Mystic Light Software Development Kit

Reference Documentation

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Introduction

- This SDK is provides the LED control functions for MSI products such as MSI Motherboards, Graphics Cards, Desktops, Laptops, peripherals, etc.

- This SDK is based on the Microsoft development environment that supports Microsoft Visual Studio C++ and C# programming language.

System Requirements

- This SDK is supported on Windows 7 / 8 / 8.1 / 10 / 11, both 32-bit and 64-bit architectures.

- MSI Mystic Light related applications must be installed before using the SDK function.

New/Update Functions

- Added FPS performance Optimization.

- Added processor utilization Improvement.

Function APIs

int MLAPI_GetErrorMessage(int, BSTR*)

     This function converts a MLAPI error code into general string.

int MLAPI_Initialize()

     This function initializes the APIs.

int MLAPI_Release()

     This function release the APIs.

int MLAPI_GetDeviceInfo(SAFEARRAY**, SAFEARRAY**)

     This function retrieves information of all devices

int MLAPI_GetDeviceName(BSTR, SAFEARRAY**)

     This function retrieves the friendly name of specific device.

int MLAPI_GetDeviceNameEx(BSTR, DWORD, BSTR*)

     This function retrieves the friendly name of specific device.

int MLAPI_GetLedInfo(BSTR,DWORD, BSTR*, SAFEARRAY**)

     This function retrieves the LED display name and enumerate the LED styles.

int MLAPI_GetLedName(BSTR, SAFEARRAY**)

     This function retrieves the all LED name of specific device.

int MLAPI_GetLedColor(BSTR, DWORD, DWORD*, DWORD*, DWORD*)

     This function retrieves the specific LED current color.

int MLAPI_GetLedStyle(BSTR, DWORD, BSTR*)

     This function retrieves the specific LED current style.

int MLAPI_GetLedMaxBright(BSTR, DWORD, DWORD*)

     This function retrieves a specific LED supports the maximum brightness level.

int MLAPI_GetLedBright(BSTR, DWORD, DWORD*)

     This function retrieves the specific LED current brightness level.

int MLAPI_GetLedMaxSpeed(BSTR, DWORD, DWORD*)

     This function retrieves a specific LED supports the maximum speed level.

int MLAPI_GetLedSpeed(BSTR, DWORD, DWORD*)

     This function retrieves the specific LED current speed level.

int MLAPI_SetLedColor(BSTR, DWORD, DWORD, DWORD , DWORD)

     This function sets the LED to a specific color.

int MLAPI_SetLedColorsSync(BSTR, DWORD, DWORD , DWORD)

     This function sets the colors for each individual LED within LED area by its name.

int MLAPI_SetLedColors(BSTR, DWORD, SAFEARRAY**, DWORD*, DWORD*, DWORD*)

     This function sets the colors for each individual LED within LED area by its name.

int MLAPI_SetLedColorEx(BSTR, DWORD, BSTR, DWORD, DWORD, DWORD, DWORD)

     This function sets the colors for each individual LED within LED area by its name.

int MLAPI_SetLedColorSync(BSTR, DWORD, BSTR, DWORD, DWORD, DWORD, DWORD)

     This function sets the colors for each individual LED within LED area by its name.

int MLAPI_SetLedStyle(BSTR, DWORD, BSTR)

     This function sets the LED to a specific style.

int MLAPI_SetLedBright(BSTR, DWORD, DWORD)

     This function sets the LED brightness to a specific level.

int MLAPI_SetLedSpeed(BSTR, DWORD, DWORD)

     This function sets the LED blink speed to a specific level.

int MLAPI_MysticLightControlNotify(CallbackFunc *)

     This function register Mystic Light controlling notification.

Function Documentation

int MLAPI_Initialize()
Description: This function initializes the APIs. This must be called before calling other MLAPI_ functions.
Return values:

MLAPI_OK   Initialized.
     MLAPI_NO_IMPLEMENTED   MSI application not found or current version is not supported.
     MLAPI_INITIAL_TIMEOUT   MLAPI_Initialize timeout.

int MLAPI_Release()
Description: This function release the APIs.
Return values:
MLAPI_OK   Initialized.   MLAPI_ERROR   Generic error.

int MLAPI_GetDeviceInfo(SAFEARRAY** pDevType, SAFEARRAY** pLedCount)
Description: This function retrieves information of all devices.
Parameters:
[out]   pDevType   Pointer to a safe array containing defined type of all devices.   [out]   pLedCount   Pointer to a safe array containing the number of LEDs for all devices.
Return values:

MLAPI_OK   Initialized.
     MLAPI_NOT_INITIALIZED   MLAPI_Initialize has not been called successful.
     MLAPI_INITIAL_TIMEOUT   MLAPI_Initialize timeout.

int MLAPI_GetDeviceName(BSTR type, SAFEARRAY** pDevName)
Description: This function retrieves the friendly name of specific device.
Parameters:
[in]   type   The defined of device type.   [out]   pDevName   Pointer to a safe array containing the friendly name of specific device.
Return values:

MLAPI_OK   Initialized.
     MLAPI_NOT_INITIALIZED   MLAPI_Initialize has not been called successful.
     MLAPI_INITIAL_TIMEOUT   MLAPI_Initialize timeout.

int MLAPI_GetDeviceNameEx(BSTR type, DWORD index, BSTR* pDevName)
Description: This function retrieves the friendly name of specific device.
Parameters:

[in]   type   The defined of device type.
     [in]   index   The defined of device id.
     [out]   pDevName   The friendly name of specific device.

Return values:

MLAPI_OK   Initialized.
     MLAPI_NOT_INITIALIZED   MLAPI_Initialize has not been called successful.
     MLAPI_INITIAL_TIMEOUT   MLAPI_Initialize timeout.

int MLAPI_GetLedInfo(BSTR type, DWORD index, BSTR* pName, SAFEARRAY** pLedStyles)

Description: This function retrieves the information of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[out]	pName	The LED display name of the specified LED.
[out]	pLedStyles	The support styles of the specified LED.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.
MLAPI_INITIAL_TIMEOUT	MLAPI_Initialize timeout.

int MLAPI_GetLedName(BSTR type, SAFEARRAY** pDevName)

Description: This function retrieves the all LED name within LED area of specific device.

Parameters:

[in]	type	The defined of device type.
[out]	pDevName	Pointer to a safe array containing the all LED name within LED area of specific device.

Return values:

MLAPI_OK	Initialized.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.
MLAPI_INITIAL_TIMEOUT	MLAPI_Initialize timeout.

int MLAPI_GetLedColor(BSTR type, DWORD index, DWORD* R, DWORD* G, DWORD* B)

Description: This function retrieves the color of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[out]	R	Pointer to DWORD variable containing the red code of the RGB color.
[out]	G	Pointer to DWORD variable containing the green code of the RGB color.
[out]	B	Pointer to DWORD variable containing the blue code of the RGB color.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.
MLAPI_INITIAL_TIMEOUT	MLAPI_Initialize timeout.

int MLAPI_GetLedStyle(BSTR type, DWORD index, BSTR* style)

Description: This function retrieves the style of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[out]	style	Pointer to a BSTR variable containing the style of the specified LED.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.
MLAPI_INITIAL_TIMEOUT	MLAPI_Initialize timeout.

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int MLAPI_GetLedMaxBright(BSTR type, DWORD index, DWORD* maxLevel)

Description: This function retrieves the maximum brightness level of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[out]	style	Pointer to a DWORD variable containing the maximum brightness level of the specified LED.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_SUPPORTED	Requested feature is not supported in the selected LED.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.

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int MLAPI_GetLedBright(BSTR type, DWORD index, DWORD* currentLevel)

Description: This function retrieves the brightness level of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[out]	style	Pointer to a DWORD variable containing the brightness level of the specified LED.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_SUPPORTED	Requested feature is not supported in the selected LED.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.

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int MLAPI_GetLedMaxSpeed(BSTR type, DWORD index, DWORD* maxLevel)

Description: This function retrieves the maximum speed level of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[out]	style	Pointer to a DWORD variable containing the maximum speed level of the specified LED.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_SUPPORTED	Requested feature is not supported in the selected LED.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.

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int MLAPI_GetLedSpeed(BSTR type, DWORD index, DWORD* currentLevel)

Description: This function retrieves the speed level of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[out]	style	Pointer to a DWORD variable containing the speed level of the specified LED.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_SUPPORTED	Requested feature is not supported in the selected LED.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.

int MLAPI_SetLedColor(BSTR type, DWORD index, DWORD R, DWORD G, DWORD B)
Description: This function sets the color of the specified LED.
Parameters: [in] type   The defined of device type. [in] index   The LED identifier of the device. [in] R   Pointer to DWORD variable containing the red code of the RGB color. [in] G   Pointer to DWORD variable containing the green code of the RGB color. [in] B   Pointer to DWORD variable containing the blue code of the RGB color.
Return values: MLAPI_OK   Initialized. MLAPI_INVALID_ARGUMENT   The parameter value is not valid. MLAPI_DEVICE_NOT_FOUND   The device is not found. MLAPI_NOT_SUPPORTED   Requested feature is not supported in the selected LED. MLAPI_NOT_INITIALIZED   MLAPI_Initialize has not been called successful.

int MLAPI_SetLedColorsSync(BSTR type, DWORD R, DWORD G, DWORD B)
Description: This function sets the colors for each individual LED within LED area by its name.
Parameters: [in] type   The defined of device type. [in] R   Pointer to DWORD variable containing the red code of the RGB color. [in] G   Pointer to DWORD variable containing the green code of the RGB color. [in] B   Pointer to DWORD variable containing the blue code of the RGB color.
Return values: MLAPI_OK   Initialized. MLAPI_INVALID_ARGUMENT   The parameter value is not valid. MLAPI_DEVICE_NOT_FOUND   The device is not found. MLAPI_NOT_SUPPORTED   Requested feature is not supported in the selected LED. MLAPI_NOT_INITIALIZED   MLAPI_Initialize has not been called successful.

int MLAPI_SetLedColors(BSTR type, DWORD index, SAFEARRAY** pLedName, DWORD* R, DWORD* G, DWORD* B)
Description: This function sets colors for each individual LED within LED area by its name.
Remark: This must be called after calling MLAPI_SetLedStyle function if support "Direct Lighting Control" style.
Parameters: [in] type   The defined of device type. [in] index   The LED identifier of the area index. [in] pLedName Pointer to safe array variable containing the LED name of specific area. [in] R   Pointer to DWORD variable containing the red code of the RGB color. [in] G   Pointer to DWORD variable containing the green code of the RGB color. [in] B   Pointer to DWORD variable containing the blue code of the RGB color.
Return values: MLAPI_OK   Initialized. MLAPI_INVALID_ARGUMENT   The parameter value is not valid. MLAPI_DEVICE_NOT_FOUND   The device is not found. MLAPI_NOT_SUPPORTED   Requested feature is not supported in the selected LED. MLAPI_NOT_INITIALIZED   MLAPI_Initialize has not been called successful.

int MLAPI_SetLedColorEx(BSTR type, DWORD index, BSTR pLedName, DWORD R, DWORD G, DWORD B, DWORD Sync)

Description: This function sets colors for specified LED within LED area by its name.

Remark: This must be called after calling MLAPI_SetLedStyle function if support "Direct Lighting Control" style.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the area index.
[in]	pLedName	The LED name of specific area.
[in]	R	The red code of the RGB color.
[in]	G	The green code of the RGB color.
[in]	B	The blue code of the RGB color.
[in]	Sync	Sync LED color of specific area immediately.

Return values:

MLAPI_OK	Initialized.
MLAPI_INVALID_ARGUMENT	The parameter value is not valid.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_SUPPORTED	Requested feature is not supported in the selected LED.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.

int MLAPI_SetLedColorSync(BSTR type, DWORD index, BSTR pLedName, DWORD R, DWORD G, DWORD B, DWORD Sync)

Description: This function sets colors for specified LED within LED area by its name.

Remark: This must be called after calling MLAPI_SetLedStyle function if support "Direct All Sync" style.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the area index.
[in]	pLedName	The LED name of specific area.
[in]	R	The red code of the RGB color.
[in]	G	The green code of the RGB color.
[in]	B	The blue code of the RGB color.
[in]	Sync	Sync LED color of specific area immediately.

Return values:

MLAPI_OK	Initialized.
MLAPI_INVALID_ARGUMENT	The parameter value is not valid.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_SUPPORTED	Requested feature is not supported in the selected LED.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.

int MLAPI_SetLedStyle(BSTR type, DWORD index, BSTR style)

Description: This function sets the style of the specified LED.

Parameters:

[in]	type	The defined of device type.
[in]	index	The LED identifier of the device.
[in]	style	The style of the specified LED.

Return values:

MLAPI_OK	Initialized.
MLAPI_DEVICE_NOT_FOUND	The device is not found.
MLAPI_NOT_SUPPORTED	Requested feature is not supported in the selected LED.
MLAPI_NOT_INITIALIZED	MLAPI_Initialize has not been called successful.

int MLAPI_SetLedBright(BSTR type, DWORD index, DWORD level)
Description: This function sets the brightness level of the specified LED.
Parameters: [in] type The defined of device type. [in] index The LED identifier of the device. [in] style brightness level of the specified LED.
Return values: MLAPI_OK Initialized. MLAPI_INVALID_ARGUMENT The parameter value is not valid. MLAPI_DEVICE_NOT_FOUND The device is not found. MLAPI_NOT_SUPPORTED Requested feature is not supported in the selected LED. MLAPI_NOT_INITIALIZED MLAPI_Initialize has not been called successful.

int MLAPI_SetLedSpeed(BSTR type, DWORD index, DWORD level)
Description: This function sets the speed level of the specified LED.
Parameters: [in] type The defined of device type. [in] index The LED identifier of the device. [in] style speed level of the specified LED.
Return values: MLAPI_OK Initialized. MLAPI_INVALID_ARGUMENT The parameter value is not valid. MLAPI_DEVICE_NOT_FOUND The device is not found. MLAPI_NOT_SUPPORTED Requested feature is not supported in the selected LED. MLAPI_NOT_INITIALIZED MLAPI_Initialize has not been called successful.

int MLAPI_GetErrorMessage(int ErrorCode, BSTR* pDesc)
Description: This function converts a MLAPI error code into general string.
Parameters: [in] ErrorCode The APIs return status values. [out] pDesc Pointer to a BSTR variable containing the Description of the error code.
Return values: MLAPI_OK Always, string never null.

int MLAPI_MysticLightControlNotify(CallbackFunc* FuncPointer)
Description: This function register Mystic Light controlling notification.
Parameters: [in] FuncPointer The callback function address.
Return values: MLAPI_OK Initialized. MLAPI_NO_IMPLEMENTED MSI application not found or current version is not supported.

MLAPI Status Values

MLAPI_OK = 0
Description: Request is completed.
MLAPI_ERROR = -1
Description: Generic error.
MLAPI_TIMEOUT = -2
Description: Request is timeout.
MLAPI_NO_IMPLEMENTED = -3
Description: MSI application not found or installed version not supported.
MLAPI_NOT_INITIALIZED = -4
Description: MLAPI_Initialize has not been called successful.
MLAPI_INVALID_ARGUMENT = -101
Description: The parameter value is not valid.
MLAPI_DEVICE_NOT_FOUND = -102
Description: The device is not found.
MLAPI_NOT_SUPPORTED = -103
Description: Requested feature is not supported in the selected LED.