Overview

- Introduction
- System Requirements
- Function APIs
- Function Documentation
- MLAPI Status Values

Introduction

- This SDK is provides the LED control functions for MSI product such as MSI Motherboard, VGA, Keyboard, Mouse, Headset, 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, both 32-bit and 64-bit architectures.

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

int MLI_API_GetErrorMessage(int, BSTR*)
This function converts a MLI error code into general string.

int MLI_API_Initialize()
This function initializes the APIs.

int MLI_API_GetDeviceInfo(SAFEARRAY**, SAFEARRAY**) 
This function retrieves information of all devices

int MLI_API_GetDeviceName(BSTR, SAFEARRAY**)
This function retrieves the friendly name of specific device.

int MLI_API_GetDeviceNameEx(BSTR, DWORD, BSTR*)
This function retrieves the friendly name of specific device.

int MLI_API_GetDeviceInfo(BSTR, DWORD, BSTR*, SAFEARRAY**)
This function retrieves the LED display name and enumerate the LED styles.

int MLI_API_GetDeviceName(BSTR, SAFEARRAY**)
This function retrieves the all LED name of specific device.

int MLI_API_GetDeviceInfo(BSTR, DWORD, DWORD*, DWORD*, DWORD*)
This function retrieves the specific LED current color.

int MLI_API_GetDeviceInfo(BSTR, DWORD, BSTR*)
This function retrieves the specific LED current style.

int MLI_API_GetDeviceInfo(BSTR, DWORD, DWORD*)
This function retrieves a specific LED supports the maximum brightness level.

int MLI_API_GetDeviceInfo(BSTR, DWORD, DWORD*)
This function retrieves the specific LED current brightness level.

int MLI_API_GetDeviceInfo(BSTR, DWORD, DWORD*)
This function retrieves a specific LED supports the maximum speed level.

int MLI_API_GetDeviceInfo(BSTR, DWORD, DWORD*)
This function retrieves the specific LED current speed level.

int MLI_API_SetDeviceInfo(BSTR, DWORD, DWORD, DWORD, DWORD, DWORD)
This function sets the LED to a specific color.

int MLI_API_SetDeviceInfo(BSTR, DWORD, SAFEARRAY**, DWORD*, DWORD*, DWORD*)
This function sets the colors for each individual LED within LED area by its name.

int MLI_API_SetDeviceInfoEx(BSTR, DWORD, BSTR, DWORD, DWORD, DWORD, DWORD, DWORD, DWORD)
This function sets the colors for each individual LED within LED area by its name.

int MLI_API_SetDeviceInfoSync(BSTR, DWORD, BSTR, DWORD, DWORD, 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.

Function Documentation

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
<th>Parameters</th>
<th>Return values</th>
</tr>
</thead>
<tbody>
<tr>
<td>int MLAPI_Initialize()</td>
<td>This function initializes the APIs. This must be called before calling other MLAPI_ functions.</td>
<td></td>
<td>MLAPI_OK: Initialized. MLAPI_NO_IMPLEMENTED: MSI application not found or current version is not supported. MLAPI_INITIAL_TIMEOUT: MLAPI_Initialize timeout.</td>
</tr>
<tr>
<td>int MLAPI_GetDeviceInfo(SAFEARRAY**, pDevType, SAFEARRAY** pLedCount)</td>
<td>This function retrieves information of all devices.</td>
<td>[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.</td>
<td>MLAPI_OK: Initialized. MLAPI_NOT_INITIALIZED: MLAPI_Initialize has not been called successful. MLAPI_INITIAL_TIMEOUT: MLAPI_Initialize timeout.</td>
</tr>
<tr>
<td>int MLAPI_GetDeviceName(BSTR type, SAFEARRAY** pDevName)</td>
<td>This function retrieves the friendly name of specific device.</td>
<td>[in] type: The defined of device type. [out] pDevName: Pointer to a safe array containing the friendly name of specific device.</td>
<td>MLAPI_OK: Initialized. MLAPI_NOT_INITIALIZED: MLAPI_Initialize has not been called successful. MLAPI_INITIAL_TIMEOUT: MLAPI_Initialize timeout.</td>
</tr>
</tbody>
</table>
### 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, G, B: Pointer to a DWORD variable containing the color of the specified LED.

**Return values:**
- MLAPI_OK: Initialized.
- MLAPI_DEVICE_NOT_FOUND: The device is not found.
- MLAPI_NOT_INITIALIZED: MLAPI_Init 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_Init has not been called successful.
- MLAPI_INITIAL_TIMEOUT: MLAPI_Initialize timeout.

### `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_Init has not been called successful.
### 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.

### 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.

### 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, G, B The color 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_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**

**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:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[in]</td>
<td>type The defined of device type.</td>
</tr>
<tr>
<td>[in]</td>
<td>index The LED identifier of the area index.</td>
</tr>
<tr>
<td>[in]</td>
<td>pLedName The LED name of specific area.</td>
</tr>
<tr>
<td>[in]</td>
<td>R The red code of the RGB color.</td>
</tr>
<tr>
<td>[in]</td>
<td>G The green code of the RGB color.</td>
</tr>
<tr>
<td>[in]</td>
<td>B The blue code of the RGB color.</td>
</tr>
<tr>
<td>[in]</td>
<td>Sync Sync LED color of specific area immediately.</td>
</tr>
</tbody>
</table>

**Return values:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLAPI_OK</td>
<td>Initialized.</td>
</tr>
<tr>
<td>MLAPI_INVALID_ARGUMENT</td>
<td>The parameter value is not valid.</td>
</tr>
<tr>
<td>MLAPI_DEVICE_NOT_FOUND</td>
<td>The device is not found.</td>
</tr>
<tr>
<td>MLAPI_NOT_SUPPORTED</td>
<td>Requested feature is not supported in the selected LED.</td>
</tr>
<tr>
<td>MLAPI_NOT_INITIALIZED</td>
<td>MLAPI_Initialize has not been called successful.</td>
</tr>
</tbody>
</table>

### **int MLAPI_SetLedColorSync**

**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:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[in]</td>
<td>type The defined of device type.</td>
</tr>
<tr>
<td>[in]</td>
<td>index The LED identifier of the area index.</td>
</tr>
<tr>
<td>[in]</td>
<td>pLedName The LED name of specific area.</td>
</tr>
<tr>
<td>[in]</td>
<td>R The red code of the RGB color.</td>
</tr>
<tr>
<td>[in]</td>
<td>G The green code of the RGB color.</td>
</tr>
<tr>
<td>[in]</td>
<td>B The blue code of the RGB color.</td>
</tr>
<tr>
<td>[in]</td>
<td>Sync Sync LED color of specific area immediately.</td>
</tr>
</tbody>
</table>

**Return values:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLAPI_OK</td>
<td>Initialized.</td>
</tr>
<tr>
<td>MLAPI_INVALID_ARGUMENT</td>
<td>The parameter value is not valid.</td>
</tr>
<tr>
<td>MLAPI_DEVICE_NOT_FOUND</td>
<td>The device is not found.</td>
</tr>
<tr>
<td>MLAPI_NOT_SUPPORTED</td>
<td>Requested feature is not supported in the selected LED.</td>
</tr>
<tr>
<td>MLAPI_NOT_INITIALIZED</td>
<td>MLAPI_Initialize has not been called successful.</td>
</tr>
</tbody>
</table>
```markdown
**int MLAPI_SetLedStyle**(BSTR type, DWORD index, BSTR style)

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

**Parameters:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[in]</td>
<td>type</td>
</tr>
<tr>
<td></td>
<td>The defined of device type.</td>
</tr>
<tr>
<td>[in]</td>
<td>index</td>
</tr>
<tr>
<td></td>
<td>The LED identifier of the device.</td>
</tr>
<tr>
<td>[in]</td>
<td>style</td>
</tr>
<tr>
<td></td>
<td>The style of the specified LED.</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[in]</td>
<td>type</td>
</tr>
<tr>
<td></td>
<td>The defined of device type.</td>
</tr>
<tr>
<td>[in]</td>
<td>index</td>
</tr>
<tr>
<td></td>
<td>The LED identifier of the device.</td>
</tr>
<tr>
<td>[in]</td>
<td>style</td>
</tr>
<tr>
<td></td>
<td>brightness level of the specified LED.</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[in]</td>
<td>type</td>
</tr>
<tr>
<td></td>
<td>The defined of device type.</td>
</tr>
<tr>
<td>[in]</td>
<td>index</td>
</tr>
<tr>
<td></td>
<td>The LED identifier of the device.</td>
</tr>
<tr>
<td>[in]</td>
<td>style</td>
</tr>
<tr>
<td></td>
<td>speed level of the specified LED.</td>
</tr>
</tbody>
</table>

**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:

[<b>[out]</b>] pDesc  Pointer to a BSTR variable containing the Description of the error code.

Return values:

MLAPI_OK  Always, string never null.

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.