

Secure Update API - ReadMe

This readme file contains information about the Secure Update API functions for developers who want to provide customized remote activation options—other than the Secure Update wizard for Windows or the Secure Update utility—to their customers and distributors.

About the Secure Update Library

The Secure Update Library consists of two APIs defined in the *SecureUpdate.h* header file. The header file and library are available at the following path:

- On Windows: *<installdir>\Secure Update \Secure Update utility \INTF*
- On Linux: */opt/safenet_sentinel/sentinel_keys/<version>/secure_update/SecureUpdateUtility*
- On Macintosh: */Applications/Safenet Sentinel/Sentinel Keys/<version>/Secure Update/SecureUpdateUtility*

Note: For Windows x64 platforms, the *SecureUpdate.dll* is provided at *<installdir>\Secure Update\Secure Update Utility\X64 Library*.

SFNTGenerateRequestCode

This function generates the request code for a license/hardware key. The function searches for the hardware key and identifies its developer ID and license ID. The caller needs to allocate sufficient buffer to hold the request code.

If the allocated bufferSize is not sufficient for request code, it treats the bufferSize as OUT parameter and returns the error code SP_ERR_INSUFFICIENT_REQ_CODE_BUFFER.

Format

```
SP_STATUS SFNTGenerateRequestCode (
    SP_DWORD                DevID,
    SP_DWORD                LicenseID,
    SPP_BYTE                requestBuffer,
    SPP_DWORD               bufferSize );
```

Parameter

Name	Direction	Data Type	Description
<i>DevID</i>	IN	SP_DWORD	Developer ID of the key for which request code is required.
<i>LicenseID</i>	IN	SP_DWORD	License Id for which request code is required.
<i>requestBuffer</i>	OUT	SPP_BYTE	Pointer to the buffer for Request Code.
<i>bufferSize</i>	IN/OUT	SPP_DWORD	Size of the buffer allocated. Returns the actual size of the data.

Return Code

On success returns SP_SUCCESS, else an error code defined on the error code summary page 5.

Comments

- If the *LicenseID* and *DevID* parameters are nonzero, then the request code is generated for a given license.
- If the *LicenseID* and *DevID* parameters are zero, then the request code is generated for the first key attached.

SFNTApplyUpdateCode

This API function takes the update code (.upw, generated from Toolkit/Key Programming APIs) or the new license addition file (.nlf, generated from Toolkit) as input and updates the Sentinel Key. Following are the various ways to generate the update code:

1. **Using Toolkit:** Using the Toolkit, an update code (.upw), and a new license addition (.nlf) file can be generated for the following:
 - **License/Feature Update:** The License/Feature update code can be generated using the Update Manager of the Toolkit, in the following ways:
 - **Unidirectional Update:** Updates the hardware Keys for which no request code was generated. It is a one-to-one/one-to-many update, that targets single/multiple Sentinel Hardware Key(s) present in the field.
 - **Bidirectional Update:** Updates the hardware Keys for which a request code was generated. It is a two-way update that targets a single Sentinel Hardware Key present in the field.
 - **Sentinel Key Update:** The bidirectional approach is used for generating Sentinel Key specific updates.
 - **Distributor Key Update:** The bidirectional approach is used for generating Distributor Key specific updates.
 - **New License Addition Update:** New license(s) can be added to the Sentinel Hardware Key by applying the license addition (.nlf) file, generated using the Export Wizard of Toolkit. The license addition (.nlf) file can be generated using the Update Manager of the Toolkit, in the following modes:
 - **Unidirectional New License Addition:** Updates the hardware Keys for which no request code was generated. It is a one-to-one way update, that targets single or multiple Sentinel Hardware Key(s) present in the field.
 - **Bidirectional New License Addition:** Updates the hardware Keys for which a request code was generated. It is a two-way update that targets a single Sentinel Hardware Key present in the field.
2. **Using Key Programming API:**
 - **License/Feature Update:** The *SFNTApplyUpdateCode* API function also applies the update packet codes created using the Key Programming API function, *SFNTCreateUpdatePacket*. These update packets enable you to update the Sentinel Key in field, for various license feature(s).
 - **Sentinel Key Update:** The *SFNTApplyUpdateCode* API function also applies the update packet codes created using the Key Programming API function, *SFNTCreateUpdatePacket*, for updating the Sentinel Key in field.

Format

```
SP_STATUS  SFNTApplyUpdateCode (
    SPP_BYTE                                     updateCode,
    SP_DWORD                                     size );
```

Parameters

Name	Direction	Data Type	Description
<i>updateCode</i>	IN	SPP_BYTE	Pointer to the update code.
<i>size</i>	IN	SP_DWORD	Size of update code.

Return Code

On success, returns SP_SUCCESS, else returns an error code defined in the error code summary page 5.

Error Codes Summary

The following section contains a list of recoverable error codes.

Error Code (Decimal)	Description
0	SP_SUCCESS Success.
501	SP_ERR_KEY_NOT_FOUND The Valid hardware key not found. The Update Code is not meant for this key.
502	SP_ERR_ILLEGAL_UPDATE One or more commands could not be performed.
503	SP_ERR_DLL_LOAD_ERROR The Secure Update library not found, which is: <ul style="list-style-type: none"> ❑ <i>SecureUpdate.DLL</i> for Windows ❑ <i>libSecureUpdate32.so</i> for Linux ❑ <i>libSecureUpdate32.dylib</i> for Macintosh
504	SP_ERR_NO_CONFIG_FILE Update wizard not able to locate the configuration file.
505	SP_ERR_INVALID_CONFIG_FILE Not a valid Configuration file.
506	SP_ERR_UPDATE_WIZARD_NOT_FOUND Could not find UpdateWizard.exe.
507	SP_ERR_UPDATE_WIZARD_SPAWN_ERROR There was an error in spawning the Update Wizard.
508	SP_ERR_EXCEPTION_ERROR An exception error occurred within the Update Wizard.
509	SP_ERR_INVALID_CLIENT_LIB Not a valid Secure Update DLL.
510	SP_ERR_CABINET_DLL The <i>CABINET.DLL</i> is not found on target system.
511	SP_ERR_INSUFFICIENT_REQ_CODE_BUFFER The size of the request buffer is not sufficient to hold the request code.
512	SP_ERR_UPDATE_WIZARD_USER_CANCELLED The application was canceled when the try/buy option is shown. Applicable only to applications that use Sentinel Update Wizard and are protected using Shell.
513	SP_ERR_INVALID_DLL_VERSION The Secure Update DLL version is invalid.
514	SP_ERR_INVALID_FILE_TYPE The type of the file is invalid. File types can be <i>.upw</i> or <i>.nlf</i> .
212	SP_ERR_COMMUNICATIONS_ERROR Unable to communicate with the Sentinel Key. Make sure of the following: <ul style="list-style-type: none"> ❑ The Sentinel System Driver is installed and running. ❑ The client and the Sentinel Keys Server use the same protocol. ❑ The Sentinel Key is attached properly. ❑ There is no network-related problem (for example, network congestion or break-down).

Error Code (Decimal)	Description
226	SP_ERR_UNIT_NOT_FOUND The specified Sentinel Key is not found.
/* Common error codes for Secure Update and Key Programming Library*/	
230	SP_ERR_DUPLICATE_LIC_ID The License ID you specified, already exists.
231	SP_ERR_DECRYPTION_FAILED The decryption process failed.
232	SP_ERR_BAD_CHKSUM The checksum value not matching.
233	SP_ERR_BAD_LICENSE_IMAGE The license image is corrupt.
234	SP_ERR_INSUFFICIENT_MEMORY Insufficient memory in key to load a license.

Getting Help

If you have questions, need additional assistance, or encounter a problem, please contact our Technical Support using the options provided below:

Technical Support Contact Information

Customer Connection Center (C ³)	
http://c3.safenet-inc.com Online support system to get quick answers for your queries. It also provides you direct access to SafeNet knowledge base.	
Sentinel Integration Center (C3)	
http://www.safenet-inc.com/support/liclogin.asp Provides the information you need to successfully integrate Sentinel products with your solutions.	
Americas	
Internet	http://www.safenet-inc.com/support/index.asp
E-mail	support@safenet-inc.com
United States	
Telephone	(800) 545-6608, (410) 931-7520
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