# **Quick Start Guide**

Software Protection and Licensing with Virbox Soft Lock (Online)

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.

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#### 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 soft 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 already signed up and already upgraded to be a standard developer in
   Virbox Developer Center;
- Software developer has installed "*Virbox Protector*" in computer;

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

For Software Protection and Licensing with Virbox EI5 Acme, please refer to:

#### Quick Start Guide:

# Software Protection and Licensing with Virbox EL5 Acme;

For Software Protection and Licensing with Virbox EI5 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 Cloud license by use of Virbox Protector and Virbox Developer Center (Virbox LM), please refer to:

#### **Quick Start Guide:**

# Software Protection and Licensing with Virbox Cloud Lock;

For Software Protection and Licensing with Soft license (Offline) 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 (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 Soft Lock is a software license that based on Virbox LM developer "**account**", Software Developer can sign up on Virbox LM to be a Standard Software developer then can start software protection and issue soft 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:** Soft Lock (Soft license), is the license type which hardware independently, with low cost, flexible to used both in online or offline environment, and can be bind with specified hardware by use of the hardware fingerprint.

#### Installation and Working Environment:

Windows: Support Windows XP sp3 and above version;Linux OS: Support Debian, Ubuntu, CentOS, Fedora, OpenSUSE, Ubuntu Kylin OSMac OS: Support MAC OX10.9 and above version

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







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.Im-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 Virbox SDK(Software Development Kit) Virbox LM use Unique SDK to protect Software application; before using the Soft 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 sign up in the Virbox Developer Center and download SDK;
- Virbox Developer Center signup and sign in link:
   Signup link: <u>https://developer.lm-global.virbox.com/reg.html</u>
   Sign in link: <u>https://developer.lm-global.virbox.com/login.jsp</u>
   The Virbox Developer Center will be shown as blow:



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



- (2)	Viebox I M Iogin	
•	Virbox LW login	
	Email/Usorname	
Wbs	Password	
	Login	
	Forgat passward Create a new account	
	Read and accept Terms of Service	

#### Note:

Please Read and Accept "Terms of Service" and "Privacy Policy" of Virbox LM before signup.

The fields with red mark are required.

* Developer name	Developer name	
	For company developers, please fill in the company name;for individual developers, please fill in the individual's name.	
* Country/Region	~	This is important, please select accurately, You can search by name
* Time Zone	~	
Administrator account in	formation	
* Email	Email	
* CAPTCHA	CAPTCHA Refresh	
* Email verification:	Email verification: Send	
* Create password	Create password	
	Weak Medium Strong	
* Confirm password	Confirm password	
	Terms of Service for Virbox LM platform	
	SenseShield Privacy Policy	

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



÷	⇒ 0 @	f	https://developer.im-global.virbox.com/home.jap		*	∕≏	L
	Virbox		Click to Apply to be Standard Developer, which no Limitation. Click for Developer Information View Click for Trial Version of SDK Download.				Welco
<u>IM</u>	General	4	Statistical period 7 days 14 days 21 days 28 days Current month You are currently a test developer and may in	not use l	the sta	istical fu	nction
& 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Product Management Sales Template User License Distribution Hardware Lock Task Management	· · ·	Number of licences issued deily 1 0.6 0.6 0.4				
۵ ۵ ۲	Label Management Data Statistics	~	0 Number of users increased daily Ucense statistics : 0				
Т	Contentiation	LM	0.8- 0.6-				

#### ■ Virbox provides 2 version of SDK to Software 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

Virbox Developer center		English •
• @	Virbox LM login	
le Vitos	Emat/Mobile/Usernams Pacsenred	
	Login Forpot password Create a new account	
	Read and accept Terms of Service	

Sign in to Virbox Developer Center with your account ID and password.

#### Apply to be a standard developer and download SDK:

After successfully signup an account in the Virbox Developer Center, (now your account is trial developer Copyright © 2018, Virbox, All Right Reserved.
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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 to be a standard account, it will take short time by Virbox Developer Center.

4	→ O @ (	https://developer.lm-global.virbox.com/home.jsp		r	7'≡
	Virbox	Click to Apply to be Standard Developer, which no Limitation. Click for Developer Information View. Click for Trial Version of SDK Downlead.		8	
Lat	General	Statistical period 7 days 14 days 21 days 28 days Current month You are currently a test developer and may r	not use the :	statist	tical fun
\$	Product Management				
۵	Sales Template	Number of licenses issued daily			
	User	0.8-			
۵	License Distribution	0.5-			
۵	Hardware Lock 🗸 😪	04			
alla a	Task Management 🐱	0.4			
۲	Label Management	62-			
(des.	Data Statistics	0 <sup>-1</sup>			
÷	Access Control	Number of users increased daily			
Ð	Documentation	1			
	۲	6.8			
т	arms of Service for Virbox I.M.	0.6-			
pi	atform	04			

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

÷	$\rightarrow$ O r	B https://developer.lm-global.virbox.com/home.jsp				ш \star	te L e	2
	Virbox	Click for Developer Information View Click for your unit	que SDK Download				O Li Di	50110C.
Lal.	General	Statistical period 7 days 14 days 21 days	28 days Current month					
8	Product Management Sales Template	Number of licenses issued daily						
631	User	0.8-						
۵	License Distribution	0.5						
A	Hardware Lock v Task Management v Label Management	0.4- 2018-07 License	7- <b>11</b> statistics : 0					
<b>M</b>	Data Statistics v	2018-07-10 2018-07-11	2018-07-12	O 2018-07-13	2018-07-14	2018-07-15	2018-07	-16
÷	Access Control Documentation	Number of users increased daily						
	(i)	Q8-						
Te pli	rms of Service for Virbox LM alform	0.6-						
		0.2	ana ang senara	menniferense	nerenskreene		in an	

**Note:** Please upgrade from trial developer account to standard developer account if you want to evaluate and protect your software with **Soft Lock**.

## 2.3 Virbox SDK Installation Introduction

Developer may download and obtain latest version of Virbox SDK from: Copyright © 2018, Virbox, All Right Reserved.



https://developer.Im-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**":

Virbox	Click for Developer Info	Click for Developer Information View. Click for your unique SDK Download.						
deneral	+ New			Search according to Produ	cts Search			
Product Management	License ID	Product Name	Creation Time	License Type	Operation			
📣 Sales Template	2018 10	Snake_test	2018-07-09 18:04:06	Cloud License	2 0			
🖬 User	10	Snake_Test	2018-07-03 14:48:25	Cloud License	0 10			
License Distribution     Hardware Lock      ✓     Task Management      Label Management     Data Statistics      Access Control     Documentation     ✓								

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



* License ID	License ID
* Product name	Product name
∗ Display name	Product display name
* License Type	Cloud based license Soft based license (beta)
Product logo	Example:
	Current logo
	of 160 * 120 pixels;
	pixels into one picture locally in accordance with the illustration example above and then upload it )
roduct introduction	Product Briefing Note (within 600 letters)
+ Advanced O	ptions

- Define a License ID to this product or to define License ID to each functions of this product. This is an integer from 1~4.2 Billion. 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, in this example we make the product name "Snake\_game";

**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 "Soft Lock", here have two option: "Cloud" and "Soft". In this document we take "Soft" as an example. For the usage of "Cloud", please refer the related document.
- Product Logo: You can also upload your own company logo or product 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 the function of the software
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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:

÷	⇒ 0 ଲ	A https://developer.lm	n-global.virbox.com/home.jsp#		Ш. <sup>с</sup>	☆ ☆ & ⊮ …
	Virbox	Click for Developer Info	mation View. Click for your unique SDK Down	aload.		A Weissene Jacobe,*
had	General	+ New			Search accordin	g to Products Search
æ	Product Management	License ID	Product Name	Creation Time	License Type	Operation
đ	Sales Template	2018	Snake_test	2018-07-09 18:04:06	Cloud License	0 10
633	User	10	Snake_Test	2018-07-03 14:46:25	Cloud License	0 0
۵	License Distribution					
۵	Hardware Lock 🔍 🗸					
4	Task Management 🗸 👻					
Ð	Label Management					
	Data Statistics v					
	Access Control					

**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 created 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 to use "Virbox Protector".

**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, Code transplantation** 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 EI5 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:



Welcome to Virbox P	rotec
New Open file	
Recent Project .Net_RetroSnaker.exe	Please drag into a file, Start protection
	Developer center Virbo

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++
$\checkmark$	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 a fast Deployed Protection/Encryption tool, 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 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. Copyright © 2018, Virbox, All Right Reserved.



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:

V Virbox Protector x86 (1.2.3.7548)	ct	Developer yongqi	ID: 09000000000000006 ang.lu@senselock.com	E − □ ×
ProjectNet_RetroSnaker.exe Control icense configuration No Functions be Prot + Protection Options Message Options	View license confi Type: License ID: API PWD: Chipset S/N: OAUTH URL: Cloud URL: Soft URL:	guration  Local Remote Cloud Sof  2010  FAD284C 181432D4D891	t (Optional) (Optional) (Optional) (Optional)	
C:\Users\liuguoquan\Desktop\.Net_Re	roSnaker.exe 1.0.0.0		.net ar	nycpu   Intel 386

- Login Virbox Protector with Virbox LM account, on the right top pane.
- Select License Type: Soft 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 previous step.

- 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 on **Virbox develop center** and click" **view**" shown in the picture.

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

÷	$\rightarrow$ O $ô$	ē	https://developer.lm-global.virbox.com/home.jsp		\$	陸	L
	Virbox		Click to Apply to be Standard Developer, which no Limitation. Click for Developer Information View. Click for Trial Version of SDK Down	nload.			Welc
1.64	General	<	Statistical period 7 days 14 days 21 days 28 days Current month You are currently a lest developer an	nd may not use	e the sta	tistical fu	inction
æ	Product Managemen	nt					
۵	Sales Template		Number of licenses issued daily				
633	User		0.8 -				
۵	License Distribution						
۵	Hardware Lock	~					
ሐ	Task Management	~	0.4				
₩P	Label Management		0.2-				
(dec.	Data Statistics	~	0 L 0 0				
莘	Access Control		Mumbar of unair interneted delly				
8	Documentation		Number of users increased usery				

Click "view", you can copy it here.

veloper informatio	n	
User name	DEVMGR_9a558693dcd8445782b172ebb9d456b7	3
Developer name	yongqiang_sense	
Country/Region	China	
Time Zone	(GMT+08.00) China Standard Time (Asia/Shanghai)	
Display name		
Developer logo		
Developer website	Not set	
Developer introduction	Not set	
Developer ID	03000000000009	
API password	Hide	
AP	I password: )D16341	
(No Ru	le: the password needs to be transmitted in when slm_init in Virbox firme API is called)	
appid/secret	View	
Lock PIN	View	

 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

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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;

Open file Save Prote	) ct	yongq	iang.lu@senselocl	c.com Cogin
ProjectNet_RetroSnaker.exe	V license conf	iguration		
V license configuration	Туре:	Local Remote Cloud Sof	ft	
Protection Options	License ID:	2010		
💬 Message Options	API PWD:	FAD284C 81432D4D891	Ĵ.	
	Chipset S/N:		(Optional)	
	OAUTH URL:		(Optional)	
	Cloud URL:		(Optional)	
	Soft URL:		(Optional)	
	L			

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 to get the "Running times" as a reference before select function protection mode.

Running times	Protection type	Added
		1
	No protected *	
	No protected *	
	Obfuscation *	1
121	No protected *	
260	No protected *	
111	No protected *	
	No protected *	
366120	Obfuscation *	×
	No protected *	
111	No protected 🔹	
		1
	   121 260 111  366120  111	<ul> <li>No protected *</li> <li>No protected *</li> <li>No protected *</li> <li>121</li> <li>260</li> <li>111</li> <li>No protected *</li> </ul>

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

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.



Q Search			Anal	
Name	Running times	Protection type	Added	84
▼ 贪食蛇				-
<ul> <li>AvoidDeadAuto</li> </ul>				
📀 AvoidDead	22	No protected *		
Convert		Obfuscation -	~	
S IsBlank	[	Snippet 🔹	- ×.	=
🐶 IsCanGo	199	No protected 👻		
No InitPoints	418	No protected 🔹		
🐶 CanToTarget	178	No protected 🔹		
🕜 CalBlank	221	No protected 🔹		
📀 CalBlankSon	592494	No protected 🔹		
📀 IsOut	<u>194</u>	No protected 🔹		
🕜 JudgeDirection	178	No protected 🝷		
<ul> <li>AutoShop</li> </ul>				
<b>2</b> 9				
otal Qty: 66 ;		Consel	6.00	1

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;

Name	Running times	Protection type	Added	18
★ 食食給				•
<ul> <li>AvoidDeadAuto</li> </ul>		]		
WidDead AvoidDead	-	No protected *		
Convert		Obfuscation *	~	
[5] IsBlank	221	Snippet -	1	=
🧓 IsCanGo	199	No protected +		
initPoints	418	No protected +		
CanToTarget	178	No protected *		
😳 CalBlank	1221	No protected *		
CalBlankSon	592494	No protected *		
😳 IsOut	+*	No protected -		
JudgeDirection	178	No protected +		
▼ AutoShop	++ :			
· · · ·		/0/0		

Select "Code Snippet" Protection mode for Important Functions, which will increase protection level



for those important functions or IP.

Q Search			Analy	
Name	Running times	Protection type	Added	783
▼ 贪食蛇	221			
<ul> <li>AvoidDeadAuto</li> </ul>	17.71			
🕼 AvoidDead	221	No protected *		
M Convert		Obfuscation -	~	
S IsBlank		Snippet -	×.	-
🐼 IsCanGo	199	No protected 🔹		
🐼 InitPoints	418	No protected 🔹		
🐼 CanToTarget	178	No protected 🔹		
🐼 CalBlank	12	No protected *		
🐼 CalBlankSon	592494	No protected *		
🕼 IsOut	221	No protected *		
📀 JudgeDirection	178	No protected 🔹		
▼ AutoShop	12			
÷				*
otal Qty: 66 ;			4993	
	intro lineations 0 .	Cancel	Add	

**Note:** Do not select too many functions with "**Code snippet**", since it will decrease software execution performance if select too many functions to be protected with this option;

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.

Q Sea	arch			Analysis
	Name	Running times	Protection type	Added E
* 8	合食蛇	393		
⊳	AvoidDeadAuto	27.2		
b.	AutoShop			
*	EatTargetAuto			
	🚺 EatTarget	22	Obfuscation -	~
	💮 LeftOrRight		No protected *	
	📀 UpOrDown	573	No protected =	
•	frmFactory	12		
Þ	Snake			
Þ	frmGame			
⊳	Program			
þ.	SnakelO	275		
Þ	SnakeLabel	(22)		
otal Qty:	66;		Canad	Ares
		A Ministrational D -	Cancel	466

 Select "Virtualization": Virbox Protector will compiles instructions into virtual code and run them in the specified virtual machine.



Q Searc				Analysis
	Name	Running times	Protection type	Added
	401000	201	No protected *	-
0	401020	<b>7</b> 70	No protected *	
00	401090	225	No protected *	
00	4010D0	55)	No protected *	
00	4010F0	225	No protected *	
00	401110	875)	No protected	
00	401140	221	No protected	
00	401250		Obfuscation	
00	401290		Snippet	_
00	4012D0		Virtualization	
00	401310		No protected	_
00	401380		No protected *	
· 📀	4013A0	223	No protected *	
-				
Total Qty:	5875		Cancel	Add

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 option 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 can select and setup these "**Protection Option**" in actual project.

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



V Virbox Protector x86 (1.2.3.754	18)	Developer ID: 03000000000000	9 ≡ - □ ×
Open file Save Pro	Dtect	Please Insert Developer Master Lock or Sign In Virbox Cloud	d Zy Login
ProjectNet_RetroSnaker.exe	Protection Optic	ins	
🔻 💽 Functions be Prot 🛛 🕂	4 File	Not PoterSpaker con ave	1
▼ 贪食蛇 ▼ Program	<ul> <li>Protection Options</li> </ul>	.net_retiosnaket.ssp.exe	
Main	Obfuscation	2	
Protection Options	Compression	□ 3	
💬 Message Options	Log Generation	□ <b>5</b>	
	Check Interval (S)	60 <mark>6</mark>	
	⊿ ds	0	
	密码	******	
C:\Users\liuguoquan\Desktop\.Net_	RetroSnaker.exe 1.0.0.0	.net	t anycpu   Intel 386

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

Virbox Protector x86 (1.2.3.75	48)	Developer ID: 030000000000009	≡ - □ ×
Open file Save Pr	otect	Please Insert Developer Master Lock or Sign In Virbox Cloud	Login
Project -注入器.exe	Protection Options		
Functions be Prot (+)	Output File	注入器.ssp.exe	1
Protection Options	A Protection Options		
Message Options	Compression	□ 3	
<b>•</b>	Resource Section Encryption	□ 4	
	Log Generation	□ <b>5</b>	
	Check Interval (S)	60 6	
	⊿ ds	$\odot$	
	密码	*****	
C:\Users\liuguoguan\Desktop\办公	文档+文件\测试程序\注入器.exe 2.0.0.1	1 Local v	vin32   Intel 386

#### 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 .Net 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 not too big size. Also will enhance protected software's Security level after compression;

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

- 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(PE) 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.

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.



Virbox Protector x86 (1.2.3.75)	18) Dotect	Developer ID: 0300000000000 $\equiv$ $ \Box$ $\times$ l'ease Insert Developer Master Lock or Sign In Virbox Cloud				
ProjectNet_RetroSnaker.exe	Message Options					
V license configuration	4 Message Options					
Functions be Prot     +	Language Setting	English				
▼ D B 38	License invalid,Program will	Be frozen, User can select retry or exit.				
Main	Postpone to exit the Program	0				
Protection Options	Tips Tittle	Virbox Protector				
😳 Message Options						
	Count Threshold of Remindin	g 10				
	Day Threshold of Reminding	10				
	Warn of remainder count	Count Left: {COUNT}{ENTER}				
	Warn of day count	Day Left: {DAY}{ENTER}				
	Warn of SS low version	You SS low version, Please contact the agency to update				
	Warn of can not find license	Error Code{ERROR}: Can't find license.{ENTER} It is necessary to access the license				
	License Expired Prompt	Error Code {ERROR}: License Expired{ENTER}It is necessary to access the license No				
	Reach count Limit Prompt	Error Code{ERROR}: Concurrent count comes to the limit.{ENTER}License Expired{E				
C:\Users\liuguoquan\Desktop\.Net_	RetroSnaker.exe 1.0.0.0	.net anycpu   Intel 386				

#### 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 (1.2.3.75	48)	Developer ID: 09000000000003 Ξ – □ ×
Open file Save P	rotect	Please Insert Developer Master Lock or Sign In Virbox Cloud
ProjectNet_RetroSnaker.exe	Protection Optio	ins
Protection Options	Output File	.Net_RetroSnaker.ssp.exe
Message Options	4 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



Open file Save Prote	đ	yongqiang.lu@senselock.com
Project - Net_RetroSnaker.exe icense configuration Functions be Prot + Protection Options Message Options	Iicense configuration   Type:   Local   Remote   License ID:   2010     Binding   OAUTH URL:   Cloud URL:   Soft URL:	Cloue Soft (Optional) (Optional) (Optional)

V Virbox Protector x86 (1.2.3.7548)		Developer ID: 09000000000000 $\equiv$ $ \Box$ $\times$
Open file Save Prote	) sct	yongqiang.lu@senselock.com
ProjectNet_RetroSnaker.exe V license configuration V G Functions be Prot + 文合說 V Program M Main	V Confirm	Remote Cloud Z Soft
<ul> <li>Protection Options</li> <li>Message Options</li> </ul>	Verify software:.Net_f	letroSnaker.ssp.exe tional) Verify Quit tional)
	Soft URL:	(Optional) (Optional)
C:\Users\liuguoquan\Desktop\.Net_Re	troSnaker.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".



Virbox Protector	×
Error Code13000020: Can't find license. It is necessary to access the license No.200 when executing. But this license found. Please plug in a user key or login your account which have license No and click " Retry" to continue.	is not 5.200
Retry	Cancel

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	Туре	Size	
L. Net_RetroSnaker	2017/5/24 19:48	Application	183 KB	

Only the original software to be protected.

The folder after software protection completed is as blow:



- 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

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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, 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\_game" 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",

$\leftarrow$	$ ightarrow$ $ m \redset$	A	https://developer.lm	-global.virbox.com/home.jsp#							
	Virbox	C	Click for Developer Info	for Developer Information View. Click for your unique SDK Download.							
<u>.111</u>	General		+ New 🍵 B	atch Delete							
8	Product Management		No.	Template Name	License ID	Product Name					
<b>a</b>	Sales Template		685147	Trial version for 10 day	2018	Snake_test					
	User		665553	Trial Version for 1 month	10	Snake_Test					
	License Distribution										
	Hardware Lock v										
<b></b>	Task Management 🗸 🗸										
	Label Management										
	Data Statistics v										
***	Access Control										
È	Documentation										
	«)										

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\_game**" product trial version for 10 days for an example.

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Creat	te a new templa	ate							×
	* Template name	Template name	1						
	* Product	Snake_game	2				~	View	
	* License Type	Soft based licer	nse (beta)						
	Perpetual Licensing	OFF							
3	Time Limit	<ul> <li>Specific time</li> </ul>	⊖ Se	et licer	nse issui	ng ti	me as lic	ense start tim	е
	Start time		Ê	00	Hour	00	Minute		
		(GMT+08:00) China St	andard Tim	e (Asia/	Shanghai	i)			
	End time	IZAL 19900 Obras St	Ê	23	Hour	59	Minute		
		(OWIT+00.00) Onina Sta	andard Thi	e (MSIA)	onangna	<i>.</i>			
	Time span	Time span, unit: da	ly.	4				OFF	
	Usage count	Usage count		- 5				D OFF	
	* Off-line duration	Off-line duration (1	180 days	6					
* Nu	umber of concurrent	less than or equal t	ο 65535 ι	inits 7	7				
	devices			_					
* Acci	umulated number of binding devices	less than or equal t	ο 65535 ι	inits <mark>と</mark>	5				
	* Offline binding	Unsupported (	Suppor	ted 9	)				
-	Advanced Opti	ons							
							✓Confi	rm 'DCan	cel

Select the product "Snake\_game" which we have created in chapter 3.

- 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) **Product**: Select the Product you created in chapter 3.
- 3) Perpetual Licensing:
- If switch off "Perpetual Licensing", you can setup License in valid time period;

#### Time limit:

- If you select Specific time, Setup License start time and end time, the license will be valid only during specific time period;
- If you select "Set license issuing time as license start time", the license start time will be the license issuing time, in combination with the setting of Time Span, This license will become invalid when time span expired.
- Perpetual Licensing: Issue license to be a "Perpetual Licensing", then this license issued to software user will be perpetual license and never be expired;
- 4) **Time Span**: License start time start from when software user first time to verify license, the license will be valid during time period setting;

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- 5) Usage Count (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.
- 6) **Off-line duration:** Soft license (online) requires regular online activation to ensure the security of the key and software. The offline duration indicates the days of the license can be used offline. Without online activation within the time period set the soft license will be invalid. The maximum setting is 180 days.
- 7) Number of concurrent devices: that is, the number of devices bound at the same time with the same license after logging into the same "user account", the number of devices bound at the same time decreases with each binding count, if the number count to "0", you can't bind more device.
- 8) Accumulated number of binding devices: Set a accumulate number of binding devices of the license, each time the License bind one more device, the number decreases, if the count returns to zero you can't not bind any more device.
- 9) Offline binding: For Soft license (online), which need regular online verification in certain time of period, for the software user is always in offline environment. Virbox launched offline verification solution. If you choose "support" means this soft license support off-line verification. For more detail please refer the "Quick Guide of Soft License (off-line)". In this document we use online verification, so we choose

"Unsupported" here.

Click "**OK**" to create the Sale Template you want to create, then new sales template will be created successfully.

÷	. → O û		合 https://dev	eloper.Im-global.virbo	k.com/home.jsp#					5 <sup>1</sup> Ξ	h
	Virbox		Click for Developer In	formation View. Click for	your unique SDK [	Download.					Welsome
4	General		+ Now D	Batch Dulots				S	earch according to Terr	iplate Nan	ne S
æ	Product Management	Į.	U No.	Template Name	i.	License ID	Product Name	Creation Time	Licens	е Туре	
۵	Sales Template	(	690987	Trial version for	10 days	2010	Snake_game	2018-07-16 15:39:17	Soft Lic	ense	
13	User	ſ	685147			2018	Snake_test	2018-07-09 18:05:04	Cloud L	loense	
đ	License Distribution		□ 665553	Tria	paonth	10	Snake_Test	2018-07-03 14:52:57	Cloud L	lcense	
۵	Hardware Lock v										
ь	Task Management 🛛 🗸										
۲	Label Management										
84	Data Statistics 🔍 🗸										
	Accese Control										

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:

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Click User item on the left pane, and click "+User",

	Virbox	Clic	ck for Develop	er Information	n View. C	lick for your un	ique SDK Do	wnload.		
dd	General		🏭 User	💼 Batch (	Delete	Export				
88	Product Management		User Name		Email		Mobile	Telephone	Gender	Contact Address
6	Sales Template	C	] DEVMGR_9	a558693dcd8	yong	elock.			Male	
	User									
6	License Distribution									
	Hardware Lock v									
å	Task Management 🗸									
۲	Label Management									
	Data Statistics ~									
41 4	Access Control									
Đ	Documentation									
-	۲									

 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.

Сг	eate a new user	r	×
	* Account type	Set an email address as an account	
	* Email	Email	
	Mobile	Mobile(example: 18XXXXXXXXX)	
	Gender	~	
	Telephone	Telephone	
	Contact address	Contact address	
	Remarks name	Remarks name	
	Description	User description(within 600 letters)	
	Label	Add label	
		Activation is required when login for first time	
		✓Save つC	ancel

After input the information, save and complete to create the user. Copyright © 2018, Virbox, All Right Reserved.



• 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.

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.

## **5.3 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 pop up, you need to select the "Sales Template" you just created,



Issue a	a License		×
	* Template	Trial version for 10 days View	
	Product	Snake_game	
	Module	View	
	License Type	Soft based license	
	Perpetual	No	
	Time Limit	Specific time	
	Start time	2018-07-16 00:00:00	
		(GMT+08:00) China Standard Time (Asia/Shanghai)	
	End time	2018-07-25 23:59:59	
		(GMT+08:00) China Standard Time (Asia/Shanghai)	
	Time span	-	
	Usage count	_	
	Off-line duration	2	
Nur	mber of concurrent devices	5	
Accur	mulated number of binding devices	10	
	Offline binding	Unsupported	
	* User	Selected user list Select	
		User Name:DEVMGR_9a558693dcd8445782b172ebb9 name:	-
			ncel

Click "Select" to select user:

S	elect user	×
	Please input a user name to search Search	:h
ſ	User name Email Mobile Remarks na	me
	DEVMGR_9a558693dc y u@senseloo	
l		
	(<)   No. 1 Total 1 Pages   > > 10	
	Select	ancel



### Click" Issuing",

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

~	$\rightarrow$ O $\Leftrightarrow$	https://developer.lm-global.virbox.com/home.jsp#	
	Virbox	Click for Developer Information View. Click for your unique SDK Download.	Lur uner
Lint	General	✓ Issue a License ✓ Batch Issuing Batch Delete ★ Export	Search according to User Name Search Filtering
æ	Product Management	User Name Remarks Name License III Product Nam Template Name	Perpetual License Start Tin License End Tim Issuing Date License Ty Operation
ക	Sales Template	DEVMGR_9a558693dcd844     2010 Snake_game Trial version for 10 days	Non Perpet 2018-07-16 00:00; 2018-07-25 23:59; 2018-07-17 11:42; Soft Licensi 🕼 🖞 🔞 🙆 🖴
E33	User	DEVMOR_98558693dcd844 Snake_test Trial ver.	Non Perpet 2018-07-09 00:00: 2018-07-19 23:59: 2018-07-09 18:05: Cloud Licen 🕼 🙆 🙆
۵	License Distribution		
۵	Hardware Lock 🗸 🛩		
<b>"</b>	Task Management 🛛 🛩		
٠	Label Management		
<u>idea</u>	Data Statistics 🛛 🛩		
÷	Access Control		
1	Documentation		
_			



# **6.** License Verification & Using Protected Software

## 6.1 Run Virbox User License Tool

If you want to run the protected software, you need to start the Virbox user License Tool and sign in the Virbox LM account to bind the soft lock (soft license) to your computer.(To bind your account with the your hardware 's fingerprint)

The Virbox User License Tool download link is: <u>https://lm-global.virbox.com/resource.html</u>

Open "Virbox User License Tool" show as the picture blow:



The Virbox User License Tool will start.

Please sign in the account by click "+", with the user name and the password you received in your email when you add user.



නි 🗠	n: International ~ Cloud Accounts	+			Version: v2.2.0.34657(2.
Accounts 2	Offline yongq .com	Internatio	License Info		
<b>@</b>			A User Name:	yongqiang.lu@senselock	com(International)
Softwares			☆ Total Licenses:	2	
A			<ul> <li>Available Licenses;</li> </ul>	2	
Dongles			Expired Licenses:	0	
Service			Refresh Defa	ult Settings	Logout
R			Upload Offline-Unbound	c2d File	
Accounts	c International ~ Cloud Accounts + Offline yongqiang.lu@senselock yongqiang.lu@senselock	License In	fo	Version: v2.2.0.34	1657(2.3.0.34657) FAQ 🜲 — 🗆
<b>\$</b>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	A User N Virbox Cloud Use	ame: vonggiang.lu@: er Login	enselock.com(International)	1
Softwares		User Name;	mail or phone number	Register	
Dongles		Password:	haracters, case sensitive, no spaces	Forget?	
Service		0	OK Cancel	gout	
PB Diagnose		Upload O	ffline-Unbound c2d File		

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

-	Region: International ~	Version: v2.2.0.34657(2.3.0.34657)
හ	Cloud Accounts +	
	Offline	
	yonge selock.com	
Accounts	>> yong ====================================	License Info
		A User Name: yong elock.com(international)
Softwares		র্ণ Total Licenses: 2
1		Available Licenses: 2
Dongles		Expired Licenses: 0
26		
Service		Refresh Default Settings Logout
) Diagnose		Upload Offline-Unbound c2d File

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

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	Region: International ~				Version: v2.2.0.34657(2.3.0.3	4657) FAQ 🌲 – 🗗 🕽
හ	Summary Available E	xpired yongqiang.lu@senselo	ock.com(International) ~ All Develope	915 V		C (John march Q) [8
Accounts Softwares	2010 0000_006	2018				
Dongles						
Service R Diagnose						
Accounts	egion: International ~ Return	License Details			Version: v2.2.0.34657(2.9	0.34657) FAQ 🌲 — 1
Softwares Dangles	2010 0901 00006	<ul> <li>Elcense Source:</li> <li>Elcense Form:</li> <li>Elcense Status:</li> <li>Start Date:</li> <li>Explired Date:</li> </ul>	yongqianguuesenseiock.com(intern Offline(bound) <u>Bind Info</u> Do Available 2018/07/16.00:00:00 2018/07/25.23-50-59	unioad Offline-Bound d2c Uicense Bind Info Max Bindable PC: 5	File Bound PC: 1	
122		(i) First Use Date:		PC Name	LAN IP	Bound Date
Service		Expiring Span:	0Days 0Hours 0Minutes 0Seconds	DESKTOP-M0QHI6O	192 7.1	2018/07/17 11:30:10
Diagnose		A Concurrence:				
		<ul> <li>Product ID:</li> <li>License Version:</li> <li>Signature Date:</li> <li>Signature Serial No.:</li> </ul>	0900t0005_2010 0 2018/07/17 11:42:31 0			Close
C <sup>O</sup> Advance		<ul> <li>Public Area Size:</li> <li>Public Area Content:</li> </ul>	0			

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 3<sup>rd</sup> 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 Soft License which stored license, it is not necessary for developer to maintain this tool in daily operation. Virbox will provide continuously update/upgrade this tool 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 tool 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 Soft license to software user =>Virbox Developer Center(for Cloud License and soft License)
- Executed protected Software with Soft License: License verification via Virbox User License Tool in the software user premise.



# Appendix

# Glossary

	Virbox EI5 Acme is latest Generation of Virbox hardware Lock which improved	
	both in Hardware performance and Security Performance. Virbox EI5 Acme is	
	key component and License repository of Virbox LM solution. Virbox EI5 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	
Virbox Elite 5 Acme	feature available. Virbox EI5 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 EI5 Acme, please refer to the Virbox EL5 Acme	
	datasheet.	
	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),	
Virbox LM	Local License Manger (Virbox Developer Utility) and Virbox License Service	
	and User License Tool (Virbox User License Tool) and other support tools and	
	documents.	
	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.	
	Virbox Developer Center consists of Developer website and Open API, It	
Virbox Developer Center	provides cloud based Service and website for License Issue and License	
	Entitlement solution to software developer, Developer may use [Virbox	

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	Developer Center] (https://developer.lm-global.virbox.com/) to manage
	software product, user management, License Issue and Entitlement, Virbox
	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.
	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
Virbox Protector	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.
	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)
Virbox Developer Utility	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.
	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 User License Tool	Virbox License service and provides static and dynamic protection service to
	software installed in software user's site.
	Virbox Use "Product" refer to the Software application developed by software
Product	developer, software publisher which need to encrypt, protect the "product" by
	use of Virbox Protector.
	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
Sales Template	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.
	License ID is the unique indicator which used in the software protection and
License ID	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"
	Developer must assign associate License ID to the product created. And the
	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.
	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
Account	their product;
	For Software user, they can sign up an 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;
	Virbox Solution provides 2 kinds of hardware lock for software developer:
	Master Lock and User lock; master lock is the unique Identity for each
Master Lock	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.
	User lock is the hardware based lock deliver to software user which contains
User Lock	the license file issued by Software developer, Virbox Provides following Virbox
	EL5 user lock to developer: EL5 Acme, EL5, EL5 RRTC, EL5 Genii.
	Soft Lock contains software license, saved in local safety environment. Which
Coft Look	used to verify the protected software. Software developer may issue the Soft
SOITLOCK	license from Virbox Developer Center to licensed software user account, Soft
	lock supports both online mode and offline mode.
	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
Cloud Look	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.
	Virbox SDK provides a complete package of APIs (Application Program
ΑΡΙ	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 Virbox license to realize deeply protection scheme and
	further increase the difficulty of cracking.
	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,
Control API	inquiry to license session etc.
	More details to how to use Control API and use case, please refer to Virbox
	License Architecture.
	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
Runtime API	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.
	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.
	the d2c package created by d2c API is the only license update package which
d2c API	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.
	Note: Calling d2c API is quite complicate process, more details, please refer to
	sample file.
	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.
Open API	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]
API Assistant	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
	quickly familiarize with API and functions without coding.
	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.
	"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.
Code Fragmentation	The Code Snippet Execution" can be simply understand as breaking down the
Execution	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.
	The Anti-Hacker service is composed of kernel state protection component
	and suspicious feature database collection component. It will keep on upgrade
Anti-Hacker Service	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.

# 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.