

UPDD Installation – XP embedded

Software Delivery

In this environment UPDD will be supplied as a number of separate components. Software sent via email should be held in the file upddxpe.zip to avoid the rejection by many mail servers of .exe files.

Overview

Windows XPe, like Windows NTe and CE, is an embedded operating system. Embedded operating systems are built from various components and then 'embedded' on the target hardware. This document describes how to add UPDD to an XPe build. These instructions assume that the user has previously installed Windows XPe Target Designer, and is familiar with using this tool to create Windows XPe images, and installing the resulting image on a target system.

With conventional Windows systems, such as 98 and 2000, software is installed via a setup procedure or via the plug and play manager that requests the various device driver files to be made available at the time the device is connected to the system. In a plug and play situation a control file (.INF) informs the system of the files to be installed and where they are to be placed along with details of registry entries.

In embedded environments similar component control files are employed and in the case of XPe this file is known as a Component Object Definition file and is held with a .SLD suffix.

Important notes

- We created the SLD file as an ASCII text file and in our English XPe build environment the file was accepted without error. However, one customer using a German build environment reported that the import of the SLD file gave an error along the lines of "A change between current and specified coding is not supported". If you encounter a similar error you need to convert the ASCII format .SLD file to a UNICODE format. The easiest way to achieve this is to open the SLD file in Notepad on a system having the same default language as the target and change the line `<?xml version="1.0" encoding="UTF-8"?>` to read `<?xml version="1.0" encoding="UTF-16"?>` and then use the save as option to save the file as Unicode (select "Unicode" as the encoding option on the Save As dialog). You can now import the amended file. Once we fully understand why this error occurs we may change our system to distribute UNICODE format SLD files in the future.
- Some of the registry entries in the .SLD file use fixed pathnames to `c:\program files\updd`. If the software is installed in a different folder or hard disk location you will need to cater for this by changing the .SLD file prior to importing or editing the Registry Key data in the Component Designer after import.
- Dependency – The main UPDD modules have the following dependencies:

TBUPDDWD

BOOTVID.DLL
HAL.DLL
NTOSKRNL.EXE
USB.D.SYS
WMILIB.SYS

TBSYSTRY

ADVAPI32.DLL
COMCTL32.DLL
GDI32.DLL
KERNEL32.DLL
NTDLL.DLL
OLE32.DLL
RPCRT4.DLL
SHELL32.DLL
SHLWAPI.DLL
USER32.DLL
WINSPPOOL.DRV

TBMORPH

ADVAPI32.DLL
COMCTL32.DLL
COMDLG32.DLL
GDI32.DLL
KERNEL32.DLL
MSVCRT.DLL
NTDLL.DLL
OLE32.DLL
OLEAUT32.DLL
OLEDLG.DLL
OLEPRO32.DLL
RPCRT4.DLL
SHELL32.DLL
SHLWAPI.DLL
USER32.DLL
WINSPPOOL.DRV

- The default driver settings defined in the .SLD file reflect the standard setting we have for the controller in our production system. In a normal Windows environment these setting can be changed after installation and saved. In an XPe environment it may be required to change these entries in the SLD file prior to import. E.g. For a serial controller we may default the com port to be Com1 whereas it is actually plugged in to a different com port. We trust the registry entries are self-explanatory but further explanation is available in the UPDD SDK documentation.

Build Process

Minor changes were made to the UPDD driver version 3.8.26 to cater for XPe so this version or greater should be used.

The following steps should be followed to add the UPDD driver into an XPe system:

Step 1

- Unzip "upddxpe.zip" to a temporary directory
- If this is the first time that UPDD XPe has been used on the target system then go to step 2 otherwise go to step 3

Step 2

- Open Component Database Manager

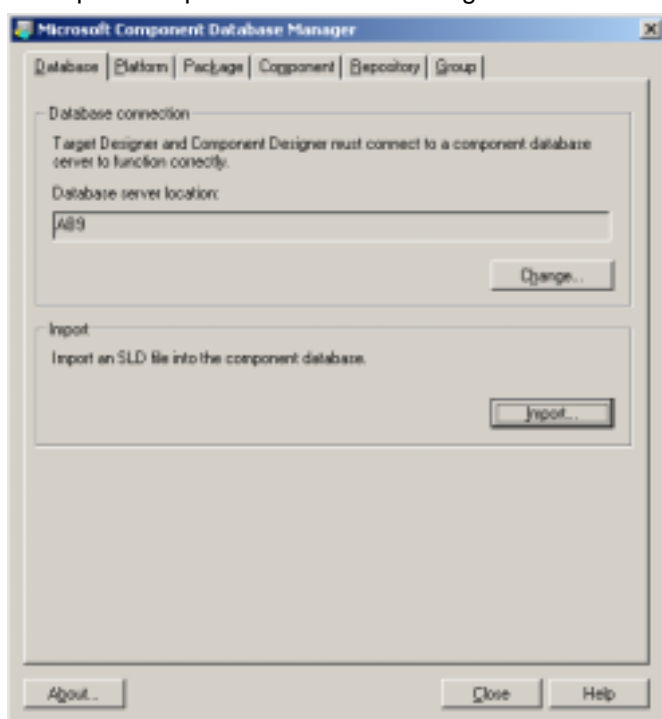


Figure 1 – Component Database Manager

- Click on "Import"

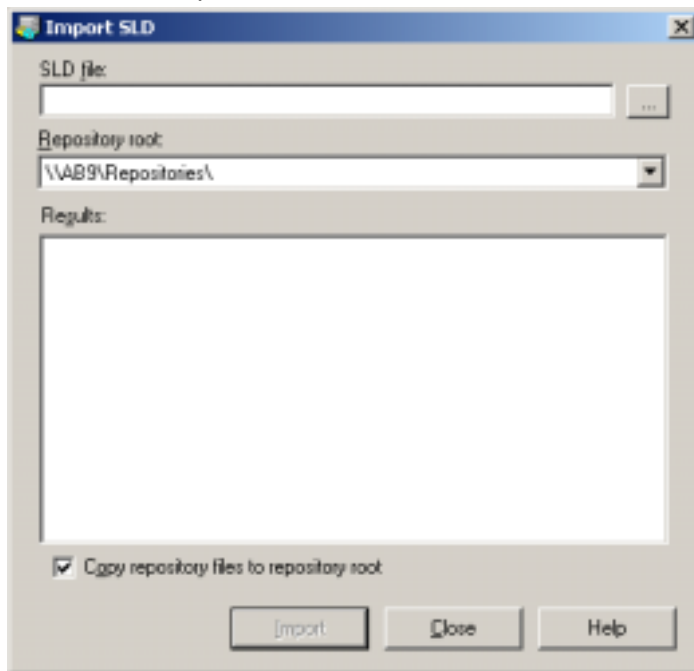


Figure 2 – Import SLD dialog

- Select "updd.sld" as the SLD file

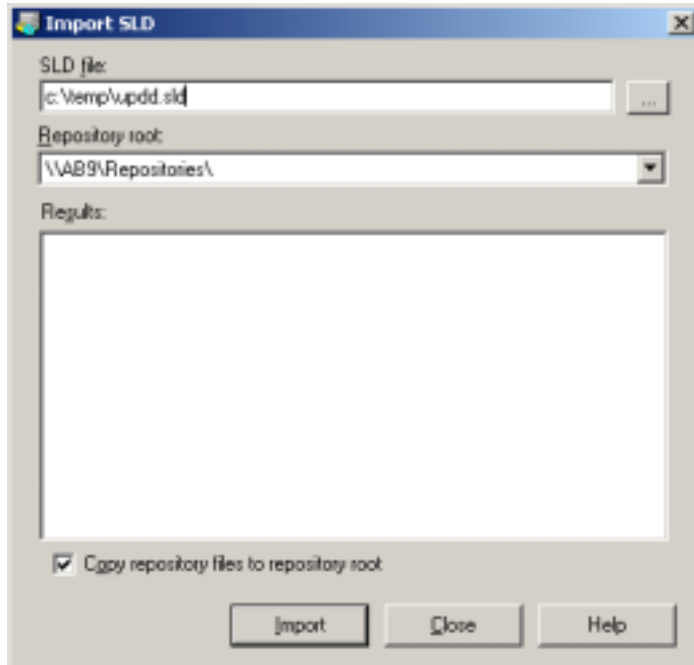


Figure 3 – Enter a filename

- Click on "Import"
- Go to step 4

Step 3

- Open "updd.sld" using Component Designer
- Expand the tree view on the left until "Universal Pointer Device Driver" is visible
- Click on "Universal Pointer Device Driver"

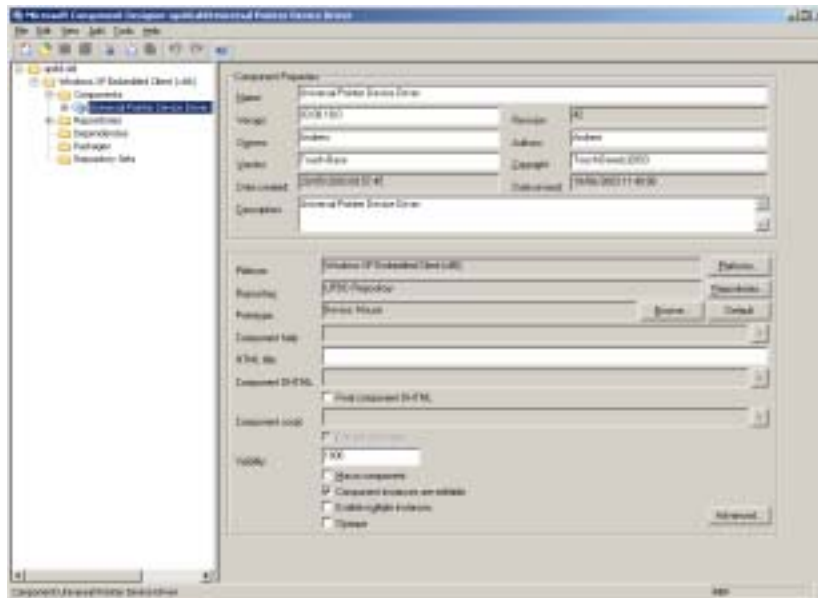


Figure 4 – Selecting "Universal Pointer Device Driver" in Component Designer

- Click "Edit", "Set to Latest Revision"

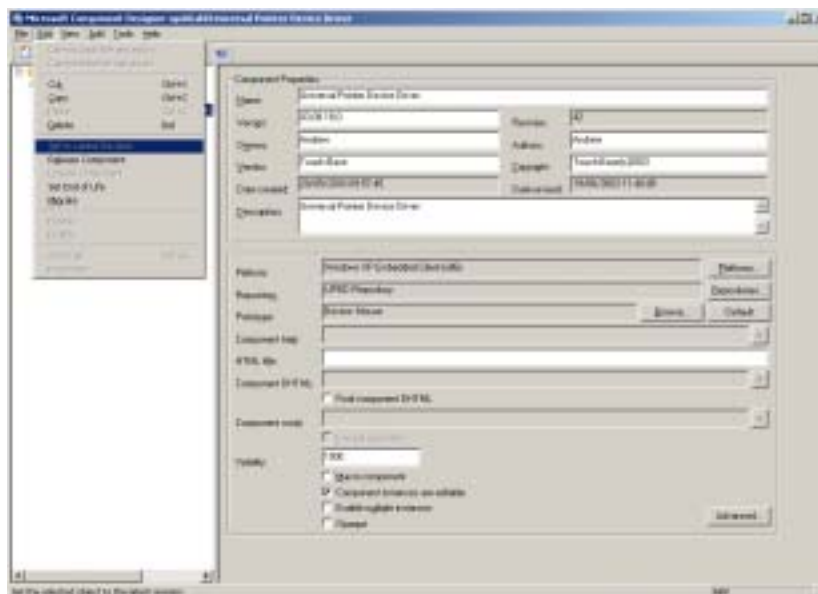


Figure 5 – Upgrading the driver to the latest revision

- Save and quit
- Go to step 2

Step 4

- Open your XPe project in Target Designer
- If you have not previously installed UPDD XPe then Drag "Universal Pointer Device Driver" from the Component Browser to your project.

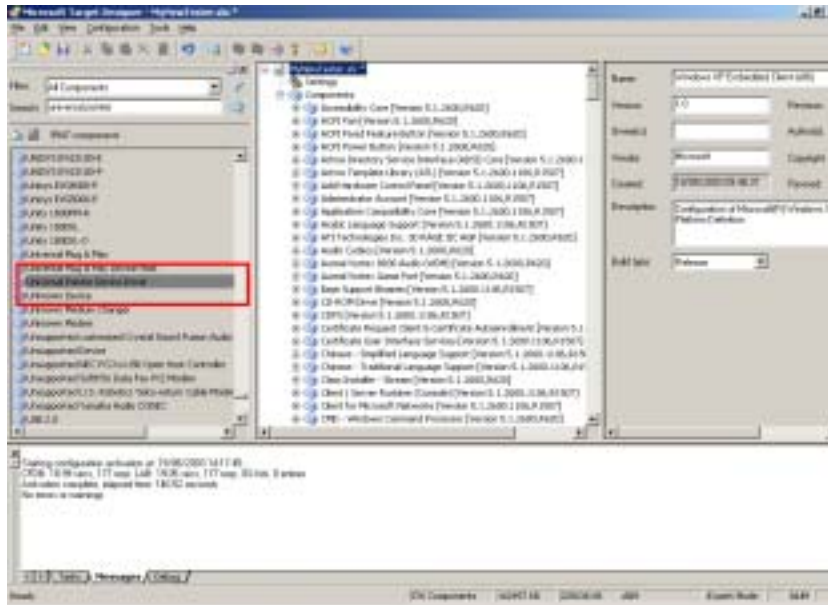


Figure 6 – The UPDD entry in the Component Browser

- If you have previously installed UPDD XPe the click the "Configuration" menu and select "Upgrade Configuration" and reply "Yes" to the prompt.

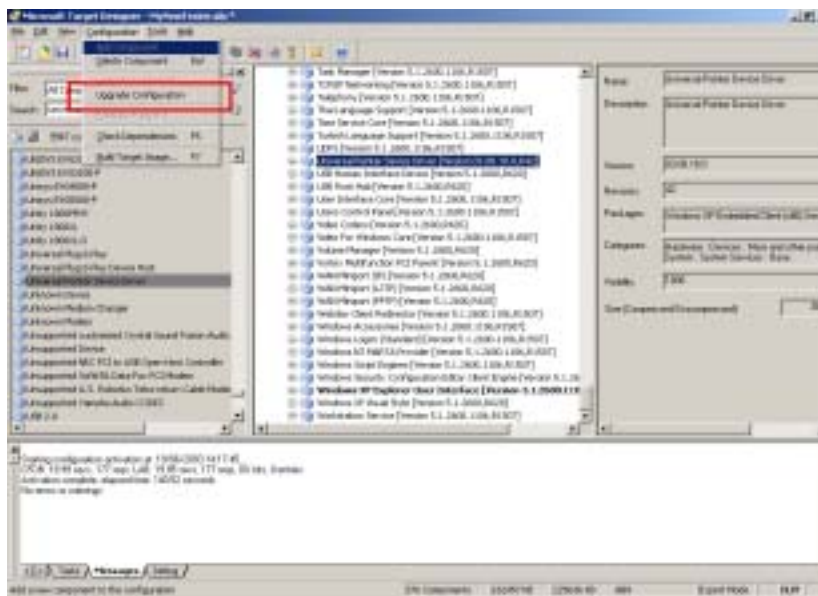


Figure 7 – Upgrading the platform configuration in Target Designer

- Click the "Configuration" menu and select "Check Dependencies"

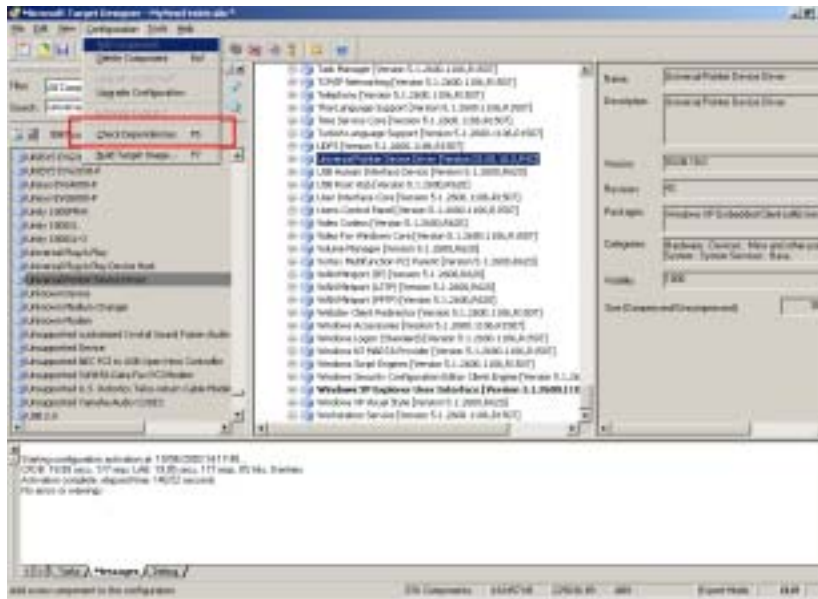


Figure 8 – Checking inter-component dependencies in Target Designer

- If all dependencies are present go to step 5
- If you have not previously installed UPDD then the dependency check may fail and a "manual resolve task" will be added to Target Designers task list

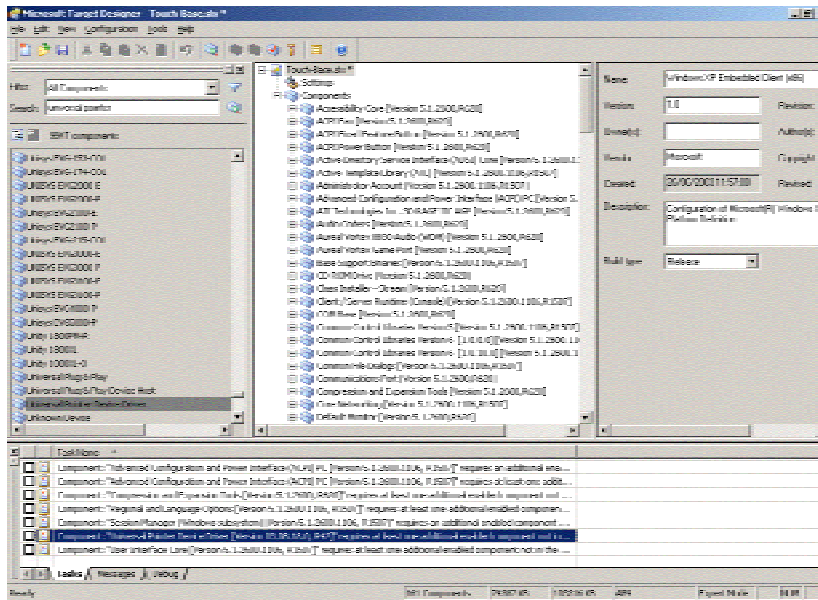


Figure 9 - Manual dependency resolve needed

- If UPDD is in the task list, then double click on the entry to bring up the Resolve Dependency dialog. The entry "USB Human Interface Device" should be added by checking it then clicking Add.

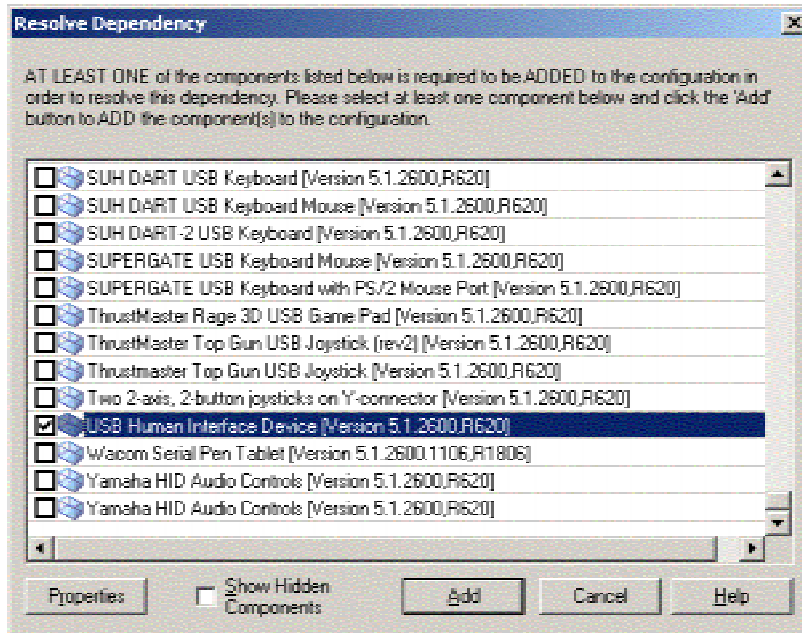


Figure 10 - Adding "USB Human Interface Device" as a dependency

Step 5

- Click the "Configuration" menu and select "Build Target Image" and then click "Build"

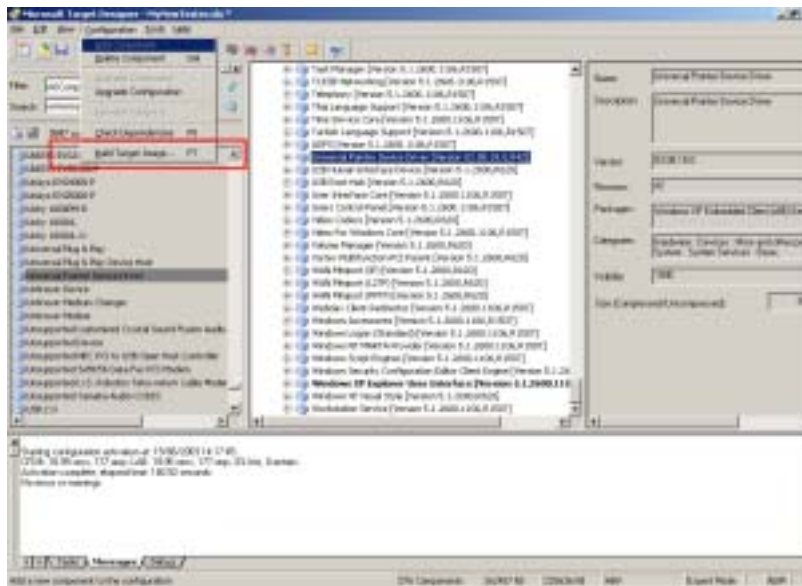


Figure 11 – Building the final platform image in Target Designer

More Information

Reference the Microsoft Windows embedded web site at

<http://www.microsoft.com/windows/embedded/xp/default.asp> for more information.

Contact

For further UPDD technical information please contact DMC's regional offices listed on our web site at <http://www.dmccoltd.com>

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