## Security Onion

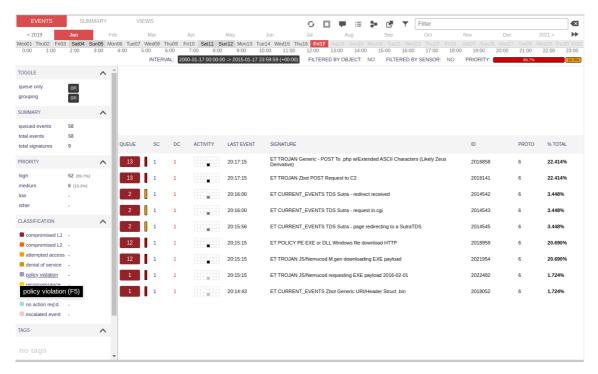
## Michał Wawrzyńczak

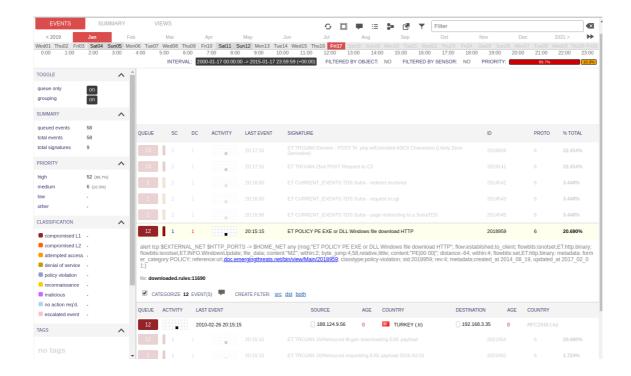
## Jako pierwsz do analizy wybrałem i zaimportowałem plik zeus-sample-1.

sudo so-import-pcap zeus-sample-1 Analizę logów zacząłem od zapoznania się z infomacjami zwróconymi przez programy Squert i Kibana.

Przy użyciu narzędzia Squert udało mi sie uzyskać takie informacja jak adresy ip z którymi łączył się zaatakowany host, numery portów na których odbywała się komunikacja, państwa z których pochodziły adresy IP. A przede wszystkim Squert wskazał już sygnatury do których pasują analizowane logi.

Sygnatury - informacja, że mamy doczynienia z TROJAN Generic

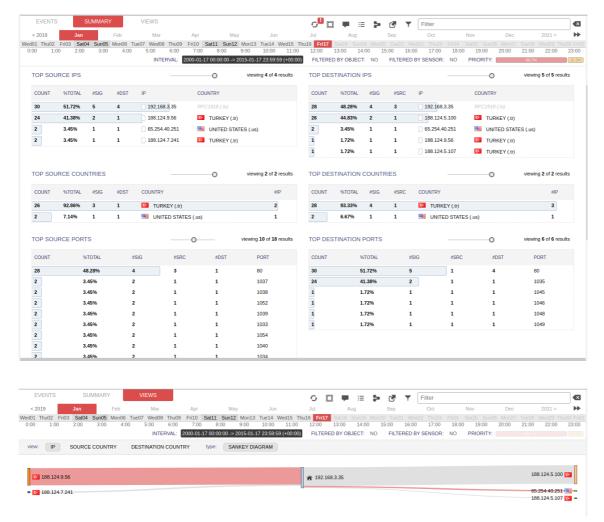




#### **Alerty NIDS**



Adresy IP wraz z pochodzeniem oraz porty



Posprawdzałem informacje o adresach IP celem określenia dokładniejszej lokalizacji, a także sprawdziłem je w bazie whoIs

## IP Whois

NetRange: 208.88.224.0 - 208.88.227.255

CIDR: 208.88.224.0/22

NetName: WZCOMM-US

NetHandle: NET-208-88-224-0-1

Parent: NET208 (NET-208-0-0-0)

NetType: Direct Allocation

OriginAS: AS40824

Organization: WZ Communications Inc. (WZCOM)

RegDate: 2008-03-28 Updated: 2012-03-20

Comment: Please send abuse complaints to abuse@webazilla.com

Ref: https://rdap.arin.net/registry/ip/208.88.224.0

OrgName: WZ Communications Inc.

OrgId: WZCOM

Address: 110 E.Broward blvd

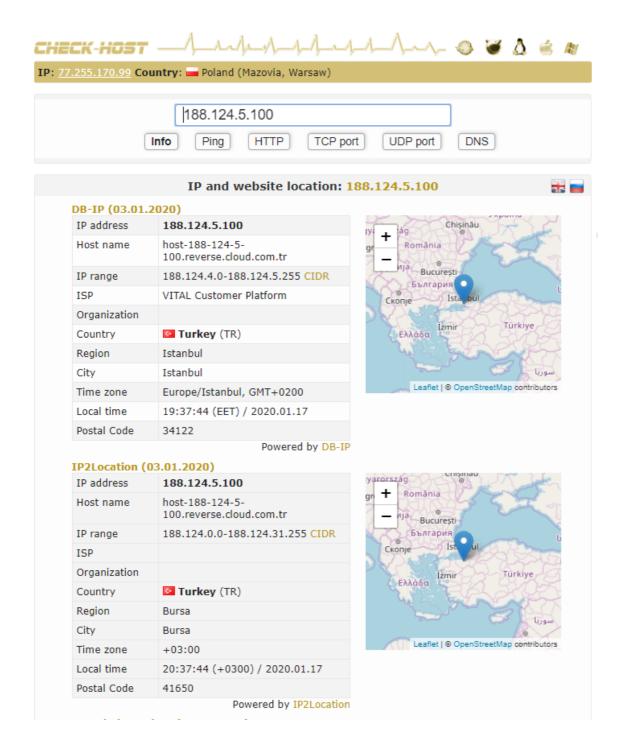
Address: Suite 1700

City: Fort Lauderdale

StateProv: FL
PostalCode: 33301
Country: US

RegDate: 2008-03-19 Updated: 2010-04-12

Ref: https://rdap.arin.net/registry/entity/WZCOM



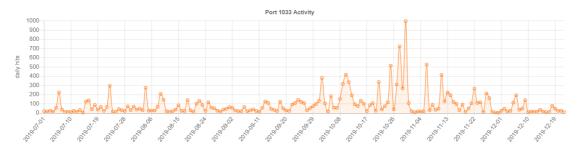
Porty na których odbywała się komunikacja sprawdziłem w bazie. Okazało się, że na portach z zakresu ~1033-1050 często komunikują się trojany i backdory

Port(s)	Protocol	Service	Details	Source
1033	tcp	trojans	Port used by Netspy2, Dosh, ICQ Trojan, KWM, Little Witch, Net Advance, NetSpy trojans	SG
1033	tcp	trojan	Dosh, KWM, Little Witch, Net Advance	Trojans
1033	tcp	netinfo	Netinfo is apparently on many OS X boxes.	Nmap
1033	tcp,udp	netinfo-local	local netinfo port, registered 2002-08	IANA

jump to: NEXT D

SG security scan: port 1033

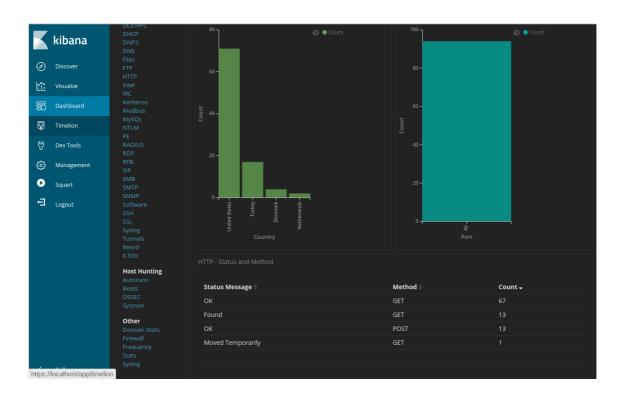
« back to SG Ports

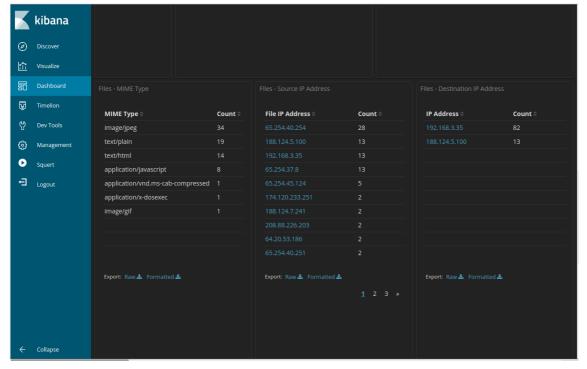


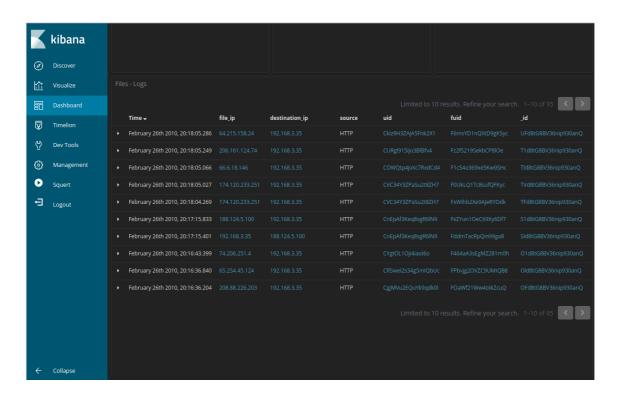
Port(s)	Protocol	Service	Details	Source
1034	tcp	trojans	Backdoor.Systsec [Symantec-2002-021314-3507-99] (2002.02.13) - remote acess trojan. Affects all current Windows versions.  Backdoor.Sincite.A [Symantec-2004-072615-3305-99] (2004.07.26) - backdoor server program that allows unauthorized access to the compromised computer. It runs and listens for remote commands on port 1034/tcp.  W32.Mydoom.Cl@mm [Symantec-2005-092711-1028-99] (2005.09.26) - mass-mailing worm with backdoor capabilities. Uses its own SMTP engine.  KWM trojan also uses this port.	SG
1034	tcp	trojan	KWM	Trojans
1034-1035,9900-9901	udp	applications	PhoneFree	Portforward
1034-1035,2644,8000	tcp	applications	PhoneFree	Portforward
1034	tcp	zincite-a	Zincite.A backdoor	Nmap
1034	udp	activesync-notify	Windows Mobile device ActiveSync Notifications	Nmap
1034	tcp	threat	W32.Mydoom	Bekkoame
1034	tcp	threat	W32.Zindos	Bekkoame
1034	tcp	threat	Zincite	Bekkoame
1034	tcp,udp	activesync	ActiveSync Notifications, registered 2003-03	IANA

Port(s)	Protocol	Service	Details	Source
1040	tcp	trojans	Backdoor.Sedepex [Symantec-2005-103109-2236-99] (2005.10.31) - a trojan with backdoor capabilities. It ends various security related processes on the comromised computer. Opens a backdoor and listens for remote commands on port 1035/tcp or 1040/tcp.  Backdoor.Medias [Symantec-2004-032713-0001-99] (2004.03.27) - a trojan horse that installs itself as a Browser Helper Object.  WebCam Monitor also uses port 1040 (TCP/UDP).	SG
1040	tcp	netsaint	Netsaint status daemon	Nmap
1040	tcp,udp	netarx	Netarx	Neophasis
1040	tcp,udp	threat	Medias	Bekkoame
1040	tcp,udp	netarx	Netarx Netcare, registered 2008-04-03	IANA

Podobne czynności wykonałem przy użyciu Kibany, wyniki jak się spodziewałem były bardzo podobne, udało się jeszcze pozyskać informacjie o tym jakie pliki, z jakich i na jakie adresy były wysyłane.







t did				source_ip	source_port	destination_ip	destination_port		
Available fields	•		Time -					uid	_id
@timestamp		•	February 26th 2010, 20:18:05.258	192.168. 3.35	1082	64.215.158.24	80	Ckiz9H3Z AjA5Fnk2 X1	_Fd8tG8BV3 6nip930ajI
t @version								Λī	
t _index		•	February 26th 2010, 20:18:05.234	192.168. 3.35	1081	206.161.124.7 4	80	CURg1915 ijo3B1Bf v4	_ld8tG8BV3 6nip930ajI
# _score									
t _type		•	February 26th 2010, 20:18:05.220	192.168. 3.35	1080	96.6.147.191	80	Cdiiv9Md 1PUxwgsu	61d8tG8BV3 6nip93xahr
t connection_state		_	February 26th 2010, 20:18:05.045	192.168.	1079	66.6.18.146	80	COWQtp4j	-1d8tG8BV3
t connection_state	add	·	1051daily 2011 2010, 201101001010	3.35	1010	00101131140		vXc7RxdC d4	6nip930ajI
t destination_geo  Top 5 values in 6 / 10 records	auu	•	February 26th 2010, 20:18:04.073	192.168. 3.35	1078	174.120.233.2 51	80	CVC34Y3Z PaSu2t8Z H7	_Vd8tG8BV3 6nip930ajI
Warren Township	<u>Q</u> Q							н/	
33.3% Garden City 16.7%	QQ	•	February 26th 2010, 20:18:03.380	192.168. 3.35	1077	65.254.37.8	80	C6NY2cbV 8RT0C72U 2	AVd8tG8BV3 6nip930anI
Izmir 16.7%	<b>Q Q</b>	•	February 26th 2010, 20:17:15.262		1076	188.124.5.100	80	CnEpAf3K	4Fd8tG8BV3
Spring 16.7%	<b>QQ</b>			3.35				eq8sgR61 N9	6nip93xahr
Dallas 16,7%	@@	•	February 26th 2010, 20:16:42.565	192.168. 3.35	1075	74.206.251.4	80	CYgtOL10 ji4iaoI6 o	yld8tG8BV3 6nip93xahr
t destination_geo		_	February 26th 2010, 20:16:42.308	192.168.	1074	64.20.53.186	80	CsaDyo2P	y1d8tG8BV3
Top 5 values in 10 / 10 records			,,	3.35				FV5aWMjj N1	6nip93xahr
United States 80.0%	<b>QQ</b>	-	February 26th 2010, 20:16:36.661	192.168.	1073	64.20.53.186	80	CLjWdp3I	t1d8tG8BV3
Turkey	@@	·		3.35				KxRa9j3F xf	6nip93xahq
Netherlands	<b>Q Q</b>								

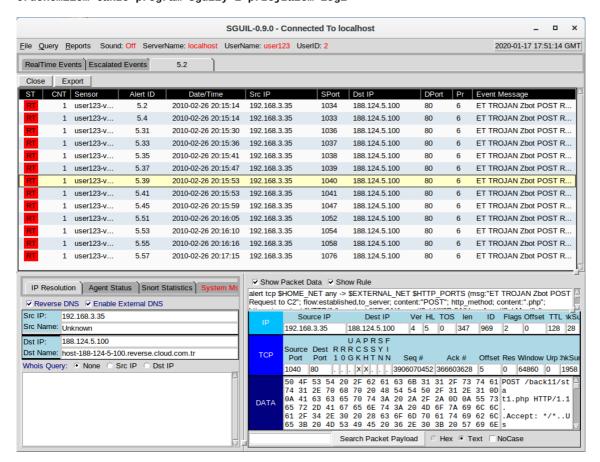
Znalazłem informacje o kolejnych portach na których odbywała się komunikacja, a także przesyłane były pliki i postanowiłem je sprawdzić

Available	۰		Time -		source_ip	source_port	destination_ip	destination_port	uid	_id
ields		_	February 26th 2010, 2	00.10.05 250	192.168.	1082	64.215.158.24	80	Ckiz9H3Z	Fd8tG8BV3
@timestamp		,	Pebruary 20th 2010, 2	.0.10.03.236	3.35	1002	04.213.136.24	00	AjA5Fnk2 X1	6nip930ajl
t @version										
t _index		•	February 26th 2010, 2	20:18:05.234	192.168. 3.35	1081	206.161.124.7 4	80	CURg1915 ijo3B1Bf v4	_ld8tG8BV3 6nip930ajl
# _score									V4	
t _type		•	February 26th 2010, 2	20:18:05.220	192.168. 3.35	1080	96.6.147.191	80	Cdiiv9Md 1PUxwgsu	61d8tG8BV3 6nip93xahi
t connection_state										
t connection_state		•	February 26th 2010, 2	20:18:05.045	192.168. 3.35	1079	66.6.18.146	80	COWQtp4j vXc7RxdC d4	-1d8tG8BV3 6nip930aj]
t destination_geo	add									
Top 5 values in 6 / 10 records		•	February 26th 2010, 2	20:18:04.073	192.168. 3.35	1078	174.120.233.2 51	80	CVC34Y3Z PaSu2t8Z H7	_Vd8tG8BV 6nip930aj
Warren Township	<u>Q</u> Q									
33.3% Garden City 16.7%	<b>QQ</b>	•	February 26th 2010, 2	20:18:03.380	192.168. 3.35	1077	65.254.37.8	80	C6NY2cbV 8RT0C72U 2	AVd8tG8BV3 6nip930an
Izmir	@ Q									
16.7%		•	February 26th 2010, 2	20:17:15.262	192.168. 3.35	1076	188.124.5.100	80	CnEpAf3K eq8sgR61	4Fd8tG8BV3 6nip93xah
Spring 16.7%	QQ								N9	
Dallas 16,7%	<b>@ Q</b>	•	February 26th 2010, 2	20:16:42.565	192.168. 3.35	1075	74.206.251.4	80	CYgtOL10 ji4iaoI6	yld8tG8BV3 6nip93xahr
t destination_geo			5-1		100 100	4074	04.00.50.400		0 0 00	4 101 000
Top 5 values in 10 / 10 records		•	February 26th 2010, 2	20:16:42.308	192.168. 3.35	1074	64.20.53.186	80	CsaDyo2P FV5aWMjj N1	y1d8tG8BV3 6nip93xahi
United States	<u>Q</u> Q									
Turkey	<b>QQ</b>	•	February 26th 2010, 2	20:16:36.661	192.168. 3.35	1073	64.20.53.186	80	CLjWdp3I KxRa9j3F xf	t1d8tG8BV 6nip93xah
10.0% Netherlands	<b>@ Q</b>									

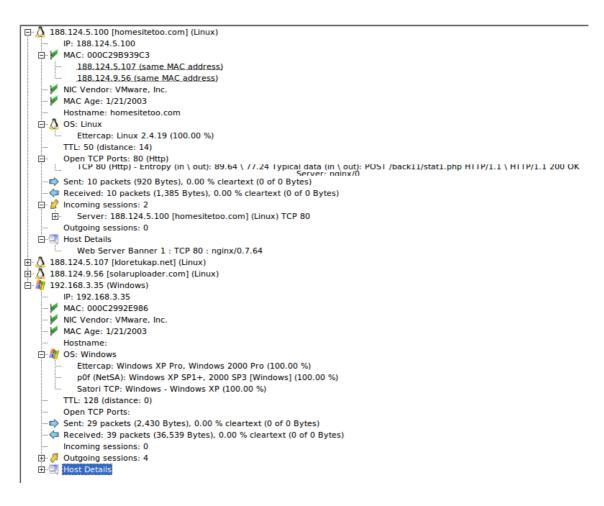
Port(s)	Protocol	Service	Details	Source
1073	tcp	applications	DG Remote Control Server 1.6.2 allows remote attackers to cause a denial of service (crash or CPU consumption) and possibly execute arbitrary code via a long message to TCP port 1071 or 1073, possibly due to a buffer overflow.  References: [CVE-2005-2305], [BID-14263]  Port is also IANA registered for Bridge Control	SG
1073	tcp,udp	bridgecontrol	BridgeControl	SANS
1073	tcp,udp	bridgecontrol	Bridge Control	IANA

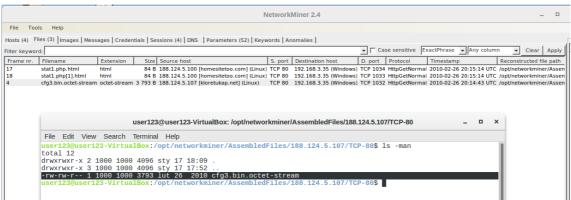
Port(s)	Protocol	Service	Details	Source
1080	tcp	socks	Socks Proxy is an Internet proxy service, potential spam relay point.  Common programs using this port: Wingate  Trojans/worms that use this port as well:	SG
			Bugbear.xx [Symantec-2003-060423-5644-99] - wide-spread mass-mailing worm, many variants. SubSeven - remote access trojan, 0.3 200 J. Afects all current Windows versions. WinHole - remote access trojan, 0.1 2000 (a.k.a. WinGate, Backdoor, WLF, BackGate). Affects Windows 9x. Trojan Webus C [Symantec-2004-101212-0903-99] - remote access trojan, 10.12.2004. Affects all current Windows versions. Connects to an IRC server (on port 8080) and opens a backdoor on TCP port 10888 or 1080.	
			Mydoom.B [Symantec-2004-012816-3647-99] (2004.01.28) - mass-mailing worm that opens a backdoor into the system. The backdoor makes use of TCP ports 80, 1080, 3128, 8080, and 10080.	
			Backdoor Lixy [Symantec-2003-100816-5051-99] (2003.10.08) - a backdoor trojan horse that opens a proxy server on TCP port 1080.	
			W32 HLLW Deadhat [Symantec-2004-020619-0805-99] (2004.02.06) - a worm with backdoor capabilities. It attempts to uninstall the W32 Mydoom.A@mm and W32 Mydoom.B@mm worms, and then it spreads to other systems infected with Mydoom. Also, it spreads through the Soulseek file-sharing program.	
			WinHole, Wingate, Bagle.Al trojans also use this port.	
			Buffer overflows in AnalogX Proxy before 4.12 allows remote attackers to cause a denial of service and possibly execute arbitrary code via a long HTTP request to TCP port 6588 or a SOCKS 4A request to TCP port 1080 with a long DNS hostname. References: [CVE-2002-1001] [BID-5139]	
			Buffer overflow in Avirt Voice 4.0 allows remote attackers to cause a denial of service (crash) and possibly execute arbitrary code via a long GET request on port 1080. References: [CVE-2004-0315] [BID-9721]	

#### Uruchomiłem także program Sguily i przejżałem logi



<sup>\*\*</sup>W NetworkMainer również znalazłem kilka dodatkowych informacji, a także udało mi się uzyskac pliki, które mogą zostać poddane dalszej analizie.





# Jako drugi do analizy wybrałem i zaimportowałem plik best-malwere-protection.pcap .

sudo so-import-pcap best-malwere-protection.pcap Ponownie zacząłem od Kibany i Squerta.

#### Widok zaimportowanego ruchu w Squert - dopasowane sygnatury

QUEUE	SC	DC	ACTIVITY	LAST EVENT	SIGNATURE	ID	PROTO	% TOTAL
12	1	1	-	14:31:28	ET INFO EXE - Served Attached HTTP	2014520	6	29.268%
12	1	1	-	14:31:28	ET INFO Packed Executable Download	2014819	6	29.268%
2	1	2		14:31:28	ET INFO DYNAMIC_DNS HTTP Request to *.isgre.at Domain (Sitelutions)	2018839	6	4.878%
12	1	1	•	14:31:28	ET POLICY PE EXE or DLL Windows file download HTTP	2018959	6	29.268%
2	1	1		14:31:26	ET INFO DYNAMIC_DNS Query to *isgre.at Domain (Sitelutions)	2018840	17	4.878%
1	1	1		14:30:55	ET INFO HTTP Request to a *.osa.pl domain	2014037	6	2.439%

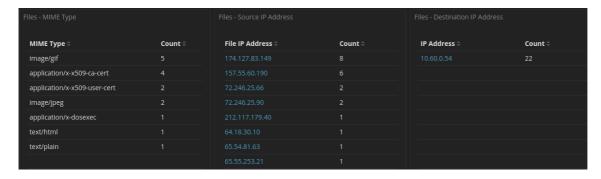
Następnie w Squert sprawdziłem takie informacje jak: sygnatury dopasowane przez program, adresy IP z którymi najczęściej występowała komunikacja, oraz porty. ! [portsCountryIp](https://user-images.githubusercontent.com/56591106/72671097-ab574880-3a45-11ea-929c-062cf9c13f98.PNG



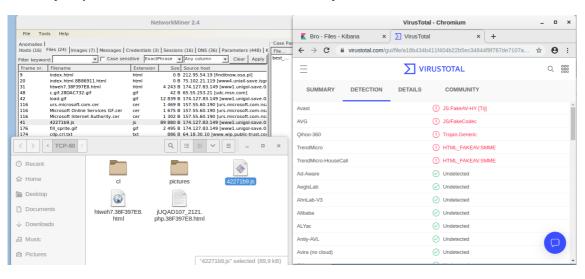
#### Alerty NIDS wraz z powiązanami adresami IP

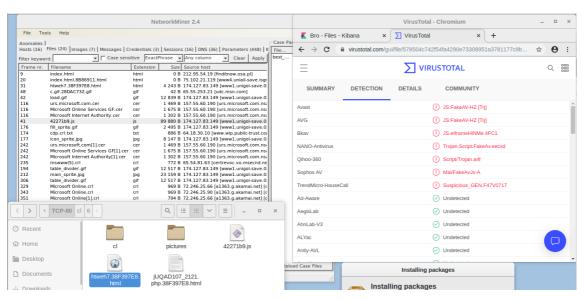
NIDS - Alert Summary			
Alert \$	Source IP Address ÷	Destination IP Address ÷	Count ÷
ET INFO EXE - Served Attached HTTP	212.117.179.40	10.60.0.54	12
ET INFO Packed Executable Download	212.117.179.40	10.60.0.54	12
ET POLICY PE EXE or DLL Windows file download HTTP	212.117.179.40	10.60.0.54	12
ET INFO DYNAMIC_DNS HTTP Request to *.isgre.at Domain (Sitelutions)	10.60.0.54	75.102.21.119	1
ET INFO DYNAMIC_DNS HTTP Request to *.isgre.at Domain (Sitelutions)	10.60.0.54	212.117.179.40	1
ET INFO DYNAMIC_DNS Query to *isgre.at Domain (Sitelutions)	10.60.0.54	8.8.8.8	2
ET INFO HTTP Request to a *.osa.pl domain	10.60.0.54	212.95.54.19	1

#### Typy odbieranych/wysyłanych plików oraz adresy z którymi się to odbywało

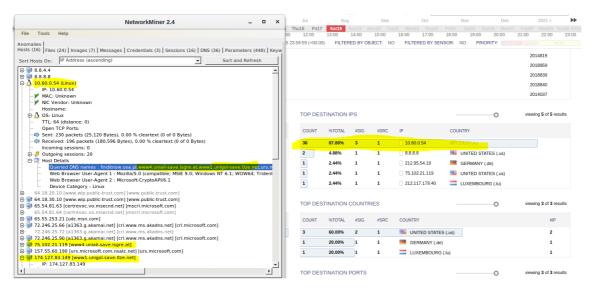


#### Pliki wyodrębnione NetworkMinerem oraz ich analizy w VirusTotal





#### Powiązanie analizowanych plików z adresem IP



Adres 174.127.83.149 widnieje w jadnej z baz danych jako zagrożenie ![image] (<a href="https://user-images.githubusercontent.com/56591106/72671346-1fdfb680-3a49-11ea-8236-b4b689cd1d35.png">https://user-images.githubusercontent.com/56591106/72671346-1fdfb680-3a49-11ea-8236-b4b689cd1d35.png</a>

## Whois IP 10.60.0.54

Updated 5 days ago

```
# ARIN WHOIS data and services are subject to the Terms of Use
# available at: https://www.arin.net/resources/registry/whois/tou/
# If you see inaccuracies in the results, please report at
# https://www.arin.net/resources/registry/whois/inaccuracy_reporting/
# Copyright 1997-2020, American Registry for Internet Numbers, Ltd.
             10.0.0.0 - 10.255.255.255
NetRange:
CIDR:
              10.0.0.0/8
              PRIVATE-ADDRESS-ABLK-RFC1918-IANA-RESERVED
NetName:
              NET-10-0-0-0-1
NetHandle:
Parent:
               ()
              IANA Special Use
NetType:
OriginAS:
Organization: Internet Assigned Numbers Authority (IANA)
RegDate:
              2013-08-30
Updated:
              These addresses are in use by many millions of independently (
Comment:
Comment:
              These addresses can be used by anyone without any need to coor
Comment:
Comment:
              These addresses were assigned by the IETF, the organization th
Comment:
              http://datatracker.ietf.org/doc/rfc1918
Comment:
Ref:
               https://rdap.arin.net/registry/ip/10.0.0.0
OrgName:
              Internet Assigned Numbers Authority
OrgId:
              IANA
Address:
              12025 Waterfront Drive
Address:
           Suite 300
City:
              Los Angeles
StateProv: CA
PostalCode:
              90292
              US
Country:
RegDate:
Updated:
              2012-08-31
Ref:
               https://rdap.arin.net/registry/entity/IANA
```

 $\verb| **Obrazy wyodrębnione przez NetworkMiner, moim zdaniem podejrzane| \\$ 

