Driver load issues in WinPE

Use drivers of the same architecture

Drivers, like any other form of software, have an architecture, either 32 bit (x86) or 64 bit (x64). When trying to load drivers in WinPE, it is essential to have drivers which match the architecture of your WinPE environment. For example, using 32 bit drivers on a 64 bit WinPE could cause load failures.

Drivers not located on accessible disk

Normally, when booting from a RAID controller, be it array or single drive configuration, drivers will need to be loaded in order to access that device. However, as the device will not be visible to WinPE you cannot put drivers on any disk (fixed or optical) which is connected to that controller.

Make drivers available on accessible media such as a usb device

In order to get round this chicken and egg problem, you will need to place drivers for the device onto a disk which is visible in WinPE, a good choice would be a USB pen drive for this (USB2 recommended unless PE4 or later).

The exceptions to this are nVidia RAID and Intel Matrix RAID, as WinPE has built in driver support for these devices.

The drivers folder can be copied to another disk using the following method whilst in Windows:
If you have a local non-RAID disk 'e:' then from a command prompt type the appropriate copy command for your chosen rescue media type:

For PE 10:
```
xcopy /e c:\boot\macrium\WA10KDrivers\32Bit\* e:\drivers
OR
xcopy /e c:\boot\macrium\WA10KDrivers\64Bit\* e:\drivers
```

For PE 5:
```
xcopy /e c:\boot\macrium\WA5KDrivers\32Bit\* e:\drivers
OR
xcopy /e c:\boot\macrium\WA5KDrivers\64Bit\* e:\drivers
```

For PE 4:
```
xcopy /e c:\boot\macrium\WADKDrivers\32Bit\* e:\drivers
OR
xcopy /e c:\boot\macrium\WADKDrivers\64Bit\* e:\drivers
```

For PE 3:
```
xcopy /e c:\boot\macrium\WAIKDrivers\32Bit\* e:\drivers
OR
xcopy /e c:\boot\macrium\WAIKDrivers\64Bit\* e:\drivers
```

```
For Windows RE:
xcopy /e c:\boot\macrium\WinREDrivers\32Bit\* e:\drivers
OR
xcopy /e c:\boot\macrium\WinREDrivers\64Bit\* e:\drivers
```

Note: The '/e' switch means recursive copy and is not to be confused with the drive letter 'e:'.

If 'e:' is present during the boot menu load then the drivers will be loaded.

Driver location load order

Macrium Reflect will load drivers based on the existence of the file macrium.oem, the following locations will be checked in sequence and if the file macrium.oem is found then driver loading will commence from that point. Subsequent locations will not be checked for drivers.

1. Removable media (such as USB pen drives). The file (macrium.oem) must reside in the Drivers folder on the root of the media.
2. CD=ROM/DVD-ROM drives. The file (macrium.oem) must reside on the Drivers folder on the root of the media.
3. Local fixed hard disks. Each edition of Windows PE will load from its own separate drivers folder - WA10KDrivers\64Bit (or 32Bit) for PE 10, WA5KDrivers\64Bit (or 32Bit) for PE 5, WADKDrivers\64Bit (or 32Bit) for PE 4, WAIKDrivers\64Bit (or 32Bit) for PE 3 or WinREDrivers\64Bit (or 32Bit) for Windows RE. This folder must reside on the Boot\Macrium folder on the root of the local hard disk. For example, PE 10 drivers could be located in E:\Boot\Macrium\WA10KDrivers. Or alternatively, the file (macrium.oem) may reside in the Drivers folder on the root of the media

Missing support files

On 64 bit WinPE systems, most drivers will require a supporting security catalog and in some instances, DLL files. If running a 64 bit Windows Vista system or later, Macrium Reflect will take care of this for you when building the rescue media. However, if on an XP or 2003 Server operating system you will need to make sure you provide a driver package that contains a security catalog and any supporting DLL files when using the Update Driver feature in the Create Rescue Media wizard.
