Wisenet SSM Client SDK v2.13.00

API Reference

WISENET_SSM_CLIENT_SDK_API_EN

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Preface

Objectives

This document describes the API functions provided by Hanwha Techwin's Wisenet SSM Client SDK. When writing a user application, the API functions can be used to implement the interface between our company's SSM core server and applications.

Reader

This document is intended for those who use the SSM OpenConsole SDK to develop applications (CMS, viewers, and applications).

Scope

This document explains interface of Wisenet SSM Client SDK.

Document Organization

This document is organized as follows.

CHAPTER 1. Wisenet SSM Client SDK: SDK is introduced.

CHAPTER 2. Functions pertaing to ths SsmEventSdk library are explained.

CHAPTER 3. Asynchronous responses and events pertaining to SsmEventSdk library are explained.

CHAPTER 4. Functions pertaing to ths SsmMediaSdk library are explained.

CHAPTER 5. Asynchronous responses and events pertaining to SsmMediaSdk library are explained.

APPENDIX A. DEP Troubleshooting Method.

APPENDIX B. Error Code: Error codes defined in the Wisenet SSM Client SDK are listed.

APPENDIX C. UTC Time is explained.

Convention

Indicating button or menu: Button names and menu names are surrounded by brackets([ ]).

Indicating menu selection route: Menu selection routes are displayed by using (>).

Revision History

Refer to the following table for document versions and revision history.

Version	Date	Description
2.0	2017. 08. 31	First draft
2.0	2017. 10. 31	SDK's name has been changed.
2.10.1	2018. 10. 30	The version has been changed.
2.10.1	2018. 11. 16	Some functions have been added.
2.10.3	2019. 04. 16	Device Record, GetObjectList have been added.
2.10.4	2019. 05. 10	Active X controls have been deleted. The C++/CLI wrapper has been added. OnVideo has been changed.
2.10.5	2019. 07. 10	DDNS Login, URL Login have been added.
2.10.5	2019. 07. 25	Add event transfer function using Event Key
2.10.5	2019. 08. 02	Login event json has been changed. GetObject function has been added.
2.13.00	2024.08.28	Added profile setting feature to StartBackup function

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CHAPTER 1

Wisenet SSM Client SDK

This chapter describes the overview, composition and suppoted server of Wisenet SSM Client SDK.

Contents

Overview

Wisenet SSM(Wisenet Smart Security Manager) Client SDK is the library created by adapting Microsoft의 .NET Framework 4.5 and C++/CLI.

The Wisenet SSM Client SDK supports video/audio streaming and event receiving from the device which registered at Wisenet SSM Core Server.

To develop an application using the Wisenet SSM Client SDK, you need C DLL provided by SDK.

Using the installation file of Wisenet SSM Client SDK, the DLL are saved in the specified location. Please refer to 'SSM manual' for installation.

Wisenet SSM Client SDK provides functions through network connection with Wisenet SSM Core Server. The Wisenet SSM Core Server program must be installed through the Wisenet SSM Core Server installation file. Please refer to 'SSM manual' for installation.

The main functions provided by Wisenet SSM Client SDK are as follows.

- Core Server login / logout, change password
- Real-time event reception from network equipments
- Live video surveillance and playback of recorded video
- PTZ Control
- Recording search
- Backup recorded video

SDK Architecture

The structure of Wisenet SSM Client SDK is as follows.

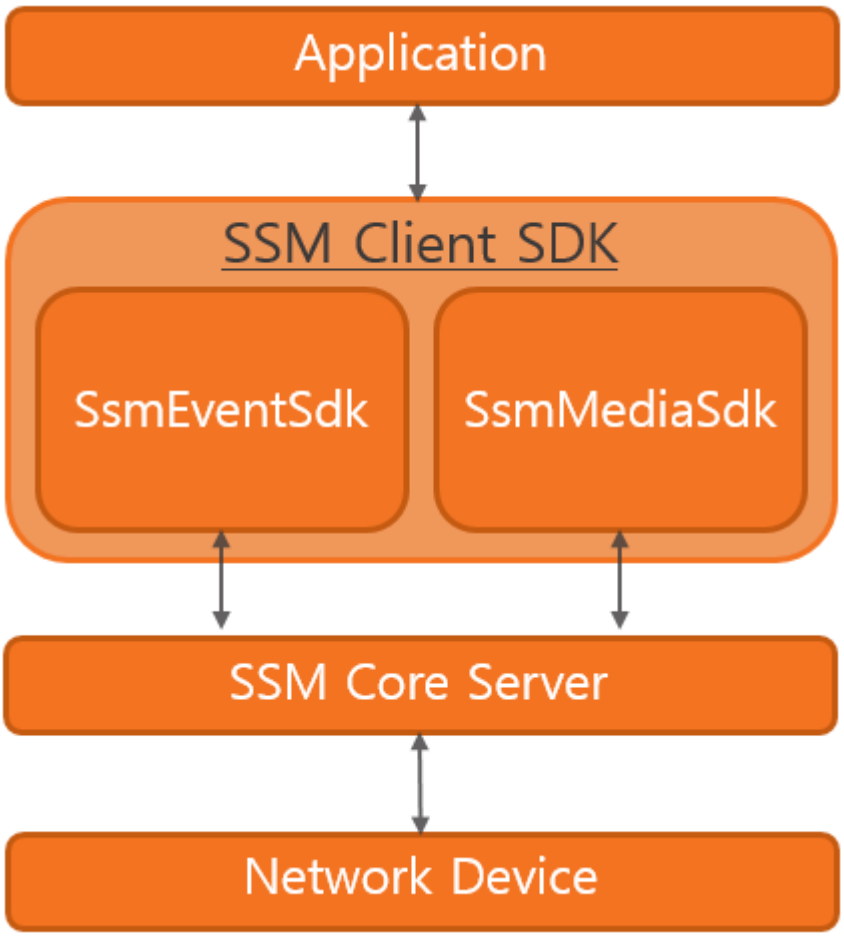


그림 1.1 Wisenet SSM Client SDK Architecture

- Application
  - Programs developed using the Wisenet SSM Client SDK
- Wisenet SSM Client SDK
  - SsmEventSdk: A library containing the main functions of SSM Console
  - SsmMediaSdk: A library perform functions related to media control such as receving video/audio/metadata, decoding and rendering.
- Wisenet SSM Core Server
  - Main server of SSM
  - Manage users, devices, messaging, and more.
  - Media Relay Server of SSM

- Transfer media data to the user program and manage the device
- Record video and audio data

• Network Device

- NVR, DVR, etc.
- Analog/Network camera
- Encoder

Server Supported

The same version between Wisenet SSM Client SDK and Wisenet SSM Core Server is essential for proper operation.

For example, if you are using Wisenet SSM Core Server v2.10.6, you need to use Wisenet SSM Client SDK v2.10.6.

CHAPTER 2

SsmEventSdk : Function

SsmEventSdk is a component that manages and controls the connection to the Wisenet SSM Core Server.

C Library(SsmEventSdkCLib.lib, SsmEventSdkCLib.dll) is provided.

Contents

Initialize & Release

Initialize

Description

It initializes SsmEventSdk module.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_Initialize(
        SSME_OnResponse ssmResponse,
        SSME_OnEvent ssmEvent,
        void* context)

[SsmSdkWrapper.dll]
UInt32 InitializeEvent();
```

Parameters

ssmResponse

[in] Functions to handle the OnResponse event

ssmEvent

[in] Functions to handle the OnEvent event

context

[in] If you create and use multiple SsmEventSdk modules, use this parameter to distinguish each of them. It has a nullptr value by default and does not need to be set.

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- Initialize must be called only once.

- The parameter ssmResponse must match the signature of the SSME_OnResponse function pointer.
- The parameter ssmEvent must match the signature of the SSME_OnEvent function pointer.

Example

[C] [SsmEventSdkCLib.lib]

```
#include <SsmEventSdkCLib.h>
static void __stdcall GOnResponse(
        unsigned long nCommandID,
        unsigned long nErrorCode,
        unsigned long nSequenceID,
        char *strInfo,
        void *context)
{
        // TODO
}

static void __stdcall GOnEvent(unsigned long nEventID, char *strInfo, void *context)
{
        // TODO
}
SsmEventSdkCLib::SSME_Initialize(GOnResponse, GOnEvent);
```

[C#] [SsmSdkWrapper.dll]

```
using SdkWrapper;
SsmSdkWrapper.InitializeEvent();
```

Release

Description

It stops using SsmEventSdk module and cleans up resources.

Syntax

[SsmEventSdkCLib.lib]

```
void SSME_Release();
```

[SsmSdkWrapper.dll]

```
void ReleaseEvent();
```

Return Value

This function has no return value.

Remarks

- Release can only be called once.

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_Release();
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.ReleaseEvent();
```

Login & Logout

Login

Description

Log in to SSM.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_LogIn(
        const char *strID,
        const char *strPassword,
        const char *strAddress,
        unsigned long nPort);

[SsmSdkWrapper.dll]
UInt32 LogIn(
        String strID,
        String strPassword,
        String strAddress,
        UInt32 nPort);
```

Parameters

strID

[in] User ID

strPassword

[in] User password

strAddress

[in] SSM Server IP Address

nPort

[in] SSM Server Port number

Return Value

If you succeed, NOERR

If you failed,

A. 701: Password error

B. 702: Duplicated log-in attempt

C. 4099: Already logged in

D. Others: Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 LogIn(GetUserInfo): Json Format' section.

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_LogIn("admin", "4321", "127.0.0.1", 9999);

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.LogIn("admin", "4321", "127.0.0.1", 9999);
```

See Also

- OnResponse

DdnsLogin

Description

Log in to SSM by Wisenet DDNS ID.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_DdnsLogIn(
        const char *strID,
        const char *strPassword,
        const char *strDdnsId);

[SsmSdkWrapper.dll]
UInt32 DdnsLogIn(
        String strID,
        String strPassword,
        String strDdnsId);
```

Parameters

strID

[in] User ID

strPassword

[in] User password

strDdnsId

[in] Wisenet DDNS ID

Return Value

If you succeed, NOERR

If you failed,

A. 701: Password error

B. 702: Duplicated log-in attempt

C. 4099: Already logged in

D. 4116: DDNS ID doesn't exist

E. Others: Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 LogIn(GetUserInfo): Json Format' section.

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_DdnsLogIn("admin", "4321", "myDdnsID");
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.DdnsLogIn("admin", "4321", "myDdnsID");
```

See Also

- OnResponse

UrlLogin

Description

Login to SSM Server by URL.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_UrlLogIn(
        const char *strID,
        const char *strPassword,
        const char *strUrl,
        unsigned long nPort);

[SsmSdkWrapper.dll]
UInt32 UrlLogIn(
        String strID,
        String strPassword,
        String strUrl,
        UInt32 nPort);
```

Parameters

strID

[in] User ID

strPassword

[in] User password

strUrl

[in] SSM Server URL

nPort

[in] SSM Server Port number

Return Value

If you succeed, NOERR

If you failed,

A. 514: Network error

B. 701: Password error

C. 702: Duplicated log-in attempt

D. 4099: Already logged in

E. Others: Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 LogIn(GetUserInfo): Json Format' section.

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_UrlLogIn("admin", "4321", "myUrl.com", 9999);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.UrlLogIn("admin", "4321", "myUrl.com", 9999);
```

See Also

- OnResponse

Logout

Description

Log out from SSM.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_LogOut();

[SsmSdkWrapper.dll]

UInt32 LogOut();

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

SsmEventSdkCLib::SSME_LogOut();

[C#] [SsmSdkWrapper.dll]

SsmSdkWrapper.LogOut();

PTZ Control

ControlPtz

Description

Perform Pan, Tilt, Zoom functions of PTZ Camera.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_ControlPTZ(
        const char *strCameraUuid,
        unsigned long nAction,
        unsigned short nSpeed);

[SsmSdkWrapper.dll]
UInt32 ControlPTZ(
        String strCameraUuid,
        UInt32 nAction,
        UInt16 nSpeed);
```

Parameters

strCameraUuid

[in] PTZ 제어하고자 하는 카메라 GUID

nAction

[in] Pan, Tilt, Zoom의 방향

- NONE (=0)
- UP (=1): Move up
- DOWN (=2): Move don
- LEFT (=3): Move to the left
- RIGHT (=4): Move to the right
- UP_LEFT (=5): Move to the up-left
- UP_RIGHT (=6): Move to the up-right

- DOWN_LEFT (=7): Move to the down-left
- DOWN_RIGHT(=8): Move to the down-right
- ZOOM_IN (=9): Zoom in
- ZOOM_OUT (=10): Zoom out
- STOP (=19): Stop

nSpeed

[in] PTZ control speed (0 ~ 100)

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_ControlPTZ("ffce5a84-caca-405e-aae6-f716dd8a8c15", 1, 10);
```

[C#] [SsmSdkWrapper.dll]

```
private readonly string CameraUuid = "ffce5a84-caca-405e-aae6-f716dd8a8c15";

SsmSdkWrapper.ControlPTZ(CameraUuid, 1, 10);
```

GetPresetList

Description

Get the preset list.

* Preset: User defined pre-defined camera settings

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_GetPresetList(const char *strCameraUuid, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 GetPresetList(String strCameraUuid, ref UInt32 sequenceID);

Parameters

strCameraUuid

[in] GUID of camera to get preset list.

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 GetPresetList: Json Format' section.

Example

[C] [SsmEventSdkCLib.lib]

SsmEventSdkCLib::SSME_GetPresetList("ffce5a84-caca-405e-aae6-f716dd8a8c15", &seqID);

[C#] [SsmSdkWrapper.dll]

SsmSdkWrapper.GetPresetList("ffce5a84-caca-405e-aae6-f716dd8a8c15", ref seqID);

See Also

- OnResponse

AddPreset

Description

Adds the current camera position to the preset list.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned int SSME_AddPreset(
        const char *strCameraUuid,
        unsigned long nIndex,
        const char *strName,
        ULONG *pSequenceID);

[SsmSdkWrapper.dll]
UInt32 AddPreset(
        String strCameraUuid,
        UInt32 nIndex,
        String strName,
        ref UInt32 sequenceID)
```

Parameters

strCameraUuid

[in] GUID of camera to add presets

nIndex

[in] The index of the preset to add

strName

[in] The name of the preset to add

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

SsmEventSdkCLib::SSME_AddPreset("ffce5a84-caca-405e-aae6-f716dd8a8c15", 1, "Preset 1", &seqID);

[C#] [SsmSdkWrapper.dll]

SsmSdkWrapper.AddPreset("ffce5a84-caca-405e-aae6-f716dd8a8c15", 1, "Preset 1", ref seqID);

RunPreset

Description

Call up Preset and apply.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_ControlPreset(
        const char *strCameraUuid,
        unsigned long nIndex,
        ULONG *pSequenceID);

[SsmSdkWrapper.dll]
UInt32 ControlPreset(
        String strCameraUuid,
        UInt32 nIndex,
        ref UInt32 sequenceID)
```

Parameters

strUuid

[in] GUID of the camera to operate the preset

nIndex

[in] Index of the preset to operate the preset

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_ControlPreset("ffce5a84-caca-405e-aae6-f716dd8a8c15", 1, & seqID);
```

```
[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.ControlPreset("ffce5a84-caca-405e-aae6-f716dd8a8c15", 1, ref seqID);
```

Recording Search

GetSearchAuthority

Description

This function acquires the recorded date or time information, or obtains the right to playback or backup the recorded media.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_GetSearchAuthority(
        const char *strDeviceUuid,
        const char *strMultiPasswords,
        ULONG *pSequenceID);

[SsmSdkWrapper.dll]
UInt32 GetSearchAuthority(
        String strDeviceUuid,
        String strMultiPasswords,
        ref UInt32 sequenceID)
```

Parameters

strDeviceUuid

[in] The device GUID for which you want to acquire rights.

strMultiPasswords

[in] Multi-password information. It can be set up to three, in the Json format. If you do not use, you can enter an empty string.

A. syntax

{

```
        "PasswordList":[
            "first",
            "second",
            "third"
        ]
    }
```

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_GetSearchAuthority("999095d2-1d69-4271-be7e-cfa3187db845", "",
&seqID);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.GetSearchAuthority("999095d2-1d69-4271-be7e-cfa3187db845", "", ref seqID);
```

ReleaseSearchAuthority

Description

Release the acquired search authority.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_ReleaseSearchAuthority(const char *strDeviceUuid, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 ReleaseSearchAuthority(String strDeviceUuid, ref UInt32 sequenceID)

Parameters

strDeviceUuid

[in] The device GUID for which you want to release the search authority.

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- When you are finished using authority, you must release authority. Otherwise, there will be a limit on the number of concurrent users for backup, search, etc.
- The results for the command can be received through the OnResponse event.

Example

[C] [SsmEventSdkCLib.lib]

SsmEventSdkCLib::SSME_ReleaseSearchAuthority("999095d2-1d69-4271-be7e-cfa3187db845", &seqID);

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.ReleaseSearchAuthority("999095d2-1d69-4271-be7e-cfa3187db845", ref seqID);
```

SearchTrackID

Description

Obtains the recording track information of the selected section.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_SearchTrackID(
        const char *strDeviceUuid,
        const char *strStartTime,
        const char *strEndTime,
        ULONG *pSequenceID);

[SsmSdkWrapper.dll]
UInt32 SearchTrackID(
        String strDeviceUuid,
        String strStartTime,
        String strEndTime,
        ref UInt32 sequenceID)
```

Parameters

strDeviceUuid

[in] The device GUID for which you want to release the authority

strStartTime

[in] Start time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 00:00:00 on January 1, 2017, it will be "20170101T000000".

strEndTime

[in] End time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 23:59:59 on January 1, 2017, it will be "20170101T235959".

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- This function can be used normally after obtaining the authority through the GetSearchAuthority function.
- The results for the command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 SearchTrackID: Json Format' section.

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_SearchTrackID(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "20170101T000000" ,
        "20170101T235959",
        &seqID);

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.SearchTrackID(
        DeviceUuid,
        "20170101T000000" ,
        "20170101T235959",
        ref seqID);
```

See Also

- OnResponse

SearchCalendar

Description

Obtain the date the video was recorded in a certain month

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_SearchCalendar (
        const char *strDeviceUuid,
        const char *strCameraUuids,
        const char *strYear,
        const char *strMonth,
        ULONG *pSequenceID);

[SsmSdkWrapper.dll]
UInt32 SearchCalendar(
        String strDeviceUuid,
        String strCameraUuid,
        String strYear,
        String strMonth,
        ref UInt32 sequenceID)
```

Parameters

strDeviceUuid

[in] The device GUID for which you want to release the authority

strCameraUuids

[in] The GUID of the cameras that you want to search. Use ',' as separator for each GUID.

strYear

[in] The year you want to search

strMonth

[in] The month you want to search

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- This function can be used normally after obtaining the authority through the GetSearchAuthority function.
- The results for the command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 SearchCaleandar: Json Format' section.

Example

```
[C] [SsmEventSdkCLib.lib]
SSME_SearchCalendar(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "ffce5a84-caca-405e-aae6-f716dd8a8c15"
        -1,
        "2017" ,
        "7",
        &seqID);

[C#] [SsmSdkWrapper.dll]
private readonly string CameraUuid = "ffce5a84-caca-405e-aae6-f716dd8a8c15";
var trackId = -1;
var targetYear = "2017";
var targetMonth = "7"

SsmSdkWrapper.SearchCalendar(
        DeviceUuid,
        CameraUuid,
        trackId,
        targetYear,
        targetMonth,
        ref seqID);
```

See Also

- OnResponse

SearchDay

Description

Obtains the time interval during which the video of a specific date is recorded.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_SearchDay (
        const char *strDeviceUuid,
        const char *strCameraUuids,
        long nTrackID,
        const char *strStartTime,
        bool bStartTimeDST,
        const char *strEndTime,
        bool bEndTimeDST,
        unsigned long nRecordType,
        unsigned long nIVEventType,
        ULONG *pSequenceID);

[SsmSdkWrapper.dll]
UInt32 SearchDay(
        String strDeviceUuid,
        String strCameraUuids,
        Int32 nTrackID,
        String strStartTime,
        Boolean bStartTimeDST,
        String strEndTime,
        Boolean bEndTimeDST,
        UInt32 nRecordType,
        UInt32 nIVEventType,
        ref UInt32 sequenceID)
```

Parameters

strDeviceUuid

[in] The device GUID for which you want to release the authority

strCameraUuids

[in] The GUID of the cameras that you want to search. Use ',' as separator for each GUID.

nTrackID

[in] The track ID of the section to be searched. If it is -1, it indicates the track currently being stored.

strStartTime

[in] Start time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 00:00:00 on January 1, 2017, it will be "20170101T000000".

bStartTimeDST

[in] It is true, if strStartTime is the time at which Daylight Saving Time (DST) was applied; false otherwise.

strEndTime

[in] End time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 23:59:59 on January 1, 2017, it will be "20170101T235959".

bEndTimeDST

[in] It is true, if strEndTime is the time at which Daylight Saving Time (DST) was applied; false otherwise.

nRecordType

[in]

Record type to search. If you want to retrieve multiple record types at once, use the value which adds the value of each record type.

- NONE (=0): No record type selected
- VIDEOLOSS (=1): Select only recorded video when a video loss event occurs
- ALARM (=2): Select only recorded video when sensor event occurs
- MOTION (=4): Select only the recorded video when a motion event occurs
- MANUAL (=8): Select only manually recorded video
- CONTINUOUS (=16): Select only continuously recorded video
- IV (=32): Select only recorded video when IV event occurs
- AUDIO_DETECT (=64): Select only recorded video when audio detection event occurs
- ALL (=65535): Select all types of record types

nIVEventType

[in] IV Select event type

- NONE (=0): No event type selected

- PASSING (=1): Select only recorded video when a passing event occurs
- ENTERING (=2): Select only recorded video when a entering event occurs
- EXITING (=4): Select only recorded video when a exiting event occurs
- APPEARING (=8): Select only recorded video when a appearing event occurs
- DISAPPEARING (=16): Select only recorded video when a disappearing event occurs
- SCENE_CHANGE (=32): Select only recorded video when a scene-change event occurs
- TRACKING (=64): Select only recorded video when a tracking event occurs
- FACE_DETECTING (=128): Select only recorded video when a face-detecting event occurs
- NORMAL (=256)
- DEFOCUSED (=512): Select only recorded video when a defocused event occurs
- ALL (=65535): Select all types of IV detailed event types

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- This function can be used normally after obtaining the authority through the GetSearchAuthority function.
- The results for the command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 SearchDay: Json Format' section.

Example

```
[C] [SsmEventSdkCLib.lib]
SSME_SearchDay(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        -1,
        "20170101T000000",
        false,
        "20170101T115959",
```

```
        false
        65535,
        65535,
        &seqID);

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.SearchDay(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        -1,
        "20170101T000000",
        false,
        "20170101T235959",
        false
        65535,
        65535,
        ref seqID);
```

See Also

- OnResponse

Backup

StartBackup

Description

Receive the recorded media stream from the device and start backup.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_StartBackup(
        const char *strCameraUuid,
        long nTrackID,
        const char *strStartTime,
        bool bStartTimeDST,
        const char *strEndTime,
        bool bEndTimeDST,
        unsigned long nFileType,
        const char *strFilePath,
        unsigned long nFileSizeLimit,
        unsigned long nTimePeriodLimit
        unsigned long *pMediaID,
        ULONG *pSequenceID,
        unsigned long nProfileType)

[SsmSdkWrapper.dll]
UInt32 StartBackup(
        String strCameraUuid,
        Int32 nTrackID,
        String strStartTime,
        Boolean bStartTimeDST
        String strEndTime,
        Boolean bEndTimeDST,
        UInt32 nFileType,
        String strFilePath,
```

```
    UInt32 nFileSizeLimit,
    UInt32 nTimePeriodLimit,
    ref UInt32 pMediaID,
    ref UInt32 sequenceID,
    UInt32 nProfileType)
```

Parameters

strCameraUuid

[in] The camera GUID for which you want to back up

nTrackID

[in] The track ID of the section to be searched. If it is -1, it indicates the track currently being

strStartTime

[in] Start time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 00:00:00 on January 1, 2017, it will be "20170101T000000".

bStartTimeDST

[in] It is true, if strStartTime is the time at which Daylight Saving Time (DST) was applied; false otherwise.

strEndTime

[in] End time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 23:59:59 on January 1, 2017, it will be "20170101T235959".

bEndTimeDST

[in] It is true, if strEndTime is the time at which Daylight Saving Time (DST) was applied; false otherwise.

nFileType

[in] Backup file format

Type	Description	File separation cycle
SEC_WRITER = 1	Recording files in self-format with playback player	When the date changes. When the end of DST occurs.
AVI_WRITER = 2	Recording files in AVI format	When the resolution changes. When the video or audio codec has changed.

strFilePath

[in] Full path including file name to back up. File extension is automatically created according to nFileType. If file needs to be separated during saving, index is added automatically after

setting file name.

nFileSizeLimit

[in] The maximum file size, in megabytes. If the input value is 0, the file is divided by 700 MB. The range of valid values is at least 10 to 2048. (For D1/30 fps, the data size is about 600MB for 1 hour backup)

nTimePeriodLimit

[in] Maximum file recording time, in seconds. If the input value is 0, the maximum recording time is not limited. However, the range of valid values when setting is at least 10 to 7200.

pMediaID

[out] Media ID

pSequenceID

[out] Sequence ID

nProfileType

[in] The profile of the camera you want to back up, high resolution profile is 4, low resolution profile is 6.

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- This function can be used normally after obtaining the authority through the GetSearchAuthority function.
- The results for the command can be received through the OnResponse event
- Backup progress can be obtained through the OnBackupProgress event.
- For the returned string value, see the 'CHAPTER3 BackupStatusChanged: Json Format' section.
- When playing an AVI file backed up by the AVI_WRITER type, you may need to install additional codecs supported by the player, depending on the player you use to play it.

Example

[C] [SsmEventSdkCLib.lib]

```
unsigned long nMediaID = 0;
SsmEventSdkCLib::SSME_StartBackup(
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        -1,
```

```
        "20170101T000000",
        false,
        "20170101T235959",
        false,
        1,
        "",
        0,
        0,
        &nMediaID,
        &seqID);
```

[C#] [SsmSdkWrapper.dll]

```
unsigned long nMediaID = 0;
SsmSdkWrapper.StartBackup(
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        -1,
        "20170101T000000",
        false,
        "20170101T235959",
        false,
        1,
        "",
        0,
        0,
        ref nMediaID,
        ref seqID);
```

StopBackup

Description

Stop receiving the recorded media stream from the device and stop backup.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_StartBackup(
        const char * strCameraUuid,
        unsigned long *nMediaID,
        ULONG *pSequenceID);

[SsmSdkWrapper.dll]
UInt32 StopBackup(
        String strCameraUuid,
        UInt32 nMediaID,
        ref UInt32 sequenceID)
```

Parameters

strCameraUuid

[in] The camera GUID for which you want to stop backup.

nMediaID

[in] Media ID returned from StartBackup.

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.

Example

[C] [SsmEventSdkCLib.lib]

```
SSME_StopBackup(
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        nMediaID,
        &seqID);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.StopBackup(CameraUuid, _backupMediaId, ref seqID);
```

Snapshot & Record

Snapshot

Description

Save a single image of the camera as a .jpg file.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_GetSnapshot(const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 GetSnapshot(String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Syntax

```
{
   "CameraGuid": string value,
   "ProfileType": number value,
   "FilePath": string value,
}
```

Parameters

Name	Type	Description
CameraGuid	String	A guid of camera.
ProfileType	Number	Profile number
FilePath	String	Folder path to save

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Json Example

```
{
   "CameraGuid": "da429932-42c7-4e47-86fd-4d9e5137c722",
   "ProfileType": 1,
   "FilePath": "C:₩₩"
}
```

Local Record

Description

Save the live video of the camera as an avi file.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_ StartLiveLocalRecording (const char *json, ULONG *pSequenceID);

unsigned long SSME_ StopLiveLocalRecording (const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 StartLiveLocalRecording (String json, ref UInt32 sequenceID)

UInt32 StopLiveLocalRecording (String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Syntax

```
{
   "CameraGuid": string value,
   "ProfileType": number value,
   "FilePath": string value,
   "FileName": string value
}
```

Parameters

Name	Type	Description
CameraGuid	String	A guid of camera
ProfileType	Number	Profile number
FilePath	String	Folder path to save
FileName	String	File name

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Json Example

```
{
   "CameraGuid": "da429932-42c7-4e47-86fd-4d9e5137c722",
   "ProfileType": 1,
   "FilePath": "C:₩₩"
   "FileName": "Record.avi"
}
```

Device Record

Description

Start/Stop manual recording of camera.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_StartDeviceRecording(const char *cameraGuid, ULONG *pSequenceID);

unsigned long SSME_StopDeviceRecording(const char *cameraGuid, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 StartDeviceRecording(String cameraGuid, ref UInt32 sequenceID)

UInt32 StopDeviceRecording(String cameraGuid, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

SSME_StartDeviceRecording("15b9d033-2b38-4319-981b-a0a6982bd200");

...

SSME_StopDeviceRecording("15b9d033-2b38-4319-981b-a0a6982bd200");

[C#] [SsmSdkWrapper.dll]

SsmSdkWrapper.StartDeviceRecording("15b9d033-2b38-4319-981b-a0a6982bd200");

...

SsmSdkWrapper.StopDeviceRecording("15b9d033-2b38-4319-981b-a0a6982bd200");

User Group

GetUserGroup

Description

Get information of all user groups.

Syntax

[SsmEventSdkCLib.lib]

char* GetUserGroupInfo()

[SsmSdkWrapper.dll]

String GetUserGroupInfo()

Return Value

If you succeed, user groups information: Json format.

If you failed, empty string.

Json Example

```
{
  "UserGroups": [
    {
      "Permission": {
        "PTZ": true,
        "EventConfirm": true,
        "Print": true,
        "LocalRecord": true,
        "DeviceRecord": true,
        "AlarmOut": true,
        "CovertMonitoring": true,
        "PrivacyMask": true,
        "DeviceControl": true,
        "Live": true,
        "Playback": true,
```

```
            "Backup": true,
            "GISMap": true,
            "MonitoringViewer": true,
            "SearchViewer": true,
            "EventViewer": true,
            "GISMapViewer": true,
            "PlugInViewer": true,
            "ConfigrationViewer": true,
            "RetailViewer": true,
            "Dashboard": true,
            "MobileViewer": true,
            "VideoWall": true
        },
        "Guid": "382e009d-654a-4b75-9200-1fd8aac850be",
        "Name": "AdminGroup",
        "Description": ""
    }
  ]
}
```


Parameters

Name	Type	Description
UserGroups[]	Array	User group information (1 or more)
UserGroups[].Guid	String	A guid of user group
UserGroups[].Name	String	User group's name
UserGroups[].Description	String	User group's description
UserGroups[].Permission.PTZ	Boolean	If true, it means that you can use PTZ control.
UserGroups[].Permission.EventConfirm	Boolean	If true, it means that you can use Confirm event.
UserGroups[].Permission.Print	Boolean	If true, it means that you can use Capture/Print.
UserGroups[].Permission.LocalRecord	Boolean	If true, it means that you can use Local recording.
UserGroups[].Permission.DeviceRecord	Boolean	If true, it means that you can use Device recording..
UserGroups[].Permission.AlarmOut	Boolean	If true, it means that you can use Alarm out control.

UserGroups[].Permission.CovertMonitoring	Boolean	If true, it means that you can use Covert monitoring.
UserGroups[].Permission.PrivacyMask	Boolean	If true, it means that you can use Privacy area.
UserGroups[].Permission.DeviceControl	Boolean	If true, it means that you can use Device control.
UserGroups[].Permission.Live	Boolean	If true, it means that you can use Live.
UserGroups[].Permission.Playback	Boolean	If true, it means that you can use Playback.
UserGroups[].Permission.Backup	Boolean	If true, it means that you can use Export video.
UserGroups[].Permission.ScheduledBackup	Boolean	If true, it means that you can use Scheduled export.
UserGroups[].Permission.MonitoringViewer	Boolean	If true, it means that you have an authority to Monitoring Viewer.
UserGroups[].Permission.SearchViewer	Boolean	If true, it means that you have an authority to Search Viewer.
UserGroups[].Permission.EventViewer	Boolean	If true, it means that you have an authority to Event Viewer.
UserGroups[].Permission.PlugInViewer	Boolean	If true, it means that you have an authority to Plugin Viewer.
UserGroups[].Permission.ConfigrationViewer	Boolean	If true, it means that you have an authority to Configuration Viewer.
UserGroups[].Permission.RetailViewer	Boolean	If true, it means that you have an authority to POS Viewer.
UserGroups[].Permission.Dashboard	Boolean	If true, it means that you have an authority to Dashboard.
UserGroups[].Permission.MobileViewer	Boolean	If true, it means that you have an authority to Mobile Viewer.
UserGroups[].Permission.VideoWall	Boolean	If true, it means that you have an authority to Video wall.

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_GetUserGroupInfo( );
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.GetUserGroupInfo();
```

AddUserGroup

Description

Add a user group.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_AddUserGroup(const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 AddUserGroup(String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Json Example

```
{
   "Permission": {
      "PTZ": false,
      "EventConfirm": false,
      "Print": false,
      "LocalRecord": false,
      "DeviceRecord": false,
      "AlarmOut": false,
      "CovertMonitoring": false,
      "PrivacyMask": false,
      "DeviceControl": false,
      "Live": true,
      "Playback": false,
      "Backup": false,
      "ScheduledBackup": false,
      "MonitoringViewer": true,
      "SearchViewer": false,
```

```
      "EventViewer": false,
      "PlugInViewer": false,
      "ConfigrationViewer": false,
      "RetailViewer": false,
      "Dashboard": false,
      "MobileViewer": false,
      "VideoWall": false
   },
   "Name": "UserGroup1"
}
```

Parameters

See GetUserGroup

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_AddUserGroup(json, &seqID);


[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.AddUserGroup(json, ref seqID);
```

ModifyUserGroup

Description

Modify a user group.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_ModifyUserGroup(const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 ModifyUserGroup(String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Json Example

```
{
  "Permission": {
    "PTZ": false,
    "EventConfirm": false,
    "Print": false,
    "LocalRecord": false,
    "DeviceRecord": false,
    "AlarmOut": false,
    "CovertMonitoring": false,
    "PrivacyMask": false,
    "DeviceControl": false,
    "Live": true,
    "Playback": false,
    "Backup": false,
    "ScheduledBackup": false,
    "MonitoringViewer": true,
    "SearchViewer": false,
```

```
      "EventViewer": false,
      "PlugInViewer": false,
      "ConfigrationViewer": false,
      "RetailViewer": false,
      "Dashboard": false,
      "MobileViewer": false,
      "VideoWall": false
   },
   "Guid": "bdc771ba-8c24-46a9-9fd0-2a9898588f5b",
   "Name": "UserGroup1",
   "Description": "User Group 1"
}
```

Parameters

See GetUserGroup

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_ModifyUserGroup(json, &seqID);


[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.ModifyUserGroup(json, ref seqID);
```

DeleteUserGroup

Description

Delete a user group.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_DeleteUserGroup(const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 DeleteUserGroup(String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Json Example

```
{
  "Guid": "bdc771ba-8c24-46a9-9fd0-2a9898588f5b"
}
```

Parameters

See GetUserGroup

Only the Guid of the user group to be deleted is required.

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

SsmEventSdkCLib::SSME_DeleteUserGroup(json, &seqID);

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.DeleteUserGroup(json, ref seqID);
```

User

GetUser

Description

Get information of all users

Syntax

```
[SsmEventSdkCLib.lib]
char* GetUserInfo()

[SsmSdkWrapper.dll]
String GetUserInfo()
```

Return Value

If you succeed, users information: Json format.

If you failed, empty string.

Json Example

```
{
  "Users": [
    {
      "Guid": "b55d384d-f00a-4821-b0eb-027ef4e8e825",
      "UserGroupGuid": "382e009d-654a-4b75-9200-1fd8aac850be",
      "ID": "admin",
      "Password":
"AF5C2C46603B500ECA649740B862ED088026B23C41A9C1F1A3A050C70F367912",
      "UserName": "admin",
      "PhoneNumber": "",
      "Email": "",
```

```
        "Address": "",
        "Description": ""
      }
   ]
}
```

Parameters

Name	Type	Description
User[]	Array	User information (1 or more)
User[].Guid	String	A GUID of user
User[].UserGroupGuid	String	A GUID of user group
User[].ID	String	ID
User[].Password	String	Password
User[].UserName	String	Name
User[].PhoneNumber	String	Phone numbers
User[].Email	String	E-mail
User[].Address	String	Address
User[].Description	String	Description

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_GetUserInfo( );
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.GetUserInfo();
```

AddUser

Description

Add a user.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_AddUser(const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 AddUser(String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Json Example

```
{
  "UserGroupGuid": "382e009d-654a-4b75-9200-1fd8aac850be",
  "ID": "user1",
  "Password": "init123!!",
  "UserName": "SSM",
  "PhoneNumber": "000-000-0000",
  "Email": "example@example.com",
  "Address": "South Korea",
  "Description": "example"
}
```

Parameters

See GetUser

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_AddUser(json, &seqID);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.AddUser(json, ref seqID);
```

ModifyUser

Description

Modify a user.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_ModifyUser(const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 ModifyUser(String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Json Example

```
{
  "Guid": "c06f98ab-dce7-44ae-9795-6ff8e5ec6791",
  "ID": "user1",
  "Password": "init123!!",
  "UserName": "SSM",
  "PhoneNumber": "000-000-0000",
  "Email": "example@example.com",
  "Address": "South Korea",
  "Description": "example"
}
```

Parameters

See GetUser

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

```
SsmEventSdkCLib::SSME_ModifyUserGroupInfo(json, &seqID);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.ModifyUserGroupInfo(json, ref seqID);
```

DeleteUser

Description

Delete a user.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_DeleteUser(const char *json, ULONG *pSequenceID);

[SsmSdkWrapper.dll]

UInt32 DeleteUser(String json, ref UInt32 sequenceID)

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Json Example

```
{
   "Guid": "c06f98ab-dce7-44ae-9795-6ff8e5ec6791"
}
```

Parameters

See GetUser

Only the Guid of the user to be deleted is required.

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Example

[C] [SsmEventSdkCLib.lib]

SsmEventSdkCLib::SSME_DeleteUser(json, &seqID);

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.DeleteUser(json, ref seqID);
```

System

GetObjectList

Description

Get information about all servers, devices, cameras, sensors, and alarmouts.

Syntax

```
[SsmEventSdkCLib.lib]
char* SSME_GetObjectList()

[SsmSdkWrapper.dll]
String GetObjectList()
```

Return Value

If you succeed, devices information: Json format.

If you failed, empty string

Example

```
[C] [SsmEventSdkCLib.lib]
char* objectList = SsmEventSdkCLib::SSME_GetObjectList();

[C#] [SsmSdkWrapper.dll]
 String objectList = SsmSdkWrapper.GetObjectList();
```

Json Example

```
[
  {
```

```
    "ParentGuid": "9e5a3535-98cd-4ff8-bcd8-5406c8b4951d",
    "Guid": "15b9d033-2b38-4319-981b-a0a6982bd200",
    "Type": "Camera",
    "Name": "SNB-6004",
    "NameExt": "Camera",
    "IpAddress": "192.168.18.96",
    "Port": 4520,
    "ModelType": "Wisenet Network Camera/Encoder",
    "ModelName": "SNB-6004",
    "Status": [
      "Connected"
    ]
  },
  {
    "ParentGuid": "4f3d4d75-f631-4a03-a379-2379f8859352",
    "Guid": "2350646f-5019-4c56-9a38-06de20cfbc7e",
    "Type": "SSM Server",
    "Name": "SSM Server",
    "NameExt": "",
    "IpAddress": "55.101.66.78",
    "Port": 4510,
    "ModelType": "",
    "ModelName": "",
    "Status": [
      "Connected"
    ]
  },
  {
    "ParentGuid": "2350646f-5019-4c56-9a38-06de20cfbc7e",
    "Guid": "9e5a3535-98cd-4ff8-bcd8-5406c8b4951d",
    "Type": "Device",
    "Name": "SSM Server",
    "NameExt": "Recording Module",
    "IpAddress": "55.101.66.78",
    "Port": 4510,
    "ModelType": "SSM-RS30",
    "ModelName": "SSM-RS30",
```

```
    "Status": [
      "Connected"
    ]
  },
  {
    "ParentGuid": "9e5a3535-98cd-4ff8-bcd8-5406c8b4951d",
    "Guid": "a4646c8b-809e-41a5-85b4-bef19cd97a81",
    "Type": "Camera",
    "Name": "SNP-5321",
    "NameExt": "ad",
    "IpAddress": "192.168.18.97",
    "Port": 7771,
    "ModelType": "Wisenet Network Camera/Encoder",
    "ModelName": "SNP-5321",
    "Status": [
      "Connected",
      "Recording"
    ]
  }
]
```


Parameters

Name	Type	Description
ParentGuid	String	Parent Guid
Guid	String	Guid
Type	String	Type SSM Server / Device / Camera / AlarmIn/ AlarmOut
Name	String	Name
NameExt	String	The name set by the device
IpAddress	String	IP address
Port	String	Port number
ModelType	String	Model type
ModelName	String	Model name
Status[]	String Array	Status - Connected / Disconnected - VideoLoss - Recording - RelayOn

GetObject

Description

Get a object information by Guid.

Syntax

[SsmEventSdkCLib.lib]

char* SSME_GetObject(const char* objectGuid)

[SsmSdkWrapper.dll]

String GetObject(String objectGuid)

Parameters

objectGuid

[in] Object Guid

Return Value

If you succeed, devices information: Json format.

If you failed, empty string

Example

[C] [SsmEventSdkCLib.lib]

```
char* object = SsmEventSdkCLib::SSME_GetObject("c8c3144e-3f10-4e45-b7a6-64b42fcadf52");
```

[C#] [SsmSdkWrapper.dll]

```
String object = SsmSdkWrapper.GetObject("c8c3144e-3f10-4e45-b7a6-64b42fcadf52");
```

Json Example


```
{
  "ParentGuid": "7cf5865e-5034-415d-b062-f58077d39ed2",
  "Guid": "c8c3144e-3f10-4e45-b7a6-64b42fcadf52",
  "Type": "Camera",
  "Name": "PRN-4011_CH003",
  "NameExt": "CAM 03",
  "IpAddress": "192.168.37.119",
```

```
  "Port": 4520,
  "ModelType": "Wisenet Network Camera/Encoder",
  "ModelName": "XNV-6080",
  "Status": [
    "Connected",
    "Recording"
  ]
}
```

Parameters

Name	Type	Description
ParentGuid	String	Parent Guid
Guid	String	Guid
Type	String	Type SSM Server / Device / Camera / AlarmIn/ AlarmOut
Name	String	Name
NameExt	String	The name set by the device
IpAddress	String	IP address
Port	String	Port number
ModelType	String	Model type
ModelName	String	Model name
Status[]	String Array	Status - Connected / Disconnected - VideoLoss - Recording - RelayOn

InsertExternalLog

Description

Sends an event log to the SSM Console.
Use it as an argument to the Event ID.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long InsertExternalLog(
        const char *strDeviceUuid,
        const char *strCameraUuid,
        unsigned long nEventID,
        ULONG *pSequenceID)

[SsmSdkWrapper.dll]
UInt32 InsertExternalLog(
        String strDeviceUuid,
        String strCameraUuid,
        UInt32 nEventID,
        ref UInt32 sequenceID)
```

Parameters

strDeviceUuid

[in] The GUID of the device to which you want to send the log.

strCameraUuid

[in] The GUID of the camera to which you want to send the log.

nEventId

[in] Event ID on [SSM Console – Configuration tab – Event – Management]

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_InsertExternalLog(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        4001,    // Camera Motion
        &seqID);

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.InsertExternalLog(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        4001,
        ref seqID);
```

InsertExternalLogEventKey

Description

Sends an event log to the SSM Console.
Use it as an argument to the Event Key.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long InsertExternalLogEventKey(
        const char *strDeviceUuid,
        const char *strCameraUuid,
        unsigned long nEventKey,
        ULONG *pSequenceID)

[SsmSdkWrapper.dll]
UInt32 InsertExternalLogEventKey(
        String strDeviceUuid,
        String strCameraUuid,
        UInt32 nEventKey,
        ref UInt32 sequenceID)
```

Parameters

strDeviceUuid

[in] The GUID of the device to which you want to send the log.

strCameraUuid

[in] The GUID of the camera to which you want to send the log.

nEventKey

[in] Event Key on [SSM Console – Configuration tab – Event – Management]

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_InsertExternalLogEventKey(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        4002,    // Video Loss
        &seqID);

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.InsertExternalLogEventKey(
        "999095d2-1d69-4271-be7e-cfa3187db845",
        "ffce5a84-caca-405e-aae6-f716dd8a8c15",
        4001)
        ref seqID;
```

ChangePassword

Description

Change your password.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long ChangePassword(
        const char *strUserID,
        const char *strCurrentPassword,
        const char *strNewPassword,
        ULONG *pSequenceID)

[SsmSdkWrapper.dll]
UInt32 ChangePassword(
        String strUserID,
        String strCurrentPassword,
        String strNewPassword,
        ref UInt32 sequenceID)
```

Parameters

strUserID

[in] The user ID to change the password.

strCurrentPassword

[in] Current password

strNewPassword

[in] New password

pSequenceID

[out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the command can be received through the OnResponse event.

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_ChangePassword(
        "admin",
        "currentPassword",
        "newPassword"
        &seqID)

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.InsertExternalLog(
        "admin",
        "currentPassword",
        "newPassword",
        ref seqID);
```

GetRtspUrl

Description

Obtain the camera's RTSP URL address.

Syntax

```
[SsmEventSdkCLib.lib]
unsigned long SSME_GetRtspUrl(
        const char *strCameraUuid,
        ulong nProfileType,
        ulong nStreamType,
        ulong nMediaProtocolType,
        ULONG *pSequenceID)

[SsmSdkWrapper.dll]
UInt32 GetRtspUrl(
        String strCameraUuid,
        UInt32 nProfileType,,
        UInt32 nStreamType,
        UInt32 nMediaProtocolType,
        ref UInt32 sequenceID)
```

Parameters

strCameraUuid

[in] GUID of the camera to get the URL from

nProfileType

[in] Profile type of media streams to receive.

- NONE = 0
- HIGH = 1
- MEDIUM = 2
- MOBILE = 3
- LOW = 3
- RECORD = 4
- RECORD_EVENT = 5

nStreamType

[in] Stream type of media to receive.

- LIVE = 2
- PLAYBACK = 4

nMediaProtocolType

[in] Protocol to receive the media stream

- TCP = 1
- HTTPS = 7

pSequenceID

- [out] Sequence ID

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- Only TCP and HTTPS are supported.

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_GetRtspUrl(
        "e1b1145d-726b-4706-a69c-50504f1b6ecd",
        1,          // PROFILE_TYPE.HIGH
        2,          // STREAM_TYPE.LIVE
        1,          // MEDIA_PROTOCOL_TYPE.TCP
        &seqID);

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.GetRtspUrl(
        "e1b1145d-726b-4706-a69c-50504f1b6ecd",
        1,          // PROFILE_TYPE.HIGH
        2,          // STREAM_TYPE.LIVE
        1,          // MEDIA_PROTOCOL_TYPE.TCP
        ref seqID);
```

See Also

- OnResponse

GetTimeZoneInfo

Description

Obtain time zone information of equipment (NVR / DVR, recording server, etc.).

Syntax

[SsmEventSdkCLib.lib]

char* GetTimeZoneInfo(char *strDeviceUuid)

[SsmSdkWrapper.dll]

String GetTimeZoneInfo(String strDeviceUuid)

Parameters

strDeviceUuid

[in] GUID value of the device to get Time Zone information.

Return Value

If you succeed, time zone information of selected device: Json format.

If you failed, empty string.

Remarks

- This command does not pass the results through the OnResponse event

Example

[C] [SsmEventSdkCLib.lib]

SsmEventSdkCLib::SSME_GetTimZoneInfo("8ac3afd9-b9f0-49ff-a964-681978bd078e");

[C#] [SsmSdkWrapper.dll]

SsmSdkWrapper.GetTimZoneInfo("8ac3afd9-b9f0-49ff-a964-681978bd078e");

NTP

Description

Manage the NTP Server information set in SSM Domain.

Syntax

[SsmEventSdkCLib.lib]

unsigned long SSME_GetNtp(ULONG *pSequenceID)

unsigned long SSME_SetNtp(const char *json, ULONG *pSequenceID)

[SsmSdkWrapper.dll]

UInt32 GetNtp(ref UInt32 sequenceID)

UInt32 SetNtp(String json, ref UInt32 sequenceID)

Json Example

```
{
   "NtpServerEnabled": false,
   "NtpEnabled": false,
   "NtpHostName": "time.windows.com",
   "NtpSyncIntervalMinute": 10
}
```

Parameters

json

[in] Json string

pSequenceID

[out] Sequence ID

Name	Type	Description
NtpServerEnabled	Boolean	Whether to use it as an NTP server
NtpEnabled	Boolean	Whether to use the NTP.
NtpHostName	String	NTP host URL
NtpSyncIntervalMinute	Number	Sync Interval (minutes)

Return Value

If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

Remarks

- The results for the GetNtp command can be received through the OnResponse event.
- For the returned string value, see the 'CHAPTER3 NTP: Json Format section.

Example

```
[C] [SsmEventSdkCLib.lib]
SsmEventSdkCLib::SSME_GetNtp(&seqID);
SsmEventSdkCLib::SSME_SetNtp(json, ref seqID);

[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.GetNtp(&seqID);
SsmSdkWrapper.SetNtp(json, ref seqID);
```

CHAPTER 3

SsmEventSdk : Response & Event

This chapter describes asynchronous events from the Wisenet SSM Core Server,

or events which occur a function defined in SsmEventSdk is called.

Contents

Response

OnResponse

Description

This event is raised when the application calls the command.

Syntax

```
[SsmEventSdkCLib.lib]
void OnResponse(
        unsigned long nCommandID,
        unsigned long nErrorCode,
        unsigned long nSequenceID,
        char * strInfo,
        void *context)

[SsmSdkWrapper.dll]
void OnResponse(
        UInt32 nCommandID,
        UInt32 nErrorCode,
        UInt32 nSequenceID,
        String strInfo)
```

Parameters

nCommandID

[in] Value for command

Command	Value	Presence of strInfo	JSON 형식
LogIn	1	NO	N/A
LogOut	2	NO	N/A
ControlPtz	101	NO	N/A
GetPresetList	102	YES	See the 'GetPresetList: Json Format' section.
AddPreset	103	NO	N/A
RunPreset	104	NO	N/A

GetSearchAuthority	201	NO	N/A
ReleaseSearchAuthority	202	NO	N/A
SearchTrackID	301	YES	See the 'SearchTrackID: Json Format' section.
SearchCalendar	302	YES	See the 'SearchCalendar: Json Format' section
SearchDay	303	YES	See the 'SearchDay: Json Format' section
StartBackup	401	NO	N/A
StopBackup	402	NO	N/A
InsertLog	10001	NO	N/A
ChangePassword	10002	NO	N/A
GetRtspUrl	10003	YES	See the 'GetRtspUrl: Formatted String' section

nErrorCode

[in] If you succeed, NOERR

If you failed, Error code for the cause of failure (see APPENDIX A error code)

nSequenceID

[in] Sequence ID for the command

strInfo

[in] Additional information in JSON format. Please refer to the description of the response-specific format which described from the next chapter.

context

[in] If you create and use multiple SsmEventSdk modules, use this parameter to distinguish each of them. It has a nullptr value by default and does not need to be set.

Example

[C] [SsmEventSdkCLib.lib]

```
#include <Windows.h>
void __stdcall OnResponse(ulong nCommandID, ulong nErrorCode, char * strInfo)
{
	char str[100];
	sprintf(str,
		"Command ID: %lu, Error Code: %lu, Info: %s₩n",
		nCommand, nErrorCode, strInfo);
	OutputDebugString(str);
}
```

```
[C#] [SsmSdkWrapper.dll]
using System.Diagnostics
public void OnResponse(uint nCommandID, uint nErrorCode, string strInfo)
{
        var sb = new StringBuilder();
        sb.Append("Command ID: " + nCommandID);
        sb.Append("Error Code: " + nErrorCode);
        sb.Append("Info: +strInfo);
        sb.Append(System.Environment.NewLine);

        Debug.WriteLine(sb.ToString());
}
```

GetPresetList: Json Format

Description

Results for the GetPresetList function call.

It describes the format of the data passed to the strInfo parameter when OnResponse is called.

Syntax

```
{
        "Presets": [
          {
                    "Index" : number value,
                    "Name" : string value
          }
        ]
}
```

Parameters

Name	Type	Description
Presets[]	Array	Preset list(0 or more)
Presets[].Index	Number	Preset identifier
Presets[].Name	String	Preset name

SearchTrackID: Json Format

Description

Results for the SearchTrackID function call.

It describes the format of the data passed to the strInfo parameter when OnResponse is called.

Syntax

```
{
        "Tracks": [
          {
                    "Index" : number value,
          }
        ]
}
```

Parameters

Name	Type	Description
Tracks[]	Array	Track list(1 or more)
Tracks[].Index	Number	Track identifier

SearchCalendar: Json Format

Description

Results for the SearchCalendar function call.

It describes the format of the data passed to the strInfo parameter when OnResponse is called.

Syntax

```
{
        "Calender": [
          {
                    "Day" : number value,
                    "Record" : Boolean value
          }
        ]
}
```

Parameters

Name	Type	Description
Calendar[]	Array	List of days (1 to 31)
Calendar[].Day	Number	Date (1 to 31)
Calendar[].Record	Boolean	If true, recorded video exists on that date.

SearchDay: Json Format

Description

Results for the SearchDay function call.

It describes the format of the data passed to the strInfo parameter when OnResponse is called.

Syntax

```
{
        "Timelines": [
          {
                "StartTime" : defined-string value,
                "StartTimeDST" : Boolean value,
                "EndTime" : defined-string value,
                "EndTimeDST" : Boolean value,
                "RecordType" : {
                        "VideoLoss" : Boolean value,
                        "Alarm" : Boolean value,
                        "Motion" : Boolean value,
                        "Manual" : Boolean value,
                        "Continuous" : Boolean value,
                        "IV" : Boolean value,
                        "AudioDetect" : Boolean value,
                }
                "IVEventType" : {
                        "Passing" : Boolean value,
                        "Entering" : Boolean value,
                        "Exiting" : Boolean value,
                        "Appearing" : Boolean value,
                        "Disappearing" : Boolean value,
                        "SceneChange" : Boolean value,
                        "Tracking" : Boolean value,
                        "FaceDetect" : Boolean value,
                        "Normal" : Boolean value,
                        "Defocused" : Boolean value,
                }
```

```
        }
      ]
}
```

Parameters

Name	Type	Description
Timelines[]	Array	Recording section information(1 or more)
Timelines[].StartTime	String	Start time. The format is "yyyyMMddThhmmss".
Timelines[].StartTimeDST	Boolean	If true, DST is applied to the start time.
Timelines[].EndTime	String	End time The format is "yyyyMMddThhmmss".
Timelines[].EndTimeDST	Boolean	If true, DST is applied to the end time.
Timelines[].RecordType.VideoLoss	Boolean	If true, it means this video was recorded when a 'video loss event' occurs.
Timelines[].RecordType.Alarm	Boolean	If true, it means this video was recorded when a 'sensor event' occurs.
Timelines[].RecordType.Motion	Boolean	If true, it means this video was recorded when a 'motion event' occurs.
Timelines[].RecordType.Manual	Boolean	If true, it means this video was recorded manually.
Timelines[].RecordType.Continuous	Boolean	If true, it means this video was recorded continously.
Timelines[].RecordType.IV	Boolean	If true, it means this video was recorded when a 'IV event' occurs.
Timelines[].RecordType.AudioDetect	Boolean	If true, it means this video was recorded when a 'audio detect event' occurs.
Timelines[].IVEventType.Passing	Boolean	If true, it means this video was recorded when a 'passing event' occurs.
Timelines[].IVEventType.Entering	Boolean	If true, it means this video was recorded when a 'entering event' occurs.
Timelines[].IVEventType.Exiting	Boolean	If true, it means this video was recorded when a 'exiting event' occurs.
Timelines[].IVEventType.Appearing	Boolean	If true, it means this video was recorded when a 'appearing event' occurs.
Timelines[].IVEventType.Disappearing	Boolean	If true, it means this video was recorded when a 'disappearing event' occurs.
Timelines[].IVEventType.SceneChange	Boolean	If true, it means this video was recorded when a 'scene change event' occurs.
Timelines[].IVEventType.Tracking	Boolean	If true, it means this video was recorded when a 'tracking event' occurs.

Timelines[].IVEventType.FaceDetect	Boolean	If true, it means this video was recorded when a 'face decect event' occurs.
Timelines[].IVEventType.Defocused	Boolean	If true, it means that you have an authority to access the 'defocus'.

GetRtspUrl: Formatted String

Description

Results for the GetRtsp function call.

It describes the format of the data passed to the strInfo parameter when OnResponse is called.

Syntax

[Live]

rtsp://(IP address)/(CameraUuid)/(ProfileID)/media.smp

[Playback]

rtsp://(IP address)/(CameraUuid)/(ProfileID)/playback

Parameters

IP address

[in] An IP address of the camera

CameraUuid

[in] A GUID of the camera

nProfileID

[in] A profile ID set on the camera

NTP : Json Format

Description

Describes the format of the data passed to the strInfo parameter when OnResponse is called as a result of a GetNtp call.

Syntax

```
{
   "NtpServerEnabled": boolean value,
   "NtpEnabled": boolean value,
   "NtpHostName": string value,
   "LastSyncTime": string value,
   "NtpSyncIntervalMinute": number value
}
```

Parameters

Name	Type	Description
NtpServerEnabled	Boolean	Whether to use it as an NTP server
NtpEnabled	Boolean	Whether to use the NTP.
NtpHostName	String	NTP host URL
LastSyncTime	String	Last sync time
NtpSyncIntervalMinute	Number	Sync Interval (minutes)

Event

OnEvent

Description

This event is raised when an event has occurred on a Wisenet SSM Core Server.

Syntax

```
[SsmEventSdkCLib.lib]
void OnResponse(
        unsigned long nEventID,
        char * strInfo,
        void *context)

[SsmSdkWrapper.dll]
void OnResponse(
        UInt32 nEventID,
        String strInfo)
```

Parameters

nEventID

[in] Event ID

Event	Value	Description
ServiceStarted	1	It occurs when the service is started.
ServiceStoped	2	It occurs when the service is stopped.
LogIn	11	Current user group information. This event will be raised when LogIn is completed normally after LogIn call. The 'UserGroup' contains information about the permissions of the group to which the current user belongs and a list of assigned devices. **Note** For the data format of strInfo, see the 'LogIn: Json Format' section.

LogOut	12	It occurs when you log out from SSM.
Log	21	It is an information about SSM logs and user-defined logs. **Note** For the data format of strInfo, see the ' Log: Json Format' section.
ObjectConnected	101	It occurs when the SSM server/device(NVR/DVR) is connected. **Note** For the data format of strInfo, see the 'Object: Json Format' section.
ObjectDisconnected	102	It occurs when the SSM server/device(NVR/DVR) is disconnected. **Note** For the data format of strInfo, see the 'Object: Json Format' section.
ObjectAdded	103	It occurs when the device(server/device/camera/alarm-in/alarm-out) is added. **Note** For the data format of strInfo, see the 'Object: Json Format' section.
ObjectUpdated	104	It occurs when when there is a change in the registered equipment. **Note** For the data format of strInfo, see the 'Object: Json Format' section.
ObjectDeleted	105	It occurs when the device(server/device/camera/alarm-in/alarm-out) is deleted. **Note** For the data format of strInfo, see the 'Object: Json Format' section.
DeviceRecordStarted	201	It occurs when recording starts.
DeviceRecordStopped	202	It occurs when recording stops.
MotionDetected	203	It occurs when motion detect occurs.
VideoLossStarted	204	It occurs when video loss occurs during recording.
VideoLossStopped	205	It occurs when video loss ends during recording.
Alarm	206	It occurs when a sensor event occurs.
AlarmIn	207	It occurs when a alarm-in event occurs.
AlarmOutOn	208	It occurs when a alarm-out is turned on.
AlarmOutOff	209	It occurs when a alarm-out is turned off.
IVDetected	210	It occurs when a IV event occurs
BackupStatusChanged	1001	It occurs when a change occurs during Backup.

		It occurs when there is more than 1% change and when it is completed. **Note** For the data format of strInfo, see the 'BackupStatusChanged : Json Format' section.

strInfo

[in] Additional information for each event in Json format.

context

[in] If you create and use multiple SsmEventSdk modules, use this parameter to distinguish each of them. It has a nullptr value by default and does not need to be set.

Example

[C] [SsmEventSdkCLib.lib]

```
#include <Windows.h>
void __stdcall OnEvent(ulong nEventID, char * strInfo, void *context)
{
	char str[100];
	sprintf(str, "Event ID: %lu, Info: %s₩n", nEventID, strInfo);
	OutputDebugString(str);
}
```

[C#] [SsmSdkWrapper.dll]

```
using System.Diagnostics
public void OnEvent(uint nEventID, string strInfo)
{
	var sb = new StringBuilder();
	sb.Append("Event ID: " + nEventID);
	sb.Append("Info: +strInfo);
	sb.Append(System.Environment.NewLine);

	Debug.WriteLine(sb.ToString());
}
```

LogIn: Json Format

Description

It describes the format of the data passed to the strInfo parameter of the OnEvent event handler when LogIn event occurs.

Syntax

```
{
  "UserGroup": {
    "Permission": {
      "PTZ": bool value,
      "EventConfirm": bool value,
      "Print": bool value,
      "LocalRecord": bool value,
      "DeviceRecord": bool value,
      "AlarmOut": bool value,
      "CovertMonitoring": bool value,
      "PrivacyMask": bool value,
      "DeviceControl": bool value,
      "Live": bool value,
      "Playback": bool value,
      "Backup": bool value,
      "ScheduledBackup": bool value,
      "MonitoringViewer": bool value,
      "SearchViewer": bool value,
      "EventViewer": bool value,
      "PlugInViewer": bool value,
      "ConfigrationViewer": bool value,
      "RetailViewer": bool value,
      "Dashboard": bool value,
      "MobileViewer": bool value,
      "VideoWall": bool value
    },
    "Guid": string value,
    "Name": string value,
    "Description": string value
  },
```

```
  "Objects": [
    {
      "ParentGuid": string value,
      "Guid": string value,
      "Type": string value,
      "Name": string value,
      "NameExt": string value,
      "IpAddress": string value,
      "Port": integer value,
      "ModelType": string value,
      "ModelName": string value,
      "Status": [
        string array
      ]
    }
  ]
}
```

Parameters

Name	Type	Description
UserGroup.Guid	String	A guid of user group
UserGroup.Name	String	User group's name
UserGroup.Description	String	User group's description
UserGroup.Permission.PTZ	Boolean	If true, it means that you can use PTZ control.
UserGroup.Permission.EventConfirm	Boolean	If true, it means that you can use Confirm event.
UserGroup.Permission.Print	Boolean	If true, it means that you can use Capture/Print.
UserGroup.Permission.LocalRecord	Boolean	If true, it means that you can use Local recording.
UserGroup.Permission.DeviceRecord	Boolean	If true, it means that you can use Device recording..
UserGroup.Permission.AlarmOut	Boolean	If true, it means that you can use Alarm out control.
UserGroup.Permission.CovertMonitoring	Boolean	If true, it means that you can use Covert monitoring.
UserGroup.Permission.PrivacyMask	Boolean	If true, it means that you can use

		Privacy area.
UserGroup.Permission.DeviceControl	Boolean	If true, it means that you can use Device control.
UserGroup.Permission.Live	Boolean	If true, it means that you can use Live.
UserGroup.Permission.Playback	Boolean	If true, it means that you can use Playback.
UserGroup.Permission.Backup	Boolean	If true, it means that you can use Export video.
UserGroup.Permission.ScheduledBackup	Boolean	If true, it means that you can use Scheduled export.
UserGroup.Permission.MonitoringViewer	Boolean	If true, it means that you have an authority to Monitoring Viewer.
UserGroup.Permission.SearchViewer	Boolean	If true, it means that you have an authority to Search Viewer.
UserGroup.Permission.EventViewer	Boolean	If true, it means that you have an authority to Event Viewer.
UserGroup.Permission.PlugInViewer	Boolean	If true, it means that you have an authority to Plugin Viewer.
UserGroup.Permission.ConfigrationViewer	Boolean	If true, it means that you have an authority to Configuration Viewer.
UserGroup.Permission.RetailViewer	Boolean	If true, it means that you have an authority to POS Viewer.
UserGroup.Permission.Dashboard	Boolean	If true, it means that you have an authority to Dashboard.
UserGroup.Permission.MobileViewer	Boolean	If true, it means that you have an authority to Mobile Viewer.
UserGroup.Permission.VideoWall	Boolean	If true, it means that you have an authority to Video wall.
Objects[]	Array	Object information list.
Objects[].ParentGuid	String	A parent guid of object
Objects[].Guid	String	A Guid of object.
Objects[].Type	Predefined String	An object type, as shown below. Device Camera AlarmIn AlarmOut
Objects[].Name	String	A name of object.
Objects[].NameExt	String	A name of object.
Objects[].IpAddress	String	IP address
Objects[].Port	Integer	Port number

Objects[].ModelType	String	Model type
Objects[].ModelName	String	Model name
Objects[].Status[]	Predefined String Array	- Status Connected / Disconnected VideoLoss Recording RelayOn

Log: Json Format

Description

It describes the format of the data passed to the strInfo parameter of the OnEvent event handler when Log event occurs.

Syntax

```
{
        "Logs": [
          {
                    "Type" : string value,
                    "Time" : formatted-string value,
                    "Name" : string value,
                    "Desc" : string value
          }
        ]
}
```

Parameters

Name	Type	Description
Logs[]	Array	An information of Log (1 or more)
Logs[].Type	String	The type of the log. If external log, it is the log identifier (from 10001)
Logs[].Time	String	The time when log occurred. The format is "yyyyMMddThhmmss".
Logs[].Desc	String	A description of Log

Object: Json Format

Description

It describes the format of the data passed to the strInfo parameter of the OnEvent event handler,

when ObjectConnected/ObjectDisconnected/ObjectAdded/ObjectUpdated/ObjectDeleted event occurs.

Syntax

```
{
        "Objects": [
          {
                    "ParentGuid" : string value,
                    "Guid" : string value,
                    "Type" : defined-string value,
                    "Name" : string value,
                    "NameExt" : string value,
                    "IpAddress" : string value,
                    "Port" : string value,
                    "ModelType" : string value,
                    "ModelName" : string value,
                    "Status" : [
                              string array
                    ]
          }
        ]
}
```

Parameters

Name	Type	Description
Objects[]	Array	Object information list.
Objects[].ParentGuid	String	A parent guid of object
Objects[].Guid	String	A Guid of object.
Objects[].Type	Predefined String	An object type, as shown below. Device Camera

		AlarmIn AlarmOut
Objects[].Name	String	A name of object.
Objects[].NameExt	String	A name of object.
Objects[].IpAddress	String	IP address
Objects[].Port	Integer	Port number
Objects[].ModelType	String	Model type
Objects[].ModelName	String	Model name
Objects[].Status[]	String Array	- Status Connected / Disconnected VideoLoss Recording RelayOn

BackupStatusChanged : Json Format

Description

It describes the format of the data passed to the strInfo parameter of the OnEvent event handler when BackupStatusChanged event occurs.

Syntax

```
{
        "Backup":
        {
                "Progress": number value,
                 "Status": number value
        }
}
```

Parameters

Name	Type	Description
Backup.Progress	Predefined number	A progress (0 to 100)
Backup.Status	Predefined number	-1: failure 0: proceeding 1: success

CHAPTER 4

SsmMediaSdk : Function

SsmMediaSdk is a library that performs functions related to media control such as receiving video/audio/metadata from Wisenet SSM Core Server, decoding and rendering the received data, and and displaying it on the screen.

Both C Library(SsmMediaSdkCLib.lib, SsmMediaSdkCLib.dll) and C++/CLI(SsmSdkWrapper.dll) will be provided.

Contents

Initialize & Release

Initialize

Description

It initializes SsmMediaSdk module.

Syntax

```
[SsmMediaSdkCLib.lib]
unsigned long SSMM_Initialize(
        ulong nMode,
        long *hParentWnd,
        SSMM_OnEvent ssmEvent,
        SSMM_OnVideo ssmVideo,
        SSMM_OnAudio ssmAudio,
        ulong *nMediaID,
        void *context)

[SsmSdkWrapper.dll]
UInt32 InitializeMedia(IntPtr hParentWnd, Int32 nMode, ref UInt64 nMediaID);
```

Parameters

nMode

[in] Processing mode of video/audio data received from SSM Server

- 0: Display in window passed by a handle.
- 1: Forward to the OnVideo and OnAudio event, not displaying.
- 2: Forward decoded video to the OnVideo event, not displaying.

hParentWnd

[in] A parent window handle used for display video control.

ssmEvent

[in] Functions to handle the OnEvent event

ssmVideo

[in] Functions to handle the OnVideo event

ssmAudio

[in] Functions to handle the OnAudio event

nMediaID

[out] A media ID

context

[in] If you create and use multiple SsmMediaSdk modules, use this parameter to distinguish each of them. It has a nullptr value by default and does not need to be set.

Return Value

Ok = 0,

Cancelled = 1,

Unknown = 2,

InvalidArgument = 3,

DeadlineExceeded = 4,

NotFound = 5,

AlreadyExists = 6,

PermissionDenied = 7,

Unauthenticated = 16,

ResourceExhausted = 8,

FailedPrecondition = 9,

Aborted = 10,

OutofRange = 11,

Unimplemented = 12,

Internal = 13,

Unavailable = 14,

DataLoss = 15

Remarks

- Initialize must be called only once.
- The parameter ssmEvent must match the signature of the SSMM_OnEvent function pointer.
- The parameter ssmVideo must match the signature of the SSMM_OnVideo function pointer.
- The parameter ssmAudio must match the signature of the SSMM_OnAudio function

pointer.

Example

```
[C] [SsmEventSdkCLib.lib]
#include <LibWindow.h>
static void __stdcall GOnEvent(unsigned long nEventID, void *context)
{
	// TODO
}
static void __stdcall GOnVideo(
	unsigned long nMediaID,
	unsigned long nCodecType,
	unsigned short nFrameType,
	unsigned short nSequence,
	char *strRecTime,
	bool bDST,
	unsigned long nTimeStamp,
	unsigned long nWidth,
	unsigned long nHeight,
	unsigned long nVideoSize,
	unsigned char *pVideo,
	void *context)
{
	// TODO
}
static void __stdcall GOnAudio(
	unsigned long nMediaID,
	unsigned long nCodecType,
	unsigned long nTimeStamp,
	long nBitPerSample,
	long nBitrate,
	long nChannel,
	long nSampleRate,
	unsigned long nAudioSize,
	unsigned char *pAudio,
	void *context)
{
```

```
        // TODO
}
SsmEventSdkCLib::SSME_Initialize(GOnEvent, GOnVideo, GOnAudio);
```

[C#] [SsmSdkWrapper.dll]

```
using SdkWrapper;
SsmSdkWrapper.InitializeMedia(handle, 0, ref mediaID);
```

Release

Description

It stops using SsmMediaSdk module and cleans up resources.

Syntax

[SsmMediaSdkCLib.lib]

unsigned long SSMM_Release(unsigned long nMediaID)

[SsmSdkWrapper.dll]

UInt32 ReleseMedia(UInt64 nMediaID)

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

Return Value

Ok = 0,

Cancelled = 1,

Unknown = 2,

InvalidArgument = 3,

DeadlineExceeded = 4,

NotFound = 5,

AlreadyExists = 6,

PermissionDenied = 7,

Unauthenticated = 16,

ResourceExhausted = 8,

FailedPrecondition = 9,

Aborted = 10,

OutofRange = 11,

Unimplemented = 12,

Internal = 13,

Unavailable = 14,

DataLoss = 15,

Remarks

- Release can only be called once.

Example

[C] [SsmMediaSdkCLib.lib]

```
unsigned long gMediaID = 0;
SsmMediaSdkCLib::SSMM_Initialize(0, nullptr, SSMEvent, SSMVideo, SSMAudio, &nMediaID);
//
// DO SOMETHING
//
SsmMediaSdkCLib::SSMM_Release(gMediaID);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.InitializeMedia();
//
// DO SOMETHING
//
SsmSdkWrapper.ReleaseMedia();
```

Video/Audio Streaming

Open

Description

It starts receiving media streams from the device.

Syntax

```
[SsmMediaSdkCLib.lib]
void SSMM_Open(
        unsigned long nMediaID,
        const char *strRTSPUrl,
        const char *strID,
        const char *strPassword,
        const char *strCameraName,
        ulong nMediaType,
        const char *strStartTime,
        const char *strTimeZoneInfo,
        bool bStartTimeDST);

[SsmSdkWrapper.dll]
void Open(
        UInt32 nMediaID,
        String strRTSPUrl,
        String strID,
        String strPassword,
        String strCameraName,
        UInt32 nMediaType,
        String strStartTime,
        String strTimeZoneInfo,
        Boolean bStartTimeDST);
```

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

strRTSPUrl

[in] A RTSP URL to receive video

strID

[in] A user ID used in SsmSdkWrapper.LogIn

strPassword

[in] A user password used in SsmSdkWrapper.LogIn

strCameraName

[in] A camera name to be displayed on the OSD, displayed in upper left corner of OSD.

nMediaType

[in] A media type

- 1: Live
- 2: Playback

strStartTime

[in] Start time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 00:00:00 on January 1, 2017, it will be "20170101T000000".

strTimeZoneInfo

[in] A relative time gap based on UTC. For example, "GMT+09:00" is for Korea.

bStartTimeDST

[in] It is true, if strStartTime is the time at which Daylight Saving Time (DST) was applied; false otherwise.

Return Value

This function has no return value.

Remarks

- Media streams can be received through the OnVideo and OnAudio events.
- A TimeZoneInfo could be obtained by the GetTimeZoneInfo() method of SsmSdkWrapper.

Example

[C] [SsmMediaSdkCLib.lib]

```
string timeZoneInfo = GetTimeZoneInfo("8ac3afd9-b 9f0-49ff-a964-681978bd078e")
```

```
SsmMediaSdkCLib::SSMM_Open(
        gMediaID,
        "rtsp://55.101.67.184:4515/e1b1145d-726b-4706-a69c-50504f1b6ecd/1/playback",
        "admin",
        "1234",
        "Wisenet Camera",
        1,                      // MEDIA_TYPE.LIVE,
        "20170101T000000",
        timeZoneInfo,
        false);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.MediaOpen(
        mediaId,
        "rtsp://55.101.67.184:4515/e1b1145d-726b-4706-a69c-50504f1b6ecd/1/playback",
        "admin",
        "1234",
        "Wisenet Camera",
        1,                      //MEDIA_TYPE.LIVE,
        "20170101T000000",
        timeZoneInfo,
        false);
```

Close

Description

It stops receiving media streams from the device.

Syntax

```
[SsmMediaSdkCLib.lib]
void SSMM_Close(long nMediaID);

[SsmSdkWrapper.dll]
void MediaClose(UInt32 nMediaID);
```

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

Return Value

This function has no return value.

Example

```
[C] [SsmMediaSdkCLib.lib]
SsmMediaSdkCLib::SSMM_Close(gMediaID);
```

```
[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.MediaClose(mediaId);
```

Play

Description

It plays the media at the specified speed.

Syntax

[SsmMediaSdkCLib.lib]

void SSMM_Play(ulong nMediaID, double dbSpeed);

[SsmSdkWrapper.dll]

void Play(UInt32 nMediaID, double dbSpeed);

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

dSpeed

[in] A playback speed. (-64, -32, -16, -8, -4, -2, -1, 1, 2, 4, 8, 16, 32, 64)

Return Value

This function has no return value.

Remarks

- It only works when the media stream type is playback.

Example

[C] [SsmMediaSdkCLib.lib]

```
double speed = 2.0;
SsmMediaSdkCLib::SSMM_Play(gMediaID, speed);
```

[C#] [SsmSdkWrapper.dll]

```
double speed = 2.0;
SsmSdkWrapper.Play(mediaId, speed);
```

Pause

Description

It pauses the media stream.

Syntax

```
[SsmMediaSdkCLib.lib]
void SSMM_Pause(ulong nMediaID);

[SsmSdkWrapper.dll]
void Pause(UInt32 nMediaID);
```

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

Return Value

This function has no return value.

Remarks

- It only works when the media stream type is playback.

Example

```
[C] [SsmMediaSdkCLib.lib]
SsmMediaSdkCLib::SSMM_Pause(gMediaID);
```

```
[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.Pause(mediaId);
```

Seek

Description

It moves to a specific time (location) in the media stream.

Syntax

[SsmMediaSdkCLib.lib]

void SSMM_Seek(ulong nMediaID, const char *strTime, bool bTimeDST);

[SsmSdkWrapper.dll]

void Seek(UInt32 nMediaID, String strTime, Boolean bTimeDST);

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

strTime

[in] A time you want to search. The format is "yyyyMMddThhmmss".

For example, if you want to set the start time to 00:00:00 on January 1, 2017, it will be "20170101T000000".

bTimeDST

[in] It is true if strTime is the time at which Daylight Saving Time (DST) was applied; false otherwise.

Return Value

This function has no return value.

Remarks

- It only works when the media stream type is playback

Example

[C] [SsmMediaSdkCLib.lib]

SsmMediaSdkCLib::SSMM_Seek(gMediaID , "20170101T120000", false);

[C#] [SsmSdkWrapper.dll]

SsmSdkWrapper.Seek(mediaId, "20170101T120000", false);

FrameAdvance

Description

It takes the I-Frame.

Syntax

```
[SsmMediaSdkCLib.lib]
void SSMM_FrameAdvance(ulong nMediaID, long nDelta);


[SsmSdkWrapper.dll]
void FrameAdvance(UInt32 nMediaID, long nDelta);
```

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

nDelta

[in] If the value is 1, the next I-Frame is taken. If it is -1, the previous I-Frame is taken.

Return Value

This function has no return value.

Remarks

- It only works when the media stream type is playback.
- It operates only in the Pause state.

Example

```
[C] [SsmMediaSdkCLib.lib]
SsmMediaSdkCLib::SSMM_FrameAdvance(gMediaID, 1)


[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.Seek(mediaId, 1);
```

Audio Control

SetSound

Description

It turns the sound on or off.

Syntax

[SsmMediaSdkCLib.lib]

void SSMM_SetSound(ulong nMediaID, bool bOn)

[SsmSdkWrapper.dll]

void SetSound(UInt32 nMediaID, Boolean bOn);

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

bOn

[in] If it is true, it turns on the audio.

Return Value

This function has no return value.

Example

[C] [SsmMediaSdkCLib.lib]

```
SsmMediaSdkCLib:: SSMM_SetSound(gMediaID , true);
```

[C#] [SsmSdkWrapper.dll]

```
SsmSdkWrapper.SetSound(mediaId, true);
```

SetVolume

Description

It sets the volume of the sound.

Syntax

```
[SsmMediaSdkCLib.lib]
void SSMM_SetVolume(ulong nMediaID, ulong nVolume);

[SsmSdkWrapper.dll]
void SetVolume(UInt32 nMediaID, UInt32 nVolume);
```

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

nVolume

[in] A value of the sound volume (0 to 100)

Return Value

This function has no return value.

Example

```
[C] [SsmMediaSdkCLib.lib]
SsmMediaSdkCLib::SSMM_SetVolume(gMediaID, 100);
```

```
[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.Seek(mediaId, 100);
```

GetVolume

Description

It gets the volume of the currently set sound.

Syntax

```
[SsmMediaSdkCLib.lib]
unsigned long SSMM_GetVolume(ulong nMediaID);


[SsmSdkWrapper.dll]
UInt32 GetVolume(UInt32 nMediaID);
```

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

Return Value

The current sound volume.

If there is no previously set value, the default 50 is returned.

Example

```
[C] [SsmMediaSdkCLib.lib]
SsmMediaSdkCLib::SSMM_GetVolume(gMediaID);
```

```
[C#] [SsmSdkWrapper.dll]
SsmSdkWrapper.GetVolume(mediaId);
```

Snapshot

SaveSnapshot

Description

It saves a snapshot of the current image.

Syntax

[SsmMediaSdkCLib.lib]

void SSMM_SaveSnapshot(const ulong nMediaID, const char *strFileName);

[SsmSdkWrapper.dll]

void UInt32 SaveSnapshot(UInt32 nMediaID, String strFile);

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

strFileName

[in] The full file path, including the file name of the screenshot.

Return Value

This function has no return value.

Remarks

- Images are saved in JPG format.
- If you do not specify a path separately, it is stored in the path of the executable file.

Example

[C] [SsmMediaSdkCLib.lib]

SsmMediaSdkCLib::SSMM_SaveSnapshot(gMediaID , "Snapshot");

[C#] [SsmSdkWrapper.dll]

SsmSdkWrapper.SaveSnapshot(mediaid, "Snapshot");

CHAPTER 5

SsmMediaSdk : Event & Media

This chapter describes the events that indicate status of the SsmMediaSdk or occur when a media stream is received.

Contents

Event

OnEvent

Description

This event is raised when the state of the SsmMediaSdk or the state of the connection with the Wisenet SSM Core Server has changed.

Syntax

```
[SsmMediaSdkCLib.lib]
void OnEvent(unsigned long nEventID);

[SsmSdkWrapper.dll]
void OnEvent(UInt32 nEventID);
```

Parameters

nEventID

[in] An event ID

Event	Value	Description
Connected	0	It occurs when it connected successfully to the SSM core server
ConnectFailed	1	It occurs when a server connection fails due to network problems.
LogInFailed	2	It occurs when the connection fails due to an incorrect username or password.
Disconnected	3	It occurs when the connection to the server is lost.

Example

```
[C] [SsmEventSdkCLib.lib]
#include <Windows.h>
void __stdcall OnEvent(nEventID)
{
        char str[100];
```

```
        sprintf(str, "Event ID: %lu, nEventID);
        OutputDebugString(str);
}

[C#] [SsmSdkWrapper.dll]
public void OnEvent(nEventID)
{
        var sb = new StringBuilder();
        sb.Append("Event ID: " + nEventID);
        sb.Append(System.Environment.NewLine);

        Debug.WriteLine(sb.ToString());
}
```

Media

OnVideo

Description

This event is raised when the video data is received from the Wisenet SSM Core Server with the nMode parameter value of the Initialize function set to 1.

Syntax

```
[SsmMediaSdkCLib.lib]
void OnVideo(
        unsigned long nMediaID,
        unsigned long nCodecType,
        unsigned short nFrameType,
        unsigned short nSequence,
        char *strRecTime,
        unsigned long nUtcTime,
        bool bDST,
        unsigned long nTimeStamp,
        unsigned long nWidth,
        unsigned long nHeight,
        unsigned long nVideoSize,
        BYTE *pVideo);

[SsmSdkWrapper.dll]
void OnVideo(
        UInt32 nCodecType,
        UInt16 nFrameType,
        UInt16 nSequence,
        String strRecTime,
        UInt32 nUtcTime,
        Boolean bDST,
        UInt32 nTimeStamp,
        UInt32 nWidth,
```

```
    UInt32 nHeight,
    UInt32 nVideoSize,
    BYTE* pVideo);
```

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

nCodecType

[in] A video codec type

- UNKNOWN_VIDEO_CODEC(=0)
- H265(=1)
- H264(=2)
- MJPEG(=3)
- MPEG4(=4)
- VP8(=5)

nFrameType

[in] A frame type

- UNKNOWN_VIDEO_FRAME_TYPE(=0)
- I_FRAME(=1)
- P_FRAME(=2)
- B_FRAME(=3)

nSequence

[in] A frame number

strRecTime

[in] A time of frame. The format is "yyyyMMddThhmmss".

For example, if the frame is 00:00:00 on January 1, 2017, it will be "20170101T000000".

nUtcTime

[in] UTC Time

if the frame is 00:00:00 on January 1, 2017, it will be 1483232400

bDST

[in] It is true, if strRecTime is the time at which Daylight Saving Time (DST) was applied; false otherwise.

nTimeStamp

[in] A frame timestamp

nWidth

[in] A width of resolution

nHeight

[in] A height resolution

nVideoSize

[in] A size of video data

pVideo

[out] A video data

Example

```
[C] [SsmEventSdkCLib.lib]
#include <Windows.h>
void __stdcall OnVideo(
        ulong nMediaID,
        ulong nCodecType,
        ushort nFrameType,
        ushort nSequence,
        char *strRecTime,
        bool bDST,
        ulong nTimeStamp,
        ulong nWidth,
        ulong nHeight,
        ulong nVideoSize,
        BYTE *pVideo)
{
        char str[100];
        sprintf(
        str,
        "Media ID: %lu, VideoCodecType: %lu, FrameType: %hu, Sequence: %hu, DST: %d,
        TimeStamp: %lu, Width: %lu, Height: %lu, VideoSize: %lu",
        nMediaID,
        nCodecType,
        nFrameType,
        nSequence,
        strRecTime,
```

```
        bDST,
        nTimeStamp,
        nWidth,
        nHeight,
        nVideoSize);

        OutputDebugString(str);
}
```

[C#] [SsmSdkWrapper.dll]

```
public void OnVideo(UInt32 mediaID,
        UInt32 codecType,
        UInt16 frameType,
        UInt16 sequence,
        String recTime,
        UInt32 utcTime,
        Boolean useDst,
        UInt32 timeStamp,
        UInt32 width,
        UInt32 height,
        UInt32 videoSize,
        byte[] videoData)
{
        String videoLog = DateTime.Now.ToString("hh:mm:ss.fff") + " " + String.Format("Video
MediaID : {0}, CodecType : {1}, FrameType : {2}, Sequence : {3}, RecTime : {4}, UtcTime : {5},
UseDst : {6}, TimeStamp : {7}, Width : {8}, Height : {9}, VideoSize : {10}",
                        mediaID, codecType, frameType, sequence, recTime, utcTime, useDst,
timeStamp, width, height, videoSize);

        System.Diagnostics.Trace.WriteLine(videoLog);
}
```

OnAudio

Description

This event is raised when the audio data is received from the Wisenet SSM Core Server with the nMode parameter value of the Initialize function set to 1.

Syntax

```
[SsmMediaSdkCLib.lib]
void OnAudio(
        unsigned long nMediaID,
        unsigned long nCodecType,
        unsigned long nTimeStamp,
        long nBitPerSample,
        long nBitrate,
        long nChannel,
        long nSampleRate,
        unsigned long nAudioSize,
        BYTE *pAudio);

[SsmSdkWrapper.dll]
void OnAudio(
        UInt32 nCodecType,
        UInt32 nTimeStamp,
        Int32 nBitPerSample,
        Int32 nBitrate,
        Int32 nChannel,
        Int32 nSampleRate,
        UInt32 AudioSize,
        BYTE* pAudio);
```

Parameters

nMediaID

[in] A media ID returned by SSMM_Initialize, only used in C Library.

nCodecType

[in] An audio codec type. Only G711 supported.

- UNKNOWN_AUDIO_CODEC(=0)
- G711_PCMU(=1)
- G711_PCMA(=2)

nTimeStamp

[in] A frame timestamp

nBitPerSample

[in] Bits per sample. (8bit, 16bit 등)

nBitrate

[in] A bitrate

nChannel

[in] An audio channel

- 1: Mono
- 2: Stereo

nSampleRate

[in] A sampling rate

nAudioSize

[in] A size of audio data

pAudio

[in] An audio data

Example

```
[C] [SsmEventSdkCLib.lib]
#include <Windows.h>
void __stdcall OnVideo(
        ulong nMediaID,
        ulong nCodecType,
        ulong nTimeStamp,
        long nBitPerSample,
        long nBitrate,
        long nChannel,
        long nSampleRate,
        ulong nAudioSize,
        BYTE *pAudio)
{
```

```
        char str[100];
        sprintf(
        str,
        "Media ID: %lu, AudioCodecType: %lu, TimeStamp: %lu, BitPerSample: %ld, Bitrate: %ld,
Channel: %ld, SampleRate: %ld, AudioSize: %lu",
        nMediaID,
        nCodecType,
        nTimeStamp,
        nBitPerSample,
        nBitrate,
        nChannel,
        nSampleRate,
        nAudioSize);

        OutputDebugString(str);
}
```

[C#] [SsmSdkWrapper.dll]

```
public void OnAudio(UInt32 mediaID,
        UInt32 codecType,
        UInt32 timeStamp,
        Int32 bitPerSample,
        Int32 bitrate,
        Int32 channel,
        Int32 sampleRate,
        UInt32 audioSize,
        byte[] audioData)
{
        String audioLog = DateTime.Now.ToString("hh:mm:ss.fff") + " " + String.Format("Audio
MediaID : {0}, CodecType : {1}, TimeStamp : {2}, BitPerSample : {3}, Bitrate : {4}, Channel : {5},
SampleRate : {6}, audioSize : {7}", mediaID, codecType, timeStamp, bitPerSample, bitrate,
channel, sampleRate, audioSize);

        System.Diagnostics.Trace.WriteLine(audioLog);
}
```

APPENDIX A
DEP Troubleshooting Methods

The data execution prevention (DEP) aims to guarantee safe use of the system memory by monitoring a program. It is the security function of your window that can prevent your computer from being damaged by viruses or other security threats. Due to the DEP function setting, your SDK program may not function properly. In this case, you can disable DEP in the development environment as follows.

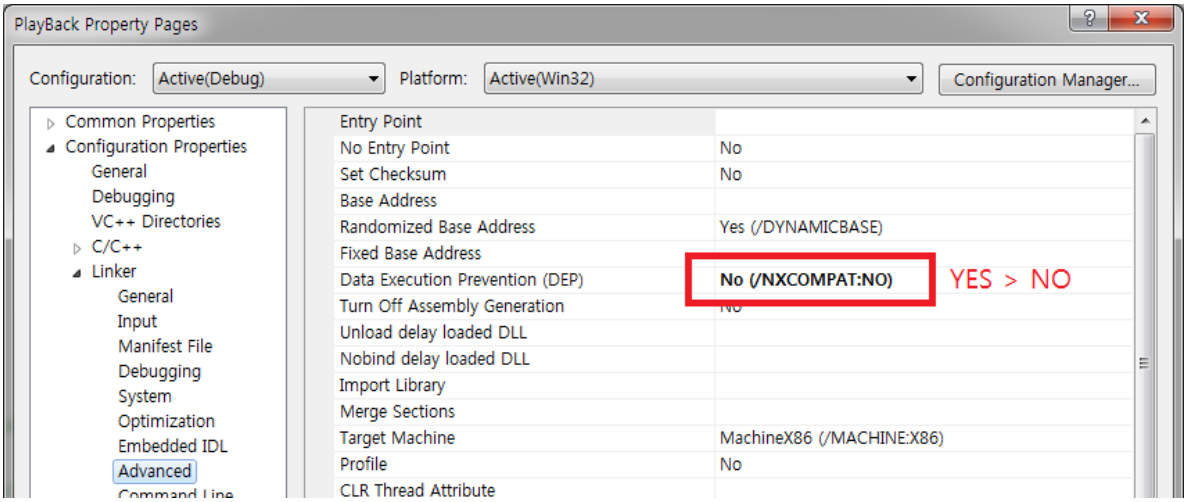
C ++ project settings

Procedures

Step 1. After selecting the project in [Solution Explorer], right-click and select [Properties] menu.

Step 2. Select [**Configuration Propertes**] > [Linker] > [**Advanced**] menu.

Step 3. If the Data Execution Prevention (DEP) item is set to YES in the [Advanced] menu, change it to NO



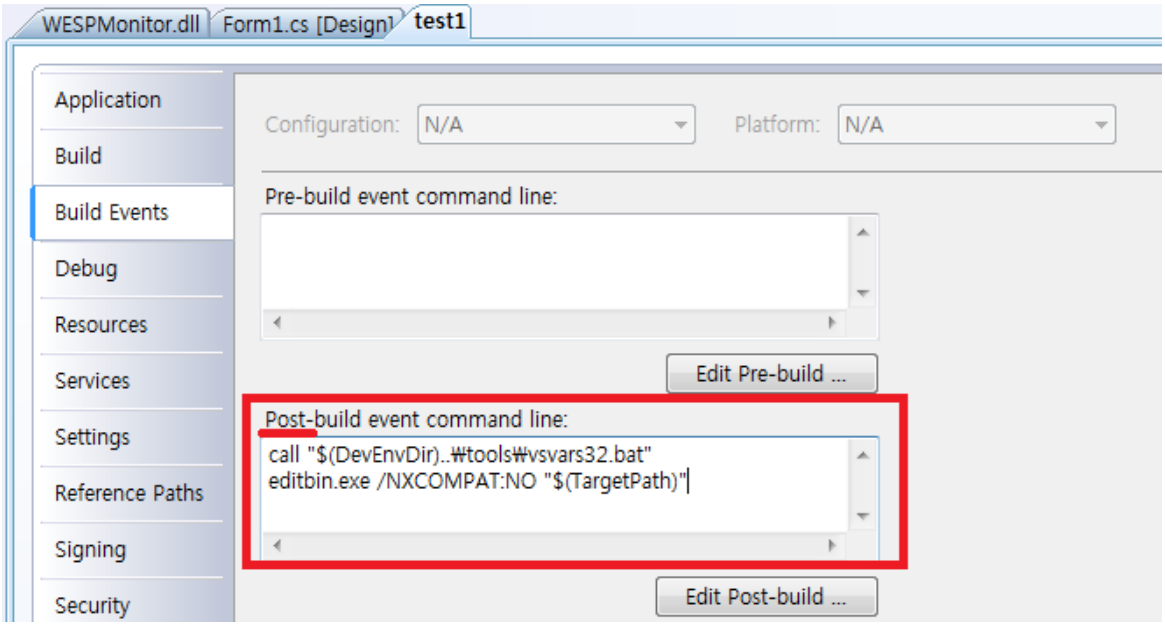
C# Project settings

Procedures

Step 4. After selecting the project in [Solution Explorer], right-click and select [Properties] menu.

Step 5. Select the [Build Events] tab and enter the following command.

```
call "$(DevEnvDir)..₩tools₩vsvars32.bat"
editbin.exe /NXCOMPAT:NO "$(TargetPath)"
```



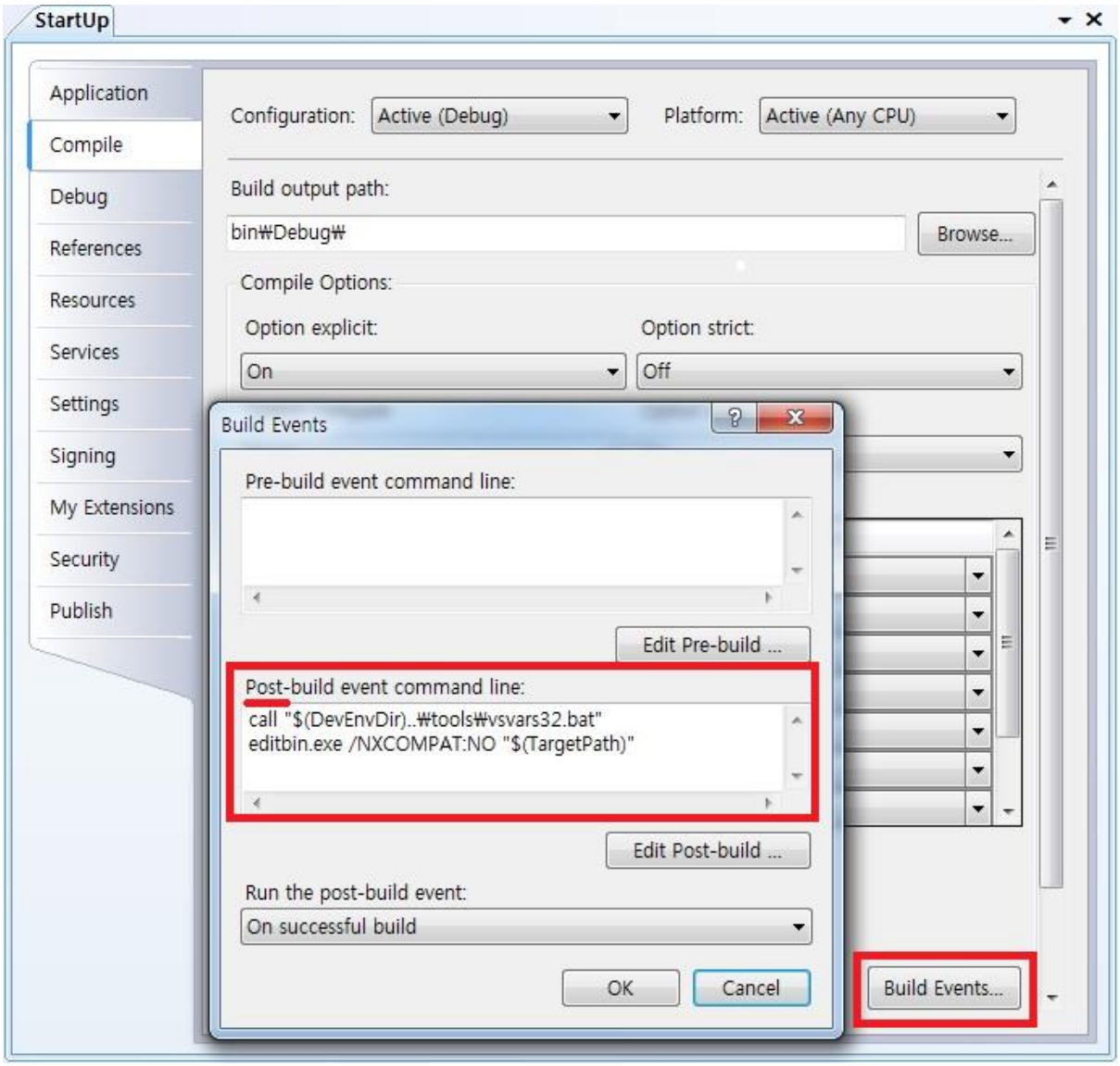
Visual Basic Project settings

Procedures

Step 6. After selecting the project in [Solution Explorer], right-click and select [Properties] menu.

Step 7. After selecting [**Compile**] tab, click the [Build Events] button and enter the following command.

```
call "$(DevEnvDir)..₩tools₩vsvars32.bat"
editbin.exe /NXCOMPAT:NO "$(TargetPath)"
```


StartUp
Application
Compile
Debug
References
Resources
Services
Settings
Signing
My Extensions
Security
Publish
Configuration: Active (Debug)
Platform: Active (Any CPU)
Build output path:
bin₩Debug₩
Browse...
Compile Options:
Option explicit:
On
Option strict:
Off
Build Events
Pre-build event command line:
Edit Pre-build ...
Post-build event command line:
call "$(DevEnvDir)..₩tools₩vsvars32.bat"
editbin.exe /NXCOMPAT:NO "$(TargetPath)"
Edit Post-build ...
Run the post-build event:
On successful build
OK
Cancel
Build Events...

APPENDIX B
Error Code

This chapter describes the error codes returned by the SsmEventSdk & SsmMediaSdk library.

Code	Value	Description
NOERR	0	
NOTIFING_PROCRESS	16	
WAITING_RESPONSE	17	
RES_VIDEO_DISCONNECT	18	
RES_VIDEO_DISABLE	19	
RES_VIDEO_COVERT	20	
RES_VIDEO_LOSS	21	
RES_VIDEO_ALREADY_OPENED	22	
RES_VIDEO_ALREADY_CLOSED	23	
RES_NO_UPDATE ,	24	
RES_CANCEL	25	
RES_ON,	26	
RES_OFF	27	
RES_NO_,	28	
RES_REDIRECT_REAL_CAMERA	29	
RES_ALREADY_MEDIA_OPEND	30,	
ERR_NO_OBJECT,	256	
ERR_DUPLICATE_OBJECT ,	257	
ERR_NOT_SUPPORT ,	258	
ERR_NO_REQUESTOR	259	
ERR_INVALID_MANTYPE	260	
ERR_DISCONNECTED	512	
ERR_NOTCONNECT	513	
ERR_NETWORK	514	
ERR_NO_HEARTBEAT	515	
ERR_AUTHORITY	516	
ERR_BANNED	517	
ERR_ADDRESS_CONFLICTED	518	
ERR_MAC_CONFLICTED	519	
ERR_INVALID_MAC	520	
ERR_ADDRESS_CONFLICTED_IN_NETWORK	521	

ERR_FEDERATION	950	
ERR_FEDERATION_ALREADY_FEDERATED	951	
ERR_FEDERATION_JOB_CREATION_FAILED	952	
ERR_FEDERATION_JOB_DUPLICATE	953	
ERR_FEDERATION_JOB_MODIFICATION_FAILED	954	
ERR_FEDERATION_DATA_PARSING_ERROR	955	
ERR_FEDERATION_SYNC_FAILED	956	
ERR_FEDERATION_SYNC_JOB_RUNNING	957	
ERR_FEDERATION_JOB_DELETION_FAILED	958	
ERR_FEDERATION_JOB_FETCH_FAILED	959	
ERR_FEDERATION_NO_SITE_INFO_AVAILABLE	960	
ERR_FEDERATION_INVALID_SYNC_RESPONSE	961	
ERR_FEDERATION_DATA_SAVE_FAILED	962	
ERR_FEDERATION_ADD_SITE_FAILED	963	
ERR_FEDERATION_UPDATE_SITE_FAILED	964	
ERR_FEDERATION_DELETE_SITE_FAILED	965	
ERR_FEDERATION_CYCLIC_DEPENDENCY,	966	
ERR_FEDERATION_DUPLICATE_SITE,	967	
ERR_FEDERATION_NOT_DIRECTLY_FEDERATED,	968	
ERR_FEDERATION_CURRENT_SYSTEM_IP,	969	
ERR_FEDERATION_SYNC_JOB_ALREADY_ENABLED,	970	
ERR_FEDERATION_SYNC_JOB_ALREADY_PAUSED,	971	
ERR_FEDERATION_ADDCONSUMER_FAILED	972	
ERR_FEDERATION_SYNC_JOB_IN_PROGRESS	973	
ERR_FEDERATION_INVALID_FEDERATED_SITE_RESPONSE	974	
ERR_FEDERATION_SYSTEM_OID_UPDATED_FAILED	975	
ERR_FEDERATION_CONNECTION_HOST_FAIL	976	
ERR_FEDERATION_EVENT_CONFIG_FAIL	977	
ERR_FEDERATION_INVALID_CHILD_UPADTE	978	
ERR_FEDERATION_JOB_ADDITION_FAILED	979	

ERR_FEDERATION_SITE_ID_DIFFERENT	980	
ERR_FEDERATION_INFO_MODIFIED	981	
RES_TRANSCODER_EXCEED_USAGE	982	
ERR_TRANSCODER_DISABLE	983	
ERR_PANORAMA_EMPTY	984	
ERR_PANORAMA_INVALID_MAP	985	
ERR_PANORAMA_FRAME_NOT_READY	986	
ERR_PANORAMA_FAIL	987	
ERR_ASPECT_RATIO_ABNORMAL	988	
ERR_PWD	989	
RES_TRANSCODER_NOT_SUPPORT_UPSCALE	990	
ERR_INVALID_SSL_CERTIFICATION	991	
ERR_OTSB_FORCE_STOP	992	
ERR_FAIL_CERTIFICATION_DOWNLOAD	993	
ERR_ADDITIONAL_PASSWORD_REQUIRED	994	
ERR_CODEC_CHANGED	995	
ERR_RAID_MODE_DISABLE	996	
ERR_RAID_MODE_ENABLE	997	
ERR_RAID_SETUP_CHANGE	998	
ERR_EXCESS_REGISTRABLE_CHANNEL	999	
ERR_CLUSTERING	1000	
ERR_CLUSTERING_HAS_NO_MEMBERS	1001	
ERR_CLUSTERING_DELETE_ITSELF	1002	
ERR_CLUSTERING_DELETE_NOT_MEMBER	1003	
ERR_SEND_PACKET	1024	
ERR_RECV_PACKET	1025	
ERR_INVALID_SESSION	1026	
ERR_INVALID_PACKET_LENGTH	1027	
ERR_INVALID_HEADER	1028	
ERR_INVALID_DATA	1029	
ERR_INVALID_FORMAT	1030	
ERR_INVALID_PARAMETER	1031	
ERR_INVALID_RESPONSE	1032	
ERR_INVALID_REQUEST	1033	
ERR_INVALID_RANGE	1034	
ERR_INVALID_CRC_HEADER	1035	
ERR_INVALID_CRC_DATA	1036	
ERR_INVALID_OBJECT	1037	
ERR_NO_RESPONSE	1038	
ERR_PEND_REQUEST	1039	
ERR_PEND_RESPONSE	1040	

ERR_ADDRESS	1041	
ERR_MAC_ADDRESS	1042	
ERR_UPLOAD_FILESIZE	1043	
ERR_UPLOAD_DEVICE_FAIL	1044	
ERR_UPLOAD_ING	1045	
ERR_MEDIA_OPEN_FAILED	1046	
ERR_MEDIA_CLOSE_FAILED	1047	
ERR_MEDIA_AUTHORITY	1048	
ERR_MEDIA_USER_FULL	1049	
ERR_UNSUPPORTED_MEDIA_TYPE	1050	
ERR_NOT_ALLOWED	1051	
ERR_SUCCESS_ALREADY	1052	
ERR_DEVICE_MODEL_MISMATCH	1053	
ERR_DEVICE_NOT_SUPPORTED	1054	
ERR_VERSION_NOT_SUPPORTED	1055	
ERR_UPLOAD	1056	
ERR_IMPORT	1057	
ERR_EXPORT	1058	
ERR_FILEOPEN	1059	
ERR_INVALID_FILE	1060	
ERR_INVALID_VERSION	1061	
ERR_NO_OLDEST_FILE	1062	
ERR_DISK_FULL	1063	
ERR_CREATE_DIRECTORY	1064	
ERR_CREATE_FILE	1065	
ERR_BEYOND_FILE_START	1066	
ERR_BEYOND_FILE_END	1067	
ERR_FILE_ERROR	1068	
ERR_NO_FILE_END	1069	
ERR_TRUE	1070	
ERR_FALSE	1071	
ERR_NO_FILE	1072	
ERR_FILE_NOT_FOUND	1073	
ERR_PTZ_NOT_SUPPORTED	1074	
ERR_PTZ_ACCESS_CONFLICTED	1075	
ERR_PTZ_ACCESS_CONFLICTED2	1076	
ERR_SYSTEM	1077	
ERR_REMOVE_DEVICE_FAILED	1078	
ERR_DISCONNECT_DEVICE_FAILED	1079	
ERR_CAMERA_ACTIVATE	1080	
ERR_DDNS_NO_CHANGE	1081	
ERR_DDNS_NO_AUTHORITY	1082	

ERR_DDNS_BANNED	1083	
ERR_BACKUP_FAIL	1084	
ERR_BACKUP_NOT_ENOUGH_SPACE	1085	
ERR_SEARCH_TOKEN_ALREADY_EXIST	1086	
ERR_SEARCH_TOKEN_FAILED	1087	
ERR_IV_NOT_SUPPORTED_FUNCTION	1088	
ERR_IV_NOT_ACTIVATED	1089	
ERR_IV_NOT_SUPPORTED_RESOLUTION	1090	
ERR_MGMT	1091	
ERR_INVALID_PORT_NUMBER	1092	
ERR_MEDIA_LIMIT_FULL_PER_DEVICE	1093	
ERR_SYSTEM_MEMORY_FULL	1094	
ERR_MGMT_UNAUTHORIZED	1095	
ERR_MGMT_NOT_ASSIGNED	1096	
ERR_RECORD_DISK_TOTAL_CHANNEL_EXCESS	1097	
ERR_BOOKMARK_FULL	1098	
ERR_LOGIN_ID	4096	
ERR_LOGIN_PW	4097	
ERR_LOGIN_USER_FULL	4098	
ERR_LOGIN_USER_CONFLICT	4099	
ERR_LOGOUT_BY_ADMIN	4100	
ERR_LOGIN_CANCEL	4101	
ERR_LOGIN_LOCK	4112	
ERR_LOGIN_DO_PWDCHANGE	4113	
ERR_VERSION_INCOMPATIBLE	4114	
ERR_VIDEO_SIZE_LIMIT_OVER	4115	
ERR_DDNS	4116	
ERR_BACKUP_USER_FULL	4117	
ERR_BANDWIDTH_LIMIT_FULL	4118	
ERR_IMPORT_FROM_OTHER_SM	4119	
ERR_XNS_EXECUTE_EXCEPTION	4120	
ERR_SYSTEM_SHUTDOWN	4121	
ERR_REBOOT_MANUALLY	4122	
ERR_REBOOT_UPGRADE	4123	
RES_FIRST_LOGIN	4124	
ERR_ALREADY_ANOTHER_SM_ASSIGN	4125	
ERR_PTZ_NOT_READY	4126	
ERR_CHANGE_LOGIN_INFO	4127	
ERR_INITIALIZE	4128	
ERR_TALK_ALREADY_USE	4129	
ERR_NAME_DUPLICATED	4130	

ERR_LOGIN_TIME_MISMATCH	4131	
ERR_LOGIN_NOT_ALLOWED	4132	
ERR_SETTING_NOT_YET_COMPLETED	4133	
ERR_ALREADY_REGISTERED	4134	
ERR_INVALID_LICENSE	4135	
ERR_DUPLICATE_SHORTCUT	4136	
ERR_TRANSACTION_SERVER	4137	
ERR_LICENSE_CHANGE	4138	
ERR_LOGOUT_SW_UPGRADE_PROGRESS	4139	
ERR_LOGIN	4140	
ERR_LOGIN_NOTSUPPORT_PROTOCOL	4141	
ERR_EXCEED_MAX_MEDIA_COUNT	4142	
ERR_SERVER_TIMEOUT	4143	
ERR_LICENSE_DEACTIVATE	4144	
ERR_MGMT_SERVER_DISCONNECT	4145	
ERR_VMD_PRECONDITION	10000	
ERR_FAIL	10001	
ERR_UNKNOWN	65535	

APPENDIX C
UTC Time

This chapter describes UTC Time.

As UTC(Coordinated Universal Time) is a high-precision atomic time standard, the computer server provides a neutral time for the time zone through UTC time.

The world time zone is represented by a positive or negative offset in UTC as shown below.

Time Zone	Locations
UTC−12:00	Baker Island, Howland Island (both uninhabited)
UTC−11:00	Samoa, American Samoa
UTC−10:00	Hawaii, Papeete
UTC−09:30	Marquesas Islands
UTC−09:00	Anchorage, Fairbanks, Juneau
UTC−08:00	Vancouver, Washington (state), Portland, Las Vegas, California, Baja California
UTC−07:00	Alberta, Colorado, Arizona, Chihuahua, Sonora
UTC−06:00	Chicago, Costa Rica, Dallas, El Salvador, Guatemala, Honduras, Houston, Manitoba, Mexico City, Nicaragua, Saskatchewan
UTC−05:00	Ottawa, Toronto, Montreal, Boston, New York, North Carolina, Washington D.C., Georgia, Miami, Cuba, Jamaica, Haiti, Panama, Colombia, Continental Ecuador, Peru
UTC-04:30	Venezuela
UTC−04:00	Nova Scotia, Dominican Republic, Puerto Rico, Trinidad and Tobago, Amazonas, Bolivia, Continental Chile, Paraguay, San Luis Province
UTC−03:30	Newfoundland
UTC−03:00	Rio de Janeiro, São Paulo, Argentina (except San Luis Province), Uruguay, Nuuk
UTC−02:00	Fernando de Noronha, South Georgia and the South Sandwich Islands
UTC−01:00	Azores, Cape Verde
UTC	Iceland, Faroe Islands, United Kingdom, Ireland, Continental Portugal,

	Madeira, Morocco, Senegal, Ghana, Côte d'Ivoire
UTC+01:00	Albania, Slovenia, Macedonia, Norway, Sweden, Denmark, Germany, the Netherlands, Belgium, Metropolitan France, Switzerland, Austria, Poland, Czech Republic, Slovakia, Hungary, Continental Spain, Italy, Croatia, Serbia, Kosovo, Bosnia and Herzegovina, Tunisia, Algeria, Nigeria, Cameroon, Angola, Kinshasa
UTC+02:00	Finland, Lithuania, Latvia, Estonia, Belarus, Ukraine, Romania, Bulgaria, Greece, Turkey, Cyprus, Syria, Lebanon, Jordan, Palestine, Israel, Egypt, Libya, Mozambique, Malawi, Zambia, Zimbabwe, South Africa
UTC+03:00	Samara, Iraq, Saudi Arabia, Yemen, Sudan, Ethiopia, Somalia, Kenya, Uganda, Tanzania, Madagascar
UTC+03:30	Iran
UTC+04:00	Georgia, Armenia, Azerbaijan, United Arab Emirates, Oman, Seychelles, Mauritius, Moscow, Saint Petersburg
UTC+04:30	Afghanistan
UTC+05:00	Sverdlovsk, Uzbekistan, Pakistan, Maldives, Kazakhstan
UTC+05:30	India, Sri Lanka
UTC+05:45	Nepal
UTC+06:00	Novosibirsk, Almaty, Bangladesh
UTC+06:30	Myanmar, Cocos Islands
UTC+07:00	Krasnoyarsk, Thailand, Vietnam, Jakarta
UTC+08:00	Irkutsk, Ulan Bator, China, Taiwan, Hong Kong, Philippines, Malaysia, Singapore, Western Australia
UTC+09:00	Zabaykalsky, Japan, North Korea, South Korea, East Timor
UTC+09:30	Northern Territory, South Australia
UTC+10:00	Victoria, Tasmania, Queensland, New South Wales, Primorsky
UTC+10:30	Lord Howe Island
UTC+11:00	Kamchatka, Solomon Islands, New Caledonia
UTC+11:30	Norfolk Island
UTC+12:00	Fiji, New Zealand
UTC+12:45	Chatham Islands
UTC+13:00	Tonga
UTC+14:00	Line Islands

Terms

W

Wisenet SSM Core Server

It is server software of Wisenet SSM which manages data and user accounts, and saves camera video.

Abbreviations

D

DLL

Dynamic Linking Library

DVR

Digital Video Recorder

N

NVR

Network Video Recorder

O

OCX

Object Linking and Embedding(OLE) Custom Control

P

PTZ

Pan/Tilt/Zoom

S

SDK

Software Development Kit

SSM

Smart Security Manager

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•• FFmpeg(1991, 1999 Free Software Foundation, Inc.)

Version 2.1, February 1999

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