Annoyed Users:

Ads and Ad-Block Usage in the Wild

Enric Pujol
TU Berlin

Oliver Hohlfeld
RWTH Aachen

Anja Feldmann
TU Berlin
Obama to Announce Halt of U.S. Troop Withdrawal in Afghanistan

BY MATTHEW TODD ROSSER

WASHINGTON — The United States will halt its military withdrawal from Afghanistan and instead keep thousands of troops in the country through the end of 2014, President Obama announced on Thursday, prolonging the American role in a war that has now stretched on for 13 years.

The president’s decision to keep troops in Afghanistan is an attempt to place through most of next year on the Afghan security forces’ transition plans before troops are due to withdraw at the end of next year in order to end the Afghan war in 2014.

Defense Secretary Leon E. Panetta, who met with Afghan leaders as part of the administration’s review of its war strategy, said that the council had decided to keep a small American combat force in Afghanistan until the end of 2014.

The American forces are now about 76,000, according to General John F. Campbell, the top American commander in Afghanistan.

After the council’s meeting, President Obama addressed the Afghan parliament and announced that the American forces would stay in Afghanistan for another year.

American forces are now about 76,000, according to General John F. Campbell, the top American commander in Afghanistan.

The council had met for the last time before the American commander had to leave for a meeting in Kabul to discuss the military strategy.

The American forces are now about 76,000, according to General John F. Campbell, the top American commander in Afghanistan.

The council had met for the last time before the American commander had to leave for a meeting in Kabul to discuss the military strategy.

The American forces are now about 76,000, according to General John F. Campbell, the top American commander in Afghanistan.

The council had met for the last time before the American commander had to leave for a meeting in Kabul to discuss the military strategy.
Annual digital ad revenue (billions of U.S. dollars)


Page Fair and Adobe report on Ad Blocking
Mozilla Add-on statistics
Publishers reaction

We notice you're using an ad-blocker. Perhaps you'll support us another way? Become a Supporter for just £50 per a year

Find out more ➔

The Guardian
Warum sehe ich BILD.de nicht?

Sie sehen diese Seite, weil Sie einen Adblocker eingeschaltet haben. Deaktivieren Sie diesen bitte für BILD.de, um unsere Artikel wieder lesen zu können.

BILD bietet Ihnen Nachrichten rund um die Uhr. Unsere 500 Reporter berichten für Sie aus aller Welt. Um das zu ermöglichen, sind wir auch auf Werbeeinnahmen angewiesen.

(Why can I not see BILD.de?)
Acceptable ads program (non-intrusive ads)

“We want to make the Internet better for everyone. Purging bad ads is a good start.”

White-listing within AdBlockPlus (ABP)
Our work

- Residential Broadband Network
- Online advertising
- Methodology based on AdBlockPlus
- Ad-blocker usage
- Characterize ad traffic
Adblock Plus Options

Enable only the filter lists you need. Too many can make your browser unresponsive.

Out-of-date lists are updated periodically.  

<table>
<thead>
<tr>
<th>Filter lists</th>
<th>Add your own filters</th>
<th>Whitelisted domains</th>
<th>General</th>
</tr>
</thead>
</table>
| × Enabled    | Adblock Warning Removal List  
Last updated at 8:26:16 PM on 10/14/2015 |
| × Enabled    | EasyList  
Last updated at 7:39:50 PM on 10/13/2015 |

+ Add filter subscription

√ Allow some non-intrusive advertising  
View list  
Read more
Adblock Plus Options

Filter lists
- Add your own filters
- Whitelisted domains

Filter lists:
- Adblock Warning Removal List Last updated at 6:26:16 PM on 10/14/2015
- EasyList Last updated at 7:39:50 PM on 10/13/2015

Out of date lists are updated periodically. ▪️ Update now

Please choose a filter subscription from the list:
- EasyList (English)
- EasyList (English)
- EasyList (Bahasa Indonesia)
- Bulgarian list+EasyList (български)
- EasyList China+EasyList (Chinese)
- EasyList Czech and Slovak+EasyList (čeština, slovenčina)
- EasyList Dutch+EasyList (Nederlands)
- EasyList Germany+EasyList (Deutsch)
- EasyList Hebrew+EasyList (עברית)
- EasyList Italy+EasyList (Italiano)
- EasyList Lithuanian+EasyList (lietuvių kalba)
- Latvian List+EasyList (latviešu valoda)
- Liste AR+Liste FR+EasyList (العربية)
- Liste FR+EasyList (français)
- ROList+EasyList (românesc)
- RuAdList+EasyList (русский, украинська)

Add a different subscription...

EasyPrivacy

EasyPrivacy is an optional supplementary subscription that completely removes all forms of tracking from the internet, including web bugs, tracking scripts and information collectors, thereby protecting your personal data.

Add EasyPrivacy to Adblock Plus  View EasyPrivacy
Is this information available in HTTP header traces?
||ads.example.com $ script, image, domain=foo.com
ads.example.com \^ \$ script, image, domain=foo.com

HTTP logs
Bro IDS
ads.example.com $ script, image, domain=foo.com

HTTP logs
Bro IDS

Map Web Pages
ReferrerMap
Classify requests
libadblockplus + filter lists

HTTP logs
Bro IDS

Map Web Pages
ReferrerMap

ads.example.com ^ $ script, image, \( \text{domain}=\text{foo.com} \)
Limitations

HTTP logs → HTTPS traffic
          → Content-Type

Referrer Map → Web page

Classification → Hidden ads (CSS)
                → List sanity
Ad-blocker usage indicators

- Any ad-blocker
  - Low ratio of ad requests
    - Caveat: ad-free content
- AdBlock Plus
  - Easylist updates
    - Caveat: HTTPS + NATs

How to find a suitable threshold?
## Active measurements

<table>
<thead>
<tr>
<th>Browser Mode</th>
<th>#HTTP</th>
<th>ad-requests ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vanilla</td>
<td>57.8K</td>
<td>16 %</td>
</tr>
<tr>
<td>Adblock Plus + all lists</td>
<td>48.5K</td>
<td>&lt;0.1 %</td>
</tr>
</tbody>
</table>

Values for the complete set of Alexa top 1K

28.10.2015
When can we apply ad-ratio indicator?

At least 1K requests. Set threshold to 5%
## Data sets

<table>
<thead>
<tr>
<th>Trace</th>
<th>RBN-1</th>
<th>RBN-2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>4 days</td>
<td>15 and ½ hours</td>
</tr>
<tr>
<td><strong>Subscribers</strong></td>
<td>7.5 K</td>
<td>19.7 K</td>
</tr>
<tr>
<td><strong>HTTP_bytes</strong></td>
<td>18.8 TB</td>
<td>11.4 TB</td>
</tr>
<tr>
<td><strong>HTTP_requests</strong></td>
<td>131.95 M</td>
<td>85.09 M</td>
</tr>
<tr>
<td>Characterize ad traffic</td>
<td></td>
<td>Assess ad-blocker prevalence</td>
</tr>
</tbody>
</table>
How much ad-related traffic?

- Ad-related traffic
- EasyList and derivatives (55%)
- EasyPrivacy (35%)
- Acceptable ads (10%)
- Black-listed (57%)
How many ABP-capable browsers?

- 500K pairs <IP, UserAgent>
- Heavy hitters
- 1.6K unique UserAgent strings
- Known browsers
- 9.2 K users

Requests:
- 50 % (all)
- 72 % (ads)

- Firefox: 33 %
- Chrome: 24 %
- Safari: 15 %
- Mobile: 21 %
- IE: 7 %

28.10.2015
Browsers with no evidence of an adblocker:

46% of the ad traffic
Inconsistent indicators

a) various users in the same household
Inconsistent indicators

a) different plugin, or b) ad-free content
Evidence of Adblock Plus for 22% of the users
Still generate ad traffic!
Most AdBlockPlus users do not change default settings
Summary

Can we use existing functionality to classify ad traffic?

Yes, we can! (but limitations apply)
Summary

Can we use existing functionality to classify ad traffic?

Yes, we can! (but limitations apply)

Which traffic is potentially affected by Adblock Plus?

~18% requests and ~1% HTTP bytes

Google, CDNs, Cloud Providers and dedicated ASes

10% of the ad-related traffic is white listed
Summary

Can we use existing functionality to classify ad traffic?

Yes, we can! (but limitations apply)

Which traffic is potentially affected by Adblock Plus?

~18% requests and ~1% HTTP bytes

Google, CDNs, Cloud Providers and dedicated ASes

10% of the ad-related traffic conforms Acceptable Ads

Can we measure how end users adopt ad-block plugins?

Yes, in our traces ~20% of users

Out-of-the-box i.e., acceptable ads / no EasyPrivacy
Thank you!

Can we use existing functionality to classify ad traffic?

Yes, we can! (but limitations apply)

Which traffic is potentially affected by Adblock Plus?

~18% requests and ~1% HTTP bytes

Google, CDNs, Cloud Providers and dedicated ASes

10% of the ad-related traffic conforms Acceptable Ads

Can we measure how end users adopt ad-block plugins?

Yes, in our traces ~20% of users

Out-of-the-box i.e., acceptable ads / no EasyPrivacy