# BCD Elements

Each BCD element is its own subkey. The name of the subkey is a representation in hexadecimal digits of a DWORD that the BCDEDIT help text refers to as a datatype.

The datatype is interpreted as bit fields:

|  |  |  |
| --- | --- | --- |
| **Mask** | **Interpretation** | **Values** |
| 0xF0000000 | class | 1 = library  2 = application  3 = device  4 = hidden |
| 0x0F000000 | format | 1 = device  2 = string  3 = GUID  4 = GUID list  5 = integer  6 = boolean  7 = integer list |

Elements whose class is 4 are hidden in the sense that the bcdedit /enum command in the original Windows Vista does not reveal them. However, Windows 7 enumerates them when also given the /v switch (for verbose mode).

## Supported Elements

The following tables list the BCD elements that are yet known in any of several senses. Each is shown first by the numeric constant that represents it in binary code. A second column gives either or both of the symbolic names by which the element seems to be known in source code. The last two columns attend particularly to how the element is worked with through the BCDEDIT tool.

The symbolic name in mixed case and starting with “Bcd” is from the type library in BCDSRV.DLL and is the name to use for programmatic access to the element through the Windows Management Instrumentation (WMI) interface. This symbol is highlighted yellow if it is defined in the type library for the original Windows Vista but is omitted from the BCD Reference in the Windows Vista SDK dated January 2007.

The symbolic names that are in all capitals and start with “BCDE” are extracted from tables in BCDEDIT.EXE. No use of these names is made by BCDEDIT. Perhaps they were included in BCDEDIT’s tables of elements as an aid during development, such that their persistence in the retail release may be inadvertent (as might happen easily enough if the tables are constructed in the source code by using macros). None of these names are known to be documented.

The friendly name is the one to use with BCDEDIT. It is highlighted yellow if it is not described by any bcdedit /? command. (For completeness, it must be admitted that a few of these are described in BCDEDIT string resources that are not used for help text.)

Elements are known from the original Windows Vista, SP1 and the original Windows 7, unless otherwise stated. Inspection of a self-extracting executable for Windows Vista SP2 found no BCDEDIT or BCDSRV.

### Library Elements

The following apply to all object types.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Constant** | **Symbolic Names** | **Friendly Name** | **Format or Value** | **Applicable Versions** |
| 0x11000001 | BcdLibraryDevice\_ApplicationDevice  BCDE\_LIBRARY\_TYPE\_APPLICATION\_DEVICE | device | device |  |
| 0x12000002 | BcdLibraryString\_ApplicationPath  BCDE\_LIBRARY\_TYPE\_APPLICATION\_PATH | path | string |  |
| 0x12000004 | BcdLibraryString\_Description  BCDE\_LIBRARY\_TYPE\_DESCRIPTION | description | string |  |
| 0x12000005 | BcdLibraryString\_PreferredLocale  BCDE\_LIBRARY\_TYPE\_PREFERRED\_LOCALE | locale | string |  |
| 0x14000006 | BcdLibraryObjectList\_InheritedObjects  BCDE\_LIBRARY\_TYPE\_INHERIT | inherit | GUID list |  |
| 0x15000007 | BcdLibraryInteger\_TruncatePhysicalMemory  BCDE\_LIBRARY\_TYPE\_TRUNCATE\_PHYSICAL\_MEMORY | [**truncatememory**](http://www.geoffchappell.com/notes/windows/boot/bcd/library/truncatememory.htm) | integer |  |
| 0x14000008 | BcdLibraryObjectList\_RecoverySequence  BCDE\_LIBRARY\_TYPE\_RECOVERY\_SEQUENCE | recoverysequence | GUID list |  |
| 0x16000009 | BcdLibraryBoolean\_AutoRecoveryEnabled  BCDE\_LIBRARY\_TYPE\_AUTO\_RECOVERY\_ENABLED | recoveryenabled | boolean |  |
| 0x1700000A | BcdLibraryIntegerList\_BadMemoryList  BCDE\_LIBRARY\_TYPE\_BAD\_MEMORY\_LIST | badmemorylist | integer list |  |
| 0x1600000B | BcdLibraryBoolean\_AllowBadMemoryAccess  BCDE\_LIBRARY\_TYPE\_ALLOW\_BAD\_MEMORY\_ACCESS | badmemoryaccess | boolean |  |
| 0x1500000C | BcdLibraryInteger\_FirstMegabytePolicy  BCDE\_LIBRARY\_TYPE\_FIRST\_MEGABYTE\_POLICY | firstmegabytepolicy | 0 = UseNone  1 = UseAll  2 = UsePrivate |  |
| 0x1500000D | BcdLibraryInteger\_RelocatePhysicalMemory  BCDE\_LIBRARY\_TYPE\_RELOCATE\_PHYSICAL\_MEMORY | relocatephysical | integer | Windows Vista SP1, and higher |
| 0x1500000E | BCDE\_LIBRARY\_TYPE\_AVOID\_LOW\_PHYSICAL\_MEMORY | avoidlowmemory | integer | Windows 7 |
| 0x1600000F | BCDE\_LIBRARY\_TYPE\_TRADITIONAL\_KSEG\_MAPPINGS | traditionalksegmappings | boolean | Windows 7 |
| 0x16000010 | BcdLibraryBoolean\_DebuggerEnabled  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_ENABLED | bootdebug | boolean |  |
| 0x15000011 | BcdLibraryInteger\_DebuggerType  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_TYPE | debugtype | 0 = Serial  1 = 1394  2 = USB |  |
| 0x15000012 | BcdLibraryInteger\_SerialDebuggerPortAddress  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_PORT\_ADDRESS | debugaddress | integer |  |
| 0x15000013 | BcdLibraryInteger\_SerialDebuggerPort  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_PORT\_NUMBER | debugport | integer |  |
| 0x15000014 | BcdLibraryInteger\_SerialDebuggerBaudRate  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_BAUDRATE | baudrate | integer |  |
| 0x15000015 | BcdLibraryInteger\_1394DebuggerChannel  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_1394\_CHANNEL | channel | integer |  |
| 0x12000016 | BcdLibraryString\_UsbDebuggerTargetName  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_USB\_TARGETNAME | targetname | string |  |
| 0x16000017 | BcdLibraryBoolean\_DebuggerIgnoreUsermodeExceptions  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_IGNORE\_USERMODE\_EXCEPTIONS | noumex | boolean |  |
| 0x15000018 | BcdLibraryInteger\_DebuggerStartPolicy  BCDE\_LIBRARY\_TYPE\_DEBUGGER\_START\_POLICY | debugstart | 0 = Active  1 = AutoEnable  2 = Disable |  |
| 0x12000019 | BCDE\_LIBRARY\_TYPE\_DEBUGGER\_BUS\_PARAMETER | busparams | string | Windows 7 |
| 0x16000020 | BcdLibraryBoolean\_EmsEnabled  BCDE\_LIBRARY\_TYPE\_EMS\_ENABLED | bootems | boolean |  |
| 0x15000022 | BcdLibraryInteger\_EmsPort  BCDE\_LIBRARY\_TYPE\_EMS\_PORT\_NUMBER | emsport | integer |  |
| 0x15000023 | BcdLibraryInteger\_EmsBaudRate  BCDE\_LIBRARY\_TYPE\_EMS\_BAUDRATE | emsbaudrate | integer |  |
| 0x12000030 | BcdLibraryString\_LoadOptionsString  BCDE\_LIBRARY\_TYPE\_LOAD\_OPTIONS\_STRING | loadoptions | string |  |
| 0x16000031 | BcdLibraryBoolean\_AttemptNonBcdStart |  |  |  |
| 0x16000040 | BcdLibraryBoolean\_DisplayAdvancedOptions  BCDE\_LIBRARY\_TYPE\_DISPLAY\_ADVANCED\_OPTIONS | advancedoptions | boolean |  |
| 0x16000041 | BcdLibraryBoolean\_DisplayOptionsEdit  BCDE\_LIBRARY\_TYPE\_DISPLAY\_OPTIONS\_EDIT | optionsedit | boolean |  |
| 0x15000042 | BcdLibraryInteger\_FVEKeyRingAddress  BCDE\_LIBRARY\_TYPE\_FVE\_KEYRING\_ADDRESS | keyringaddress | integer |  |
| 0x11000043 | (device for [boot status data log](http://www.geoffchappell.com/notes/windows/boot/bsd.htm)) |  | device |  |
| 0x12000044 | (file path for boot status data log) |  | string |  |
| 0x16000045 | (append to boot status data log) |  | boolean |  |
| 0x16000046 | BcdLibraryBoolean\_GraphicsModeDisabled  BCDE\_LIBRARY\_TYPE\_GRAPHICS\_MODE\_DISABLED | graphicsmodedisabled | boolean |  |
| 0x15000047 | BcdLibraryInteger\_ConfigAccessPolicy  BCDE\_LIBRARY\_TYPE\_CONFIG\_ACCESS\_POLICY | configaccesspolicy | 0 = Default  1 = DisallowMmConfig |  |
| 0x16000048 | BcdLibraryBoolean\_DisableIntegrityChecks  BCDE\_LIBRARY\_TYPE\_DISABLE\_INTEGRITY\_CHECKS | nointegritychecks | boolean |  |
| 0x16000049 | BcdLibraryBoolean\_AllowPrereleaseSignatures  BCDE\_LIBRARY\_TYPE\_ALLOW\_PRERELEASE\_SIGNATURES | testsigning | boolean |  |
| 0x1200004A | BCDE\_LIBRARY\_TYPE\_FONT\_PATH | fontpath | string | Windows 7 |
| 0x1500000B | BcdLibraryInteger\_SiPolicy  BCDE\_LIBRARY\_TYPE\_SI\_POLICY | integrityservices | 0 = Default  1 = Enable  2 = Disable | Windows 7 |
| 0x16000050 | BCDE\_LIBRARY\_TYPE\_CONSOLE\_EXTENDED\_INPUT | extendedinput | boolean |  |
| 0x15000051 | BCDE\_LIBRARY\_TYPE\_INITIAL\_CONSOLE\_INPUT | initialconsoleinput | integer |  |
| 0x15000052 | BCDE\_LIBRARY\_TYPE\_GRAPHICS\_RESOLUTION | graphicsresolution | 0 = 1024x768  1 = 800x600 | Windows Vista SP1, and higher |

The elements 0x11000043, 0x12000044 and 0x16000045 seem not to be documented anywhere. They are known only from their meaningfulness to BOOTMGR. They can be worked with through BCDEDIT only as custom types, e.g., with custom:11000043 where a friendly name might otherwise be used.

The symbol BcdLibraryBoolean\_AttemptNonBcdStart is defined in BCDSRV but its numerical datatype (0x16000031) is unknown to BCDEDIT.

### Application-Specific Elements

An element whose type has 2 in its most significant 4 bits is interpreted according to its containing object. Note especially that two elements may have the same numerical type but completely different interpretations because they are meant for use with different types of object.

#### FWBOOTMGR and BOOTMGR Elements

The following elements are known for object types 1XX00001, 1XX00002, 2X200001 and 2X200002. The first two types can be created through BCDEDIT as {fwbootmgr} or {bootmgr}, respectively. For the last two, add the /inherit switch.

|  |  |  |  |
| --- | --- | --- | --- |
| **Constant** | **Symbolic Name** | **Friendly Name** | **Format** |
| 0x24000001 | BcdBootMgrObjectList\_DisplayOrder  BCDE\_BOOTMGR\_TYPE\_DISPLAY\_ORDER | displayorder | GUID list |
| 0x24000002 | BcdBootMgrObjectList\_BootSequence  BCDE\_BOOTMGR\_TYPE\_BOOT\_SEQUENCE | bootsequence | GUID list |
| 0x23000003 | BcdBootMgrObject\_DefaultObject  BCDE\_BOOTMGR\_TYPE\_DEFAULT\_OBJECT | default | GUID |
| 0x25000004 | BcdBootMgrInteger\_Timeout  BCDE\_BOOTMGR\_TYPE\_TIMEOUT | timeout | integer |
| 0x26000005 | BcdBootMgrBoolean\_AttemptResume  BCDE\_BOOTMGR\_TYPE\_ATTEMPT\_RESUME | resume | boolean |
| 0x23000006 | BcdBootMgrObject\_ResumeObject  BCDE\_BOOTMGR\_TYPE\_RESUME\_OBJECT | resumeobject | GUID |
| 0x24000010 | BcdBootMgrObjectList\_ToolsDisplayOrder  BCDE\_BOOTMGR\_TYPE\_TOOLS\_DISPLAY\_ORDER | toolsdisplayorder | GUID list |
| 0x26000020 | BCDE\_BOOTMGR\_TYPE\_DISPLAY\_BOOT\_MENU | displaybootmenu | boolean |
| 0x26000021 | BcdBootMgrBoolean\_NoErrorDisplay  BCDE\_BOOTMGR\_TYPE\_NO\_ERROR\_DISPLAY | noerrordisplay | boolean |
| 0x21000022 | BcdBootMgrDevice\_BcdDevice  BCDE\_BOOTMGR\_TYPE\_BCD\_DEVICE | bcddevice | device |
| 0x22000023 | BcdBootMgrString\_BcdFilePath  BCDE\_BOOTMGR\_TYPE\_BCD\_FILEPATH | bcdfilepath | string |
| 0x27000030 | BCDE\_BOOTMGR\_TYPE\_CUSTOM\_ACTIONS\_LIST | customactions | integer list |

#### OSLOADER Elements

The following elements are known for object types 1XX00003 and 2X200003. The first type can be created through BCDEDIT with the switch /application osloader, the second type either with the /inherit osloader switch or as the built-in {bootloadersettings} object.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Constant** | **Symbolic Name** | **Friendly Name** | **Format or Value** | **Applicable Versions** |
| 0x21000001 | BcdOSLoaderDevice\_OSDevice  BCDE\_OSLOADER\_TYPE\_OS\_DEVICE | osdevice | device |  |
| 0x22000002 | BcdOSLoaderString\_SystemRoot  BCDE\_OSLOADER\_TYPE\_SYSTEM\_ROOT | systemroot | string |  |
| 0x23000003 | BcdOSLoaderObject\_AssociatedResumeObject  BCDE\_OSLOADER\_TYPE\_ASSOCIATED\_RESUME\_OBJECT | resumeobject | GUID |  |
| 0x26000004 | BcdOSLoaderBoolean\_StampDisks  BCDE\_OSLOADER\_TYPE\_STAMP\_RAW\_DISKS | stampdisks | boolean | Windows Vista SP1, and higher |
| 0x26000010 | BcdOSLoaderBoolean\_DetectKernelAndHal  BCDE\_OSLOADER\_TYPE\_DETECT\_KERNEL\_AND\_HAL | [**detecthal**](http://www.geoffchappell.com/notes/windows/boot/bcd/osloader/detecthal.htm) | boolean |  |
| 0x22000011 | BcdOSLoaderString\_KernelPath  BCDE\_OSLOADER\_TYPE\_KERNEL\_PATH | [**kernel**](http://www.geoffchappell.com/notes/windows/boot/bcd/osloader/kernel.htm) | string |  |
| 0x22000012 | BcdOSLoaderString\_HalPath  BCDE\_OSLOADER\_TYPE\_HAL\_PATH | [**hal**](http://www.geoffchappell.com/notes/windows/boot/bcd/osloader/hal.htm) | string |  |
| 0x22000013 | BcdOSLoaderString\_DbgTransportPath  BCDE\_OSLOADER\_TYPE\_DBG\_TRANSPORT\_PATH | dbgtransport | string |  |
| 0x25000020 | BcdOSLoaderInteger\_NxPolicy  BCDE\_OSLOADER\_TYPE\_NX\_POLICY | [**nx**](http://www.geoffchappell.com/notes/windows/boot/bcd/osloader/nx.htm) | 0 = OptIn  1 = OptOut  2 = AlwaysOff  3 = AlwaysOn |  |
| 0x25000021 | BcdOSLoaderInteger\_PAEPolicy  BCDE\_OSLOADER\_TYPE\_PAE\_POLICY | [**pae**](http://www.geoffchappell.com/notes/windows/boot/bcd/osloader/pae.htm) | 0 = Default  1 = ForceEnable  2 = ForceDisable |  |
| 0x26000022 | BcdOSLoaderBoolean\_WinPEMode  BCDE\_OSLOADER\_TYPE\_WINPE | winpe | boolean |  |
| 0x26000024 | BcdOSLoaderBoolean\_DisableCrashAutoReboot  BCDE\_OSLOADER\_TYPE\_DISABLE\_CRASH\_AUTOREBOOT | nocrashautoreboot | boolean |  |
| 0x26000025 | BcdOSLoaderBoolean\_UseLastGoodSettings  BCDE\_OSLOADER\_TYPE\_LAST\_GOOD\_SETTINGS | lastknowngood | boolean |  |
| 0x26000026 | BcdOSLoaderBoolean\_DisableCodeIntegrityChecks  BCDE\_OSLOADER\_TYPE\_DISABLE\_INTEGRITY\_CHECKS | oslnointegritychecks | boolean |  |
| 0x26000027 | BcdOSLoaderBoolean\_AllowPrereleaseSignatures  BCDE\_OSLOADER\_TYPE\_ALLOW\_PRERELEASE\_SIGNATURES | osltestsigning | boolean | Windows Vista only |
| 0x26000030 | BcdOSLoaderBoolean\_NoLowMemory  BCDE\_OSLOADER\_TYPE\_NO\_LOW\_MEMORY | nolowmem | boolean |  |
| 0x25000031 | BcdOSLoaderInteger\_RemoveMemory  BCDE\_OSLOADER\_TYPE\_REMOVE\_MEMORY | removememory | integer |  |
| 0x25000032 | BcdOSLoaderInteger\_IncreaseUserVa  BCDE\_OSLOADER\_TYPE\_INCREASE\_USER\_VA | increaseuserva | integer |  |
| 0x25000033 | BcdOSLoaderInteger\_PerformaceDataMemory  BCDE\_OSLOADER\_TYPE\_PERFORMANCE\_DATA\_MEMORY | perfmem | integer |  |
| 0x26000040 | BcdOSLoaderBoolean\_UseVgaDriver  BCDE\_OSLOADER\_TYPE\_USE\_VGA\_DRIVER | vga | boolean |  |
| 0x26000041 | BcdOSLoaderBoolean\_DisableBootDisplay  BCDE\_OSLOADER\_TYPE\_DISABLE\_BOOT\_DISPLAY | quietboot | boolean |  |
| 0x26000042 | BcdOSLoaderBoolean\_DisableVesaBios  BCDE\_OSLOADER\_TYPE\_DISABLE\_VESA\_BIOS | novesa | boolean |  |
| 0x25000050 | BcdOSLoaderInteger\_ClusterModeAddressing  BCDE\_OSLOADER\_TYPE\_CLUSTERMODE\_ADDRESSING | clustermodeaddressing | integer |  |
| 0x26000051 | BcdOSLoaderBoolean\_UsePhysicalDestination  BCDE\_OSLOADER\_TYPE\_USE\_PHYSICAL\_DESTINATION | usephysicaldestination | boolean |  |
| 0x25000052 | BcdOSLoaderInteger\_RestrictApicCluster  BCDE\_OSLOADER\_TYPE\_RESTRICT\_APIC\_CLUSTER | restrictapiccluster | integer |  |
| 0x22000053 | BCDE\_OSLOADER\_TYPE\_EVSTORE | evstore | string | Windows 7 |
| 0x26000054 | BcdOSLoaderBoolean\_UseLegacyApicMode  BCDE\_OSLOADER\_TYPE\_USE\_LEGACY\_APIC\_MODE | uselegacyapicmode | boolean | Windows 7 |
| 0x26000060 | BcdOSLoaderBoolean\_UseBootProcessorOnly  BCDE\_OSLOADER\_TYPE\_BOOT\_PROCESSOR\_ONLY | onecpu | boolean |  |
| 0x25000061 | BcdOSLoaderInteger\_NumberOfProcessors  BCDE\_OSLOADER\_TYPE\_NUMBER\_OF\_PROCESSORS | [**numproc**](http://www.geoffchappell.com/notes/windows/boot/bcd/osloader/numproc.htm) | integer |  |
| 0x26000062 | BcdOSLoaderBoolean\_ForceMaximumProcessors  BCDE\_OSLOADER\_TYPE\_MAXIMUM\_PROCESSORS | maxproc | boolean |  |
| 0x25000063 | BcdOSLoaderBoolean\_ProcessorConfigurationFlags  BCDE\_OSLOADER\_TYPE\_PROCESSOR\_CONFIGURATION\_FLAGS | configflags | integer |  |
| 0x26000064 | BcdOSLoaderBoolean\_MaximizeGroupsCreated  BCDE\_OSLOADER\_TYPE\_MAXIMIZE\_GROUPS\_CREATED | maxgroup | boolean | Windows 7 |
| 0x26000065 | BCDE\_OSLOADER\_TYPE\_FORCE\_GROUP\_AWARENESS | groupaware | boolean | Windows 7 |
| 0x25000066 | BcdOSLoaderBoolean\_GroupSize  BCDE\_OSLOADER\_TYPE\_GROUP\_SIZE | groupsize | integer | Windows 7 |
| 0x26000070 | BcdOSLoaderInteger\_UseFirmwarePciSettings  BCDE\_OSLOADER\_TYPE\_USE\_FIRMWARE\_PCI\_SETTINGS | usefirmwarepcisettings | boolean |  |
| 0x25000071 | BcdOSLoaderInteger\_MsiPolicy  BCDE\_OSLOADER\_TYPE\_MSI\_POLICY | msi | 0 = Default  1 = ForceDisable |  |
| 0x25000072 | BCDE\_OSLOADER\_TYPE\_PCI\_EXPRESS\_POLICY | pciexpress | 0 = Default  1 = ForceDisable |  |
| 0x25000080 | BcdOSLoaderInteger\_SafeBoot  BCDE\_OSLOADER\_TYPE\_SAFEBOOT | safeboot | 0 = Minimal  1 = Network  2 = DsRepair |  |
| 0x26000081 | BcdOSLoaderBoolean\_SafeBootAlternateShell  BCDE\_OSLOADER\_TYPE\_SAFEBOOT\_ALTERNATE\_SHELL | safebootalternateshell | boolean |  |
| 0x26000090 | BcdOSLoaderBoolean\_BootLogInitialization  BCDE\_OSLOADER\_TYPE\_LOG\_INITIALIZATION | bootlog | boolean |  |
| 0x26000091 | BcdOSLoaderBoolean\_VerboseObjectLoadMode  BCDE\_OSLOADER\_TYPE\_SOS | sos | boolean |  |
| 0x260000A0 | BcdOSLoaderBoolean\_KernelDebuggerEnabled  BCDE\_OSLOADER\_TYPE\_KERNEL\_DEBUGGER\_ENABLED | debug | boolean |  |
| 0x260000A1 | BcdOSLoaderBoolean\_DebuggerHalBreakpoint  BCDE\_OSLOADER\_TYPE\_DEBUGGER\_HAL\_BREAKPOINT | halbreakpoint | boolean |  |
| 0x260000A2 | BcdOSLoaderBoolean\_UsePlatformClock  BCDE\_OSLOADER\_TYPE\_USE\_PLATFORM\_CLOCK | useplatformclock | boolean | Windows 7 |
| 0x260000B0 | BcdOSLoaderBoolean\_EmsEnabled  BCDE\_OSLOADER\_TYPE\_KERNEL\_EMS\_ENABLED | ems | boolean |  |
| 0x250000C0 | BCDE\_OSLOADER\_TYPE\_FORCE\_FAILURE |  | 0 = Load  1 = Hive  2 = Acpi  3 = General | original Windows Vista only |
| 0x250000C1 | BcdOSLoaderInteger\_DriverLoadFailurePolicy  BCDE\_OSLOADER\_TYPE\_DRIVER\_LOAD\_FAILURE\_POLICY | driverloadfailurepolicy | 0 = Fatal  1 = UseErrorControl |  |
| 0x250000E0 | BcdOSLoaderInteger\_BootStatusPolicy  BCDE\_OSLOADER\_TYPE\_BOOT\_STATUS\_POLICY | bootstatuspolicy | 0 = DisplayAllFailures  1 = IgnoreAllFailures  2 = IgnoreShutdownFailures  3 = IgnoreBootFailures |  |
| 0x250000F0 | BcdOSLoaderInteger\_HypervisorLaunchType  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_LAUNCH\_TYPE | hypervisorlaunchtype | 0 = Off  1 = Auto | Windows Vista SP1, and higher |
| 0x220000F1 | BcdOSLoaderString\_HypervisorPath  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_PATH | hypervisorpath | string | Windows Vista SP1, and higher |
| 0x260000F2 | BcdOSLoaderBoolean\_HypervisorDebuggerEnabled  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_DEBUGGER\_ENABLED | hypervisordebug | boolean | Windows Vista SP1, and higher |
| 0x250000F3 | BcdOSLoaderInteger\_HypervisorDebuggerType  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_DEBUGGER\_TYPE | hypervisordebugtype | 0 = Serial  1 = 1394 | Windows Vista SP1, and higher |
| 0x250000F4 | BcdOSLoaderInteger\_HypervisorDebuggerPortNumber  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_DEBUGGER\_PORT\_NUMBER | hypervisordebugport | integer | Windows Vista SP1, and higher |
| 0x250000F5 | BcdOSLoaderInteger\_HypervisorDebuggerBaudrate  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_DEBUGGER\_BAUDRATE | hypervisorbaudrate | integer | Windows Vista SP1, and higher |
| 0x250000F6 | BcdOSLoaderInteger\_HypervisorDebugger1394Channel  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_DEBUGGER\_1394\_CHANNEL | hypervisorchannel | integer | Windows Vista SP1, and higher |
| 0x250000F7 | BcdOsLoaderInteger\_BootUxPolicy |  |  | Windows 7 |
| 0x260000F8 | BcdOSLoaderInteger\_HypervisorSlatDisabled  BCDE\_OSLOADER\_TYPE\_HYPERVISOR\_SLAT\_DISABLED | hypervisordisableslat | boolean | Windows 7 |
| 0x25000100 | BcdOSLoaderInteger\_TpmBootEntropyPolicy  BCDE\_OSLOADER\_TYPE\_TPM\_BOOT\_ENTROPY\_POLICY | tpmbootentropy | 0 = Default  1 = ForceDisable  2 = ForceEnable | Windows 7 |
| 0x25000120 | BCDE\_OSLOADER\_TYPE\_XSAVEPOLICY | xsavepolicy | integer | Windows 7 |
| 0x25000121 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE0 | xsaveaddfeature0 | integer | Windows 7 |
| 0x25000122 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE1 | xsaveaddfeature1 | integer | Windows 7 |
| 0x25000123 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE2 | xsaveaddfeature2 | integer | Windows 7 |
| 0x25000124 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE3 | xsaveaddfeature3 | integer | Windows 7 |
| 0x25000125 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE4 | xsaveaddfeature4 | integer | Windows 7 |
| 0x25000126 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE5 | xsaveaddfeature5 | integer | Windows 7 |
| 0x25000127 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE6 | xsaveaddfeature6 | integer | Windows 7 |
| 0x25000128 | BCDE\_OSLOADER\_TYPE\_XSAVEADDFEATURE7 | xsaveaddfeature7 | integer | Windows 7 |
| 0x25000129 | BCDE\_OSLOADER\_TYPE\_XSAVEREMOVEFEATURE | xsaveremovefeature | integer | Windows 7 |
| 0x2500012A | BCDE\_OSLOADER\_TYPE\_XSAVEPROCESSORSMASK | xsaveprocessorsmask | integer | Windows 7 |
| 0x2500012B | BCDE\_OSLOADER\_TYPE\_XSAVEDISABLE | xsavedisable | integer | Windows 7 |

The WMI constants for configflags and groupsize are correctly reproduced: their names suggest boolean types but the elements actually are integers. Conversely, the constants for usefirmwarepcisettings and hypervisordisableslat suggest integers for types that actually are boolean. Does nobody take care? Does nobody ever check? The mis-spelling of BcdOSLoaderInteger\_PerformaceDataMemory is Microsoft’s.

The BcdOSLoaderInteger\_MsiPolicy symbol is documented in the Windows Vista SDK even though the BCDSRV type library does not define it (the documentation and implementation presumably having got out of sync).

The element 0x250000C0 has no friendly name. It can be worked with through BCDEDIT only as a custom type, e.g., with custom:250000C0 where a friendly name might otherwise be used.

#### RESUME Elements

The following elements are known for object types 1XX00004 and 2X200004. The first type can be created through BCDEDIT with the switch /application resume, the second type either with the /inherit resume switch or as the built-in {resumeloadersettings} object.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Constant** | **Symbolic Name** | **Friendly Name** | **Format** | **Applicable Versions** |
| 0x21000001 | BcdResumeDevice\_HiberFileDevice  BCDE\_RESUME\_LOADER\_TYPE\_HIBERFILE\_DEVICE | filedevice | device |  |
| 0x22000002 | BcdResumeString\_HiberFilePath  BCDE\_RESUME\_LOADER\_TYPE\_HIBERFILE\_PATH | filepath | string |  |
| 0x26000003 | BcdResumeBoolean\_UseCustomSettings  BCDE\_RESUME\_LOADER\_TYPE\_USE\_CUSTOM\_SETTINGS | customsettings | boolean |  |
| 0x26000004 | BcdResumeBoolean\_x86PaeMode  BCDE\_RESUME\_LOADER\_TYPE\_X86\_PAE\_MODE | pae | boolean |  |
| 0x21000005 | BcdResumeDevice\_AssociatedOsDevice  BCDE\_RESUME\_LOADER\_TYPE\_ASSOCIATED\_OS\_DEVICE | associatedosdevice | device |  |
| 0x26000006 | BCDE\_RESUME\_LOADER\_TYPE\_DEBUG\_OPTION\_ENABLED | debugoptionenabled | boolean |  |
| 0x25000007 | BCDE\_RESUME\_LOADER\_TYPE\_BOOTUX\_POLICY | bootux | 0 = Disabled  1 = Basic  2 = Standard | Windows 7 |

Where BCDEDIT lists the pae option among the “entries for the resume loader”, it erroneously describes the option as taking integer values, specifically those of the OSLOADER element to which BCDEDIT gives the same friendly name.

#### MEMDIAG Elements

The following elements are known for object types 1XX00005 and 2X200005. The first type can be created through BCDEDIT as the built-in {memdiag} object. For the second, use the /inherit memdiag switch.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Constant** | **Symbolic Name** | **Friendly Name** | **Format or Value** | **Applicable Versions** |
| 0x25000001 | BcdMemDiagInteger\_PassCount  BCDE\_MEMTEST\_TYPE\_PASS\_COUNT | passcount | integer |  |
| 0x25000002 | BcdMemDiagInteger\_TestMix  BCDE\_MEMTEST\_TYPE\_TESTMIX | testmix | 0 = Basic  1 = Extended |  |
| 0x25000003 | BcdMemDiagInteger\_FailureCount  BCDE\_MEMTEST\_TYPE\_FAILURE\_COUNT | failurecount | integer |  |
| 0x25000004 | BcdMemDiagInteger\_TestToFail  BCDE\_MEMTEST\_TYPE\_TEST\_TO\_FAIL | testtofail | 0 = Stride  1 = Mats  2 = InverseCoupling  3 = RandomPattern  4 = Checkerboard |  |
| 0x26000005 | BCDE\_MEMTEST\_TYPE\_CACHE\_ENABLE | cacheenable | boolean | Windows 7 |

#### NTLDR and SETUPLDR Elements

The following elements are known for object types 1XX00006, 1XX00007, 2X200006 and 2X200007. The first type can be created through BCDEDIT as either {legacy} or {ntldr}. The second cannot be created with BCDEDIT. For the last two, use the /inherit ntldr and /inherit setupldr switches, respectively.

|  |  |  |  |
| --- | --- | --- | --- |
| **Constant** | **Symbolic Name** | **Friendly Name** | **Format** |
| 0x22000001 | BCDE\_LEGACY\_LOADER\_TYPE\_BPB\_STRING | bpbstring | string |

#### STARTUP Elements

The following elements are known for object types 1XX00009 and 2X200009. These types can be created through BCDEDIT with the /application startup and /inherit startup switches, respectively.

|  |  |  |  |
| --- | --- | --- | --- |
| **Constant** | **Symbolic Name** | **Friendly Name** | **Format** |
| 0x26000001 | BCDE\_STARTUP\_TYPE\_PXE\_SOFT\_REBOOT | pxesoftreboot | boolean |
| 0x22000002 | BCDE\_STARTUP\_TYPE\_PXE\_APPLICATION\_NAME | applicationname | string |

### Device Elements

The following elements are known for object types 2X3XXXXX and 3XXXXXXX. To create the first type with BCDEDIT, use the /inherit device switch. The second type can be created through BCDEDIT either as the built-in object {ramdiskoptions} or with the /device switch.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Constant** | **Symbolic Name** | **Friendly Name** | **Format** | **Applicable Versions** |
| 0x35000001 | BcdDeviceInteger\_RamdiskImageOffset  BCDE\_DEVICE\_TYPE\_RAMDISK\_IMAGE\_OFFSET | ramdiskimageoffset | integer |  |
| 0x35000002 | BcdDeviceInteger\_TftpClientPort  BCDE\_DEVICE\_TYPE\_RAMDISK\_TFTP\_CLIENT\_PORT | ramdisktftpclientport | integer |  |
| 0x31000003 | BcdDeviceDevice\_SdiDevice  BCDE\_DEVICE\_TYPE\_RAMDISK\_SDI\_DEVICE | ramdisksdidevice | device |  |
| 0x32000004 | BcdDeviceString\_SdiPath  BCDE\_DEVICE\_TYPE\_RAMDISK\_SDI\_PATH | ramdisksdipath | string |  |
| 0x35000005 | BcdDeviceInteger\_RamdiskImageLength  BCDE\_DEVICE\_TYPE\_RAMDISK\_IMAGE\_LENGTH | ramdiskimagelength | integer |  |
| 0x36000006 | BcdDeviceBoolean\_ExportAsCdRamdiskImageOffset  BCDE\_DEVICE\_TYPE\_RAMDISK\_EXPORT\_AS\_CD | exportascd | boolean |  |
| 0x35000007 | BcdDeviceInteger\_TftpBlockSize  BCDE\_DEVICE\_TYPE\_RAMDISK\_TFTP\_BLOCK\_SIZE | ramdisktftpblocksize | integer |  |
| 0x35000008 | BcdDeviceInteger\_TftpWindowSize  BCDE\_DEVICE\_TYPE\_RAMDISK\_TFTP\_WINDOW\_SIZE | ramdisktftpwindowsize | integer | Windows Vista SP1, and higher |
| 0x36000009 | BcdDeviceInteger\_MulticastEnabled  BCDE\_DEVICE\_TYPE\_RAMDISK\_MULTICAST\_ENABLED | ramdiskmcenabled | boolean | Windows 7 |
| 0x3600000A | BcdDeviceInteger\_MulticastTftpFallback  BCDE\_DEVICE\_TYPE\_RAMDISK\_MULTICAST\_TFTP\_FALLBACK | ramdiskmctftpfallback | boolean | Windows 7 |

The WMI constants for ramdiskmcenabled and ramdiskmctftpfallback are correctly reproduced: their names suggest integer types, but the elements actually are boolean.

The ramdisktftpblocksize element was omitted from the bcdedit /? types devobject documentation in the original Windows Vista. The oversight was perhaps not noticed until ramdiskftpwindowsize was added for the first service pack.

### Setup Template Elements

The following elements are unknown to BCDEDIT. They have no friendly name and are exempt from enumeration by any bcdedit /enum command.

|  |  |  |
| --- | --- | --- |
| **Constant** | **Symbolic Name** | **Format** |
| 0x41000001 | BcdSetupInteger\_DeviceType | integer |
| 0x42000002 | BcdSetupString\_ApplicationRelativePath | string |
| 0x42000003 | BcdSetupString\_RamdiskDeviceRelativePath | string |
| 0x46000004 | BcdSetupBoolean\_OmitOsLoaderElements | boolean |
| 0x46000010 | BcdSetupBoolean\_RecoveryOs | boolean |

Source: <https://www.geoffchappell.com/notes/windows/boot/bcd/elements.htm>