

Tracing Protocol (Database Excerpt with Network Traffic)

Customer: Scanbox Entertainment

Authorised Party: Hedman Partners Attorneys

Title, Work: A Walk Among the Tombstones

Archive Name (Torrent): A Walk Among the Tombstones (2014)

Hash value (Torrent): A6245D88AF4F39E7EFEC9DFED31A0C7AB8D6F227

IP Address: 84.250.83.179

Tracing Software: NARS (Network Activity Recording and Supervision)

Network Monitoring Software: tcpdump 4.0.0 (libpcap 1.0.0)

Traced Legal Violation(s)

Our system has determined unauthorised distribution of the aforementioned copyright-protected titles/works on the aforementioned IP addresses during the following points in time by downloading a piece of a file contained in the relevant work and by recording the tracing procedures on the network level. If there are multiple hits related to the work mentioned here on the IP addresses mentioned here, i.e. several legal violations have been established and documented, the hits relevant to the procedure are highlighted in bold font. The time when the user transferred a certain piece to us on the IP address traced is identified as the "End of Download" and is delivered to our customer for the purposes of gaining information about the subscriber data.

Connection Established	Beginning of Download	End of Download	End of Connection	File Name
Feb 2, 2015 19:07:17	Feb 2, 2015 19:09:56	Feb 2, 2015 19:09:59	Feb 2, 2015 19:10:17	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 2, 2015 19:13:19	Feb 2, 2015 19:15:57	Feb 2, 2015 19:15:59	Feb 2, 2015 19:16:18	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 2, 2015 19:19:29	Feb 2, 2015 19:22:32	Feb 2, 2015 19:22:34	Feb 2, 2015 19:22:52	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 3, 2015 13:28:34	Feb 3, 2015 13:30:03	Feb 3, 2015 13:30:05	Feb 3, 2015 13:30:23	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 3, 2015 20:18:12	Feb 3, 2015 20:21:08	Feb 3, 2015 20:21:10	Feb 3, 2015 20:21:28	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 3, 2015 20:24:13	Feb 3, 2015 20:25:27	Feb 3, 2015 20:25:29	Feb 3, 2015 20:25:47	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 4, 2015 12:41:48	Feb 4, 2015 12:44:13	Feb 4, 2015 12:44:15	Feb 4, 2015 12:44:34	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 4, 2015 12:41:55	Feb 4, 2015 12:44:34	Feb 4, 2015 12:44:36	Feb 4, 2015 12:44:55	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 5, 2015 02:14:27	Feb 5, 2015 02:17:29	Feb 5, 2015 02:17:38	Feb 5, 2015 02:17:49	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 5, 2015 02:17:36	Feb 5, 2015 02:20:12	Feb 5, 2015 02:20:16	Feb 5, 2015 02:20:33	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4
Feb 5, 2015 14:49:20	Feb 5, 2015 14:51:10	Feb 5, 2015 14:51:13	Feb 5, 2015 14:51:31	A.Walk.Among.the.Tombstones.2014.720p.BluRay.x264.YIFY.mp4

Network Traffic

The total TCP/IP data traffic between our tracing software and the internet connection identified on the basis of the traced IP address was recorded by the programme "Tcpdump" at the network level, signed as per the German signature law to ensure integrity and then archived on a WORM Tape (Write-Once-Read-Many) in an edit-proof way, i.e. the data can no longer be manipulated later and hence is counterfeit-proof.

On the basis of this data (network traffic), it is always possible to comprehend the complete tracing procedure including the download. The raw data are available in the form of the so-called PCAP data file for an expert assessment.

The network traffic displayed below constitutes the communication procedure, including data transfer (download) between the file-sharer or the traced internet connection and our systems. For security reasons, Excipio GmbH's systems are located between firewalls and are then replaced by the placeholder "Excipio GmbH".

The following network traffic was recorded in relation to the hit relevant to the procedure:

#	Date, Time	Source (IP:Port)	Target (IP:Port)	Protocol	Description
1	Feb 5, 2015 14:49:20	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [SYN] Seq=0 Win=5840 Len=0 MSS=1460 SACK_PERM=1 TSval=857739748 TSecr=0 WS=512
2	Feb 5, 2015 14:49:20	84.250.83.179:6881	Excipio GmbH	TCP	6881 > 61662 [SYN, ACK] Seq=0 Ack=1 Win=8192 Len=0 MSS=1460 WS=256 SACK_PERM=1 TSval=301454932 TSecr=857739748
3	Feb 5, 2015 14:49:20	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=1 Ack=1 Win=6144 Len=0 TSval=857739753 TSecr=301454932
4	Feb 5, 2015 14:49:21	Excipio GmbH	84.250.83.179:6881	BitTorrent	Handshake Extended a6245d88af4f39e7efec9dfed31a0c7ab8d6f227
5	Feb 5, 2015 14:49:21	84.250.83.179:6881	Excipio GmbH	BitTorrent	Handshake Extended Bitfield, Len:0x33 Have Port a6245d88af4f39e7efec9dfed31a0c7ab8d6f227
6	Feb 5, 2015 14:49:21	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=147 Ack=690 Win=7680 Len=0 TSval=857739804 TSecr=301454983
7	Feb 5, 2015 14:49:21	84.250.83.179:6881	Excipio GmbH	BitTorrent	Extended
8	Feb 5, 2015 14:49:21	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=147 Ack=849 Win=8704 Len=0 TSval=857739808 TSecr=301454988
9	Feb 5, 2015 14:49:22	Excipio GmbH	84.250.83.179:6881	BitTorrent	Port
10	Feb 5, 2015 14:49:22	Excipio GmbH	84.250.83.179:6881	BitTorrent	[TCP Retransmission] Port
11	Feb 5, 2015 14:49:22	84.250.83.179:6881	Excipio GmbH	TCP	6881 > 61662 [ACK] Seq=849 Ack=154 Win=66560 Len=0 TSval=301455076 TSecr=857739869
12	Feb 5, 2015 14:49:22	84.250.83.179:6881	Excipio GmbH	TCP	[TCP Dup ACK 464#1] 6881 > 61662 [ACK] Seq=849 Ack=154 Win=66560 Len=0 TSval=301455078 TSecr=857739869 SLE=147 SRE=154
13	Feb 5, 2015 14:49:23	Excipio GmbH	84.250.83.179:6881	BitTorrent	BitTorrent
14	Feb 5, 2015 14:49:23	84.250.83.179:6881	Excipio GmbH	TCP	6881 > 61662 [ACK] Seq=849 Ack=158 Win=66560 Len=0 TSval=301455180 TSecr=857739974
15	Feb 5, 2015 14:50:21	84.250.83.179:6881	Excipio GmbH	BitTorrent	BitTorrent

16	Feb 5, 2015 14:50:21	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=158 Ack=853 Win=8704 Len=0 TSval=857745807 TSecr=301460986
17	Feb 5, 2015 14:50:22	Excipio GmbH	84.250.83.179:6881	BitTorrent	Interested
18	Feb 5, 2015 14:50:22	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
19	Feb 5, 2015 14:50:22	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=163 Ack=859 Win=8704 Len=0 TSval=857745907 TSecr=301461086
20	Feb 5, 2015 14:50:22	84.250.83.179:6881	Excipio GmbH	BitTorrent	Extended
21	Feb 5, 2015 14:50:22	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=163 Ack=980 Win=8704 Len=0 TSval=857745911 TSecr=301461091
22	Feb 5, 2015 14:51:10	84.250.83.179:6881	Excipio GmbH	BitTorrent	Unchoke
23	Feb 5, 2015 14:51:10	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=163 Ack=985 Win=8704 Len=0 TSval=857750709 TSecr=301465889
24	Feb 5, 2015 14:51:10	Excipio GmbH	84.250.83.179:6881	BitTorrent	Request, Piece (Idx:0x12b,Begin:0x0,Len:0x4000)
25	Feb 5, 2015 14:51:10	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
26	Feb 5, 2015 14:51:10	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=2049 Win=10752 Len=0 TSval=857750759 TSecr=301465938
27	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
28	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=3473 Win=13824 Len=0 TSval=857750981 TSecr=301466159
29	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
30	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	[TCP Dup ACK 481#1] 61662 > 6881 [ACK] Seq=180 Ack=3473 Win=13824 Len=0 TSval=857750986 TSecr=301466159 SLE=6393 SRE=7817
31	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
32	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	[TCP Dup ACK 481#2] 61662 > 6881 [ACK] Seq=180 Ack=3473 Win=13824 Len=0 TSval=857750986 TSecr=301466159 SLE=6393 SRE=9241
33	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP Retransmission] [TCP segment of a reassembled PDU]
34	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=4897 Win=16896 Len=0 TSval=857750990 TSecr=301466170 SLE=6393 SRE=9241
35	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP Retransmission] [TCP segment of a reassembled PDU]
36	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP Retransmission] [TCP segment of a reassembled PDU]
37	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=6321 Win=19456 Len=0 TSval=857750991 TSecr=301466170 SLE=6393 SRE=9241
38	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=9241 Win=22528 Len=0 TSval=857750991 TSecr=301466170 SLE=6393 SRE=7745
39	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
40	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
41	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
42	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=10665 Win=25600 Len=0 TSval=857750995 TSecr=301466175
43	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=12089 Win=28160 Len=0 TSval=857750995 TSecr=301466175
44	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=13513 Win=31232 Len=0 TSval=857750995 TSecr=301466175
45	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
46	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=14937 Win=34304 Len=0 TSval=857750995 TSecr=301466175
47	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
48	Feb 5, 2015 14:51:13	84.250.83.179:6881	Excipio GmbH	BitTorrent	Piece, Idx:0x12b,Begin:0x0,Len:0x4000

49	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=16361 Win=36864 Len=0 TSval=857751000 TSecr=301466179
50	Feb 5, 2015 14:51:13	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=17382 Win=39936 Len=0 TSval=857751000 TSecr=301466179
51	Feb 5, 2015 14:51:23	84.250.83.179:6881	Excipio GmbH	TCP	[TCP segment of a reassembled PDU]
52	Feb 5, 2015 14:51:23	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=17470 Win=39936 Len=0 TSval=857752019 TSecr=301467199
53	Feb 5, 2015 14:51:23	84.250.83.179:6881	Excipio GmbH	BitTorrent	Extended
54	Feb 5, 2015 14:51:23	Excipio GmbH	84.250.83.179:6881	TCP	61662 > 6881 [ACK] Seq=180 Ack=17483 Win=39936 Len=0 TSval=857752029 TSecr=301467209
55	Feb 5, 2015 14:51:31	84.250.83.179:6881	Excipio GmbH	TCP	6881 > 61662 [RST, ACK] Seq=17483 Ack=180 Win=0 Len=0

Description of the columns from network traffic

#	Continuous packet numbering
Date, Time	Time of communication. All time information is in UTC.
Source (IP:Port), Target (IP:Port)	Source describes the sender of a data packet, the target describes the recipient of a data packet.
Protocol	Describes the network protocol through which the packet was sent.
Description	Brief information on the network packet exchanged.

Description of the rows from network traffic

Row # Description (All time information is in UTC)

- 2 Beginning of the connection with the counterpart.
- 5 Opponent sent information about pieces that already have been downloaded successfully.
- 17 The tracing software expresses interest in the relevant work.
- 22 The file-sharer confirms to us that we can make enquiries.
- 24 The tracing software makes an inquiry about a piece.
- 48 The file-sharer sends a piece from the requested file, which contains the work from our customer (for download).
- 55 End of connection with the counterpart.

Time Synchronisation

The system is constantly synchronised with several German time servers with the aid of the network time protocol (at least every 16 seconds). These time servers are the servers from PTB (Physikalisch-Technische Bundesanstalt, the National Metrology Institute of Germany).

To guarantee the best security possible for synchronisation, two of our own strata-1 time servers are also in operation and they are directly synchronised by separate GPS sources.

By doing this it is always guaranteed that the system clock and the tracing data (time of legal violation) are synchronous with UTC time and deviations are only in milliseconds, which cannot be avoided technically and are also not relevant because between the start of the connection ("connection established") and the beginning of the download, and between the end of the download the end of connection is always a buffer of at least 2 seconds.

In relation to the current legal violations, no significant deviations were established with the time synchronisation. In the concrete case, deviations were (information in seconds):

Point in time when synchronisation is measured:: 05.02.2015 14:49:01

Time Server	Time mismatch (information in seconds)
ptbtime2.ptb.de	-0.000824
ntp1.sul.t-onli	-0.003233
ntp1-1.eecsit.tu-berlin.de	-0.000077
rustime01.rus.uni-stuttgart.de	0.000443
ntp1.belwue.de	-0.000016
ntp0.rrze.uni-erlangen.de	0.000025

Point in time when synchronisation is measured:: 05.02.2015 14:52:01

Time Server	Time mismatch (information in seconds)
ptbtime2.ptb.de	-0.000824
ntp1.sul.t-onli	-0.003210
ntp1-1.eecsit.tu-berlin.de	-0.000077
rustime01.rus.uni-stuttgart.de	0.000369
ntp1.belwue.de	0.000017
ntp0.rrze.uni-erlangen.de	-0.000023