

Time Thieves

At least two users on the network have been wasting time on YouTube. Usually, IT wouldn't pay much mind to the 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

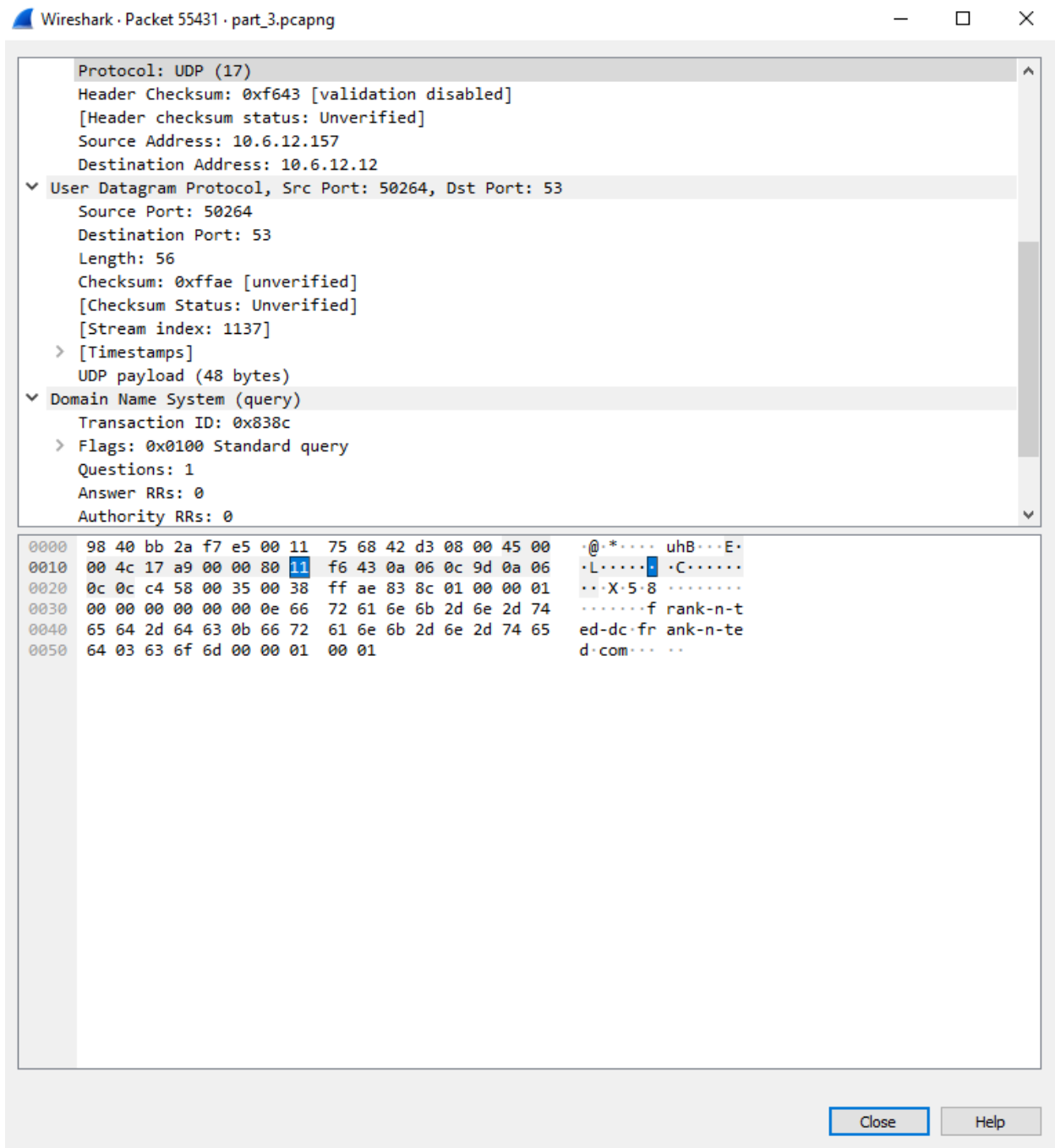
The traffic must be inspected to answer the following Network Report

1. What is the domain name of the users' custom site?
 - The Domain Name: Frank-n-Ted-DC.frank-n-ted.com.
 - Filter used in Wireshark: ip.addr==10.6.12.0/24

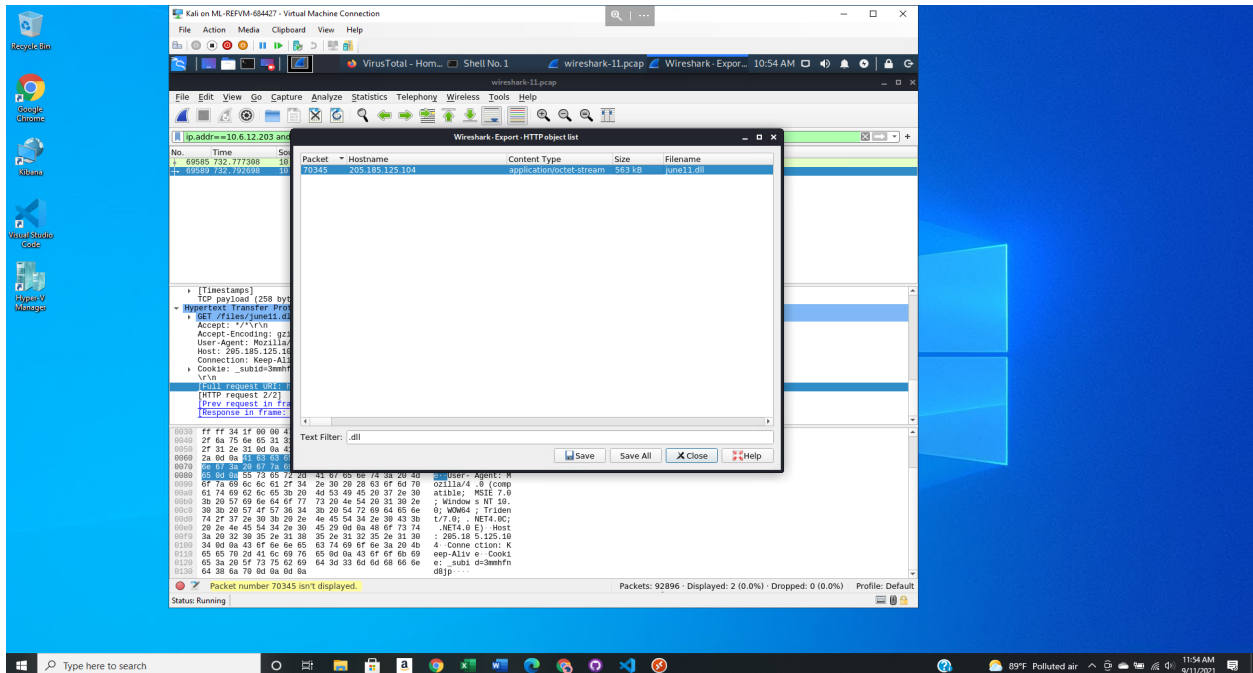
No.	Time	Source	Destination	Protocol	Length	Data
55420	2020-06-30 11:04:22.0936..	10.6.12.12	255.255.255.255	DHCP	351	DHCP ACK - Transaction ID 0xba8bd7f0
55421	2020-06-30 11:04:22.0946..	10.6.12.157	224.0.0.22	IGMPv3	54	Membership Report / Join group 224.0.0.251 for any sources
55422	2020-06-30 11:04:22.0955..	10.6.12.157	224.0.0.22	IGMPv3	54	Membership Report / Join group 224.0.0.252 for any sources
55423	2020-06-30 11:04:22.0963..	10.6.12.157	224.0.0.22	IGMPv3	54	Membership Report / Leave group 224.0.0.252
55424	2020-06-30 11:04:22.0972..	10.6.12.157	224.0.0.22	IGMPv3	54	Membership Report / Join group 224.0.0.252 for any sources
55425	2020-06-30 11:04:22.0985..	10.6.12.157	224.0.0.251	MDNS	80	Standard query 0x0000 ANY DESKTOP-06348X.local, "QH" question
55426	2020-06-30 11:04:22.1000..	10.6.12.157	224.0.0.251	MDNS	90	Standard query response 0x0000 A 10.6.12.157
55427	2020-06-30 11:04:22.1011..	10.6.12.157	224.0.0.252	LLNMR	74	Standard query 0x094f ANY DESKTOP-06348X
55428	2020-06-30 11:04:22.1021..	10.6.12.157	224.0.0.22	IGMPv3	62	Membership Report / Join group 224.0.0.251 for any sources / Join group 224.0.0.252 for any sources
55429	2020-06-30 11:04:22.1036..	10.6.12.157	10.6.12.12	DNS	96	Standard query 0x9c26 SRV _ldap._tcp.dc._msdcs.frank-n-ted.com
55430	2020-06-30 11:04:22.1062..	10.6.12.12	10.6.12.157	DNS	162	Standard query response 0x9c26 SRV _ldap._tcp.dc._msdcs.frank-n-ted.com SRV 0 100 389 frank-n-ted-dc.frank-n-ted.com A 10.6.12.12
55431	2020-06-30 11:04:22.1077..	10.6.12.157	10.6.12.12	DNS	90	Standard query 0x838c A frank-n-ted-dc.frank-n-ted.com
55432	2020-06-30 11:04:22.1094..	10.6.12.12	10.6.12.157	DNS	106	Standard query response 0x838c A frank-n-ted-dc.frank-n-ted.com A 10.6.12.12
55433	2020-06-30 11:04:22.1136..	10.6.12.157	10.6.12.12	LDAP	264	searchRequest(1) "<ROOT>" baseObject
55434	2020-06-30 11:04:22.1174..	10.6.12.12	10.6.12.157	LDAP	236	searchResEntry(1) "<ROOT>" searchResDone(1) success [1 result]
55435	2020-06-30 11:04:22.1184..	10.6.12.157	10.6.12.12	TCP	66	49668 → 389 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 IS=256 SACK_PERM=1
55436	2020-06-30 11:04:22.1195..	10.6.12.12	10.6.12.157	TCP	66	389 → 49668 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1460 IS=256 SACK_PERM=1
55437	2020-06-30 11:04:22.1203..	10.6.12.157	10.6.12.12	TCP	54	49668 → 389 [ACK] Seq=1 Ack=1 Win=2102272 Len=0
55438	2020-06-30 11:04:22.1268..	10.6.12.157	10.6.12.12	LDAP	404	searchRequest(2) "<ROOT>" baseObject
55439	2020-06-30 11:04:22.1510..	10.6.12.12	10.6.12.157	TCP	1514	389 → 49668 [ACK] Seq=1 Ack=351 Win=2102272 Len=1460 [TCP segment of a reassembled PDU]
55440	2020-06-30 11:04:22.1732..	10.6.12.157	10.6.12.12	LDAP	1386	searchResEntry(2) "<ROOT>" searchResDone(2) success [1 result]
55441	2020-06-30 11:04:22.1741..	10.6.12.157	10.6.12.12	TCP	54	49668 → 389 [ACK] Seq=351 Ack=2793 Win=2102272 Len=0

< Frame 55431: 90 bytes on wire (720 bits), 90 bytes captured (720 bits) on interface eth0, Id 0
> Ethernet II, Src: Intel_86:42:c3 (00:11:75:68:42:c3), Dst: Dell_2a:f7:e5 (98:4b:bb:2a:f7:e5)
> Internet Protocol Version 4, Src: 10.6.12.157, Dst: 10.6.12.12
> User Datagram Protocol, Src Port: 50264, Dst Port: 53
> Domain Name System (query)

2. What is the IP address of the Domain Controller (DC) of the AD network?
 - IP address is 10.6.12.12 (Frank-n-Ted-DC.frank-n-ted.com)
 - Filter used in Wireshark: ip.addr==10.6.12.0/24



3. What is the name of the malware downloaded to the 10.6.12.203 machine?
 - Malware file: june11.dll



- Once the file was found, the file was exported to the Kali machine.
 - Filter used in Wireshark: ip.addr==10.6.12.203 and http.request.method==GET
4. Upload the file to VirusTotal.com
- This type of malware is classified as a Trojan
 - Results:

d3636666b407fe5527b96696377ee7ba9b609c8ef4561fa76af218ddd764dec

49 security vendors and 1 sandbox flagged this file as malicious

d3636666b407fe5527b96696377ee7ba9b609c8ef4561fa76af218ddd764dec

GoogleUpdate.exe

549.84 KB

2022-06-07 01:35:13 UTC

5 minutes ago

invalid-signature overlay peddl signed spreader

DETECTION DETAILS RELATIONS BEHAVIOR COMMUNITY

Security Vendors' Analysis

Vendor	Detection	Signature	Confidence
Ad-Aware	Trojan.Mint.Zamg.O	AhnLab-V3	Malware/Win32.RL_Generic.R346613
Alibaba	TrojanSpy.Win32/Yakes.0454a340	ALYac	Trojan.Mint.Zamg.O
Arcabit	Trojan.Mint.Zamg.O	Avast	Win32-DangerousSig [Trj]
AVG	Win32.DangerousSig [Trj]	Avira (no cloud)	TR/AD.ZLoader.ladbd
BitDefender	Trojan.Mint.Zamg.O	BitDefenderTheta	Gen:NN.ZedlaF.34712.lu9@aui7OQgi
Bkav Pro	W32.AIDetect.malware2	CrowdStrike Falcon	Win/malicious_confidence_100% (W)

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 172.164.0/24.
- 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 the traffic to answer the following questions:

1. Find the following information about the infected Windows machine:
 - Host name: ROTTERDAM-PC
 - IP address: 172.16.4.205
 - MAC address: 00:59:07:b0:63:a4
 - Filter used in Wireshark: ip.src==172.16.4.4 and kerberos.CNameString

No.	Time	Source	Destination	Protocol	Length	Data	Info
3197	2020-06-30 10:54:30.8776	172.16.4.4	172.16.4.205	KRB5	284		AS-REP
3209	2020-06-30 10:54:30.9487	172.16.4.4	172.16.4.205	KRB5	219		TGS-REP
3250	2020-06-30 10:54:31.1818	172.16.4.4	172.16.4.205	KRB5	158		TGS-REP
3270	2020-06-30 10:54:31.2081	172.16.4.4	172.16.4.205	KRB5	84		TGS-REP
3378	2020-06-30 10:54:31.6738	172.16.4.4	172.16.4.205	KRB5	284		AS-REP
3390	2020-06-30 10:54:31.7345	172.16.4.4	172.16.4.205	KRB5	130		TGS-REP
3417	2020-06-30 10:54:31.8166	172.16.4.4	172.16.4.205	KRB5	242		AS-REP
3428	2020-06-30 10:54:31.8760	172.16.4.4	172.16.4.205	KRB5	158		TGS-REP
3440	2020-06-30 10:54:31.9410	172.16.4.4	172.16.4.205	KRB5	273		TGS-REP
14045	2020-06-30 10:57:06.9526	172.16.4.4	172.16.4.205	KRB5	286		TGS-REP
14050	2020-06-30 10:57:09.0098	172.16.4.4	172.16.4.205	KRB5	72		TGS-REP
31819	2020-06-30 11:01:23.6083	172.16.4.4	172.16.4.205	KRB5	286		TGS-REP
32201	2020-06-30 11:01:23.9798	172.16.4.4	172.16.4.205	KRB5	84		TGS-REP

> Frame 3197: 284 bytes on wire (1632 bits), 284 bytes captured (1632 bits) on interface eth0, id 0	
> Ethernet II, Src: Dell_19:49:58 (a4:ba:bd:19:49:58), Dst: LenovoE1_08:63:a4 (08:59:07:b0:63:a4)	
> Destination: LenovoE1_08:63:a4 (08:59:07:b0:63:a4)	
> Source: Dell_19:49:58 (a4:ba:bd:19:49:58)	
> Type: IPv4 (0x0000)	
> Internet Protocol Version 4, Src: 172.16.4.4, Dst: 172.16.4.205	
> Transmission Control Protocol, Src Port: 88, Dst Port: 49154, Seq: 1461, Ack: 324, Len: 150	
> [2 Reassembled TCP Segments (1610 bytes): #3106(1460), #3197(150)]	
> Kerberos	
> Record Mark: 1606 bytes	
> as-rep	
pvsid: 5	
msg-type: krb-as-rep (11)	
> padata: 1 item	
crealm: MIND-HAMMER.NET	
> cname	
name-type: KRB5-NT-PRINCIPAL (1)	
cname-string: 1 item	
CNameString: ROTTERDAM-PC\$	
> ticket	
> enc-part	
0000 00 00 06 46 65 02 06 42 30 02 06 3e a0 03 02 01 ...FK: 0 0>-----	
0010 05 a1 03 02 01 00 a2 49 30 47 30 45 a1 03 02 01 ...-----2 000E-----	
0020 13 a2 7e 04 3e 30 3e 30 3e a0 03 02 01 12 a1 31 ...>-----0 0-----1	
0030 1b 2f bd 49 46 44 2d 48 41 4d 4d 45 53 26 4e 45 .../HMD-H-APPDC-00	

2. What is the username of the Windows user whose computer is infected?
 - Filter used in Wireshark: ip.src==172.16.4.205 and kerberos.CNameString
3. What are the IP addresses used in the actual infection traffic?
 - Based on the Conversation statistics and the filtering by the highest amount of packets between the IP addresses- 172.16.4.205, 185.243.115.84, 166.62.11.64 are the infected traffic.

- OS version: BLANCO-DESKTOP

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.src==10.0.0.201 and kerberos.CNameString

No.	Time	Source	Destination	Protocol	Length	Info
76799	817.864554	10.0.0.201	10.0.0.2	KRB5	361	AS-REQ
76820	817.984438	10.0.0.201	10.0.0.2	KRB5	361	AS-REQ
76824	817.992230	10.0.0.201	10.0.0.2	KRB5	361	AS-REQ
76838	818.040158	10.0.0.201	10.0.0.2	KRB5	362	AS-REQ
76924	818.395513	10.0.0.201	10.0.0.2	KRB5	361	AS-REQ
76932	818.411737	10.0.0.201	10.0.0.2	KRB5	361	AS-REQ
77015	818.728874	10.0.0.201	10.0.0.2	KRB5	361	AS-REQ
77028	818.757567	10.0.0.201	10.0.0.2	KRB5	362	AS-REQ
78357	825.163700	10.0.0.201	10.0.0.2	KRB5	362	AS-REQ
78365	825.180232	10.0.0.201	10.0.0.2	KRB5	362	AS-REQ
78423	825.346355	10.0.0.201	10.0.0.2	KRB5	290	AS-REQ
78431	825.361894	10.0.0.201	10.0.0.2	KRB5	370	AS-REQ

TCP payload (327 bytes)
[PDU Size: 327]

▼ Kerberos

- Record Mark: 323 bytes
- as-req
 - pvno: 5
 - msg-type: krb-as-req (10)
 - padata: 2 items
 - req-body
 - Padding: 0
 - kdc-options: 40810010
 - cname
 - name-type: KRB5-NT-PRINCIPAL (1)
 - cname-string: 1 item

CNameString: blanco-desktop\$

realm: DOGOFTHEYEAR.NET

0070 59 b7 72 fc d4 9b 77 56 d6 ff 3c 6f 35 23 18 0c Y.r...wV ..<05#..

0080 11 0e 19 fa 01 bd 35 55 59 57 7f 92 d8 24 5d 505U YW...\$JP

0090 d6 55 75 47 62 27 94 48 23 0e e2 c5 c2 21 30 11 .UuGb'.H #....!0.

00a0 a1 04 02 02 00 80 a2 09 04 07 30 05 a0 03 01 010.....

00b0 ff a4 81 c9 30 81 c6 a0 07 03 05 00 40 81 00 100.....@....

00c0 a1 1c 30 1a a0 03 02 01 01 a1 13 30 11 1b 0f 02 .0..... .0....

00d0 6c 61 0e 63 6f 2d 64 65 73 6b 74 6f 70 24 a2 12 lanco-de sktop\$..

00e0 1b 10 44 4f 47 4f 46 54 48 45 59 45 41 52 2e 4e ..DOGOFT HEYEAR.N

00f0 45 54 a3 25 30 23 a0 03 02 01 02 a1 1c 30 1a 1b ET.%0#.....0..

0100 06 6b 72 62 74 67 74 1b 10 44 4f 47 4f 46 54 48 .krbtgt. .DOGOFTH

0110 45 59 45 41 52 2e 4e 45 54 a5 11 18 0f 32 30 33 EYEAR.NE T....203

0120 37 30 39 31 33 30 32 34 38 30 35 5a a6 11 18 0f 70913024 805Z....

0130 32 30 33 37 30 39 31 33 30 32 34 38 30 35 5a a7 20370913 024805Z.

0140 06 02 04 7a ff c8 c0 a8 15 30 13 02 01 12 02 01 ...z.....0.....

0150 11 02 01 17 02 01 18 02 02 ff 79 02 01 03 a9 1dy.....

0160 30 1b 30 19 a0 03 02 01 14 a1 12 04 10 42 4c 41 0-0.....BLA

0170 4e 43 4f 2d 44 45 53 4b 54 4f 50 20 20 NCO-DESK TOP

CNameString (kerberos.CNameString), 15 bytes

Packets: 92896 - Displayed: 12 (0.0%)

Profile: Default

2. Which torrent file did the user download?

- The torrent downloaded
**Betty_Boop_Rythm_on_the_Reservation.avi.torrent.
- Filter used in Wireshark: ip.addr==10.0.0.201 and http.request.method==GET

[illegible]