

Quick Start Guide

Software Protection and Licensing with Virbox Cloud Lock

Version 2.0





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The specifications contained in this document are subject to change without notice.

Documentation Improvement

Any suggestion to this manual from you are welcome, We are glad to hear any feedback from you which will help us to continuously improve the documents quality and support and serve the developer to protect software products more efficiently.

Contact

Company: Beijing SenseShield Technology Co., Ltd

Address: Suite 510, Block C, Internet Innovation Center, Building 5, No.10, Xibeiwang East Road, Haidian District, Beijing China

Tel.: +86-10-56730936

Fax: +86-10-56730936-8007

Sales: info@senselock.com;

Website: <https://lm-global.virbox.com/>

About this document

This document is designed to help Software developer to quickly start to use **Virbox Protector** and **Virbox Developer Center** to protect software and issue cloud license to software user. And describes the operation process step by step for how to sign up in Virbox Developer Center (Virbox LM), how to protect software by use of Virbox Protector and issue the license to software user.

Target User: R & D or Operation staff of software developer who is responsible to protect software and license issuing;

Requirement & Environment:

- Software developer has installed "**Virbox Protector**" in computer; 
- Software developer has already sign up on **Virbox Developer Center**; 
- Software developer has been upgraded to standard developer in **Virbox Developer Center**; 

Objective: Software developer will have basic skill to use Virbox Protector to protect software application and issue a license to Cloud Lock that can be used by Software User;

For Software Protection and Licensing with Virbox EL5 Acme, please refer to:

Quick Start Guide:

 [Software Protection and Licensing with Virbox EL5 Acme;](#)

For Software Protection and Licensing with Virbox EL5 Acme (Network Mode), please refer to:

Quick Start Guide:

 [Software Protection and Licensing with Virbox EL5 Acme \(Network Mode\);](#)

For Software Protection and Licensing with Soft license by use of Virbox Protector and Virbox Developer Center (Virbox LM), please refer to:

Quick Start Guide:

 [Software Protection and Licensing with Virbox Soft Lock \(Online\);](#)

Quick Start Guide:

 [Software Protection and Licensing with Virbox Soft Lock \(Offline\);](#)

For Software Developer who use Unity 3D to develop Gaming software or other software applications, please refer a series of documentation of Unity 3D Quick Start Guide separately.

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1. General Introduction

Virbox Cloud License (Cloud Lock) is a software product that based on Virbox LM “**account**”, Software Developer can sign up on Virbox LM to be a Standard Software developer then can start software protection and issue cloud License to selected software users.

The Virbox LM link is: <https://developer.lm-global.virbox.com/home.jsp>

Virbox LM is Cloud based Software protection, License Entitlement Solution and cloud service which provides to software developer with lowest total cost ownership, Top Security of Software Copyright Protection and Easy to use in whole software life cycle. By use of Virbox Cloud, Developers can achieve extremely protection to software copyright and IP and flexible to issue license to software user with minimal effort and investment.

Virbox LM License Type supports: hardware lock (Elite 5 Acme), Soft Lock (Soft license) & Cloud Lock (Cloud license) and suitable to deploy in different Software implementation scenario, on line, offline, firewall isolated environment etc. Virbox provides flexible license mode to support ISV/software developer Software monetization which includes: Perpetual, trial, time based, feature on demand, subscription, concurrent, etc.

Tips: Cloud license (cloud lock), is the license type which hardware independently, with low cost, real-time licensing, flexible distribution feature, help to do software sales promotion, batch License management.

Installation and working Environment:

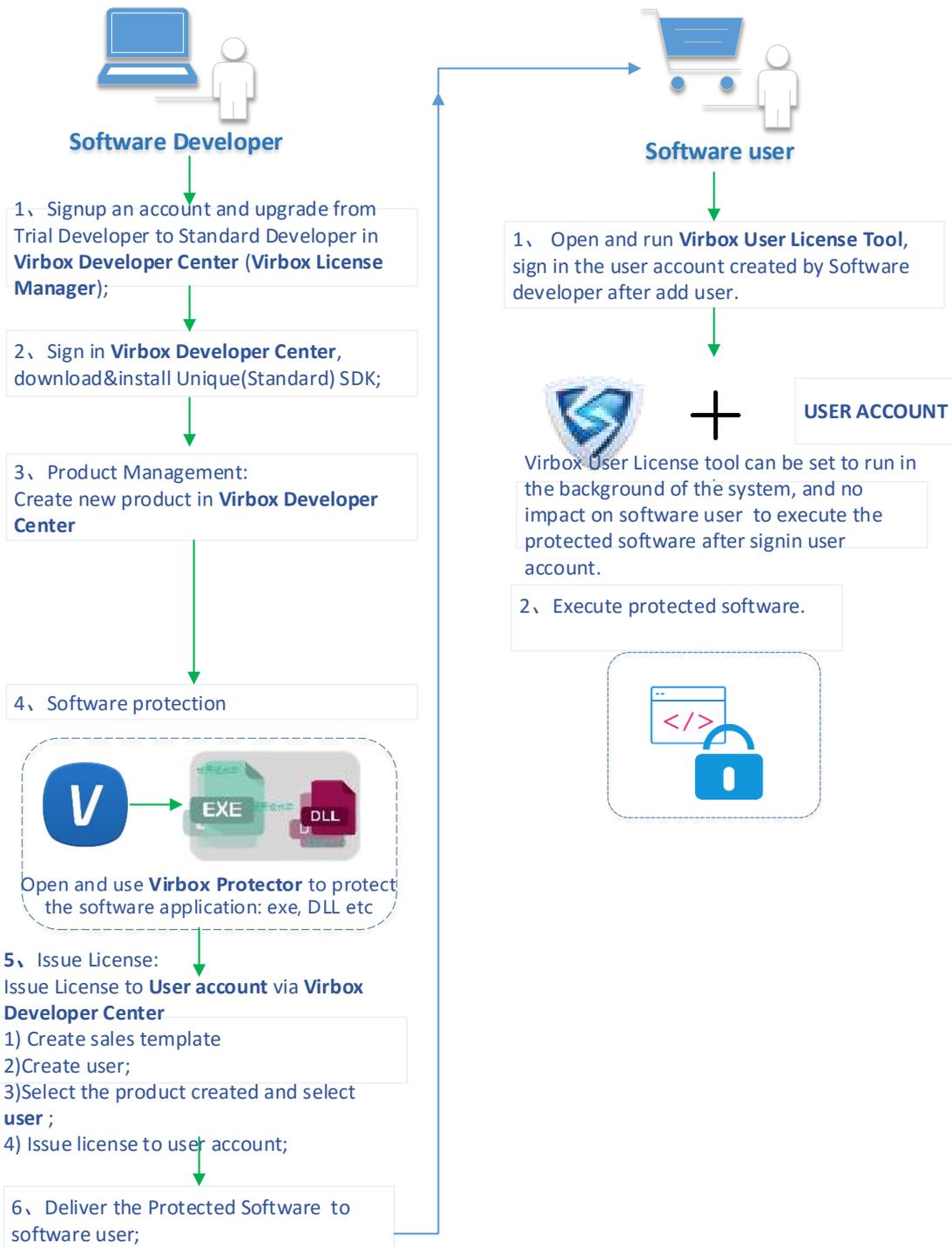
Windows: Support Windows XP sp3 and above version;

Linux OS: Support Debian, Ubuntu, CentOS, Fedora, OpenSUSE, Ubuntu Kylin OS

Mac OS: Support MAC OX10.9 and above version

The Procedure to Software Protection/Encryption, Licensing and deliver to the user are shown as blow.

Evaluation- Protect&Licensing Process: Cloud Lock



Note:

Use Account is the software user' s Mailbox, not the account the Software Developer use to sign in the Virbox Developer Center.

Virbox LM link: <https://developer.lm-global.virbox.com/>

2. Virbox Developer Center (Virbox LM)

2.1 Virbox SDK Introduction

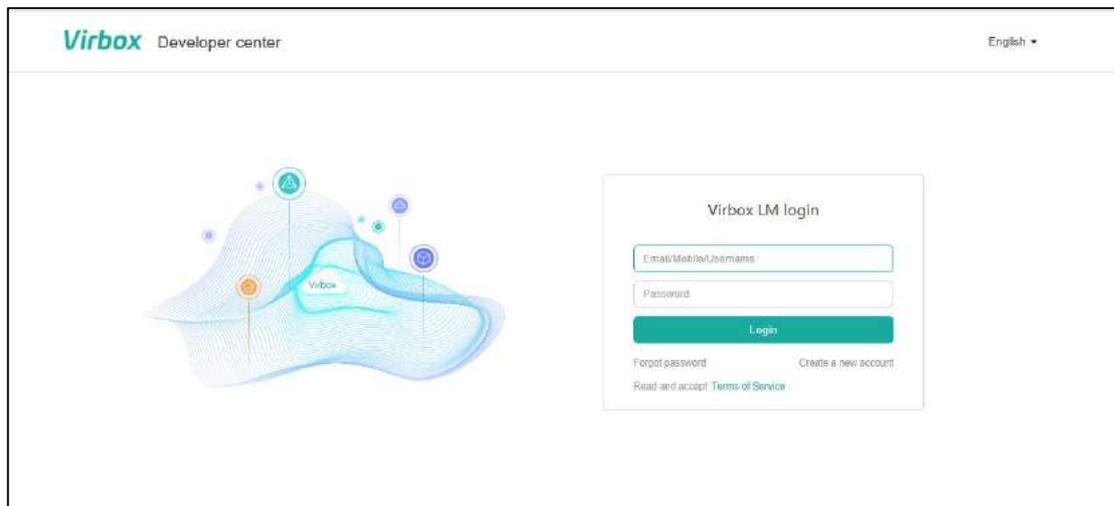
Why Software Developer Need to sign up a developer account in Virbox Developer Center (Virbox LM)?

- When you are Protecting the software, you need install SDK(Software Development Kit)
Virbox LM use Unique SDK to protect Software application; before using the hardware lock to protect your software, Developer need to sign up on Virbox LM and upgrade to be Standard Developer, then download the dedicated SDK for each Standard Developer.
- The only way for Software Developer to obtain unique and tailor made SDK is signup in the Virbox Developer Center and download SDK;
- Virbox Developer Center Signup and sign in link:

Signup link: <https://developer.lm-global.virbox.com/reg.html>

Login link: <https://developer.lm-global.virbox.com/login.jsp>

The Virbox Developer Center will show as blow:

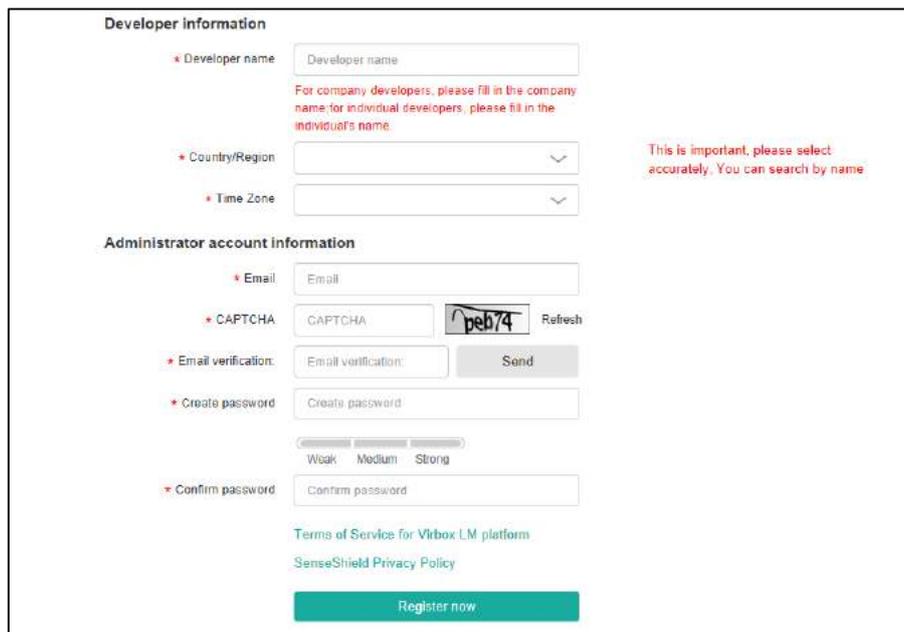


If you do not have an account, you need to sign up in **Virbox Developer Center**.

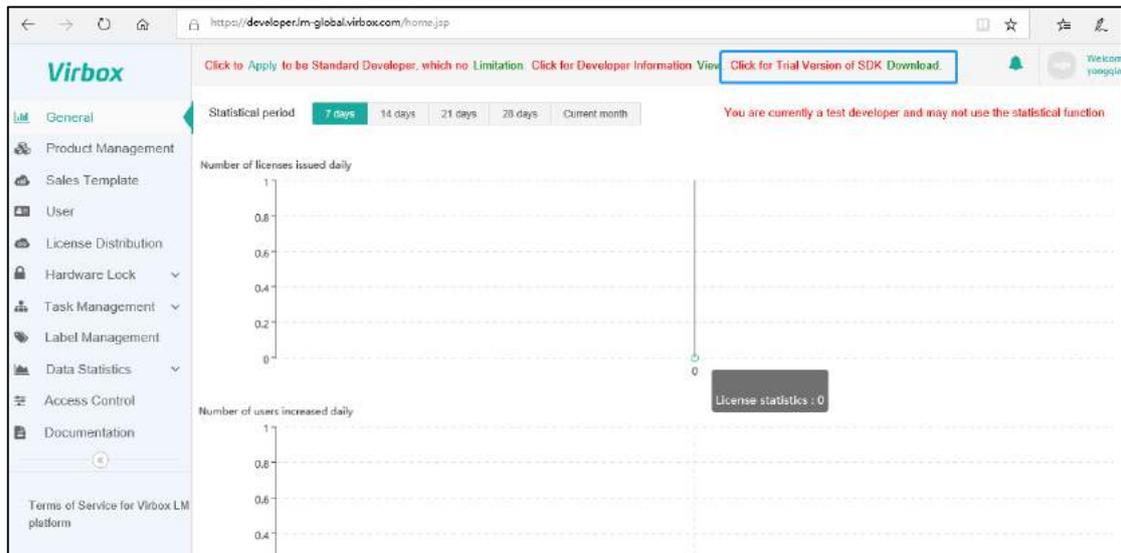


Note:

Please Read and Accept "**Terms of Service**" and "**Privacy Policy**" of Virbox LM before signup.
The fields with red mark are required.



After sign up in Virbox Developer Center, you can sign in and download a trial version SDK for testing and evaluation, like the picture attached:



■ Virbox provides 2 version of SDK to Developer: **Trial version** and **Standard version**.

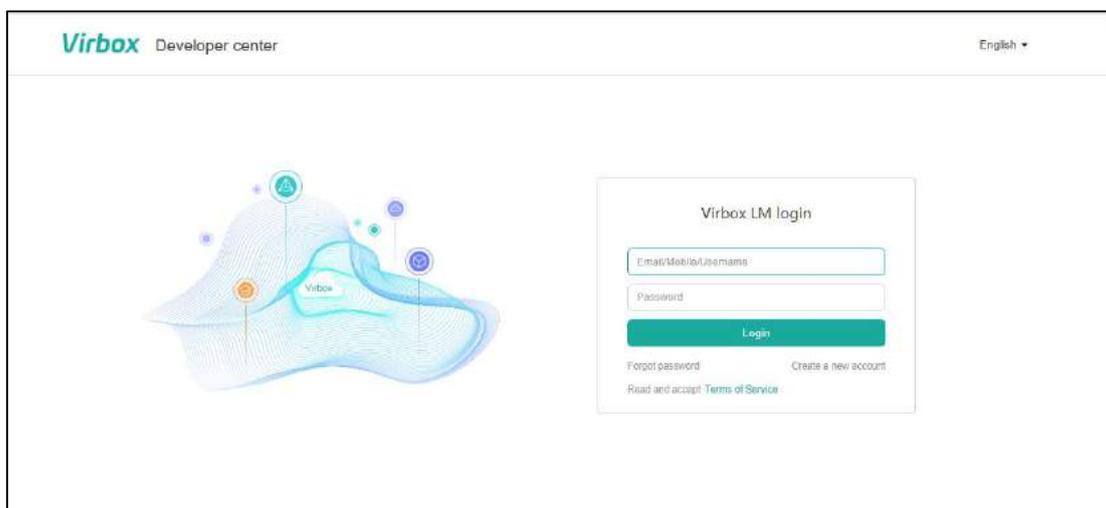
Standard version: A Standard version SDK have unique developer ID, API Password, private key and matched digital certificate of Authorization. All of the developer’s SDK (standard version) are different. There will be no general crack solution available for Hacker to software application protected by Virbox.

Trial Version: The Developer ID, API password, private key and certificate of authorization of trial SDK are same for all trial developer.

Note: Trial SDK use common SDK, CA, Private key and API password, Trial SDK will be only used for Developer for internal evaluation and would not be used for official software protection.

2.2 Login Virbox Developer Center for SDK

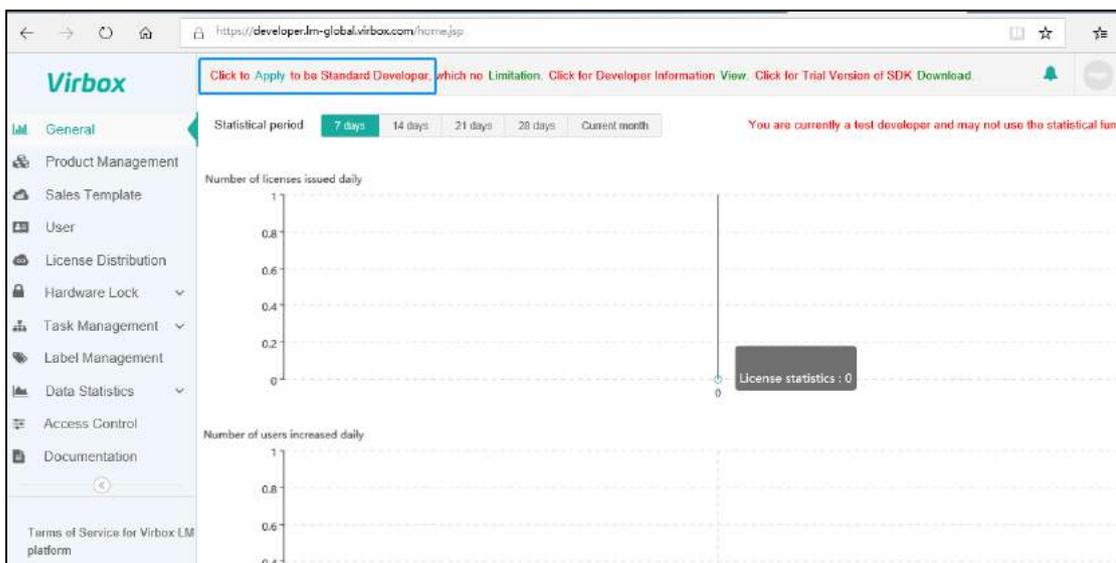
Signin to Virbox Developer Center with your account ID and password.



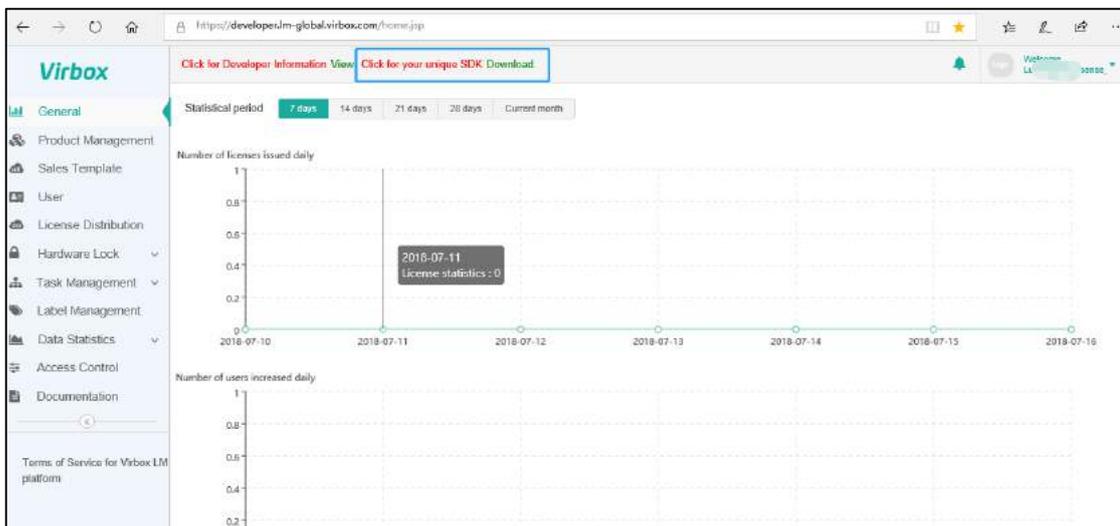
2.3 Apply to be a standard developer and download SDK

Download SDK:

- After successfully sign up an account in the Virbox Developer Center, (now your account is trial developer account), you can download a Trial version SDK, this version is for learning how to use Virbox Solution to protect your software and issue license and evaluation. Trial version SDK is not used for official published software protection and software distribution.
- If evaluation is successful and you want to choose Virbox to protect your application and issue license, please apply to upgrade your trial account to be “**Standard Developer**” account via Virbox Developer Center. You may get unique SDK after upgrading to be a **Standard Account**. Please be patient waiting for approval, it will take short time by Virbox Developer Center.



In the picture blow is a standard account and the place to download a standard SDK:



Note: Please upgrade from trial developer account to standard developer account if you want to evaluate and

2.4 Virbox SDK Installation Introduction

Developer may download and obtain latest version of Virbox SDK from:

<https://developer.lm-global.virbox.com/home.jsp>

Download and install your SDK package in your computer, it will create 2 folder under directory of “C:\Program Files (x86)\senseshield: **ss** and **ss_dev**”

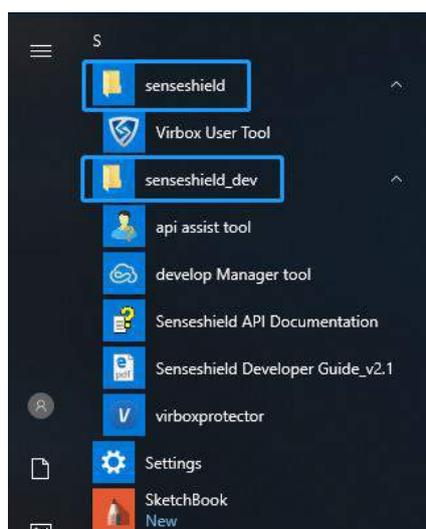
senseshield: This folder reserved and contains following software tools for Software users:

- **Virbox User License Tool**
- **Driver of Virbox EL5 dongle**
- **Log File**
- **Configuration File**

senseshield_dev: This folder reserved and contains following software tools for Software Developer

- **API sample lib**, support multi Program language.
- **Developer Utility** (Developer Manager Tool).
- **Virbox Protector** (this is the tools for Developer to wrap/Envelope/Encryption for software be protected).
- **Manual: Virbox Developer Guide** and other Virbox Documents
- **API Assistant:** Online help tool for Software Developer.

Take **Windows 10** computer installation as an example, it will create shortcuts in the start menu, senseshield and senseshield_dev folders can be seen in the start menu.



3. Product Management

3.1 Product Management by use of Virbox Developer Center (Virbox LM)

In this chapter we will use Virbox Developer Center (Virbox License Manager) to create new Product 

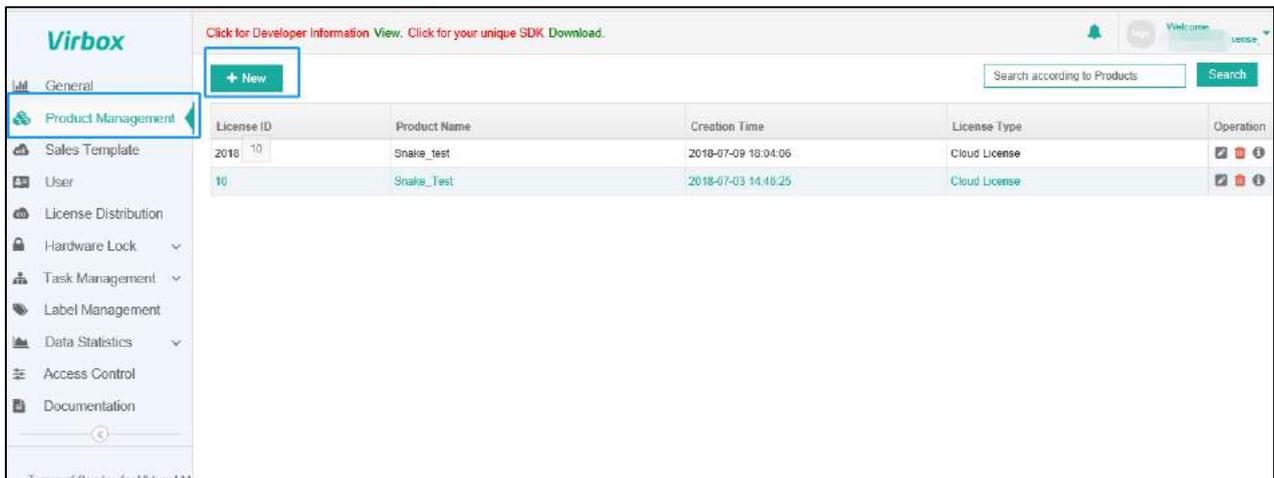
Usually, there are more than one software product need to be protected, licensing and distributed to software user for one Software developer. So it is necessary for Software developer to well plan product ID for each product at the beginning phase. In order to avoid misunderstanding and confusion in the future.

What's more, it is also quite important for the Owner of software developer to setup a Principle to Product Management in advance, since it will also make some difficulty for product management and maintenance in future in case without well planning for product management due to R&D and operation staff left company.

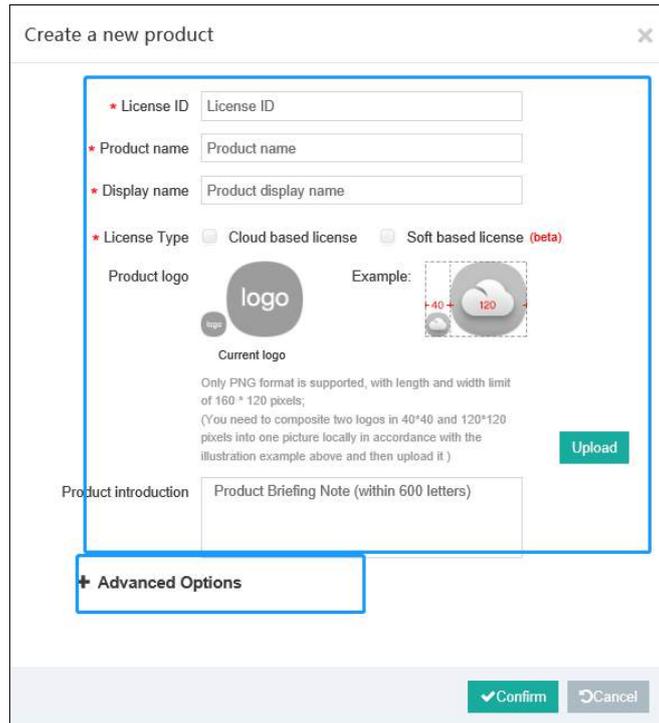
3.2 Create Product

The following steps will introduce how to create and manage a product with Virbox LM.

- Create a New Product in the "Product Management" by click "+New":



Then a window that needed to input the Product detail information will popup, as blow:



- Define a **License ID** to this product or to define License ID to each functions of this product. This can be an integer from 1~4200 Million. License ID is a key concept for software protection and encryption, license ID is unique ID represent for one software or for one functions or one software modules need be protected and encrypted. License ID could be setup to be an executed software, a software module or even to be a "Printing" or "Save" functions. Of course, License ID could be setup and define for a whole software package, depends on software sales strategy decided by software developer.
- Define a **Product Name**, this Product Name must to be correspondence with actual software product or the product's function;

Note: License ID defined here must be in line with the License ID input when protect software by use of **Virbox Protector**. Then the software user can verify license and run the protected software successfully.

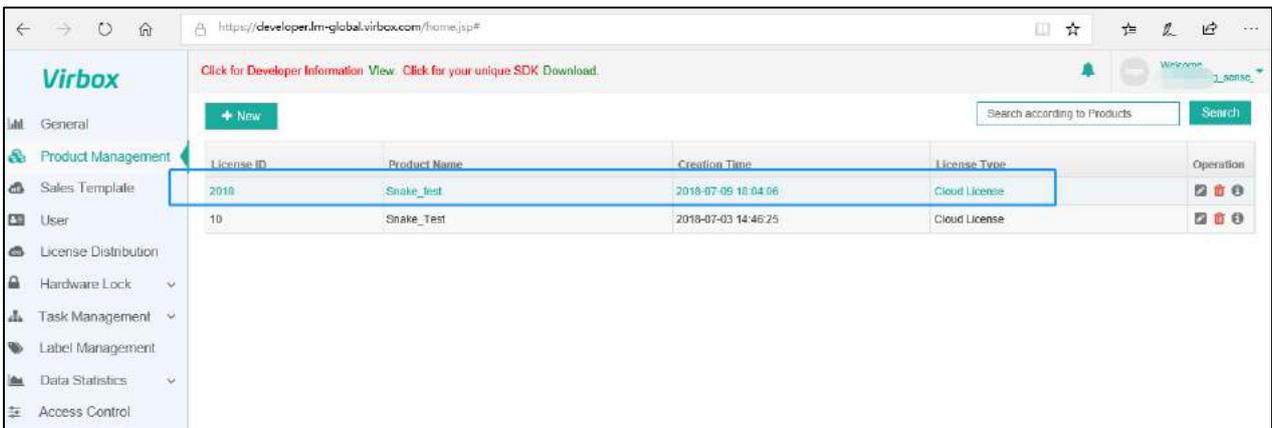
- **Display Name:** This is the name will be show to software users, in **Virbox User License Tool**.
- **License Type:** select to be "Cloud Lock", here have two option: "Cloud" and "Soft". In this document we take "Cloud" as an example. For the usage of "Soft", please refer the related document.
- **Product Logo:** You can also upload your own company logo, this logo can also be seen in the **Virbox User License Tool**. For detail setting, like the request pixel, please read the remind information nearby.
- **Product Introduction (Optional):** Input short description for the product or one kind of function of the software that to be protected;
- **Advanced Option:** Each license ID can be attached to three data areas to store license-related data. The three data areas are: **Read-Write**, **Read-Only**, and **Public** area. The size of every area can be set up to 64K. Corresponding to different access attributes to adapt to different application scenarios.

Note: For **new starter** of Virbox developer, you can skip this part to next chapter.

- ◆ **Read-write area:** This area can be **read** and **write**. For example, some data that needs to be saved during the software operation can be stored here. For how to input/write data to this area please refer the related document.
- ◆ **Read-only area:** This area can only be read. For some configuration file, or other file that you do not want to be changed by other people, you can store it here.
- ◆ **Public area:** Both Software users and developers can see this area, such as the product name or some information about the product that can be shown to software users, you can put it here.

Note: For how to use these three area, you can see the related document for detail.

If you have already input all of the required information. We have completed the creation of the product, like in the picture blow:



License ID	Product Name	Creation Time	License Type	Operation
2018	Snake_test	2018-07-09 18:04:06	Cloud License	  
10	Snake_Test	2018-07-03 14:46:25	Cloud License	  

So far, Product creation has been completed. If you have more than one kind of software need to be protected, you need to define more license ID and repeat the steps above.

Note: The License ID of the Product you crated here, need to be in line with the License ID you use to protect software in next chapter, and in line with the License ID you use to issue license, please make sure they are same. In order to make sure a successful license distribution.

Next chapter we will use "**Virbox Protector**" to protect the software.

4. Protect/Encrypt Software

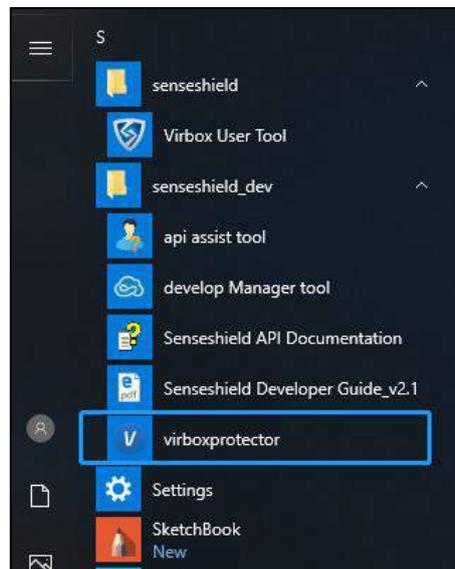
4.1 Virbox Protector Introduction

To protect the software we will use “VirboxProtector”.

Virbox Protector is the latest envelope tools for software protection and encryption, it provides top security level to the software being protected with this tools, it integrated multi technology including **Virtualization, Obfuscation, Compression, and Code Snippet and Encryption** to protect software with flexible and easy to use features for software developer.

Developer even can protect software with top security level without any kind of coding which will save lot of workload for developer. If developer issue license to Virbox E15 Acme, or issue **Soft License** or **Cloud License** to software user, all of the license issuing will need to use the Software protected by **Virbox protector**.

Also take Windows 10 as an example, open the start menu to open the Virbox protector, like the picture showing blow:



The appearance is like this:



Application can be protected with Virbox Protector:

Windows application: **EXE** and **DLL**.

Plugin maybe protected with **Virbox Protector** is:

AutoCAD ARX, Revit etc.

Program **Language** may protected with Virbox Protector:

- | | |
|------------------------|-----------------------|
| ✓ C | C++ |
| ✓ VB6.0 | VC6 |
| ✓ VC2003,VS2005-VS2017 | Delphi7 DeliphXE-XE10 |
| ✓ BCB6.0 | C# |
| ✓ .Net | Java |
| ✓ ARX(AutoCAD) | Unity3D |
| ✓ Revit(Plugin) | Framework2.0~4.6 |

Virbox Protector is fast Deployed Protection/Encryption, without any coding Competence, all Protection/Encryption Option can be setup via Virbox Protector;

Virbox Protector is suitable for fast deployed encryption and protection to your software application, software developer may protect software by use of Virbox Protector through setup/configure each option of Encryption/Protection in the Virbox protector without any coding effort for developer, which still can enhance security level.

For More detail operation instruction to Virbox Protector, please refer:

 ["User Manual: Virbox Protector"](#)

Software developer may obtain latest version of Virbox Protector via below link:

<https://developer.lm-global.virbox.com/home.jsp>

4.2 Setup Virbox Protector (License Configuration)

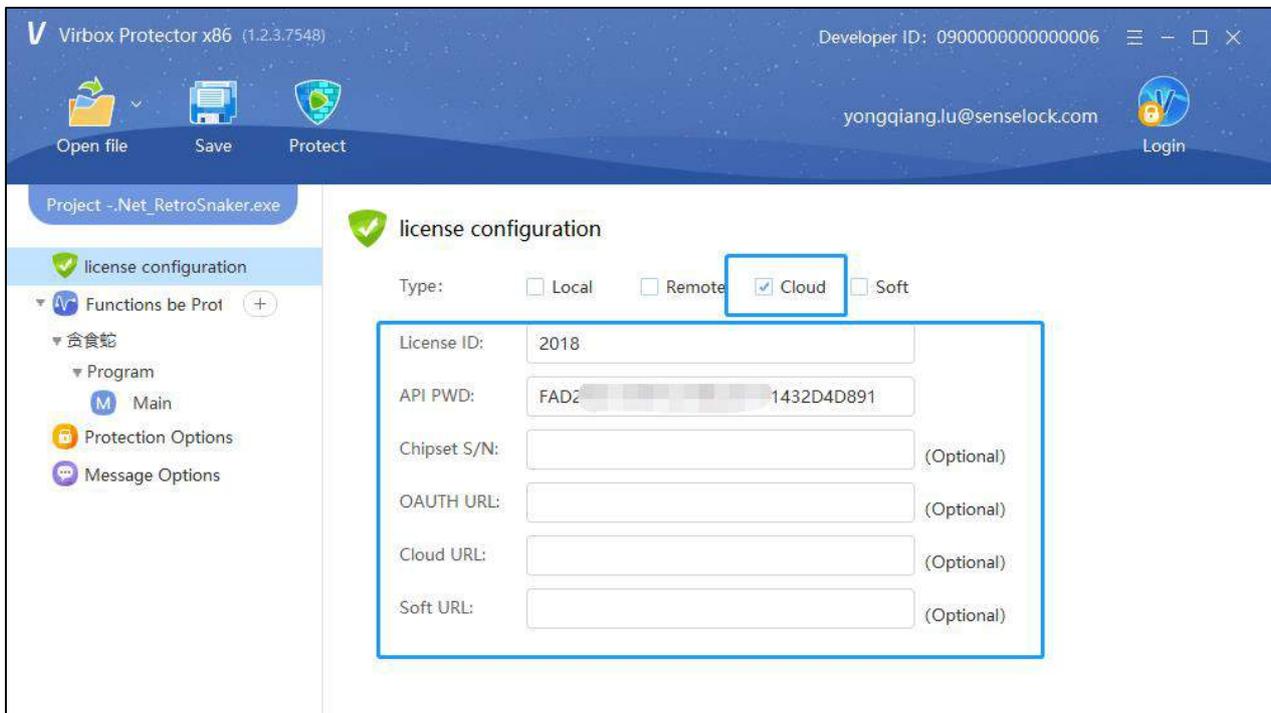
Here we will take a “Snake” application as an example, which is a .Net program.

- Drag the software you wanted to protect into the protect area.



Protect Steps:

- **Basic License configuration:** In this section, we will introduce the License configuration process for the product which created in Chapter 3:



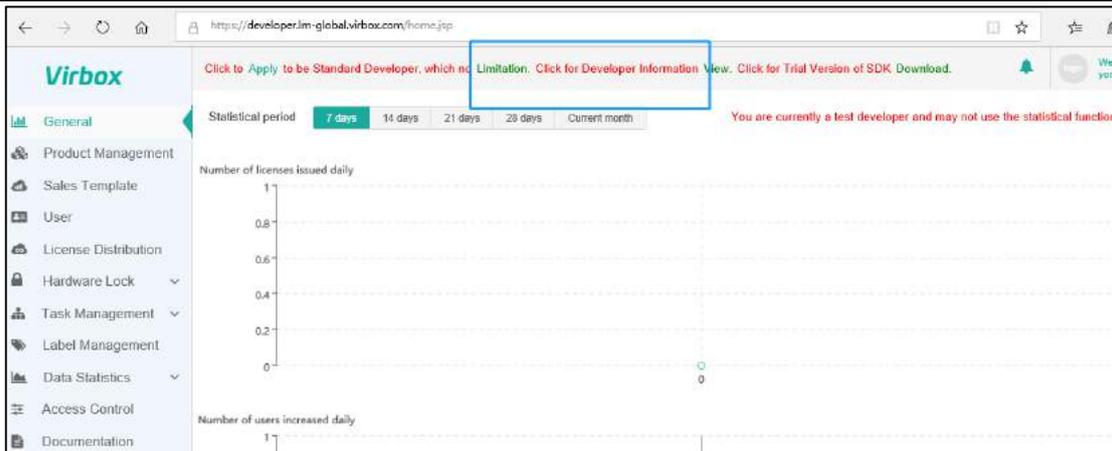
- ◆ **Login Virbox Protector** with Virbox LM account, on the right top pane.
- ◆ Select **License Type: Cloud** type.

Note: Virbox Protector support following license type: **Local License Type, Remote (Network) Type, Cloud License Type and Soft License Type.** Input **License ID**, i.e. The License ID you input must be in line with the License ID you have input and created in **Virbox LM** in previously step in chapter 3.

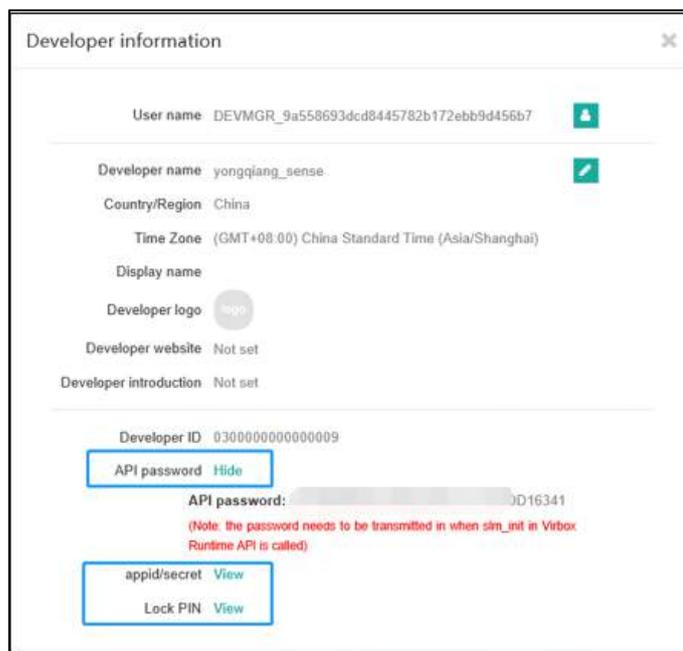
- ◆ **License ID**, input the license ID we created in chapter 3.
- ◆ Input **API Password**. (If you don't know how to get an API password, please refer the **Tips** blow.

Tips: To get API password, you need to login develop center and click” **view**” shown in the picture.

What's more, API password is very **important** parameter, please keep it in top security.



Click “**view**”, you can copy it here.



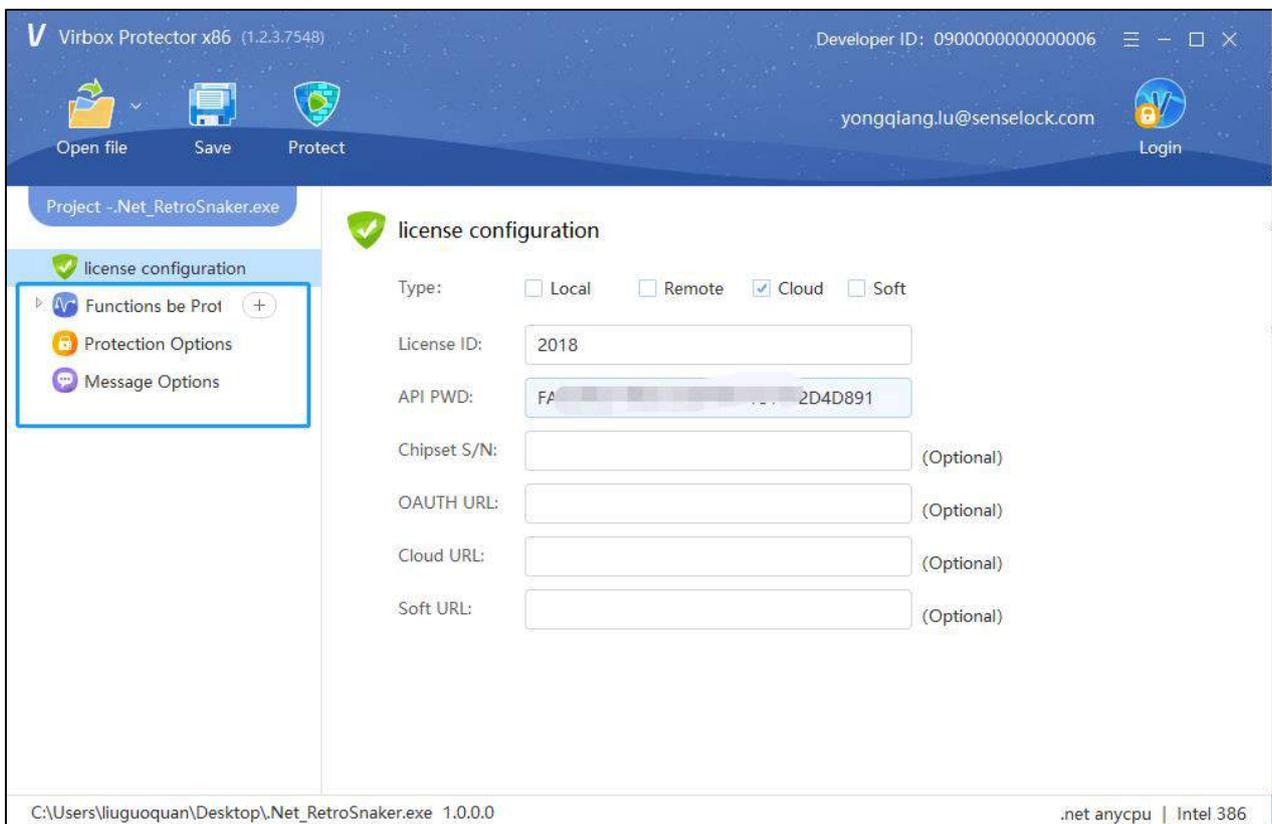
- ◆ **Chipset S/N (Optional):** If you input Chipset S/N here, then protected Software will be only valid and executed with the lock with this Chipset S/N. This function is for Hardware Lock.

Note: Because PE program would not generate function name in the list, only function address could be displayed. Recommend Developer use the third party program which can generate the map files. Put the generated map files in same folder with protected software, and then drag the software to be protected into Protector, in this way you can see the name of the function in the function list.

4.3 Protection Setup Process by use of Virbox Protector

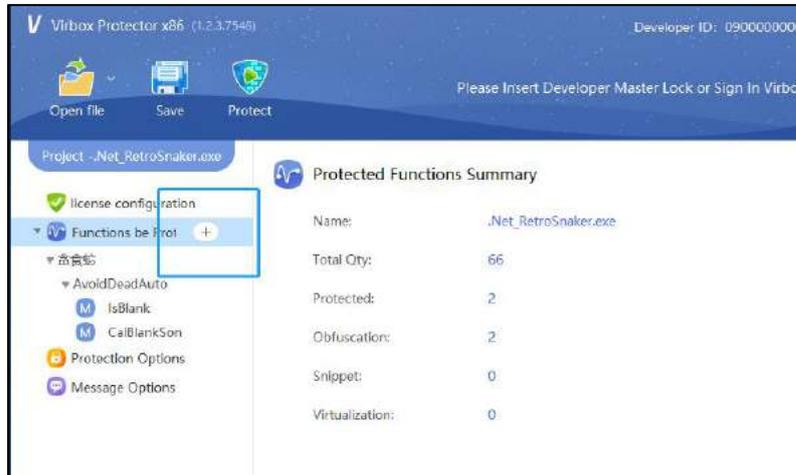
Developer can configure following parameters before software protection according to specific software features, functions, etc.

- **Select Functions be protected;**
- **Setup Protection Options;**
- **Setup Prompt Message Information;**



The following are the detail explanation and configuration.

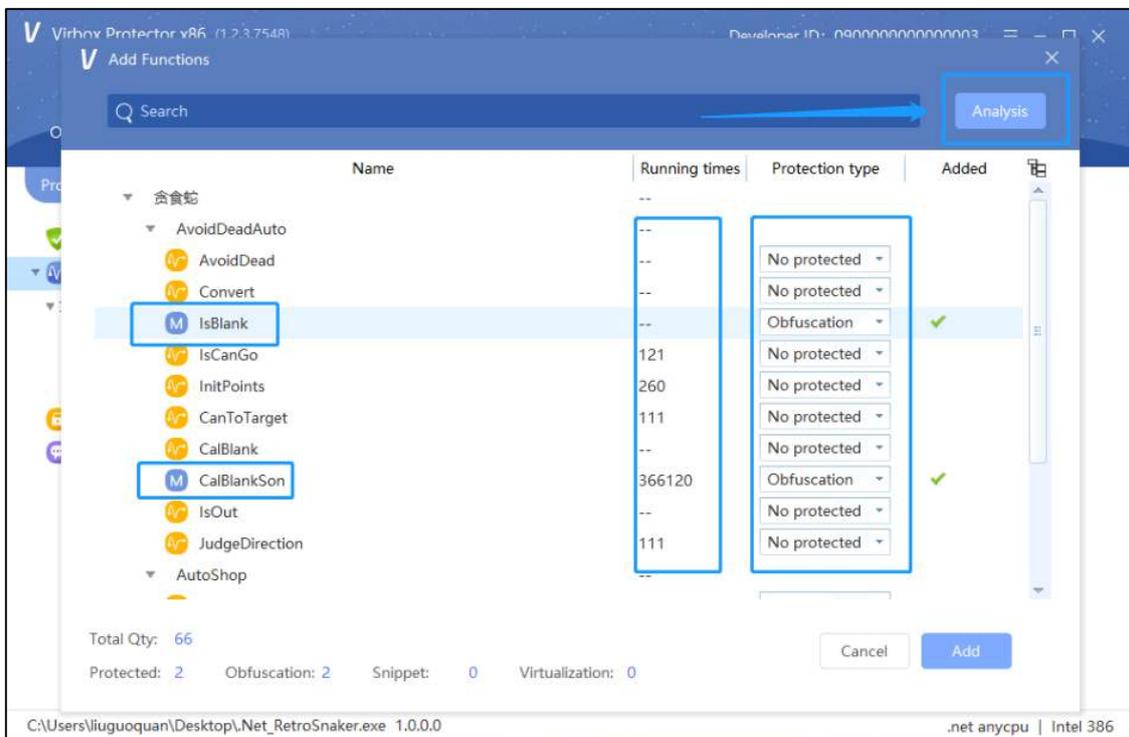
4.3.1 Select Functions to be protected



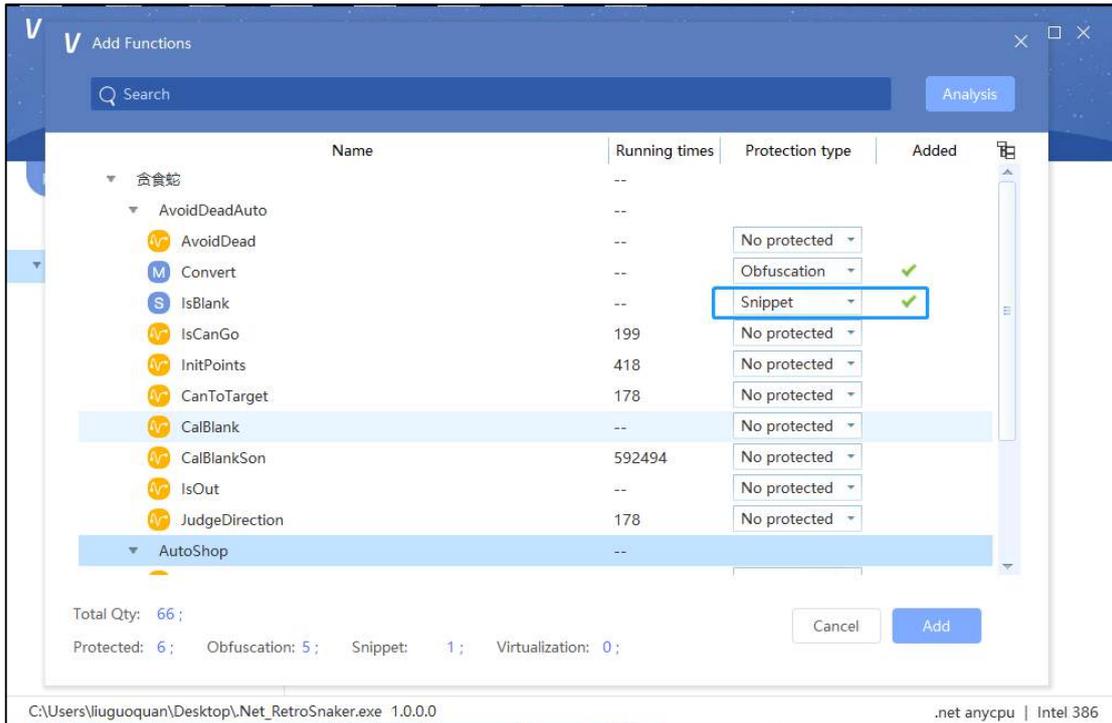
Click "+" (See picture attached). Usually, software developer need to balance the performance and protection level before software protection.

Note: Be careful to select and protect these frequently called functions, since it will decrease software execution performance after protection and encryption.

The **Virbox protector** will list all of the functions used in this software in the left pane, and the functions called times will be displayed in right pane. We can also start to **Analysis** functions by clicking "Analysis" before protect software.



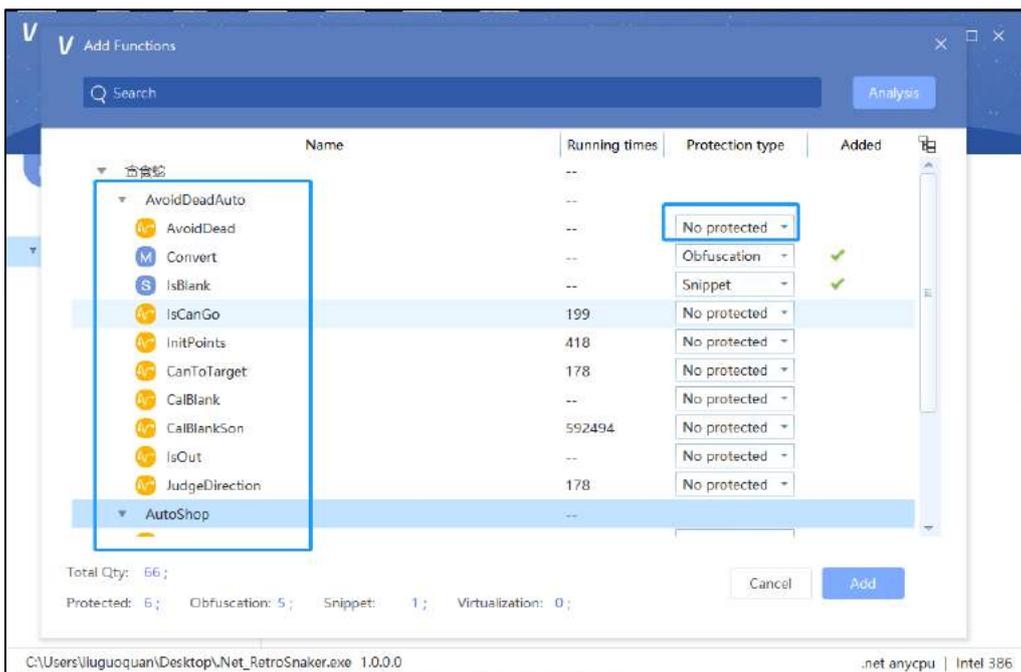
Running times: The Functions called times during this analysis process.



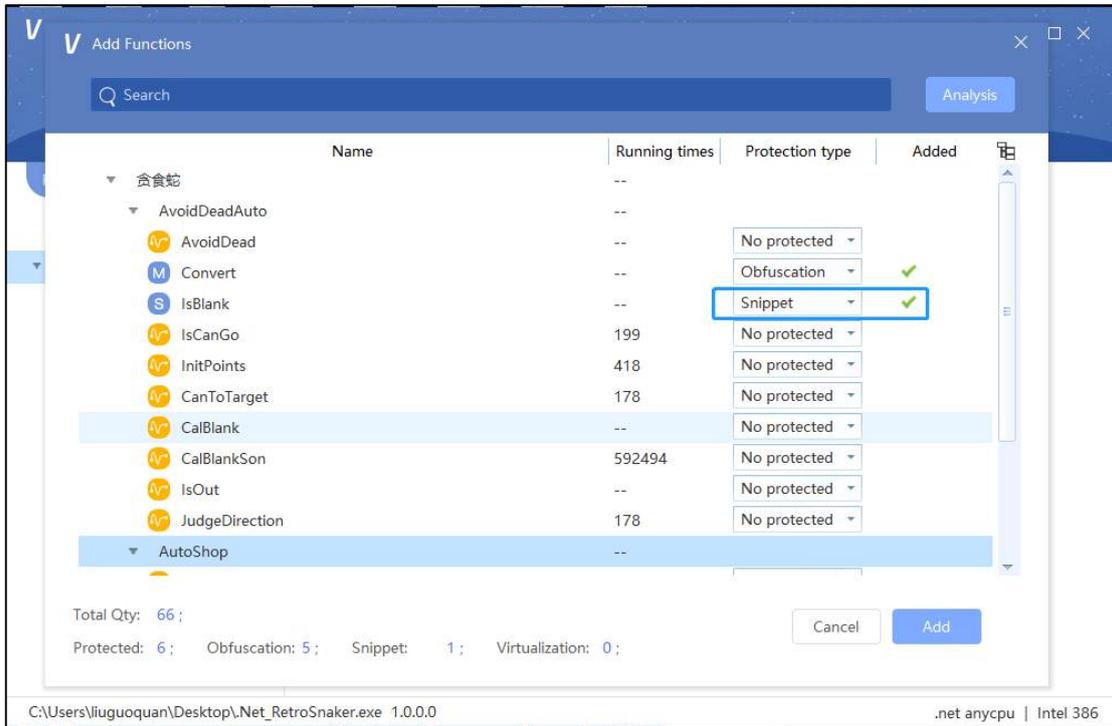
To protect the functions of the software, following functions protection mode can be selected: **No protected**, **Obfuscation**, **Snippet** and **Virtualization**.

- ◆ For the function which call frequently, Select "**No Protection**" option, since if you protect the functions which is called frequently, it will decrease software's running performance when software is executed;

Note: You will find "**Call Times**" for each function after press "**Analysis**" Button after you have run the software to be protected for some time.

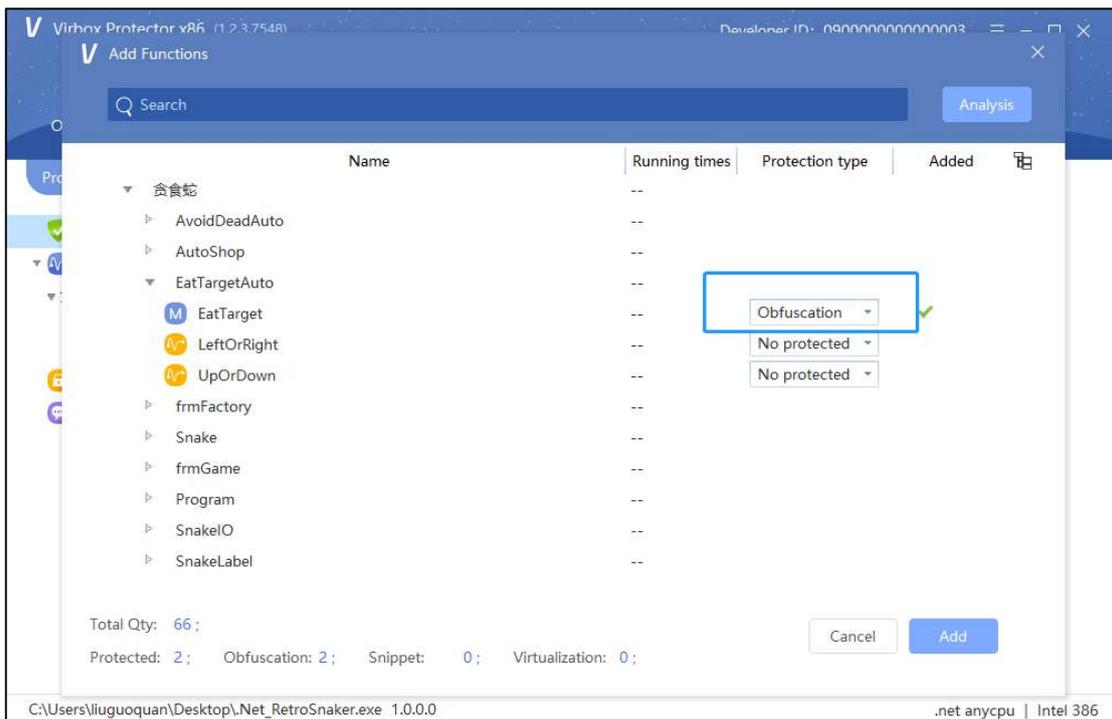


- ◆ Select "Code Snippet" Protection mode for Important Functions, which will increase protection level for those important functions or IP.

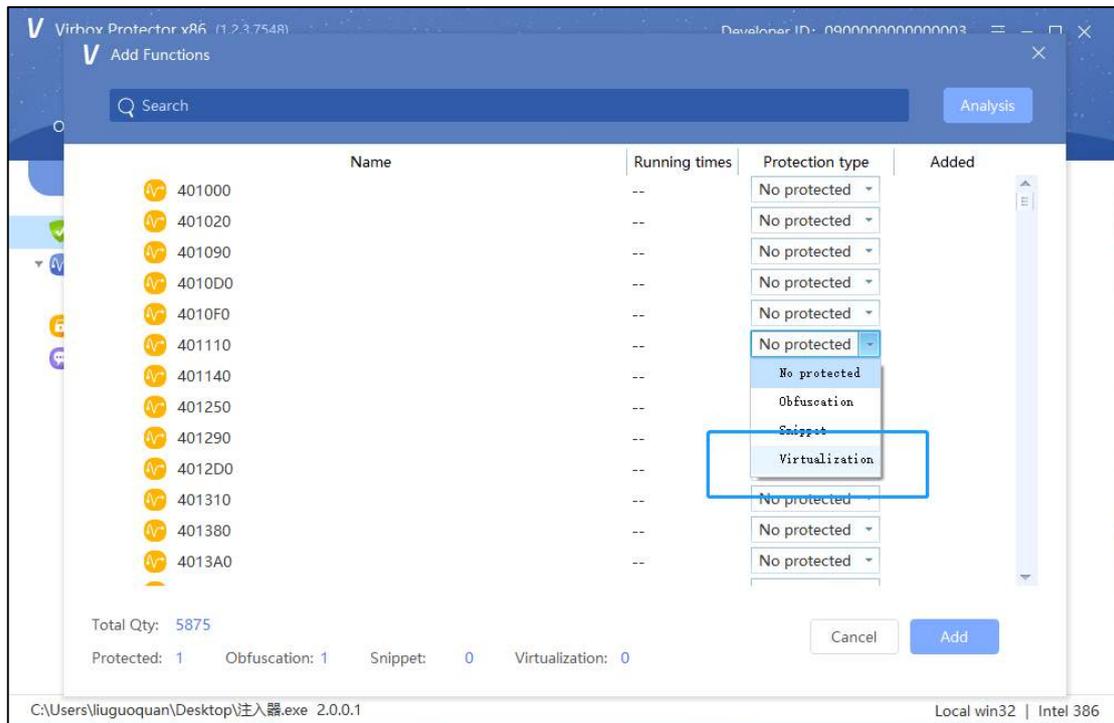


Note: Do not select too many functions with "Code snippet", since it will decrease software execution performance when selected too many functions be protected with this mode;

- ◆ Select "Obfuscation": Virbox Protector will translate the code instruction into a stream of pseudo-code that neither the machine nor the human can recognize. When the pseudo-code executed, the software will translate and interpret to restore the code into the original code. To let it executable.



- ◆ Select "**Virtualization**": Virbox Protector will compile instructions into virtual code and run them in the specified virtual machine.



Note: For **.Net** Programs, Support function protection options: **No protect, Obfuscation, and Snippet**;

For **Other** Programs: Support Function protection options: **No protect, Obfuscation, Snippet and Virtualization**.

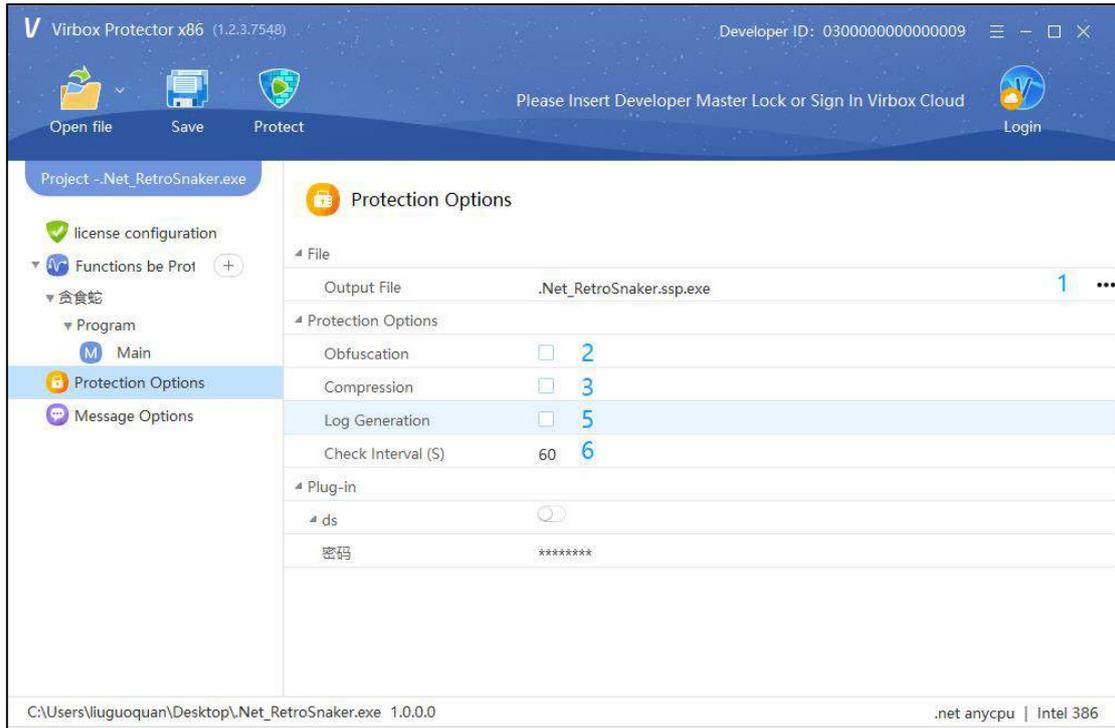
Here is suggestion:

- ◆ Select "**Code Snippet**" protection mode for Important Functions, which increase protection level for those important functions or IP;
But do not select too many functions and protected with "**Code Snippet** ", since it will decrease software execution performance;

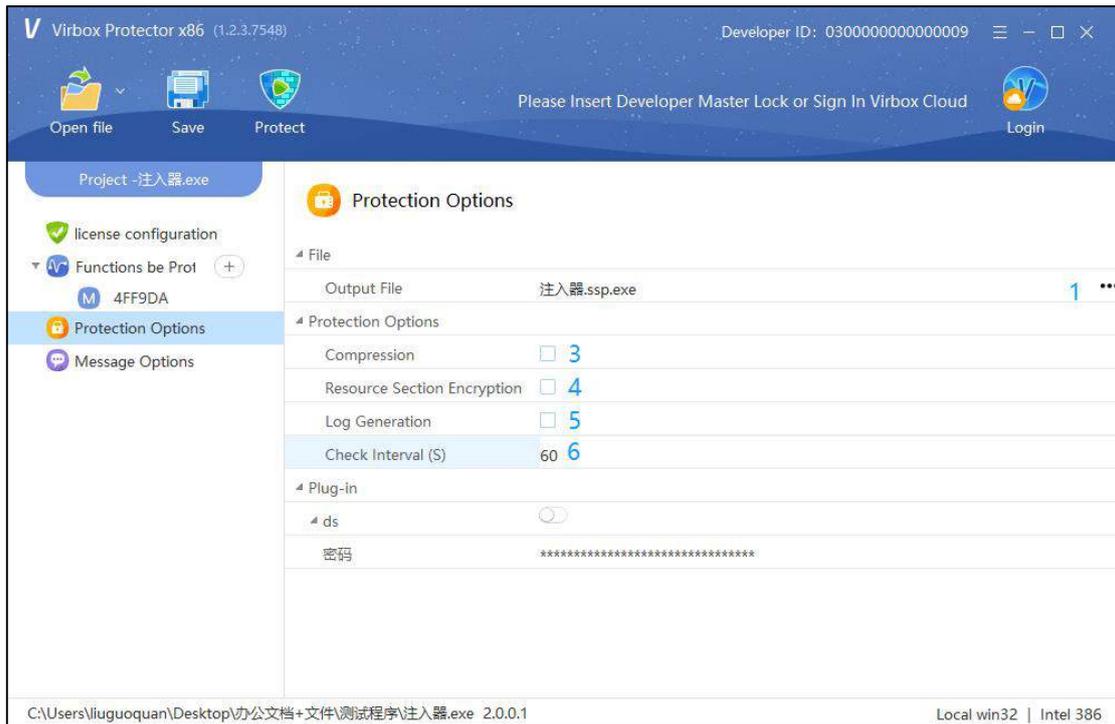
4.3.2 Setup Protection Options for protected software

Protection Option setting will be different for different program, Virbox Protector also provides "**Protection Option**" functions for professional developer when they protect software application, This "**Protection Option**" functions have little difference for PE (local program) and .NET application due to difference of PE and .NET technology. Developer select and setup these "**Protection Option**" in actual project.

For **.NET program**, following options could be set and selected:



For **local program (PE)**, following options can be set and selected:



Press the "**Protection Option**"

1. **Output File:** Here you can change the output file path of the software.
2. **Name Obfuscation:** Obfuscation to each Functions name;

Note: Only support DotNet program, do not support IIS type program.

3. **Compression:** Compression means to compress the application after protection and reduce size of

application, it is also prevents static anti compile the software application by hacker who use static anti-compiler tools. When you select Compression: It will keep and control the size of protected software application keep not too big size. Also will enhance protected software's Security level after compression;

Note: Do not support .Net dynamic library, ARX library compression.

4. **Resource Section Encryption:** Encrypts the resource section of the protected program, and requires the user to use the corresponding license to decrypt the program when executing the program.

Note: Encrypt the resource section. Only local programs are currently supported.

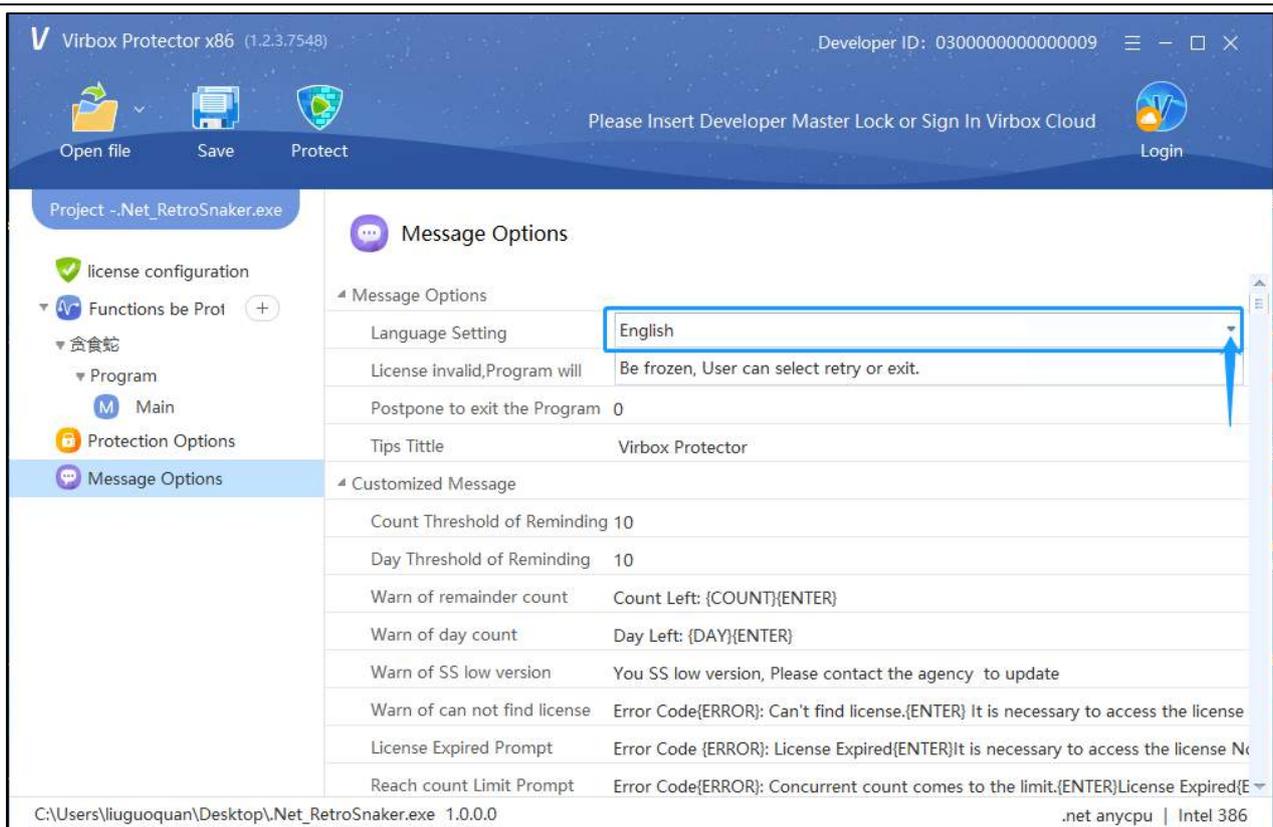
5. **Log Generation:** Log file will be created when select this option, when the protected software have problem when it is running, the generated log will be helpful for trouble shooting;
6. **Check Interval:** (In Seconds): Setup license check interval in seconds. If no valid license has been found in next check interval, the executed application will either quit or prompt error message if developer setup prompt message. If developer set "**Check Interval**" time to be 0 second, then the application will not check license.

Note: Plug-in, this is for **Resource Section Encryption**, if you want to protect resource, you need to open this option. For detail information please refer the related document.

4.3.3 Message Option

- ◆ Setup the prompt message information to software user when License become invalid, including setup the title of Message, left time before license expired, left counts (Consumption) and other message. And this is helpful for software user to understand software operation status and locate the problem happened when the protected software are running.

Note: Please set language to **English** as the arrow remind in the picture, default is Chinese.



4.3.4 Protect the Software

When you complete each option Setup, click the Button "**Protect**" on the top of Menu to protect this software; It will start to protect the software.

Virbox Protector x86 (1.2.3.7548) Developer ID: 0900000000000003

Open file Save **Protect** Please Insert Developer Master Lock or Sign In Virbox Cloud Login

Project -.Net_RetroSnaker.exe

- license configuration
- Functions be Prot (+)
- Protection Options**
- Message Options

Protection Options

- File
 - Output File: .Net_RetroSnaker.ssp.exe
- Protection Options
 - Obfuscation:
 - Compression:
 - Log Generation:
 - Check Interval (S): 60
- Plug-in
 - ds:
 - 密码: *****

C:\Users\liuguoquan\Desktop\Net_RetroSnaker.exe 1.0.0.0 .net anycpu | Intel 386

Virbox Protector x86 (1.2.3.7548) Developer ID: 0900000000000006

Open file Save Protect yongqiang.lu@senselock.com Login

Project -.Net_RetroSnaker.exe

- license configuration
- Functions be Prot (+)
- Protection Options
- Message Options

license configuration

Type: Local Remote Cloud Soft

License ID: 2018

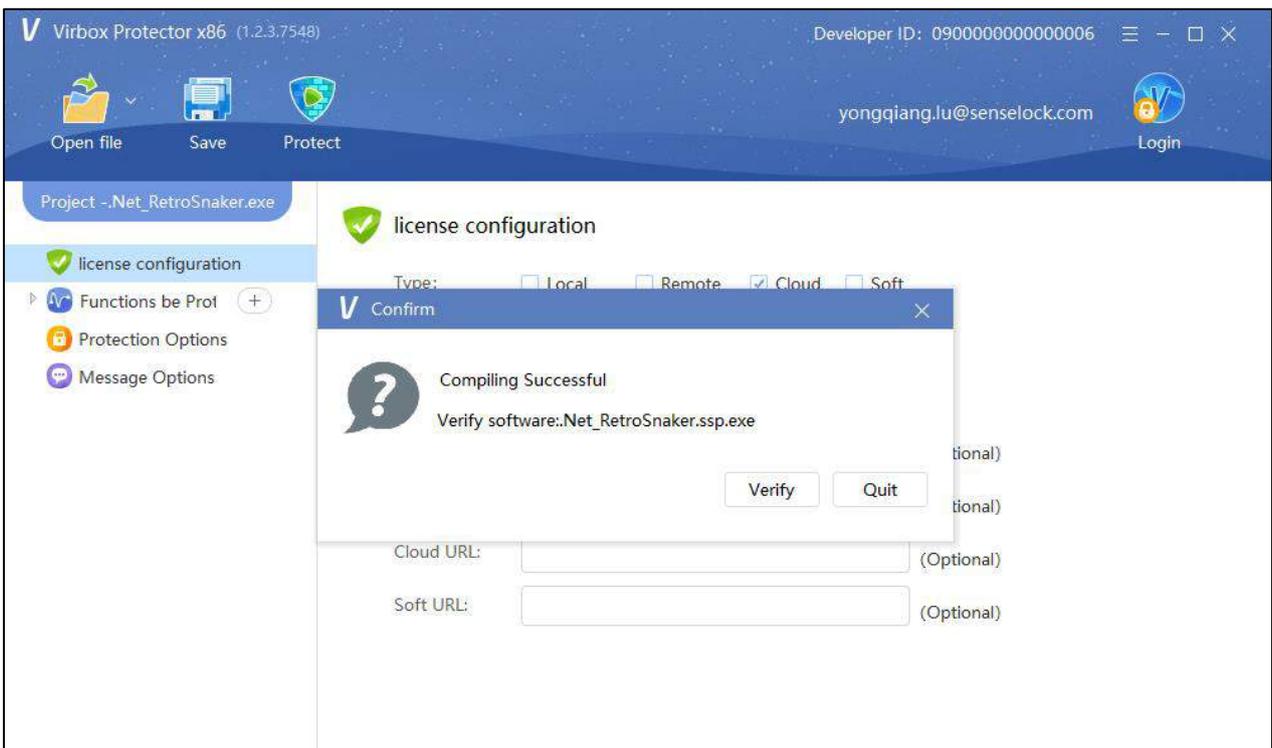
Generating... (Optional)

OAUTH URL: (Optional)

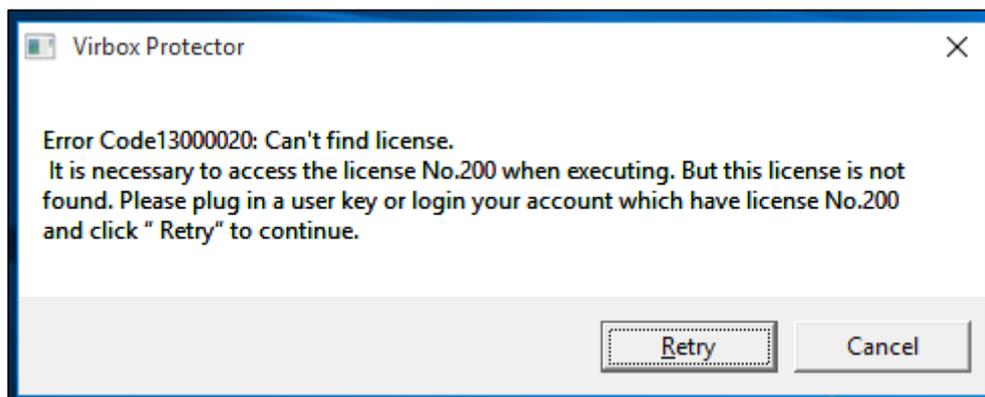
Cloud URL: (Optional)

Soft URL: (Optional)

C:\Users\liuguoquan\Desktop\Net_RetroSnaker.exe 1.0.0.0 .net anycpu | Intel 386



Virbox Protector will pop up to **verify** the license after protection completed, if you press "**Verify**" button of "**Pop up Window**", then a prompt message will pop up and show: "No license has been found, please plug in User Lock or login Cloud Account".



The reason to pop up this message is because of Virbox split the software protection and license into 2 steps, and you just completed the protection of software and haven't issue the license to EL5 Acme dongle or issue soft license or cloud license yet.

4.4 Protected Software

Now we can take a look at the folder before software protection and after protection.

The original folder before Software protection shows below:

Name ^	Date modified	Type	Size
 .Net_RetroSnaker	2017/5/24 19:48	Application	183 KB

Only the original software to be protected.

The folder after software protection finished is as blow:



Name ^	Date modified	Type	Size
 .Net_RetroSnaker	2017/5/24 19:48	Application	183 KB
 .Net_RetroSnaker.exe.ssp	2018/5/24 18:41	SSP File	5 KB
 .Net_RetroSnaker.ssp	2018/5/24 18:41	Application	6,207 KB

1. Original Software application;
2. A configuration file has been generated after software protection which contains some configuration information and API password accordingly, this can be deleted;
3. The protected software, with all kinds of encryption option you setup earlier; we Suggest you to modify this application name to be the original application name;

Note: The default path to generate the protected software is same with the Original Software.

Software protection has been completed till now, next we will create correspondence sales template for different market segment by use of [Virbox Developer Center](#) (Virbox License Manager) in next chapter.

5. Issue License

In Chapter 3, we have created "Snake_test" product by use of **Virbox Developer Center** and protected product by use of Virbox Protector in Chapter 4. In this chapter, we will use **Virbox Developer Center (Virbox LM)** to create sales template for this product and issue license.

5.1 Create a new Sales Template (By use of Virbox Developer Center)

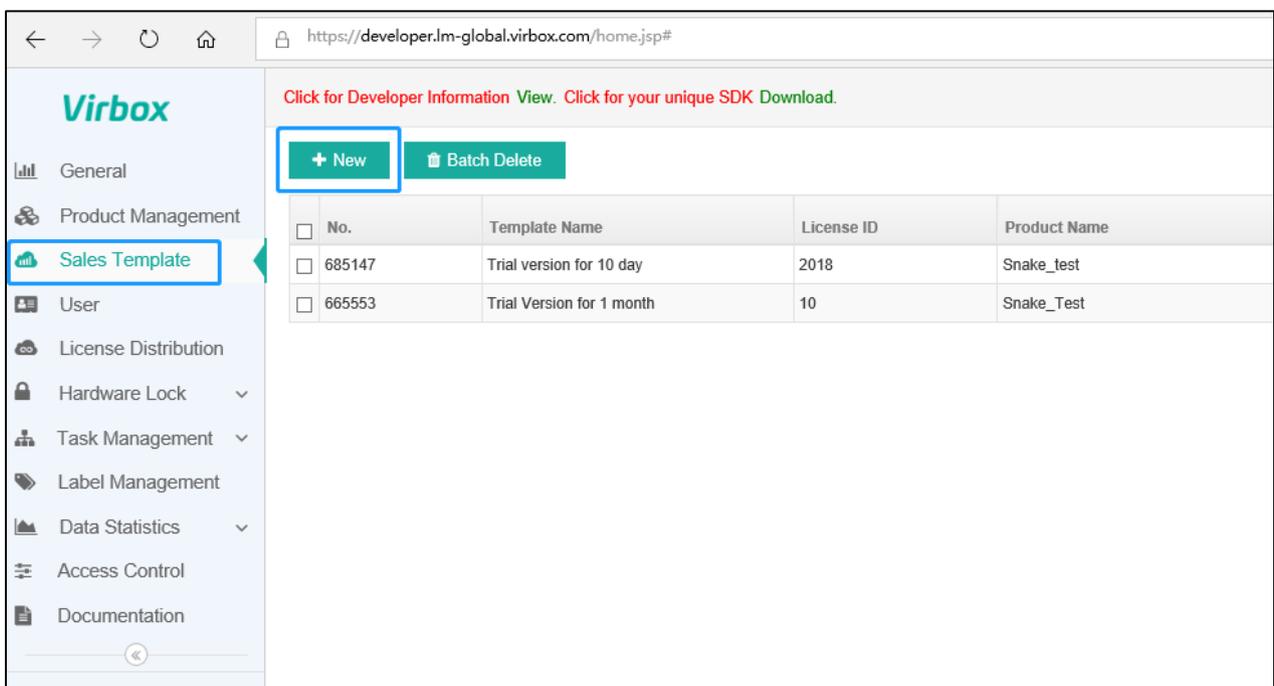
Why we need a Sales Template?

Except of Some software application are customized to specific project, most of software applications are developed for mature markets and sell these software with volume, the bigger the market in potential, the more quickly delivery software are requested.

The purpose to create sales template is to support developer to Licensing software in volume and deliver software more quickly to target client according to different market strategy.

Create a new Sales Template:

Sign in Virbox Developer Center, click "**Sales Template**",

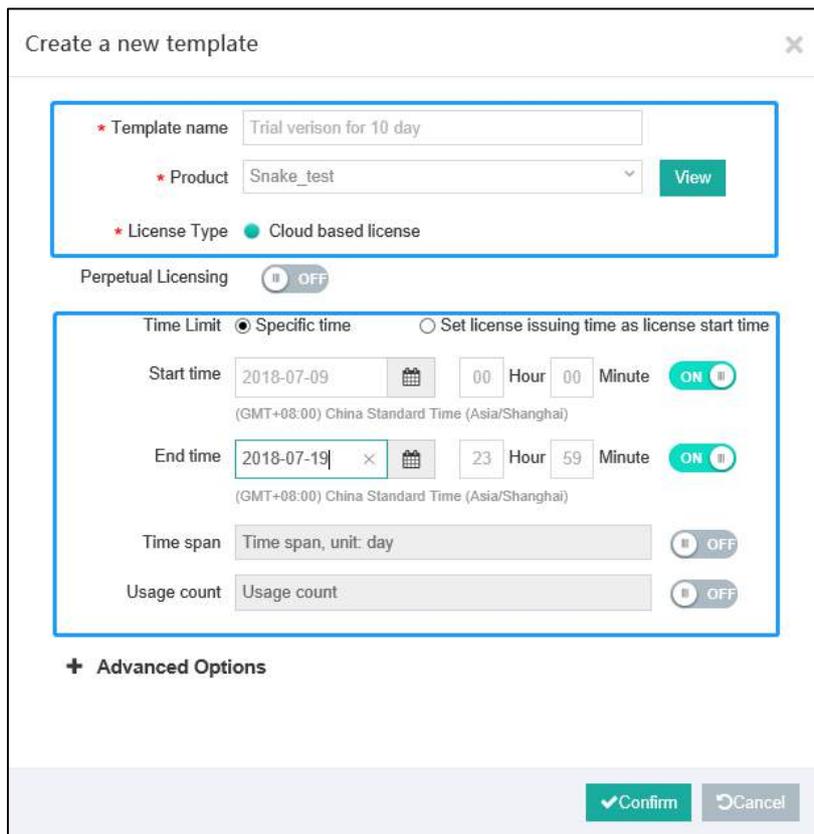


Click for Developer Information [View](#). Click for your unique SDK [Download](#).

<input type="checkbox"/>	No.	Template Name	License ID	Product Name
<input type="checkbox"/>	685147	Trial version for 10 day	2018	Snake_test
<input type="checkbox"/>	665553	Trial Version for 1 month	10	Snake_Test

We need to create a new template, so click "**New**" button, then the new window will pop up, You need to select the product you want to sell and you can input the detail information of the sales template here.

In the picture we take a "**Snake_test**" product trial version for 10 days for an example.



Select the product “Snake_test” which we have created in chapter 3.

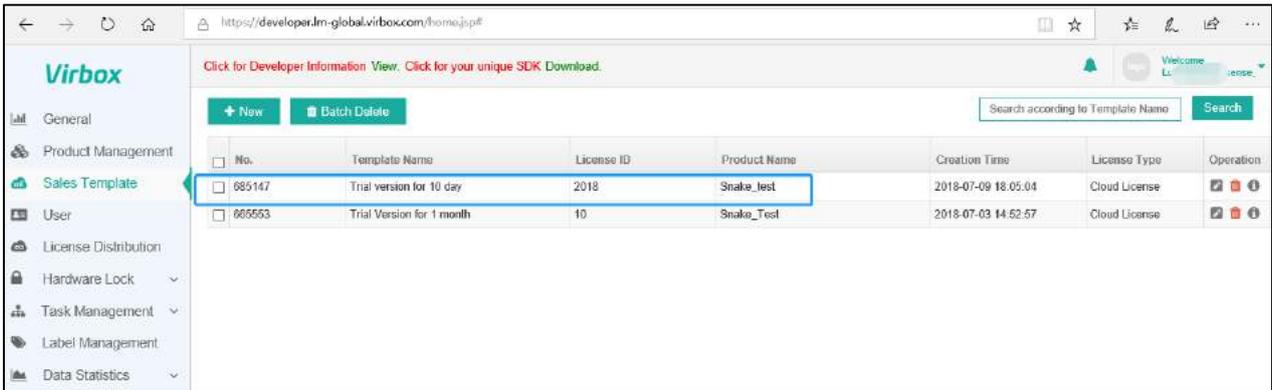
- 1) Enter **Template Name** into the “**Template Name**”. In general, the name of the template definition should be clearly recognized, easy to find, and preferably consistent with the corresponding business scenario. In our example we use “**Trial version for 10 days**” for an example which clearly describe this sales mode.
- 2) if switch off “**Perpetual Licensing**”, you can setup License valid time period;

Note: License with Time Limitation (there are 2 type of license start time setting, **setup specific license start time and let the license issuing time** as the license start time):

- ◆ **Setup specific time period:** Setup License start time and end time, the license will be valid only during specific time period;
 - ◆ Setup the **license issuing time** to be the license Start time, in combination with the setting of Time Span, This license will become invalid when time span expired.
 - ◆ **Time Span:** License start time start from when software user first time to verify license, the license will be expired when time period setting out;
 - ◆ **Usage Counts (Consumption):** Set a limited number of use conditions, each time use, the number you can use the software will decrease, License will be expired when counting to zero.
- 3) **Perpetual License:** Switch on “**Perpetual License**”, Issue license to be a “**Perpetual License**”, then this license issued to software user will be perpetual license and never be invalid;

Click “**OK**” to create the Sale Template you want to create, then new sales template will be created successfully.
 Copyright © 2018, Virbox, All Right Reserved.

It is successfully created here:



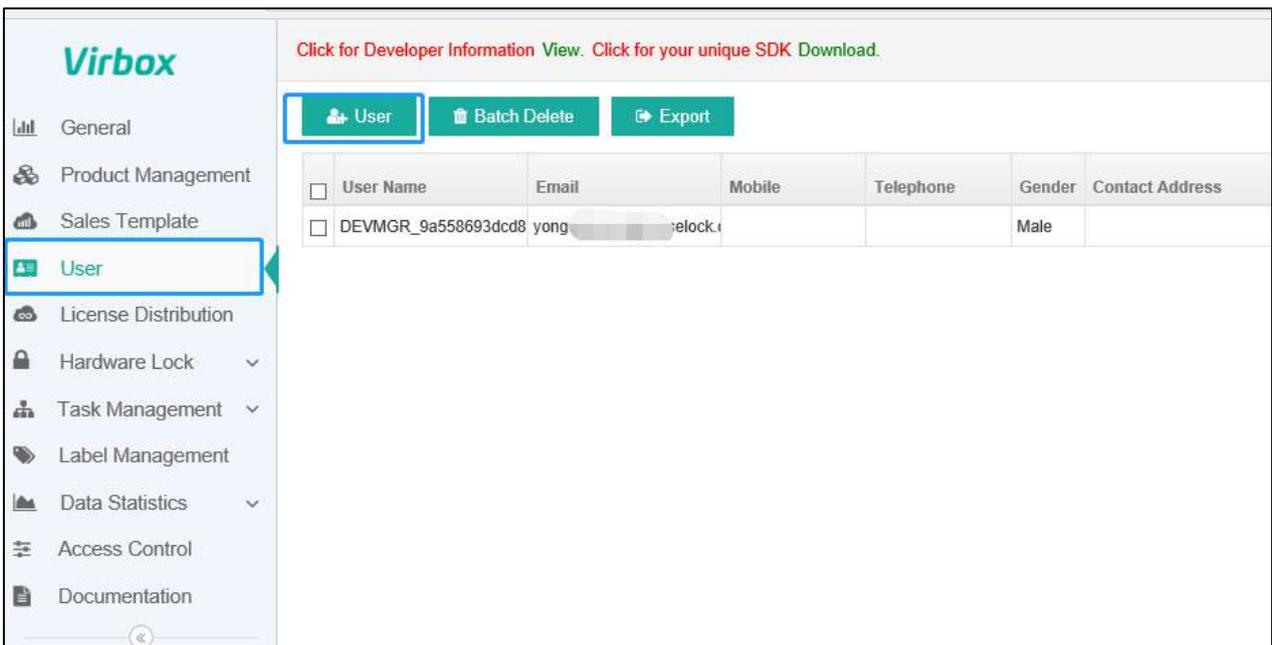
5.2 Add User

Software Developer can **create and manage user**. Every user can have multi License in same account.

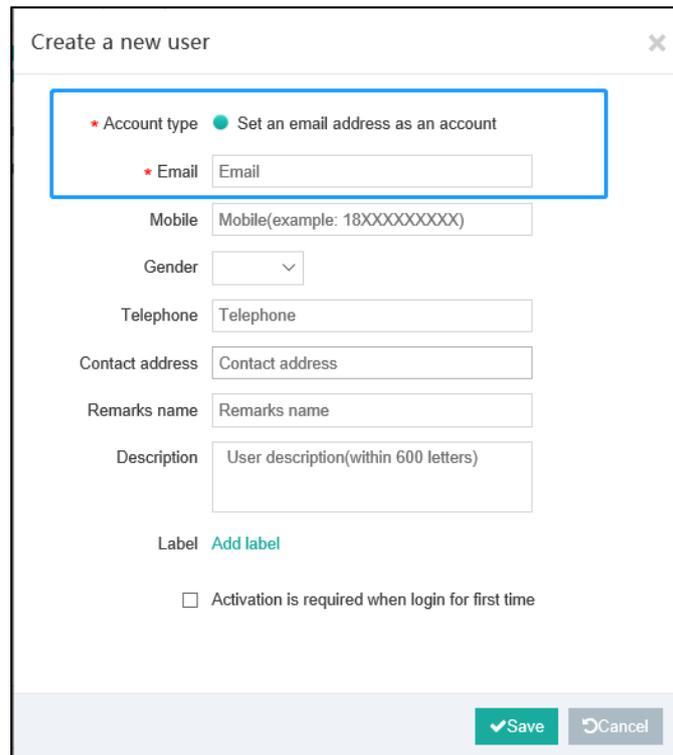
Developers can browsing and searching, edit, and delete users. After the user is successfully created, the email or mobile phone information can't be changed, and the release license could be bound to the user's mailbox or mobile phone number.

Following steps will show you how to **Add User**:

- Click User item on the left pane, and click “+User”,



- Input the detail information to create a new user(The fields with red mark are required), Email address or Phone number can also be inputted.



The screenshot shows a 'Create a new user' dialog box. At the top, there are two radio buttons: '* Account type' (selected) and 'Set an email address as an account'. Below this is an 'Email' field with a placeholder 'Email'. Other fields include 'Mobile' (placeholder: 'Mobile(example: 18XXXXXXXXXX)'), 'Gender' (dropdown), 'Telephone' (placeholder: 'Telephone'), 'Contact address' (placeholder: 'Contact address'), 'Remarks name' (placeholder: 'Remarks name'), and 'Description' (placeholder: 'User description(within 600 letters)'). There is a 'Label' section with an 'Add label' link and a checkbox for 'Activation is required when login for first time'. At the bottom right, there are 'Save' and 'Cancel' buttons.

After input the information, save and complete to create the user.

If you use your mailbox to create a user, your mailbox will receive an random password, please **remember** this password, we will use it to sign in Virbox User License Tool later.

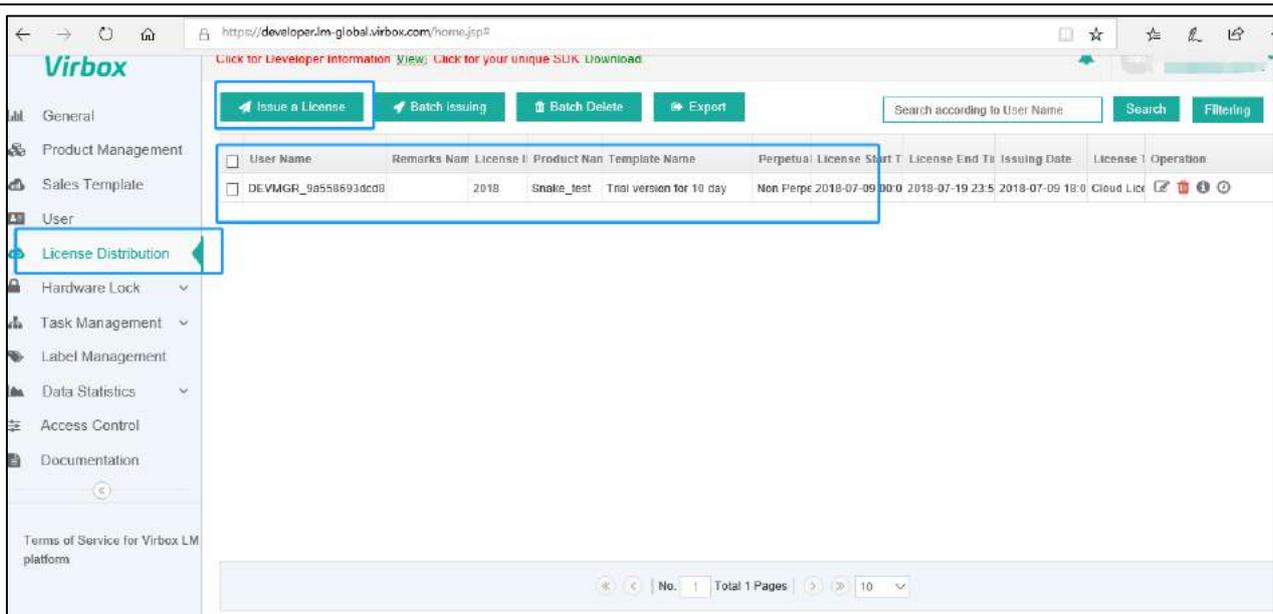
5.3 Complete to Create the Sales Template

Till now, Creation of the **User** and **Sales Template** has been completed, we will evaluate licensing and distribution next.

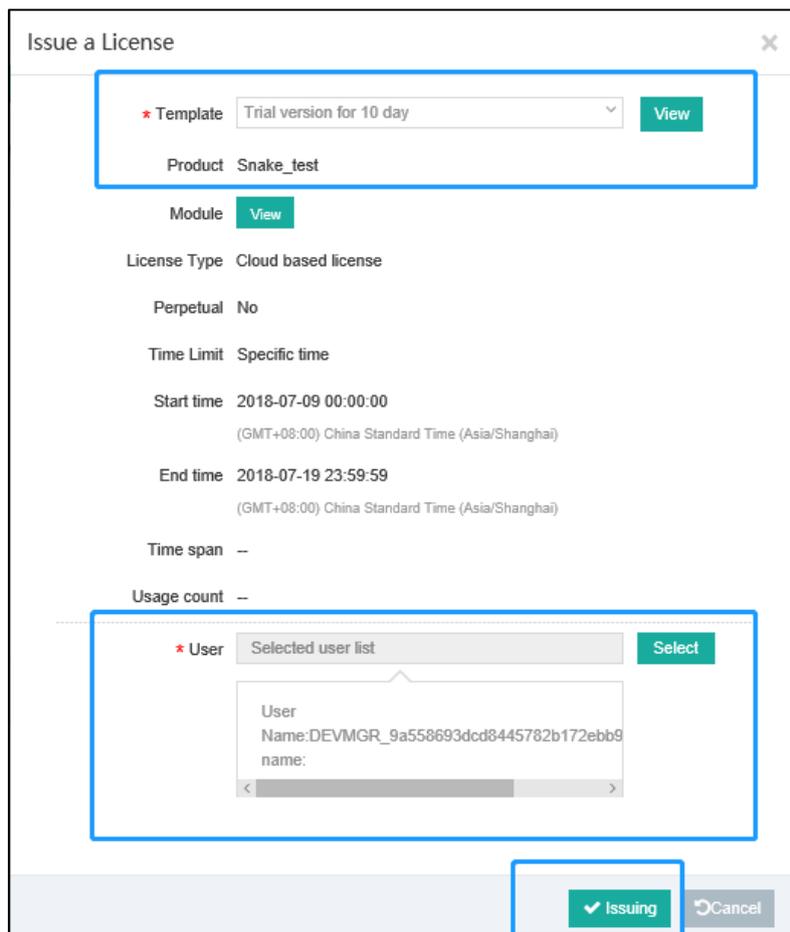
Note: Developer may create different sales template for same software according to software sales strategy to different market segment.

5.4 License Issue (Virbox Developer Center)

Sign in "**Virbox Developer Center**", click "**License Distribution**" on the left pane of Main Menu. Select the template you have created in last chapter. And click "**Issue a License**" Button.



A window to input the detailed information will popup,



Select the **user** and **sales template** you created, and click” **Issuing**”,

Now you have completed the issuing of the License, you can check it like in the picture:

[Click for Developer Information View.](#)
[Click for your unique SDK Download.](#)

[Issue a License](#)
[Batch Issuing](#)
[Batch Delete](#)
[Export](#)

[Search](#)
[Filtering](#)

<input type="checkbox"/>	User Name	Remarks Name	License ID	Product Name	Template Name	Perpetual	License Start Tim	License End Tim	Issuing Date	License Ty	Operation
<input type="checkbox"/>	DEVMGPR_9a6586930c0844:		2018	Snake_Test	Trial version for 10 day	Non Perpet	2018-07-09 00:00	2018-07-19 23:59	2018-07-09 18:06	Cloud Licen	✍ ✖ 🔄

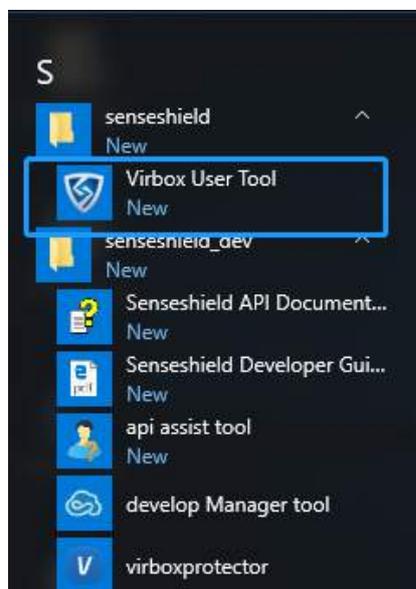
6. License Verification & Using Protected Software

6.1 Run Virbox User License Tool

You need to start the Virbox user License Tool and sign in the Virbox LM account, if you want to run the protected software.

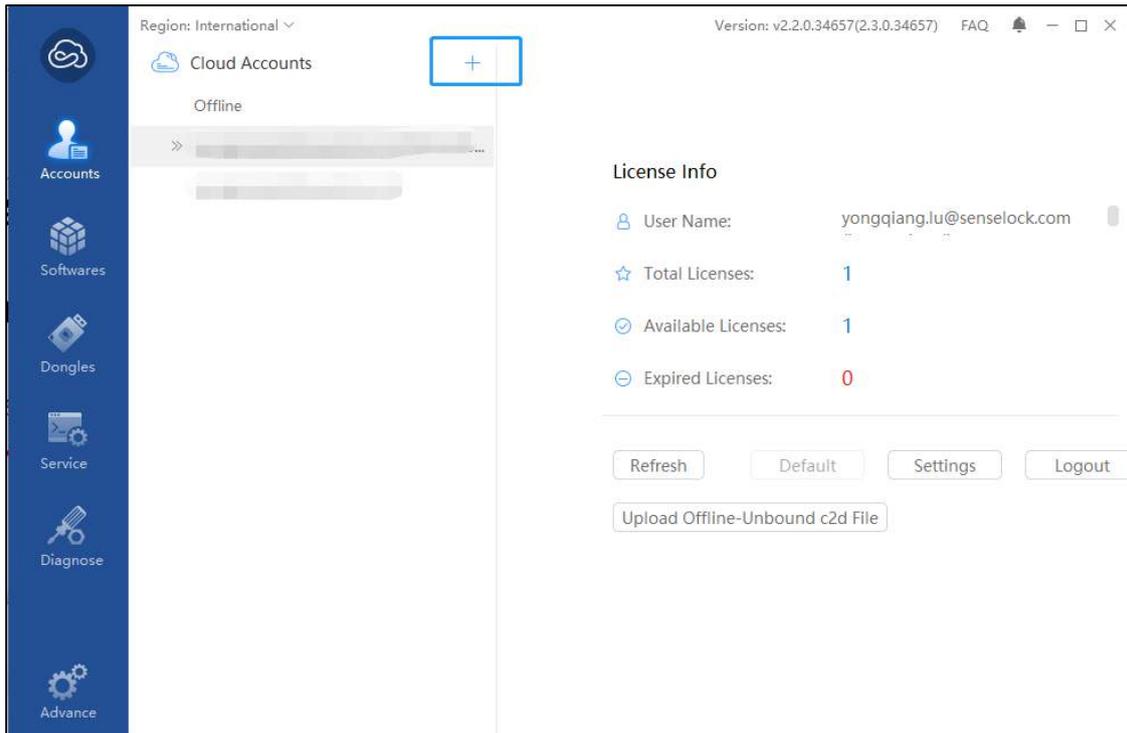
The software download link is: <https://lm-global.virbox.com/resource.html>

Open “**Virbox User License Tools**” as in the picture blow:

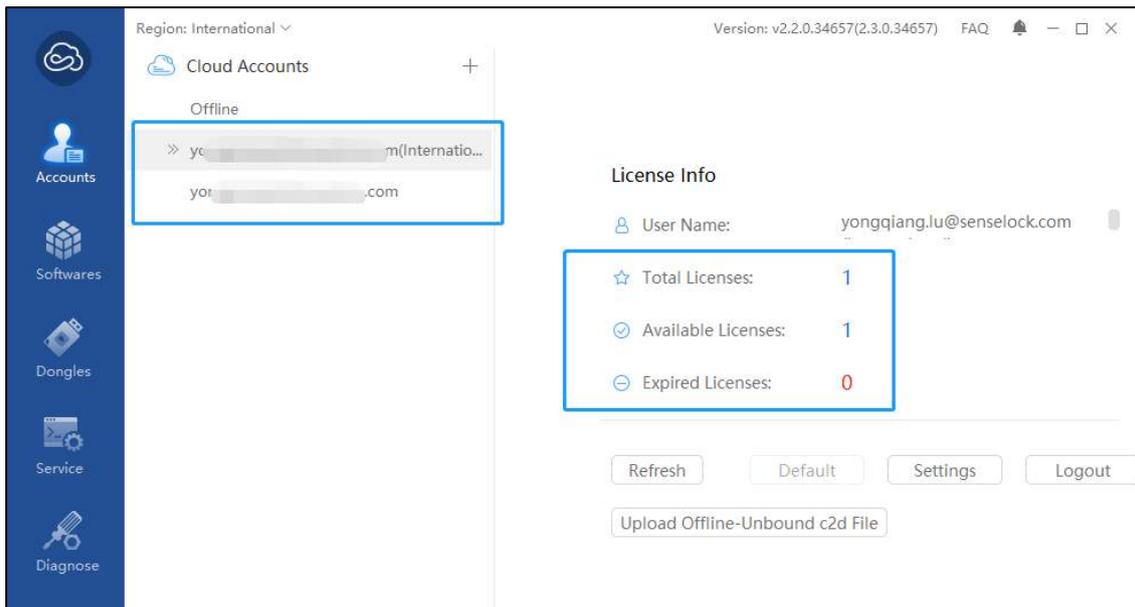


The software will start.

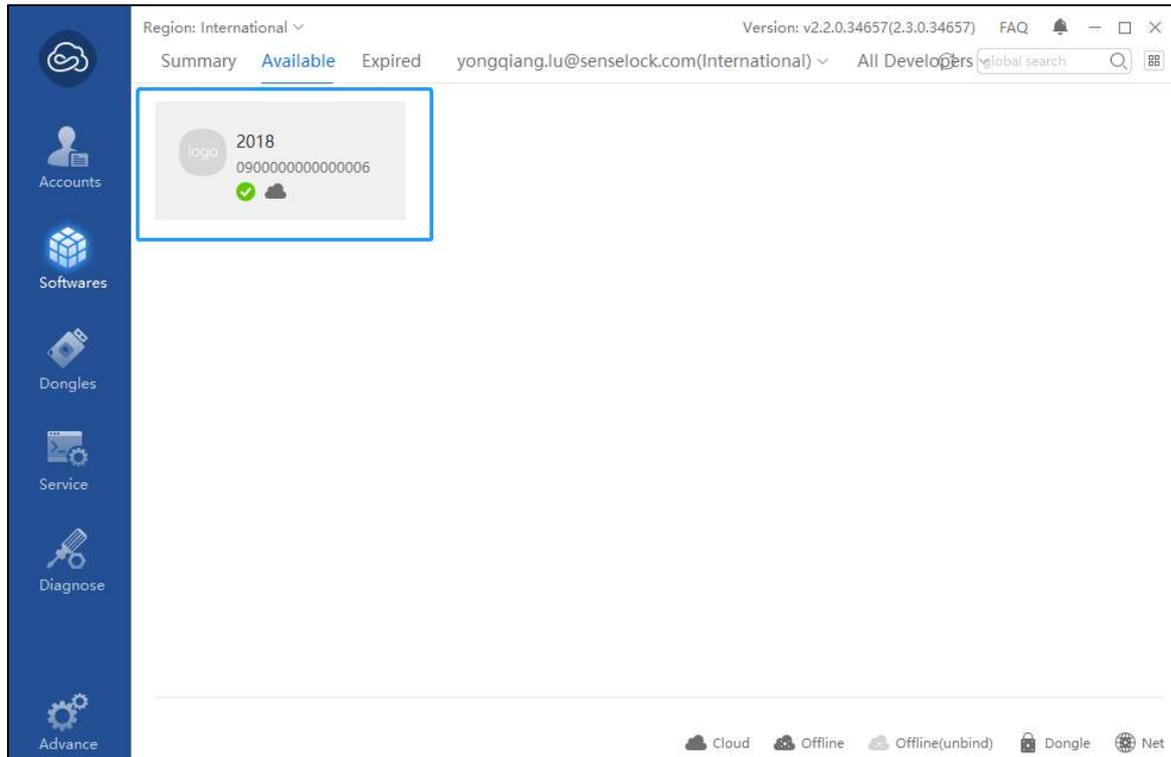
Please sign in the account by click “+” with the username and password when you “**Add User**” in chapter 5.2,



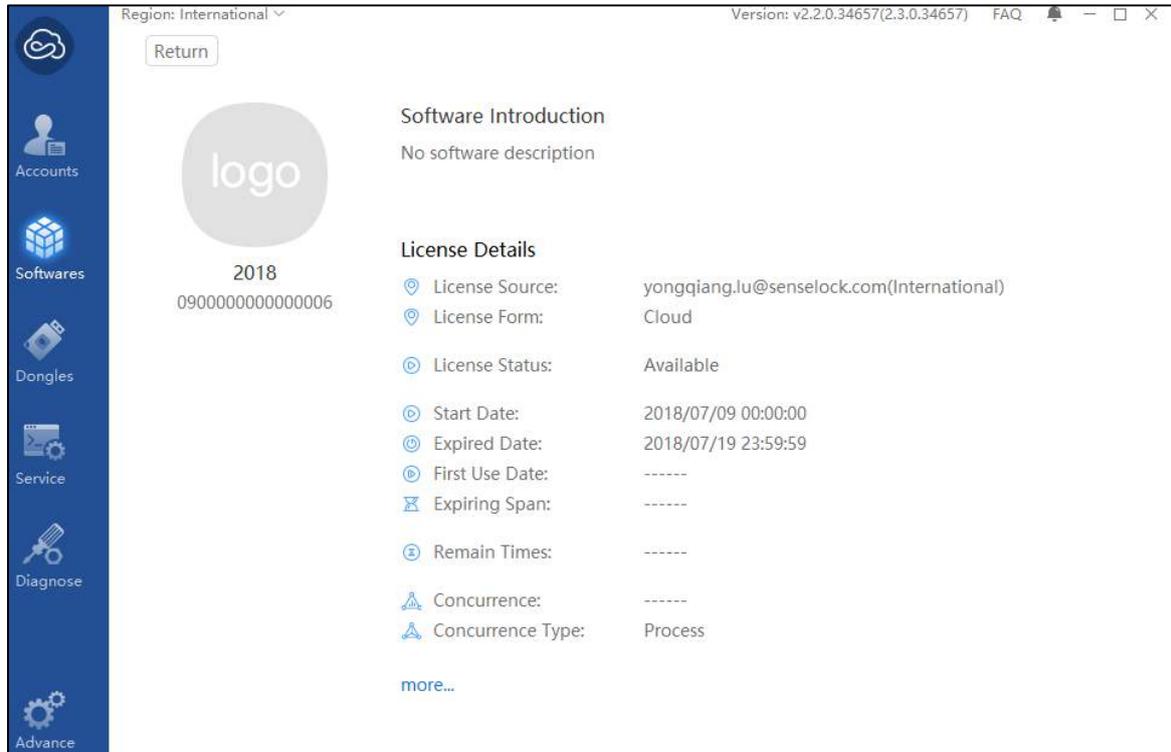
After sign in the account, you can click the account to check the created License:



Double click "Available License", it will show you the current Cloud License in this account:



Double click the license, it will show you the detail information of the License, it will show the start time, Expired time and so on.

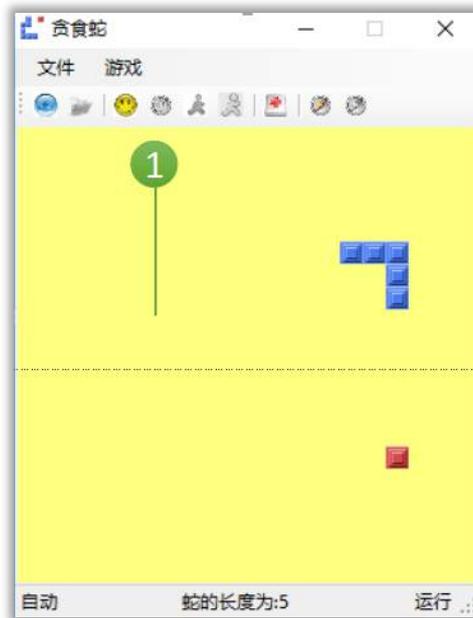


If you have upload a logo in 3rd chapter when you create the product, you also can see the **logo** in the left top side.

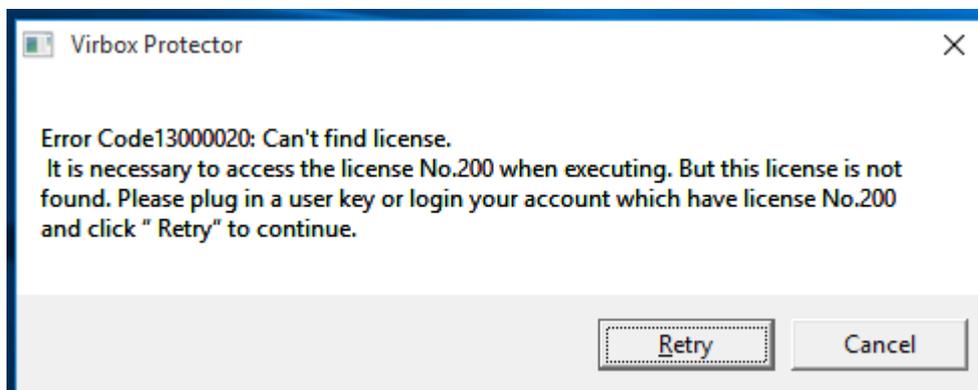


6.2 Prompt Message

Execute with valid license, please see attached sample program;



If you didn't sign in the account and not found the valid license, the software execution will stop and pop up following window:



7. Virbox User License Tool

- The functions of Virbox User License Tool is setup security tunnel between Protected Software application and Cloud License which stored license, it is not necessary for developer to maintain this tools in daily operation. Virbox will provide continuously update/upgrade this tools and reduce developer workload which will help developer focus to develop their software only.
- Virbox User License Tool uses API for license verification and support device independently, Virbox User License Tool support license verification to all kinds of license repository: Hardware based Dongle, Soft Lock and cloud based lock.
- Virbox User License Tool support with Security API, Security driver software and other security technology, it provides dynamic security and protection to software be protected.
- Every software user must install the Virbox User License Tool for license verification, it is not necessary for software user to download and install developer SDK, and just install this user license tools for software execution, please go to following website to download latest version of Virbox User License tool.

Download Link: <https://lm-global.virbox.com/resource.html>

Any Question or Technical inquiry to Virbox solution, please visit Virbox LM website (<https://lm-global.virbox.com/>) for downloading latest Virbox Software and get online support from Virbox Technical team!

Summary

We have briefing for Software developer the whole Operation process of:

- How to Define and Well Plan a software Product and Product ID (License ID)=>**Virbox Developer Center**;
- How to use Virbox Protector to protect/Encrypt the software application=> **Virbox Protector**
- How to Create Sales Template in the **Virbox Developer Center**(for Cloud License and soft License);
- How to Issue Cloud license to software user =>**Virbox Developer Center**(for Cloud License and soft License);
- Executed protected Software with Cloud License: License verification via Virbox User License Tool in the software user premise.

Appendix

Glossary

<p>Virbox Elite 5 Acme</p>	<p>Virbox EL5 Acme is latest Generation of Virbox hardware Lock which improved both in Hardware performance and Security Performance. Virbox EL5 Acme is key component and License repository of Virbox LM solution. Virbox EL5 Acme can be used to be a standalone dongle without connect to Virbox LM, and also can be used seamless integrated with Virbox LM with additional and advance feature available. Virbox EL5 Acme support and suitable to deploy in tough industry environment. Software Developer can use this product to protect the Software copyright and IP. It will supports developer to protect software with most security technology, best performance and easy to use. For detail Specification of Virbox EL5 Acme, please refer to the Virbox EL5 Acme datasheet.</p>
<p>Virbox LM</p>	<p>Virbox LM is cloud based Software protection, License Entitlement solution and cloud service which provides software developer with lowest total cost ownership, Top Security of Software Copyright Protection and Easy to use in whole software life cycle. By use of Virbox LM, Developers can achieve extremely protection to software copyright/IP and flexible to issue license to software user with minimal effort and investment. Virbox LM One Stop Solution consist of following components: Virbox License Manager (Virbox Developer Center), Software Protection (Envelope) Tools (Virbox Protector), Local License Manger (Virbox Developer Utility) and Virbox License Service and User License Tool (Virbox User License Tool) and other support tools and documents.</p> <p>Virbox License Type supports: Hardware lock (Elite 5 Acme Dongle), Soft Lock (Soft license) & Cloud Lock (Cloud license) and suitable to deploy in different Software implementation scenario, on-line, offline, firewall isolated environment etc. Virbox provides flexible license mode to support ISV/software developer Software monetization which includes: Perpetual, trial, time based, feature on demand, subscription, concurrent, etc.</p>
<p>Virbox Developer Center</p>	<p>Virbox Developer Center consists of Developer website and Open API, It provides cloud based Service and website for License Issue and License Entitlement solution to software developer, Developer may use [Virbox Developer Center] (https://developer.lm-global.virbox.com/) to manage software product, user management, License Issue and Entitlement, Virbox</p>



	<p>Developer Center is online License solution for software developer, By use of Virbox Developer Center, it is not necessary for developer to build up in house License entitlement system and save the investment both in Capex and Opex.</p>
Virbox Protector	<p>Virbox Protector is the latest envelope tools for software protection and encryption, Virbox Protector integrated multi security technology including Virtual Machine, Code Snippet (Code Fragmentation) and other static and dynamic technology/Service and provides top secure protection level to developer's software, Developer may protect software automatically by select protection options without any coding competence and can save lot of workload and effort in software protection process.</p>
Virbox Developer Utility	<p>Virbox Developer Utility is local License Manager provided by Virbox LM, this Utility helps developer to issue the license to hardware lock (Virbox EL5 Acme) quickly. With Virbox Developer Utility, Developer will save capex and opex and not necessary to spend money to build up the In House License System.</p>
Virbox User License Tool	<p>A software installed in software user's site that can be used for license verification, update and transfer service, Virbox User License Tools works with Virbox License service and provides static and dynamic protection service to software installed in software user's site.</p>
Product	<p>Virbox Use "Product" refer to the Software application developed by software developer, software publisher which need to encrypt, protect the "product" by use of Virbox Protector.</p>
Sales Template	<p>The Sales mode for mature commercial software should support different sale mode and charging policy to meet the requirement of software users: pay per year/month/day, per usage, or pay for perpetual license. Above charge policy is independence with Product functions but depends on sales strategy to each marketsegment. So, Virbox designed the following "Concept" in Virbox License system to reduce duplicate workload for developer in protection and license process: *Sales Template*, developer may setup the different limitation to same product in different Sales Template to meet different sales and marketing strategy.</p>
License ID	<p>License ID is the unique indicator which used in the software protection and license issuing/distribution process in the Virbox LM system, which represents the License No. for software. For details introduction to Virbox License Management and License concept, please refer to "Virbox License System"</p> <p>Developer must assign associate License ID to the product created. And the</p>



	<p>License ID must not be duplicated assigned and used for other product. The License ID associated with specific product will be use unique ID No. and Indicator to presents for this product in all protection and license process. The protected software will verify the associated License when software user execute the software.</p>
Account	<p>Account sign up by "user" in Virbox developer Center or Virbox User Center, For software developer, they can sign up account in Virbox developer center to evaluate and test the Virbox Solution for software protection and licensing to their product;</p> <p>For Software user, they can sign up a account or assign a account in Virbox User center by software developer, this user account will be the unique identifier for user to use and verify license issued by developer;</p>
Master Lock	<p>Virbox Solution provides 2 kinds of hardware lock for software developer: Master Lock and User lock; master lock is the unique Identity for each Software developer to protect software and issue license, it is mainly used for software encryption , protection, issue license and issue upgrade package to EL5 Acme user lock.</p>
User Lock	<p>User lock is the hardware based lock deliver to software user which contains the license file issued by Software developer, Virbox Provides following Virbox EL5 user lock to developer: EL5 Acme, EL5, EL5 RRTC, EL5 Genii.</p>
Soft Lock	<p>Soft Lock contains software license, saved in local safety environment. Which used to verify the protected software. Software developer may issue the Soft license from Virbox Developer Center to licensed software user account, Soft lock supports both online mode and offline mode.</p>
Cloud Lock	<p>The cloud license (cloud lock) is one of license type supported by Virbox LM, , Cloud License issued by developer from Virbox Developer Center and stored in Virbox Cloud and used to verify the protected software. The cloud license must be bound with the software user account. Users can use the protected software in online status (Access internet) and successfully logged in Virbox User Account.</p>
API	<p>Virbox SDK provides a complete package of APIs (Application Program Interface) for license management and licensing that will help software developer get the most licensing function out of the Virbox licensing system. Developers can flexibly implement their own encryption scheme by calling these APIs, and combine the functions of encryption, decryption and data area provided by</p>



	Virbox license to realize deeply protection scheme and further increase the difficulty of cracking.
Control API	<p>This API is the management interface of Virbox License Manager, here referred to as Control API. Control API will mainly be used and provides the inquiry to the hardware lock (dongle)'s information, inquiry to license terms and status, inquiry to license session etc.</p> <p>More details to how to use Control API and use case, please refer to Virbox License Architecture.</p>
Runtime API	<p>The API interface to access Virbox license, referred to as Runtime API, is the most critical interface for the Virbox licensing system. Runtime API is the key API interface for developer to use and call API, the software of Developer will use this API to access license. More details to how to use runtime API and use case, please refer to Virbox License Architecture.</p>
d2c API	<p>Virbox SDK provides "Developer Utility", the local License Manager, for developer to issue the license to hardware lock (Virbox EL5) quickly. D2c API provides the interface to developer to issue license to hardware lock. Developer may call the "D2C API" to issue license with more flexible operation and flexible to combine different license terms.</p> <p>the d2c package created by d2c API is the only license update package which can be recognized and identified by Virbox EL5 Acme hardware lock, d2c package includes digital signature and encryption to the license terms which will guarantee the integrity and security of license data, on the other hands, the Virbox EL5 hardware lock provides the function to anti-replay, all d2c license update package will be used one time in the hardware lock only.</p> <p>Note: Calling d2c API is quite complicate process, more details, please refer to sample file.</p>
Open API	<p>Open API is the API that Virbox LM provides to developers to access the Virbox Developer Center. Open API can be used for integration with existed third party system in developer site, such as CRM or ERP system.</p> <p>Developers may use and call this OPEN API for user sign up, license issue, license distribution and other operations via third party system. For details, please refer to [Open API Guide V2.0/Virbox Developer Center]</p>
API Assistant	<p>API Assistant is a quick starter tool that helps software developers learn and understand the Virbox API. Execute the API via friendly GUI prompts message to view the API execution result, and can also get the demo code. You can</p>



	<p>quickly familiarize with API and functions without coding.</p> <p>API Assistant is suitable for developers to quickly learn and understand the usage/calling of the API and verify the feasibility of the encryption scheme.</p>
<p>Code Fragmentation Execution</p>	<p>"Code Snippet Execution" or we can named with more simple and easy understanding: "Code Fragmentation Execution". Code Snippet Execution will utilized latest and mature technology in "Extracting the coding" and select and extract large amount of "coding" from original program code, and executed in the security virtual environment after encryption and obfuscation and integrated with Virbox Encryption Compiling Engine, Virtualization and driving technology, all technology integrated together makes protected software in more security during execution process.</p> <p>The Code Snippet Execution" can be simply understand as breaking down the functions or modules of software into code of fragments and execute these "fragments" into a secure environment, so that the crackers can't start to use hacker tools to analysis and get the original code and execution result. "Code Snippet Execution" is major milestone and breakthrough in the Software Encryption and Protection field. In addition to high Security, Code Snippet also rely on and work with "Virbox License Service" middleware to shield the interface from the fundamental layer and also compatible with Virbox Cloud Lock and Soft Lock, and help developer to realized business agility with different kind of license type.</p>
<p>Anti-Hacker Service</p>	<p>The Anti-Hacker Service is composed of kernel state protection component and suspicious feature database collection component. It will keep on upgrade and collect the suspicious features of hacker, which will be used to help to protect the software being protected. And will protect the memory from being tampered. To make the software protection from static to be dynamic.</p>

Let's Start Your Software Protection and Licensing Journey!

Virbox will help you to protect your software copyright/IP Value and Create Revenue for you.