一次恶意挖矿样本分析到捕获矿池地址-先知社区

返回文档

样本指纹

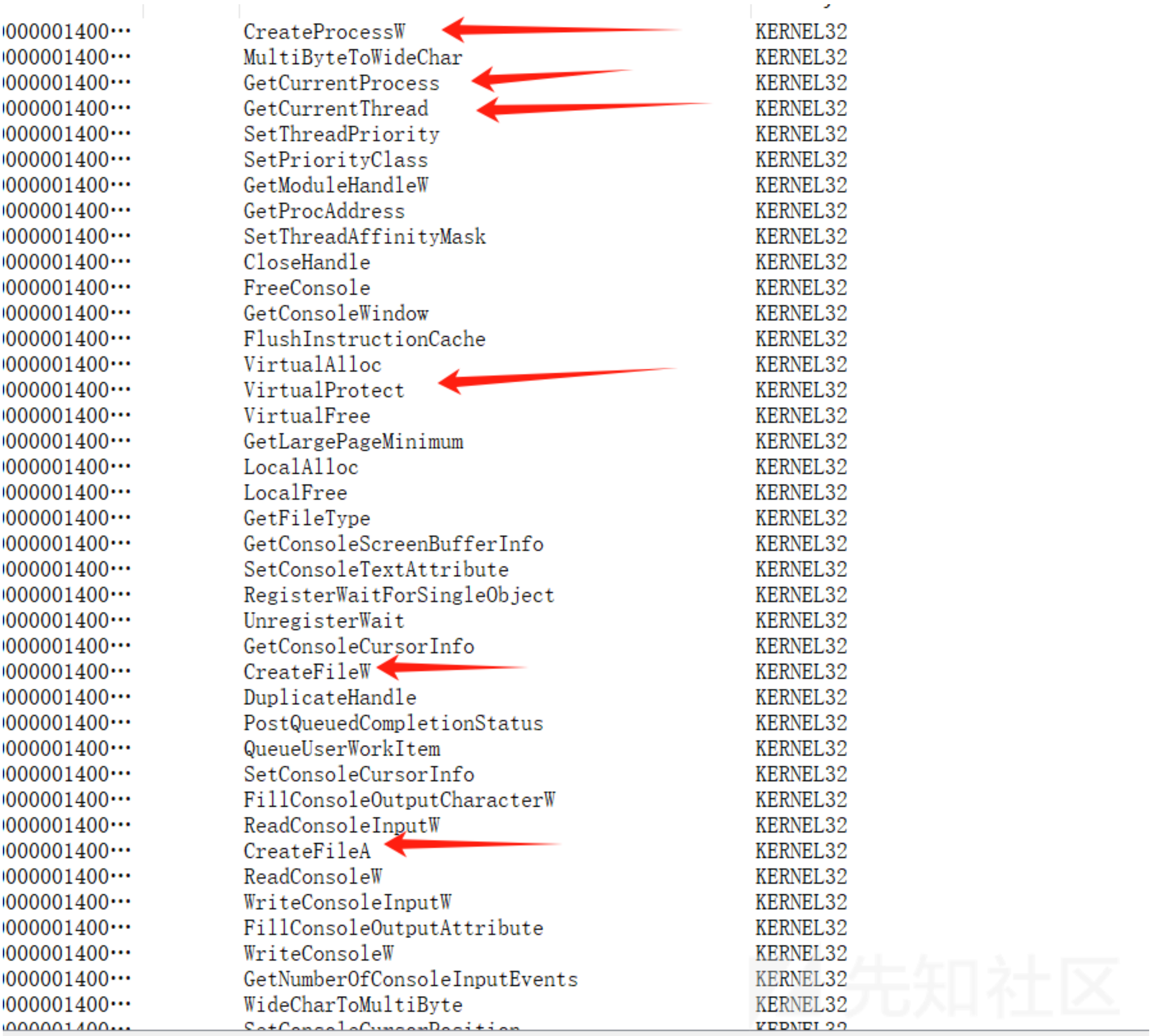
SHA256:938c187c0c566d3ecd0ca594d027cff745688b409d6ab18e7d836d9ef1bd30de

MD5:8bb9f094a5c3e8358d931200092e3412

SHA1:fced1103ababf08ea6435f43f597240ac6c357e8

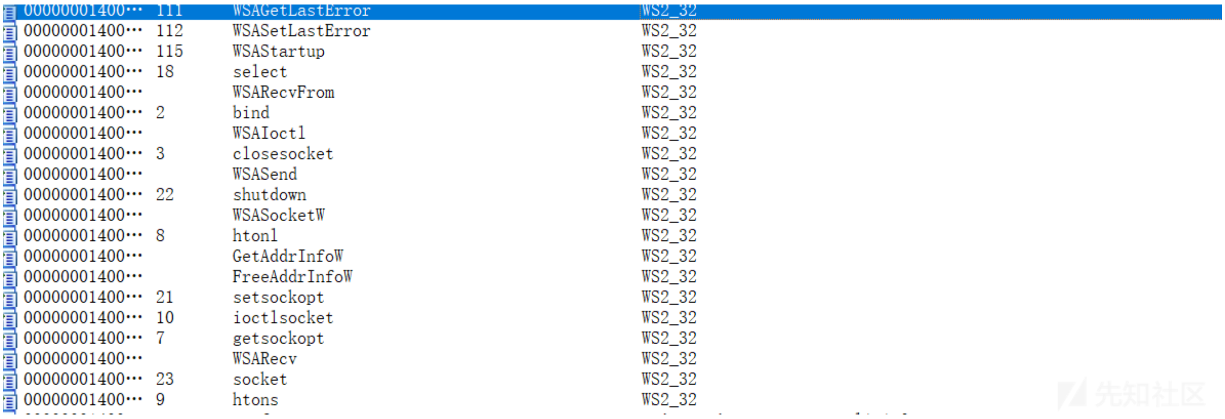
动静分析

首先使用IDA看看导入表 图中指出了一部分敏感的API



000001400···	CreateProcessW	KERNEL32
000001400···	MultiByteToWideChar	KERNEL32
000001400···	GetCurrentProcess	KERNEL32
000001400···	GetCurrentThread	KERNEL32
000001400···	SetThreadPriority	KERNEL32
000001400···	SetPriorityClass	KERNEL32
000001400···	GetModuleHandleW	KERNEL32
000001400···	GetProcAddress	KERNEL32
000001400···	SetThreadAffinityMask	KERNEL32
000001400···	CloseHandle	KERNEL32
000001400···	FreeConsole	KERNEL32
000001400···	GetConsoleWindow	KERNEL32
000001400···	FlushInstructionCache	KERNEL32
000001400···	VirtualAlloc	KERNEL32
000001400···	VirtualProtect	KERNEL32
000001400···	VirtualFree	KERNEL32
000001400···	GetLargePageMinimum	KERNEL32
000001400···	LocalAlloc	KERNEL32
000001400···	LocalFree	KERNEL32
000001400···	GetFileType	KERNEL32
000001400···	GetConsoleScreenBufferInfo	KERNEL32
000001400···	SetConsoleTextAttribute	KERNEL32
000001400···	RegisterWaitForSingleObject	KERNEL32
000001400···	UnregisterWait	KERNEL32
000001400···	GetConsoleCursorInfo	KERNEL32
000001400···	CreateFileW	KERNEL32
000001400···	DuplicateHandle	KERNEL32
000001400···	PostQueuedCompletionStatus	KERNEL32
000001400···	QueueUserWorkItem	KERNEL32
000001400···	SetConsoleCursorInfo	KERNEL32
000001400···	FillConsoleOutputCharacterW	KERNEL32
000001400···	ReadConsoleInputW	KERNEL32
000001400···	CreateFileA	KERNEL32
000001400···	ReadConsoleW	KERNEL32
000001400···	WriteConsoleInputW	KERNEL32
000001400···	FillConsoleOutputAttribute	KERNEL32
000001400···	WriteConsoleW	KERNEL32
000001400···	GetNumberOfConsoleInputEvents	KERNEL32
000001400···	WideCharToMultiByte	KERNEL32
000001400···	SetConsoleCursorPosition	KERNEL32

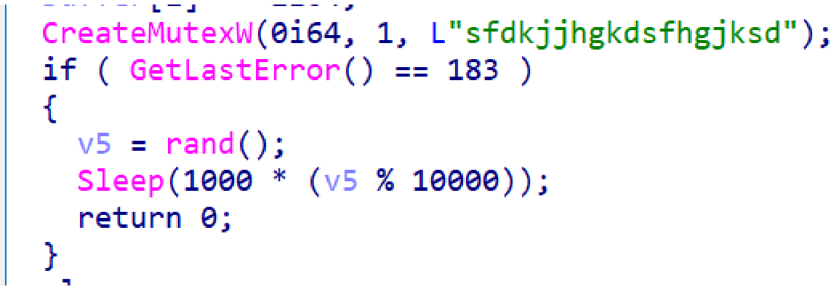
如图还有进行一些网络连接操作



```
00000001400···  111   WSAGetLastError      WS2_32
00000001400···  112   WSASetLastError      WS2_32
00000001400···  115   WSAStartup           WS2_32
00000001400···  18    select               WS2_32
00000001400···        WSARecvFrom          WS2_32
00000001400···  2     bind                 WS2_32
00000001400···        WSAIoctl             WS2_32
00000001400···  3     closesocket          WS2_32
00000001400···        WSASend              WS2_32
00000001400···  22    shutdown             WS2_32
00000001400···        WSASocketW           WS2_32
00000001400···  8     htonl                WS2_32
00000001400···        GetAddrInfoW         WS2_32
00000001400···        FreeAddrInfoW        WS2_32
00000001400···  21    setsockopt           WS2_32
00000001400···  10    ioctlsocket          WS2_32
00000001400···  7     getsockopt           WS2_32
00000001400···        WSARecv              WS2_32
00000001400···  23    socket               WS2_32
00000001400···  9     htons                WS2_32
```

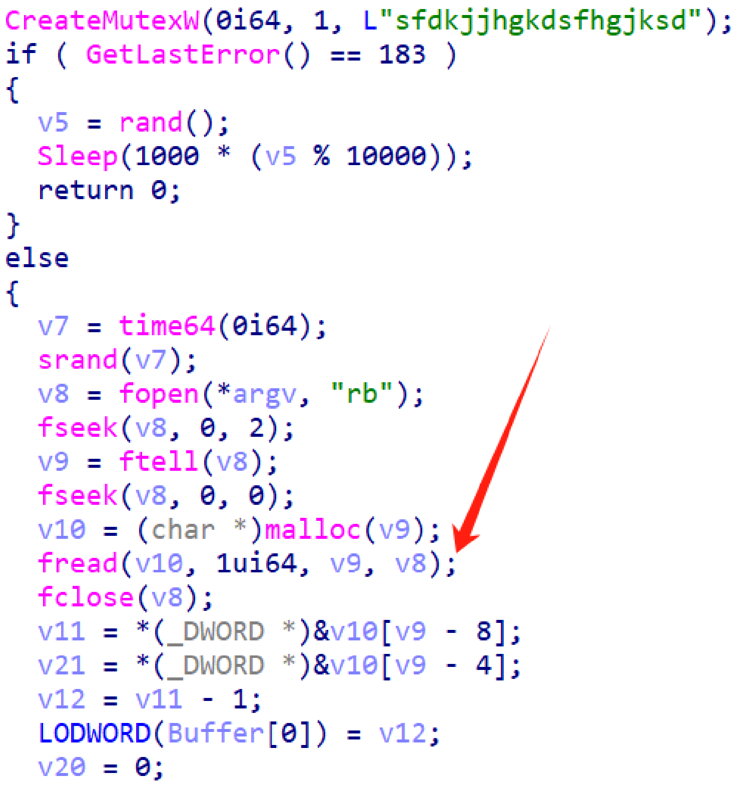
然后看执行流程，Tab键简单看看伪代码

main函数开头的这段代码，通过CreateMutex创建一个互斥体，通过GetLastError判断互斥体是否已经存在，如果已存在则进行sleep，然后程序就返回了，这样避免进程重复执行该程序



```
CreateMutexW(0i64, 1, L"sfdkjjhgkdsfhgjksd");
if ( GetLastError() == 183 )
{
  v5 = rand();
  Sleep(1000 * (v5 % 10000));
  return 0;
}
```

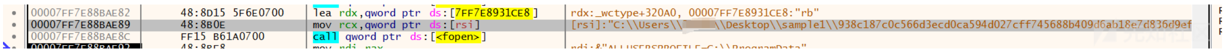
然后开始读取文件操作



```
CreateMutexW(0i64, 1, L"sfdkjjhgkdsfhgjksd");
if ( GetLastError() == 183 )
{
  v5 = rand();
  Sleep(1000 * (v5 % 10000));
  return 0;
}
else
{
  v7 = time64(0i64);
  srand(v7);
  v8 = fopen(*argv, "rb");
  fseek(v8, 0, 2);
  v9 = ftell(v8);
  fseek(v8, 0, 0);
  v10 = (char *)malloc(v9);
  fread(v10, 1ui64, v9, v8);
  fclose(v8);
  v11 = *(_DWORD *)&v10[v9 - 8];
  v21 = *(_DWORD *)&v10[v9 - 4];
  v12 = v11 - 1;
  LODWORD(Buffer[0]) = v12;
  v20 = 0;
```

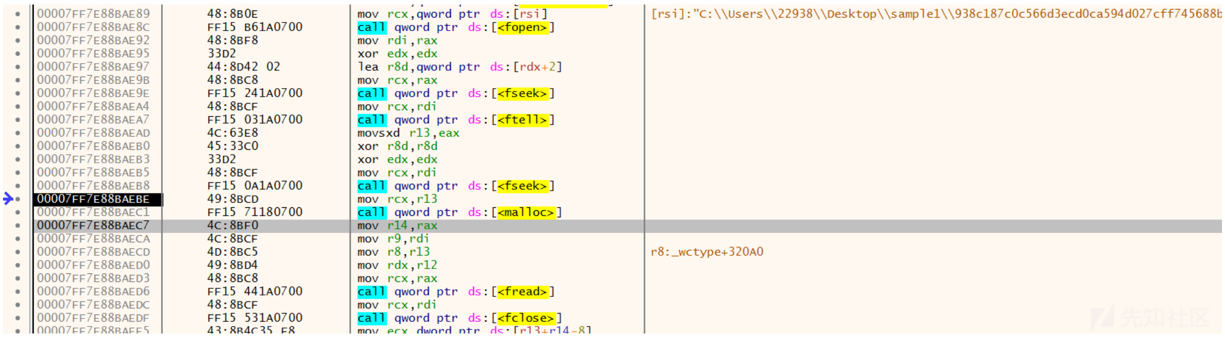
这里动态调试看一下读取的是哪一个文件，调试之前需要了解一点前置知识。文件名是作为fopen的第一个参数传递的，这是一个x64位程序，函数的第一个参数第二个参数分别放在RCX、RDX寄存器中，fopen有两个参数，第一个参数是文件路径，那么我们就动态调试看看RCX，如图说明读取的是样本自身，那么有可能真

正的二阶段恶意文件就隐藏在样本自身当中（一开始我以为是CS木马就当CS马来分析了）



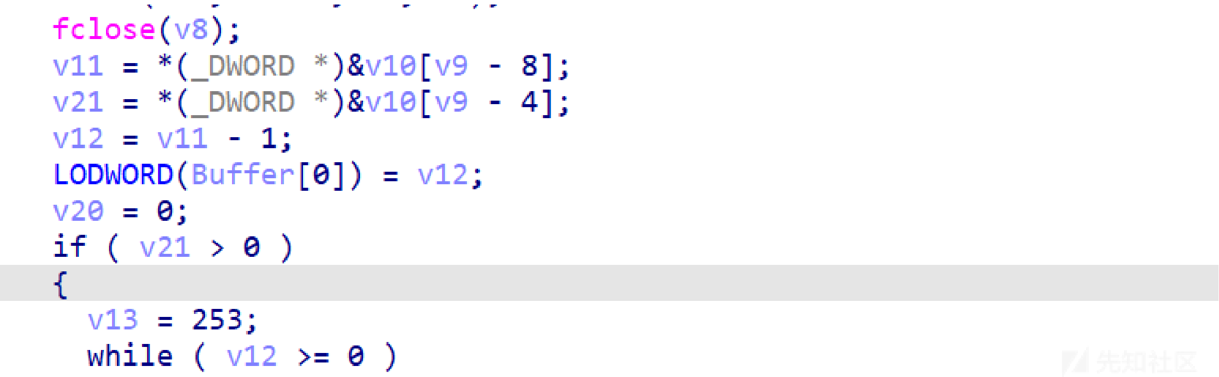
```
00007FF7E88BAE82    48:8D15 5F6E0700    lea rdx,qword ptr ds:[7FF7E8931CE8]    rdx:_wctype+320A0, 00007FF7E8931CE8:"rb"
00007FF7E88BAE89    48:8B0E             mov rcx,qword ptr ds:[rsi]             [rsi]:"C:\\Users\\[redacted]\\Desktop\\sample1\\938c187c0c566d3ecd0ca594d027cff745688b409d6ab18e7d836d9ef
00007FF7E88BAE8C    FF15 B61A0700       call qword ptr ds:[<fopen>]
00007FF7E88BAE92    48:8BF8             mov rdi,rax                            rdi:&"ALLUSERSPROFILE=C:\\ProgramData"
```

然后使用两个fseek和malloc、ftell将整个文件内容读取到了内存中，第一个fseek是获取文件末尾指针，ftell是获取文件大小，malloc是申请内存并写入内容，因此推测是将文件内容读取到内存中



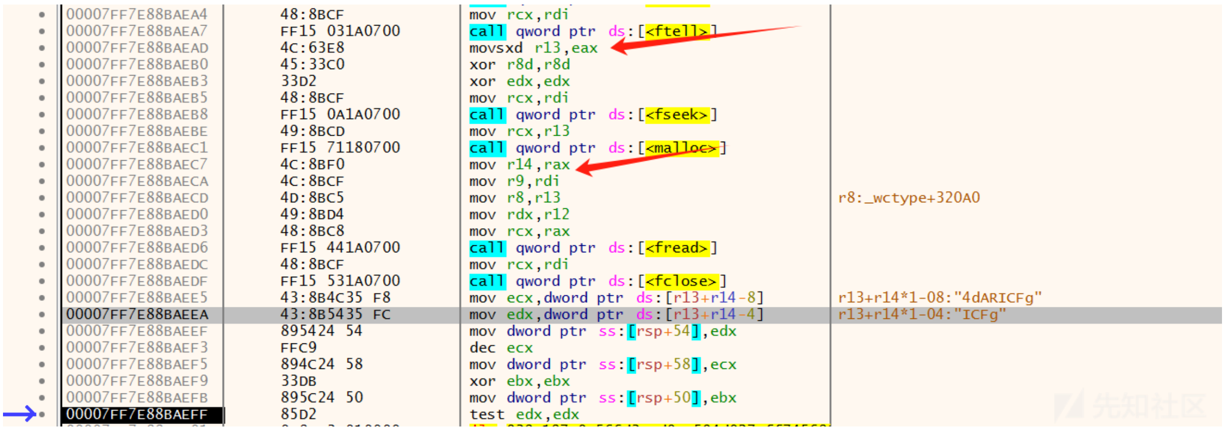
```
00007FF7E88BAE89    48:8B0E             mov rcx,qword ptr ds:[rsi]           [rsi]:"C:\\Users\\22938\\Desktop\\sample1\\938c187c0c566d3ecd0ca594d027cff745688b
00007FF7E88BAE8C    FF15 B61A0700       call qword ptr ds:[<fopen>]
00007FF7E88BAE92    48:8BF8             mov rdi,rax
00007FF7E88BAE95    33D2                xor edx,edx
00007FF7E88BAE97    44:8D42 02          lea r8d,qword ptr ds:[rdx+2]
00007FF7E88BAE9B    48:8BC8             mov rcx,rax
00007FF7E88BAE9E    FF15 241A0700       call qword ptr ds:[<fseek>]
00007FF7E88BAEA4    48:8BCF             mov rcx,rdi
00007FF7E88BAEA7    FF15 031A0700       call qword ptr ds:[<ftell>]
00007FF7E88BAEAD    4C:63E8             movsxd r13,eax
00007FF7E88BAEB0    45:33C0             xor r8d,r8d
00007FF7E88BAEB3    33D2                xor edx,edx
00007FF7E88BAEB5    48:8BCF             mov rcx,rdi
00007FF7E88BAEB8    FF15 0A1A0700       call qword ptr ds:[<fseek>]
00007FF7E88BAEBE    49:8BCD             mov rcx,r13
00007FF7E88BAEC1    FF15 71180700       call qword ptr ds:[<malloc>]
00007FF7E88BAEC7    4C:8BF0             mov r14,rax
00007FF7E88BAECA    4C:8BCF             mov r9,rdi
00007FF7E88BAECD    4D:8BC5             mov r8,r13                           r8:_wctype+320A0
00007FF7E88BAED0    49:8BD4             mov rdx,r12
00007FF7E88BAED3    48:8BC8             mov rcx,rax
00007FF7E88BAED6    FF15 441A0700       call qword ptr ds:[<fread>]
00007FF7E88BAEDC    48:8BCF             mov rcx,rdi
00007FF7E88BAEDF    FF15 531A0700       call qword ptr ds:[<fclose>]
00007FF7E88BAEE5    43:8B4C35 F8        mov ecx,dword ptr ds:[r13+r14-8]
```

fclose之后初始化了几个变量

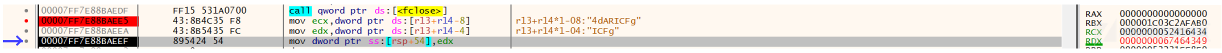


```
  fclose(v8);
  v11 = *(_DWORD *)&v10[v9 - 8];
  v21 = *(_DWORD *)&v10[v9 - 4];
  v12 = v11 - 1;
  LODWORD(Buffer[0]) = v12;
  v20 = 0;
  if ( v21 > 0 )
  {
    v13 = 253;
    while ( v12 >= 0 )
```

从汇编中可以看出，v11从内存中读取文件末尾倒数第8字节的DWORD值，v21读取文件末尾倒数第4字节的DWORD值，因为R13是ftell的返回值即文件大小，是R14是malloc的发挥着即内存起始地址、或者说就是文件内容的起始地址，毕竟已经把内容写入malloc

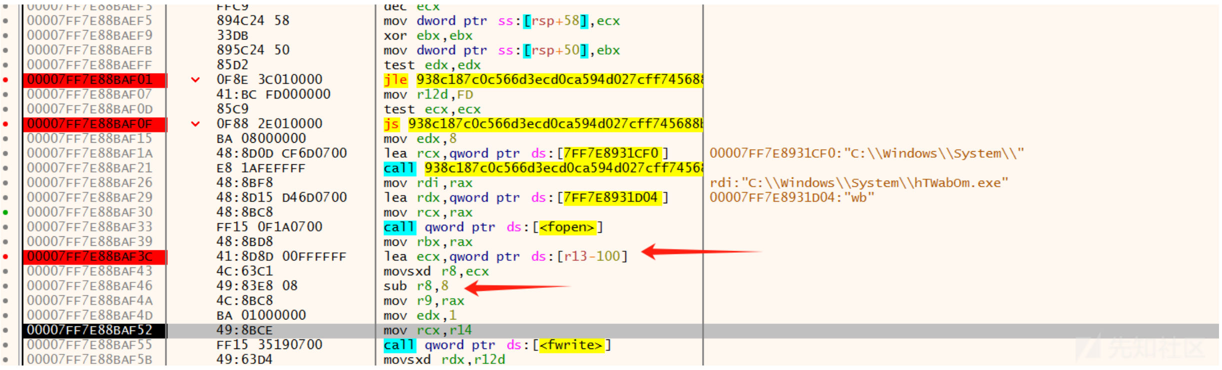


```
00007FF7E88BAEA4    48:8BCF             mov rcx,rdi
00007FF7E88BAEA7    FF15 031A0700       call qword ptr ds:[<ftell>]
00007FF7E88BAEAD    4C:63E8             movsxd r13,eax
00007FF7E88BAEB0    45:33C0             xor r8d,r8d
00007FF7E88BAEB3    33D2                xor edx,edx
00007FF7E88BAEB5    48:8BCF             mov rcx,rdi
00007FF7E88BAEB8    FF15 0A1A0700       call qword ptr ds:[<fseek>]
00007FF7E88BAEBE    49:8BCD             mov rcx,r13
00007FF7E88BAEC1    FF15 71180700       call qword ptr ds:[<malloc>]
00007FF7E88BAEC7    4C:8BF0             mov r14,rax
00007FF7E88BAECA    4C:8BCF             mov r9,rdi
00007FF7E88BAECD    4D:8BC5             mov r8,r13                           r8:_wctype+320A0
00007FF7E88BAED0    49:8BD4             mov rdx,r12
00007FF7E88BAED3    48:8BC8             mov rcx,rax
00007FF7E88BAED6    FF15 441A0700       call qword ptr ds:[<fread>]
00007FF7E88BAEDC    48:8BCF             mov rcx,rdi
00007FF7E88BAEDF    FF15 531A0700       call qword ptr ds:[<fclose>]
00007FF7E88BAEE5    43:8B4C35 F8        mov ecx,dword ptr ds:[r13+r14-8]     r13+r14*1-08:"4dARICFg"
00007FF7E88BAEEA    43:8B5435 FC        mov edx,dword ptr ds:[r13+r14-4]     r13+r14*1-04:"ICFg"
00007FF7E88BAEEF    895424 54           mov dword ptr ss:[rsp+54],edx
00007FF7E88BAEF3    FFC9                dec ecx
00007FF7E88BAEF5    894C24 58           mov dword ptr ss:[rsp+58],ecx
00007FF7E88BAEF9    33DB                xor ebx,ebx
00007FF7E88BAEFB    895C24 50           mov dword ptr ss:[rsp+50],ebx
00007FF7E88BAEFF    85D2                test edx,edx
```



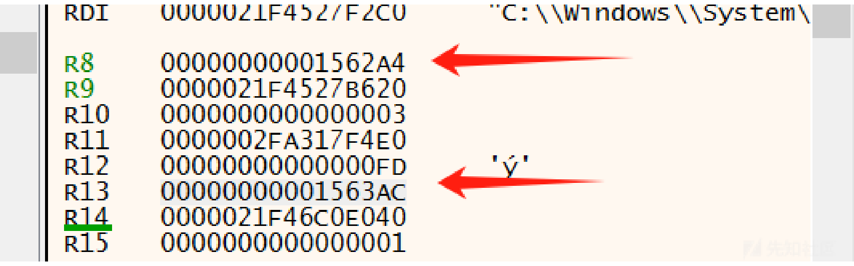
```
00007FF7E88BAEDF    FF15 531A0700       call qword ptr ds:[<fclose>]                                   RAX  0000000000000000
00007FF7E88BAEE5    43:8B4C35 F8        mov ecx,dword ptr ds:[r13+r14-8]   r13+r14*1-08:"4dARICFg"     RBX  000001C03C2AFAB0
00007FF7E88BAEEA    43:8B5435 FC        mov edx,dword ptr ds:[r13+r14-4]   r13+r14*1-04:"ICFg"         RCX  0000000052416434
00007FF7E88BAEEF    895424 54           mov dword ptr ss:[rsp+54],edx                                  RDX  0000000067464349
```

然后又开始fwrite，大小的参数值存放在R8寄存器中，根据汇编可以看出是R13-256-8



```
00007FF7E88BAEF3   FFC9              dec ecx
00007FF7E88BAEF5   894C24 58         mov dword ptr ss:[rsp+58],ecx
00007FF7E88BAEF9   33DB              xor ebx,ebx
00007FF7E88BAEFB   895C24 50         mov dword ptr ss:[rsp+50],ebx
00007FF7E88BAEFF   85D2              test edx,edx
00007FF7E88BAF01   0F8E 3C010000     jle 938c187c0c566d3ecd0ca594d027cff74568
00007FF7E88BAF07   41:BC FD000000    mov r12d,FD
00007FF7E88BAF0D   85C9              test ecx,ecx
00007FF7E88BAF0F   0F88 2E010000     js 938c187c0c566d3ecd0ca594d027cff745688
00007FF7E88BAF15   BA 08000000       mov edx,8
00007FF7E88BAF1A   48:8D0D CF6D0700  lea rcx,qword ptr ds:[7FF7E8931CF0]        00007FF7E8931CF0:"C:\\Windows\\System\\"
00007FF7E88BAF21   E8 1AFEFFFF       call 938c187c0c566d3ecd0ca594d027cff7456
00007FF7E88BAF26   48:8BF8           mov rdi,rax                                rdi:"C:\\Windows\\System\\hTWabOm.exe"
00007FF7E88BAF29   48:8D15 D46D0700  lea rdx,qword ptr ds:[7FF7E8931D04]        00007FF7E8931D04:"wb"
00007FF7E88BAF30   48:8BC8           mov rcx,rax
00007FF7E88BAF33   FF15 0F1A0700     call qword ptr ds:[<fopen>]
00007FF7E88BAF39   48:8BD8           mov rbx,rax
00007FF7E88BAF3C   41:8D8D 00FFFFFF  lea ecx,qword ptr ds:[r13-100]
00007FF7E88BAF43   4C:63C1           movsxd r8,ecx
00007FF7E88BAF46   49:83E8 08        sub r8,8
00007FF7E88BAF4A   4C:8BC8           mov r9,rax
00007FF7E88BAF4D   BA 01000000       mov edx,1
00007FF7E88BAF52   49:8BCE           mov rcx,r14
00007FF7E88BAF55   FF15 35190700     call qword ptr ds:[<fwrite>]
00007FF7E88BAF5B   49:63D4           movsxd rdx,r12d
```

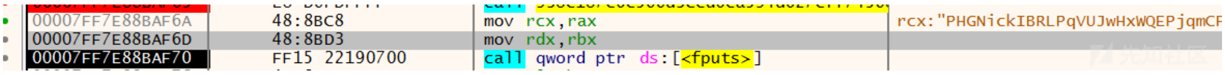
看看右边的寄存器，推测正确



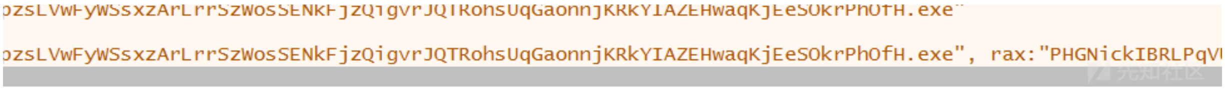
```
RDI    0000021F4527F2C0   "C:\\Windows\\System\
R8     00000000001562A4
R9     0000021F4527B620
R10    0000000000000003
R11    0000002FA317F4E0
R12    00000000000000FD   'ý'
R13    00000000001563AC
R14    0000021F46C0E040
R15    0000000000000001
```

后来也经过了一次fputs和fwrite来复制一个完整的exe，但是关键代码、功能是跟样本是一样的

这里将RCX中的内容通过fputs写入文件 RCX就是一个很长的随机文件名 不知道为啥要这样

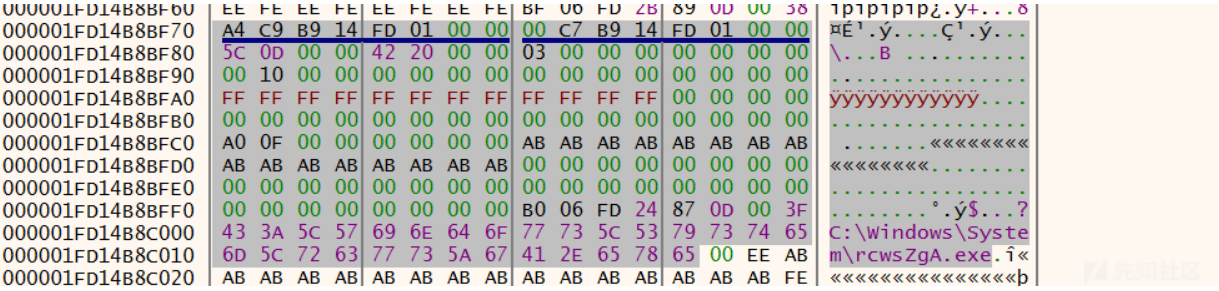


```
00007FF7E88BAF6A   48:8BC8           mov rcx,rax          rcx:"PHGNickIBRLPqVUJwHxWQEPjqmCF
00007FF7E88BAF6D   48:8BD3           mov rdx,rbx
00007FF7E88BAF70   FF15 22190700     call qword ptr ds:[<fputs>]
```



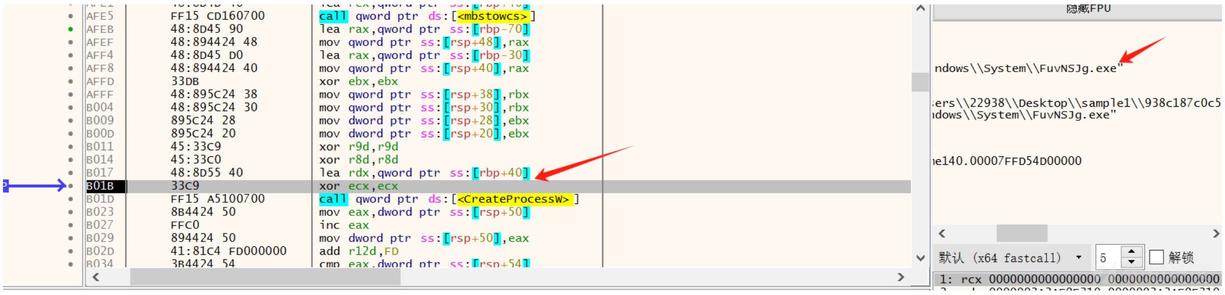
```
ozsLVwFyWSsxzArLrrSzWosSENkFjzQigvrJQTRohsUqGaonnjKRkYIAZEHwaqKjEeSOkrPhOfH.exe"
ozsLVwFyWSsxzArLrrSzWosSENkFjzQigvrJQTRohsUqGaonnjKRkYIAZEHwaqKjEeSOkrPhOfH.exe", rax:"PHGNickIBRLPqV
```

似乎是把这个文件名字给覆盖 跟了之后发现又没有变化



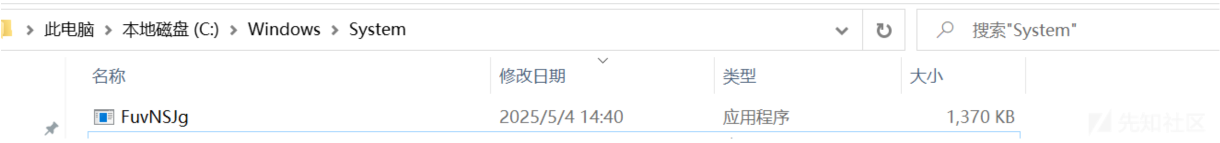
```
000001FD14B8BF60 | EE FE EE FE| EE FE EE FE| BF 06 FD 2B| 89 0D 00 38 | îþîþîþîþ¿.ý+...8
000001FD14B8BF70 | A4 C9 B9 14| FD 01 00 00| 00 C7 B9 14| FD 01 00 00 | ¤É¹.ý....Ç¹.ý...
000001FD14B8BF80 | 5C 0D 00 00| 42 20 00 00| 03 00 00 00| 00 00 00 00 | \...B ..........
000001FD14B8BF90 | 00 10 00 00| 00 00 00 00| 00 00 00 00| 00 00 00 00 | ................
000001FD14B8BFA0 | FF FF FF FF| FF FF FF FF| FF FF FF FF| 00 00 00 00 | ÿÿÿÿÿÿÿÿÿÿÿÿ....
000001FD14B8BFB0 | 00 00 00 00| 00 00 00 00| 00 00 00 00| 00 00 00 00 | ................
000001FD14B8BFC0 | A0 0F 00 00| 00 00 00 00| AB AB AB AB| AB AB AB AB |  .......««««««««
000001FD14B8BFD0 | AB AB AB AB| AB AB AB AB| 00 00 00 00| 00 00 00 00 | ««««««««........
000001FD14B8BFE0 | 00 00 00 00| 00 00 00 00| 00 00 00 00| 00 00 00 00 | ................
000001FD14B8BFF0 | 00 00 00 00| 00 00 00 00| B0 06 FD 24| 87 0D 00 3F | ........°.ý$...?
000001FD14B8C000 | 43 3A 5C 57| 69 6E 64 6F| 77 73 5C 53| 79 73 74 65 | C:\Windows\Syste
000001FD14B8C010 | 6D 5C 72 63| 77 73 5A 67| 41 2E 65 78| 65 00 EE AB | m\rcwsZgA.exe.î«
000001FD14B8C020 | AB AB AB AB| AB AB AB AB| AB AB AB AB| AB AB AB FE | ««««««««««««««þ
```

这里通过createprocess来执行exe



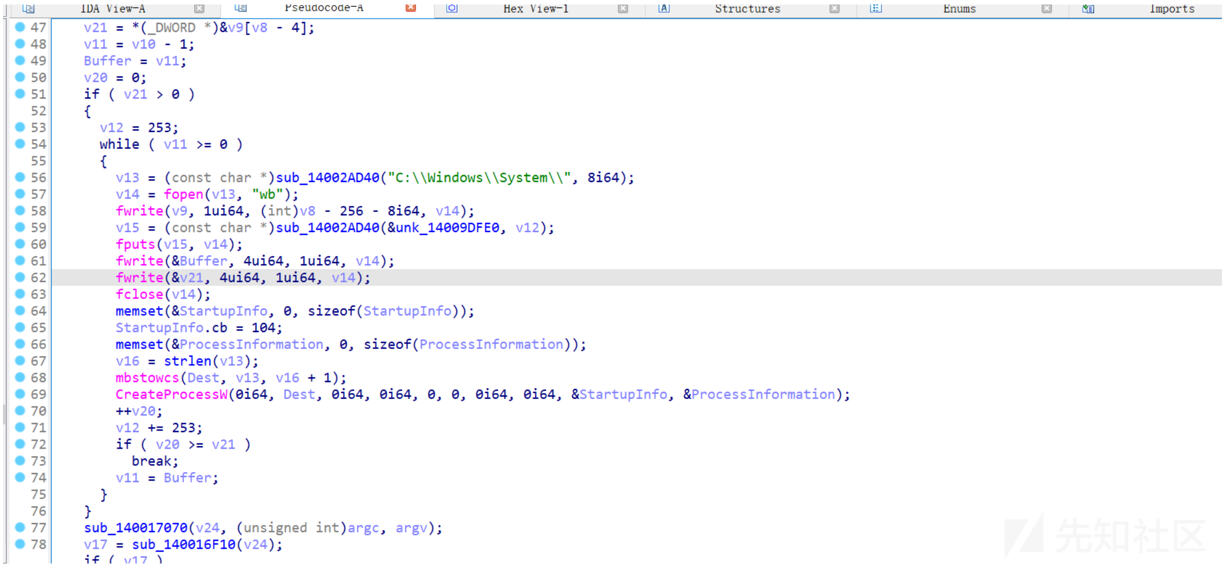
```
AFE5   FF15 CD160700     call qword ptr ds:[<mbstowcs>]
AFEB   48:8D45 90        lea rax,qword ptr ss:[rbp-70]
AFEF   48:894424 48      mov qword ptr ss:[rsp+48],rax
AFF4   48:8D45 D0        lea rax,qword ptr ss:[rbp-30]
AFF8   48:894424 40      mov qword ptr ss:[rsp+40],rax
AFFD   33DB              xor ebx,ebx
AFFF   48:895C24 38      mov qword ptr ss:[rsp+38],rbx
B004   48:895C24 30      mov qword ptr ss:[rsp+30],rbx
B009   895C24 28         mov dword ptr ss:[rsp+28],ebx
B00D   895C24 20         mov dword ptr ss:[rsp+20],ebx
B011   45:33C9           xor r9d,r9d
B014   45:33C0           xor r8d,r8d
B017   48:8D55 40        lea rdx,qword ptr ss:[rbp+40]
B01B   33C9              xor ecx,ecx
B01D   FF15 A5100700     call qword ptr ds:[<CreateProcessW>]
B023   8B4424 50         mov eax,dword ptr ss:[rsp+50]
B027   FFC0              inc eax
B029   894424 50         mov dword ptr ss:[rsp+50],eax
B02D   41:81C4 FD000000  add r12d,FD
B034   3B4424 54         cmp eax,dword ptr ss:[rsp+54]
```

```
ndows\\System\\FuvNSJg.exe"

ers\\22938\\Desktop\\sample1\\938c187c0c5
ndows\\System\\FuvNSJg.exe"

e140.00007FFD54D00000
```



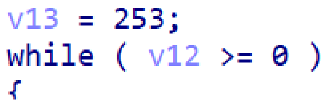
名称	修改日期	类型	大小
FuvNSJg	2025/5/4 14:40	应用程序	1,370 KB

生成的exe跟一开始的样本代码是一样的但是他会循环不断生成进行自复制到C:\Windows\System\中



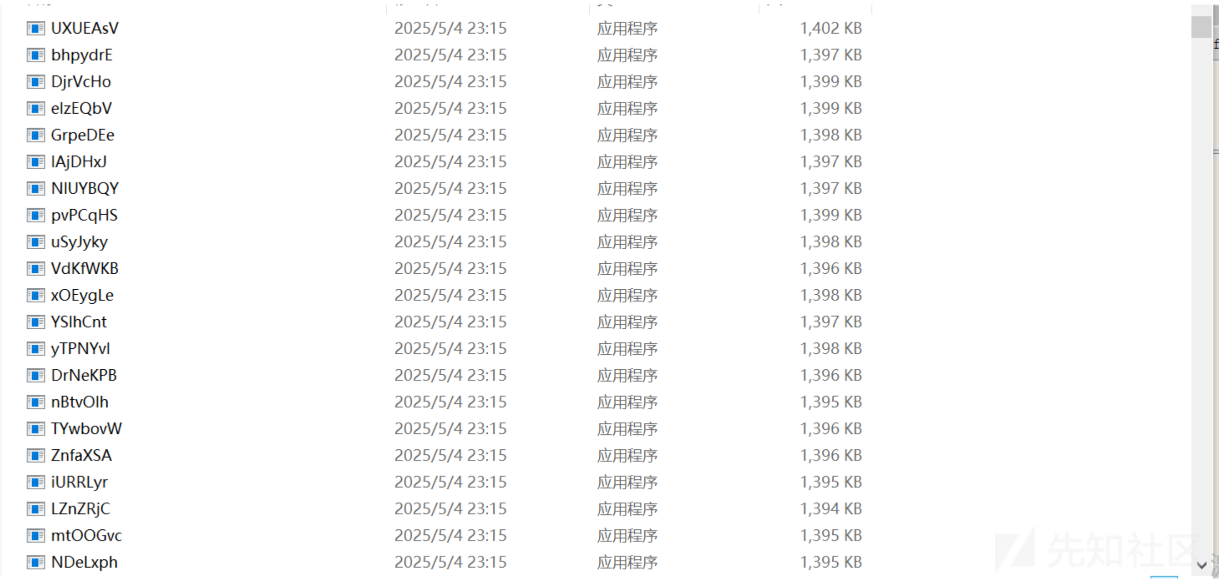
```
  v21 = *(_DWORD *)&v9[v8 - 4];
  v11 = v10 - 1;
  Buffer = v11;
  v20 = 0;
  if ( v21 > 0 )
  {
    v12 = 253;
    while ( v11 >= 0 )
    {
      v13 = (const char *)sub_14002AD40("C:\\Windows\\System\\", 8i64);
      v14 = fopen(v13, "wb");
      fwrite(v9, 1ui64, (int)v8 - 256 - 8i64, v14);
      v15 = (const char *)sub_14002AD40(&unk_14009DFE0, v12);
      fputs(v15, v14);
      fwrite(&Buffer, 4ui64, 1ui64, v14);
      fwrite(&v21, 4ui64, 1ui64, v14);
      fclose(v14);
      memset(&StartupInfo, 0, sizeof(StartupInfo));
      StartupInfo.cb = 104;
      memset(&ProcessInformation, 0, sizeof(ProcessInformation));
      v16 = strlen(v13);
      mbstowcs(Dest, v13, v16 + 1);
      CreateProcessW(0i64, Dest, 0i64, 0i64, 0, 0, 0i64, 0i64, &StartupInfo, &ProcessInformation);
      ++v20;
      v12 += 253;
      if ( v20 >= v21 )
        break;
      v11 = Buffer;
    }
  }
  sub_140017070(v24, (unsigned int)argc, argv);
  v17 = sub_140016F10(v24);
  if ( v17 )
```

这里程序一直while循环进行自我复制，复制了很多次，如果绕过这个重复的过程呢？



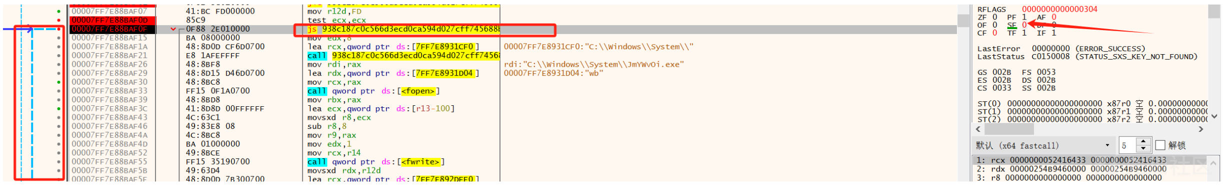
```
v13 = 253;
while ( v12 >= 0 )
{
```

直接在复制代码区域外面下断点然后直接运行到断点位置，这是一种不过这样的话他还是会复制很多次



UXUEAsV	2025/5/4 23:15	应用程序	1,402 KB
bhpydrE	2025/5/4 23:15	应用程序	1,397 KB
DjrVcHo	2025/5/4 23:15	应用程序	1,399 KB
elzEQbV	2025/5/4 23:15	应用程序	1,399 KB
GrpeDEe	2025/5/4 23:15	应用程序	1,398 KB
IAjDHxJ	2025/5/4 23:15	应用程序	1,397 KB
NIUYBQY	2025/5/4 23:15	应用程序	1,397 KB
pvPCqHS	2025/5/4 23:15	应用程序	1,399 KB
uSyJyky	2025/5/4 23:15	应用程序	1,398 KB
VdKfWKB	2025/5/4 23:15	应用程序	1,396 KB
xOEygLe	2025/5/4 23:15	应用程序	1,398 KB
YSIhCnt	2025/5/4 23:15	应用程序	1,397 KB
yTPNYvl	2025/5/4 23:15	应用程序	1,398 KB
DrNeKPB	2025/5/4 23:15	应用程序	1,396 KB
nBtvOlh	2025/5/4 23:15	应用程序	1,395 KB
TYwbovW	2025/5/4 23:15	应用程序	1,396 KB
ZnfaXSA	2025/5/4 23:15	应用程序	1,396 KB
iURRLyr	2025/5/4 23:15	应用程序	1,395 KB
LZnZRjC	2025/5/4 23:15	应用程序	1,394 KB
mtOOGvc	2025/5/4 23:15	应用程序	1,395 KB
NDeLxph	2025/5/4 23:15	应用程序	1,395 KB

这里选择修改寄存器的方式 如图代码是通过js命令来判断次数的 判断的结果会返回给SF寄存器，如果是0则继续循环，这里直接鼠标双击设置为1就跳过循环只会进行自我复制一次了

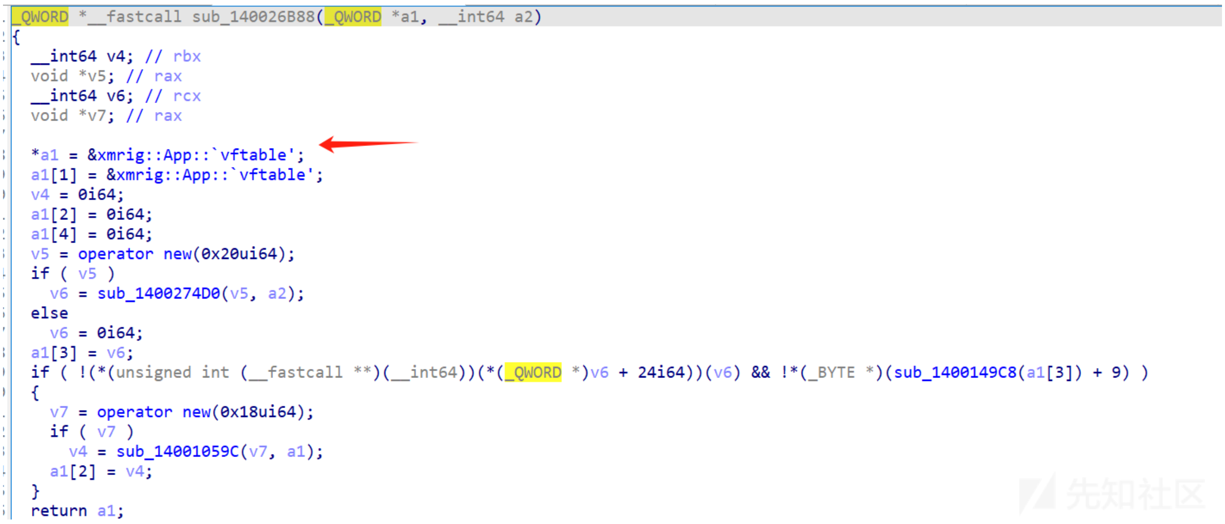


```
00007FF7E88BAF07    41:BC FD000000      mov r12d,FD
00007FF7E88BAF0D    85C9                test ecx,ecx
00007FF7E88BAF0F    0F88 2E010000       js 938c187c0c566d3ecd0ca594d027cff745688
00007FF7E88BAF15    BA 08000000         mov edx,8
00007FF7E88BAF1A    48:8D0D CF6D0700    lea rcx,qword ptr ds:[7FF7E8931CF0]       00007FF7E8931CF0:"C:\\Windows\\System\\"
00007FF7E88BAF21    E8 1AFEFFFF         call 938c187c0c566d3ecd0ca594d027cff7456
00007FF7E88BAF26    48:8BF8             mov rdi,rax                               rdi:"C:\\Windows\\System\\JmYWvOi.exe"
00007FF7E88BAF29    48:8D15 D46D0700    lea rdx,qword ptr ds:[7FF7E8931D04]       00007FF7E8931D04:"wb"
00007FF7E88BAF30    48:8BC8             mov rcx,rax
00007FF7E88BAF33    FF15 0F1A0700       call qword ptr ds:[<fopen>]
00007FF7E88BAF39    48:8BD8             mov rbx,rax
00007FF7E88BAF3C    41:8D8D 00FFFFFF    lea ecx,qword ptr ds:[r13-100]
00007FF7E88BAF43    4C:63C1             movsxd r8,ecx
00007FF7E88BAF46    49:83E8 08          sub r8,8
00007FF7E88BAF4A    4C:8BC8             mov r9,rax
00007FF7E88BAF4D    BA 01000000         mov edx,1
00007FF7E88BAF52    49:8BCE             mov rcx,r14
00007FF7E88BAF55    FF15 35190700       call qword ptr ds:[<fwrite>]
00007FF7E88BAF5B    49:63D4             movsxd rdx,r12d
00007FF7E88BAF5E    48:8D0D 7B300700    lea rcx,qword ptr ds:[7FF7E892DEF0]
```

```
RFLAGS  0000000000000304
ZF 0  PF 1  AF 0
OF 0  SF 0  DF 0
CF 0  TF 1  IF 1

LastError   00000000 (ERROR_SUCCESS)
LastStatus  C0150008 (STATUS_SXS_KEY_NOT_FOUND)

GS 002B  FS 0053
ES 002B  DS 002B
CS 0033  SS 002B

ST(0) 0000000000000000000 x87r0 空 0.0000000000
ST(1) 0000000000000000000 x87r1 空 0.0000000000
ST(2) 0000000000000000000 x87r2 空 0.0000000000
```

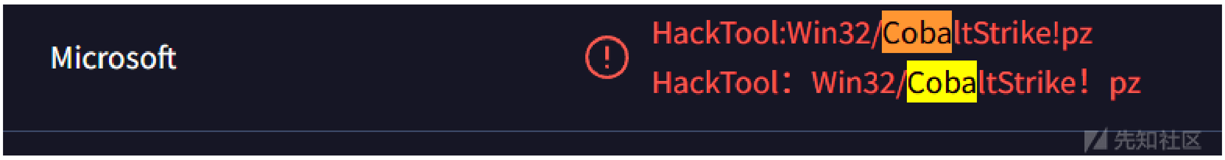
```
1: rcx 0000000052416433 0000000052416433
2: rdx 00000254B9460000 00000254B9460000
3: r8 0000000000000000 0000000000000000
```

后面继续看伪代码发现了xmrig，xmrig是知名的开源矿工程序，常被恶意软件用于隐蔽挖矿

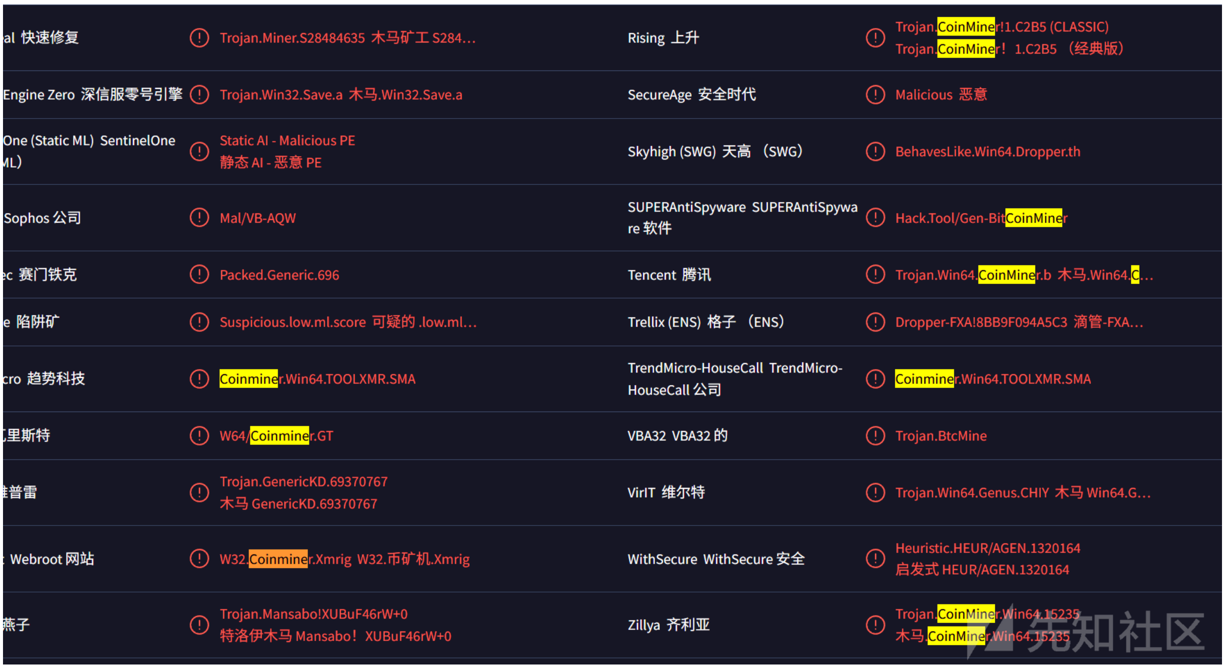


```
_QWORD *__fastcall sub_140026B88(_QWORD *a1, __int64 a2)
{
  __int64 v4; // rbx
  void *v5; // rax
  __int64 v6; // rcx
  void *v7; // rax

  *a1 = &xmrig::App::`vftable';
  a1[1] = &xmrig::App::`vftable';
  v4 = 0i64;
  a1[2] = 0i64;
  a1[4] = 0i64;
  v5 = operator new(0x20ui64);
  if ( v5 )
    v6 = sub_1400274D0(v5, a2);
  else
    v6 = 0i64;
  a1[3] = v6;
  if ( !(*(unsigned int (__fastcall **)(__int64))(*(_QWORD *)v6 + 24i64))(v6) && !*(_BYTE *)(sub_1400149C8(a1[3]) + 9) )
  {
    v7 = operator new(0x18ui64);
    if ( v7 )
      v4 = sub_14001059C(v7, a1);
    a1[2] = v4;
  }
  return a1;
```

这里才发现，这实际上不是CS木马其实就是挖矿程序，只有微软报是CS木马就一直当CS木马来看了

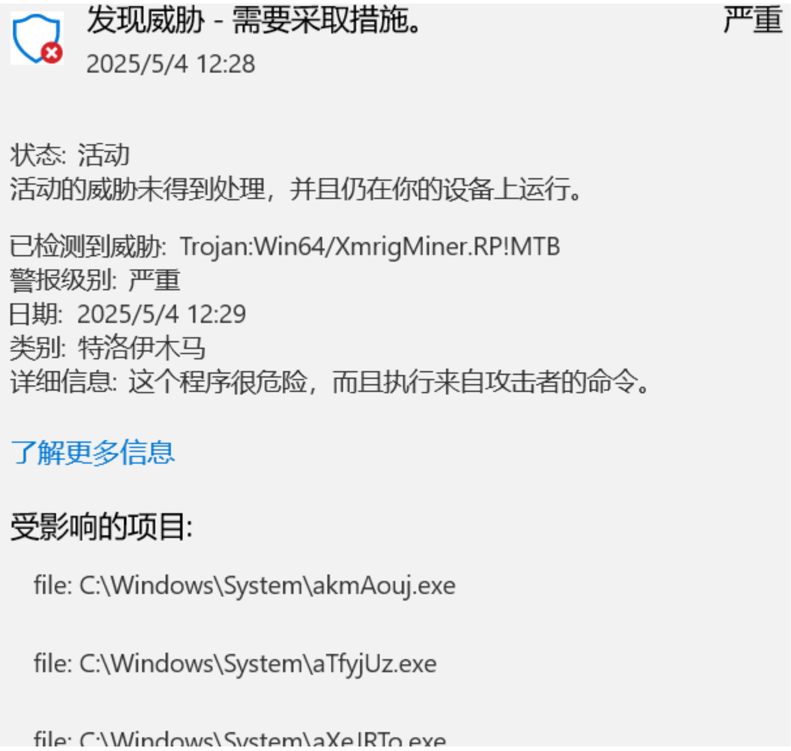


Microsoft HackTool:Win32/CobaltStrike!pz
HackTool：Win32/CobaltStrike！ pz



al 快速修复	Trojan.Miner.S28484635 木马矿工 S284…	Rising 上升	Trojan.CoinMiner!1.C2B5 (CLASSIC) Trojan.CoinMiner！ 1.C2B5 （经典版）
Engine Zero 深信服零号引擎	Trojan.Win32.Save.a 木马.Win32.Save.a	SecureAge 安全时代	Malicious 恶意
One (Static ML) SentinelOne ML）	Static AI - Malicious PE 静态 AI - 恶意 PE	Skyhigh (SWG) 天高 （SWG）	BehavesLike.Win64.Dropper.th
Sophos 公司	Mal/VB-AQW	SUPERAntiSpyware SUPERAntiSpyware 软件	Hack.Tool/Gen-BitCoinMiner
ec 赛门铁克	Packed.Generic.696	Tencent 腾讯	Trojan.Win64.CoinMiner.b 木马.Win64.C…
e 陷阱矿	Suspicious.low.ml.score 可疑的 .low.ml…	Trellix (ENS) 格子 （ENS）	Dropper-FXA!8BB9F094A5C3 滴管-FXA…
cro 趋势科技	Coinminer.Win64.TOOLXMR.SMA	TrendMicro-HouseCall TrendMicro-HouseCall 公司	Coinminer.Win64.TOOLXMR.SMA
里斯特	W64/Coinminer.GT	VBA32 VBA32 的	Trojan.BtcMine
普雷	Trojan.GenericKD.69370767 木马 GenericKD.69370767	VirIT 维尔特	Trojan.Win64.Genus.CHIY 木马 Win64.G…
Webroot 网站	W32.Coinminer.Xmrig W32.币矿机.Xmrig	WithSecure WithSecure 安全	Heuristic.HEUR/AGEN.1320164 启发式 HEUR/AGEN.1320164
燕子	Trojan.Mansabo!XUBuF46rW+0 特洛伊木马 Mansabo！ XUBuF46rW+0	Zillya 齐利亚	Trojan.CoinMiner.Win64.15235 木马.CoinMiner.Win64.15235

这里defender又识别是挖矿木马



发现威胁 - 需要采取措施。 严重
2025/5/4 12:28

状态: 活动
活动的威胁未得到处理，并且仍在你的设备上运行。

已检测到威胁: Trojan:Win64/XmrigMiner.RP!MTB
警报级别: 严重
日期: 2025/5/4 12:29
类别: 特洛伊木马
详细信息: 这个程序很危险，而且执行来自攻击者的命令。

了解更多信息

受影响的项目:

file: C:\Windows\System\akmAouj.exe

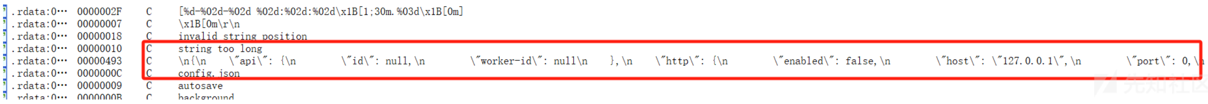
file: C:\Windows\System\aTfyjUz.exe

file: C:\Windows\System\aXeIRTo.exe

捕获矿池地址

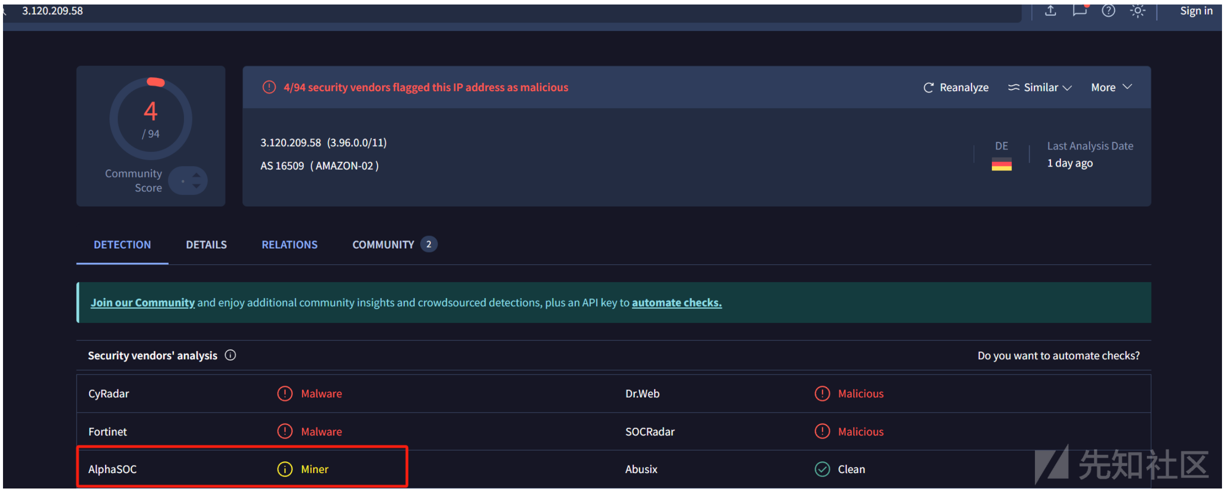
确定是挖矿木马了，那就尝试找一下矿池地址吧 最简单的方式是运行然后看看wireshark，当然这存在一定风险

也可以直接ida看看字符串有没有相关的信息，如图，复制下来看看 很明显是挖矿程序的一些配置信息。其中"algo": "cn/r"：使用CryptoNight算法变种（如CryptoNightR），常用于门罗币



```
.rdata:0··· 0000002F  C  [%d-%02d-%02d %02d:%02d:%02d\x1B[1;30m.%03d\x1B[0m]
.rdata:0··· 00000007  C  \x1B[0m\r\n
.rdata:0··· 00000018  C  invalid string position
.rdata:0··· 00000010  C  string too long
.rdata:0··· 00000493  C  \n{\n   \"api\": {\n       \"id\": null,\n       \"worker-id\": null\n   },\n   \"http\": {\n       \"enabled\": false,\n       \"host\": \"127.0.0.1\",\n       \"port\": 0,\
.rdata:0··· 0000000C  C  config.json
.rdata:0··· 00000009  C  autosave
.rdata:0··· 0000000B  C  background
```

有个url：3.120.209.58:8080，pools一般就是矿池相关的参数了 微步是显示安全的 放在VT看看 有一个显示Miner也就是矿池的意思



4 / 94 Community Score

4/94 security vendors flagged this IP address as malicious

3.120.209.58 (3.96.0.0/11)
AS 16509 (AMAZON-02)

DE

Last Analysis Date 1 day ago

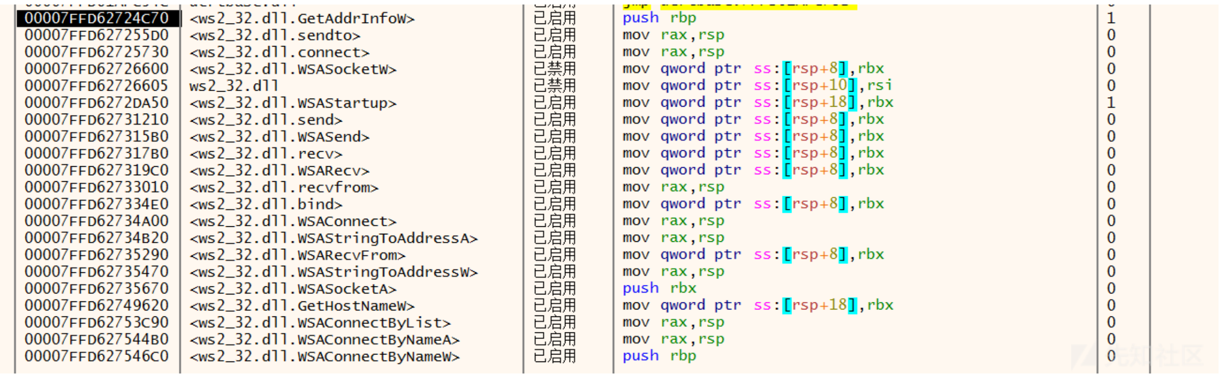
Join our Community and enjoy additional community insights and crowdsourced detections, plus an API key to automate checks.

Security vendors' analysis

Do you want to automate checks?

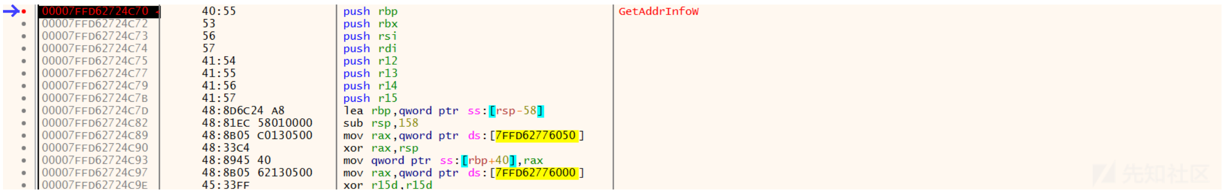
CyRadar	Malware	Dr.Web	Malicious
Fortinet	Malware	SOCRadar	Malicious
AlphaSOC	Miner	Abusix	Clean

除了看字符串以外呢，我们还可以通过xdbg动态调试的方式获取矿池地址，那么我们就需要在一些进行网络连接相关的API上进行断点，然后去分析他的参数传入顺序、以及参数值，从而捕获矿池的地址，主要是找ws2_32.dll里的API，这里面的API大多都是跟网络连接相关的，可以尝试对这些API进行断点



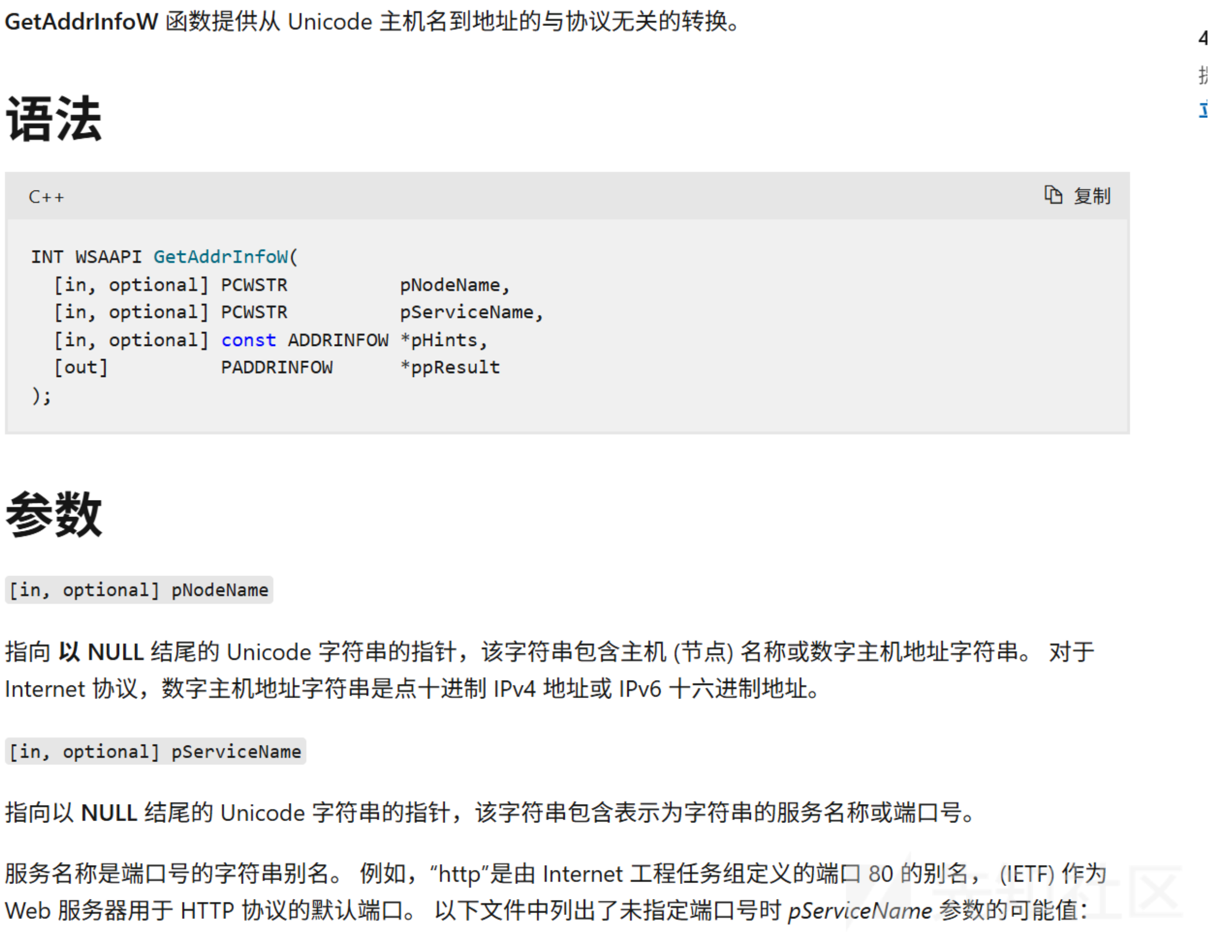
```
00007FFD62724C70  <ws2_32.dll.GetAddrInfoW>           已启用  push rbp                        1
00007FFD627255D0  <ws2_32.dll.sendto>                 已启用  mov rax,rsp                     0
00007FFD62725730  <ws2_32.dll.connect>                已启用  mov rax,rsp                     0
00007FFD62726600  <ws2_32.dll.WSASocketW>             已禁用  mov qword ptr ss:[rsp+8],rbx    0
00007FFD62726605  ws2_32.dll                          已禁用  mov qword ptr ss:[rsp+10],rsi   0
00007FFD6272DA50  <ws2_32.dll.WSAStartup>             已启用  mov qword ptr ss:[rsp+18],rbx   1
00007FFD62731210  <ws2_32.dll.send>                   已启用  mov qword ptr ss:[rsp+8],rbx    0
00007FFD627315B0  <ws2_32.dll.WSASend>                已启用  mov qword ptr ss:[rsp+8],rbx    0
00007FFD627317B0  <ws2_32.dll.recv>                   已启用  mov qword ptr ss:[rsp+8],rbx    0
00007FFD627319C0  <ws2_32.dll.WSARecv>                已启用  mov qword ptr ss:[rsp+8],rbx    0
00007FFD62733010  <ws2_32.dll.recvfrom>               已启用  mov rax,rsp                     0
00007FFD627334E0  <ws2_32.dll.bind>                   已启用  mov qword ptr ss:[rsp+8],rbx    0
00007FFD627334A00 <ws2_32.dll.WSAConnect>             已启用  mov rax,rsp                     0
00007FFD627334B20 <ws2_32.dll.WSAStringToAddressA>    已启用  mov rax,rsp                     0
00007FFD62735290  <ws2_32.dll.WSARecvFrom>            已启用  mov qword ptr ss:[rsp+8],rbx    0
00007FFD62735470  <ws2_32.dll.WSAStringToAddressW>    已启用  mov rax,rsp                     0
00007FFD62735670  <ws2_32.dll.WSASocketA>             已启用  push rbx                        0
00007FFD62749620  <ws2_32.dll.GetHostNameW>           已启用  mov qword ptr ss:[rsp+18],rbx   0
00007FFD62753C90  <ws2_32.dll.WSAConnectByList>       已启用  mov rax,rsp                     0
00007FFD627544B0  <ws2_32.dll.WSAConnectByNameA>      已启用  mov rax,rsp                     0
00007FFD627546C0  <ws2_32.dll.WSAConnectByNameW>      已启用  push rbp                        0
```

这里开始进行动态调试，这里就进入了GetAddrInfow这个API



```
00007FFD62724C70  40:55              push rbp                              GetAddrInfoW
00007FFD62724C72  53                 push rbx
00007FFD62724C73  56                 push rsi
00007FFD62724C74  57                 push rdi
00007FFD62724C75  41:54              push r12
00007FFD62724C77  41:55              push r13
00007FFD62724C79  41:56              push r14
00007FFD62724C7B  41:57              push r15
00007FFD62724C7D  48:8D6C24 A8       lea rbp,qword ptr ss:[rsp-58]
00007FFD62724C82  48:81EC 58010000   sub rsp,158
00007FFD62724C89  48:8B05 C0130500   mov rax,qword ptr ds:[7FFD62776050]
00007FFD62724C90  48:33C4            xor rax,rsp
00007FFD62724C93  48:8945 40         mov qword ptr ss:[rbp+40],rax
00007FFD62724C97  48:8B05 62130500   mov rax,qword ptr ds:[7FFD62776000]
00007FFD62724C9E  45:33FF            xor r15d,r15d
```

就来学习一下这个API 如图官方解释



GetAddrInfoW 函数提供从 Unicode 主机名到地址的与协议无关的转换。

语法

```
INT WSAAPI GetAddrInfoW(
  [in, optional] PCWSTR          pNodeName,
  [in, optional] PCWSTR          pServiceName,
  [in, optional] const ADDRINFOW *pHints,
  [out]          PADDRINFOW      *ppResult
);
```

参数

`[in, optional] pNodeName`

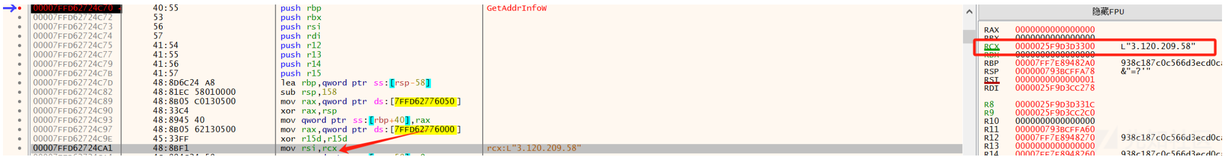
指向 **以 NULL** 结尾的 Unicode 字符串的指针，该字符串包含主机 (节点) 名称或数字主机地址字符串。 对于 Internet 协议，数字主机地址字符串是点十进制 IPv4 地址或 IPv6 十六进制地址。

`[in, optional] pServiceName`

指向以 **NULL** 结尾的 Unicode 字符串的指针，该字符串包含表示为字符串的服务名称或端口号。

服务名称是端口号的字符串别名。 例如，“http”是由 Internet 工程任务组定义的端口 80 的别名， (IETF) 作为 Web 服务器用于 HTTP 协议的默认端口。 以下文件中列出了未指定端口号时 *pServiceName* 参数的可能值：

那么第一个参数也就是矿池的IP或者域名了，根据X64的调用约定可知，第一个参数是放在RCX里的，那么我们就可以确定了，3.120.209.58:8080就是矿池地址



```
00007FFD62724C70    40:55              push rbp                                GetAddrInfoW
00007FFD62724C72    53                 push rbx
00007FFD62724C73    56                 push rsi
00007FFD62724C74    57                 push rdi
00007FFD62724C75    41:54              push r12
00007FFD62724C77    41:55              push r13
00007FFD62724C79    41:56              push r14
00007FFD62724C7B    41:57              push r15
00007FFD62724C7D    48:8D6C24 A8       lea rbp,qword ptr ss:[rsp-58]
00007FFD62724C82    48:81EC 58010000   sub rsp,158
00007FFD62724C89    48:8B05 C0130500   mov rax,qword ptr ds:[7FFD62776050]
00007FFD62724C90    48:33C4            xor rax,rsp
00007FFD62724C93    48:8945 40         mov qword ptr ss:[rbp+40],rax
00007FFD62724C97    48:8B05 62130500   mov rax,qword ptr ds:[7FFD62776000]
00007FFD62724C9E    45:33FF            xor r15d,r15d
00007FFD62724CA1    48:8BF1            mov rsi,rcx                             rcx:L"3.120.209.58"
```

```
RAX   0000000000000000
RBX   0000000000000000
RCX   0000025F9D3D3300    L"3.120.209.58"
RDX   0000000000000000
RBP   00007FF7E89482A0    938c187c0c566d3ecd0c
RSP   000000793BCFFA78    &"=?'"
RSI   0000000000000001
RDI   0000025F9D3CC278

R8    0000025F9D3D331C
R9    0000025F9D3CC2C0
R10   0000000000000000
R11   000000793BCFFA60
R12   00007FF7E8948270    938c187c0c566d3ecd0c
R13   0000000000000000
R14   00007FF7E8948260    938c187c0c566d3ecd0c
```