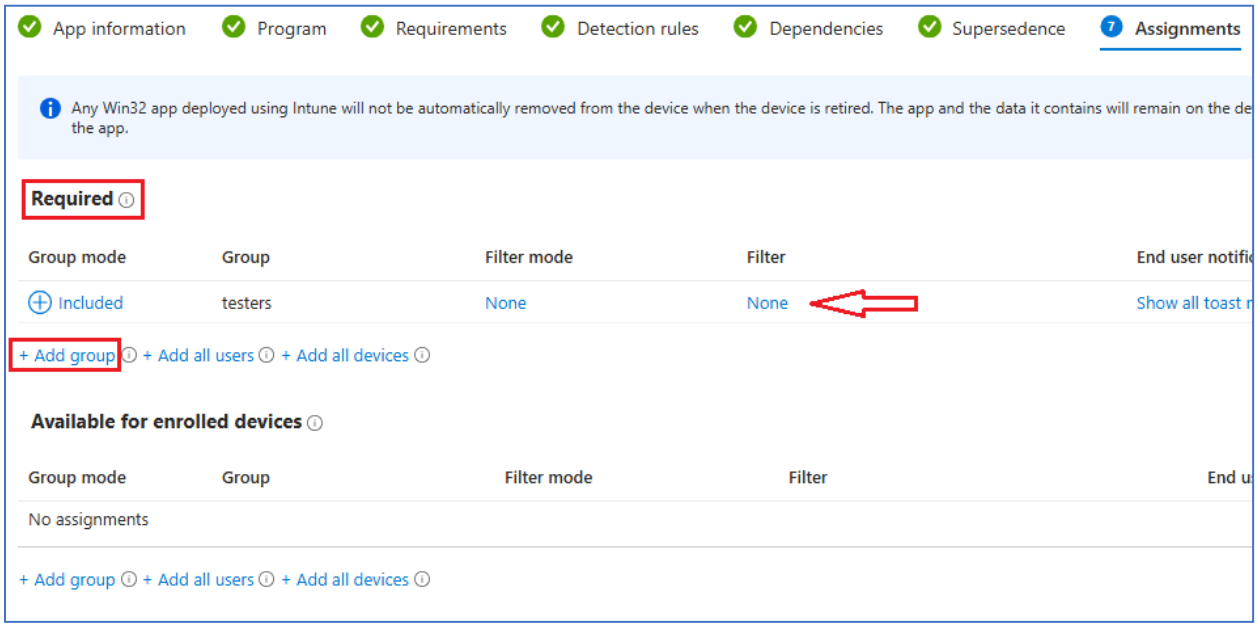
Note: If you want to update an app, disable the “Uninstall previous version” option. If you want to replace an app, however, you can enable that choice. In this case, there is nothing under Supersedence, but I may write another blog on this topic shortly if people are interested.



The next page will appear for Intune MSI Application Deployment - Assignments Options.

Click on the **Add Group** button from the Assignment tab of the application created.
Select groups where you want to assign this app from Add Group.

There are 3 (three) Assignment types - Select one assignment type.
You can deploy the MSI application to some group of devices or users as required.
The MSI application is per machine then it will get installed in the machine context.
Select Required or Available for Enrolled Devices.
Click on Included Groups from Add Group.
Select the groups you want to make this app required or available from Assign.
Click on Select Groups to select a Group for the required assignment from Assign.
Search the Device/user Group in the search option in Select Groups and select the DEVICE/USER group that you want to deploy.

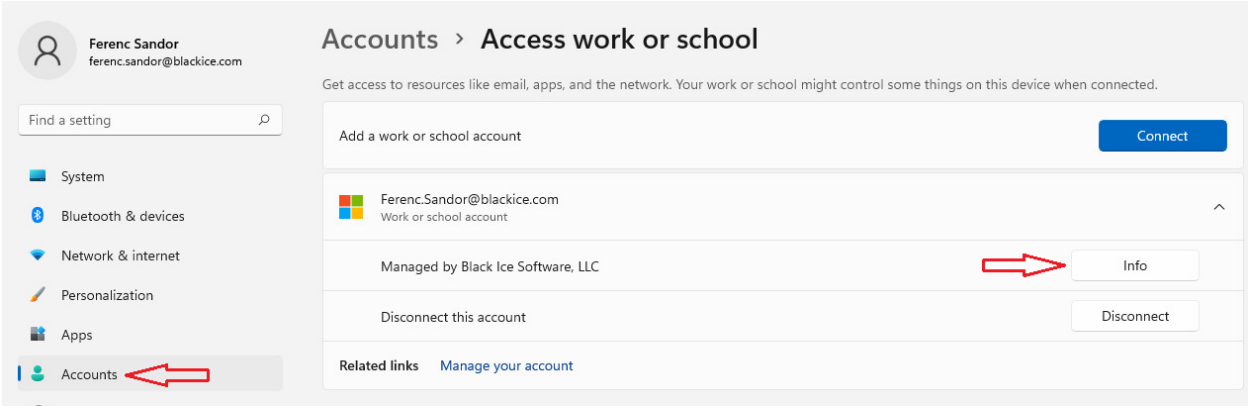


Review your MSI installation and click **Create** when you are ready.

Sync an app to the enrolled device

Once the application is deployed from Microsoft Intune, it can be synced to a device by following the below steps:
Go to an enrolled device, in our case we used a Windows 11 machine.
Right-click on the Windows icon and then go to Settings.
Click on Accounts -> Access work or school.

Click on the **Info** button.

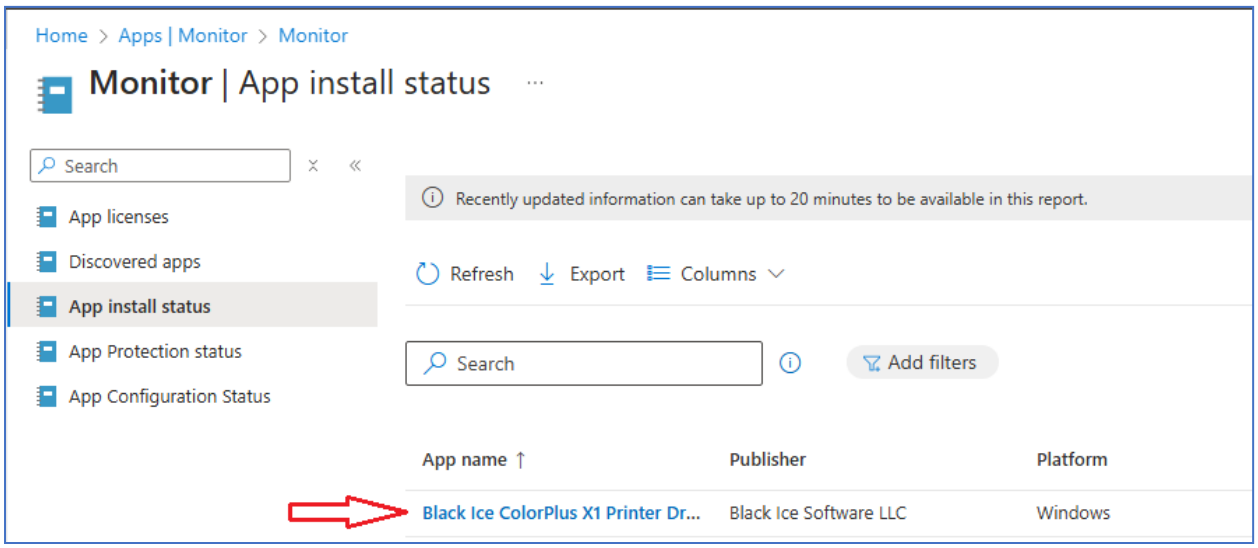


Click on sync for syncing apps and policies.
Optional: Restart your machine if the app does not appear on your device.

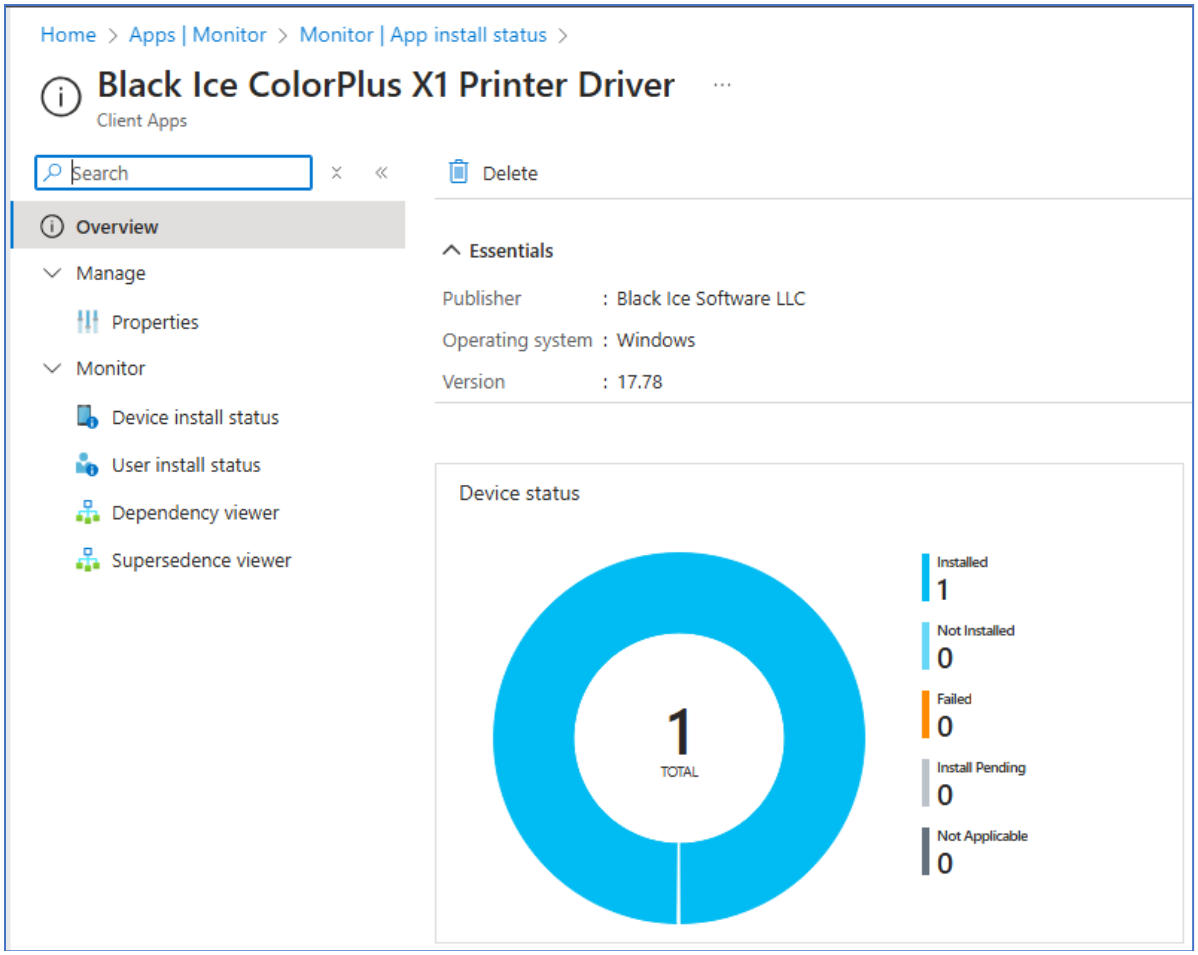
Status/Monitoring – Intune MSI Application Deployment

You can check the state of the deployed application.

Navigate via Microsoft Intune - Apps > **Monitor**.
Click on **App Install Status** and select the application you want to know the status of the application.



From the application (this will be in the application name), click on Overview to get a graphical view of the MSI application deployment status.


Home > Apps | Monitor > Monitor | App install status >
Black Ice ColorPlus X1 Printer Driver
Client Apps
Search
Delete
Overview
Manage
Properties
Monitor
Device install status
User install status
Dependency viewer
Supersedence viewer
Essentials
Publisher : Black Ice Software LLC
Operating system : Windows
Version : 17.78
Device status
1
TOTAL
Installed
1
Not Installed
0
Failed
0
Install Pending
0
Not Applicable
0

Update/Upgrade a Printer Driver

Intune will automatically reinstall, update, or remove a required app based on the following conditions:

- If an end user uninstalls an app that you have required to be installed on the end user's device, Intune will automatically reinstall the app.
- If a required app install fails or somehow the app is not present on the device, Intune evaluates compliance and reinstalls the app.
- If the admin deploys uninstall intent and the app is present on the device and failed to uninstall, Intune evaluates compliance and uninstalls the app.

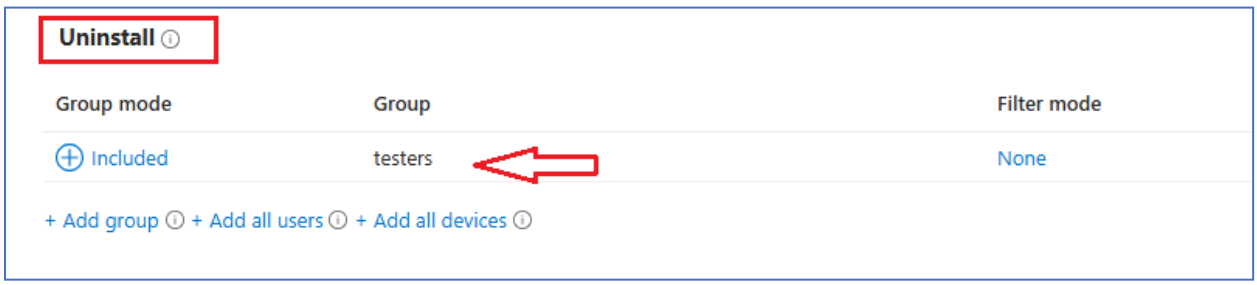
When you need to update or upgrade an already installed app, use the following steps:

Navigate via Microsoft Intune – Apps > **All apps**.
Find and select your app from the list of apps.
Select **Properties** under Manage from the app pane.
Select **Edit** next to **App information**.
Click on the listed file next to **Select file to update**.
The **App package file** pane is displayed.

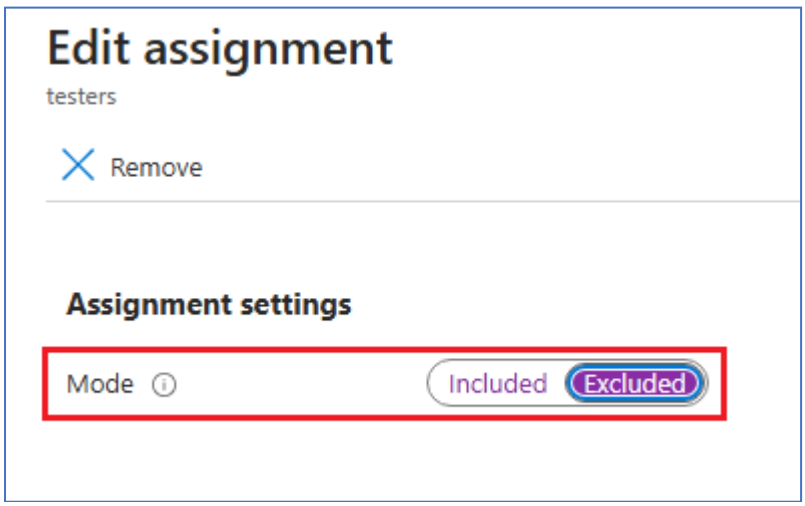
Uninstall a Printer Driver

When you need to uninstall an app from a user's device, use the following steps:
Navigate via Microsoft Intune – Apps > All apps > Black Ice ColorPlus X1 Printer Driver > Manage > Properties > Assignments > Edit.

In the **Add group** pane, select **Uninstall**.
Select **Included Groups** to select the groups of users that are affected by this app assignment.
Select the groups that you want to apply the uninstall assignment.
Click **Select** on the **Select groups** pane.
Click **OK** on the **Assign** pane to set the assignment.



Note: If you want to exclude any groups of users from being affected by this app assignment, select **Exclude Groups**.



Select **OK** in the **Add group** pane.
Select **Review and Save** in the app **Assignments** pane.

Licensing Error codes

The BiCommandLineConverter MSI Installation automatically logs the Product Licensing registration process during the installation in the BiCCMSIRegistrationDataLog.txt file located in the User's temp folder.
(for example: c:\Users\Administrator\temp\BiCCMSIRegistrationDataLog.txt)

If the registration was successful, the log file contains the following message:
Registration was successful.

Otherwise, the error code could be the one of the followings:
Error code 15 - The specified Serial Number is not valid for this product.
Error code 23 - Error receiving answer from the Black Ice Software License Server.
Error code 28 - Error sending license number to the Black Ice Software License Server.
Error code 34 - Error registering the product.
Error code 200 - The Printer driver is already registered.

BiCommandLineConverter MSI Trace log

The BiCommandLineConverter MSI Installation Trace Log is an optional parameter which logs every event of the Black Ice installation Custom Action scripts. The MSI installer saves the logging information in the BiCCMSITraceDataLog.txt txt file located in the User's temp folder (%TEMP%). The MSI installer log feature of /l*v "C:\temp\MSI.log" saves System installation related information and does not record any information during the Custom Action script execution that is specific for the Black Ice printer driver Installation/Uninstallation and registration.
The generated log file located in the User's TEMP folder. To navigate to the User's TEMP folder, open up a folder window and insert %TEMP% into the Address bar then press Enter. Alternatively, you can open a Command Line (cmd.exe), navigate to TEMP directory (cd %TEMP%).
(for example: c:\Users\Administrator\temp\BiCCMSITraceDataLog.txt)

Enable Trace log

To enable the Trace log for the BiCommandLineConverter MSI Installation, include the following parameter in the MSI Installation.

BITRACE =(optional) 0 disables the Trace log 1 enables the Trace log	Enables detailed Trace log which logs every event of the MSI Custom Action script during installation/uninstallation and registration.

For example:
msiexec.exe /i "BiCommandLineConverter.msi" /q BITRACE=1 REGNUM=xxxxx-xxxxxxxx-xxxxxxxxxx

Example of the BiCommandLineConverter MSI Trace log

Here is an example of the BiCommandLineConverter MSI Trace log:
02/14/14 23:03:07: Install called
02/14/14 23:03:07: Install: Target directory: C:\Program Files (x86)\Black Ice Software LLC\ BiCommandLineConverter
02/14/14 23:03:07: Install: WritePlugInDatatoRegistry
02/14/14 23:03:07: WritePlugInDataToRegistry called
02/14/14 23:03:07: WritePlugInDataToRegistry: Check if Internet Explorer is installed

02/14/14 23:03:07: IsIEInstalled called

The BiCommandLineConverter Trace log could contain the following lines

The Trace log function is going through on the following functions during the installation process and writes each event into the BiCCMSITraceDataLog.txt log file when the event is successfully finished.

Troubleshooting

Common installation error codes

The following list includes the most commonly occurring installation error codes, and the meanings of the error:

Error code 34 - Error registering the product.
Solution: This error code covers several different registration errors on the server and on the client. This should be followed by the exact error message received from the server. In case the exact error message cannot be resolved, please contact our technical support with the occurring error codes.

Error code 37 - Error getting information for creating serial number. No MAC address or Volume ID could be obtained from the system.
Solution: Please make sure that the computer has an enabled Network Card with valid MAC address.

Error code 51 - Failed to get proxy setting value for the installation.
Solution: Please start the installation (or command line in case of command line installation) as Administrator.

Error code 81 - Error sending license number to the eLicense Server. Check the network settings and connection.
Solution: Please check the network connection, and if the computer has active internet connection. If you are using proxy, please check the proxy server connection, and please make sure that the Proxy server IP address or name is correct.

Error code 1603 – This error code can cover several issues during the installation.
Solution: Please generate a BITRACE log, and contact our technical support with the generated log file.

Error code 1612 / Error code 1714 – Windows cannot find the original MSI installer required for uninstallation or update. For more details, please see the System Error 1612 when uninstalling or updating using the MSI installer section.

Error code 1001 - This error code can cover several issues during the installation in the install script.
Solution: Please generate a BITRACE log, and contact our technical support with the generated log file.

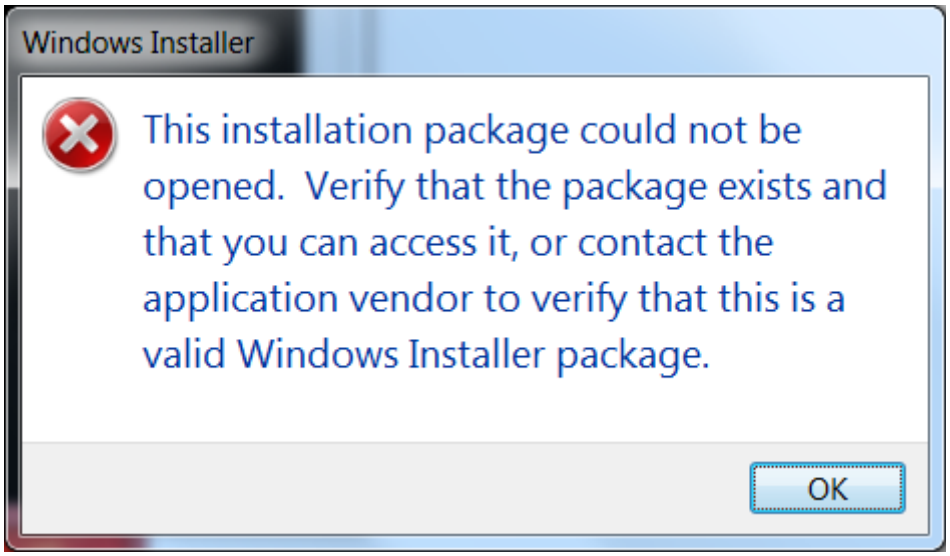
MSI Installation error - This installation package could not be opened.

Description of the problem:
Running the MSI installer and display “This installation package could not be opened.”

msiexec /i "BiCommandLineConverter.msi" REGNUM=XXXXX-XXXXXXXX-XXXXXXXXXX

There are several causes of for the problem:

- MSI package is damaged.
- The MSIEXEC command is not executed in the same directory as the "**BiCommandLineConverter.msi**" file.
- The quotation mark is not standard quotation marks around the .msi file ("**BiCommandLineConverter.msi**"). MS Office product and Word has different quotation marks. To avoid quotation mark errors, please type the MSI command into notepad before you cut and paste it to the command line.

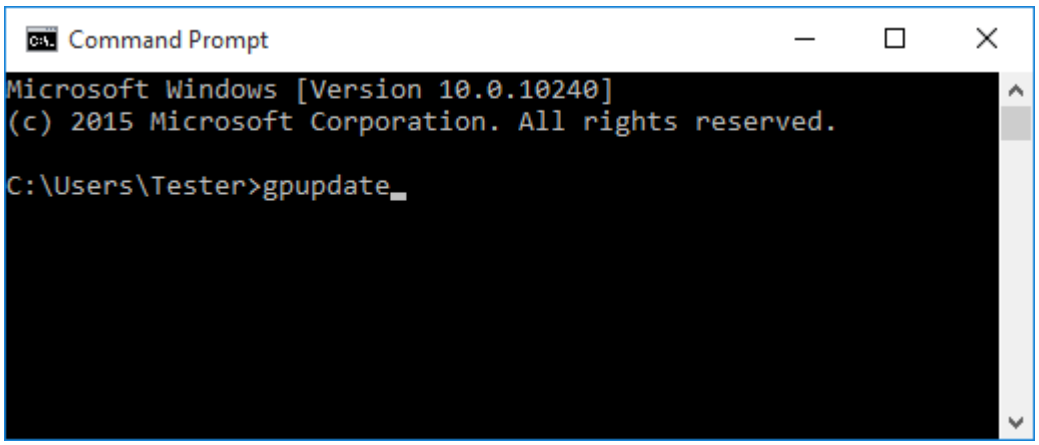


BiCommandLineConverter is not uninstalling on Windows 10 clients using GPO

In certain cases, on Windows 10 client computers, the Group Policy is not getting updated automatically. This issue can be caused by different time configuration on the client and on the domain controller computers.

In this case, please run the **gpupdate** command on the client computer manually.

To run the command, open the command line, type **gpupdate** and press enter.



Once the gpupdate finished successfully, restart the client computer.

Cannot uninstall BiCommandLineConverter

If case the BiCommandLineConverter MSI cannot be uninstalled due to any occurring error messages, or network connection problems, one can use the FORCEU=1 parameter to force the BiCommandLineConverter to complete the uninstallation, remove every file and license, even if there are errors occurring during the uninstallation.

For example:
msiexec.exe /x "BiCommandLineConverter.msi" FORCEU=1

Caution: Upon network problems, this option could result that a transferable license will not be removed properly.

System Error 1612 when uninstalling or updating using the MSI installer

When uninstalling or updating the application using the MSI installer, you may receive the following error in the log files or the Event Viewer:

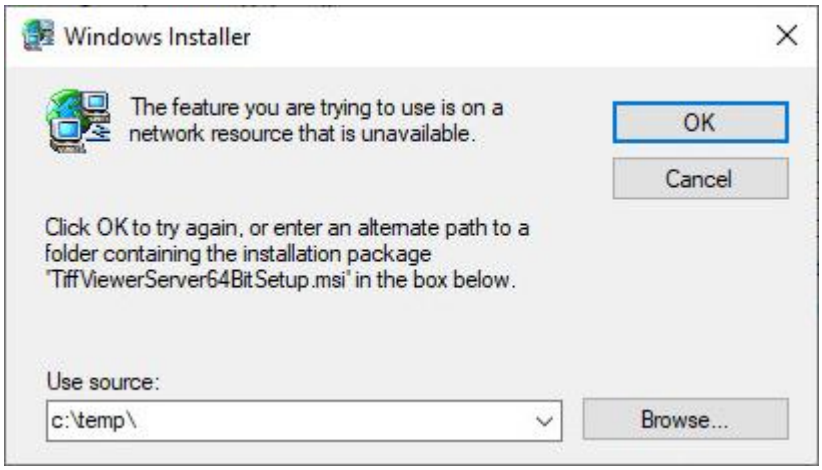
> Product: BiCommandLineConverter -- Error 1714. The older version of BiCommandLineConverter cannot be removed. Contact your technical support group. System Error 1612.

When installing a product using an MSI installer, the MSI installer is copied to the **C:\Windows\Installer directory**, because the MSI package is necessary for uninstallation or update.
System Error 1612 indicates that Windows cannot find the original MSI installer used for installing the product either at the location used for installation or in the C:\Windows\Installer directory.

To solve the problem, you will need to find the original MSI installer used for installing the application.

If you are trying to uninstall the application, uninstall the product by running the original MSI installer instead of using the Windows Control Panel or Settings.

If you are updating the application, run the installer of the new version manually, or remove the "/q" silent switch from the command line.
During the update process, you will receive the following error message:



Click on the **Browse…** button and find the installer of the old version.
After clicking OK, the update should proceed normally.