Quick Start Guide

Software Protection and Licensing with Elite 5

Version 2.0





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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 which will 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 Utility (Local License Manager) to protect software and issue license to hardware Lock (Virbox Elite 5 dongle) 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 Virbox Elite5.

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

Requirement & Environment:

- Software developer has been upgraded to be standard developer in Virbox Developer Center; 📥
- Software developer has installed "Virbox Protector" in computer; V
- Software developer has installed Virbox Developer Utility in computer; 6
- Software Developer has Virbox EL5 Master Lock and User Lock in hand;

Objective: Software developer will have basic skill to use Virbox Protector to protect software application and issue a license to hardware lock: Virbox EI5 dongle;

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

Quick Start Guide:

Software Protection and Licensing with Virbox EL5 (Network Mode);

For Software Protection and Licensing with Soft license and Cloud License by use of Virbox Protector and Virbox Developer Center (Virbox License Manager), 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);

Quick Start Guide:

Software Protection and Licensing with Virbox Cloud Lock;

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



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1. General Introduction

Virbox Elite 5 is the best choices for software developer who want to protect the copyright/IP of their software application by use of hardware Lock protection; By Choose of Virbox Elite 5 solution, it will supports developer to protect software with most security technology, best performance and easy to use feature to protect software. And it will help developer to accelerate software protection and licensing process and quickly launch the software accordingly. It will not only save developer's workload but also increase security level of software application.



Virbox Elite 5: Virbox El5 includes **Master Lock** and **User lock**, **Master Lock** is Unique Identity for each Software developer, it is mainly used for software encryption and protection, issue license and issue upgrade package to EL5 user lock, it is necessary to use master lock and user lock in right way, in other words, Master lock only valid to issue license to the user lock from same software developer. Master Lock can't issue license to the user lock belongs to other software developer.

When **Master lock** is delivered to developer from factory, it has an initial PIN, Developer need to modify the initial PIN with new PIN before first use.

Note: You can find the initial PIN code from: Virbox Developer Center>Hardware Lock>Developer Master Lock, for more details for how to find initial PIN code and modify and Verify the PIN by use of Virbox Developer Utility, please see the document "*Virbox EL5 PIN Setup*" separately.

Virbox EL5 User lock, EL5 User lock is the license repository in which license file issued by Software developer, when software user want to execute the encrypted and protected software in the software user computer, software user need to insert EL5 user lock to verify license issued by software developer.



Installation and working Environment:

Windows: Support Windows XP sp3 and above version;

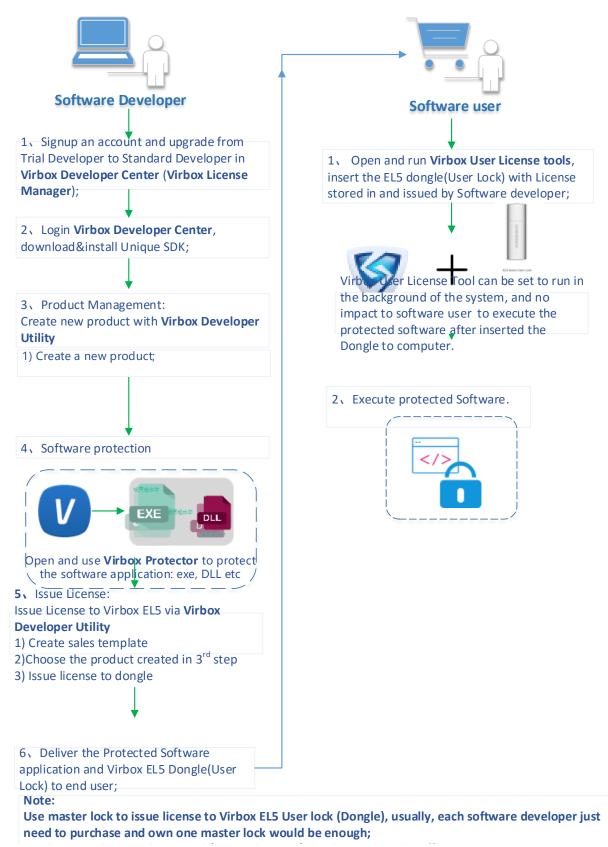
Linux OS: Support Debian, Ubuntu, CentOS, Fedora, OpenSUSE, Ubuntu Kylin OS

Mac OS: Support macOX10.9 and above version

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



Evaluation- Protect&Licensing Process: Virbox EL5



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2. Virbox Developer Center

2.1 Why Software Developer need to sign up a developer account in Virbox

Developer Center (Virbox LM)?

- Virbox LM use Unique SDK and dedicated API, Digital Certification of Authorization to protect Software application. Before use the hardware lock to protect your software, Developer need to sign up on Virbox LM and apply to 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 (Virbox LM) and download SDK;
- Virbox Developer Center and Signup and sign in link: https://developer.Im-global.virbox.com/reg.html https://developer.Im-global.virbox.com/login.jsp
 The Virbox developer Center will be shown as blow:

Virbox	Developer center	English -
	Virbox LM login Email/Mubile/Username Password Login Forgot password Create a new account Reed and accept Terms of Service	

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



	Virbox LM login
	Email/Username
O Virbox	Password
	Login
	Forgot password Create a new account
	Read and accept Terms of Service Read and accept Privacy Policy
	Forgot password 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 information		
* 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	
	Register now	

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



\leftarrow	$ ightarrow$ O $ m \ralpha$	đ	https://developer.lm-global.vi	box.com/hom	ne.jsp						☆	∱≡	h
	Virbox		Click to Apply to be Standard	Developer, v	which no Lir	nitation. <mark>Clic</mark>	k for Developer Ir	nformation View	. Click for Trial Version of SDK Download.				Welcom yongqia
<u>101</u>	General	K	Statistical period 7 days	14 days	21 days	28 days	Current month		You are currently a test developer and may n	ot use t	he stati	istical fun	nction
æ	Product Managemer	nt	Number of licenses issued daily										
₫	Sales Template		1										
8	User		0.8										
6	License Distribution		0.6										
۵	Hardware Lock	~	0.4										
4	Task Management	~											
۱	Label Management		0.2										
	Data Statistics	~	0					0					
#	Access Control		Number of users increased daily						License statistics : 0				
Đ	Documentation		1										
	(<)		0.8										
Te	rms of Service for Virbo	c LM	0.6										
pl	atform		0.4										

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

Standard version: Every 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 general 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 Email/Mobile/Username Password Login create a new account ead and accept Terms of Service	

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



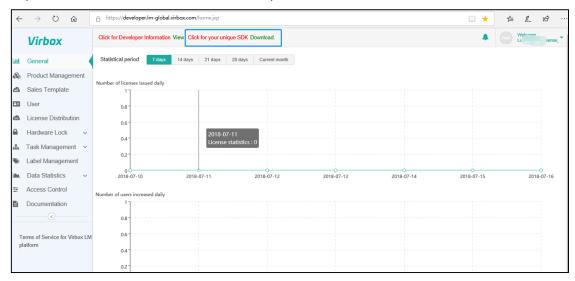
2.3 Apply to be a standard developer

Download SDK:

- After successfully signup 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 publishing 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 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 protect your software with hardware lock: EI5 dongle.

2.4 Virbox SDK

Developer may download and obtain the 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:

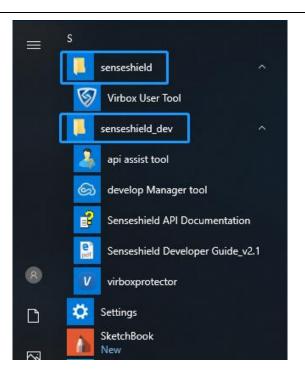
- Virbox User License Tool
- Driver of Virbox EL5 dongle
- Log File
- Configuration File

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 tool 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, and the senseshield and senseshield_dev folders can be seen in the start menu.







3. Product Management

3.1 Product Management by use of Virbox Developer Utility

In this chapter we will use Virbox Developer Utility (Virbox Local 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.

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

- Please Open Virbox Developer Utility.
- Create a New Product in the "**Product Management**" of Virbox Developer Utility by click "**New**":

S Virbox Developer Utility(2.	2.0.33799)				_ = ×
File Setting Help					0900000000000003 Master Lock PIN Settings
Product Management License Template/Issue	Total: 1		License ID	Search New	Edit Delete
🚊 View License	Product Name	License ID	Product Version	Issue To	Issued Time
・ O Lock Management 賤 User Lock	2000	2000		₩ User Lock	2018/06/21 16:44:19

Define a Product Name, this Product name must to be correspondence with actual software product or the product's function, here we take a product named "XYZ" as an example;



File Setting	🔊 New Product			×	C 00000000000000003 ter Lock PIN Settings
Product Mana License Temp View License Lock Managen User Lock	Product Name: XYZ ★ Associate License ID: 2000 ★ Product Description: XYZ, Installation License Issue To: ✓ User Lock	Product Version: 1.0 License Version: 2	* (0~42	94967295,Integer)	it Delete ssued Time 2018/06/21 16:44:19
ing cool. Look	Read-Only Area: Current Size: 0 Read-Write Area: Current Size: 0	<u>Set Size</u> <u>Set Size</u>	Import Data	✓Locked ✓Locked	
	Public Area: Current Size: 0	<u>Set Size</u>	Import Data	Z Locked	
			ОК	Cancel) ↓ 1/1 ▷ ঊ

Define a License ID to this product or to define License ID to each functions of this product, License ID is key concept for software protection and encryption, license ID is unique ID represent one software or for one functions or one software modules need be protected and encrypted. License ID could be setup to be an executable software, a software module or even to be a function such as "Printing" or "Save" functions. Of course, License ID could also be setup and defined for a whole software package, depends on software sales strategy decided by software developer. Here we define it to be "2000".

Note: License ID defined here must be in line with the License ID input when protect software by use of Virbox Protector, and it is also necessary need in line with license issue to Virbox EI5 dongle later. And then the software user can verify license and run the protected software successfully.

- License Version : Marked for license version in case for future license upgrade or update, this can be defined by software developer, this is help for license version management;
- Product Description (Optional): Input short description for the product or one kind of function of the software that to be protected, this information will be shown in Virbox User License Tool;
- Product Version (Optional): Marked product version, this can be used for product version management for Software developer;

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

Each license ID can be attached with three data areas to store license-related data. The three data areas are, **Read-Write** (RAW), **Read-Only** (ROM), and **Public** area (PUB). Every area size can be set up to 64Kb. Corresponding to different access attributes to adapt to different application scenarios.

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.

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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.

So far, Product Creation has been completed, if you have more than one software product need to be define and create, please repeat above process ,next chapter we will use "**Virbox Protector**" to protect the software.



4. Protect/Encrypt Software

4.1 Virbox Protector

To protect the software we will to use "Virbox Protector".

Virbox Protector is the latest envelope tool for software protection and encryption, it provides top security level to the software be protected with this tool, it integrated multi technology including **Virtualization**, **Obfuscation, Compression, Code transplantation** and **Code Snippet** and **Encryption** to protect software and is flexible and easy to use 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. Developer may issue license to Virbox EI5, Soft license or Cloud License to software user which use the Software protected by **Virbox Protector**.

4.2 Use Virbox Protector

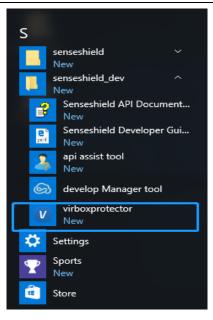
Also take Windows 10 as an example,

Please "Exit" Virbox Developer Utility first if Virbox Developer Utility still open, because this software may occupy the EL5 dongle.



Open the software shown in the picture:





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:

\checkmark	C	C++
\checkmark	VB6.0	VC6
\checkmark	VC2003,VS2005-VS2017	Delphi7 DeliphXE-XE10
\checkmark	BCB6.0	C#
\checkmark	.Net	Java
\checkmark	ARX(AutoCAD)	Unity3D
\checkmark	Revit(Plugin)	

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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

4.3 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.



Inset Virbox Master Lock into the USB slot of your computer, (select the Master Dongle in grey color case, if you have purchased Virbox EL5 1+1 package).

Note: Master Lock (Grey) is used for Software protection, Licensing and upgrade, would not be and can't be use on software user's side;

Every Software developer has 2 kinds of Master lock, one master lock is physical hardware lock, another master lock is the "Developer Hosted Lock" hosted in the Virbox Developer Center (Virbox License Manager), the Developer Hosted Lock" is the mapping of the Physical Master lock in the Virbox Developer Center. Considering Security Issue, it is mandatory to keep your account, password of Virbox Developer Center in most

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security.

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

Virbox Protector x86 (1.2.3.7548)		• Developer II	D: 090000000000003 Ξ − □ ×
Open file Save Protect	1	n 3 loper Master Lock of	r Sign In Virbox Cloud Login
ProjectNet_RetroSnaker.exe	license configuration		
🦁 license configuration	Type: 🔽 Local	Remote Cloud Soft	
* 🚱 Functions be Prot 🛛 +	Type: 🕑 Local		
Protection Options	License ID:		
💬 Message Options	API PWD: DB3B8	6341	
	Chipset S/N:		(Optional)
	OAUTH URL:		(Optional)
	Cloud URL:		(Optional)
	Soft URL:		(Optional)
C:\Users\liuguoquan\Desktop\.Net_RetroSn	aker.exe 1.0.0.0		.net anycpu Intel 386

Select License Type: Local Hardware lock;

(You also can issue license to same hardware lock with Network Mode (Select "**Remote**" by use same hardware lock, for more detail, please refer Quick Start Guide: *"Software Protection and Licensing with Elite 5: Network Mode"*.

- 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 Developer Utility in previous step (License ID Setup in Virbox Developer Utility to create a product, in chapter 3.1);
- 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 figure blow.

÷	\leftrightarrow \rightarrow \circlearrowright \Leftrightarrow	A https://developer.lm-global.virbox.com/home.jsp	h
	Virbox	Click to Apply to be Standard Developer, which no Limitation. Click for Developer Information View. Click for Trial Version of SDK Download.	
Lat	General	Statistical period 7 days 14 days 21 days 28 days Current month You are currently a test developer and may not use the statistical function	'n
&	Product Management		
۵	Sales Template	Number of licenses issued daily	
633	User	0.8	
6	License Distribution	0.6	
	Hardware Lock v		
#	Task Management 🗸 🗸	0.4	
۲	Label Management	02	
	Data Statistics v	0 0	
÷	Access Control	Number of users increased daily	
B	Documentation	Invinuer of users increased using	



Click "view", you can copy it here.

Develope	er informatio	n	×
	User name	DEVMGR_9a558693dcd8445782b172ebb9d456b7	
1	Developer name	yongqiang_sense	
	Country/Region	China	
	Time Zone	(GMT+08:00) China Standard Time (Asia/Shanghai)	
	Display name		
	Developer logo		
De	eveloper website	Not set	
Develo	oper introduction	Not set	
	Developer ID	03000000000009	
	API password	Hide	
		I password: DB3B8 DD16341	
		te: the password needs to be transmitted in when slm_init in Virbox ntime API is called)	
Г	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 lock with corresponding Chipset S/N in software User Lock.

4.4 Protection Setup by use of Virbox Protector

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

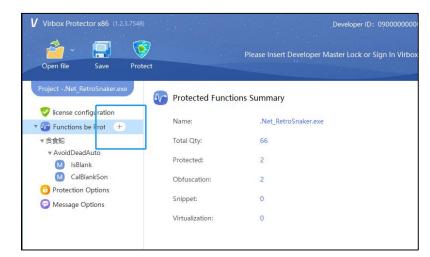
- Select Functions be protected;
- Setup Protection Options;
- Setup Prompt Message Information;



V Virbox Protector x86 (1.2.3.7548)		Developer ID: 09000000000000 \equiv $ \Box$ $ imes$
Open file Save Protect		Master Lock or Sign In Virbox Cloud
Project	V license configuration	
V license configuration	Type: 🗹 Local 🗌 Remote 🗌 Cl	Cloud Soft
Protection Options	License ID:	
Message Options	API PWD: DB3B8)D16341
	Chipset S/N:	(Optional)
	OAUTH URL:	(Optional)
	Cloud URL:	(Optional)
	Soft URL:	(Optional)

The following are the detail explanation and configuration.

4.4.1 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 may decrease software execute 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 "**Analysis**" functions by click "**Analysis**" before protect software to get the "Running times" as a reference before select function protection mode.



Q Search				Anal	
▼ 含食蛇	Name	Running times	Protection type	Added	10
 AvoidDeadAt 	uto			1	
🕜 AvoidDea	d		No protected 👻		
Convert			No protected -		
M IsBlank]		Obfuscation -	1	
🕼 IsCanGo		121	No protected 👻		
Vr InitPoints		260	No protected 👻		
修 CanToTan	get	111	No protected 👻		
修 CalBlank			No protected 🔹		
M CalBlankS	Son	366120	Obfuscation -	×	
🕼 IsOut			No protected 👻		
修 JudgeDire	ection	111	No protected 🔹		
▼ AutoShop		L	L	1	
-					~
fotal Qty: 66			Cancel	Add	

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

Usually, software developer need to balance the performance and protection level before software protection.

Q Search				
Name	Running times	Protection type	Added	TE .
▼ 贪食蛇				Â
 AvoidDeadAuto 				
🕼 AvoidDead		No protected 🔹		
M Convert		Obfuscation 🔹	× .	
S IsBlank		Snippet 🔹	×.	=
🕼 IsCanGo	199	No protected 🔹		
🕼 InitPoints	418	No protected 🝷		
🕼 CanToTarget	178	No protected 🝷		
🕢 CalBlank		No protected 🔹		
📀 CalBlankSon	592494	No protected 🔹		
🕼 IsOut		No protected 💌		
🕼 JudgeDirection	178	No protected 🔹		
 AutoShop 				
-				
otal Qty: 66 ; rotected: 6 ; Obfuscation: 5 ; Snippet: 1 ; Virtu	alization: 0;	Cancel	Add	

To protect the functions of the software, following functions protection option can be selected: No protected,

Obfuscation, **Snippet**, **Virtualization**.

• For functions which are called frequently, Select "No Protected" option, since if you protect the

functions which is called frequently, it will decrease execute performance when software executed;

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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	
	Ν	lame			Running times	Protection type	Added	Ъ
▼ 贪食蛇								Â
AvoidD	eadAuto							
🐼 🐼	dDead					No protected 🔹		
M Con	vert					Obfuscation -	✓	
S IsBla	nk					Snippet -	✓	E
🕼 IsCa	nGo				199	No protected 🔹		
🐼 InitP	oints				418	No protected 🔹		
🕜 Can	loTarget				178	No protected 🔹		
📀 CalB	lank					No protected 🔹		
📀 CalB	lankSon				592494	No protected 🔹		
🐼 IsOu	it					No protected 🔹		
🐼 🕜	eDirection				178	No protected 🔹		
🔻 AutoSh	ор							
-								~
Total Qty: 66 ;						Cancel	Add	
Protected: 6; (Obfuscation: 5 ;	Snippet:	1.	Virtualizatio		Cancel	Add	

Select "Code Snippet" Protection option for important Functions, which will increase protection level for those important functions, this will add security level.

Q Search			Anal	
Name	Running times	Protection type	Added	18
▼ 贪食蛇				
AvoidDeadAuto				
사 AvoidDead		No protected 🔹		
M Convert		Obfuscation -	×	
S IsBlank		Snippet -	×.	=
🐼 IsCanGo	199	No protected 🔹		
🐼 InitPoints	418	No protected 🔹		
🐼 CanToTarget	178	No protected 🔹		
🔶 CalBlank		No protected 🔹		
🐼 CalBlankSon	592494	No protected 🔹		
🐼 IsOut		No protected 🔹		
🐼 JudgeDirection	178	No protected 🔹		
 AutoShop 				
-				
otal Qty: 66 ;		Cancel	Add	
rotected: 6; Obfuscation: 5; Snippet: 1;	Virtualization: 0;	Cancer	Auu	



Note: Do not select too many functions and protected with "**Code Snippet**", since it will decrease software execution performance when selected too many functions 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 interpret to restore the code into the original code. To let it executable.

Protection type Added	Running times	Name
		▼ 贪食蛇
		AvoidDeadAuto
		AutoShop
	[EatTargetAuto
Obfuscation 👻 🖌		M EatTarget
No protected 💌		🕼 LeftOrRight
No protected 💌		🕼 UpOrDown
		▷ frmFactory
		Snake
		▶ frmGame
		Program
		SnakelO
		SnakeLabel
		 ▷ Snake ▷ frmGame ▷ Program ▷ SnakelO

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

Q Search				Analysis
	Name	Running times	Protection type	Added
4010	00		No protected 🔹	2
4010 🐶	20		No protected 🔹	
4010 📀	90		No protected 🔹	
4010 📀	D0		No protected 🔹	
<u></u> 4010	FO		No protected 🔹	
4011 🕢	10		No protected 👻	
4011 🕢	40		No protected	
4012 🐼	50		Obfuscation	
4012 🐼	90		Snippet	
4012 🐼	D0		Virtualization	
🐼 4013	10		No protected	_
🐼 4013	80		No protected 🔹	
4013	AO		No protected 🝷	
Total Qty: 5875			Cancel	Add

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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 when select too many functions be protected with this option. Because it will consume too much computer resource.

4.4.2 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 the 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		Developer ID: 030000000000000	= - = ×
Open file Save Pro	otect	Please Insert Developer Master Lock or Sign In Virbox Cloud	Login
ProjectNet_RetroSnaker.exe	Protection Optic	ins	
• 🐼 Functions be Prot 🛛 +	⊿ File		
▼含食蛇	Output File	.Net_RetroSnaker.ssp.exe	1
▼ Program	Protection Options		
Main	Obfuscation	□ 2	
Protection Options	Compression	□ 3	
💬 Message Options	Log Generation	□ 5	
	Check Interval (S)	60 6	
	₄ Plug-in		
	<mark>⊿ d</mark> s	O)	
	密码	******	
C:\Users\liuguoquan\Desktop\.Net_	RetroSnaker.exe 1.0.0.0	.net i	anycpu Intel 386

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



V Virbox Protector x86 (1.2.3.75-	48)	Developer ID: 03000000000000 Ξ − 🗆 🗧	×
Open file Save Pr	F otect	Please Insert Developer Master Lock or Sign In Virbox Cloud	
Project -注入器.exe	Protection Options		
V license configuration	⊿ File		
4FF9DA	Output File	注入器.ssp.exe 1	,
Protection Options	Protection Options		
Message Options	Compression	□ 3	
	Resource Section Encryption	□ 4	
	Log Generation	□ 5	
	Check Interval (S)	60 6	
	▲ Plug-in		
	⊿ ds	\bigcirc	
	密码	*********	
:\Users\liuguoquan\Desktop\办公3	文档+文件\测试程序\注入器.exe 2.0.0.1	Local win32 Intel 3	86

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 will 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.

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.

4.4.3 Message Option

Setup the prompt message information to software user when License expired, includes setup the title of Message, time left before license expired, left counts (Usage 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 (1.2.3.754		Developer ID: 0300000000000 \equiv $ \Box$ \times lease Insert Developer Master Lock or Sign In Virbox Cloud Login
ProjectNet_RetroSnaker.exe	Message Options	
• Inctions be Prot (+)	Message Options	
▼ 含食蛇	Language Setting	English
▼ Program	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	Customized Message	
	Count Threshold of Reminding	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_F	RetroSnaker.exe 1.0.0.0	.net anycpu Intel 386

4.5 Protect the Software:

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



Open file Save Pr	rotect	Please Insert Developer Master Lock or Sign In Vi	Login
ProjectNet_RetroSnaker.exe	Protection Optic	ns	
license configuration	4 51		
Functions be Prot +	4 File		
Protection Options	Output File	.Net_RetroSnaker.ssp.exe	
💬 Message Options	 Protection Options 		
	Obfuscation		
	Compression		
	Log Generation		
	Check Interval (S)	60	
	4 Plug-in		
		0	
	密码	***	
:\Users\liuguoquan\Desktop\.Net Virbox Protector x86 (1.2.3.75		Developer ID: 030000 Using Developer Master Lock (Verified PIN	
Virbox Protector x86 (1.2.3.75 Open file Save Pr	48) Otect	Using Developer Master Lock (Verified PIN	000000000 Ξ - □ ×
Open file Save Pr ProjectNet_RetroSnaker.exe	48)	Using Developer Master Lock (Verified PIN	0000000009
Virbox Protector x86 (1.2.3.75)	48) otect Vicense configura	Using Developer Master Lock (Verified PIN	0000000009
Virbox Protector x86 (1.2.3.75)	48) otect Vicense configura	Using Developer Master Lock (Verified PIN	0000000009
Virbox Protector x86(1.2.3.75 Open file Save Pr ProjectNet_RetroSnaker.exe Vicense configuration Functions be Prot + * 合食館 * Program	49) otect Vicense configura Type: V	Using Developer Master Lock (Verified PIN	0000000009
Virbox Protector x86 (1.2.3.75) Open file Save Pr ProjectNet_RetroSnaker.exe ② license configuration ③ Functions be Prot + ③ 食館 ③ Program ④ Main	49) otect Vicense configura Type: V License iD. 0	Using Developer Master Lock (Verified PIN	0000000009
Virbox Protector x86 (1.2.3.75) Open file Save Pr ProjectNet_RetroSnaker.exe Conse configuration Conse configuration Conse Prot (+) 中 合食館 中 Program Main Consection Options	49) otect Vicense configura Type: V	Using Developer Master Lock (Verified PIN	0000000009
Virbox Protector x86 (1.2.3.75) Open file Save Pr ProjectNet_RetroSnaker.exe Vicense configuration Functions be Prot + 全食館 平 Program Main	49) otect Vicense configura Type: ✓ L Clease ID. Ø Binding	Using Developer Master Lock (Verified PIN ation .ocal Remote Cloud Soft	0000000009
Virbox Protector x86 (1.2.3.75) Open file Save Pr ProjectNet_RetroSnaker.exe ② license configuration ③ Functions be Prot + ③ 食館 ③ Program ④ Main ③ Protection Options	49) otect Vicense configura Type: V License iD. 0	Using Developer Master Lock (Verified PIN ation .ocal Remote Cloud Soft	0000000009
Virbox Protector x86 (1.2.3.75) Open file Save Pr ProjectNet_RetroSnaker.exe ② license configuration ③ Functions be Prot + ③ 食館 ③ Program ④ Main ③ Protection Options	49) otect Vicense configura Type: ✓ L Clease ID. Ø Binding	Using Developer Master Lock (Verified PIN ation .ocal Remote Cloud Soft	000000009
Virbox Protector x86 (1.2.3.75) Open file Save Pr ProjectNet_RetroSnaker.exe Conse configuration Conse configuration Conse Prot (+) 中 合食館 中 Program Main Consection Options	49) otect V license configura Type: ↓ License iD. 0 Binding OAUTH URL: Cloud URL:	Using Developer Master Lock (Verified PIN ation .ocal Remote Cloud Soft (Optional (Optional (Optional	000000009
Virbox Protector x86 (1.2.3.75) Open file Save Pr ProjectNet_RetroSnaker.exe Conse configuration Conse configuration Conse Prot (+) 中 合食館 中 Program Main Consection Options	49) otect	Using Developer Master Lock (Verified PIN ation .ocal Remote Cloud Soft	0000000009



Virbox Protector x86 (1.2.3.7	'548)	Developer ID): 030000000000000 Ξ − □ ×
Open file Save	Protect	Using Developer Master Lock (Verified PIN) Clean PIN Login
ProjectNet_RetroSnaker.exe	V license configuration		
Vicense configuration	Type: I local	Remote Cloud Soft	
▼ 贪食蛇 ▼ Program	Compiling Successful Verify software:.Net_R		×
Dessage Options		Verify Quit	tional)
	Cloud URL:		(Optional)
	Soft URL:		(Optional)

Virbox Protector will pop up to **verify** the license after protection completed, press "**Verify**" button of "**Pop up Window**", then a prompt message will pop up and show: "No license has been found, please insert 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 is not found. Please plug in a user key or login your account which have license No.200 and click " Retry" to continue.	
<u>R</u> etry Cancel	

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

4.6 Protected Software

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

The original folder before Software protection shows as below:



[Name 🐣	Date modified	Туре	Size	
	🛃 .Net_RetroSnaker	2017/5/24 19:48	Application	183 KB	

Only the original software could be found.

The folder is shown as below, when software protection finished:

1 2				
Name *	Date modified	d Type	Size	
💒 .Net_RetroSnaker	2017/5/24 19	9:48 Application	183 KB	
.Net_RetroSnaker.exe.ssp	2018/5/24 18	3:41 SSP File	5 KB	
💒 .Net_RetroSnaker.ssp	2018/5/24 18	3:41 Application	6,207 KB	

- 1. Original Software application;
- 2. A configuration file has been generated after software protection which contains configuration information and API password accordingly;
- 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;

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

Tips: when you are protecting the software, if it is showing this information:

1."Please Insert Developer Master Lock or Sign in Vibox LM"



Virbox Protector x86 (1.2.3.7548		Developer ID: 03000000000000 \equiv $ \Box$ $ imes$
🐴 - 🗐 🤇	Please Insert Develor	per Master Lock or Sign In Virbox Cloud
Open file Save Prot		Login
ProjectNet_RetroSnaker.exe		
🦁 license configuration	Type: 🕑 Local 🗌 Remote 🗌	Cloud Soft
▼ 🕜 Functions be Prot 🔶 ▼ 贪食蛇	V Virbox Protector	×
♥ Program M Main Protection Options	Please Insert Developer Master Lock or Sign In	and the second
Manuar Onting		Dptional)

It reminds you need to **insert** the User Lock (dongle).

2. PIN of developer Master Lock not verified, please verify the PIN in Virbox Protector:

Net_RetroSnake	r.exe	🦁 license c	onfiguration				
nse configuration	1 (Type:	Local	🛃 Remote	Cloud	Soft	
	V	Virbox Protector					×
gram							
Main		PIN of Developer Mas	ter Lock not verif	ied, Please verif	y the PIN in	Virbox Protecto	r.
tection Options							_

This is because "Virbox Developer Utility" have occupied the PIN, you need to exit "Virbox Developer Utility".



5. Issue License

In Chapter 3, we have created "**XYZ**" product by use of Virbox Developer Utility and protected this XYZ Product (we take a "**snake**" to be an example for this XYZ product. And protected this product by use of Virbox Protector in Chapter 4. In this chapter, we will use **Virbox Developer Utility** to create sales template for this product and issue license to User Lock (hardware lock).

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

Why we need a Sales Template?

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

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

Create a new Sales Template:

Open Virbox Developer Utility, click "**Product management**", you will find the product "**XYZ**" which we have created in chapter 3.

Click "License Template/Issue" on the left pane;

S Virbox Developer Utility(2.	2.0.33799)					_ = ×
File Setting Help						000000003 ock PIN Settings
 Product Management License Template/Issue 	Total: 3	License ID	Search	New Template Edit Templat	e Delete Template	License Issue
Niew License	Index	Template Name	License ID	Product Name	Updated Time	Created T
🔺 📮 Lock Management	1	Lock All Licenses			2018/06/04 17:26:16	2018/06/04
閲 User Lock	2	Unlock All Licenses			2018/06/04 17:26:16	2018/06/04
	3	Delete All Licenses			2018/06/04 17:26:16	2018/06/04

Click "New Template" to create a new sales template: then "Select Product" pane will popup



File Setting Help					1		000000003 ock PIN Setting:
Product Management License Template/Issue	Total: 3	License ID	Search	New Template	Edit Template	Delete Template	License Issue
View License	Index	Template Name	License ID	Product	Name	Updated Time	Created
Lock Management	1	Lock All Licenses				2018/06/04 17:26:16	2018/06/0
🗓 User Lock	2	Unlock All Licenses				2018/06/04 17:26:16	2018/06/0
	3	Delete All Licenses				2018/06/04 17:26:16	2018/06/0

Select the product "XYZ" which we have created from Pane "Select Product" and click "Next":

🗟 Virbox	Developer Utility(2.	2.0.33799)					_ 🗆 X
File	Setting Help					Master Loc X	Demo <u>k PIN Settings</u>
📬 Produc 🚺 License	Total: 1				License ID		cense Issue
≗ View L ⊿ D Loc t M Kä User Lo	XYZ	License ID 2000	Product Description	Product Version	License Version	Issue To ✓ User Lock	Created T 2018/06/02 2018/06/02
							2018/06/04
	1					k	
					page go	< 1/1 ▶ ð	
					Next	Cancel	۰ 5

The new sales template window will pop up:



left Strate Stra	lity(2.2.0.33799)		_ 🗆 ×
File Setting Help	,	<u>Master Lo</u>	Demo <u>ck PIN Settings</u>
Product Managemer License Template/Iss	S New Template	Template	License Issue
📇 View License	Template Name: *	d Time	Created T
🔺 🚨 Lock Management		/04 17:26:16	2018/06/04
🗓 User Lock	Type: New 🔻 🗹 Force Write-in	/04 17:26:16	2018/06/04
	Product: 2000.XYZ	/04 17:26:16	2018/06/04
	Perpetual License		
	Concurrent Style: Standalon 🔻		
	✓ Start Time: Setting ▼ 2018/06/25 19:01:13		
	✓ End Time: Setting ▼ 2018/06/25 19:01:13		
	✓ Time Span: Setting ▼ Days ▼		
	✓Use Counts: Setting ▼		
	✓Read-Only Area Edit		
	✓Read-Write Area		
	Public Area Edit Edit		
	OK Cancel		
_		_	•
	P	age go ∢ 1/1	5 ∢

- Enter Template Name into the "Template Name" field. In general, the name of the template definition should be clearly recognized, easy to find, and preferably consistent with the corresponding business scenario.
- Select Template Type" New" (For Template Type, you can select "new" for new Template, for existed Template, you can select "Update" for updating or "Delete" if this product template will not be used in future;
- Setup License Time:
 - 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 expired;
- if switch off "Perpetual License", you can setup License valid time period;

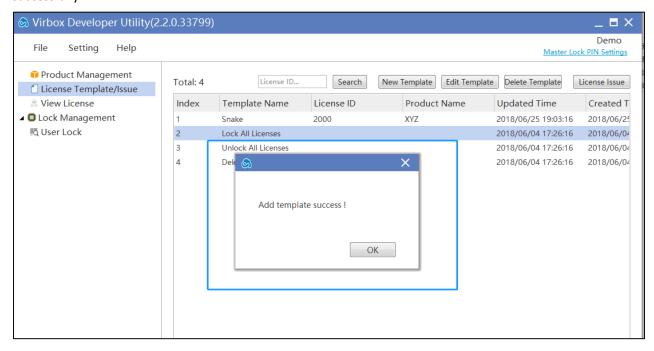
Note: License with start time limitation (1.Setup a specified time to be license start time 2. Setup the license issuing time to be license start time):

- Setup specified time period: Setup License starting time and ending time, the license will be valid only during specific time period;
- Setup the license issuing time to be the license start time, and setup license valid time period, in combination with the setting of time span, the license will be expired till time period is out of date;
- **Time Span**: License start time start from when software user first time to use the software, the license will be expired when time period setting out;
- Use Counts (Consumption): Set a limited number of use conditions, decrement when every time to



login and use software, and license will be invalid when counts to zero.

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



5.2 License Issuing

Click "License Issue" on the Top of right of Panel in the "Virbox Developer Utility"

File Setting Help						Master Lo	Demo ock PIN Settings
Product Management License Template/Issue	Total: 4	License ID	Search	New Template	Edit Template	Delete Template	License Issue
View License	Index	Template Name	License ID	Product	Name	Updated Time	Created
Lock Management	1	Snake	2000	XYZ		2018/06/25 19:03:16	2018/06/2
lä User Lock	2	Lock All Licenses				2018/06/04 17:26:16	2018/06/
	3	Unlock All Licenses				2018/06/04 17:26:16	2018/06/
	4	Delete All Licenses				2018/06/04 17:26:16	2018/06/
	4			m		page go 4 1/1	5 ∢1



Select the **Sales Template** you have created in last step, we choose "Snake" sales template.

Insert Virbox Master lock and User lock into the USB slot, (it is recommended for software developer to use USB HUB before issue license to Hardware based license if you have much Lock need to be issue license to), select (By click) the hardware Device you want to issue license to.

S Virbox Developer Utility(2.2.0.33799)	_ = ×
File Setting Help	Demo Master Lock PIN Settings
	> pagego ∢ 1/1 ▷ ♂

Select lock SN and click "issue" button on the right bottom of Pane to issue license to selected EL5 User lock.

License Index Lock SN Issued Result Creat O Lock M 1 099900001055 2018/ 2018/ 2018/ 2018/ 2018/ 2018/	🔊 Virbox 🛛	Developer Utilit	y(2.2.0.33799)				_ = ×
Select User Lock Select User Lock Creat Viewet Creat Og99900001055 User Lt T T T T T T T T T T T T T	File S	Setting Help					
Produc License Operation: Write to Local Lock Refresh Local Locks Lock SN Search ense Creat Dots Lock M D Dog9900001055 User Lt			ock				k PIN Settings
O Lock M O 99900001055 O					Lock SN		cense Issue
M3_User 2018/2018/2018/2018/	🛎 View L	index	Lock Sin	issued Result			Created T
2018/	🛛 🖸 Lock 🛛	1	099900001055				2018/06/21
2018/	ାର୍ଘ୍ User Lo						2018/06/04
							2018/06/04
							2018/06/04
All None 90 《 1/1 》 간			m			Þ	
		All None			page go 🖣	1/1 ▶ ੈ	
Issue					Issue	Cancel	•
page 90 → 1/1 ≯ ひ						page go 📢 1/1	5



🗟 Virbox I	Developer Utilit	y(2.2.0.33799)		_ = ×
File	Setting Help			Demo Master Lock PIN Settings
	lect User I	_ock		X
🗊 Produc 🚺 License	License Operations	Write to Local Lock 🔻 🛇 Refresh Local Locks	Loc	k SN Search cense Issue
📇 View Li	Index	LOCK SN	Issued Result	Created T
⊿ 🖸 Lock M Ilä User Lo		099900001055	Issue success !	2018/06/25 2018/06/04
				2018/06/04
				2018/06/02
	•			•
	All None		p	age go ∢ 1/1 ▶ Č
			Iss	ue Cancel
				page go

Now the license are issued successfully.

Also, you can view the license you just issued.

log Virbox Developer U	tility(2.2	2.0.34657)				_ = ×
File Setting He	lp					09000000000000006 Master Lock PIN Settings
î Product Managemen 🖞 License Template/Issi		Total: 13			U	ser Identification Search
👌 View License		Product Info	Туре	User Identification	Issue To	Issued Date
🔺 🖸 Lock Management		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/06/25 18:54:06
閥 User Lock		2000 XYZ	Device License	099900001055	Write to Local Lock	2018/06/25 18:55:53
		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/06/25 19:09:54
		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/06/26 17:52:49
		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/06/26 17:53:23
		2000.XYZ	Device License	099900001055	Save as Local File	2018/06/26 17:57:49
		2000.XYZ	Device License	099900000127	Save as Local File	2018/06/26 17:58:38
		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/06/27 13:57:34
		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/06/28 09:11:35
		2001.XYZ	Device License	099900001055	Write to Local Lock	2018/06/28 10:40:40
		2001.XYZ	Device License	099900001055	Save as Local File	2018/06/28 10:41:44
		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/07/06 16:40:56
		2000.XYZ	Device License	099900001055	Write to Local Lock	2018/07/06 16:43:51

"Double click" the license for detail license information.



le virbox Developer Uti	lity(2.2.0.33799)	_ ■ ×
File Setting Help		Demo Master Lock PIN Settings
Product Management License Template/Issu	Total: 3	User Identification Search
岩 View License	🛞 User Accredit License Detail Info 🛛 🗙 🗙	Issued Date
Jock Management Kä User Lock	(a) User Accredit License Detail Into X Product Info: 2000.XYZ Issue Type: Device License User ID: 099900001055 Issue Ticense Issue Tice: Write to Local Lock Issue Table Issue Date: 2018/06/25 19:09:54 Concurrent: - License Content License Operation: New(Overwrite Old License) Start Time:Setting 2018/06/25 19:02:58 End Time:Setting 2018/06/25 19:02:58 Time Span:Setting 2000ays Remaining Times: Setting2000次 Issue Type: Standalone(Process) / Concurrent Count: - Data Area Read-Only Area: Not Set Image: Data Area Read-Write Area: Not Set Image: Data Area Read-Write Area: Not Set Image: Data Area Image: Data Area Image: Data Area Read-Write Area: Not Set Image: Data Area Image: Data Area Image: Data Area Read-Write Area: Not Set Image: Data Area Image: Data Area Image: Data Area	ct: 2018/06/25 18:54:06 ct: 2018/06/25 18:55:53

So far, License issue to selected EL5 user lock has been completed.



6. License Verification & Using Protected Software

- In practical case, Software developer can make a package to Virbox User License Tool with protected software by use of software packaging tool, and software user can install software and Virbox User license Tool into their computer when they got whole package.
- Please insert EL5 User Lock into the computer of software user, then start to execute "Virbox User License
 Tool" for License verification (please install Virbox User License Tool in advance on your "User desktop".
 Virbox User License Tool Download link:

https://lm-global.virbox.com/

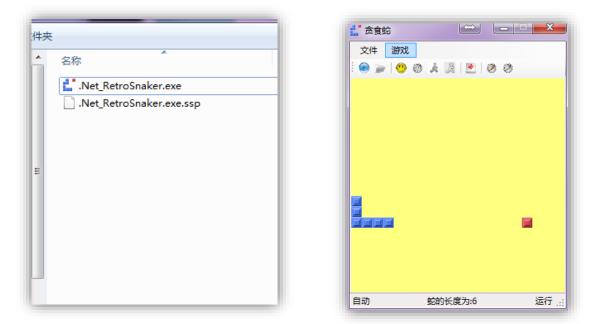
Click "**Dongles**" item to check the local dongle plugged in your computer, like the picture showing blow:

	Region: China 🗸			Version: v2.2.0.33761(2.3.0.33761) FAQ 🌲 - 🗆 🗙
හි	👖 Local Dongle	-		
	» 099900001055		Host Info	
•			🖵 Host Name:	DESKTOP-M0QHJ6O
Accounts	💮 Net Dongle	•	🗄 Host IP:	192.168.1.18
			Dongle Info	
			B Device Type:	Elite 5
Softwares			🔂 Shell Number:	099900001055
			🔊 Serial Number:	9733c80100070206b90a0001002a0048
			Manufacture Date:	2018-03-05 09:02:22
Dongles			Entry Version:	2.10.2.1
			Firmware Version:	3.1.16
			🖞 Device Capacity:	512.00 KB (Free Capacity: 507.25 KB)
Service			🕥 Device Time:	2018/06/25 18:56:44 (Virtual Clock)
Service			License Info	
R			B Developer:	03000000000009
Diagnose		_	☆ Total Licenses:	2
			Available Licenses:	1
			Expired Licenses:	1
Č Advance			Refresh LED Blink	Adjust Clock

Click Virbox EL5 to check if license stored in this User lock. If yes, then next step:

Execute the protected software, the protected Software will be automatically verify the license and software will be executed successfully.





After you have execute the protected software, if you haven't inserted the User Lock, or no valid license has been found in the User lock, it will show:

💽 Virbox Protector	×
Error Code13000020: Can't find license. It is necessary to access the license No.2000 when executing. But this license is not found. Please plug in a user key or login your account which have license No.2000 and click "Retry" to continue.	
Cancel	



7. Virbox User License Tool

- The functions of Virbox User License Tool is setup security tunnel between Protected Software application and EL5 dongle 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's workload and help developer focus on 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 Security API, Security driver software and other security technology, it provides dynamic security and protection to the software to 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/

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 ID (License ID)=>Virbox Developer Utility;
- How to use Virbox Protector to protect/encrypt the software application=> Virbox Protector;
- How to create Sales Template in Virbox Developer Utility;
- How to Issue license to selected hardware based dongle (Virbox EL5) =>Virbox Developer Utility;
- Executed protected Software with Virbox EL5 (Stored 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 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
	1



	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
	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)
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	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"
	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 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
Soft Lock	used to verify the protected software. Software developer may issue the Soft
JOH LOCK	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 Lock	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.
ΑΡΙ	Virbox SDK provides a complete package of APIs (Application Program
AFI	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 be mainly used and provides the inquiry to
Control API	the hardware lock (dongle)'s information, inquiry to license terms and status,
	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 EI5) 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 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 AssistantAPI Assistant is a quick starter tool that helps software developers learn as understand the Virbox API. Execute the API via friendly GUI prompts messa to view the API execution result, and can also get the demo code. You c quickly familiarize with API and functions without coding. API Assistant is suitable for developers to quickly learn and understand th usage/calling of the API and verify the feasibility of the encryption scheme."Code Snippet Execution" or we can named with more simple and ea understanding: "Code Fragmentation Execution". Code Snippet Execution w utilized latest and mature technology in "Extracting the coding" and select at extract large amount of "coding" from original program code, and executed the security virtual environment after encryption and obfuscation at integrated with Virbox Encryption Compiling Engine, Virtualization and drivi technology, all technology integrated together makes protected software more security during execution" can be simply understand as breaking down t functions or modules of software into code of fragments and execute the "fragments" into a secure environment, so that the crackers can't start to u hacker tools to analysis and get the original code and execution result. "Co Snippet Execution" is major milestone and breakthrough in the Software Encryption and Protection field. In addition to high Security, Code Snippet at rely on and work with "Virbox License Service" middleware to shield t
API Assistantto view the API execution result, and can also get the demo code. You c quickly familiarize with API and functions without coding. API Assistant is suitable for developers to quickly learn and understand ti usage/calling of the API and verify the feasibility of the encryption scheme."Code Snippet Execution" or we can named with more simple and ea understanding: "Code Fragmentation Execution". Code Snippet Execution v utilized latest and mature technology in "Extracting the coding" and select al extract large amount of "coding" from original program code, and executed the security virtual environment after encryption and obfuscation an integrated with Virbox Encryption Compiling Engine, Virtualization and drivi technology, all technology integrated together makes protected software more security during execution process.Code Fragmentation ExecutionThe Code Snippet Execution" can be simply understand as breaking down th functions or modules of software into code of fragments and execute the "fragments" into a secure environment, so that the crackers can't start to u hacker tools to analysis and get the original code and execution result. "Co Snippet Execution" is major milestone and breakthrough in the Software Encryption and Protection field. In addition to high Security, Code Snippet addition Snippet addition to high Security.
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Snippet Execution" is major milestone and breakthrough in the Softwa Encryption and Protection field. In addition to high Security, Code Snippet al
Encryption and Protection field. In addition to high Security, Code Snippet al
rely on and work with "Virbox License Service" middleware to shield t
interface from the fundamental layer and also compatible with Virbox Clo
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 compone
and suspicious feature database collection component. It will keep on upgra
Anti-Hacker Service and collect the suspicious features of hacker, which will be used to help
protect the software being protected. And will protect the memory from bei
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.