1. 3Dconnexion Admin Guide

This guide is intended to provide the information needed for an IT professional to distribute and manage 3Dconnecion products.
This document will be updated on a regular basis so please make sure that you always use the latest version.
The latest version of this document is available in this FAQ.

For questions not covered by this guide or assistance troubleshooting a specific issue, contact your 3Dconnexion representative or visit our support page for contact information: www.3Dconnexion.com/support

Version: 1.7, December 2020
Applies to 3DxWare 10.5.3 and above

2. Contents

3. 3DxWare Components

3DxWare 10 is the entire package of the 3Dconnexion driver and its components, the following is included with the 3DxWare 10 installer executable.

General:

3DxWinCore - Core driver
3DxNLServer - Core driver component
3DxMSOffice - Plugin for Microsoft Office
LADP - Display driver for SpacePilot Pro
3DxLCDApplets - Applets for the Display driver for SpacePilot Pro
DemoPrograms - 3Dconnexion Assembly Demo application
3DxCollage - Demo application
3DxTrainer - Demo application
3DxViewer – 3D File Viewer

Navigation and Command support:

3DxMaya - Plugin for Maya
3DxSketchUp - Plugin for SketchUp
3DxSolidEdge - Plugin for SolidEdge
3DxSolidWorks - Plugin for SOLIDWORKS
3DxStudio - Plugin for 3dsMax
3DxUnreal – Plugin for Unreal Editor

Navigation Support:

3DxAdobe3D - Plugin for Adobe3D and Acrobat Reader
3DxPhotoshop - Plugin for Photoshop

Command Support:

3DxProENGINEER - Plugin for Creo and ProENGINEER
3DxInventor - Plugin for Inventor
3DxNX - Plugin for NX
3DxAutoCAD - Plugin for AutoCAD 2011 and higher (QuickZoom only)

4. Silent Install / Uninstall

There are two general methods used to silently install or uninstall 3DxWare. The first method records the options selected during installation and saves them to a "response" file. From there, the "response" is used to silently install the driver on other target machines. The second method involves extracting the individual components of driver and installing them manually. Typically, the later procedure is only needed in specific environments where security rules may prevent the self-extracting installer from working.

Note: A driver version-agnostic uninstall script can be provided by 3Dconnexion on request. Please contact your 3Dconnexion representative or Technical Support to obtain the latest version of the script.

4.1. Using a response file

The 3DxWare 10 installer has built-in support for "record" and "silent" installation modes. During the "record" mode, the installation user-interface is displayed as usual, but the installer will also create a "response" file. This file contains the various options selected by the user during installation. In "silent" installation mode, no user-interface is displayed as the setup program retrieves the necessary installation parameters from the "response" file created during a "record" mode installation. The benefit to this scheme is only one installed program will be created in Programs and Features "3Dconnexion 3DxWare 10."

In 3DxWare 10.6.5 we introduced the new one-click installer via an open beta program. This installer will be standard in all subsequent releases of 3DxWare. (ver. 10.6.6 – present) The new installer also has an updated silent install process which is meant to be more user-friendly and includes additional options over past versions. Due to these changes, users with 10.6.5 and lower wanting to upgrade to a new version of the driver will need to uninstall the previous version first. The flowchart below outlines the proper procedure to silently install, or upgrade the driver based on the 3DxWare version. (fig. 1)

Start

Is driver currently installed?

Yes

No

Is 3DxWare version less than 10.4.5?

Yes → **Silent uninstall not possible. Uninstall using Microsoft's "Uninstall a program" feature**

No

Is 3DxWare version between 10.4.5 and 10.6.5?

Yes → **Uninstall using process for 10.6.5 and below (section 4.14)**

No

3DxWare version is higher than 10.6.5

Install using process for 10.6.6 and above (section 4.11)
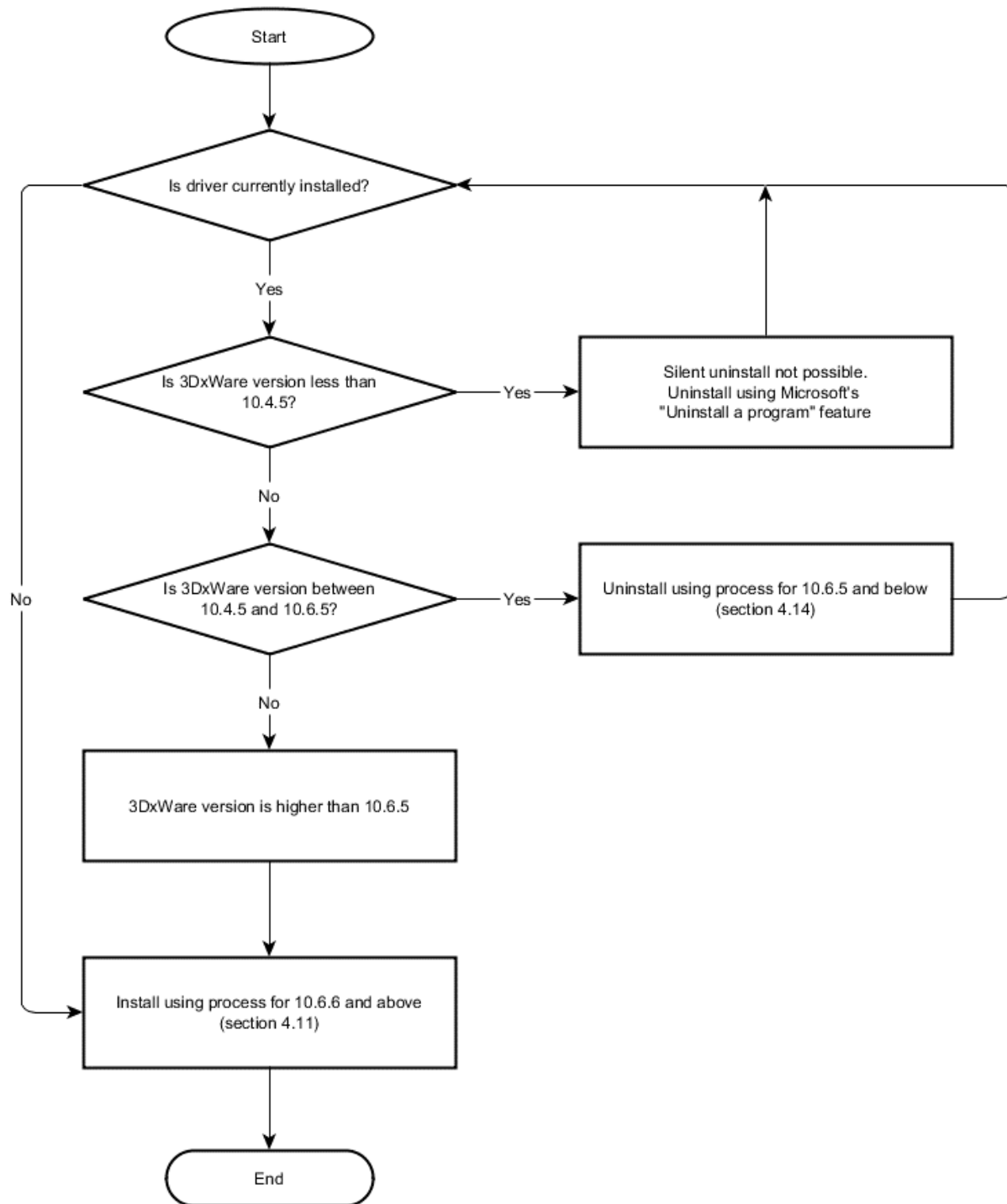
End

Fig 1. Basic procedure for silently installing or upgrading the driver to the most recent version

4.11. 3DxWare 10.6.6 and above – Using executable and response file to install the driver

The response file can be created to a user-defined directory using the "SaveSettings" option. The "/install" command specifies we want to install the driver. To create a response file with the name "3DxWareSetup.xml" in the directory "c:\temp", the following command can be used:

```
install.exe SaveSettings="c:\temp\3DxWareSetup.xml" /install
```

Once the response file is created, we can invoke the installer in silent mode using the "/quiet" command. The "LoadSettings" option describes the full path to the response file created earlier.

Assuming a response file with the name "3DxWareSetup.xml" and directory of "c:\temp", the following command can be used:

```
install.exe LoadSettings="c:\temp\3DxWareSetup.xml" /install /quiet
```

Note: A list of full commands can be found in Appendix A.

Using self-extracting executable package to install the driver
Using the self-extracting executable package, the following commands can be used to create the response file instead:

```
<32/64-bit package file name> /c:"install.exe" SaveSettings="C:\temp\3DxWareSetup.xml"
/install
```

Then, using the response file, we can invoke the installer in silent mode using:

```
<32/64-bit package file name> /c:"install.exe" LoadSettings="C:\temp\3DxWareSetup.xml"
/install /quiet
```

4.12. Using executable and response file to uninstall the driver

The same process described above can also be used to silently uninstall the driver. First, a response file is created using the "SaveSettings" option. Then, the "/uninstall" command is specified. To create a response file with the name "3DxWareUninst.xml" in the directory "c:\temp", the following command can be used:

```
install.exe SaveSettings="c:\temp\3DxWareUninst.xml" /uninstall
```

After, we simply run the installer in silent mode using the "/quiet" command and specify the response file using "LoadSettings." Assuming the same response file and directory, the following command would be:

```
install.exe LoadSettings="c:\temp\3DxWareUninst.xml" /uninstall /quiet
```

4.13. 3DxWare 10.4.5 to 10.6.5 – Using executable and response file to install the driver

By default, the response file is saved to the %SystemRoot% directory (normally "C:\Windows") with the name "setup.iss". The response file can be created to, or read from, a user-defined directory using the "/f1" option. To create a response file with name "setup.iss" in directory "C:\temp", the record command "/r" can be used:

```
Setup.exe /r /f1c:\tempsetup.iss
```

Next, run the installation in silent mode using the "/s" command. Assuming the same response file created above, the following command would be:

```
Setup.exe /s /f1c:\temp\setup.iss
```

Using self-extracting executable package to install the driver
If using the self-extracting executable package, the following commands can be used to create a response file:

```
<32/64-bit package file name> /c:"3DxWare64.exe /a /r /f1c:\temp\setup.iss"
```

and to install in silent mode:

```
<32/64-bit package file name> /q:a /c:"3DxWare64.exe /s /a /s
/f1c:\temp\setup.iss"
```

A similar command-line can be used for the 32-bit package by replacing "3DxWare64.exe" with "3DxWare32.exe" in the above examples. Further details can be found in the "readme.txt" file located in "C:\Program Files\3Dconnexion\3DxWare" (default installation).

4.14. Using executable and response file to uninstall the driver

The same procedure described in section 4.1C, can also be used to uninstall the driver. Unlike the one-click installer, there are no specific options to differentiate between installing and uninstalling. To create a response file with the name "setup.iss" in the directory "c:\temp", the record command is used:

```
Setup.exe /r /f1c:\temp\setup.iss
```

Once a response file is created, it can be played back on a target machine. To do this, we invoke silent mode using the "/s" command:

```
Setup.exe /s /f1c:\temp\setup.iss
```

4.2. Deploying individual .msi installers for all required components

The first step in a silent install is to extract the 3DxWinCore MSI from the 3DxWare installer that is downloaded from 3Dconnexion.com. Common windows tools, such as 7zip, can be used to extract the contents of this installer.

3DxWare 10.6.6 and above – Extracting
1. Right click on the 3DxWare_v10*.exe file
2. Using 7zip, extract to a new 3DxWare_v10* subdirectory

3DxWare 10.4.5 to 10.6.5 – Extracting
1. Right click on the 3DxWare_v10*.exe file
2. Using 7zip, extract to a new 3DxWare_v10* subdirectory
3. Double click on the new directory to enter it
4. Right click on the 3DxWare64.exe to extract its contents to a new subdirectory

Now that the individual installers are fully extracted into the 3DxWare64 subdirectory, any one of them can be run individually. When installing this way, each component will be displayed in Programs and Features. As such, all must be individually maintained when future drivers and plugins are released. Uninstallation follows the general procedure for maintaining .msi installations.

For 64-bit operating systems, the 3DxWinCore installation files are located under "3DxWare64/components64/3DxWinCore." File and directory names change slightly on a 32-bit system.

Installing individual .msi installers using the quiet option
The easiest way to execute a silent install is to run msiexec with the /q command line option. From an administrator command prompt, after changing to the 3DxWinCore directory, run the installer with:

```
msiexec /I "3DxWinCore64.msi" /q
```

To disable the automatic check for updates, run the installer with the option "AUTOCHECKFORUPDATES=0".

```
msiexec /I "3DxWinCore64.msi" AUTOCHECKFORUPDATES=0 /q
```

To remove any previous user-settings:

```
msiexec.exe /i "3DxWinCore64.msi" CLEANSETTINGS=1
```

To change the default installation directory, the following msiexec command line Public Property can also be used:

```
TARGETDIR="new install directory"
```

You can also tailor the features that get installed by creating an MSI transform and applying that in the standard way. Normally, all features get installed. To see a list of features, select Custom installation when running msiexec.

3Dconnexion support provides custom transforms to avoid the installation of 3DxHome.exe and its Desktop shortcut. Download here. The below commands may be used with these custom transforms:

```
msiexec /i 3DxWinCore32.msi ALLUSERS=1 NODESKTOPICON=1 TRANSFORMS="Disable3DxHome32.mst"
msiexec /i 3DxWinCore64.msi ALLUSERS=1 NODESKTOPICON=1 TRANSFORMS="Disable3DxHome64.mst"
```

4.3. Setup.exe

Setup.exe performs the same tasks as running msiexec, except that it first asks for the user's language preference, then applies the language transform before running msiexec.

Further details can be found in the "silent_install.txt" file located in "C:\Program Files\3Dconnexion\3DxWare\3DxWinCore64" (default installation path).

5. Configuration Hierarchy and Sharing

Hierarchy

The 3Dconnexion driver automatically recognizes the current window and loads an .xml configuration based on the executable name. This contains button mapping, axes assignments/speed, and advanced 3D mouse settings. The driver ships with a set of default configuration files. Any changes made are saved to a user configuration file. Typically, the configuration is name corresponds to the application name. (ex. Solidworks > Solidworks.xml) The directory for default configurations and user configurations is listed below respectively:

1. *3Dconnexion default   Program Files\ 3Dconnexion\3DxWare\3DxWinCore64\Cfg
2. User configuration   %APPDATA%\3Dconnexion\3DxWare\Cfg

* The default path for a 64-bit installation is shown as an example. The path will vary to reflect custom installation directories or 32-bit systems.

Sharing user configurations

It is sometimes useful to copy a user configuration from one machine to another in order to share customized button mappings between users and workstations. It is possible to simply copy the desired .xml user configuration(s) from the source machine user configuration folder (%APPDATA%\3Dconnexion\3DxWare\Cfg) to the target machine user configuration folder. In order to maintain compatibility, the same driver version should be installed on both machines.

5.1. Prevent 3DxHome from launching on startup

By default, 3DxHome will launch when a new user logs in. While the function can be disabled from the interface, admins may want to disable the feature globally for the machine. This can be done by editing the ¨3DxHome.cfg¨ file located in the root directory for 3DxWare. The procedure to do this is as follows:

1. Navigate to the root installation folder for 3DxWare (¨C:\Program Files\3Dconnexion\3DxWare\3DxWinCore64¨
2. Open the ¨3DxHome¨ folder
3. Open ¨3DxHome.xml¨
4. Change the <ShowAtStartup> flag and change it from ¨true¨ to¨ false¨, then save the file

   `<ShowAtStartup>`**`false`**`</ShowAtStartup>`

Note: A script can also be provided to disable 3DxHome on startup upon request. Please contact your 3Dconnexion representative or Technical Support to obtain the latest version of the script.

5.2. Adjusting the default configuration location

It is possible to use directory symbolic links in order to use a custom user configuration location as follows:

1. Stop the 3DxWare Driver
2. Move the folder "%APPDATA%\3Dconnexion\3DxWare\Cfg" to the target location (E.g. "D:\3DConf\")
3. Create the symbolic link from a command line:

   ```
   mklink /D "%APPDATA%\3Dconnexion\3DxWare\Cfg" "D:\3Dconf"
   ```

5.3. Creating a customized company default

A custom company default can be created to replace the 3Dconnexion default button mapping. This requires the manual editing of the .xml configuration files for the application. In order to create a company default:

1. Copy the <application>.xml configuration you want to change from the driver installation folder to the user folder
   a. Default folder: `C:\Program Files\3Dconnexion\3DxWare\3DxWinCore64\Cfg`
   b. User folder: `%APPDATA%\3Dconnexion\3DxWare\Cfg`

2. Open the <application>.xml in the user folder and change the AppCfg element's Default attribute value form "true" to "false" and save the file:

   ```
   <AppCfg Default="false" xmlns="" CfgFormatVersion="1.2" ThisFileVersion="1.6"
   xml:space="preserve">
   ```

Note: other attributes of the AppCfg element may differ from application to application

3. Open the application and customize the button mapping in the 3DxWare GUI. This will update the <application>.xml user configuration file with the changes (typically the configuration name matches application or executable name).

4. Open the <application>.xml again and change the value of the Default attribute back to "true", and save the file

   ```
   <AppCfg Default="true" xmlns="" CfgFormatVersion="1.2" ThisFileVersion="1.6"
   xml:space="preserve">
   ```

5. Copy the <application>.xml from the user folder to the default folder.
   a. User folder: `%APPDATA%\3Dconnexion\3DxWare\Cfg`
   b. Default Folder: `C:\Program Files\3Dconnexion\3DxWare\3DxWinCore64\Cfg`

6. This file can now be distributed throughout the organization by overwriting the 3Dconnexion default in "C:\Program Files\3Dconnexion\3DxWare\3DxWinCore64\Cfg"

Note: Driver updates will overwrite this file, it should be tested to ensure compatibility and re-deployed to users after an update.

6. Locate 3Dconnexion devices in the network / Inventory

In many scenarios it may be useful to collect information on connected 3Dconnexion devices on client machines.
This can be accomplished in two ways:

Using 3Dconnexion 3DxLocator

On request, 3Dconnexion can provide ¨3DxLocator¨ - a configurable tool to collect information about installed 3D Mice and store a report to a csv file. Please contact your 3Dconnexion representative or Technical Support to obtain the latest version.

Using 3rd party tools

Most tools, like SCCM, allow querying information about connected USB hardware. Use the table below (Table 1.) to identify connected 3Dconnexion devices using their Vendor and Product ID in your inventory tool:

Product	Vendor ID (VID)	Product ID (PID)
CadMouse	256F	C650
CadMouse Wireless	256F	C651
CadMouse Pro Wireless	256F	C654
CadMouse Pro Wireless Left	256F	C657
CadMouse Pro	256F	C656
CadMouse Compact	256F	C655
CadMouse Compact Wireless	256F	C658
SpaceExplorer	046D	C627
SpaceMouse Compact	256F	C635
SpaceMouse Enterprise	256F	C633
SpaceMouse Pro	046D	C62B
SpaceMouse Pro Wireless (cabled)	256F	C631
SpaceMouse Pro Wireless Receiver	256F	C632
SpaceMouse Wireless (cabled)	256F	C62E
SpaceMouse Wireless Receiver	256F	C62F
SpaceNavigator	046D	C626
SpaceNavigator for Notebooks	046D	C628
SpacePilot	046D	C625
SpacePilot Pro	046D	C629
SpaceTraveler	046D	C623
Universal Receiver	256F	C652

Table 1. Vendor and product IDs for 3Dconnexion products

7. 3Dconnexion Plugin Documentation

7.1. 3DxAdobe3D - Plugin for Adobe3D and Acrobat Reader

The ¨3DxAcr3d.api¨ plugin for 3Dconnexion devices is copied to installed Adobe Acrobat products during installation of the 3DxWare driver (or 3DxAcrobat3D.msi). In the event that navigation is not working, the plugin can be manually copied by following the steps below:

1. Close Adobe Acrobat
2. Copy the plugin ¨3DxAcr3d.api¨ from ¨C:\Program Files (x86)\3Dconnexion\3DxWare\3DxAdobe3D¨ to the ¨C:\Program Files (x86)\Adobe\Acrobat DC\Acrobat\plug_ins¨ directory
3. Restart Adobe Acrobat

Note that the above examples are the default installation directories for 3DxWare 64 and Adobe Acrobat DC, if you have customized installation location or another version of Adobe Acrobat you may have to alter the file path to those directories as appropriate.

7.2. 3DxNX - Plugin for NX

The 3DxNX plugin installs in the 3DxWare installation directory, the following references are requirements to be loaded properly by NX at application start. These are automatically added via a standard installation of the driver, however customized NX installation schemes, read only environment files, user permissions, etc. may require these to be added manually. table 2 below lists the system environment variables and their function while fig. 2 shows the environment variables as displayed in windows.

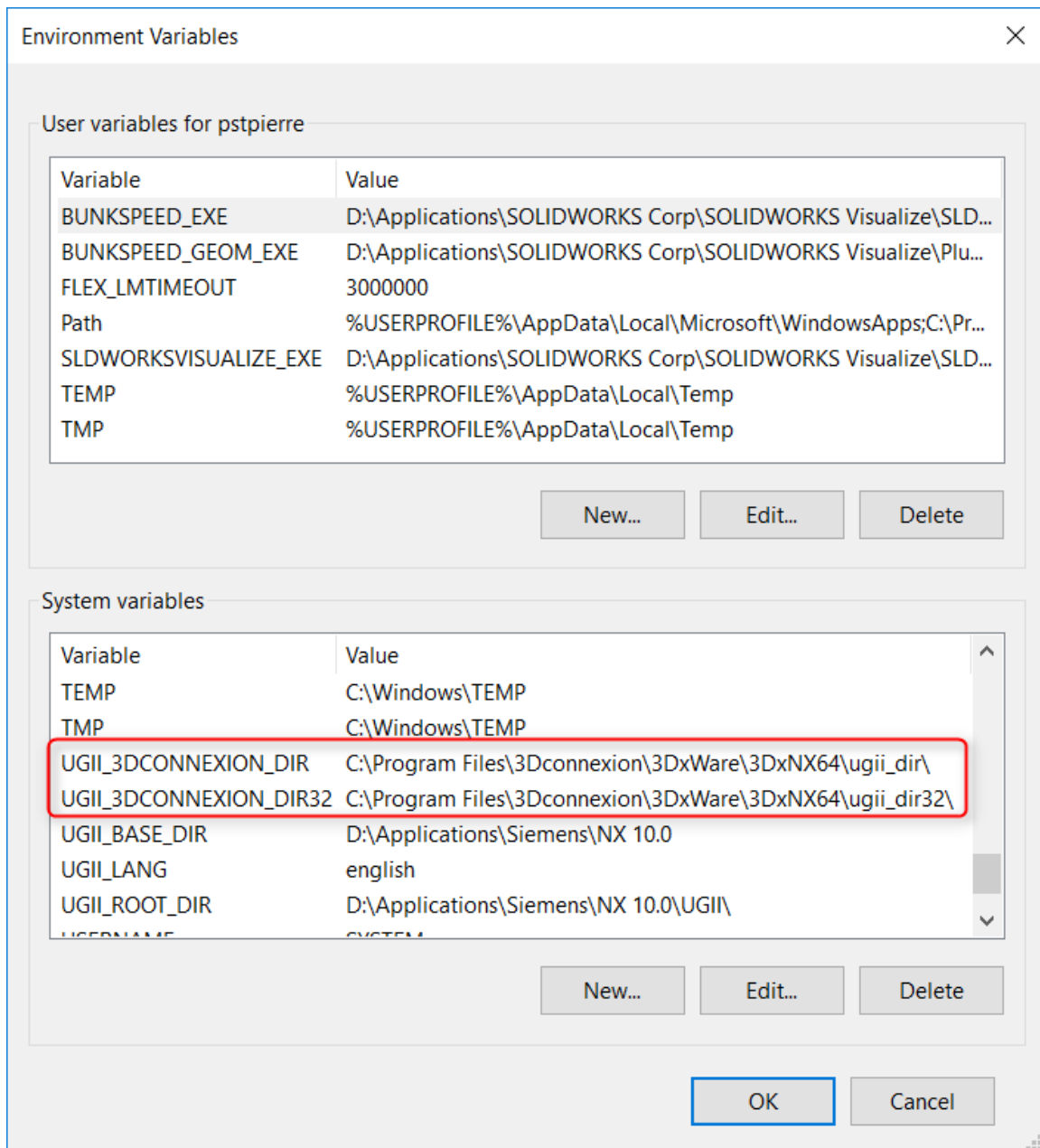| Environment Variable	Function
UGII_3DCONNEXION_DIR	Used to find the localization and bitmaps used in the UI. This also points to the base of the x64 ui customizations
UGII_3DCONNEXION_DIR32	Used to find the x86 ui customizations

Table 2. System environment variables required for 3DxNX

NX ugii_env.dat File (NX 10.0.1 and up will include this in the defaults)

UGII_3DCONNEXION_LIBRARY – defines the full path to the 3DxNX library that implements the 3D device's button action interface.

x64 NX installations	UGII_3DCONNEXION_LIBRARY=${UGII_3DCONNEXION_DIR}\${UGII_VERSION}\startup\3DxNX.dll
win32 NX installations	UGII_3DCONNEXION_LIBRARY=${UGII_3DCONNEXION_DIR32}\${UGII_VERSION}\startup\3DxNX.dll

NX custom_dirs.dat File (NX 10.0.1 and up will include this in the defaults)

Entries added to the NX custom_dirs.dat file needed to find and load the UI files (this only apples to NX 10.0.0 and earlier)

x64 NX installations	$UGII_3DCONNEXION_DIR/$UGII_VERSION
win32 NX installations	$UGII_3DCONNEXION_DIR32/$UGII_VERSION

Conflict from Previous Installation Scheme
Previously, the 3DxNX components were copied by the installer to the NX installation directory's "UGALLIANCE\vendor\startup" folder (for example "C:\Program Files\Siemens\NX 10.0\UGALLIANCE\vendor\startup").

When updating to the latest driver it is important to make sure that the paths in the NX ugii_env.dat and custom_dirs.dat files are appended to reflect the new scheme and that old components should be removed to ensure the latest plugin is running. Please see FAQ 1116 for more details.

7.3. 3DxProENGINEER - Plugin for Creo and ProENGINEER

The 3DxProENGINEER plugin is installed in the 3DxWare installation directory and loaded by the application using a pro toolkit file (protk.dat). By default, this is copied to the appropriate directory:

Proe Wildfire Creo 2.0 prior M150 Creo 3.0 prior M040	`<Creo installation directory>\Text\`
Creo 2.0 M150 and later	`%ProgramData%\PTC\Creo2\Plugins\3DxProEngineer`
Creo 3.0 M040 and later	`%ProgramData%\PTC\Creo3\Plugins\3DxProEngineer`

Note: installing the 3Dconnexion protk.dat to both directories above will result in an error message indicating 3DxProEngineer cannot be loaded twice.

In versions Creo 2.0 M150 to M210 and Creo 3.0 M040 to M080, an error message may appear at application start referencing duplicate protk.dat files. Please refer to FAQ 1115 for a steps providing a workaround.

8. Appendix A: One-Click Installer Options

Synopsis

```
3DxWare64.exe [OPTIONS] [COMMANDS]
```

Options

```
InstallFolder=[PATH]
```
Specifies where the driver should be installed to. (ex. InstallFolder=¨D:\Drivers¨) If not used, 3DxWare will install to
¨C:\Program Files.¨

```
LoadSettings=[FILE]
```
Loads installation settings from the file and location specified. (ex. LoadSettings=¨c:\temp\3DxWareSetup.xml¨)

```
SaveSettings=[FILE]
```
Records installation settings to the specified file and location. (ex. SaveSettings=¨c:\temp\3DxWareSetup.xml¨)

Commands

```
/install
```
Installs 3DxWare

```
/uninstall
```
Uninstalls 3DxWare

```
/norestart
```
Prevents the computer from restarting after 3DxWare has been installed.

```
/quiet
```
Displays no UI and no prompts when installing the driver. The installer will automatically restart the computer
whenever necessary without displaying a prompt or warning to the user. Combine with /norestart to avoid this.

```
/passive
```
Displays minimal UI when installing the driver. No prompts will be displayed.

```
/repair
```
Repairs the 3DxWare installation.

```
/log [PATH]
```
Specifies where the installer should save log files to. (ex. /log C:\temp) If not used, 3DxWare will automatically create
logs in the %TEMP% directory.