

Network Analysis

Time Thieves

At least two users on the network have been wasting time on YouTube. Usually, IT wouldn't pay much mind to this behavior, but it seems these people have created their own web server on the corporate network. So far, Security knows the following about these time thieves:

- They have set up an Active Directory network.
- They are constantly watching videos on YouTube.
- Their IP addresses are somewhere in the range 10.6.12.0/24.

You must inspect your traffic capture to answer the following questions:

1. What is the domain name of the users' custom site?

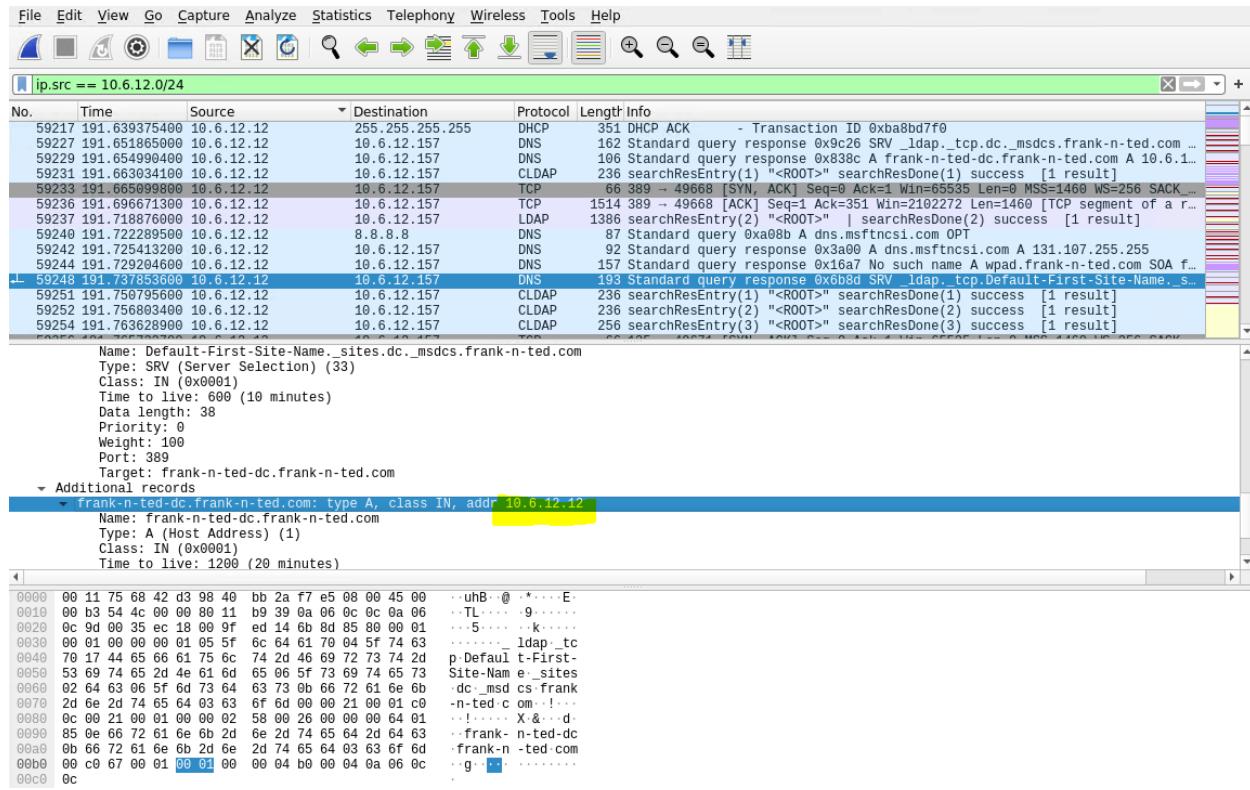
frank-n-ted.com

The screenshot shows a Wireshark interface with the following details:

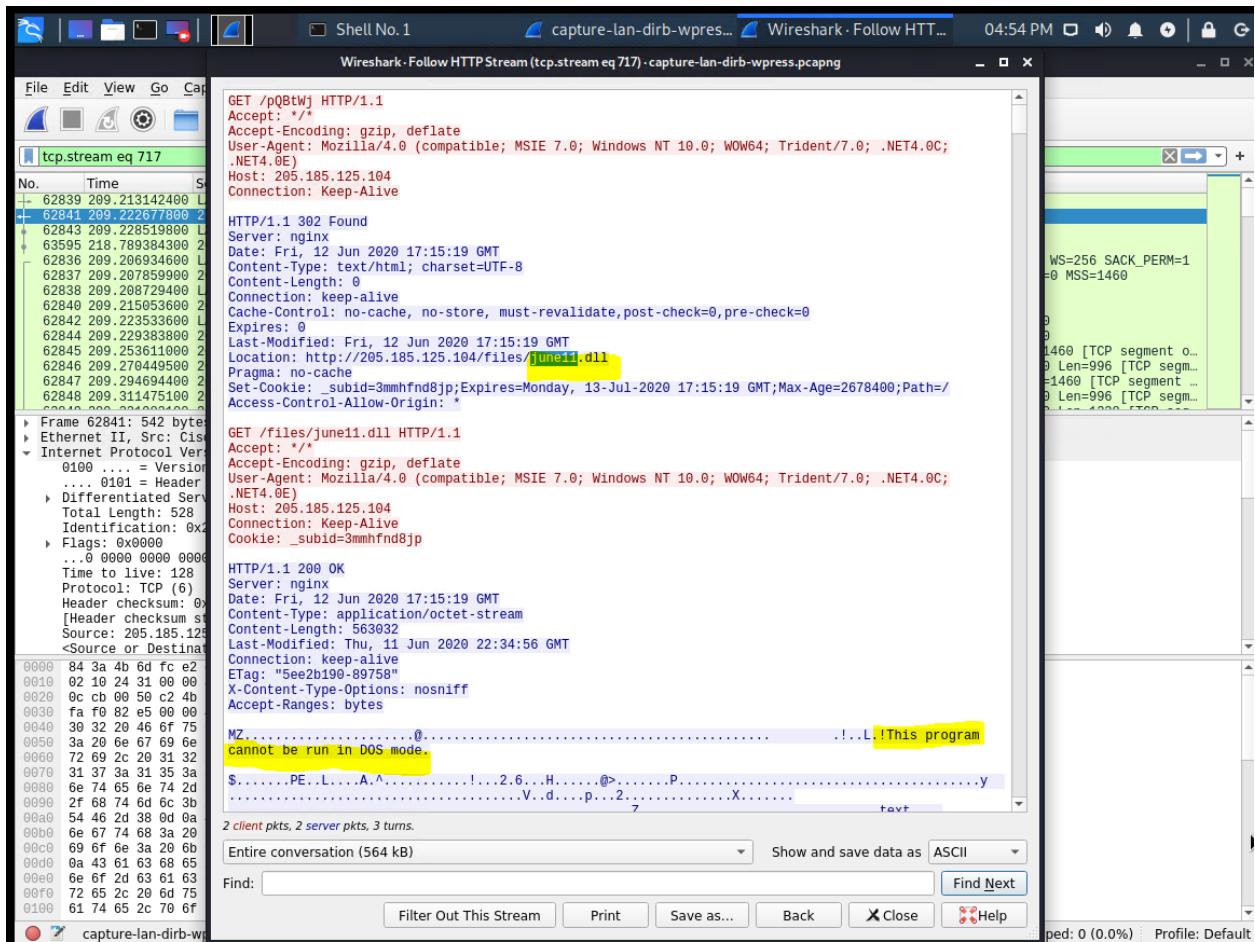
- Panels:** File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, Help.
- Selected Filter:** ip.src == 10.6.12.0/24
- Packet List:** Shows a list of network packets with columns: No., Time, Source, Destination, Protocol, Length, Info. Several DNS and LDAP requests are visible, primarily from source IP 10.6.12.12 to destination IP 10.6.12.157.
- Details Panel:** Shows detailed information for selected packets, such as DNS query responses for SRV records and LDAP search results.
- Bytes Panel:** Shows the raw hex and ASCII representation of selected packets.

2. What is the IP address of the Domain Controller (DC) of the AD network?

10.6.12.12



3. What is the name of the malware downloaded to the 10.6.12.203 machine? Once you have found the file, export it to your Kali machine's desktop.



File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.addr == 10.6.12.203 and

Wireshark - Export - HTTP object list

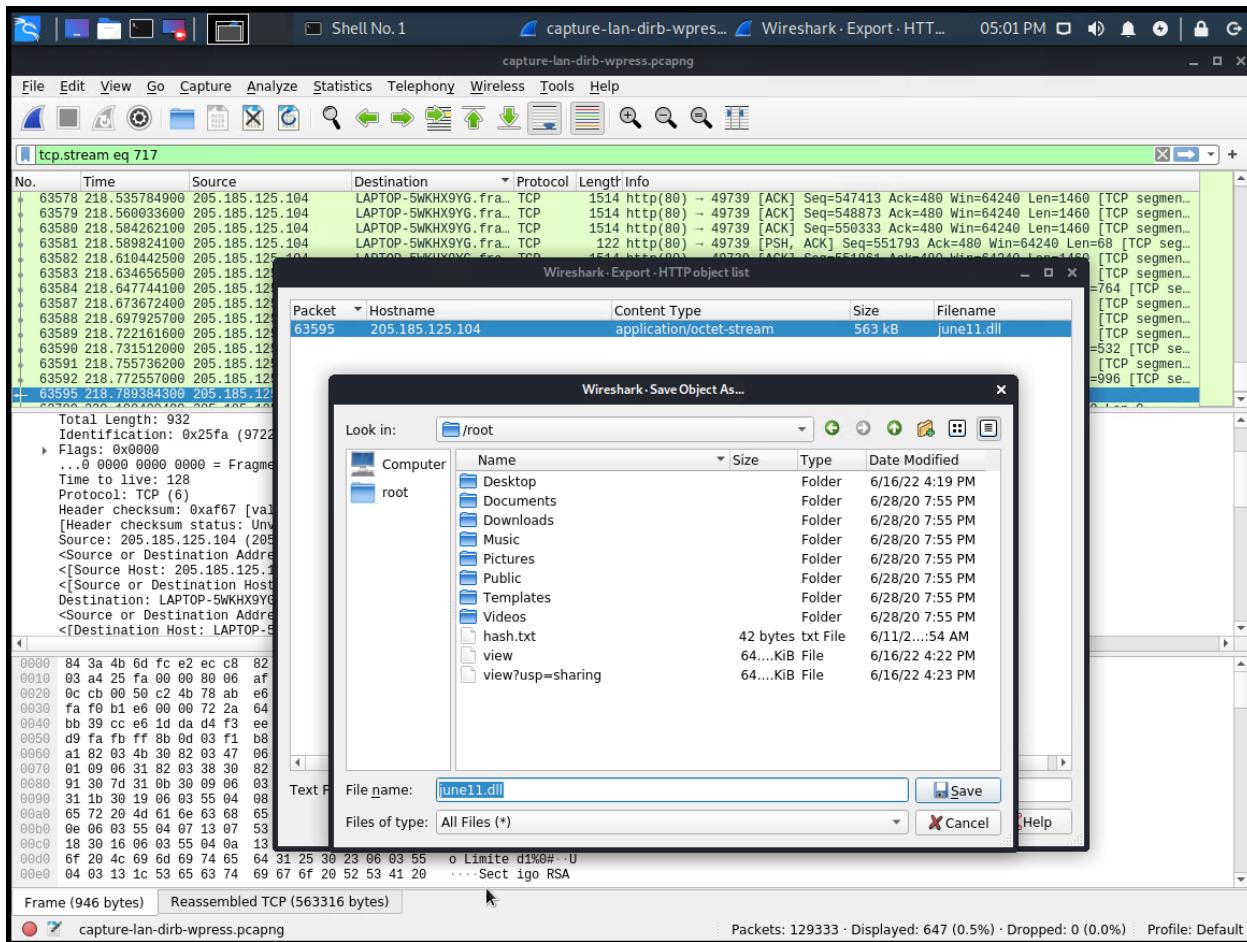
No.	Time	Souce	Dest	Protocol
33133	251.235068400 5.1			TCP
33128	251.195710900 10			TCP
33123	251.181827300 10			TCP
33116	251.137683100 10			TCP
33111	251.124891500 10			TCP
33110	251.115540100 10			TCP
33097	251.093928600 5.1			TCP
32705	244.814813100 10			TCP
32698	244.797398700 5.1			TCP
32696	244.789618100 10			TCP
32399	243.083699600 20			TCP
31654	233.522262100 10			TCP
31652	233.516395200 20			TCP
31650	233.506870100 10			TCP
Transmission Control Protocol				
[456 Reassembled TCP Segments]				
Hypertext Transfer Protocol				
HTTP/1.1 200 OK\r\nServer: nginx\r\nDate: Fri, 12 Jun 2015 10:40:11\r\nContent-Type: application/json\r\nContent-Length: 5630\r\nLast-Modified: Thu, 11 Jun 2015 10:40:11\r\nConnection: keep-alive\r\nETag: "5ee2b190-8975"\r\nX-Content-Type-Options: nosniff\r\nAccept-Ranges: bytes\r\n\r\n\r\n[HTTP response 2/21]				
00000000	48 54 54 50 2f			
00000010	0a 53 65 72 76			
00000020	44 61 74 65 3a			
00000030	6e 20 32 30 32			
00000040	47 4d 54 0d 3a			

Packet Hostname Content Type Size Filename

32267	192.168.1.100...	application/json	41 kB	_bulk
32271	192.168.1.100...	application/json	11 kB	_bulk
32275	192.168.1.100...	application/json	41 kB	_bulk
32279	192.168.1.100...	application/json	11 kB	_bulk
32284	192.168.1.100...	application/json	42 kB	_bulk
32289	192.168.1.100...	application/json	11 kB	_bulk
32293	192.168.1.100...	application/json	42 kB	_bulk
32297	192.168.1.100...	application/json	11 kB	_bulk
32304	192.168.1.100...	application/json	42 kB	_bulk
32308	192.168.1.100...	application/json	11 kB	_bulk
32312	192.168.1.100...	application/json	41 kB	_bulk
32317	192.168.1.100...	application/json	11 kB	_bulk
32320	192.168.1.100...	application/json	25 kB	_bulk
32324	192.168.1.100...	application/json	6,966...	_bulk
32399	205.185.125.104	application/octet-stream	563 kB	june11.dll
32570	192.168.1.100...	application/json	9,125...	_bulk
32579	192.168.1.100...	application/json	960 b...	_bulk
32696	snnmnkxdhflw...		395 b...	post.php
32698	snnmnkxdhflw...	text/html	208 b...	post.php
32705	snnmnkxdhflw...		431 b...	post.php
32746	192.168.1.100...	application/json	39 kB	_bulk
32748	192.168.1.100...	application/json	3,501...	_bulk
33097	snnmnkxdhflw...	text/html	371 kB	post.php
33110	snnmnkxdhflw...		328 b...	post.php
33111	snnmnkxdhflw...		266 b...	post.php
33116	snnmnkxdhflw...		261 b...	post.php
33123	snnmnkxdhflw...		2,111...	post.php
33128	snnmnkxdhflw...		331 b...	post.php

Text Filter: []

Save Save All Close Help



4. Upload the file to [VirusTotal.com](https://www.virustotal.com). What kind of malware is this classified as?

S VirusTotal - Free Online ... Shell No.1 capture-lan-dirb-wpres... 05:04 PM | G

VirusTotal - Free Online Virus, Malware and URL Scanner - Mozilla Firefox

VirusTotal - Free Online x + https://www.virustotal.com/old-browsers/file-analysis/MjU0NWlxNTQ4MzE2NW... 05:04 PM | G

Kali Linux Kali Training Kali Tools Kali Docs Kali Forums NetHunter Offensive Security Exploit-DB GHDB MSFU

 VIRUSTOTAL

This is a minimal interface for browsers that do not support full-fledged VirusTotal

SHA256: d3636666b407fe5527b96696377ee7ba9b609c8ef4561fa76af218ddd764dec

Name: -

Detection ratio: 49/65 (Analyzing...)

Security vendor	Result	Update
Bkav	malicious	20220616
Lionic	malicious	20220616
Elastic	malicious	20220614
McAfee	malicious	20220616
Cylance	malicious	20220617
Sangfor	malicious	20220602
K7AntiVirus	malicious	20220616
BitDefender	malicious	20220616

https://hybrid-analysis.com/sample/d3636666b407fe5527b96696377ee7ba9b60... ... ⋮

Kali Linux Kali Training Kali Tools Kali Docs Kali Forums NetHunter Offensive Security Exploit-DB GHDB MSFU

june11.dll

Filename	june11.dll
Size	550KiB (563032 bytes)
Type	pedl executable
Description	PE32 executable (DLL) (GUI) Intel 80386, for MS Windows
Architecture	WINDOWS
SHA256	d3636666b407fe5527b96696377ee7ba9b609c8ef4561fa76af218ddd764dec
Compiler/Packer	Borland Delphi 3.0 (???)

Resources	Visualization
Language	ENGLISH
Icon	

Version Info	Classification (TrID)
LegalCopyright	Copyright 2007-2010 Google Inc.
InternalName	Google ipdate
FileVersion	1.3.32.7
CompanyName	Google Inc.
ProductName	Google ipdate
ProductVersion	1.3.32.7
FileDescription	Google Crash Handler

Incident Response

Indicators

File Details

File Sections
File Imports
File Certificates (3)

Screenshots (1)

Hybrid Analysis (2)

Network Analysis

Extracted Strings

Extracted Files (1)

Notifications

Community (0)

Back to top

File Sections

Name	Entropy	Virtual Address	Virtual Size	Raw Size	MD5
.text	5.07979261582	0x1000	0x53514	0x53600	29d65c51b29aa26a5762bb8e7efe6af6
.rdata	7.70358146765	0x55000	0x2928a	0x29400	febcaa6baae6f6ec7474b2d21df14ad4
.data	5.63882104853	0x7f000	0x7b68	0x7c00	967c79c517e45a62124fae6d48a80bd4
.rsrc	5.17616369108	0x87000	0x3288	0x3400	e1daa196fb67864456196bdc4285f99
.reloc	5.54382274745	0x8b000	0x320	0x400	5757fa335c8c028b6e362e91a6207d43

Incident Response

Indicators

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File Imports
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Community (0)

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File Imports

ADVAPI32.dll GDI32.dll KERNEL32.dll USER32.dll

RegOpenKeyA

RegQueryValueExW

File Certificates

⚠ Error validating certificate: A certificate chain processed, but terminated in a root certificate which is not trusted by the trust provider. (0x800b0109)

Vulnerable Windows Machines

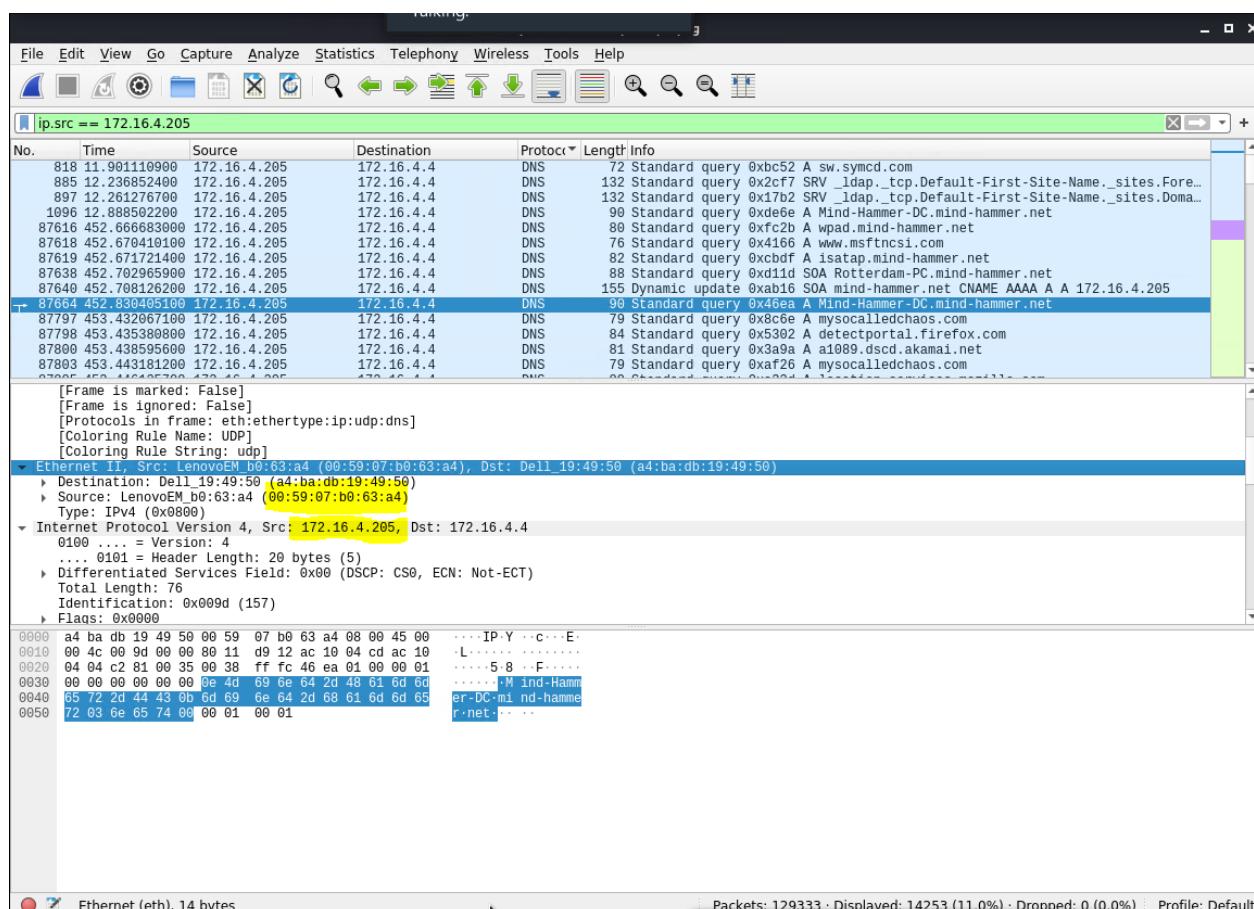
The Security team received reports of an infected Windows host on the network. They know the following:

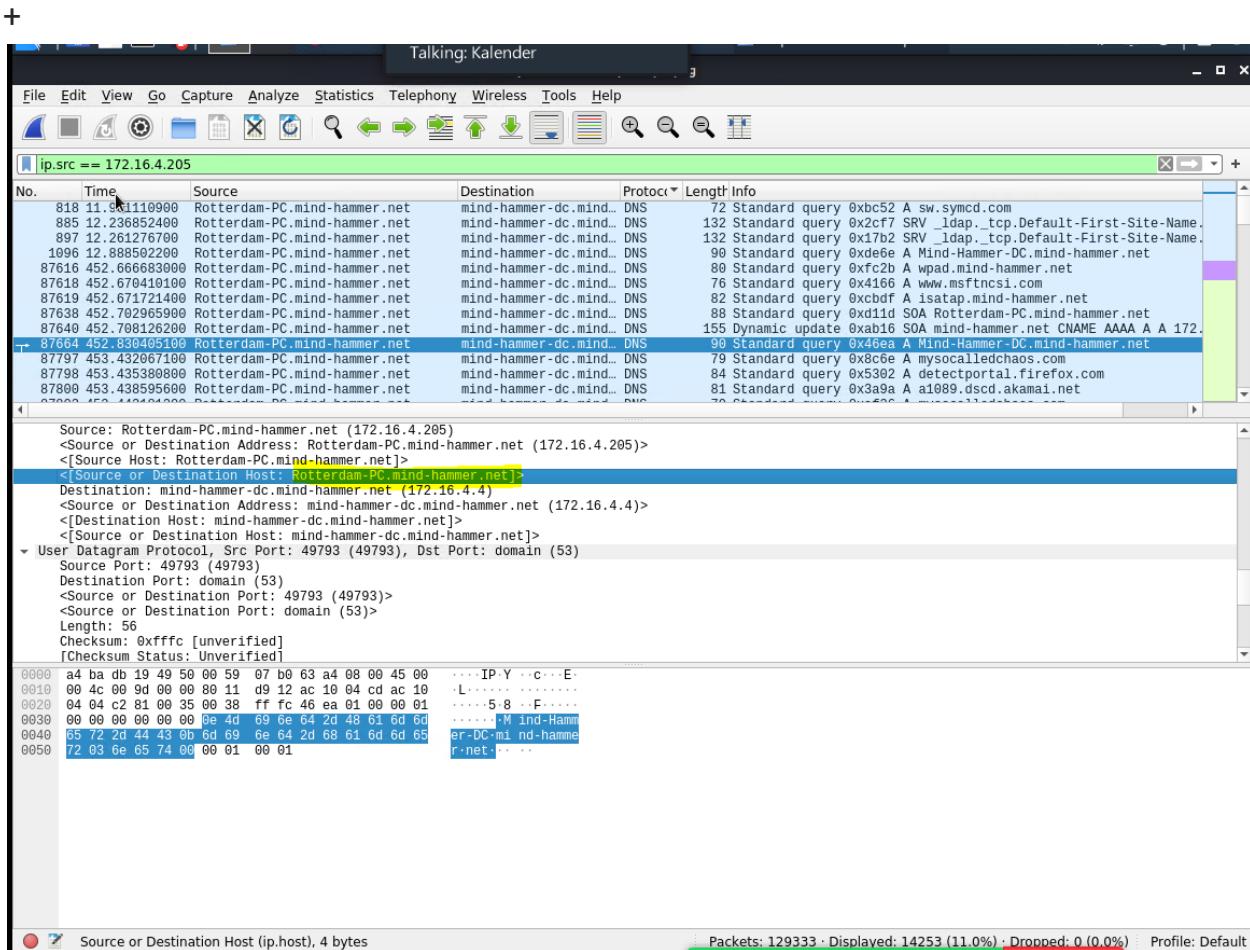
- Machines in the network live in the range 172.16.4.0/24.
- The domain mind-hammer.net is associated with the infected computer.
- The DC for this network lives at 172.16.4.4 and is named Mind-Hammer-DC.
- The network has standard gateway and broadcast addresses.

Inspect your traffic to answer the following questions:

1. Find the following information about the infected Windows machine:

- Host name: Rotterdam-PC.mind-hammer.net
- IP address: 172.16.4.205
- MAC address: 00:59:07:b0:63:a4





2. What is the username of the Windows user whose computer is infected?

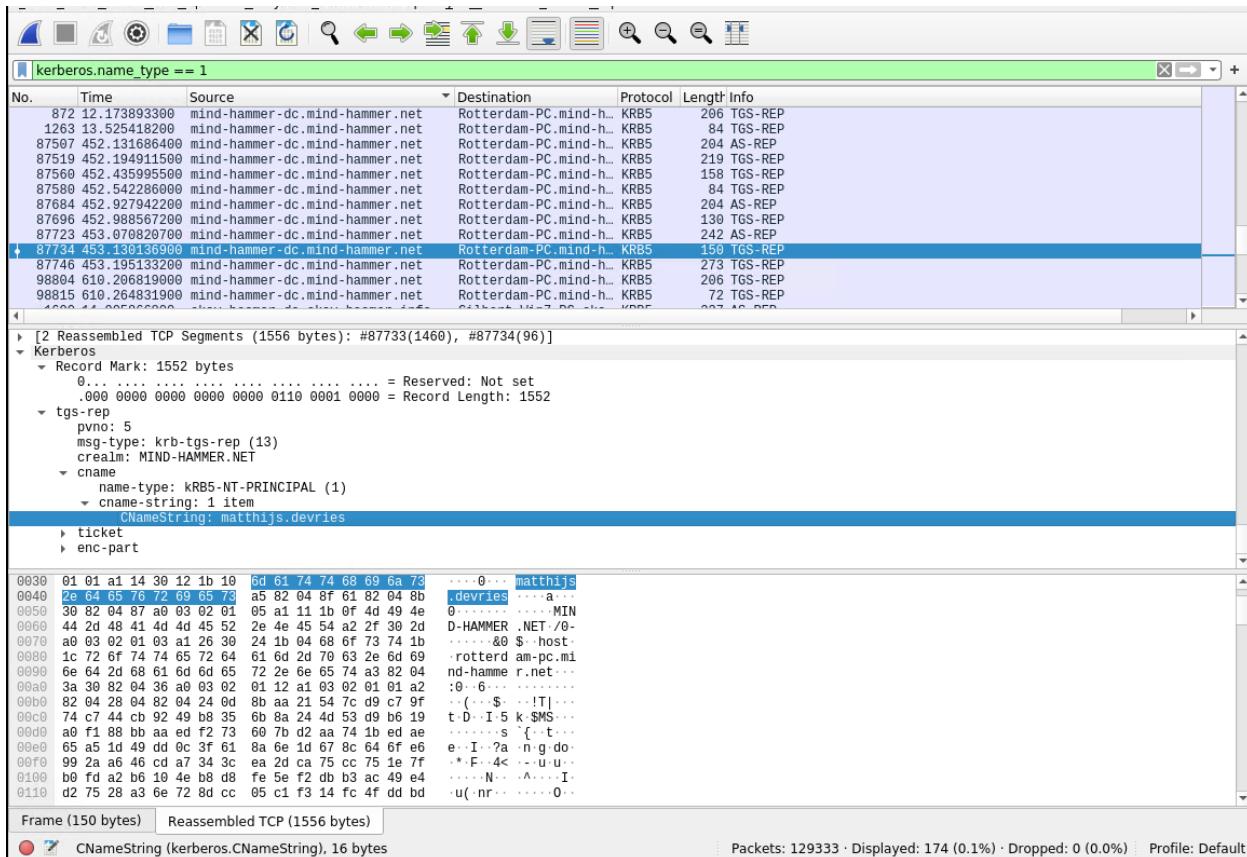
matthijs.devries

Wireshark							
No.	Time	Source	Destination	Protocol	Length	Info	Hex
3187	49.786544600	172.16.4.205	172.16.4.4	KRB5	297	AS-REQ	
3195	49.803720100	172.16.4.205	172.16.4.4	KRB5	377	AS-REQ	
3369	50.584361200	172.16.4.205	172.16.4.4	KRB5	301	AS-REQ	
3376	50.599992500	172.16.4.205	172.16.4.4	KRB5	381	AS-REQ	
3408	50.726684900	172.16.4.205	172.16.4.4	KRB5	292	AS-REQ	
3415	50.742235400	172.16.4.205	172.16.4.4	KRB5	372	AS-REQ	

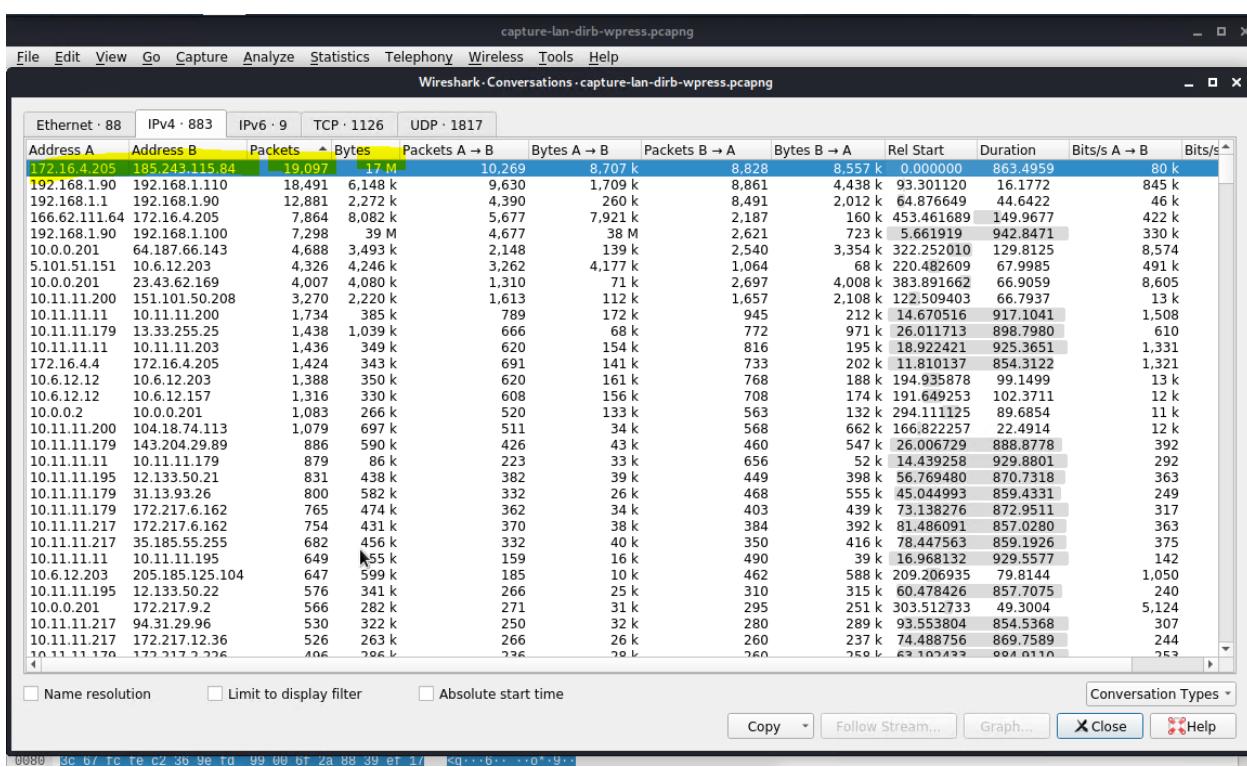
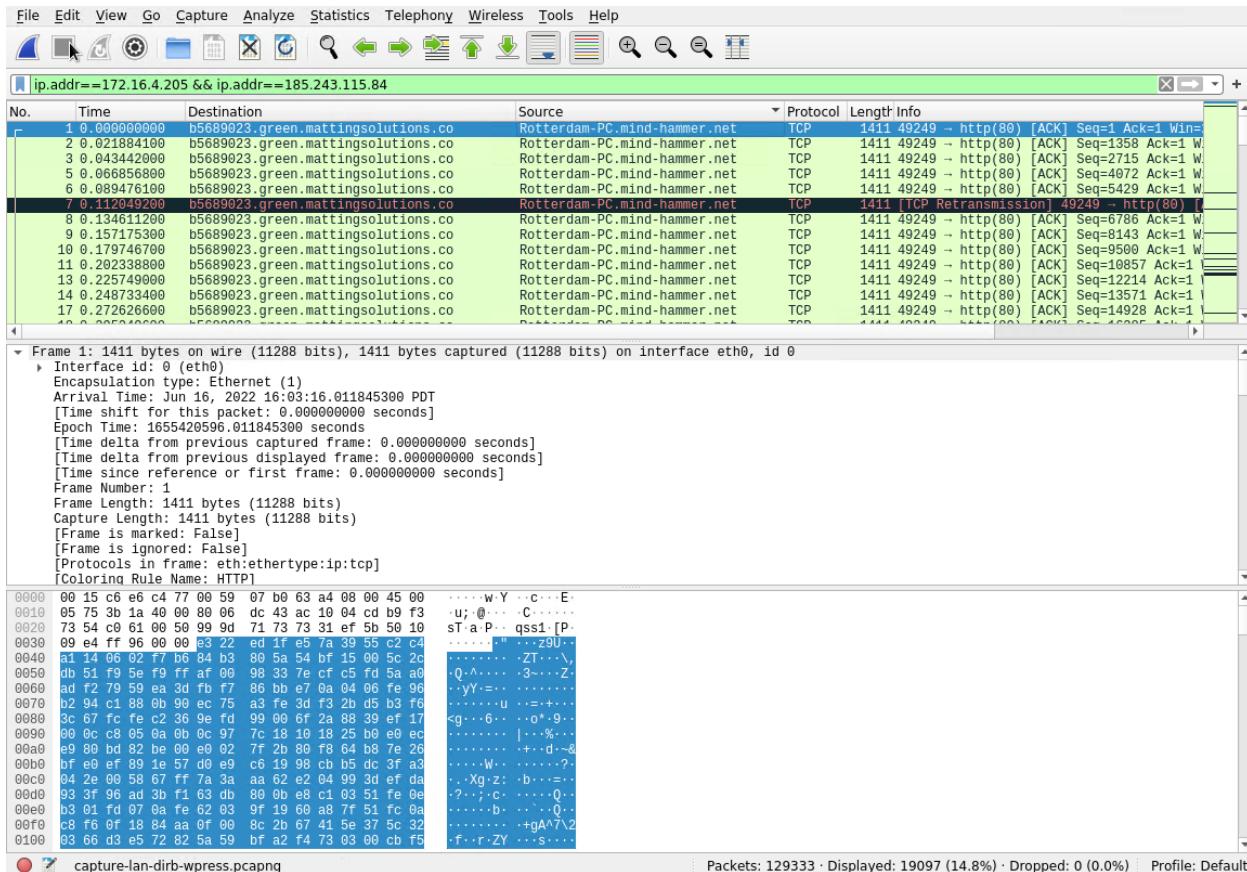
```

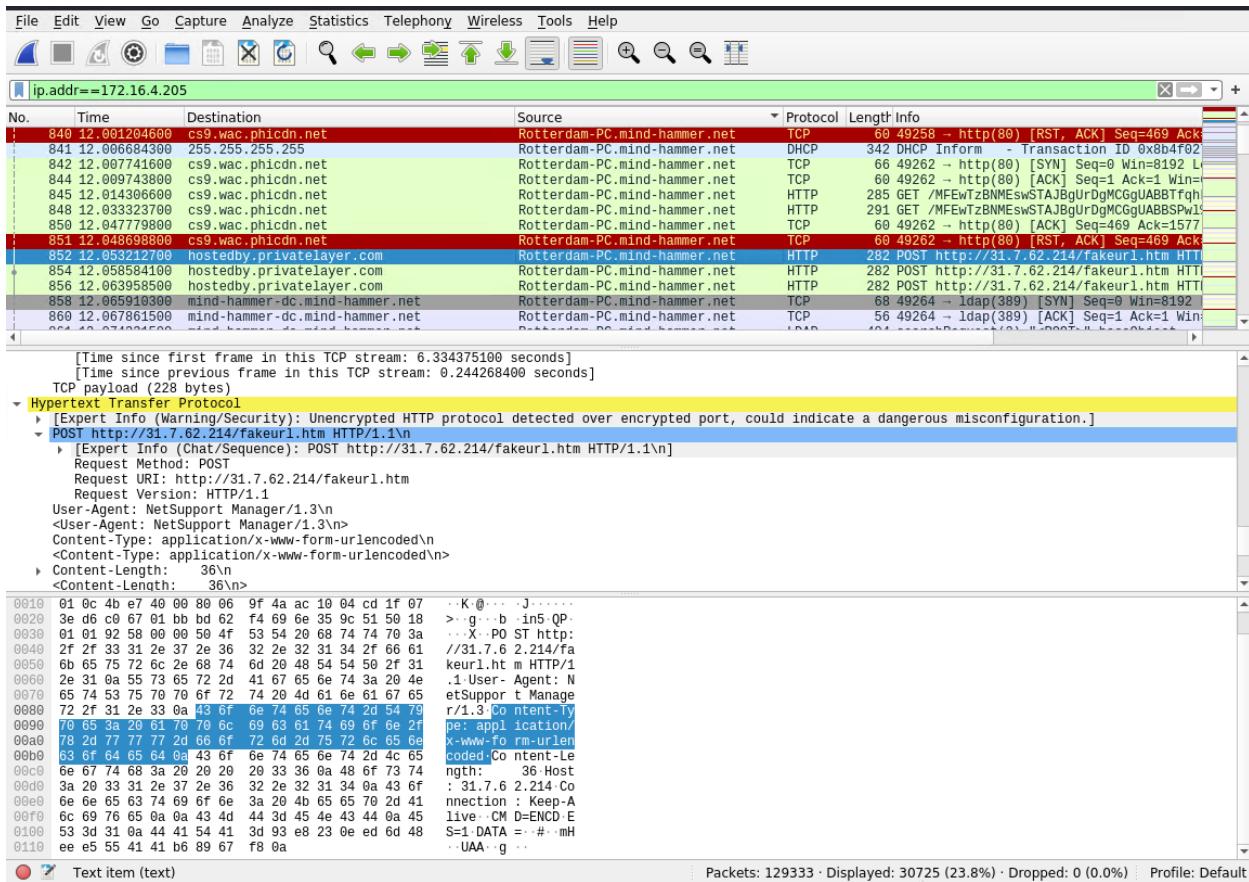
...1 .... = renewable-ok: True
... 0... = enc-tkt-in-skey: False
.... .0.. = unused29: False
.... .0. = renew: False
.... ..0 = validate: False
  ▼ cname
    name-type: KRB5-NT-PRINCIPAL (1)
      ▼ cname-string: 1 item
        CNameString: matthijs.devries
        realm: MIND-HAMMER
      ▼ sname
        name-type: KRB5-NT-SRV-INST (2)
          ▼ sname-string: 2 items
            SNameString: krbtgt
            SNameString: MIND-HAMMER
            till: 2037-09-13 02:48:05 (UTC)
            rtime: 2037-09-13 02:48:05 (UTC)
            nonce: 631265106
0070  a1 1d 30 1b a0 03 02 01  01 a1 14 30 12 1b 10 6d  ..0..... 0...m
0080  61 74 74 68 69 6a 73 2e  64 65 76 72 69 65 73 a2  atthijs. devries
0090  0d 1b 0b 4d 49 4e 44 2d  48 41 4d 4d 45 52 a3 20  ...MIND- HAMMER
00a0  30 1e a0 03 02 01 02 a1  17 30 15 1b 06 6b 72 62  0..... 0...krb
00b0  74 67 74 1b 0b 4d 49 4e  44 2d 48 41 4d 40 45 52  tgt-MIN D-HAMMER
00c0  a5 11 18 0f 32 30 33 37  30 39 31 33 30 32 34 38  ... 2037 09130248
00d0  30 35 5a a6 11 18 0f 32  30 33 37 30 39 31 33 30  05Z... 2 03709130
00e0  32 34 38 30 35 5a a7 06  02 04 25 a0 57 52 a8 15  24805Z... %WR...
00f0  30 13 02 01 12 02 01 11  02 01 17 02 01 18 02 02  0..... .....
0100  ff 79 02 01 03 a9 1d 30  1b 30 19 a0 03 02 01 14  y.....0 0.....

```

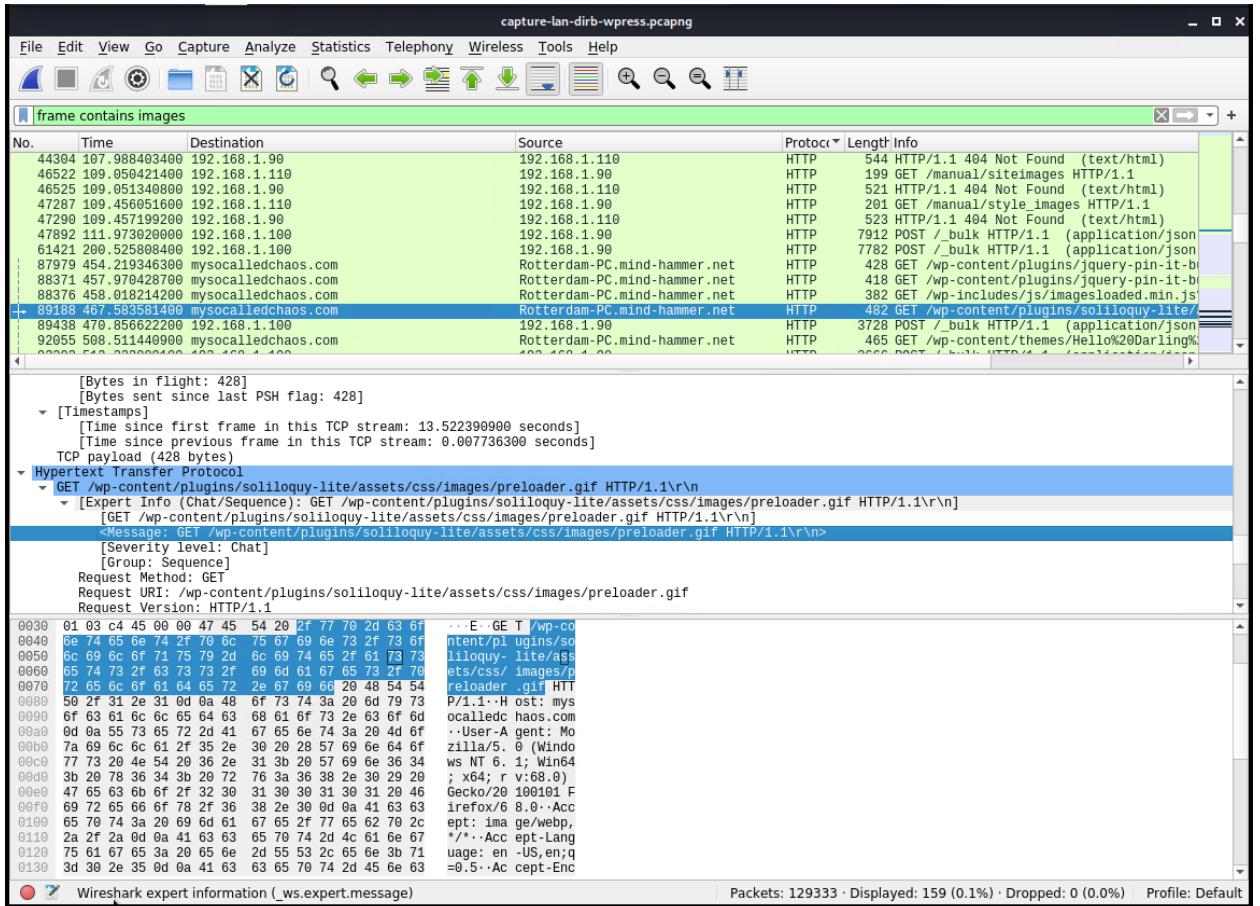


3. What are the IP addresses used in the actual infection traffic?





4. As a bonus, retrieve the desktop background of the Windows host.



Wireshark - Export - HTTP object list

Packet	Hostname	Content Type	Size	Filename
89351	mysocalledchaos.com	image/gif	1,599 bytes	preload어.gif
89503	pixel.wp.com	image/gif	50 bytes	g.gif?=&ext&j=1%3A7.1.1&blog=99980123&post=0&tz=-6&srv=mysocalledcha...
97639	ball.dardavies.com	image/gif	35 bytes	article.php?y=241&c=123080&m=8491edf39d1a8b498bbc9cd1bd6bba&st=1
4700	img.timeinc.net	image/jpeg	124 kB	libya_ruins_01.jpg
8402	www.sabethahospital.com	image/jpeg	4,991 bytes	button-2.jpg
8582	www.sabethahospital.com	image/jpeg	5,275 bytes	button-1.jpg
8600	www.sabethahospital.com	image/jpeg	10 kB	ER1.jpg
8698	www.sabethahospital.com	image/jpeg	22 kB	180215.jpg
9705	www.sabethahospital.com	image/jpeg	1,309 bytes	wv-bk.jpg
9736	www.sabethahospital.com	image/jpeg	26 kB	health-bk.jpg
11635	www.iphonehacks.com	image/jpeg	7,857 bytes	logo.jpg
14422	cdn.iphonehacks.com	image/jpeg	4,661 bytes	iPhone-X-Home-screen-194x129.jpg
15121	cdn.iphonehacks.com	image/jpeg	4,363 bytes	checkra1n-teaser-194x129.jpg
15730	cdn.iphonehacks.com	image/jpeg	7,167 bytes	checkra1n-194x129.jpg
15913	cdn.iphonehacks.com	image/jpeg	3,002 bytes	iPhone-X-Body-Shots-1-194x129.jpg
16028	cdn.iphonehacks.com	image/jpeg	2,938 bytes	iPhone-X-Lock-Screen-No-Notifications-Locked-194x129.jpg
16229	cdn.iphonehacks.com	image/jpeg	1,540 bytes	iphone-11-pro-camera-67x67.jpg
16358	cdn.iphonehacks.com	image/jpeg	1,922 bytes	inprogress-iph-67x67.jpg
16494	cdn.iphonehacks.com	image/jpeg	1,670 bytes	airpods-pro-tips-tricks-67x67.jpg
16687	cdn.iphonehacks.com	image/jpeg	1,575 bytes	note10plus-iphone11pro-67x67.jpg
16782	cdn.iphonehacks.com	image/jpeg	1,753 bytes	macbook-pro-2019-67x67.jpg
16972	cdn.iphonehacks.com	image/jpeg	1,595 bytes	Apple_watch_series_5-gold-aluminum-case-pomegranate-band-and-space-gray-al...
17027	cdn.iphonehacks.com	image/jpeg	4,520 bytes	BentoStack-67x67.jpg
17178	cdn.iphonehacks.com	image/jpeg	1,852 bytes	AirPods-Ear-Covers-67x67.jpg
17985	cdn.iphonehacks.com	image/jpeg	1,772 bytes	11pro-grass-rear-iphonenhacks-67x67.jpg
19163	cdn.iphonehacks.com	image/jpeg	34 kB	appleglassdisplay.jpg
72018	publicdomaintorrents.info	image/jpeg	517 bytes	ipod.jpg
72021	publicdomaintorrents.info	image/jpeg	910 bytes	pda.jpg
72048	publicdomaintorrents.info	image/jpeg	1,764 bytes	googlevid.jpg
72094	publicdomaintorrents.info	image/jpeg	19 kB	pdheader.jpg
74273	publicdomaintorrents.info	image/jpeg	152 kB	bettybooprythmonthereservationgrab.jpg
74285	publicdomaintorrents.info	image/jpeg	568 bytes	divxi.jpg
90043	mysocalledchaos.com	image/jpeg	135 kB	Collaborate.jpg
90476	mysocalledchaos.com	image/jpeg	85 kB	contact-me-2.jpg
90531	mysocalledchaos.com	image/jpeg	88 kB	Better-Your-Blog.jpg
90981	mysocalledchaos.com	image/jpeg	389 kB	fleshy-in-this-2571786.jpg
91478	mysocalledchaos.com	image/jpeg	60 kB	2019GoalsADHD-400x600.jpg
91664	mysocalledchaos.com	image/jpeg	68 kB	AdventCalendarFillers-400x600.jpg
92224	mysocalledchaos.com	image/jpeg	61 kB	12-Days-of-Christmas-Swap-400x600.jpg
94018	mysocalledchaos.com	image/jpeg	269 kB	Crafty.jpg
94868	mysocalledchaos.com	image/jpeg	147 kB	Family.jpg
96963	mysocalledchaos.com	image/jpeg	241 kB	Travel.jpg
97502	ball.dardavies.com	image/jpeg	68 kB	chrome.jpg
97606	mysocalledchaos.com	image/jpeg	187 kB	self-care.jpg
6001	img.timeinc.net	image/png	2,238 bytes	btn_photos.png
6011	img.timeinc.net	image/png	3,449 bytes	inputBG.png
6037	img.timeinc.net	image/png	13 kB	newsletterLogo.png

Text Filter:

