

## تفاصيل الحجب التقنية

يقوم برنامج «وايرشارك» باقتناص كل الإشارات الصادرة والواردة إلى الجهاز المتصل بالإنترنت وتسجيلها في ملف يسمى Packet Capture. حاولنا الاتصال بموقع «أرشيف الإنترنت» عبر المتصفح في نفس الوقت الذي كان برنامج «وايرشارك» يعمل بخلفية الجهاز المتصل. فشل المتصفح بالوصول الى صفحة archive.org مرجعاً رسالة خطأ بالاتصال «Connection Time Out».

أما الملف الذي أنتجه برنامج «وايرشارك» فأشار إلى الآتي:  
تمت خطوة الاتصال الأولى بنجاح وهي إيجاد عنوان الموقع الرقمي المرافق أو (DNS) وأرجعت عنوان الموقع الرقمي الصحيح 207.241.224.2. بعد ذلك بدأ الجهاز بعملية تأسيس الاتصال مع خادم موقع أرشيف عبر المصافحة الثلاثية أو ما يسمى بال TCP handshake. أرسل الجهاز أول الحزم SYN packet لخادم موقع أرشيف دون أن يصله أي رد. كرّر الجهاز عملية إرسال الـ Syn Packet بحثاً عن رد دون فائدة وتوقف عن محاولة الاتصال بالموقع. كرّرنا هذه الاختبارات ولم يصل منها أي رد من خادم موقع الأرشيف، مما يشير إلى احتمالية عالية لحجب متعمد.

We conducted network measurement tests on the ISP [INSERT NAME OF ISP] to determine if the website of Archive was blocked. In order to do this, we accessed <http://www.archive.org> in a web browser while collecting a packet capture using Wireshark. The page failed to load in the web browser, eventually returning a [MESSAGE] error message.

In the packet capture, we can see in more detail why the page failed to load. The first step, the domain name resolution, completed normally. In response to our DNS query, we received the IP address 207.241.224.2, which is the correct IP address for Archive. This is known because this IP address is in the ASN of Archive.

However, all traffic sent to this IP address did not receive a response. The testing client began the process of establishing a connection with the Archive server by initiating the 3-way TCP handshake. After sending the initial SYN packet, the testing client does not ever receive a response. The client tried sending this SYN packet repeatedly, and not receiving a response it eventually gave up.

These tests were repeated multiple times, and at no point did the testing client ever receive a response from the Archive server. This is highly suggestive of deliberate filtering.

| No.   | Time         | Source        | Destination   | Protocol | Length | Info   |
|-------|--------------|---------------|---------------|----------|--------|--|
| 8380  | 16.539583000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 SACK PERM=1 TSval=18 |
| 8394  | 16.539583000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Out-Of-Order] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 S |
| 8460  | 16.779827000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 SACK PERM=1 TSval=18 |
| 8468  | 16.779827000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Out-Of-Order] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 S |
| 8626  | 17.535818000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 8659  | 17.535818000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 8704  | 17.779773000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 8727  | 17.779773000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9283  | 19.539789000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9310  | 19.539789000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9369  | 19.783753000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9376  | 19.783753000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9916  | 23.551772000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9922  | 23.551772000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9927  | 23.791750000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 9930  | 23.791750000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 19926 | 31.567778000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 19928 | 31.567778000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 20238 | 31.807783000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 20324 | 31.807783000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39236 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 30280 | 47.615750000 | 192.168.1.124 | 207.241.224.2 | TCP      | 74     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |
| 30312 | 47.615750000 | 192.168.1.124 | 207.241.224.2 | TCP      | 76     | [TCP Retransmission] 39232 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 |

| Filter: ip.addr == 207.241.224.2 |          |               |               |          |        | Expression...  | Clear | Apply | Save | archive.org |
|----------------------------------|----------|---------------|---------------|----------|--------|--|-------|-------|------|-------------|
| No.                              | Time     | Source        | Destination   | Protocol | Length | Info   |       |       |      |             |
| 11                               | 1.937873 | 192.168.1.20  | 207.241.224.2 | TCP      | 74     | 38904 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 SACK_PERM=1 TSval=404815 TSecr=29112             |       |       |      |             |
| 12                               | 1.938083 | 192.168.1.20  | 207.241.224.2 | TCP      | 74     | 50436 > https [SYN] Seq=0 Win=29200 Len=0 MSS=1460 SACK_PERM=1 TSval=404815 TSecr=29112            |       |       |      |             |
| 19                               | 2.179425 | 207.241.224.2 | 192.168.1.20  | TCP      | 74     | http > 38904 [SYN, ACK] Seq=0 Ack=1 Win=28960 Len=0 MSS=1452 SACK_PERM=1 TSval=404694 TSecr=29112  |       |       |      |             |
| 20                               | 2.179476 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 38904 > http [ACK] Seq=1 Ack=1 Win=29312 Len=0 TSval=404694 TSecr=1384                             |       |       |      |             |
| 21                               | 2.179502 | 207.241.224.2 | 192.168.1.20  | TCP      | 74     | https > 50436 [SYN, ACK] Seq=0 Ack=1 Win=28960 Len=0 MSS=1452 SACK_PERM=1 TSval=404694 TSecr=29112 |       |       |      |             |
| 22                               | 2.179513 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 50436 > https [ACK] Seq=1 Ack=1 Win=29312 Len=0 TSval=404694 TSecr=29112                           |       |       |      |             |
| 23                               | 2.179847 | 192.168.1.20  | 207.241.224.2 | TLV1.2   | 298    | Client Hello   |       |       |      |             |
| 24                               | 2.419599 | 207.241.224.2 | 192.168.1.20  | TCP      | 66     | https > 50436 [ACK] Seq=1 Ack=233 Win=30080 Len=0 TSval=2919852018 TSecr=29112                     |       |       |      |             |
| 25                               | 2.423480 | 207.241.224.2 | 192.168.1.20  | TLV1.2   | 1506   | Server Hello   |       |       |      |             |
| 26                               | 2.423498 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 50436 > https [ACK] Seq=233 Ack=1441 Win=32128 Len=0 TSval=404755 TSecr=29112                      |       |       |      |             |
| 27                               | 2.426713 | 207.241.224.2 | 192.168.1.20  | TCP      | 1506   | [TCP segment of a reassembled PDU]   |       |       |      |             |
| 28                               | 2.426723 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 50436 > https [ACK] Seq=233 Ack=2881 Win=35072 Len=0 TSval=404756 TSecr=29112                      |       |       |      |             |
| 29                               | 2.430193 | 207.241.224.2 | 192.168.1.20  | TCP      | 1282   | [TCP segment of a reassembled PDU]   |       |       |      |             |
| 30                               | 2.430204 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 50436 > https [ACK] Seq=233 Ack=4097 Win=37888 Len=0 TSval=404757 TSecr=29112                      |       |       |      |             |
| 31                               | 2.433137 | 207.241.224.2 | 192.168.1.20  | TLV1.2   | 1506   | Certificate  |       |       |      |             |
| 32                               | 2.433147 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 50436 > https [ACK] Seq=233 Ack=5537 Win=40832 Len=0 TSval=404758 TSecr=29112                      |       |       |      |             |
| 33                               | 2.436159 | 207.241.224.2 | 192.168.1.20  | TLV1.2   | 1506   | Certificate Status   |       |       |      |             |
| 34                               | 2.436170 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 50436 > https [ACK] Seq=233 Ack=6977 Win=43776 Len=0 TSval=404758 TSecr=29112                      |       |       |      |             |
| 40                               | 2.664350 | 207.241.224.2 | 192.168.1.20  | TLV1.2   | 71     | Server Hello Done  |       |       |      |             |
| 41                               | 2.664378 | 192.168.1.20  | 207.241.224.2 | TCP      | 66     | 50436 > https [ACK] Seq=233 Ack=6982 Win=43776 Len=0 TSval=404815 TSecr=29112                      |       |       |      |             |
| 42                               | 2.669144 | 192.168.1.20  | 207.241.224.2 | TLV1.2   | 192    | Client Key Exchange, Change Cipher Spec, Hello Request, Hello Request                              |       |       |      |             |
| 43                               | 2.669361 | 192.168.1.20  | 207.241.224.2 | TLV1.2   | 464    | Application Data   |       |       |      |             |