



# **UEFI Packaging Tool (UEFIPT)**

## **Quick Start**

*Version 1.2*  
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This document provides a definitive list of steps to follow which will result in the creation of a UEFI Distribution Package using the UEFI Packaging Tool (UEFIPT) within a Microsoft Windows\* OS environment.

## 1.1 Prerequisite

It is presumed that you have the following:

An EDKII module or package located in an EDKII WORKSPACE. This tool only operates within the context of an EDKII WORKSPACE.

A `package_information_data_file.ini` file that has been developed and properly formatted. This is REQUIRED before the UEFIPT create command may be successfully executed. Refer to Appendix A for a brief tutorial on creating a `package_information_data_file.ini`. If you have not done this, go do this now – see Appendix A.

Knowledge of UEFI: Reference the most recent UEFI Specification located at: <http://www.uefi.org>.

Knowledge of UEFI Platform Initialization: Reference the most recent UEFI Platform Initialization Specification located at: <http://www.uefi.org>.

Knowledge of EDK II: Reference the most recent versions of EDKII documentation located at: <http://sourceforge.net/apps/mediawiki/tianocore/index.php?title=Welcome>.

Knowledge and understanding of the UEFI Packaging concept and architecture: Reference the most recent version of the UEFI Distribution Package Specification located at: <http://www.uefi.org>.

Knowledge and understanding of the EDK II Module Information Meta-data File specification, v1.23 or later located at: <http://sourceforge.net/apps/mediawiki/tianocore/index.php?title=Welcome>.

Knowledge and understanding of the EDK II Package Declaration File Specification, v1.23 or later located at: <http://sourceforge.net/apps/mediawiki/tianocore/index.php?title=Welcome>.



## 2

## Quick Notes:

---

When entered on the command line, file locations are relative to the path set in the OS environment variable `WORKSPACE`.

UEFIPT provides support for the development environment defined for the EDK II Firmware Device Image Development Environment.

### 2.1 Windows Development Workstations

The working directory for the EDK II development tree (containing distribution packages) is defined as a folder below the root directory. For example:

```
C:\>EDKII>
```

In this example, the OS environment variable `WORKSPACE` is set to the working directory for EDK II. For example:

```
C:\>set WORKSPACE=C:\EDKII
```

### 2.2 Windows 7 Development Workstations

For Windows 7 users, it is recommended that you use the `subst` command, keeping your `edk2` downloads in your home directory. Windows 7 only allows administrators to create folders in the root directory. If you can remember to always open the `cmd.exe` using "run as administrator ...", the directions above can be used. Otherwise, if your sources are located in a directory path such as the following:

```
C:\Users\myname\Documents\Work\edk2>
subst z: C:\Users\myname\Documents\Work\edk2
```

Then set the OS environment variable `WORKSPACE` to the newly created drive:

```
C:\Users\myname\Documents\Work\edk2>z:
z:\>set WORKSPACE=z:\
```

### 2.3 Linux and OS/X Development Workstations

The working directory for the EDK II build tree (containing distribution packages) is defined as a first level folder from your home directory. For example:

```
[ /home/myname/edk2 ] #
```

In this example, the OS environment variable `WORKSPACE` is set to the working directory for EDK II development. For example:

```
[ /home/myname/edk2 ] # export WORKSPACE=/home/myname/edk2
```

The OS environment variable `WORKSPACE` is now set to the EDKII `WORKSPACE`

If the directory containing the UEFI Packaging Tool is not in the OS environment's PATH variable, you must add the directory to the PATH OS environment variable. For the example above,  
**C:\>set PATH=%WORKSPACE%\BaseTools\Bin\Win32;%PATH%**

The preferred method to setting the OS PATH environment variable is to execute the edksetup.bat script in a command prompt window within the root directory of an EDK II development tree. This batch file also adds the directory containing the tools to the OS environment variable PATH.

**Note:** *UEFIPT will automatically skip files and directories that use a "." period for the first character in their name. Any files hidden from the user must not be hidden when creating a distribution. You are responsible for ensuring that the tree used to create a distribution package contains only those files and directories that are to be included in the distribution package.*

In command line syntax examples shown, when command is too long to fit within the margins of this document an "|" mark is inserted to indicate the command continues on the next line. In actual use, the entire command is on a single line on the command prompt line.

Step-by-Step instructions for each UEFIPT command is provided. Following the Step-by-Step instructions will yield successful results for executing that command. Step-by-step instructions are written in a context format which assumes the command to be executed is the first and only command. In practice a number of commands are likely to be executed, therefore, for example, the environment variable for **WORKSPACE** need only be defined once, at the beginning of the work session.

A properly developed **package\_information\_data\_file.ini** must be provided as specified for the command.

When UEFIPT has been used to install a distribution package, subsequent changes to the installed package directory and meta-data file names performed manually (i.e. without using UEFIPT) will preclude successful future use of UEFIPT for that package. For example, if you were to install the distribution package MyPlatformPkg.dist and afterward, manually change the name to installed package directory from MyPlatformPkg to MyOldPlatformPkg, UEFIPT would not install the MyPlatformPkg.dist again nor could it remove MyPlatformPkg. UEFIPT would also not have any knowledge of MyOldPlatformPkg, therefore, UEFIPT could not be used to remove MyOldPlatformPkg. The same is true if you were to delete MyPlatformPkg directory tree – UEFIPT could not be used to re-install the MyPlatformPkg.dist.

During stress testing under Microsoft\* Windows 7 with anti-virus software enabled, the tool failed after successfully completing 400 create package operations

An EDK II binary module that uses binary file types of UNI\_VER, UNI\_UI, LIB and UEFI\_APP cannot be distributed using the standard features, however the contents may be distributed using MiscellaneousFiles portion of the UEFIPT.

When installing a UEFI Distribution Package generated by other tools that allow absolute path names for files, the error messages on Windows are different than the error messages on \*NIX systems. The UEFIPT does not support absolute path names for files and directories.

If an EDK II Meta-data file is incorrectly formatted, information from the header comment block, such as copyright and license may be lost.



## 2.4 Command Line Access

The UEFIPT uses a command line interface that enables you to:

1. Create a UEFI distribution package;
2. Install a distribution package into an EDK II WORKSPACE;
3. Remove a distribution package from an EDK II WORKSPACE

The UEFIPT help screen displays as follows:

```
C:\EDKII>UPT -h
Usage: upt.exe [options]
```

```
UEFI Packaging Tool (UEFIPT) - Revision 1.0
Copyright (c) 2011 Intel Corporation All Rights Reserved.
```

The UEFIPT is used to create, install or remove a UEFI Distribution Package. If WORKSPACE environment variable is present, then UPT will install packages to the location specified by WORKSPACE, otherwise UPT will install packages to the current directory. Option -n will override this default installation location

Options:

```
--version          show program's version number and exit
-h, --help         show this help message and exit
-d DEBUG_LEVEL, --debug=DEBUG_LEVEL
                  Print DEBUG statements, where DEBUG_LEVEL is 0-9
-v, --verbose      Print informational statements
-s, --silent       Returns only the exit code, informational and
                  error messages are not displayed
-q, --quiet        Returns the exit code and displays error
                  messages only
-i INSTALL_DISTRIBUTION_PACKAGE_FILE, --
                  install=INSTALL_DISTRIBUTION_PACKAGE_FILE
                  Specify the UEFI Distribution Package filename to
                  install
-c CREATE_DISTRIBUTION_PACKAGE_FILE, --
                  create=CREATE_DISTRIBUTION_PACKAGE_FILE
                  Specify the UEFI Distribution Package filename to
                  create
-r REMOVE_DISTRIBUTION_PACKAGE_FILE, --
                  remove=REMOVE_DISTRIBUTION_PACKAGE_FILE
                  Specify the UEFI Distribution Package filename to
                  remove
-t PACKAGE_INFORMATION_DATA_FILE, --
                  template=PACKAGE_INFORMATION_DATA_FILE
                  Specify Package Information Data filename to
                  Create package
-p EDK2_DEC_FILENAME, --dec-filename=EDK2_DEC_FILENAME
                  Specify dec file names to create package
-m EDK2_INF_FILENAME, --inf-filename=EDK2_INF_FILENAME
                  Specify inf file names to create package
-f, --force        Disable all user prompts
-n, --custom-path  Enable user prompting for alternate installation
                  directories
-x, --free-lock    Skip the check for multiple instances
```

The UEFIPT command set has an associated order of execution precedence. For example: -v takes precedence over -q which has precedence over -d which has precedence of -s.

Execution precedence is defined as follows:

```
upt -h | --version
upt [-v|-q|-d DEBUG_LEVEL|-s] [-f] [-x] -c DistFile -t DistInfo [-m
INF_File]+
upt [-v|-q|-d DEBUG_LEVEL|-s] [-f] [-x] -c DistFile -t DistInfo [-p
DEC_File]+
upt [-v|-q|-d DEBUG_LEVEL|-s] [-f] [-x] -c DistFile -t DistInfo [-m
INF_File]+ [-p DEC_File]+
upt [-v|-q|-d DEBUG_LEVEL|-s] [-f|-n] [-x] -i DistFile
upt [-v|-q|-d DEBUG_LEVEL|-s] [-f] [-x] -r DistFile
```



## Creating a Distribution File

There are a series of steps to create a distribution file.

- 1) Set the environment variable **WORKSPACE** to your working directory as specified at the beginning of Section 2. Note: The location of the DEC file must be relative to the path set in **WORKSPACE**.
- 2) Verify that the **package\_information\_data\_file.ini** file has been properly developed and formatted correctly. An example is provided below:

```
[DistributionHeader]
Name = DistributionPackageTest
GUID = DF0EFA2E-EB83-410b-BE2E-FCCDB2F894C2
Version = 1.7
Vendor = Intel Corporation
Copyright = Copyright (c) 2010, Intel Corporation. All rights reserved.
License = This program and the accompanying materials are licensed and
        made available under the terms and conditions of the BSD
        License which accompanies this distribution. The full text
        of the license may be found at:
        http://opensource.org/licenses/bsd-license.php
        THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN "AS
        IS" BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY
        KIND, EITHER EXPRESS OR IMPLIED.
Abstract = Version 1.2 of the NoSuchChipset Distribution Package.
XmlSpecification = 1.1
```

**Note:** Do NOT use the GUID in the example shown above or in any other examples provided. Each GUID you provide must be a valid and unique GUID / Version combination for every unique distribution package that you create. That is, you must provide a properly formatted and unique GUID value for each distribution. (Updates for existing distribution packages do not require a separate GUID unless backward compatibility is not maintained.) Refer to the UEFI Distribution Package Specification for GUID and Version requirements.

**Note:** The best way to create a properly formatted and generated GUID is to use a GUID creation program, readily available on the Internet.

The content on the left of "=" is the name of distribution header item (keyword) and the content on the right of "=" is the value assigned to the keyword. There is only one value assigned to a keyword with noted exceptions (as described in the [ToolsHeader] section).

**Note:** Keywords and section names are case sensitive. For example, "Name" must have the "N" capitalized – "name" is not correct. The text in the examples (not keywords, that is, text after the "=" symbol) is text you must enter. Do not simply copy the text contained in the examples. Enter text which is applicable to your distribution package, version number, vendor name (your company), copyright, license, abstract, and XML specification version.

The actual text file for an empty **package\_information\_data\_file.ini** file which you can copy and complete with your distribution specific content is located in the EDKII development tree at:

Windows:

%WORKSPACE%\BaseTools\Conf\Empty\_Package\_Information\_Data\_File.ini

Linux & OS/X:

\$(WORKSPACE)/BaseTools/Conf/Empty\_Package\_Information\_Data\_File.ini

- 3) Define the name of the distribution package that will be created. For example, **MyFirstDist.dist**

NOTE: The filename extension of a distribution package must be “.dist.”

- 4) Identify the path and declaration DEC file which will be used to generate the distribution package. For example: **MdePkg\MdePkg.dec**. The declared path must be relative to **WORKSPACE**. The DEC file name must be used with the **-p** command line option when creating a distribution package. However, the DEC file is only required for distribution of an EDK II package which is a collection of like items which have a Package Declaration (DEC) File defined.

**Note:** *More than one **-p FILENAME.dec** option may be specified on the command line.*

- 5) Create the distribution package.

The following is a command line syntax example for creating a distribution file as described above:

```
C:\EDKII>UPT -c MyFirstDist.dist -p MdePkg\MdePkg.dec -t |  
package_information_data_file.ini
```

## Installing a Distribution Package

---

- 1) Set the environment variable **WORKSPACE** to your working directory as specified at the beginning of Section 2.
- 2) Identify the name of the distribution package that will be installed. For example, **MyDist.dist**
- 3) Install the distribution package.

Following the steps outlined above, a syntax example for installing a distribution package using UEFITool may appear as follows:

```
C:\EDKII>UPT -i MyDist.dist
```

If the distribution package target folder is already present (for example, MdePkg already exists), UEFITool will inform you that the specified target already exists and will prompt you to enter another location. If no additional locations are required, pressing [ENTER] will exit the tool. The following is an output display example:

### Windows Development Workstations

```
C:\EDKII>upt -i test.dist
Unzipping and parsing distribution package XML file...

Dist.content -> C:\EDKII\dist.content
Installing package ... MdePkg Version 1.02
This directory already exists: MdePkg.
Please select another location. Press [Enter] with no input to quit:

MyDistributionPackageSource\
```

### Linux and OS/X Development Workstations

```
# upt -i test.dist
Unzipping and parsing distribution package XML file...

Dist.content -> /home/myname/edk2/dist.content
Installing package ... MdePkg Version 1.02
This directory already exists: MdePkg.
Please select another location. Press [Enter] with no input to quit:

MyDistributionPackageSource/
```

## 4.1

### Specifying custom installation paths for packages in the distribution

This command is a variant use of the “-i” command, previously presented. The difference is these instructions demonstrate how to specify a custom installation path for the package in the distribution using the “-n” option.

- 1) Set the environment variable **WORKSPACE** to your working directory as specified at the beginning of Section 2. Note: The location of the DEC file must be relative to the path set in **WORKSPACE**.
- 2) Identify the name of the distribution package that will be installed. For example, **MyDist.dist**
- 3) Identify the custom path where the packages will be installed instead of the default path. For example, **MyDistributionPackageSource\**
- 4) Install the distribution package.

Following the steps outlined above, a syntax example for installing a distribution package using UEFITP may appear as follows:

#### Windows Development Workstations

```
C:\EDKII>upt -i test.dist -n
Unzipping and parsing distribution package XML file...
dist.pkg -> c:\EDKII\dist.pkg

Dist.content -> C:\EDKII\dist.content
Installing package ... MdePkg Version 1.02
Please select package location. Press [Enter] with no input to quit:

MyDistributionPackageSource\
```

#### Linux and OS/X Development Workstations

```
# upt -i test.dist -n
Unzipping and parsing distribution package XML file...
dist.pkg -> /home/myname/edk2/dist.pkg

Dist.content -> /home/myname/edk2/dist.content
Installing package ... MdePkg Version 1.02
Please select package location. Press [Enter] with no input to quit:

MyDistributionPackageSource/
```

## 5

# Removing a Distribution Package

---

- 1) Set the environment variable **WORKSPACE** to your working directory as specified at the beginning of Section 2.
- 2) Identify the name of the distribution package that will be removed. For example, **MyDist.dist**
- 3) Remove the distribution package.

Following the steps outlined above, a syntax example for removing a distribution package using UEFIPT may appear as follows:

```
C:\EDKII>UPT -r MyDist.dist
```





## 6

# Creating a Package Information Data File

---

The package information data file is an .INI file required by UEFIPT for user specific information about the package. The DistributionHeader includes the legally required Header Metadata, including the Vendor, License, and copyright information. MiscellaneousFilesHeader and ToolsHeader are optional. You must provide the package information data file when creating a distribution package – if not, UEFIPT will not function correctly.

You may edit / create the INI file by using a text editor of your choice. If you desire to create different distributions, you must provide a unique GUID / Version combination for each. That is, you must modify the value assigned to GUID for each distribution. There are three sections in the package information data file:

DistributionHeader,

MiscellaneousFilesHeader,

ToolsHeader.

### [DistributionHeader] (Required)

This section is the legally required Header Meta data for the distribution package. You must provide a unique GUID / Version combination for every unique distribution package that you create. That is, you must modify the value assigned to GUID for each distribution. (Updates for existing distribution packages do not require a separate GUID unless backward compatibility is not maintained.) Refer to the UEFI Distribution Package Specification for GUID and Version requirements.

GUID values are required for distributing dissimilar content, or if a non-backward compatible change is made. Changes to a given distribution that are backward compatible only require a new version.

**Note:** A GUID must be properly generated and formatted. The best way to create a GUID is to use a GUID creation program, readily available on the Internet.

Follow exactly the case example provided below.

```
[DistributionHeader]
Name = DistributionPackageTest
GUID = DF0DDA2E-EA83-480b-B2CE-FC0BB2F894C2
Version = 1.0
Vendor = Your company name
Copyright = Copyright (c) 2011, Your company name. All rights reserved.

License = This program and the accompanying materials are licensed and
         made available under the terms and conditions of the BSD License
         which accompanies this distribution. The full text of the
```

license may be found at:

<http://opensource.org/licenses/bsd-license.php>

THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND,

EITHER EXPRESS OR IMPLIED.

Abstract = Version 1.2 of the SomeChipsetName Distribution Package.  
XmlSpecification = 1.1

The content on the left of "=" is the name of distribution header item (keyword) and the content on the right of "=" is the value assigned to the keyword. There is only one value assigned to a keyword with noted exceptions (e.g. "FileList" as described in the [MiscellaneousFilesHeader] and [ToolsHeader] sections.

**Note:** Keywords and section names are case sensitive. For example, "Name" must have the "N" capitalized – "name" is not correct. Keywords (in **Bold** typeface) are defined for each example. The text in the examples (not keywords) is text you must enter. Do not simply copy the text contained in the examples. Enter text which is applicable to your distribution package, version number, vendor name (your company), copyright, license, abstract, and XML specification version.

**[DistributionHeader]:** This is the required section identifier. It is required to be encased in brackets ("[]").

**Note:** There are two optional keywords which may be used after the [DistributionHeader]:  
ReadOnly (optional): BOOLEAN – if set to true, all content within this distribution archive should not be modified.  
RePackage (optional): BOOLEAN – if set to true then the distribution and its content may be packaged into another distribution.

**Name:** The User Interface Name of the Distribution Package File.

**Note:** There is one optional keyword which may be used after the "Name" keyword:  
BaseName (optional): The reference name of the Distribution Package File

**GUID:** The 128 bit Unique ID of the package. This is used to check if the distribution is already installed. Each distribution must have a unique GUID/Version combination.

**Version:** The version of the distribution.

**Vendor:** A string identifying who created this distribution package.

**Copyright:** The copyright for this file that is generated by the creator of the distribution. The text string content for "Copyright" must contain the case insensitive string: "copyright (c)."

**License:** A license that describes any restrictions on the use of this distribution.

**Abstract:** A one line description of the distribution.

**Note:** There is one optional keyword which may be used after the "Abstract" keyword:  
Description (optional): A complete description of the content.

**XmlSpecification:** The XML Schema Specification to which this Distribution Description conforms. The current supported version is 1.1.

## [MiscellaneousFilesHeader] (Optional)

This section describes the miscellaneous files section of the Distribution Description. A sample is provided below:

### [MiscellaneousFilesHeader]

Name = Updates Package

Copyright = Copyright (c) 2011 Your company name. All rights reserved.

License = This program and the accompanying materials are licensed and made available under the terms and conditions of the BSD License which accompanies this distribution. The full text of the license may be found at: <http://opensource.org/licenses/bsd-license.php>

THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED.

Abstract = Applicable Specification

Description = Specification documents.

FileList = Readme.txt | Executable=false

File2.txt

The content on the left of "=" is the name of distribution header item (keyword) and the content on the right of "=" is the value assigned to the keyword. There is only one value assigned to a keyword with noted exceptions (e.g. "FileList" as described in this and the [ToolsHeader] section).

**Note:** Keywords and section names are case sensitive. For example, "Name" must have the "N" capitalized – "name" is not correct. Keywords (in **Bold** typeface) are defined for each example. The text in the examples (not keywords) is text you must enter. Do not simply copy the text contained in the examples. Enter text which is applicable to your distribution package, version number, vendor name (your company), copyright, license, and abstract.

**[MiscellaneousFilesHeader]** = This is the header for this optional section. If used it must be encased in brackets ("[]").

**Name:** The User Interface Name for the miscellaneous content.

**Copyright:** The copyright for this miscellaneous content if it is different than the copyright of the distribution package. The copyright is generated by the creator of the content. The text string content for "Copyright" must contain the case insensitive string: "copyright (c)."

**License:** A license that describes any restrictions on the use of this content.

**Abstract:** A one-line text description of the content.

**Description:** A complete description of the content.

**File List:** A list for all miscellaneous files. The file must be relative path to \$(WORKSPACE). Each file is listed on a separate line. You may also identify whether the file is executable [true] or not executable [false] - refer to the sample above. Please make note of the "|" separator between the name of the file and the optional attributes which provide additional file information. The BOOLEAN values "true" and "false" are case sensitive. The Executable attribute keyword is defined here and in the [ToolsHeader] section.

[ToolsHeader] (Optional)

This section is used for distributing various documentation, configuration package information data and tools. The below is a sample:

[ToolsHeader]

Name = Sample Tools Package

Copyright = Copyright (c) 2011, Your company name. All rights reserved.

License = This program and the accompanying materials are licensed and made available under the terms and conditions of the BSD License which accompanies this distribution. The full text of the license may be found at: <http://opensource.org/licenses/bsd-license.php>

THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED.

Abstract = win32 binaries, pkg info data files for makefile base build system

Description = BaseTools package using Makefile based builds.

FileList = test.c | OS=Linux64 | Executable=true

BuildNotes2.txt

The content on the left of "=" is the name of distribution header item (keyword) and the content on the right of "=" is the value assigned to the keyword. There is only one value assigned to a keyword with noted exceptions (e.g. "FileList" as here and in the [MiscellaneousFilesHeader] section).

**Note:** Keywords and section names are case sensitive. For example, "Name" must have the "N" capitalized – "name" is not correct. Keywords (in **Bold** typeface) are defined for each example. The text in the examples (not keywords) is text you must enter. Do not simply copy the text contained in the examples. Enter text which is applicable to your distribution package, version number, vendor name (your company), copyright, license, abstract, and XML specification version.

**[ToolsHeader]=** This is an optional section header. If used it must be encased in brackets ("[]").

**Name:** The User Interface Name for the package.

**Copyright:** The copyright for this tools package if it is different than the copyright of the distribution package. The text string content for "Copyright" must contain the case insensitive string: "copyright (c)."

**License:** A license that describes any restrictions on the use of this tools package.

**Abstract:** A brief text description of the tools (must be a single line). In the example provided, abbreviations were used to show the description on one line.

**Description:** A complete description of the tools package.

**File List:** A list for all files of the tool package. Each file must be on a separate line. You may also identify the operating system associated with the files and whether the file is executable [true] or not executable [false] - refer to the sample above. Please make note of the "|" separator between the name of the file and the optional attributes which provide additional file information. The BOOLEAN values "true" and "false" are case sensitive. The Executable attribute keyword is defined here and in the [MiscellaneousFilesHeader] section. The OS attribute keyword is only defined here. Valid OS values are case sensitive and include:

- Win32
- Win64
- Linux32
- Linux64
- OS/X32
- OS/X64
- GenericWin
- GenericNix

A complete example of a package information data file is shown below:

```
[DistributionHeader]

Name = DistributionPackageTest

GUID = DF0DDA2E-EA83-480b-B2CE-FC0BB2F894C2

Version = 1.6

Vendor = Your Corporation

Copyright = Copyright (c) [year "holder of copyright"] All rights
reserved.

License = This program and the accompanying materials are licensed and
        made available under the terms and conditions of the BSD License
```

which accompanies this distribution. The full text of the  
license may be found at:

<http://opensource.org/licenses/bsd-license.php>

THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN "AS IS"  
BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND,  
EITHER EXPRESS OR IMPLIED.

Abstract = Version 1.2 of the NoSuchChipset Distribution Package.

XmlSpecification = 1.1

[MiscellaneousFilesHeader]

Name = BaseTools Package, Version 2.0

Copyright = Copyright (c) [year "holder of copyright"] All rights  
reserved.

License = This program and the accompanying materials are licensed and  
made available under the terms and conditions of the BSD License  
which accompanies this distribution. The full text of the  
license may be found at:

<http://opensource.org/licenses/bsd-license.php>

THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN "AS IS"  
BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND,  
EITHER EXPRESS OR IMPLIED.

Abstract = Applicable Specification

Description = Specification documents.

FileList = Readme.txt | Executable=false

File2.txt

[ToolsHeader]

Name = BaseTools Package, Version 2.0

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reserved.

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```

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        EITHER EXPRESS OR IMPLIED.

Abstract = win32 binaries and package information data files for makefile

Base build system

Description = BaseTools package using Makefile based builds.

FileList = test.c | OS=Linux64 | Executable=true

        BuildNotes2.txt

```

The next three examples are package information data files which might be used:

### Example 1 - MdePkg Package Information Data File (example only)

```

[DistributionHeader]

ReadOnly = true

RePackage = true

Name = MdePkg

BaseName = MdePkg

GUID = 37D6489E-DED6-4fde-9E9C-EBAB379BCA55

Version = 1.0

Vendor = Intel

Copyright = Copyright (c) 2011, Intel Corporation. All rights reserved.

Abstract = This package provides all definitions and library instances
which
        are defined by the MDE Specification.

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```



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Description = This Package provides all definitions (including functions, MACROs, structures and library classes) and libraries instances, which are defined in MDE Specification.

It also provides the definitions(including PPIs/PROTOCOLS/GUIDs) of EFI1.10/UEFI2.3/PI1.2 and some Industry Standards.

XmlSpecification = 1.1

## Example 2 - MdeModulePkg Package Information Data File (example only)

[DistributionHeader]

ReadOnly = true

RePackage = true

Name = UDK2010 MdeModulePkg

BaseName = MdeModulePkg

GUID = 37D6489E-DED6-4fde-9E9C-EBAB379BCA55

Version = 1.0

Vendor = Intel

Copyright = Copyright (c) 2011, Intel Corporation. All rights reserved.

Abstract = This package provides modules that conform to UEFI/PI Industry standards.

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Description = This package provides the modules that conform to UEFI/PI Industry standards. It also provides the definitions

```
(including
    PPIs/PROTOCOLS/GUIDs and library classes) and libraries
    instances, which are used for those modules.

XmlSpecification = 1.1
```

### Example 3 - BaseTools Package Information Data File (example only)

```
[DistributionHeader]

ReadOnly = true

RePackage = true

Name = UDK2010 Tools

BaseName = BaseTools

GUID = 37D6489E-DED6-4fde-9E9C-EBAB379BCA55

Version = 1.0

Vendor = Intel

Copyright = Copyright (c) 2011, Intel Corporation. All rights reserved.

Abstract = This package provides the release version of the EDK II
BaseTools

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Description = This packages contains the BaseTools from the EDK II
BuildTools
    project on SourceForge.net. The release is based on revision
    2161.

XmlSpecification = 1.1

[ToolsHeader]
```

Name = BaseTools Package, Version 2.0

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Abstract = win32 binaries and template files for makefile base build system

Description = BaseTools package using Makefile based builds.

FileList = BaseTools/BuildEnv

BaseTools/building-gcc.txt

BaseTools/toolsetup.bat

BaseTools/Makefile

BaseTools/GNUMakefile

BaseTools/BuildNotes.txt

BaseTools/ReadMe.txt

BaseTools/UserManuals/BootSectImage\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/Build\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/EfiLdrImage\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/EfiRom\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/Fpd2Dsc\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/GenBootSector\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/GenCrc32\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/GenDepex\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/GenFds\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/GenFfs\_Utility\_Man\_Page.rtf

BaseTools/UserManuals/GenFv\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/GenFw\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/GenPage\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/GenPatchPcdTable\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/GenSec\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/GenVtf\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/InstallPkg\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/LzmaCompress\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/MkPkg\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/Msa2Inf\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/PatchPcdValue\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/RmPkg\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/Spd2Dec\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/SplitFile\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/TargetTool\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/TianoCompress\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/Trim\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/UtilityManPage\_template.rtf  
BaseTools/UserManuals/VfrCompiler\_Utility\_Man\_Page.rtf  
BaseTools/UserManuals/VolInfo\_Utility\_Man\_Page.rtf  
BaseTools/Bin/Win32/build.exe  
BaseTools/BinWrappers/Linux-i686  
BaseTools/Conf/build\_rule.template  
BaseTools/gcc/mingw-gcc-build.py  
BaseTools/Scripts/gcc4.4-ld-script  
BaseTools/Source/C/BootSectImage/bootsectimage.c  
BaseTools/Source/C/GNUMakefile  
BaseTools/Source/Python/sitecustomize.py  
BaseTools/Source/Python/build/build.py  
BaseTools/Tests/CheckPythonSyntax.py



## User Extensions

---

This section describes how the UEFIPT uses the UserExtensions section of the XML to handle EDK II content that is not described in standard locations for modules and packages.

The contents of the EDKII meta-data file [UserExtensions] sections will be placed into the distribution package in an UserExtension instance within the **PackageSurfaceArea** or **ModuleSurfaceArea** (as depicted in the UEFI Distribution Package Specification). There are additional items that must be included which are vendor specific. The additional items are defined by User Extensions.

### [Defines] Section of the INF file

#### Description:

The following items will be put into **ModuleSurfaceArea.UserExtensions**.

```
"EDK_RELEASE_VERSION"
"SHADOW"
"DPX_SOURCE"
"CUSTOM_MAKEFILE"
"UEFI_HII_RESOURCE_SECTION"
"PCI_VENDOR_ID"
"PCI_DEVICE_ID"
"PCI_CLASS_CODE"

"PCI_REVISION"

"PCI_COMPRESS"
```

Special Notes:

Macro definitions defined in an INF file are expanded prior to packaging, and therefore, all MACRO definitions will not be included.

If there is a LIBRARY\_CLASS = XXX in [Define] section, then an entry will be generated in the ModuleSurfaceArea.LibraryClassDefinitions, with usage of PRODUCES. During installation, if there is the LibraryClass with usage of "PRODUCES" the tool will generate an entry in the [Define] section, not in the [LibraryClasses] section

#### Format:

```
<UserExtensions
```

```

        UserId=" EDK2" {1}

        Identifier=" DefineModifiers " {1} >

        <Define>

            <Statement SupArchList=" ArchListType " {0,1}>

                Expression

            </Statement> {1,}

        </Define>{1}

    </UserExtensions>

```

### Examples:

```

<UserExtensions Identifier="DefineModifiers" UserId="EDK2">

    <Define>

        <Statement>

            SHADOW = TRUE

        </Statement>

    </Define>

</UserExtensions>

```

### [BuildOptions] Section of the INF file

#### Description:

All content from the BuildOptions section of the INF will be copied into the **ModuleSurfaceArea.UserExtensions** section using the following format.

#### Format:

```

<UserExtensions

    UserId=" EDK2" {1}

    Identifier=" BuildOptionModifiers " {1} >

    < BuildOption >

        <Statement SupArchList=" ArchListType " {0,1}>

            BuildOptionStatement

        </Statement> {1,}

    </ BuildOption >{1}

</UserExtensions>

```

## Examples:

```
<UserExtensions Identifier="BuildOptionModifiers" UserId="EDK2">

  <BuildOption>

    <Statement>

      *_WINDDK3790x1830_*_CC_FLAGS = /Qwd1418,810

      *_MYTOOLS_*_CC_FLAGS = /Qwd1418,810

      *_VS2003_*_CC_FLAGS = /wd4244

      *_WINDDK3790x1830_*_CC_FLAGS = /wd4244

      *_MYTOOLS_*_CC_FLAGS = /wd4244

      RELEASE_MYTOOLS_IPF_ASM_FLAGS == -N us -X explicit -M ilp64 - N so
      -W3

    </Statement>

  </BuildOption>

</UserExtensions>
```

## [Binaries] Section of the INF file

### Description:

For INF [Binaries] section, comments will not be included in the distribution. If the statement in this section contains a TARGET field, the INF file cannot be included in the distribution. If an expression contains fields (including comments) other than the following, the content will be placed in the **ModuleSurfaceArea.UserExtensions** section of the XML:

```
BinaryFiles.BinaryFile.FileName
BinaryFiles.BinaryFile.FileName:FileType
BinaryFiles.BinaryFile.FileName:SupArchList
BinaryFiles.BinaryFile.FileName:FeatureFlag
```

If there are multiple expressions that share the same FileName, FileType, FeatureFlag, and / or SupArchList, then there will be one entry in the UserExtension for that FileName, FileType, FeatureFlag, and / or SupArchList.

### Format:

```
<UserExtensions

  UserId=" EDK2" {1}

  Identifier=" BinaryFileModifiers" {1} >

  < Binaries >

  < Binary >
```



```

    < FileName >
        xs:anyURI
    </ FileName> {1}
    < FileType >
        FileType
    </ FileType > {1}
    < SupArchList >
        ArchListType
    </ SupArchList > {0,1}
    < FeatureFlag >
        xs:normalizedString
    </ FeatureFlag > {0,1}
< BinaryFileOtherAttr >
    <Target>
        TargetType
    </Target> {0,1}
    < Family >
        FamilyType
    </ Family > {0,1}
    < TagName>
        FamilyType
    </ TagName> {0,1}
    < Comment >
        HelpText
    <\ Comment >
</ BinaryFileOtherAttr > {1,}
</ Binary> {1,}
</ Binaries >{1}

```

```
</UserExtensions>
```

### Examples:

```
<UserExtensions Identifier="BinaryFileModifiers" UserId="EDK2">
```

```
  <Binaries>
```

```
    <Binary>
```

```
      <FileName>
```

```
        Not_Used.h
```

```
      </FileName>
```

```
      <FileType>
```

```
        GUID
```

```
      </FileType>
```

```
      <SupArchList>
```

```
        IA32
```

```
      </SupArchList>
```

```
      <BinaryFileOtherAttr>
```

```
        <Target>
```

```
          DEBUG
```

```
        </Target>
```

```
        <Family>
```

```
          *
```

```
        </Family>
```

```
        <Comment>
```

```
          Help Text
```

```
        </Comment>
```

```
      </BinaryFileOtherAttr>
```

```
    </Binary>
```

```
  <Binary>
```

```
    <FileName>
```

```
1.uni
</FileName>
<FileType>
  UI
</FileType>
<SupArchList>
  IA32
</SupArchList>
<BinaryFileOtherAttr>
  <Target>
    DEBUG
  </Target>
</BinaryFileOtherAttr>
</Binary>
</Binaries>
</UserExtensions>
```