



2025/12/12

The original report is in Chinese, and this version is an AI-translated edition.

1 Overview

Antiy CERT recently detected the "SwimSnake (Silver Fox)" gang targeting social media tools such as WeChat and DingTalk with precise malware attacks. This gang uses a fake Baidu Netdisk installation package to deliver malicious payloads that have been upgraded to bypass antivirus detection. To evade security software detection, the gang abandoned its traditional method of loading malicious DLLs in the same directory, instead abusing Windows system executables such as rundll32.exe and regsvr32.exe to load malicious modules and release two sets of Trojan programs with different functions. This attack employs a triggered deployment strategy: when an infected device is detected to have instant messaging processes such as WeChat, DingTalk, Telegram, or WhatsApp, a WinOS remote access Trojan is released. This Trojan allows for remote access of the infected device, leveraging the social attributes of these chat tools to initiate actions such as adding users to groups and targeted forwarding, achieving efficient internal spread rather than indiscriminate deployment. This strategy improves the efficiency of attack propagation and reduces the likelihood of being detected by security products through a precise triggering mechanism. If the device does not have the aforementioned chat tools, only another set of basic functional Trojans is deployed, responsible for maintaining communication with the remote C2 server, downloading malicious components, and transmitting relevant device information back.

The "SwimSnake" cybercrime group, also known by other security companies as "Silver Fox" and "Valley Thief", primarily targets domestic users with attacks and fraudulent activities. Antiy Labs discovered and analyzed the early activities of SwimSnake group in the second half of 2022, including disguising themselves as popular software download sites, conducting SEO poisoning of search engines, and sending large numbers of phishing emails. During the payload execution phase, they often use a "white-and-black" approach, further spreading through instant messaging software (WeChat, WeChat Work, etc.). Their main profit-making method is to lure users into joining



groups via instant messaging software for fraud, while also gaining the ability to steal data from infected hosts, potentially for data trafficking and other activities. The malicious files they spread are characterized by a large number of variants and rapidly evolving evasion techniques, targeting a large number of individual users and multiple industries, posing a widespread and serious threat.

The "SwimSnake" gang likely operates under a Fraud as a Service (FaaS) cybercrime model, commoditizing and selling or leasing attack methods, tools, and infrastructure to other criminals, thereby significantly lowering the barrier to entry for committing cyber fraud.

Antiy Intelligent Endpoint Protection System (IEP) has a driver-level main defense module, which, based on the detection capabilities of AVL SDK and defense points at the kernel and application layers, can effectively block the operation of this remote access Trojan.

Users can download and use the "SwimSnake" special investigation tool from the Antiy Vertical Response Platform (https://vs2.antiy.cn) to investigate such threats.

2 Technical Overview

2.1 Google Search Engine SEO Poisoning Techniques

The "SwimSnake (Silver Fox)" phishing website attack uses Google search engine SEO techniques to make its fake download websites rank higher in search results. To identify these fake websites, please refer to Antiy's previous analysis report, "The SwimSnake Cybercriminal Group Distributes Remote Access Trojans by Leveraging Counterfeit WPS Office Download Sites", for phishing website identification and prevention.





Figure 2-1 Google Search Engine Results





Figure 2-2 Malicious Websites Impersonating "Baidu Netdisk"

2.2 Sample Execution Flow

After the sample runs, it simultaneously deploys and launches a legitimate Baidu Netdisk installer and a malicious payload. The malicious payload loads and executes a malicious DLL via the system's built-in program rundll32.exe. This DLL reads and decrypts encrypted files in the same directory, generating and launching the first set of Trojans, which connects to the C2 server 202.95.16.100:80. Subsequently, the component downloads a set of malicious modules from the C2 server. These modules scan system processes (including instant messaging processes such as WeChat, DingTalk, Telegram, and WhatsApp). If any of these processes are found, the module creates a



marker file under %APPDATA%\Embarcadero. Upon detecting this marker file, the attacker uses the system process regsvr32.exe to re-execute the malicious DLL, causing it to decrypt/download and deploy a WinOS remote access Trojan, which connects to the C2 server 27.124.45.66:80. The entire component involves multiple encrypted components that utilize decryption, memory loading, and disabling network connections of security software to evade detection.

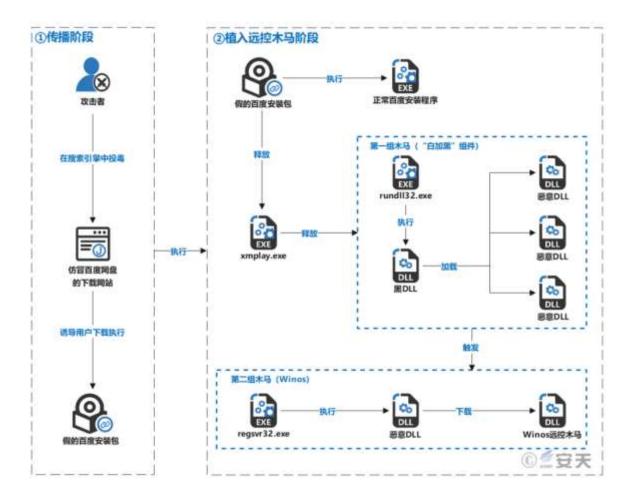


Figure 2-3 Sample Execution Flowchart

3 Sample Analysis

3.1 Initial Decoy File and File Function Overview

Table 3-1 Sample Labels

Virus Name Trojan/Win32.SwimSnake



Original Filename	Baidu-2025102902.exe
MD5	D56FDF251110FBAD9064DA33CDD51E54
Processor Architecture	AMD64
File Size	501.15 MB (525,494,999 bytes)
File Format	Win32 EXE
Timestamp	Counterfeiting
Digital Signature	None
Packing Type	None
Installer	Install Builder

After running, Baidu-2025102902.exe will extract the normal "Baidu Netdisk installation software" installation package to the C:\Program Files directory and execute the installer. It will also create a shortcut on the desktop and release multiple malicious payloads in multiple system installation paths for subsequent selection of attack payloads.

The core components and functions involved in this sample are described in the table below:

Table 3-2 File and Function Description

File Name	Function
xmplay.exe	Detection evasion: The NSIS -packaged loader is used to release and execute subsequent malicious samples, using PowerShell commands to add specified drive letters to Defender's exclusion list.
Verifier.exe	The shellcode loader decrypts the Profiler.json file in the same directory to obtain shellcode, and then decrypts it a second time to obtain Single.dll.
Profiler.json	
Single.dll	Detection evasion: Privilege escalation, modification of the TCP connection table, and severing network communication between the security software process and its remote server.
AutoRecoverDat.dll	The shellcode loader decrypts GPUCache.xml and GPUCache2.xml files in the same directory.
GPUCache.xml	
GPUCache2.xml	
APTBIN_Main.dll	Create a scheduled task to connect to the C2 server 202.95.16.100:18852 and download the VFPower_32.dll file.



VFPower_32.dll	Connect to C2 server 202.95.16.100:80 to download the UserInfoPlugin.dll file and establish a heartbeat with the C2 server.
UserInfoPlugin.dll	The system collects system information and detects current IM applications. If an IM application is found, it uses regsvr32.exe to re-execute AutoRecoverDat.dll. This DLL reads and decrypts GPUCache2.xml to obtain the Code_Shellcode backdoor.dll.
Code_Shellcode backdoor.dll	The memory loader connects to the second C2 server 27.124.45.66:443 to download the online module.dll.
Online module.dll	Using the configuration information, poll the C2 address $27.124.45.66$, with ports 80 , 58600 , and 1433 , to establish a heartbeat with the C2 server.
Login module.dll	It features basic functions such as keystroke logging, clipboard monitoring, and screenshot capture, and supports receiving and executing various remote access commands.

3.2 Sample Analysis

3.2.1 Initial Malicious Payload Deployment Analysis

The initial malicious payload sample was packaged using the Install Builder tool. This payload was created on November 19, 2025.



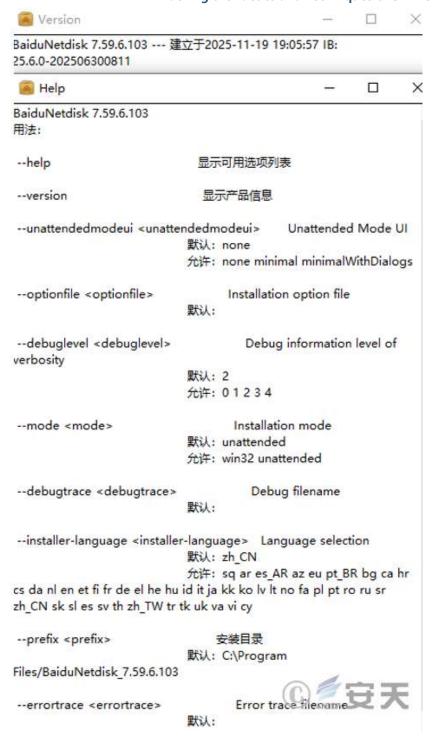


Figure 3-1 Packaging Using InstallBuilder Tool

The initial malicious payload's function is to extract the normal Baidu Netdisk installation package to C:\Program Files, extract the malicious payload xmplay.exe to the user's directory, create a shortcut to Baidu Netdisk and execute its installation package program, and finally execute the main malicious payload xmplay.exe.



```
Preferred installation mode : unattended
Trying to init installer in mode unattended
Mode unattended successfully initialized
准备安装
正在创建目录 C:\Program Files\BaiduNetdisk_7.59.6.103
正在解压缩文件
目录已存在: C:\Program Files\BaiduNetdisk_7.59.6.103
正在解压缩文件
正在解压 C:\Program Files\BaiduNetdisk_7.59.6.103\BaiduNetdisk_7.59.6.103.exe
目录已存在: C:\Users\v_w10\AppData\Roaming
正在创建目录 C:\Users\v_w10\AppData\Roaming\edge
正在解压缩文件
正在解压 C:\Users\v_w10\AppData\Roaming\edge\xmplay.exe
为 百度网盘 创建卓面快捷方式
运行 百度网盘
Executing C:\Program Files/BaiduNetdisk_7.59.6.103/BaiduNetdisk_7.59.6.103.exe &
Script exit code: 0
Script output:
Script stderr:
Executing C:\Users\v_w10\AppData\Roaming/edge/xmplay.exe &
Script exit code: 8
Script output:
Script stderr:
正在创建卸载程序
创建卸型程序 25%
创建卸载程序 50%
创建卸载程序 75%
                                                        ① # 安天
创建卸载程序 100%
Uninstaller icon changed
安装完成
```

Figure 3-2 Execution of Malicious Payload

3.2.2 Second-Layer Payload Analysis

The xmplay.exe malicious payload is actually an NSIS packager containing multiple malicious files. Upon startup, it executes PowerShell commands to add the specified drive to Defender's system protection exclusion list, allowing malicious programs to enter the system and thus reducing the user's system's security capabilities.



```
Section MainSection ; Section 0
  ; AddSize 24315
  Call func 0
  Pop $R9
  nsExec::ExecToStack $R9
    ; Call Initialize
                           Plugins
    ; SetOverwrite off
    ; File $PLUGINSDIR\nsExec.dll
    ; SetDetailsPrint lastused
    ; Push $R9
    ; CallInstDLL $PLUGINSDIR\nsExec.dll ExecToStack
  Pop SRO
  Pop $R1
  StrCmp $R0 0 label 234
  StrCpy $0 "amd.exe /C
                         MANUFACTURE THE PROPERTY BURNINGS TRANSPORTED THE PERSON OF
  $1,791,746(1,701,766)175176(1,761,761,76,880),761,762(1,761,768)1751,762045176(1,761,761)
  nsExec::Exec $0
   ; Call Initialize
                           Plugins
    ; File $PLUGINSDIR\nsExec.dl1
    ; SetDetailsPrint lastused
                                                               ◎ ** ** **
    ; Push $0
    ; CallInstDLL $PLUGINSDIR\nsExec.dll Exec
```

Figure 3-3 Using PowerShell Commands to Reduce Protection

Then copy multiple encrypted data files from the TEMP directory to the system path, as shown in the table below.

Table 3-3 Encrypted Data Replacement to System Path

Files in the TEMP Directory	System Path
temp_k.txt	%LOCALAPPDATA%\Temp\temp_k.txt
lic.dat	%LOCALAPPDATA%\Verifier.exe
Profilerjson	%LOCALAPPDATA%\Profiler.json
GPUCachexml	%APPDATA%\Embarcadero\GPUCache.xml %APPDATA%\GPUCache.xml
GPUCache2xml	%APPDATA%\Embarcadero\GPUCache2.xml %APPDATA%\GPUCache2.xml
Auto.dat	%APPDATA%\Embarcadero\AutoRecoverDat.dll
miuahfzc	%LOCALAPPDATA%\miuahfzc
zwa	%LOCALAPPDATA%\zwa



The malicious payload xmplay.exe uses DcryptDll.dll to decrypt the aforementioned file and generate a malicious component, then uses nsExec.dll to execute cmd commands. First, it executes the first malicious component, Verifier.exe (loaded by shellcode), and then executes the malicious component AutoRecoverDat.dll via the system's built-in rundll32.exe.

```
DcryptDll::Decrypt FFF $R0 $R4 $APPDATA\Embarcadero\AutoRecoverDat.dll
 ; Call Initialize
                      Plugins
 ; SetOverwrite off
 ; AllowSkipFiles off
  ; File $PLUGINSDIR\DcryptDll.dll
  ; SetDetailsPrint lastused
 ; Push SAPPDATA\Embarcadero\AutoRecoverDat.dll
 ; Push $R4
  ; Push $R0
  ; Push FFF
 ; CallInstDLL $PLUGINSDIR\DcryptDll.dll Decrypt
Sleep 500
StrCpy $8 "cmd.exe /C
nsExec::Exec 58
  ; Call Initialize
                      Plugins
  ; File $PLUGINSDIR\nsExec.dl1
  ; SetDetailsPrint lastused
  ; Push $8
                                                   ◎#₩
  ; CallInstDLL $PLUGINSDIR\nsExec.dll Exec
Sleep 500
```

Figure 3-4 First Execution of the Malicious Component AutoRecoverDat.dll

3.2.3 Shellcode Loading and Decryption

The malicious component Verifier.exe first reads the Profiler.json file in the same directory and decrypts it into shellcode.



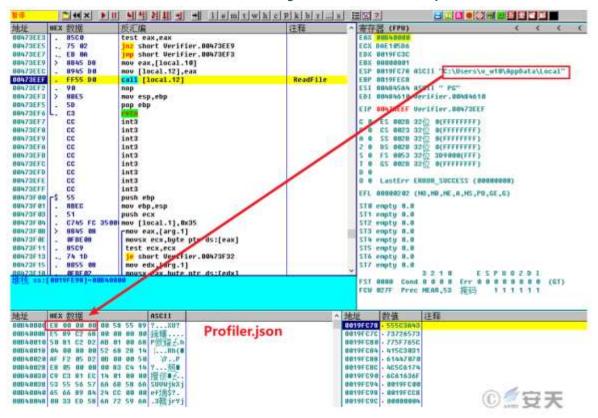


Figure 3-5 Reading the Profiler, json File and Decrypting It into Shellcode

Then, the shellcode is decrypted a second time to obtain the Single.dll file.

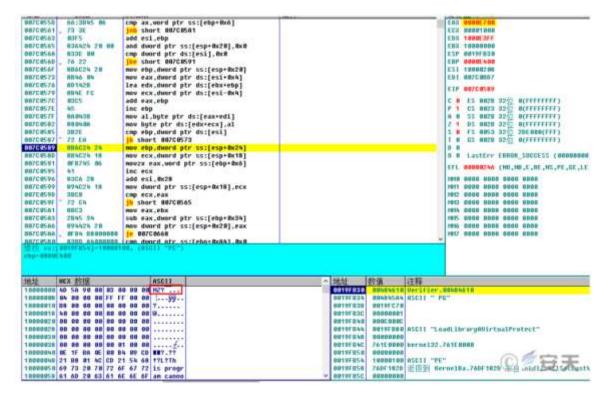


Figure 3-6 The Second Decryption Yields Single.dll.



Block Security Software Network Connection

The Single.dll file iterates through the specified security software process, repeatedly enumerates the security software's TCP connection table, and cuts off network communication between the security software process and its remote server in order to circumvent protection.

```
puVar4 = (uint *) 0x0;
local 10 = 0;
local 8 = 0;
iVarl = GetTcpTable2(0, slocal 8,1);
if ((iVarl == 0x7a) && (puVar4 = (uint *) FUN 10006b05(local 8), puVar4 == (uint *) 0x0)) {
 return -1;
iVarl = GetTcpTable2 (puVar4, slocal_8,1);
if (iVar1 == 0) {
 uVar2 = 0;
 iVarl = 0;
 if (*puVar4 != 0) {
   puVar3 = puVar4 + 1;
     if (puVar3[5] == param_1) {
        *puVar3 = 0xc;
       iVarl = SetTcpEntry(puVar3);
       if (iVar1 == 0) {
         local 10 = local 10 + 1;
        }
      }
     uVar2 = uVar2 + 1;
     puVar3 = puVar3 + 7;
      iVarl = local 10;
    } while (uVar2 < *puVar4);
  }
                                                                    ⑥ ● 安天
  FUN 10006aea (puVar4);
  return iVarl;
```

Figure 3-7 Block Security Software Network Connection

3.2.4 Analysis of the First Group of Trojan Programs

The second layer of payload, xmplay.exe, initially uses cmd.exe to call the rundll32.exe system file to execute the AutoRecoverDat.dll file, decrypts it to obtain shellcode, and then decrypts it a second time to obtain the APTBIN Main.dll file, which is finally injected into the memory of rundll32.exe for execution.





Figure 3-8 The Second Decryption Yields APTBIN_Main.dll

Download Remote Access Trojan Component

APTBIN_Main.dll creates two threads, whose functions include terminating security software processes and creating scheduled tasks. It then connects to the C2 server 202.95.16.100:18852 to download the VFPower_32.dll file.

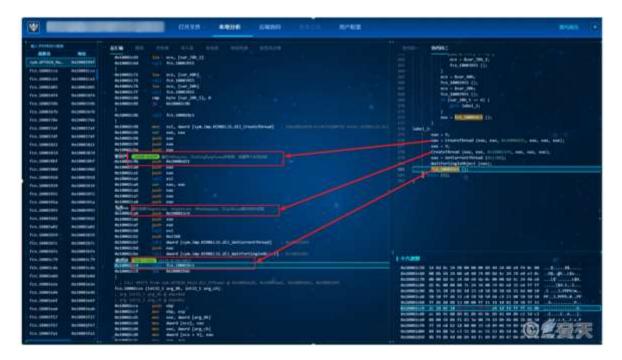


Figure 3-9 Downloading the VFPower_32.dll File



[Screenshot from Antiy MAE Integrated Analysis Environment]

Create Scheduled Tasks

Create two scheduled tasks to log in and execute AutoRecoverDat.dll and Verifier.exe respectively to load shellcode.

```
CTank version="1.0" encoding="UTF-16"1=
CTank version="1.2" amins=
 http://schemas.microsoft.com/windows/2004/02/mit/task">
      Author>Users/Author>
<URI>\Microsoft\Windows\AppID\.NET Framework JDAM
    v7.7</URI>
/RegistrationInfo>
    (Triggers)
                                                                                          d [ste - mild], middfidall
   <Principals>
<Settings>
(Actions Context="Author")
                                                                                      eak, [shp - Det7]
shard [shp : 8x24], 8x6cF28Fee
                                                                                                8628]
- 8620], Bef0468254
            smand>rundl132.exe</Command>
       C:\Users\v w10\AppData\Roaming\Embarcadero\AutoRe
verDat.dll,DllRegisterServer</Arguments>
   </Actions>
kfxml version="1.0" emcoding="UTF-16"2>
<Task version="1.2" xmlns=
 "http://schemas.microsoft.com/windows/2004/02/mit/task">
   <BegistrationInfo>
      Author>User</Author>
(URI>\Microsoft\Windows\AppID\.NET Framework adv
    v6.0.4232</URI>
           strationInfo
   (Triggers)
   <Principals>
     <Exec>
<Command>C:\Users\v_w10\AppData\Local\Verifier.exe
     </Execo
   </Actions>
C/TABED
```

Figure 3-10 Creating a Scheduled Task to Execute a Malicious File

Connect to C2 Server

The downloaded VFPower_32.dll file will connect to the C2 server address 202.95.16.100:80, download the UserInfoPlugin.dll file (to collect system information and precisely target remote access), and use the string "YourSharedSecretKey" as the heartbeat packet content.

```
еах, Охазе963а5
  8x84149738
 0x8414973d
                                                                                              xchg eax, ebp
  0x8414973e
                                                                                          string "KEY_OFFLINE" | len-24
          c04149620
                                                                                           .string "YourSharedSecretKey"
                                                                                                                                                                                                                                                                                                                                                                             - Company - Comp
 8x84149648
                                                                                         .string 202.95.16.100
0x84149664
                                                                                                                                 byte [eax], al
9x84149666
                                                                                                                            byte [eax], al
8x84149668
                                                                                                                               byte [eax], al
 BuB414955a
                                                                                                                               byte [eax], al
9v9414966c
                                                                                                                            byte [eax], al
 BV84149660
                                                                                                                            byte [eax], al
  8x84149678
                                                                                                                               byte [eax], al
           84149672
```



Figure 3-11 Connecting to the C2Server

Collect Information to Download Winos Remote Access Trojans

UserInfoPlugin.dll collects a large amount of system, user, installed application, and permission information, and detects whether specific instant messaging processes (WeChat, DingTalk, Telegram, WhatsApp, etc.) are running on the system. If any of these processes are detected, the component creates a marker file in a specific directory. After detecting this marker file, the attack chain uses the system process regsvr32.exe to execute AutoRecoverDat.dll. This DLL is decrypted to generate a module named "Code_Shellcode backdoor.dll" and downloads the WinOS remote access Trojan from the C2 server. Subsequently, WinOS is injected into the system regsvr32.exe process and executed.

```
.string "telegram.exe"; len=26
0x046c6bef
                      byte [eax], al
0x046c6c02
                add
; DATA XREFS from fcn.046a4700 @ 0x46a502a, 0x46a521f
; DATA XREFS from fcn.046a5930 @ 0x46a5adc, 0x46a5c80
; -- str.whatsapp.exe:
               .string "whatsapp.exe"; len=26
0x046c6c04
0x046c6c1e
                add
                      byte [eax], al
; DATA XREFS from fcn.046a4700 @ 0x46a505e, 0x46a52b1
 DATA XREFS from fcn.046a5930 @ 0x46a5b07, 0x46a5cfa
 -- str.wechat.exe:
               .string "wechat.exe" ; len=22
0x046c6c20
                add
                      byte [eax], al
0x046c6c36
 DATA XREF from fcn.046a5810 @ 0x46a5861
; DATA XREF from fcn.046a5ea0 @ 0x46a5eef
; -- str.USER RET OPERACTION:
               .string "USER_RET_OPERACTION" ; len=40
0x046c6c38
; DATA XREF from fcn.046a5930 @ 0x46a59a4
; -- str.USER RET UPDATE INFO:
0x046c6c60
               .string "USER RET UPDATE INFO"; len=42
                add
                      byte [eax], al
0x046c6c8a
 DATA XREF from fcn.046a74e0 @ 0x46a74e0
   str.vector too long:
```

Figure 3-12 Detecting the Existence of Known IM Software

[Screenshot from Antiy MAE Integrated Analysis Environment]



> Traverse and Terminate the Security Process

Traverse the processes and detect the following security software process names, then terminate any processes currently listed in the table.

 安全软件名
 进程名

 Hips·Software (主机入侵防御软件)
 (主机入侵防御软件)

 Windows·Defender
 (表安信与 360 相关进程

 Kxe (科恩终端安全)
 (時讯相关进程

 卡巴斯基相关进程
 (本媒 K3)

Table 3-4 Security Software and Related Process Names

3.2.5 Analysis of WinOS Remote Access Trojans

The released Code_Shellcode backdoor.dll is actually a memory loader. Its main function is to connect to a remote host (27.124.45.66:443), receive the WinOS remote access Trojan "online module.dll" and execute it.

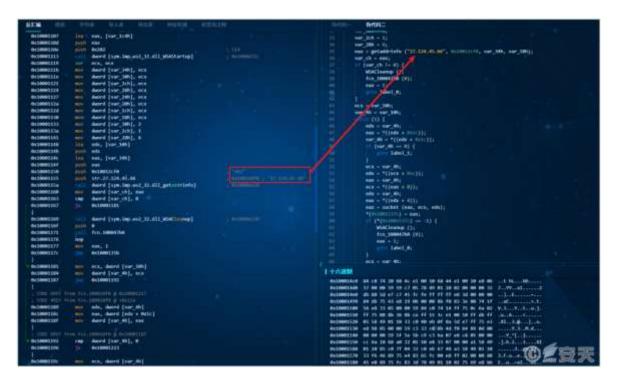


Figure 3-13 Downloading and Deploying the Module

[Screenshot from Antiy MAE Integrated Analysis Environment]



The Online Module Uses Configuration Information to Connect to the C2 Address.

The WinOS remote access Trojan's online module contains configuration information, including the preferred and backup C2 addresses and ports, groups, version numbers, and whether certain functions are enabled. It will poll the C2 address based on the configuration information to download the "login module.dll" and establish a heartbeat.

```
|p1:27.124.45.66|o1:80|t1:1|p2:27.124.45.66|o2:58600|
t2:1|p3:27.124.45.66|o3:1433|t3:1|dd:1|c1:1|fz:|bb:1.
0|bz:2025.10.24|jp:0|bh:0|l1:0|d1:0|sh:0|k1:0|bd.0|
```

Figure 3-14 Configuration Information in the Online Module

Check Security Analysis Tools and Terminate

The login module creates a thread to attempt to log in to the remote access server (27.124.45.66). This DLL has basic functions such as keylogging, clipboard monitoring, and screenshotting, and supports receiving and executing various remote access commands. It also checks if the title of each visible window contains a series of tool names such as "monitoring/analysis/security" and terminates the connection.



```
GetWindowTextW(param_1, lpString, 1000);
pwWar2 = _wcsstr(lpString,L"流量");
if (pwVar2 == (wchar_t *) 0x0) (
  pwVar2 = _wosstr(lpString, L"ApateDHS");
  if (pw//ar2 == (wchar_t *)0x0) {
    pwVar2 = _wcsstr(lpString, L"Malwarebytes");
    if (pwVar2 == (wchar_t *) 0x0) {
      pwVar2 = _wcsstr(lpString,L"TCPEye");
      if (pwVar2 == (wchar_t *)0x0) (
        pwWarl = _wcsstr(lpString,L*TaskExplorer*);
        if (pwVar2 == (wchar_t *)0x0) {
          pwVar2 = _wcsstr(lpString,L"CurrForts");
          if (pwWar2 == (wchar_t *) 0x0) (
            pwVar2 = _wcsstr(lpString, L"Port");
            if (pwVar2 -- (wchar_t *) 0x0) (
              pwVar2 = _wcsstr(lpString,L"Metascan");
              if (pwVer2 == (wchar_t *)0x0) (
                pwVar2 = _wcsstr(lpString,L"Wireshark");
                if (pwVar2 == (wchar_t *)0x0) (
                  pwVar2 = wcsatr(lpString,L"任务管理器");
                 if (pwVar2 == (wchar_t *)0x0) (
                    pwVar2 = _wcsstr(lpString,L*资源监视器*);
                    if (pwVar2 == (wchar_t *) 0x0) {
                      pwVar2 = _wesstr(lpString,L"网络分析");
                      if (pwVar2 == (wchar_t *)0x0) {
                        pwVar2 = _wcsstr(lpString,L"Fiddler");
                        if (pwVar2 == (wchar_t *)0x0) (
                          pwVar2 = _wcsstr(lpString, L"火绒");
                         if (pwVar2 == (wchar_t *)0x0) (
                            pwVar2 = _wcsstr(lpString, L"Capse");
                            if (pwVar2 == (wchar_t *)0x0) {
                              pwVar2 = _wcastr(lpString, L*Sniff*);
                              if (pwVar2 == (wchar_t *)0x0) (
                                pwVar2 = wcsstr(lpString, L"Capsa");
                                if (pwVar2 == (wchar_t *)0x0) (
                                  pwVarl = wcsstr(lpString,L"Process");
                                  if (pwVar2 -- (wchar_t *)0x0) (
                                    pwVar2 = wcastr(lp5ff)pml.
                                    if (pwVar2 == (wchar_t *)Uku)
```

Figure 3-15 Check Security Analysis Tools and Terminate

4 Use Tools to Investigate SwimSnake

Users can download and use the "SwimSnake" special investigation tool from the Antiy Vertical Response Platform (https://vs2.antiy.cn) to conduct investigations. The "SwimSnake" special investigation tool can be used to investigate loaders and remote access Trojans loaded into memory by "SwimSnake" cybercriminal group during their attack activities.





Figure 4-1 Antiy Vertical Response Platform

To more accurately and comprehensively eliminate threats on compromised hosts, customers can contact the Antiy Emergency Response Team (cert@antiy.cn) after detecting threats using specialized screening tools.



Figure 4-2 The "SwimSnake" Special Screening Tool Detected Malicious Processes Injected with Remote Access
Trojans

5 Antiy Intelligent Endpoint Protection System Helps Users Defend

Against SwimSnake Threats

Enterprise users are advised to deploy professional endpoint security products to perform real-time detection of newly added and launched files locally, and to periodically scan the network for viruses. Antiy Intelligent Endpoint Protection System series products (hereinafter referred to as "IEP") rely on Antiy's self-developed threat detection



engine, combined with kernel-level proactive defense capabilities including file defense, process defense, memory protection, and enhanced download protection, to effectively defend against SwimSnake virus in this incident.

IEP can monitor the local disk in real time, automatically perform virus detection on newly added files, and send alerts and take action immediately upon detecting a virus to prevent malicious code from starting. For example, in this incident, when the malicious file Single.dll was downloaded, IEP immediately issued an alert and removed the malicious file.



Figure 5-1 Immediate Alert upon Virus Detection

Furthermore, IEP's proactive defense capabilities monitor local process behavior in real time, tracking and analyzing abnormal file releases, file operations, command execution, abnormal behavior, and network activity. It immediately intercepts any high-risk behavior detected. In this incident, IEP immediately issued an alert when xmplay.exe released files to a sensitive directory.





Figure 5-2 Immediate Interception upon Detection of Abnormal Behavior

IEP also features memory protection capabilities, enabling real-time monitoring of the memory environment, detection of data in memory, and interception of abnormal memory operations. In this incident, IEP was able to immediately intercept the execution of shellcode by the file Verifier.exe.





Figure 5-3 Immediately Detect and Remove Malicious Code Found in Memory

In response to the frequent use case of users downloading software through browsers or instant messaging software, Antiy Intelligent Endpoint Protection System product (hereinafter referred to as "IEP") provides users with enhanced download protection functions. Through identification and protection mechanisms such as "source tracing - file verification - anti-spoofing", it strictly controls downloaded software, effectively reducing the possibility of externally downloaded and exchanged files entering the endpoint. In this incident, when the user downloaded a disguised installation package to their local machine, IEP immediately sent a risk warning.





Figure 5-4 Sending Risk Warnings for Abnormal Downloaded Installation Packages

6 IoC

baiduwangpan[.]cc
https://sen.s-ed1.cloud.gcore.lu/Baidu-2025102902[.]zip
202.95.16[.]100
27.124.45[.]66
D56FDF251110FBAD9064DA33CDD51E54
821E5293B5815F35E9BA9A9E4B93F858
9147C33F1F46151389EEDB5F29CA800A
67E41CB7C6D1A5C891A4CF0BA974929C
4A955BF9245FFECC34A1D3698438BF15
15E01F2C420720F1534C1168E01F2541
7CE0EAE4DB7930357DBDF9A34FEBFEF4
A49A6F85F7E638A2BD1580C78203B49A



D7E3FC5162E22DFD62670A845426298E

D9FEECFDB4B4F5663BDBC8EA395A9E81

9B2919C90ECCDB4B9D1A0B5D4FCE790D

1854962AD353F485E314F60881B7F9CB

List of Historical Analysis Reports on SwimSnake by Antiy

Since 2022, Antiy CERT has published 18 analysis reports on "SwimSnake" activities.

[1] Analysis of the Attack Activity of Delivering Remote Access Trojans Through the Fake Chinese Version of Telegram Website [R/OL].(2022-10-24)

https://www.antiy.cn/research/notice&report/research report/20221024.html

[2] Analysis of Attack Activities Using Cloud Note Platforms to Deliver Remote Access Trojans [R/OL].(2023-03-24)

https://www.antiy.cn/research/notice&report/research_report/20230324.html

[3] Analysis of a Cybercrime Group Using Cloud Notes Platform to Deliver Remote Access Trojans [R/OL].(2023-03-30)

https://www.antiy.cn/research/notice&report/research report/20230330.html

[4] Analysis of the Large-Scale Attack Activities Launched by the "SwimSnake" Cybercrime Group Against Domestic Users [R/OL].(2023-05-18)

https://www.antiy.cn/research/notice&report/research report/20230518.html

[5] Analysis of Recent Phishing Attacks by the "SwimSnake" Cybercrime Group [R/OL].(2023-07-11) https://www.antiy.cn/research/notice&report/research_report/TrojanControl_Analysis.html

[6] Activity Analysis of Malicious Code Spread by the SwimSnake Cybercrime Group Using WeChat [R/OL].(2023-08-22)

https://www.antiy.cn/research/notice&report/research_report/SnakeTrojans_Analysis.html

[7] Special Analysis Report on the SwimSnake Cybercrime Group [R/OL].(2023-10-12) https://www.antiy.cn/research/notice&report/research_report/SwimSnakeTrojans_Analysis.html

[8] Analysis of the New Round of Attacks by the "SwimSnake" Cybercrime Group Against Financial Personnel and E-Commerce Customer Service [R/OL].(2023-11-11)



https://www.antiy.cn/research/notice&report/research report/SwimSnake Analysis.html

[9] Analysis of Recent Attacks by the "SwimSnake" Cybercrime Group [R/OL].(2024-04-07) https://www.antiy.cn/research/notice&report/research_report/SwimSnake_Analysis_202404.html

[10] Analysis of the "SwimSnake" Cybercrime Group's Phishing Attack Activities Using Malicious Documents [R/OL].(2024-06-21)

https://www.antiy.cn/research/notice&report/research_report/SwimSnake_Analysis_202406.html

[11] Phishing Download Website Spreads the Threat of "SwimSnake", Malicious Installer Contains Remote Access Trojan [R/OL].(2024-12-20)

https://www.antiy.cn/research/notice&report/research report/SwimSnake Analysis 202412.html

[12] "SwimSnake" Cybercriminal Operations Rampant! Launch Special Inspection and Handling Immediately! [R/OL].(2025-04-23)

https://www.antiy.cn/research/notice&report/research report/SwimSnake Analysis 202504.html

[13] The SwimSnake Cybercriminal Group Distributes Remote Access Trojans by Leveraging Counterfeit WPS Office Download Sites [R/OL].(2025-05-15)

https://www.antiy.cn/research/notice&report/research report/SwimSnake Analysis 202505.html

[14] SwimSnake (Silver Fox) Cybercrime Group's Latest Variant Attack Campaign [R/OL].(2025-08-17) https://www.antiy.cn/research/notice&report/research_report/SwimSnake_Analysis_202508.html

[15] Continuous Tracking of the Dissemination and Tactics of the SwimSnake (Silver Fox) Cybercrime Group: Analysis of the Attack Methods of the Counterfeit Finalshell Management Software [R/OL].(2025-09-19) https://www.antiy.cn/research/notice&report/research report/SwimSnake Analysis 202509.html

[16] How to Crack Down on Fake WPS Download Sites: A Special Report on the "SwimSnake (Silver Fox) [R/OL].(2025-10-10)

https://www.antiy.cn/research/notice&report/research report/SwimSnake Analysis 202510.html

[17] Targeting WeChat, DingTalk and Other Tools for Remote Access Trojan Deployment | Tracking the Tactics and Techniques of SwimSnake (Silver Fox) [R/OL].(2025-10-23)

https://www.antiy.cn/research/notice&report/research report/SwimSnake Report 202510.html

[18] Analysis of Multi-layer Concealed Payload Decryption and Driver-level Blinding Countermeasures | Technical and Tactical Tracking of "SwimSnake" (Silver Fox) [R/OL].(2025-11-20)



https://www.antiy.cn/research/notice&report/research_report/SwimSnake_Analysis_202511.html