

Status:	Closed	Start date:	12/09/2014
Priority:	Normal	Due date:	
Assignee:	Daniel Curtis	% Done:	50%
Category:	Virtualization	Estimated time:	3.00 hours
Target version:	*nix	Spent time:	4.00 hours

Description

Configuring the BIOS DMI Information

The DMI data VirtualBox provides to guests can be changed for a specific VM. Use the following commands to configure the DMI BIOS information. In case your VM is configured to use EFI firmware you need to replace pcbios by efi in the keys.

DMI BIOS Information (type 0)

- The following commands configure a VM for type 0 emulation

```
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBIOSVendor" "BIOS Vendor"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBIOSVersion" "BIOS Version"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBIOSReleaseDate" "BIOS Release Date"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBIOSReleaseMajor" 1
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBIOSReleaseMinor" 2
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBIOSFirmwareMajor" 3
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBIOSFirmwareMinor" 4
```

DMI System Information (type 1)

- The following commands configure a VM for type 1 emulation

```
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemVendor" "System Vendor"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemProduct" "System Product"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemVersion" "System Version"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemSerial" "System Serial"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemSKU" "System SKU"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemFamily" "System Family"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemUuid" "9852bf98-b83c-49db-a8de-182c42c7226b"
```

DMI Board Information (type 2)

- The following commands configure a VM for type 2 emulation

```

VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBoardVendor" "Board Vendor"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBoardProduct" "Board Product"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBoardVersion" "Board Version"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBoardSerial" "Board Serial"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBoardAssetTag" "Board Tag"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBoardLocInChassis" "Board Location"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiBoardBoardType" 10

```

DMI System Enclosure or Chassis (type 3)

- The following commands configure a VM for type 3 emulation

```

VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiChassisVendor" "Chassis Vendor"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiChassisType" 3
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiChassisVersion" "Chassis Version"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiChassisSerial" "Chassis Serial"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiChassisAssetTag" "Chassis Tag"

```

DMI Processor Information (type 4)

- The following commands configure a VM for type 4 emulation

```

VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiProcManufacturer" "GenuineIntel"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiProcVersion" "Pentium(R) III"

```

DMI OEM Strings (type 11)

- The following commands configure a VM for type 11 emulation

```

VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiOEMVBoxVer" "vboxVer_1.2.3"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiOEMVBoxRev" "vboxRev_12345"

```

If a DMI string is not set, the default value of VirtualBox is used. To set an empty string use "<EMPTY>".

Note that in the above list, all quoted parameters (DmiBIOSVendor, DmiBIOSVersion but not DmiBIOSReleaseMajor) are expected to be strings. If such a string is a valid number, the parameter is treated as number and the VM will most probably refuse to start with an VERR_CFGM_NOT_STRING error. In that case, use "string:<value>", for instance

```

VBoxManage setextradata "VM name" "VBoxInternal/Devices/pcbios/0/Config/DmiSystemSerial" "string:1234"

```

Hard Disk Vendor Product Data

VirtualBox reports vendor product data for its virtual hard disks which consist of hard disk serial number, firmware revision and model

number.

- These can be changed using the following commands:

```
VBoxManage setextradata "VM name" "VBoxInternal/Devices/ahci/0/Config/Port0/SerialNumber" "serial"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/ahci/0/Config/Port0/FirmwareRevision" "firmware"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/ahci/0/Config/Port0/ModelNumber" "model"
```

The serial number is a 20 byte alphanumeric string, the firmware revision an 8 byte alphanumeric string and the model number a 40 byte alphanumeric string. Instead of "Port0" (referring to the first port), specify the desired SATA hard disk port.

- The above commands apply to virtual machines with an AHCI (SATA) controller. The commands for virtual machines with an IDE controller are:

```
VBoxManage setextradata "VM name" "VBoxInternal/Devices/piix3ide/0/Config/PrimaryMaster/SerialNumber" "serial"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/piix3ide/0/Config/PrimaryMaster/FirmwareRevision" "firmware"
VBoxManage setextradata "VM name" "VBoxInternal/Devices/piix3ide/0/Config/PrimaryMaster/ModelNumber" "model"
```

Changing this information can be necessary to provide the DMI information of the host to the guest to prevent Windows from asking for a new product key.

Acquiring DMI information

- On Linux hosts the DMI BIOS information can be obtained with

```
dmidecode -t0
```

- Example output:

```
# dmidecode 2.12
SMBIOS 2.3 present.

Handle 0x0000, DMI type 0, 20 bytes
BIOS Information
    Vendor: American Megatrends Inc.
    Version: 1009.005
    Release Date: 09/20/2005   EMAXS
    Address: 0xF0000
    Runtime Size: 64 kB
    ROM Size: 512 kB
    Characteristics:
        ISA is supported
        PCI is supported
        PNP is supported
        APM is supported
        BIOS is upgradeable
        BIOS shadowing is allowed
        ESCD support is available
        Boot from CD is supported
        Selectable boot is supported
        BIOS ROM is socketed
        EDD is supported
        5.25"/1.2 MB floppy services are supported (int 13h)
        3.5"/720 kB floppy services are supported (int 13h)
```

```
3.5"/2.88 MB floppy services are supported (int 13h)
Print screen service is supported (int 5h)
8042 keyboard services are supported (int 9h)
Serial services are supported (int 14h)
Printer services are supported (int 17h)
CGA/mono video services are supported (int 10h)
ACPI is supported
USB legacy is supported
AGP is supported
LS-120 boot is supported
ATAPI Zip drive boot is supported
BIOS boot specification is supported
```

- And the DMI system information can be obtained with

```
dmidecode -t1
```

- Example output:

```
# dmidecode 2.12
SMBIOS 2.3 present.

Handle 0x0001, DMI type 1, 25 bytes
System Information
  Manufacturer: ASUSTeK Computer Inc.
  Product Name: K8V-MX
  Version:
  Serial Number:
  UUID: 8051E622-8EFE-E511-81A3-01F1D8C8E15F
  Wake-up Type: PCI PME#
```

- And the DMI board information can be obtained with

```
dmidecode -t2
```

- Example output:

```
# dmidecode 2.12
SMBIOS 2.3 present.

Handle 0x0002, DMI type 2, 8 bytes
Base Board Information
  Manufacturer: ASUSTeK Computer Inc.
  Product Name: K8V-MX
  Version: Rev 1.XX
  Serial Number:
```

- And the DMI system enclosure or chassis can be obtained with

```
dmidecode -t3
```

- Example output:

```
# dmidecode 2.12
SMBIOS 2.3 present.

Handle 0x0003, DMI type 3, 17 bytes
Chassis Information
```

```
Manufacturer: emaxs
Type: Mini Tower
Lock: Not Present
Version: SCEP
Serial Number:
Asset Tag:
Boot-up State: Safe
Power Supply State: Safe
Thermal State: Safe
Security Status: None
OEM Information: 0x00000001
```

- And the DMI processor information can be obtained with

```
dmidecode -t4
```

- Example output:

```
# dmidecode 2.12
SMBIOS 2.3 present.

Handle 0x0004, DMI type 4, 35 bytes
Processor Information
    Socket Designation: Socket 754
    Type: Central Processor
    Family: Athlon 64
    Manufacturer: AMD
    ID: C6 0F 02 20 AF FB 8B 17
    Signature: Family 15, Model 44, Stepping 2
    Flags:
        FPU (Floating-point unit on-chip)
        VME (Virtual mode extension)
        DE (Debugging extension)
        PSE (Page size extension)
        TSC (Time stamp counter)
        MSR (Model specific registers)
        PAE (Physical address extension)
        MCE (Machine check exception)
        CX8 (CMPXCHG8 instruction supported)
        APIC (On-chip APIC hardware supported)
        SEP (Fast system call)
        MTRR (Memory type range registers)
        PGE (Page global enable)
        MCA (Machine check architecture)
        CMOV (Conditional move instruction supported)
        PAT (Page attribute table)
        PSE-36 (36-bit page size extension)
        CLFSH (CLFLUSH instruction supported)
        MMX (MMX technology supported)
        FXSR (FXSAVE and FXSTOR instructions supported)
        SSE (Streaming SIMD extensions)
        SSE2 (Streaming SIMD extensions 2)
    Version: AMD Sempron(tm) Processor 3400+
    Voltage: 1.5 V
    External Clock: 200 MHz
    Max Speed: 2200 MHz
    Current Speed: 2000 MHz
    Status: Populated, Enabled
    Upgrade: Socket 754
    L1 Cache Handle: 0x0005
    L2 Cache Handle: 0x0006
    L3 Cache Handle: Not Provided
    Serial Number: To Be Filled By O.E.M.
    Asset Tag: To Be Filled By O.E.M.
```

- And the DMI OEM strings can be obtained with

```
dmidecode -t11
```

- Example output:

```
# dmidecode 2.12
SMBIOS 2.3 present.

Handle 0x002D, DMI type 11, 5 bytes
OEM Strings
  String 1: ASUSTeK Computer Inc.
  String 2:
  String 3: 011BD8C8E25D
```

- The Hard Disk Vendor Product Data

```
hdparm -I /dev/sda
```

- Example output:

```
/dev/sda:

ATA device, with non-removable media
  Model Number:      WDC WD2000JB-00REA0
  Serial Number:     WD-WCANK4421153
  Firmware Revision: 20.00K20
Standards:
  Supported: 7 6 5 4
  Likely used: 8
Configuration:
  Logical          max     current
  cylinders        16383  16383
  heads            16      16
  sectors/track    63      63
  --
  CHS current addressable sectors: 16514064
  LBA  user addressable sectors: 268435455
  LBA48 user addressable sectors: 390721968
  Logical/Physical Sector size:      512 bytes
  device size with M = 1024*1024:    190782 MBytes
  device size with M = 1000*1000:    200049 MBytes (200 GB)
  cache/buffer size = 8192 KBytes
Capabilities:
  LBA, IORDY (can be disabled)
  Standby timer values: spec'd by Standard, with device specific minimum
  R/W multiple sector transfer: Max = 16   Current = 16
  Recommended acoustic management value: 128, current value: 128
  DMA: mdma0 mdma1 mdma2 udma0 udma1 udma2 udma3 udma4 *udma5
      Cycle time: min=120ns recommended=120ns
  PIO: pio0 pio1 pio2 pio3 pio4
      Cycle time: no flow control=120ns IORDY flow control=120ns
Commands/features:
  Enabled      Supported:
  * SMART feature set
  Security Mode feature set
  * Power Management feature set
  * Write cache
  * Look-ahead
```

```
* Host Protected Area feature set
* WRITE_BUFFER command
* READ_BUFFER command
* NOP cmd
* DOWNLOAD_MICROCODE
* SET_MAX security extension
* Automatic Acoustic Management feature set
* 48-bit Address feature set
* Device Configuration Overlay feature set
* Mandatory FLUSH_CACHE
* FLUSH_CACHE_EXT
* SMART error logging
* SMART self-test
* Media Card Pass-Through
* General Purpose Logging feature set
* URG for READ_STREAM[_DMA]_EXT
* URG for WRITE_STREAM[_DMA]_EXT
* SMART Command Transport (SCT) feature set
* SCT Read/Write Long (AC1), obsolete
* SCT Write Same (AC2)
* SCT Error Recovery Control (AC3)
* SCT Features Control (AC4)
* SCT Data Tables (AC5)
Security:
  Master password revision code = 65534
    supported
  not enabled
  not locked
    frozen
  not expired: security count
  not supported: enhanced erase
HW reset results:
  CBLID- above Vih
  Device num = 0 determined by the jumper
Checksum: correct
```

Resources

- <https://www.virtualbox.org/manual/ch09.html#changedmi>
- <https://www.virtualbox.org/manual/ch09.html#changevpx>

History

#1 - 12/09/2014 02:42 PM - Daniel Curtis

- Description updated
- Estimated time set to 3.00 h

#2 - 01/21/2015 08:33 AM - Daniel Curtis

- Description updated
- Status changed from New to In Progress
- % Done changed from 0 to 50

#3 - 06/04/2017 10:00 PM - Daniel Curtis

- Category set to Virtualization
- Status changed from In Progress to Closed
- Target version set to *nix