



Intel® Server Utilities Deployment Procedure for Windows* Preinstallation Environment

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Revision History

Date	Revision Number	Modifications
04/19/2007	1.0	Initial Release
04/19/2008	2.0	Added information on WinPE 1.5, 2.0 and 2.1.

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1. Introduction

1.1 Purpose of the document

This document describes the mechanism to prepare a customized Windows* Pre-Installation Environment (Windows PE) image, where in “customization” refers to the inclusion of the Intel configuration and deployment Utilities and its drivers to the Windows PE OS. A bootable Windows PE CD is created from this customized image, from which the Intel Windows PE utilities (iFlash32, SELViewer, SYSCFG, FRUSDR and FWPIAUPD) can be run without going through any other update procedure.

The steps followed to prepare “Intel Server Configuration Utilities - Windows PE CD” are:

1. Customize a Windows PE OS to support Intel Utilities and drivers
2. Enable WMI and PNP support for Windows PE OS
3. Create a bootable Windows* PE CD

1.2 Intended Audience

This document is intended for the following audience:

- OEM Customers who owns license to redistribute the customized Windows* PE CD with Server Configuration Utilities
- Windows System Administrators

1.3 Prerequisites

Customization of Windows PE image to include Intel Server Configuration utilities and drivers requires the following:

- A computer running Microsoft Windows* XP or later versions.
- All files for the Intel Server Configuration utilities and drivers either available on the computer's local hard drive or network, or saved to removable media.
- The following CDs are required for building WinPE image.

Table 1 Prerequisites

WinPE Version	Build tools	Windows OS
WinPE 1.5	Windows PE version 2004 CD containing build tools	Windows* XP with Service Pack 2 (SP2) CD
WinPE 1.6	Windows PE version 2005 CD containing build tools	Windows* Server 2003 with Service Pack 1 (SP1) CD
WinPE 2.0	Windows Automated Installation Kit (AIK) v1.0.0.0	Windows* Vista DVD
WinPE 2.1	Windows Automated Installation Kit (AIK) v1.0.0.0	Windows* Server 2008 DVD

1.4 Conventions Used in This Document

Typographic Convention:

- Plain Text: The normal text typeface is used for ordinary text.
- **Bold**: In text, **Bold** typeface indicates the running head within a paragraph. In instances of command line execution, this indicates typical examples of the syntax of the various build tools.
- *Italic*: In text, an *Italic* typeface indicates the reference to 'directory' that is used in this document procedure.

Hardware Convention:

- The CD-ROM drive letter is assigned to 'E:'

2. Steps for Customized Windows* PE CD Preparation

2.1 For WinPE 1.5 and 1.6

The Microsoft Windows PE 1.5/1.6 image is modified to install Intel drivers for the execution of Intel utilities. This customization includes the support for the following:

- **PNP**: Adds Plug and Play device driver detection
- **WMI**: Adds the WMI providers and classes
- **Intel® Server Configuration Utilities**: Adds the binaries of Intel's Server Configuration Utilities
- **Intel Drivers**: Adds the support for the installation of three Intel drivers namely, IMB Driver, IBSMUtil Driver and Flash Update driver that are required by the Intel's Server Configuration utilities

The detailed procedure is explained in the following steps.

2.1.1 Step 1: Build Preparation

This step explains how to get the build tools that are necessary for the customization and creation of the Windows PE image.

- Place the '*Microsoft Windows* PE CD*' in the CD-ROM drive.
- Create a directory on your machine to store the Windows* PE build tools, denoted as *build_location*. For example, type:
md c:\build_x86

- Copy the contents of *cd_drive\Winpe* folder to build_location. For example, type:
xcopy e:\winpe c:\build_x86 /s

2.1.2 Step 2: Updating Windows* PE Registry for Intel Drivers

This step describes the procedure to add the registry entries for the Intel drivers (IMB driver, IBSMUtil driver and Flash Update driver) to the Windows* PE registry.

- Open the **c:\build_x86\WINPESYS.INF** file.
- Search for “network configuration entries” section.
- Copy the text in the

Appendix A – Adding Intel Drivers in winpesys.inf and paste above the “network configuration entries” section.

2.1.3 Step 3: Creating Customized Windows* PE

The ‘mkimg.cmd’ used in this procedure creates the Windows PE image that has the required files for Windows PE OS to run, along with the Intel drivers’ registry entries.

- Remove the ‘*Microsoft Windows* PE CD*’ from the CD-ROM drive and load the Windows OS CD.
- Navigate to *build_location*. For example, type:
cd c:\build_x86
- Run the *Mkimg* command with the below additional switches.
mkimg.cmd <cd_drive> <winpe_image_dir> /PNP /WMI
For example, type:
mkimg.cmd e:\ c:\winpe /PNP /WMI
where, ‘e:\’ points to the Windows OS CD and
‘c:\winpe’ is the destination directory where the customized Windows* PE image files are copied.
‘/PNP’ and ‘/WMI’ switches provides the support for ‘Plug and Play’ and ‘Windows* Management Instrumentation (WMI)’ respectively.

2.1.4 Step 4: Intel® Server Configuration Utilities and Driver Insertion

This step describes the addition of Intel’s Server Configuration utilities and driver binaries to the customized Windows* PE image.

- Ensure that all files for the Intel Server Configuration utilities are accessible. If necessary, load the removable media that contains the files.
- Run the ‘**c:\build_x86\drvinst.exe**’ command to add Intel driver (IMB, IBSMUtil and Flash update) files to the Windows PE image:
drvinst.exe /inf:source_directory <winpe_image_dir>
where:
<source_folder> is the folder that holds the Intel driver files:
<winpe_image_dir> is the destination folder into which the customized Windows* PE image files are copied.

Example: **c:\build_x86\drvinst.exe /inf:c:\Utilities c:\winpe**

where ‘c:\Utilities’ contains all of the files for the Intel Server Configuration Utilities including:

- ❖ IMB driver: imbdrv.inf, imbdrv.sys
- ❖ IBSMUtil driver: ibsmutil.inf, ibsmutil.sys
- ❖ Flash Update driver: flashud.inf, FLASHUD.sys

This adds Intel driver files (IMB, IBSMUtil and Flash update) to the Windows* PE image.

- Create a folder under `<winpe_image_dir>` and copy the Intel Server Configuration Utility files into this folder.
md c:\winpe\IntelUtils
xcopy c:\Utilfiles c:\winpe\IntelUtils /s
where, 'c:\Utilfiles' corresponds to the folder that contains all of the files for the Intel Server Configuration Utilities.

2.1.5 Step 5: Enabling WMI

The below mentioned extra files/folders need be copied from 'Microsoft Windows* PE CD' for the starting WMI service provider.

- Load the 'Microsoft Windows* PE CD' in the CD-ROM drive.
- Create below mentioned empty directories under `<winpe_image_dir>\i386\system32\wbem` folder
e.g:
md C:\winpe\I386\SYSTEM32\WBEM\REPOSITORY
md C:\winpe\I386\SYSTEM32\WBEM\AUTORECOVER
md C:\winpe\I386\SYSTEM32\WBEM\LOGS
md C:\winpe\I386\SYSTEM32\WBEM\MOF
- Copy the contents of 'REPOSITORY' folder under '`<cdrom_drive>:\i386\SYSTEM32\WBEM\REPOSITORY`' to the customized `<winpe_image_dir>` folder.
e.g:
xcopy e:\I386\SYSTEM32\WBEM\REPOSITORY*.*
C:\winpe\I386\system32\wbem\REPOSITORY /s

2.1.6 Step 6: Enabling Multi Processor Support

This section enables the Multi Processor support for Windows* PE OS.

- Delete the Uni processor kernel exe ('ntoskrnl.exe') in the `<winpe_image_dir>\i386\system32` folder.
e.g:
del c:\winpe\I386\SYSTEM32\ntoskrnl.exe
- Rename the Multi processor kernel 'ntkrnlmp.exe' to 'ntoskrnl.exe'.
e.g:
ren c:\winpe\I386\SYSTEM32\ntkrnlmp.exe ntoskrnl.exe
- Open the 'txtsetup.sif' file that is present in `<winpe_image_dir>\i386\` folder.
e.g:
notepad C:\winpe\I386\txtsetup.sif
- Search for '[Hal.Load]' section.
Replace:
'mps_mp = halapic.dll' with 'mps_mp = halmps.dll'
'acpiapic_mp = halaacpi.dll' with 'acpiapic_mp = halmacpi.dll'.

2.1.7 Step 7: CD Creation

<winpe_image_dir> folder that was created in the above steps contains the customized Windows* PE OS files along with the Intel utility binaries and drivers. This step explains the usage of 'oscdimg.exe' for the creation of customized Windows* PE '.iso' image.

- Run the '**c:\build_x86\oscdimg.exe**' command with these options to create the .iso image:
oscdimg -b<boot_file_location> -n <winpe_image_dir> <iso_image_name>
For example,
oscdimg -bc:\build_x86\etfsboot.com -n c:\winpe c:\winpex86.iso
where:
 - ❖ 'c:\winpe' folder contains the customized Windows* PE files
 - ❖ 'c:\winpex86.iso' is the name of the ISO image that 'oscdimg' creates.
- Use the CD-recording software to burn the ISO image file to a blank CD.

This customized CD can be directly used to boot the target system with Windows* PE OS.

2.2 For WinPE 2.0 and 2.1.

Install Windows* Automated Installation Kit v1.0.0.0.

2.2.1 Creation of customized WinPE CD

- Please refer to Windows Preinstallation Environment (Windows PE) User's Guide, distributed along with AIK for steps to customize the Windows PE CD. The steps given in the document are common for Windows 2.0 and 2.1.
- Use Windows OS DVD corresponding to the WinPE version being built, as listed in Table 1 Prerequisites.
- Build a customized Windows* PE Image containing the following support packages installed.

Table 2 List of Packages to be installed with WinPE 2.0/2.1

Package Name	Description
WinPE-HTA-Package	HTML Application support
WinPE-MDAC-Package	Microsoft* Data Access Component support
WinPE-Scripting-Package	Windows* Script Host support
WinPE-SRT-Package	Windows* Recovery Environment

	support
WinPE-XML-Package	Microsoft* XML (MSMXL) Parser support
WinPE-WMI-Package	Windows* Management Instrumentation support

2.2.2 Installation of drivers

The utilities along with the drivers need to be installed on every boot of Windows* PE 2.0 / 2.1.

3. Booting from the customized CD

Insert the above-created CD into the computer on which you want to run Windows PE and start the computer. The computer will start Windows PE OS from the CD, which is a **read** only media. Once the OS is up, the user can navigate to the Intel's system configuration utilities repository and run the utilities.

Note: Plug and Play hardware detection occurs only while the Factory.exe - Windows PE command runs. Therefore, the Plug and Play devices (like the USB device) that you want to add to your Windows PE image must be attached to the computer when you start Windows PE.

Appendix A – Adding Intel Drivers in winpesys.inf

```
;
;Intel drivers
;
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","InfPath",REG_SZ,"oem3.inf"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","InfSection",REG_SZ,"IMBDrvInstallSection"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","ProviderName",REG_SZ,"Intel, Inc."
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","DriverDateData",REG_BINARY,00,40,cb,58,e8,de,c3,01
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","DriverDate",REG_SZ,"1-20-2004"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","DriverVersion",REG_SZ,"6.2.0.0"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","MatchingDeviceId",REG_SZ,"*imbdrv"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0001","DriverDesc",REG_SZ,"Intel Intelligent Management Bus Driver V8.10"

HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","InfPath",REG_SZ,"oem4.inf"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","InfSection",REG_SZ,"Flashud_Inst"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","InfSectionExt",REG_SZ,".NT"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","ProviderName",REG_SZ,"Intel, Inc."
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","DriverDateData",REG_BINARY,00,c0,bf,b6,30,c4,c3,01
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","DriverDate",REG_SZ,"12-17-2003"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","DriverVersion",REG_SZ,"1.0.0.0"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","MatchingDeviceId",REG_SZ,"*int0800"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0002","DriverDesc",REG_SZ,"Intel 28F320C3 Flash Update Device Driver"

HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","InfPath",REG_SZ,"ibsmutil.inf"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","InfSection",REG_SZ,"Util_Device_Inst"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","InfSectionExt",REG_SZ,".NTx86"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","ProviderName",REG_SZ,"Intel Corporation"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","DriverDateData",REG_BINARY,00,80,f0,fc,32,88,c6,01
```

```
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","DriverDate",REG_SZ,"6-5-2006"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","DriverVersion",REG_SZ,"1.0.0.0"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","MatchingDeviceId",REG_SZ,"*intelutildev"
HKLM,"SYSTEM\ControlSet001\Control\Class\{4D36E97D-E325-11CE-BFC1-08002BE10318}\0003","DriverDesc",REG_SZ,"Intel Server Management Utility Device v1.0"

HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","ClassGUID",REG_SZ,"{4D36E97D-E325-11CE-BFC1-08002BE10318}"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","Class",REG_SZ,"System"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","HardwareID",REG_MULTI_SZ,"2a,00,49,00,4d,00,42,00,44,00,52,00,56,00,00,00,00,00"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","Driver",REG_SZ,"{4D36E97D-E325-11CE-BFC1-08002BE10318}\\0001"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","Mfg",REG_SZ,"Intel, Inc."
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","Service",REG_SZ,"imbdrv"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","DeviceDesc",REG_SZ,"Intel Intelligent Management Bus Driver V8.10"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","ConfigFlags",REG_DWORD,00000000
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001","Capabilities",REG_DWORD,00000000
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001\LogConf"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0001\Control","ActiveService",REG_SZ,"imbdrv"

HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","ClassGUID",REG_SZ,"{4D36E97D-E325-11CE-BFC1-08002BE10318}"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","Class",REG_SZ,"System"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","HardwareID",REG_MULTI_SZ,"2a,00,49,00,4e,00,54,00,30,00,38,00,30,00,30,00,00,00,00,00"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","Driver",REG_SZ,"{4D36E97D-E325-11CE-BFC1-08002BE10318}\\0002"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","Mfg",REG_SZ,"Intel, Inc."
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","Service",REG_SZ,"int0800"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","DeviceDesc",REG_SZ,"Intel 28F320C3 Flash Update Device Driver"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","ConfigFlags",REG_DWORD,00000000
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002","Capabilities",REG_DWORD,00000000
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002\LogConf"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0002\Control","ActiveService",REG_SZ,"int0800"

HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","ClassGUID",REG_SZ,"{4D36E97D-E325-11CE-BFC1-08002BE10318}"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","Class",REG_SZ,"System"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","HardwareID",REG_MULTI_SZ,"2a,00,49,00,6e,00,74,00,65,00,6c,00,55,00,74,00,69,00,6c,00,44,00,65,00,56,00,00,00,00,00"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","Driver",REG_SZ,"{4D36E97D-E325-11CE-BFC1-08002BE10318}\\0003"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","Mfg",REG_SZ,"Intel Corporation"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","Service",REG_SZ,"IBSMUTIL"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","DeviceDesc",REG_SZ,"Intel Server Management Utility Device v1.0"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","ConfigFlags",REG_DWORD,00000000
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003","Capabilities",REG_DWORD,00000000
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003\LogConf"
HKLM,"SYSTEM\ControlSet001\Enum\Root\SYSTEM\0003\Device Parameters"
```

HKLM,"SYSTEM\\ControlSet001\\Enum\\Root\\SYSTEM\\0003\\Control","ActiveService",REG_SZ,"IBSMUTIL"

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","Type",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","Start",REG_DWORD,00000002

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","ErrorControl",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","ImagePath",REG_EXPAND_SZ,"System32\\Drivers\\imbdrv.sys"

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","DisplayName",REG_SZ,"Intel Intelligent Management Bus Driver V8.10"

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","Configuration",REG_DWORD,00000011

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","DiagCode",REG_DWORD,0000007f

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv","InstallRefCount",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv\\Security","Security",REG_BINARY,01,00,14,80,b8,00,00,00,c4,00,00,00,14,00,00,00,30,00,00,00,02,00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,00,00,02,00,88,00,06,00,00,00,00,00,14,00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,00,18,00,ff,01,0f,00,01,02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,14,00,8d,01,02,00,01,01,00,00,00,00,00,05,04,00,00,00,00,00,14,00,8d,01,02,00,01,01,00,00,00,00,00,05,06,00,00,00,00,00,14,00,00,01,00,00,01,01,00,00,00,00,00,05,0b,00,00,00,00,00,18,00,fd,01,02,00,01,02,00,00,00,00,00,05,20,00,00,00,23,02,00,00,01,01,00,00,00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00,00,00

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv\\Enum","0",REG_SZ,"ROOT\\SYSTEM\\0001"

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv\\Enum","Count",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\imbdrv\\Enum","NextInstance",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800","Type",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800","Start",REG_DWORD,00000003

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800","ErrorControl",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800","ImagePath",REG_EXPAND_SZ,"System32\\Drivers\\flashud.sys"

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800","DisplayName",REG_SZ,"Intel 28F320C3 Flash Update Device Driver"

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800","Group",REG_SZ,"System Bus Extender"

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800","InstallRefCount",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800\\Security","Security",REG_BINARY,01,00,14,80,b8,00,00,00,c4,00,00,00,14,00,00,00,30,00,00,00,02,00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,00,00,02,00,88,00,06,00,00,00,00,00,14,00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,00,18,00,ff,01,0f,00,01,02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,14,00,8d,01,02,00,01,01,00,00,00,00,00,05,04,00,00,00,00,00,14,00,8d,01,02,00,01,01,00,00,00,00,00,05,06,00,00,00,00,00,14,00,00,01,00,00,01,01,00,00,00,00,00,05,0b,00,00,00,00,00,18,00,fd,01,02,00,01,02,00,00,00,00,00,05,20,00,00,00,23,02,00,00,01,01,00,00,00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00,00,00

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800\\Enum","0",REG_SZ,"ROOT\\SYSTEM\\0002"

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800\\Enum","Count",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\int0800\\Enum","NextInstance",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\IBSMUTIL","Type",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\IBSMUTIL","Start",REG_DWORD,00000003

HKLM,"SYSTEM\\ControlSet001\\Services\\IBSMUTIL","ErrorControl",REG_DWORD,00000001

HKLM,"SYSTEM\\ControlSet001\\Services\\IBSMUTIL","Tag",REG_DWORD,00000006

HKLM,"SYSTEM\\ControlSet001\\Services\\IBSMUTIL","ImagePath",REG_EXPAND_SZ,"System32\\Driver\\sibsmutil.sys"

HKLM,"SYSTEM\\ControlSet001\\Services\\IBSMUTIL","Group",REG_SZ,"Extended Base"

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HKLM,"SYSTEM\ControlSet001\Services\IBSMUTIL\Enum","Count",REG_DWORD,00000001
HKLM,"SYSTEM\ControlSet001\Services\IBSMUTIL\Enum","NextInstance",REG_DWORD,00000001
;
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Glossary

Term	Definition
Windows PE	The Microsoft Windows Pre-installation Environment (Windows PE) is a minimal Win32 subsystem with limited services, based on the Windows kernel running in protected mode.
WMI	Windows Management Instrumentation (WMI) is a scalable system management infrastructure that provides you with a standard way to interact with system management information.
PNP	Plug and Play (PNP) is a feature that enables user to plug in/out a device.
SCU	Intel Server Configuration Utilities (SCU) are available in the 'Intel Server Deployment Toolkit CD'.
OFU	One-Boot Flash Update (OFU) Utility is used to update the system BIOS, BMC (Base Board Management Controller) firmware, FRUSDR, HSC (Hot Swap Controller) firmware and LCP (Local Control Panel) firmware of server systems.
SYSCFG	System Configuration (SYSCFG) Utility is used to configure selective BIOS and firmware settings of server systems.
FRUSDR	FRUSDR Loader Utility is used to update systems' FRUs (Field Replaceable Unit) and SDRs (Sensor Data Record).
FWPIAUPD	Firmware and PIA Flash Update (FWPIAUPD) Utility is used for updating the boot block, operational code and Platform Information Area (PIA) for various micro-controllers on a given platform through the use of platform-specific Intel hex programming files.
IMB Driver	The Intelligent Management Bus (IMB) driver is the reference implementation of an IPMI specification for the Windows NT operating system. It is a driver that supports IPMB messaging to server management firmware on IPMI conformant servers.
IBSMUtil Driver	IBSMUtil Driver is used to access SMBIOS data.
Flash Update Driver	Flash Update Device Driver is used to update the BIOS (Basic Input/Output System) of a server.