Dell Command | PowerShell Provider Version 1.0 Reference Guide

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Contents

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Introduction

Dell Command | PowerShell Provider is a PowerShell module that provides BIOS configuration capability to Dell client platforms using the Windows PowerShell Interface. Dell Command | PowerShell Provider can be installed as plug-in software registered within a Windows PowerShell environment.

This document describes the supported attributes, and error reporting in Dell Command | PowerShell Provider.

Other documents you may need

In addition to this guide, and the integrated help available within the module, you can access other available Dell Command | PowerShell Provider documents at **dell.com/dellclientcommandsuitemanuals**. To access other documents,

1. Go to **dell.com/dellclientcommandsuitemanuals**.
2. Click **Dell Command | PowerShell Provider**.
3. Click **Dell Command | PowerShell Provider 1.0** link in the Product Support section.
4. Click the **Manuals** drop-down icon in the **Product Support** page.
5. To download the document, click the document's PDF link.

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Attributes supported in Dell Command | PowerShell Provider

Following are the categories in Dell Command | PowerShell Provider. These categories contain BIOS attributes.

Table 1. Attributes supported in Dell Command | PowerShell Provider

Category Name	Description
SystemInformation	Displays information that uniquely identifies the system.
MemoryInformation	Displays non-editable information about memory.
ProcesserInformation	Displays non-editable information about processor(s).
BatteryInformation	Displays information about each battery with the percent charged information.
BootSequence	Displays the attributes to configure the system boot settings.
AdvanceBootOptions	Displays the attributes to configure advanced boot settings.
SystemConfiguration	Displays the attributes to configure devices that are integrated on the system board.
StealthModeControl	Displays the attributes to configure stealth mode settings.
Video	Displays the attributes to configure video settings.
Security	Displays the attributes to configure the security feature of the system.
SecureBoot	Displays the attributes to configure Secure Boot settings.
Performance	Displays the attributes to configure performance-related settings.
PowerManagement	Displays the attributes to configure power management settings.
POSTBehavior	Displays the attributes to configure system's behavior after POST.
VirtualizationSupport	Displays the attributes to configure virtualization settings.
Wireless	Displays the attributes to configure wireless devices.
Maintenance	Displays the attributes to configure maintenance-related settings.
SystemLogs	Displays the attributes to configure system logs settings.
TPMSecurity	Displays the attributes to configure TPM device settings.
MiscellaneousDevices	Displays the attributes to configure various miscellaneous onboard devices.
USBConfiguration	Displays the attributes to configure USB settings. **NOTE:** USB keyboard and mouse always work as defined in the BIOS setup, irrespective of these settings.
AdvancedConfigurations	Displays the attributes to configure various advanced settings.

SystemInformation

Table 2. SystemInformation

Attribute Name	Description
BIOS Version	Displays the current version of the system BIOS firmware. Possible values: Read-only
ServiceTag	The service tag is the system's serial number that uniquely identifies the Dell system. Possible values: Read-only
AssetTag	An asset tag is a string that can be used by an IT administrator to uniquely identify a particular system. Possible values: String containing 0 to 10 characters
OwnershipTag	The ownership tag is a string that can be used to display a system-specific message on the BIOS start-up and setup screens. Possible values: String containing 0 to 80 characters
ManufatureDate	Displays the system manufacture date (mm/dd/yyyy). Possible values: Read-only
OwnershipDate	Displays the date (mm/dd/yyyy) the system was first powered on after leaving the factory. Possible values: Read-only
ExpressServiceCode	The express service code is a mathematical hash applied to the service tag. The express service code is seen in BIOS Setup and on an exterior sticker. Possible values: Read-only

MemoryInformation

Table 3. MemoryInformation

Attribute Name	Description
MemoryInstalled	Displays the amount of main memory physically installed in the system. Possible Values: Read-only
MemoryAvailable	Displays the amount of main memory available to the operating system.

Attribute Name	Description
	NOTE: Due to an amount of memory allocated for the system use, MemoryAvailable is less than MemoryInstalled. Certain operating systems may not be able to use all the available memory. Possible Values: Read-only
MemorySpeed	Displays the clock frequency of the main memory. Possible Values: Read-only
MemoryTechnology	Displays the technology of the main memory installed in the system. Possible Values: Read-only
DIMMASize	Displays the amount of main memory physically installed in the DIMM slot A. Possible Values: Read-only
DIMMBSize	Displays the amount of main memory physically installed in the DIMM slot B. Possible Values: Read-only
DIMMCSize	Displays the amount of main memory physically installed in the DIMM slot C. Possible Values: Read-only
DIMMDSize	Displays the amount of main memory physically installed in the DIMM slot D. Possible Values: Read-only

ProcessorInformation

Table 4. ProcessorInformation

Attribute Name	Description
ProcessorType	Displays the brand information of the processor installed on the system. Possible values: Read-only
CoreCount	Displays the number of cores in each processor. By default, the maximum number of cores per processor are enabled. Possible values: Read-only
CurrentClockSpeed	Displays the current speed of the processor. Possible values: Read-only

Attribute Name	Description
MaximumClockSpeed	Displays the maximum speed supported by the processor. Possible values: Read-only
ProcessorL2Cache	Displays the L2 cache size. Possible values: Read-only
ProcessorL3Cache	Displays the L3 cache size. Possible values: Read-only
HTCapable	Specifies whether the system supports Hyper Threading (HT). Possible values: Read-only
64-BitTechnology	Specifies whether the installed processor(s) support 64-bit extensions. Possible values: Read-only

BatteryInformation

Table 5. BatteryInformation

Attribute Name	Description
PercentCharged	Displays the charged percentage of the battery. Possible values: Read-only

BootSequence

Table 6. BootSequence

Attribute Name	Description
BootListOption	Determines the system's boot mode. Possible values: • UEFI — Enables booting to Unified Extensible Firmware Interface (UEFI) capable operating systems. • Legacy (the default) — Ensures compatibility with operating systems that do not support UEFI. NOTE: Legacy boot mode is not allowed when secure boot is enabled or legacy option ROM is disabled.
BootSequence	Specifies the order in which a system searches for devices when trying to find an operating system to boot. The BootSequence option allows users to customize the boot order and boot ability of boot devices. The UEFI BIOS allows the selection of **UEFI** boot paths or **Legacy** boot devices.

AdvanceBootOptions

Table 7. AdvanceBootOptions

Attribute Name	Description
EnableLegacyOptionROMs	If enabled, allows legacy option ROMs to load. Without this option, only UEFI option ROMs loads. This option is required for Legacy boot mode. This mode cannot be enabled with Secure Boot. Possible values: • Enabled • Disabled

SystemConfiguration

Table 8. SystemConfiguration

Attribute Name	Description
IntegratedNIC	Controls the state of on-board LAN controller 1. Possible values: • Disabled • Enabled • Enabled with PXE • Enabled with ImageServer • Enabled with RPL Boot • Enabled with ISCSI Boot
IntegratedNIC2	Controls the state of on-board LAN controller 2. Possible values: • Disabled • Enabled with PXE • Enabled without PXE • Enabled with ImageServer Boot • Enabled with RPL Boot
OnboardUnmanagedNIC	Configures the state of the onboard secondary, unmanaged Network Interface Card (NIC). Possible values: • Enabled • Disabled • Enabled with PXE

Attribute Name	Description
UEFINetworkStack	This option is disabled by default. If enabled, UEFI networking protocols are installed/available, allowing pre-OS and early OS networking features to use the enabled NICs. This option may be used without turning on PXE. Possible values: • Enabled • Disabled
ParallelPort	Determines how the parallel port on the docking station operates. Possible values: • Disabled — Port is disabled. • AT — Port is configured for IBM AT compatibility. • PS2 — Port is configured for IBM PS2 compatibility. • ECP — Extended Capability Port protocol.
SerialPort1	Configures the first (or only) built-in serial port. Possible values: • Disabled • COM1 • COM2 • COM3 • COM4 • Auto
SerialPort2	Configures the second (if available) built-in serial port. Possible values: • Disabled • COM2 • COM4 • Auto
SATAOperation	Configures the operating mode of the integrated SATA hard drive controller. Possible values: • Disabled — The SATA controllers are hidden. • ATA — SATA is configured for ATA mode. • AHCI — SATA is configured for AHCI mode. • RAID On — SATA is configured to support RAID mode (Intel Rapid Restore Technology).
SATA0	Enables or disables the first SATA drive controller.

Attribute Name	Description
	Possible values: • Enabled • Disabled
SATA1	Enables or disables the second SATA drive controller. Possible values: • Enabled • Disabled
SATA2	Enables or disables the third SATA drive controller. Possible values: • Enabled • Disabled
SATA3	Enables or disables the fourth SATA drive controller. Possible values: • Enabled • Disabled
SATA4	Enables or disables the fifth SATA drive controller. Possible values: • Enabled • Disabled
SATA5	Enables or disables the sixth SATA drive controller. Possible values: • Enabled • Disabled
SATA6	Enables or disables the seven SATA drive controller. Possible values: • Enabled • Disabled
SATA7	Enables or disables the eighth SATA drive controller. Possible values: • Enabled • Disabled

Attribute Name	Description
SMARTReporting	Controls whether hard drive errors for integrated drives are reported during system startup. Possible values: • Enabled • Disabled
PCIBus	Sets the maximum number of PCI busses to 64,128 or 256. Possible values: • •
OSDButton	Enables or disables the On-screen Display (OSD) buttons on an All-In-One system. When disabled, pressing these buttons has no effect. Possible values: • Enabled • Disabled
HDD1Fan	Enables or disables the automatic fan controller, an error check of a fan. If a fan is detected, this function is automatically enabled. Disabling the fan requires physical removal of the HDD fan. Possible values: • Enabled • Disabled
HDD2Fan	Enables or disables the automatic fan controller, an error check of a fan. If a fan is detected, this function is automatically enabled. Disabling the fan requires physical removal of the HDD2 fan. Possible values: • Enabled • Disabled
HDD3Fan	Enables or disables the automatic fan controller, an error check of a fan. If a fan is detected, this function is automatically enabled. Disabling the fan requires physical removal of the HDD3 fan. Possible values: • Enabled • Disabled
USBPowerShare	Configures the USB PowerShare feature behavior.

Attribute Name	Description
	Possible values: • Enabled — Charges the external devices, such as phones and laptop music players, using the stored system battery when the system is turned off or in sleep mode. This feature works only if: – The device is connected through the USB PowerShare port on the laptop. – The system is connected to an AC power source. – The battery charge is less than 50 percent. • Disabled — Turns off this feature, and devices attached to the USB PowerShare port will not be charged when the system is in a sleep mode or turned off.
Audio	Enables or disables the integrated audio controller. Possible values: • Enabled • Disabled • Auto
KeyboardIllumination	This field lets you configure the keyboard illumination brightness percentage. The keyboard automatically illuminates when the internal keyboard, touchpad, or pointstick are used. Possible values: • Disabled – Turns off keyboard illumination. • 25 – Sets the brightness level to 25 percent. • 50 – Sets the brightness level to 50 percent. • 75– Sets the brightness level to 75 percent. • 100 – Sets the brightness level to 100 percent.
KeyboardBacklightEnabled Colors	Displays or enables the supported colors for the keyboard backlight in the rugged systems. Six colors are available: four predefined colors (white, red, green, blue), and two user-configurable colors (custom1 and custom2). Multiple colors out of the six colors can be enabled at the same time. After enabling colors, you can switch among the enabled colors by pressing <Fn+C> keys. Enabling **NoColor** means the keyboard backlight is turned off. Possible values: Either combination of, • White • Red • Green • Blue • Custom1 • Custom2 or • NoColor

Attribute Name	Description
	NOTE: If value **NoColor** is selected, you cannot use <Fn+C> to switch to another keyboard backlight color. The value **NoColor** cannot be combined with any other color.
KeyboardBacklightActiveColor	Displays or sets an active color for the keyboard backlight in a rugged system. Six colors are available: four predefined colors (white, red, green, blue), and two user configurable colors (custom1 and custom2). Active color indicates the color used on startup. Any one of the six colors can be chosen as an active color. Possible value: • White • Red • Green • Blue • Custom1 • Custom2
KeyboardBacklightCustom1Color	Configures the Custom1 color by specifying the RGB values by mentioning it in 'R:G:B' format. Each color component value ranges from 0 to 255. Possible values: [0-255]:[0-255]:[0-255]
KeyboardBacklightCustom2Color	Configures the Custom2 color by specifying the RGB values by mentioning it in 'R:G:B' format. Each color component value ranges from 0 to 255. Possible values: [0-255]:[0-255]:[0-255]
KeyboardBacklightAlwaysonwithACPower	Disables the fade if an AC adapter is plugged in. For example, if you have set the back light to 25 percent using KeyboardIllumination, and the system is on AC power, then the keyboard backlight remains at 25 percent regardless of internal keyboard or touchpad activity. This feature is in effect only if the Keyboard backlight is enabled. Possible values: • Enabled — Keyboard backlight fades after ten second of inactivity. • Disables the timer that fades the backlight after ten second of inactivity if the system is running on AC power.
DedicatedGPS	Enables or disables the Internal GPS radio. Possible values: • Enabled • Disabled

StealthModeControl

Table 9. StealthModeControl

Attribute	Description
StealthMode	Sets the behavior of system elements. Possible values: • Enabled — The system elements operate in the preprogrammed stealth mode. • Disabled — The system elements operate in normal mode.
StealthModeLEDs	Enables or disables Stealth Mode behavior for LEDs if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled
StealthModeLCD	Enables or disables Stealth Mode behavior for the LCD if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled
StealthModeFans	Enables or disables Stealth Mode behavior for fans if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled
StealthModeSpeakers	Enables or disables Stealth Mode behavior for speakers if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled
StealthModeBluetoothRadio	Enables or disables Stealth Mode behavior for bluetooth radio if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled

Attribute	Description
StealthModeGPSReceiver	Enables or disables Stealth Mode behavior for GPS receiver if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled
StealthModeWLANRadio	Enables or disables Stealth Mode behavior for WLAN radio if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled
StealthModeWWANRadio	Enables or disables Stealth Mode behavior for WWAN radio if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled
StealthModeWiGigRadio	Enables or disables Stealth Mode behavior for WiGig radio if the StealthMode attribute is enabled. Possible values: • Enabled • Disabled

Video

Table 10. Video

Attribute Name	Description
LCDBrightnessOnBattery	Sets the panel brightness in effect when the system is using battery power only. Possible values: Integers ranging from 0 to 15
LCDBrightnessOnAC	Sets the panel brightness in effect when the system is using AC power. Possible values: Integers ranging from 0 to 15
MultiDisplay	Enables or disables MultiDisplay. Possible values: • Enabled • Disabled

Attribute Name	Description
SwitchableGraphics	Enables or disables switchable graphics technologies such as NVIDIA, Optimus, and AMD PowerExpress. Possible values: • Enabled • Disabled
PrimaryDisplay	Selects which PCI Express slot contains the primary boot video device. A monitor connected to the primary video device displays BIOS setup and initial operating system text and graphics. Possible values: • 0 — Sets the onboard video device slot as the primary video device slot. • 1-15 — Sets the specified slot number as the primary video device slot. • 255 — Automatically scans the slots and selects the first video device slot found with video card as a primary video device slot. NOTE: • This option has no effect if only one video device is present in the system. • If the selected slot does not contain a video device, the system BIOS scans the slots and selects the primary video device.

Security

Table 11. Security

Attribute Name	Description
IsSystemPasswordSet	Specifies if a system password has been set. Possible values: True, false (Read-only)
IsAdminPasswordSet	Specifies if an admin password has been set. Possible values: True, false (Read-only)
HDDInfo	Displays the details of each HDD. The following information is displayed: • **HDD Name** — The name of the HDD. • **Present** — Whether the HDD is physically present. • **PwdProtected** — Whether a password exists for the HDD. • **PendingRestart** — Whether a reboot is pending to set the password. • **AdminOnlyChange** — Whether the changes to the password can be made only by an administrator. • **SecureEraseSupported** — Whether HDD Secure Erase is supported. • **SecureEraseEnabled** — Whether HDD Secure Erase is enabled. Possible values: Read-only

Attribute Name	Description
AdminPassword	Sets, changes, or clears the administrator (admin) password (also called the setup password). If you delete the admin password, the system password, if set, is also deleted. Possible values: String containing minimum 4 and maximum 32 characters including whitespace.
SystemPassword	Sets, changes, or clears the system password (also known as the user password). Enter the system password, if set, when the system is powered on. Possible values: String containing minimum 4 and maximum 32 characters including whitespace.
HDDPassword	Sets, changes, or clears the HDD password. Enter the HDD password, if set, when the system is powered on. NOTE: After setting the HDD password, restart the system. Possible values: String containing minimum 1 and maximum 32 characters including whitespace.
StrongPassword	Enables or disables the enforced use of a strong password. If enabled, the admin and system passwords must contain at least one upper case character, at least one lowercase character, and minimum eight characters. Possible values: • Enabled • Disabled
PasswordBypass	Allows users to skip the entry of the system password, HDD password, fingerprint scan or smartcard on either/both reboot (warm boot) or S3 resume (resume from standby). Possible values: • Disabled • Reboot Bypass • Resume Bypass • Reboot and Resume Bypass
OROMKeyboardAccess	Determines whether users are able to enter Option ROM Configuration screens using hotkeys during boot. Possible values: • Enabled — Users are able to enter OROM configuration screens using hotkeys during boot. • One Time Enable — Users will be able to enter OROM configuration screens using hotkeys during next boot only. After next boot, the settings will revert to disabled. • Disabled — Users are able to enter OROM configuration screens using hotkeys during boot.

Attribute Name	Description
SecureBootPolicy	Configures the secure boot policy. • Standard — The BIOS uses the system manufacturer's keys and certificates to authenticate preboot images. • Custom — The BIOS uses user-defined keys and certificates. Secure Boot Policy is Standard by default.
ChassisIntrusion	The chassis intrusion switch is a physical switch which triggers an event when the chassis is opened. Possible values: • Enabled — The system detects and reports chassis intrusion events to the system display on boot-up. • Disabled — The system does not detect and report Chassis Intrusion events to the system display on boot-up. • On Silent — The system detects, but does not report Chassis Intrusion events to the system display on boot-up.
CPUXDSupport	Enables or disables the run disable mode of the processor. The operating system can use this feature to hinder software that exploits buffer overflows. Possible values: • Enabled • Disabled
AdminSetupLockout	Enables or disables admin setup lockout. Possible values: • Enabled • Disabled
HDDProtectionSupport	Lets the user choose loading of HDD Protection OPROM.

SecureBoot

Table 12. SecureBoot

Attribute Name	Description
SecureBootEnable	Enables the SecureBoot feature. For SecureBoot to be enabled, the system needs to be in UEFI boot mode, and the Enable Legacy Option ROMs option needs to be turned off. Possible values: • Enabled NOTE: SecureBoot feature can be disabled only from the BIOS setup screen.

Performance

Table 13. Performance

Attribute Name	Description
MultiCoreSupport	Specifies whether the processor has one or more cores enabled. The performances of some applications improve with additional cores. Possible values: • All — All cores are enabled. • 1 — Only one core is enabled. • 2 — Two cores are enabled. • 4— Four cores are enabled. • 6— Six cores are enabled. • 8— Eight cores are enabled. • 10 — Ten cores are enabled. • 12 — Twelve cores are enabled. • 14 — Fourteen cores are enabled. • 16 — Sixteen cores are enabled.
IntelSpeedStep	Intel SpeedStep technology that allows the processor to operate at two or more operating speeds called P-states in ACPI terminology. When disabled, the processor operate at its maximum frequency. Possible values: • Disabled • Automatic • Maximum Performance • Maximum Battery
CStates	Enables or disables additional processor sleep states. The operating system may optionally use these states for additional power savings when idle. Possible values: • Enabled • Disabled
IntelTurboBoost	Enables or disables the Intel TurboBoost mode of the processor. • Disabled — Does not allow the TurboBoost driver to increase the performance state of the processor preceding the standard performance. • Enabled — Allows the Intel Turbo driver to increase the performance of the CPU or graphics processor.
HyperThreadControl	Enables or disables HyperThreading in the processor.

Attribute Name	Description
	Possible values: • Enabled • Disabled
HardwarePrefetcher	Enables or disables the CPU's hardware prefetcher. If enabled, the processor's Hardware Prefetcher will automatically prefetch data and code for the processor. Possible values: • Enabled • Disabled
AdjacentCacheLinePrefetch	Enables or disables AdjacentCacheLinePrefetch feature. Possible values: • Enabled - CPU fetches the adjacent cache line in the other half of the sector. • Disabled - CPU only fetches the cache line that contains the data currently required by the CPU.
DellReliableMemoryTechnology	The Dell Reliable Memory Technology (RMT) feature identifies and filters out defective regions of the memory modules before they are consumed by the BIOS or OS. When enabled, the system automatically identifies errors, record their locations, and exclude bad location on reboot. Possible values: • Enabled • Disabled
IntelRapidStartfeature	Enables or disables the Intel Rapid Start feature. The Intel Rapid Start feature reduces power consumption by putting the system into a low-power state during sleep mode after the specified amount of time (minutes). The resume time may be slightly more than resuming the system from a sleep mode, but less than resuming from a hibernate mode. Intel Rapid Start Technology is automatically be disabled due to configuration changes, such as: • Hard disk configuration or partition changes • Memory capacity over 8GB is installed • System or HDD password is enabled • A Dell Encryption Accelerator card is installed • The BlockSleep setting is enabled
RapidStartTechnologyTimer	Sets the Intel Rapid Start Timer. The value can be specified in minutes ranging from 0 to 999. Specify the Rapid Start timer value as 0 to put the system into a low-power state immediately after the system transition to a sleep mode. Possible values: Integer ranging from 0 to 999

Attribute Name	Description
LimitCPUIDValue	Restricts the maximum CPUID functions supported by the processor. Some operating system does not complete the installation when more than three CPUID functions are supported. Possible values: • Enabled • Disabled

PowerManagement

Table 14. PowerManagement

Attribute Name	Description
AutoOn	Configures the days when the system has to turn on automatically at the time specified in AutoOnHour and AutoOnMinute. This function can turn on the system either every day, on weekdays, or on selected days. If AutoOnHour is set to 23, and AutoOnTime is set to 53, then setting AutoOntime to Weekdays turns on the system automatically on weekdays (Monday to Friday) at 11:53 p.m.. To turn on the system on particular days, set AutoOnTime as Select Days, and then enable or disable individual days by setting AutoOnSunday -enabled, AutoOnMonday -disabled, etc. Possible values: • Disabled • Every Day • Select Days • Weekdays
AutoOnHour	Configures the hour when the system has to turn on automatically. Provide the value ranging from 0-23. To set the time 11:59 p.m., provide the value as 23. Possible values: Integers ranging from 0 to 23
AutoOnMinute	Configures the minute when the system has to turn on automatically. Provide the value ranging from 0-59. To set the time 11:59 p.m., provide the value as 59. Possible values: Integers ranging from 0 to 59
AutoOnSunday	Enables or disables the AutoOn functionality at the specified time on Sundays. Possible values: • Enabled • Disabled
AutoOnMonday	Enables or disables the AutoOn functionality at the specified time on Mondays.

Attribute Name	Description
	Possible values: • Enabled • Disabled
AutoOnTuesday	Enables or disables the AutoOn functionality at the specified time on Tuesdays. Possible values: • Enabled • Disabled
AutoOnWednesday	Enables or disables the AutoOn functionality at the specified time on Wednesdays Possible values: • Enabled • Disabled
AutoOnThursday	Enables or disables the AutoOn functionality at the specified time on Thursdays. Possible values: • Enabled • Disabled
AutoOnFriday	Enables or disables the AutoOn functionality at the specified time on Fridays. Possible values: • Enabled • Disabled
AutoOnSaturday	Enables or disables the AutoOn functionality at the specified time on Saturdays. Possible values: • Enabled • Disabled
PeakShift	Enables or disables Peak Shift configuration. Using Peak Shift, you can minimize the consumption of AC power during the peak power usage period of the day. Possible values: • Enabled • Disabled

Attribute Name	Description
PeakShiftBatteryThreshold	Sets the value of the Peak Shift battery threshold. The acceptable value range is from 15 to 100 percent. When the Peak Shift battery threshold level is reached, the system starts using AC power. Possible values: Integers ranging from 15 to 100
PeakShiftDayConfiguration	Configures the days settings based on StartTime, EndTime, and ChargeStartTime. Using Peak Shift configuration, you can minimize the consumption of AC power during the peak power usage period of the day. You can set a start and end times for the Peak Shift period. During this period, the system runs on battery if the battery charge is preceding the set battery threshold value. After the Peak Shift period, the system runs on AC power without charging the battery. The system functions normally using AC power and recharging the battery after the specified ChargeStartTime. Possible values: • Enabled • Disabled
AdvancedBatteryChargingMode	Enables or disables the Advanced Battery Charge configuration. During working hours, with Advanced Battery Charge configuration, the batteries can be charged faster using ExpressCharge. Possible values: • Enabled • Disabled
AdvancedBatteryChargeConfiguration	Configures the days settings based on BeginningOfDay and workperiod. Advanced Battery charge mode uses standard charging algorithm and other methods during working hours to maximize battery health. During working hours, express charge is used to charge the batteries faster. You can configure the days and the work period during which the battery has to be charged. To enable advanced battery charging, provide the day, and set the following: Possible values: • BeginningOfDay — To configure the AdvanceBatteryCharge start time in 24 hours format. The value of hour must be in the range 0–23 and minute must be 0, 15, 30, or 45. • Workperiod — To configure the duration of charging.
DeepSleepControl	Controls when Deep Sleep is enabled. Possible values: • Disabled • Enabled in S5 only • Enabled in S4 and S5
FanSpeedControl	Sets the speed of the fan to Auto, High, Medium, Low, Medium High, or Medium Low. When set to Auto, the system run time automatically sets the speed.

Attribute Name	Description
	Possible values: • Auto • High • Medium • Low • Medium High • Medium Low
USBWakeSupport	Enables USB devices to wake the system from Standby. NOTE: This feature is functional only when the AC power adapter is connected. Possible values: • Enabled • Disabled
FanControlOverride	Runs the system fan at full speed. Possible values: • Enabled • Disabled
ACRecovery	Controls the system's behavior when AC power is restored after AC power has been lost. Possible values: • Power Off — System stays off after AC power is restored. • Power On — System powers on after AC power is restored. • Last Power State — System returns to the previous state after AC power recovery.
ControlWLANRadio	Enables or disables the WLAN radio when the system is connected to a wired network. When disconnected from the wired network, WLAN radio is re-enabled. Possible values: • Enabled • Disabled
ControlWWANRadio	Enables or disables the WWAN radio when the system is connected to a wired network. When disconnected from the wired network, WWAN radio is re-enabled. Possible values: • Enabled • Disabled

Attribute Name	Description
WakeonLANorWLAN	Enables the system to turn on from the off state when triggered by a special LAN signal, or from the hibernate state when triggered by a special wireless LAN signal. Possible values: • Enabled — Allows the system to power on when it receives a wakeup signal from the LAN or wireless LAN. • Disabled — Does not allow the system to power on when it receives a wakeup signal from the LAN or wireless LAN. • LAN only — Allows the system to be powered on by special LAN signal. • WLAN only — Allows the system to be powered on by special WLAN signal. • LAN or WLAN — Allows the system to be powered on by special LAN or wireless LAN signal.
BlockSleepS3State	Blocks the system entering sleep (S3 state) mode in an OS environment. If enabled, the system does not go into sleep mode, Intel Rapid Start is disabled automatically, and OS Power option is blank if it was set to Sleep earlier. Possible values: • Enabled • Disabled
PrimaryBatteryChargeConfiguration	Configures the primary battery charge mode. The selected charging mode applies to all batteries installed in the system. Possible values: • Adaptive — Battery settings are adaptively optimized based on your typical battery usage pattern. • Standard — Charges the battery at a standard rate. • ExpressCharge — Charges the battery faster using the express charging algorithm, Dell's fast charging technology. • Primarily AC Use — Charges the battery while plugged in, a mode preferred by the users who operate their systems while plugged in to an external power source. • Custom — The battery charging starts and stops based on user settings specified in Primary Battery Custom Charge Start and Primary Battery Custom Charge End.
PrimaryBatteryCustomChargeStart	Sets the percentage value ranging from 50 to 95 at which custom battery charging should start. NOTE: Primary Battery Custom Charge Start percent must be less than Primary Battery Custom Charge End percent and the minimum difference between the two must be 5 percent. Possible values: Integers ranging from 50 to 95
PrimaryBatteryCustomChargeEnd	Sets the percentage value ranging from 55 to 100 at which the custom battery charging should stop.

Attribute Name	Description
	NOTE: Primary Battery Custom Charge Start percentage must be less than Primary Battery Custom Charge End percent and the minimum difference between the two must be 5 percent. Possible values: Integers ranging from 55 to 100
BatterySliceChargeConfiguration	Configures the battery slice charge mode. The battery slice is an external battery that docks with the system docking connector. The battery slice houses its own battery charger. Possible values: • Enabled • Disabled
IntelSmartConnect	Intel Smart Connect Technology (ISCT) identifies the nearby wireless connections while system is in a sleeping state. SmartConnect Synchronizes email or social media applications that were open when the system entered the sleep state. Possible values: • Enabled • Disabled
DockSupportonBattery	Enabling DockSupportOnBattery allows you to use the docking station, when AC power is absent, but only when the battery is preceding a certain charge percentage. The percentage may change per battery and per platform. For example, the dock may only be powered when the battery is at 60 percent charge or higher, and when the battery drops below this level (without AC power) the dock loses power. possible values: • Enabled • Disabled
IntelReadyModeTechnology	This option enables or disables Intel Ready Mode Technology (iRMT). Possible values: • Enabled • Disabled

POSTBehavior

Table 15. POSTBehavior

Attribute Name	Description
AdapterWarnings	Enables or disables display of warning messages when you use certain power adapters. The system displays these messages when you attempt to use a power adapter that has too little capacity for your configuration.

Attribute Name	Description
	Possible values: • Enabled • Disabled
Keypad	Activates the internal keyboard's embedded keypad either when Numlock LED is on or when the Fn key is pressed. NOTE: When Setup is running, this option has no effect, Setup works in the **Fn Key Only** mode. Possible values: • Fn Key Only — The keypad is enabled only when you hold the Fn key. • By Numlock — The keypad is enabled when, the Numlock LED is On and no external keyboard is attached.
MouseTouchpad	Defines how the system handles mouse and touchpad input. Possible values: • Serial Mouse — Uses a serial mouse and disables the internal touchpad. • PS2 Mouse — Disables the integrated touchpad when an external PS2 mouse is present. • Switch to Touchpad — Leave the integrated touchpad enabled when an external PS2 mouse is present. • Switch to External PS2
Numlock	Enables or disables the NumLock function when the system boots. Possible values: • Enabled • Disabled
POSTHotKeys	Enables or disables F12=Boot Menu on POST boot screen. Possible values: • Enable F12 Boot Option Menu • Disable F12 Boot Option Menu
KeyboardErrors	Enables or disables reporting of keyboard-related errors when the system boots. Possible values: • Enabled • Disabled
MEBxHotkey	MEBx stands for Intel Management Engine BIOS Extension. Enables or disables the MEBx hotkey function when the system boots. • Enabled

Attribute Name	Description
	• Disabled
FnLock	This option controls the behavior of the dual function keys, when Fn key is pressed and when it is not. Possible values: • Enabled — Fn+Esc key combination toggles the primary behavior of F1 to F12 keys between their normal and secondary functions. • Disabled — You cannot toggle the primary behavior of these keys.
FnLockMode	If Enabled, F1 to F12 keys behave as function keys holding Fn key is required to access their secondary functions. Without holding Fn key, the dual function keys behave as normally labeled. Possible values: • Enabled • Disabled
FnKeyEmulation	Enables or disables Fn key emmutation. Possible values: • Enabled — The Scroll Lock key on external keyboards emulate the Fn key only when running in a non-ACPI OS. • Disabled — The Scroll Lock key behaves normally.
Fastboot	Controls specific steps performed during boot to decrease boot time or increase boot checks. This option can speed up the boot process by bypassing some compatibility steps. Possible values: • Minimal — Reduces boot time by skipping certain hardware and configuration initialization during boot. • Thorough — Performs complete hardware and configuration initialization during boot. • Auto — Allows the BIOS to decide configuration initialization to be performed during boot. •
ExtendBIOSPOSTTime	Creates an extra preboot delay for specified seconds to allow the user to see POST status messages. Possible values: • 0 — Does not delay. • 5 — Delays for 5 seconds. • 10 — Delays for 10 seconds.

VirtualizationSupport

Table 16. VirtualizationSupport

Attribute	Description
Virtualization	Enables or disables the VT technology in applicable CPUs. Trusted execution required for Virtualization technology to be enabled. Possible values: • Enabled • Disabled
VTforDirectIO	Determines whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization Technology for Direct IO. Possible values: • Enabled • Disabled
TrustedExecution	Determines whether a Measured Virtual Machine Monitor (MVVM) can utilize the additional hardware capabilities provided by the Intel Trusted Execution Technology. NOTE: TPM has to be enabled and activated. Also, Virtualization Technology and VT for Direct I/O must be enabled to use this feature. Possible values: • Enabled • Disabled

Wireless

Table 17. Wireless

Attribute Name	Description
WirelessSwitchWWANControl	Determines that WWAN is controlled by the wireless On-Off switch. Possible values: • Enabled — Physical wireless On-Off switch can turn the WWAN On-Off. • Disabled — Physical wireless On-Off switch will not be able to turn the WWAN On-Off.
WirelessSwitchWLANControl	Determines that WLAN is controlled by the wireless On-Off switch.

Attribute Name	Description
	Possible values: • Enabled — Physical wireless On-Off switch can turn the WLAN On-Off. • Disabled — Physical wireless On-Off switch will not be able to turn the WLAN On-Off.
WirelessSwitchBluetoothControl	Determines that bluetooth is controlled by the wireless On-Off switch. Possible values: • Enabled — Physical wireless On-Off switch can turn the bluetooth On-Off. • Disabled — Physical wireless On-Off switch will not be able to turn the bluetooth On-Off.
WirelessSwitchWWANWiGigControl	Determines that WLAN and WiGig Radio is controlled by the wireless On-Off switch. Possible values: • Enabled — Physical wireless On-Off switch can turn the WLAN and WiGig Radio On-Off. • Disabled — Physical wireless On-Off switch will not be able to turn the WLAN and WiGig Radio On-Off.
WirelessSwitchWWANGPSRadioControl	Determines that GPS radio of WWAN device is controlled by the wireless On-Off switch. Possible values: • Enabled — Physical wireless On-Off switch can turn the GPS On or Off. • Disabled — Physical wireless On-Off switch will not be able to turn the GPS On or Off.
WirelessWAN	Enables or disables the internal wireless WAN device. Possible values: • Enabled • Disabled
WirelessLAN	Enables or disables the internal wireless LAN device. Possible values: • Enabled • Disabled
Bluetooth	Enables or disables the internal Bluetooth device. Possible values: • Enabled • Disabled

Attribute Name	Description
LidMountedWirelessActivityLED	This additional LED is mounted in the lid in a visible position. Possible values: • Always Off — The LED always stays off irrespective of network activity. • LED Indicates Wireless Activity Status — The LED becomes active whenever any of the wireless devices are capable of connecting to a wireless network. Wireless activity is defined as the following three inputs: – WWAN activity – Bluetooth activity – Wi-Fi activity

Maintenance

Table 18. Maintenance

Attribute Name	Description
SERRMessages	Enables or disables the SERR on the DRAM controller and the PEG controller in the north bridge. Possible values: • Disabled — Disable the SERR DMI messaging mechanism. • Enabled — Allows SERR messages to be generated.

SystemLogs

Table 19. SystemLogs

Attribute Name	Description
ClearBIOSEventsLog	Prevents or allows the system event log to be cleared on the next boot. Possible values: • No — Does not clear the system event log on the next boot. • Yes — Clears the system event log on the next boot.

TPMSecurity

Table 20. TPMSecurity

Attribute Name	Description
TPMSecurity	Controls whether the Trusted Platform Module (TPM) in the system is enabled and visible to the operating system.

Attribute Name	Description
	Possible values: • Enabled — BIOS turns on the TPM during POST, and can be used by the operating system. • Disabled — BIOS does not on the TPM during POST, and the TPM is nonfunctional and invisible to the operating system. NOTE: Disabling this option does not change any TPM settings that you may have configured nor does it delete or change any information or keys you may have stored there. It simply turns off the TPM so that it cannot be used. When you re-enable this option, TPM works exactly as it did before it was disabled.
TPMCommand	Activates and enables the TPM normal state for TPM use. Possible values: • Activate — Activates the TPM.. • Deactivate — Displays the current activation state of TPM. NOTE: Deactivate is a read-only possible value. TPM can be deactivated only from the BIOS setup screen.
TPMACPISupport	Controls whether the system accept ACPI physical presence commands from the OS. • Enabled — System accepts ACPI physical presence commands from the OS. • Disabled — System does not accept ACPI physical presence commands from the OS.
TPMPPIProvisionOverride	Controls the physical presence requirement for the following operations: Enable, Activate, and SetOwnerInstall_True. Possible values: • Enabled — Physical presence is not required to perform any of these operations. • Disabled — Physical presence is required to perform these operations.
TPMPPIDeprovisionOverride	Controls the physical presence requirement for the following operations: Disable, Deactivate, and SetOwnerInstall_False. Possible values: • Enabled • Disabled

MiscellaneousDevices

Table 21. MiscellaneousDevices

Attribute Name	Description
PCISlot	Enables or disables the various on-board PCI slots.

Attribute Name	Description
	Possible values: • Enabled • Disabled
ModuleBay	Enables or disables the module bay. The module bay is a hot-pluggable bay where storage and media devices such as HDDs, CDs or DVDs can be installed. Possible values: • Enabled • Disabled
Microphone	Enables or disables the internal or external microphone. Possible values: • Enabled • Disabled
ExpressCard	Enables or disables the ExpressCard. Possible values: • Enabled • Disabled
eSATAPorts	Enables or disables all e-SATA ports. If the system supports a dock, all e-SATA ports into the dock are also enabled or disabled. Possible values: • Enabled • Disabled
Camera	Enables or disables the camera. Possible values: • Enabled • Disabled
BackCamera	Enable or disables the backward—facing facing camera. Possible values: • Enabled • Disabled
HardDriveFreeFallProtectio n	Enables or disables hard drive free fall protection. Possible values: • Enabled

Attribute Name	Description
	• Disabled
MediaCard	Enables or disables the media card. If disabled, the media card is hidden from the OS and not seen in the Device Manager. Possible values: • Enabled • Disabled
MediaCardand1394	Enables or disables the media card and 1394. Possible values: • Enabled • Disabled
PCCard	Enables or disables the PCMCIA device slot. Possible values: • Enabled • Disabled

USBConfiguration

Table 22. USBConfiguration

Attribute Name	Description
InternalUSBPort	Enables or disables all front USB Ports in the systems. Possible values: • Enabled • Disabled
ExternalUSBPort	Enables or disables the device attached to this USB port. Possible values: • Enabled — Devices attached to this USB port are enabled and available in the operating system. • Disabled — Devices attached to this USB port are disabled and not visible in the operating system. **NOTE:** USB mouse and keyboard works even if the external USB port is disabled.
USB3.0Controller	Enables or disables USB 3.0. Possible values: • Enabled

Attribute Name	Description
	• Disabled
DockingStationDevicesexceptvideoon	Enables or disables all devices such as serial, audio, LAN, and USB ports in the docking station. Possible values: • Enabled • Disabled NOTE: This option works only when ExternalUSBPort is enabled.
SideUSBPorts	Enables or disables all side USB Ports in the system. Possible values: • Enabled • Disabled
FrontUSBPorts	Enables or disables all front USB Ports in the systems. Possible values: • Enabled • Disabled
RearUSBPorts	Enables or disables all back USB Ports. Possible values: • Enabled • Disabled
Thunderbolt	Enables or disables the thunderbolt controller in the system. Possible values: • Enabled • Disabled
ThunderboltSecurityLevel	Configures the thunderbolt security level. Possible values: • No Security — Disables the thunderbolt security. • User Authorization — Allows minimum user notification. Connection manager requests connection approval from the host software, based on the unique ID of the connecting device, auto approval might or might not be given. • Secure Connect — Allows one-time saved key device. Connection manager requests connection approval from the host software; approval is given only if the host challenge to device is acceptable. • Display Port Only — Allows to connect only display port.

AdvancedConfigurations

Table 23. AdvancedConfigurations

Attribute Name	Description
ASPM	Set the ASPM (Active State Power Management) level. Possible values: • Auto — There is handshaking between the device and PCI Express hub to determine the best ASPM mode supported by the device. • Disabled — ASPM power management is turned off always. • L1 Only — ASPM power management is set to use L1.

3

Error reporting in Dell Command | PowerShell Provider

Dell Command | PowerShell Provider provides an Error Reporting feature. Dell Command | PowerShell Provider uses the PowerShell ErrorVariable parameter to capture the ErrorRecord. This ErrorVariable can be used to get more information such as exception, error id, error category, and recommended action etc. about an error.

Example: To set the error variable.

```
gi .\POSTBehavior\numl -ErrorVariable ev
```

Example: To see more information about the error.

```
$ev.ErrorDetails
```

The table below describes all the possible Error IDs generated by Dell Command | PowerShell Provider categorized by error categories.

Table 24. Error reporting in Dell Command | PowerShell Provider

Error Category	Error ID	Scenarios	Example
ObjectNotFound	DellSmbiosPathNotFound	Path is correct but either attribute name or category name is wrong. Or Category does not have any supported attribute for local system and trying to get or set some attributes	dir .\PowerManagement\ gi .\PowerManagement \Numlck si .\PowerManagement\Numlck “enabled” si .\POSTBehaviord\Numlock “enabled”
InvalidArgument	InvalidPath	Path is not complete while doing set operation.	
	PasswordProvided Incorrecly	Trying to provide both plain text password and secure password.	
	NullDrive	Newly created drive is null. Or Trying to remove drive which is already null.	
	NoRoot	Drive root is empty or null.	

Error Category	Error ID	Scenarios	Example
InvalidData	InvalidPossibleValue	Using set-item cmdlet for an attribute with Invalid possible value.	si .\POSTBehavior\Numlock “on”
	NumberNotInRange	Doing set operation by giving out of range integer value for an attribute which accepts integer value in a particular range.	si .\AutoOnHour “54” si .\AutoOnMinute “67” si .\PeakShiftBatteryThreshold “13”
	NotValidNumber	Doing set operation by giving noninteger value for an attribute accepts integer value.	si .\AutoOnHour “on” si .\AutoOnMinute “43.67”
	StringLengthNotInRange	Doing set operation by giving string which has out of range length for an attribute which accepts a string having length within a range.	si .\AssetTag “thisismorethan10characters”
	InvalidTimeFormat	Doing set operation by giving invalid time format.	si .\PeakShiftDayConfiguration Sunday -StartTime "34:34"
	InvalidPrimaryBatteryCustomChargeDifference	Not keeping the minimum difference between PrimaryBatteryCustomChargeStart and PrimaryBatteryCustomChargeEnd.	si . \PrimaryBatteryCustomChargeStart “55” si PrimaryBatteryCustomChargeEnd “58”
	NewPasswordNotInRange	Trying to set a password that is not in supported range by system.	si .\AdminPassword “12” si .\SystemPassword “del”
	InvalidPeakShiftTimes	Not maintaining the time dependency between PeakShift StartTime, EndTime, and ChargeStartTime.	si .\PeakShiftDayConfiguration Sunday -StartTime "14:30" -EndTime “12:30” -ChargeStartTime “14:45”
	InvalidDayOfWeek	Providing invalid day.	si .\PeakShiftDayConfiguration Sun -StartTime "14:30" -EndTime “12:30” -ChargeStartTime “14:45”
	InCorrectBootOrder	Trying to provide duplicate boot device number,	si .\BootSequence “1,2,1”
	UnsupportedColorName	Trying to set unsupported color for KeyboardBacklightEnabledColors or KeyboardBacklightActiveColor	si . \KeyboardBacklightEnabledColors “Red,White,Purple”

Error Category	Error ID	Scenarios	Example
	InvalidCombinationOfNoColorAndSupportedColors	Trying to set colors for KeyboardBacklightEnabledColors with NoColor Value	si . \KeyboardBacklightEnabledColros “Red,White,Custom1,NoColor”
	DuplicateColorName	Trying to provide same color more than once for KeyboardBacklightEnabledColors	si . \KeyboardBacklightEnabledColros “Red,White,Custom1,Custom1”
	OnlyOneColorAllowedForActiveColor	Trying to set multiple colors for KeyboardBacklightActiveColor	si . \KeyboardBacklightActiveColor “Red, White”
	InvalidRGBFormat	Trying to provide RGB values in an incorrect format for KeyboardBacklightCustom1Color or KeyboardBacklightCustom2Color	si . \KeyboardBacklightCustom1Color ”234:34”
	NotValidNumberForRGB	Trying to provide invalid number for R, G or B components for KeyboardBacklightCustom1Color or KeyboardBacklightCustom2Color	si . \KeyboardBacklightCustom1Color ”234:34:567”
InvalidOperation	SetItemForReadOnlyError	Attempt to set read-only attribute,	si .\ExpressServiceCode dsdasfjskfjskfskjd si .\ServiceTag sdwadnakjsd
	NewDriveNotSupported	If newly created drive name is not equal to DellSmbios,	
SecurityError	PasswordSetButNotProvided	Doing set operation for any attribute without providing password if set on your system.	si .\POSTBehavior\Numlock “enabled”
	FailedToSetAdminPassword	Trying to set admin password if system and/or HDD password is already set.	si .\AdminPassword ”12345”
WriteError	SMBIOSWriteFailed	Provided incorrect password while doing set operation if password is already set.	si .\numlock “enabled” –Password <wrong password>
OpenError	DefaultDriveInitFailed	DellSMBIOS Drive creation fails in system.	

4

Accessing documents from Dell support site

You can access the required documents in one of the following ways:

- Using the following links:
  - For all Enterprise Systems Management documents — Dell.com/SoftwareSecurityManuals
  - For OpenManage documents — Dell.com/OpenManageManuals
  - For Remote Enterprise Systems Management documents — Dell.com/esmmanuals
  - For OpenManage Connections Enterprise Systems Management documents — Dell.com/OMConnectionsEnterpriseSystemsManagement
  - For Serviceability Tools documents — Dell.com/ServiceabilityTools
  - For OpenManage Connections Client Systems Management documents — Dell.com/DellClientCommandSuiteManuals
- From the Dell Support site:
  a. Go to Dell.com/Support/Home.
  b. Under **Select a product** section, click **Software & Security**.
  c. In the **Software & Security** group box, click the required link from the following:
     - **Enterprise Systems Management**
     - **Remote Enterprise Systems Management**
     - **Serviceability Tools**
     - **Dell Client Command Suite**
     - **Connections Client Systems Management**
  d. To view a document, click the required product version.
- Using search engines:
  - Type the name and version of the document in the search box.