

Protection from Web tracking via browsers & browser extensions

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Plugins and extensions (add-ons)

- **Plugins** were created to render the content not supported by the browser
- **Extensions (add-ons)** add or modify the default behavior of the browsers
- AdBlock Plus LastPass Pinterest

• Flash



Java



LastPass...



Extensions for privacy protection

- Extensions “**ad-blocking**”
 - Block visible advertisements
- Extensions “**tracking-blocking**”
 - Block invisible tracking
 - ✓ Example : request for an invisible image with third-party cookies



Ad-blocking ≠ tracking-blocking!

« Ad-blocking » extensions

- AdBlock



AdBlock Plus

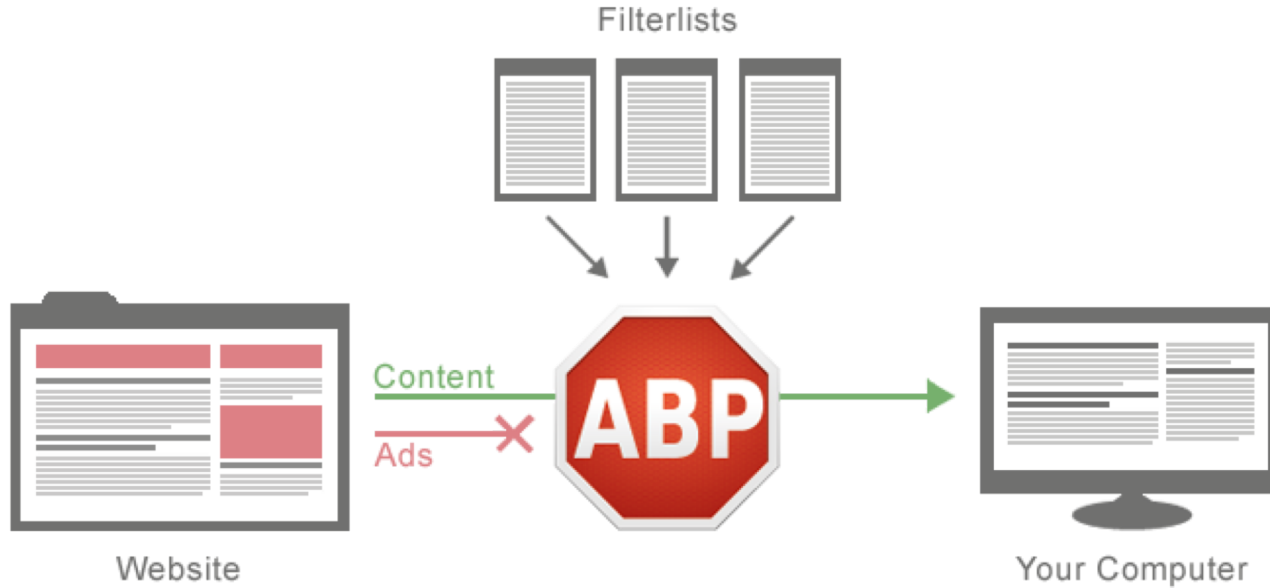


uBlock Origin



- Use the same consumer lists that detect ad companies
- Block requests to domains presented in the lists

How does AdBlock Plus work?



<https://adblockplus.org/about>

Configuration of AdBlock Plus

The image shows the AdBlock Plus settings interface. On the left is a sidebar with the ABP logo, the title 'Adblock Plus Settings', and navigation links for 'General', 'Whitelisted websites', 'Advanced', and 'Help'. A 'CONTRIBUTE' button and a link to 'About Adblock Plus' are also present. The main content area is titled 'General' with the subtitle 'Determine what Adblock Plus shows and hides on websites'. It contains two sections: 'PRIVACY & SECURITY' with two unchecked checkboxes for 'Block additional tracking' and 'Block social media icons tracking', and 'ACCEPTABLE ADS' with a checked checkbox for 'Allow Acceptable Ads'. A red arrow points from a callout box to the checked checkbox. The callout box contains the text 'Certain “acceptable ads” are still allowed'. Below the 'Allow Acceptable Ads' checkbox is a link to 'Read more about the Acceptable Ads criteria' and another unchecked checkbox for 'Only allow ads without third-party tracking' with a 'NEW' tag.

General

Determine what Adblock Plus shows and hides on websites

PRIVACY & SECURITY

- ☐ Block additional tracking ?
- ☐ Block social media icons tracking ?

ACCEPTABLE ADS

☒ **Allow Acceptable Ads**

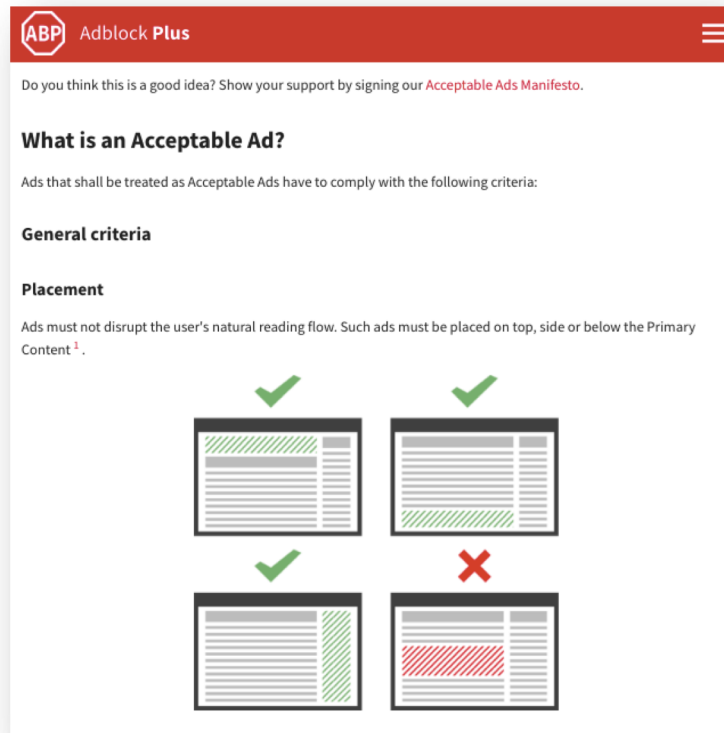
Acceptable Ads are nonintrusive ads. They are the middle ground between ad blocking and supporting content that generates revenue for the website owner.

Acceptable Ads are not annoying and do not interfere with the content you are viewing. [Read more about the Acceptable Ads criteria](#)

☐ Only allow ads without third-party tracking **NEW**

Certain “acceptable ads” are still allowed

Which ads are « acceptable »?



The screenshot shows the Adblock Plus website with a red header. Below the header, there is a link to the 'Acceptable Ads Manifesto'. The main section is titled 'What is an Acceptable Ad?' and explains that ads must comply with certain criteria. Under 'General criteria', the 'Placement' section states that ads must not disrupt the user's natural reading flow and should be placed on top, side, or below the primary content. Below this text, four diagrams illustrate acceptable and unacceptable ad placements. The first three diagrams (top-left, top-right, and bottom-left) show ads in non-disruptive positions (top, side, or bottom) and are marked with green checkmarks. The fourth diagram (bottom-right) shows an ad placed in the middle of the text, disrupting the reading flow, and is marked with a red X.

ABP Adblock Plus

Do you think this is a good idea? Show your support by signing our [Acceptable Ads Manifesto](#).

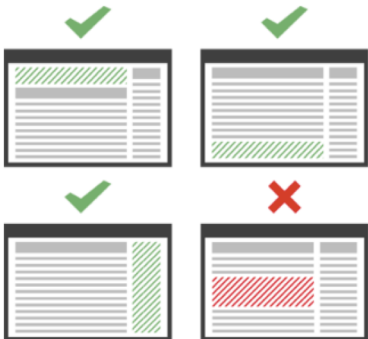
What is an Acceptable Ad?

Ads that shall be treated as Acceptable Ads have to comply with the following criteria:

General criteria

Placement

Ads must not disrupt the user's natural reading flow. Such ads must be placed on top, side or below the Primary Content ¹.



- An action initiated by Eyeo (Ad Block owner)
- Which **ad is acceptable** ?
 - Well-placed, well-identified, not too big size...
- Large entities **have to pay** to show the ads even if their ads are already « acceptable »!

Configuration of AdBlock Plus

The image shows the AdBlock Plus settings interface. On the left is a sidebar with the ABP logo, 'Adblock Plus Settings', and navigation links for 'General', 'Whitelisted websites', 'Advanced', 'Help', 'CONTRIBUTE', and 'About Adblock Plus'. The main content area is titled 'General' with the subtitle 'Determine what Adblock Plus shows and hides on websites'. It contains three sections: 'PRIVACY & SECURITY' with checkboxes for 'Block additional' and 'Block social med'; 'ACCEPTABLE ADS' with a checked 'Allow Acceptable Ads' option and an unchecked 'Only allow ads without third-party tracking' option; and a description of acceptable ads. Two red callout boxes are present: one pointing to the 'Block additional' checkbox with the text 'Tracking is not blocked by default!', and another pointing to the 'Allow Acceptable Ads' section with the text 'Ad-blocking ≠ tracking-blocking!'.

General

Determine what Adblock Plus shows and hides on websites

PRIVACY & SECURITY

- ☐ Block additional
- ☐ Block social med

ACCEPTABLE ADS

☒ **Allow Acceptable Ads**

Acceptable Ads are not annoying and do not interfere with the content you are viewing. [Read more about the Acceptable Ads criteria](#)

☐ **Only allow ads without third-party tracking** NEW

[Learn more](#)

Acceptable Ads are nonintrusive ads. They are the middle ground between ad blocking and supporting online content because they generate revenue for website owners.

Tracking is not blocked by default !

Ad-blocking ≠ tracking-blocking!

Ad-blocking ≠ tracking-blocking!



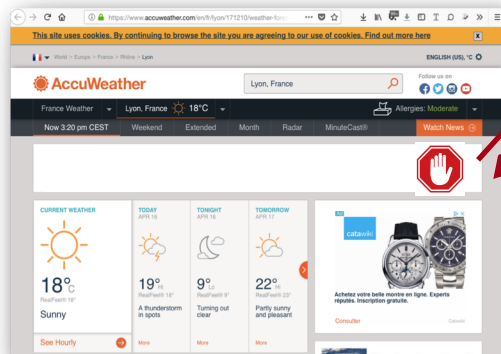
- Extensions block ads but **do not block all the tracking**



cookies stockés

tracker.com: id=123

http://accuweather.com



cookie: id=123

tracker.com

9h25, 27 june 2018 :
user 123 likes



10h00, 30 june 2018 :
user 123 visited
accuweather.com

profil

Tracking-blocking extensions

- How to detect a tracker ?
- Solution 1 : use **a liste of known companies** for tracking
- Solution 2 : use **rules based on the behaviour** of potential trackers
 - Example : third-party content that sets third-party cookies with a unique identifier

```
"Facebook": {  
  "http://www.facebook.com/": [  
    "facebook.com",  
    "facebook.de",  
    "facebook.fr",  
    "facebook.net",  
    "fb.com",  
    "atlassolutions.com",  
    "friendfeed.com"  
  ]  
}
```

Tracking-blocking extensions

- Extensions use **their own lists of known companies** for tracking

Disconnect



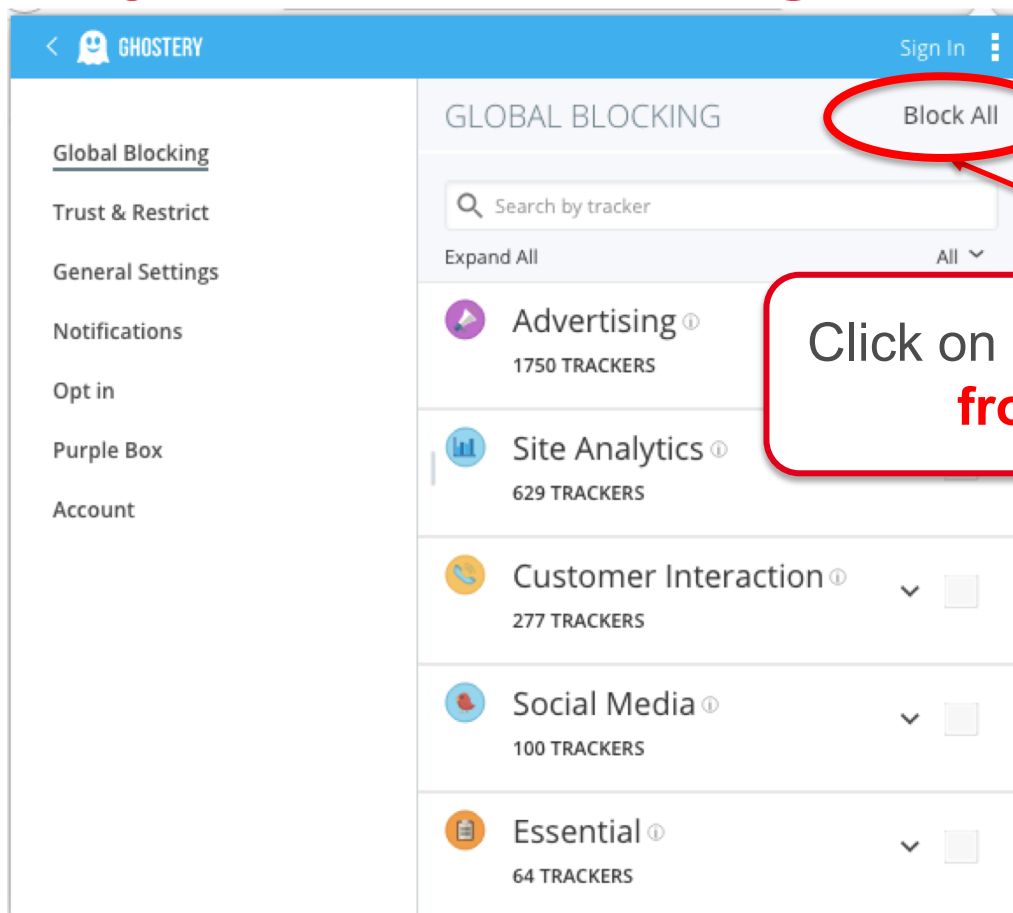
- Blocks from tracking upon installation

Ghostery



- **Doesn't block from tracking by default!**

Ghostery: activate blocking of trackers



Click on “Block All” to be protected from known trackers!

Tracking-blocking extensions

- One extension uses **rules based on the behaviour** of potential trackers

Privacy Badger



- How to detect cookies that contain an identifier?
 - Solution : find third-party cookies that are never shared between the users

Do browser extensions block all trackers?

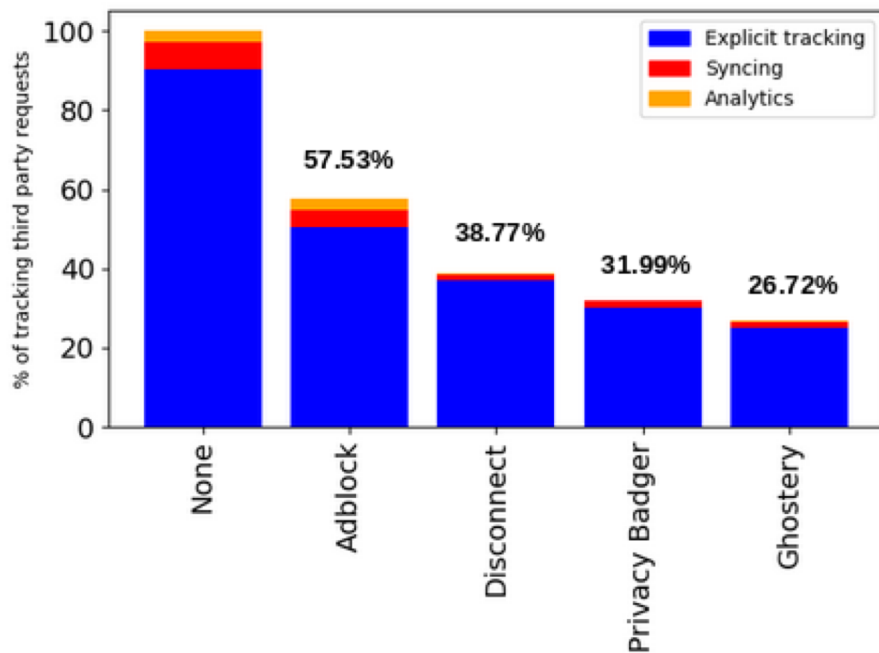


Fig. 12. Third party requests allowed by privacy protecting browser extensions out of 4,519,975 tracking requests.

Do browser extensions block all trackers?

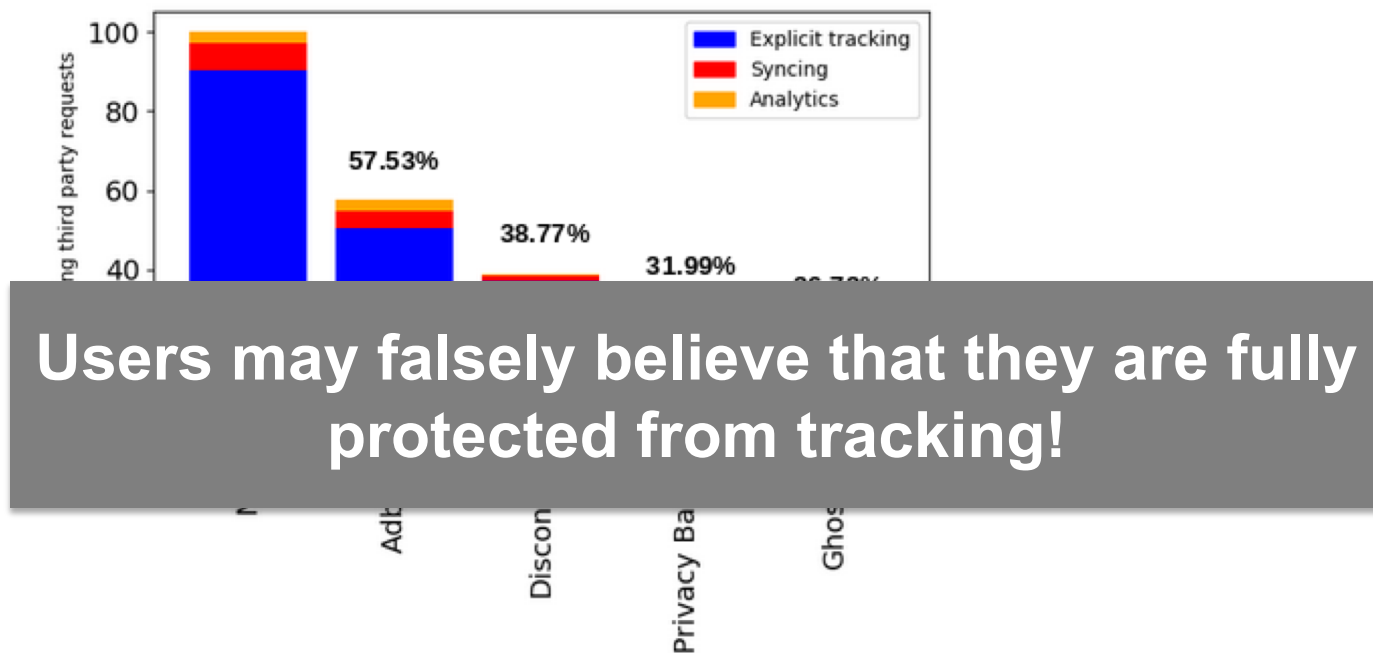


Fig. 12. Third party requests allowed by privacy protecting browser extensions out of 4,519,975 tracking requests.

Firefox uses the same protection as Disconnect



General

Home

Search

Privacy & Security

Firefox Account

Tracking Protection

Tracking Protection blocks online trackers that collect your browsing data across multiple websites. [Learn more about Tracking Protection and your privacy](#)

Use Tracking Protection to block known trackers

☒ Always

☐ Only in private windows

☐ Never

Exceptions...

Change Block List...

- **Firefox uses the same list of known trackers** as Disconnect
- No need to install Disconnect with Firefox if tracking protection is always on!

Browsers with integrated tracking protection

Brave



- **Third-party cookies are blocked** upon installation
- Tracking protection by **lists of** AdBlock et Disconnect

<https://brave.com/index/>

Cliqz



- **Third-party cookies are blocked** upon installation
- Tracking protection based on **the behaviour of third-party requests**

<https://cliqz.com/fr/>

What about Private browsing mode?



You've gone incognito

Pages you view in incognito tabs won't stick around in your browser's history, cookie store, or search history after you've closed all of your incognito tabs. Any files you download or bookmarks you create will be kept.

However, you aren't invisible. Going incognito doesn't hide your browsing from your employer, your internet service provider, or the websites you visit.

[LEARN MORE](#)



Private Browsing with Tracking Protection

When you browse in a Private Window, Firefox **does not save**:

- visited pages
- searches
- cookies
- temporary files

Firefox **will save** your:

- bookmarks
- downloads

Private Browsing **doesn't make you anonymous** on the Internet. Your employer or Internet service provider can still know what page you visit.



Tracking Protection ☒

Some websites use trackers that can monitor your activity across the Internet. With Tracking Protection Firefox will block many trackers that can collect information about your browsing behavior.

[See how it works](#)

How Private mode works?

- browsing history
- cookies
- searches
- ...

are stored only in the current separate “session”



Private mode is not so private...

- **Browsing profile can be merged** with non-private session
 - if you log in inside and outside of private mode
 - if you visit websites that use browser fingerprinting

In general, private browsing mode **does not protect** from tracking!

Conclusion

- **Ad-blocking ≠ tracking-blocking!**
 - Extensions that block ads do not necessarily block tracking
- **Installation ≠ protection**
 - Always double-check that all the protecting options are chosen!
- **Advices to protect from stateful tracking:**
 - Browsers that protect by default (Brave, Cliqz)
 - Browsers with protection integrated (Firefox)
 - Combination of various extensions extensions (Disconnect, Ghostery, Privacy Badger)

