Basic Instructions for Using Microsoft Windows Preinstallation Environment (WinPE) 1.x

for Server Configuration on Intel® Server Boards and Intel® Server Systems

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Enterprise Platforms and Services Division

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1. Creating a Custom WinPE CD (Overview)

WinPE 1.x (Microsoft Windows Preboot Execution Environment) provides the entire OS on a CD including the registry. To ensure all the files needed (especially drivers) are available, the basic WinPE CD must be customized to include the Intel drivers and files.

These instructions are for WinPE 2005 (based on Windows Server 2003 SP1) but are very similar for WinPE 2004 (based on XP SP2) or previous WinPE 1.x versions.

Note: Microsoft has official instructions in their Knowledge Base. As of early 2008, the KB article for WinPE XP is 303891. Additional KBs exist on using SP2 with Windows 2003 instead of SP1 and other WinPE topics.

1.1 Requirements

- Microsoft* WinPE* 2005 CD
- Microsoft* Windows Server 2003***** SP1 CD
- A blank CD
- A system with CD burner to use as the build computer

Notes:
- These instructions assume the BUILD computer's CDROM driver letter is E:\ and that you use the directory names suggested.

1.2 Prepare the WinPE Build Files

- Create a folder on your hard drive (c:\build)
- Open the E:\WINPE directory. Notice the 3 subdirectories in E:\WINPE. Copy the subdirectory that matches the architecture you are using (X86 for 32 bit Windows or IA64 for 64 bit Windows) to c:\build. The other two subdirectories do not need to be copied.
- Copy all the 'loose' files from E:\WINPE to c:\build.

1.3 Prepare the WinPE Registry

- Open c:\build\WINPESYS.INF with wordpad.exe and search for the section titled system. (Search for "; system" where there is one space between ; and system.)
- Copy the entirety of Appendix A from this document and paste into WINPESYS.inf directly above the ; system section.
- Save the file and exit Wordpad.

1.4 Create the Custom WinPE Image

- Insert the Windows Server 2003 SP1 CD into your CDROM drive
- Open a DOS box and change to c:\build
- Type *mkimg.cmd E:\ C:\winpe /PNP /WMI*
- Note: /*WMI* is optional

1.5 Add Intel Deployment Utilities and Software

- Download the latest Win_PE_setup_and_configuration_tools.zip file from IBL or http://support.intel.com.
- Create a folder named tools under c:\WinPE (c:\WinPE\tools).
- Unzip the .zip file to C:\WinPE\Tools
- Open a DOS box and change to c:\build
- Type the following commands to load the 3 utilities drivers to the WinPE registry.
  drvinst.exe /inf:C:\WinPE\tools\frusdr C:\winpe
  drvinst.exe /inf:C:\WinPE\tools\fwpiaupd C:\winpe
  drvinst.exe /inf:C:\WinPE\tools\ iflash C:\winpe
  NOTE: the section /inf:C:\WinPE\tools\ (folder name) has no spaces.

  Note: the exact folder names may be different, depending on the version and contents of the downloaded Win_PE_setup_and_configuration_tools.zip file. If you get error messages when running these commands, check the actual location of the inf files and adjust the command line you type appropriately.

- Copy the BIOS, FW and FRUSDR updates from the latest Update Package for your platform (from http://support.intel.com under the appropriate Intel® Server Board) to C:\winpe\WinPE\tools\

- See Section 1.9 for information on updating this software.

1.6 Optional Steps for WMI /Multiprocessor Support

1.6.1 Enable WMI (optional, if chosen in step 3)

- Insert the Microsoft Windows PE CD
  - ❖ Copy the directory (including files) E:\i386\system32\wbem**repository** to C:\winpe\i386\system32\wbem\
  - ❖ Create 3 blank directories under E:\i386\system32\wbem\
    `autorecover` **`logs`** **`mof`**

1.6.2 Enable Multi Processor Support (optional)

- Delete ntoskrnl.exe from C:\winpe\i386\system32\
- Rename ntkrnlmp.exe to ntoskrnl.exe in C:\winpe\i386\system32\
- Open C:\winpe\i386\txtsetup.sif and change
  Under the section `[Hal.Load]`, replace
  - `mps_mp = halapic.dll` with `mps_mp = halmps.dll`
  - `acpiapic_mp = halaacpi.dll` with `acpiapic_mp = halmacpi.dll`

1.7 Create the Custom WinPE CD

- From the c:\build prompt, type
  oscdimg -bc:\build\etfsboot.com -n c:\winpe c:\winpex86.iso
- Use your CD-recording software to burn the ISO image file (c:\winpex86.iso) to a blank CD. This CD is your customized WinPE OS CD.

1.8 Boot from the Customized CD

- Insert the CD you created into the computer on which you want to run WinPE and start the computer. Make sure the CD is set as the first boot device. (See 1.8.1) Once the operating system is up, you can navigate to c:\tools 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 (e.g. USB device) that you want to add to your Windows PE image must be attached to the computer when you start Windows PE.

1.8.1 Set the CD as First Boot Media

The CD player must be set as the first item in the Boot Order Menu so that the system boots to the CD contents. This can be done per boot or set as the first item in the boot order list across reboots.

To boot to the CD without modifying the boot order across reboots:

1. Enter the BIOS utility (F2) and arrow over to Boot Manager
2. Arrow down to the name of the CD-ROM drive and press `<Enter>`
3. The system will proceed with boot using the CD-ROM for this boot.

To boot to the CD even after reboots:

1. Enter the BIOS utility (F2) and arrow over to Boot Options
2. Hghlight the first option and press `<Enter>.`
3. Arrow down to the name of the CD ROM drive select `<Enter>`.
4. Press `F10` to save this as the new boot order.

1.9 Using the Update and Configuration Utilities

Intel has written multiple utilities to do common tasks from WinPE.

1.9.1 Update the System Stack

1. Once WinPE has loaded and is at a prompt, change to the c:\tools directory.
2. Run iflash, fwpiaupdt, and frusdr with the appropriate command lines to update BIOS, Firmware, and the FRUSDRs..
   NOTE: Bat files may have been provided in the Update Package and would now appear under c:\tools.
   Warning!:WinPE should never be used to update expander backplanes (those

Intel backplanes supporting 4 or more drives but having only 2 drive port connections.)

1.9.2 BIOS and BMC Configuration

The most common configuration tool from Intel is Syscfg and the utility is available for multiple OS using the same commands. These commands can be found in the readme and the User Guide included with the utility. A configuration script including the most commonly used commands are listed in Appendix B. These commands can be typed in from the c:\tools prompt. (Be sure to note whether syscfg had it's own subdirectory).

Other utilities available in the OS Tools.zip included a System Event Log Viewer (selview) and can be found in c:\tools if you followed the above instructions.

Note: Additional WinPE utilities are available from other sources. To use them from the CD, install them similarly to installing the Intel tools in step 1.5 so that any drivers required are placed in the on CD registry.

Note: Some utilities are only available in regular Windows including the BIOS logo and AMIBCP utilities. (AMIBCP is a one time master BIOS reconfiguration tool).

Appendix A: Winpesys.inf Text

```
 ;
;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,"imbd
rv"
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,"int0
800"
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,"IBSM
UTIL"
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\Driver
s\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,f
f,01,0f,00,01,01,00,00,00,00,00,01,00,00,00,00,02,00,88,00,06,00,00,00,00,00,14,00,fd,
01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,00,00,18,00,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,01,02,00,01,01,00,00,00,00,00,05,04,00,0
0,00,00,00,14,00,8d,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
,20,00,00,00,23,02,00,00,01,01,00,00,00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,1
2,00,00,00
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\Drive
rs\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,01,00,14,8
0,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,00,01,01,00,00,00,00,00,01,00,00,00,00,02,00,88,00,06,00,00,00,00,00,14,00,fd
,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,00,00,18,00,ff,01,0f,00,01,02,00,00,00,0
0,00,05,20,00,00,00,20,02,00,00,00,00,14,00,8d,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,01,02,00,01,02,00,00,00,00,00,0
5,20,00,00,00,23,02,00,00,01,01,00,00,00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,
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\Driv
ers\ibsmutil.sys"
HKLM,"SYSTEM\ControlSet001\Services\IBSMUTIL","Group",REG_SZ,"Extended Base"
HKLM,"SYSTEM\ControlSet001\Services\IBSMUTIL\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,00,01,01,00,00,00,00,00,01,00,00,00,00,02,00,88,00,06,00,00,00,00,00,14,00,f
d,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,00,00,18,00,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,01,02,00,01,01,00,00,00,00,00,05,06,00,00,00,00,00,14,00,00,01,0
0,00,01,01,00,00,00,00,00,05,0b,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\IBSMUTIL\Enum","0",REG_SZ,"ROOT\\SYSTEM\\0003"
HKLM,"SYSTEM\ControlSet001\Services\IBSMUTIL\Enum","Count",REG_DWORD,00000001
HKLM,"SYSTEM\ControlSet001\Services\IBSMUTIL\Enum","NextInstance",REG_DWORD,00000001
;
;
;
;
```

Appendix B: Sample Scripts

To use these scripts, they must be named (Name).bat and placed into the c:\build\winpe\tools directory prior to building the ISO. (Approximately section 1.5 above).

Typical Update script

This script assumes all the files from the update pack (including frusdr.exe, fwpiaupd.exe, ipmi.sys, iflash.exe and master.cfg plus *.hex and Rxx.cap files) are in the root of the tools directory. If they are in separate folders, be sure to add those paths to the script.
Run from c:\tools

```
Cls
echo Update FRUSDRs
echo ""
frusdr /cfg master.cfg

echo Update BMC flash using FWPIAUPD utility
echo ""
fwpiaupd -u -o -pia -ni -p X11.hex

echo ""
echo Update BIOS
iflash /u -ni R00xx.cap

echo "Updates done. Please reboot.”
```

Syscfg configuration script

```
cd syscfg
syscfg /bqb disable           \\disable quiet boot
syscfg /bcr COM1 9600 CTS VT100 \\set console redirection

syscfg /le 1 static 192.168.1.200 255.255.255.0
\\enable lan channel 1 with static IP address

syscfg /u 3 admin password  \\set user 3 name and password
syscfg /ue 3 enable 1   \\enable user 3 on channel 1
syscfg /up 3 1 admin sol
\\give user 3 admin privilege to channel 1 including SOL
syscfg /sole 1 enable admin 19200 7 200  \\enable SOL on ch 1 for admin
```