

DO! NOT! TRACK!

measures against commercial surveillance
for Firefox

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status: 2014-12-29

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PGP Key-ID: 0xA2A97D7D, 4096R, 2013-12-08

0B4C DF2C CB22 5DF4 25EA F212 49D1 ABF2 A2A9 7D7D

Dedicated to Mr. Edward Snowden

Why commercial surveillance (tracking)?

→ *For Money!*

- Get to know the users
- Create detailed person profiles (job, age, *buying power*, hobbies, politics, pregnancy ...)
- sell profiles to advertisement companies
- higher conversion rate with targeting
- higher prices for targeted ads

→ Conversion tracking



(Potential) Problems

- Profiling, Scoring
- Deanononymisation
- Trade with person profiles (like stocks)
- insurances (tailored premiums)
- banks (tailored credit interests)
- employers (candidate screening)
- differential pricing
- political parties (election campaigns)

Webtracking annoys and prolongates the time to load the page

Here: Measures against commercial surveillance, **NOT** governmental spying!

Increase the surveillance cost, worsen the cost/benefit ratio of the webtrackers.

Highest surveillance cost: Tor Network, but problems with exits (“spoiled onions”)

New Firefox profile for playing around

Win7: {Windows-key + R}, “firefox.exe -p”

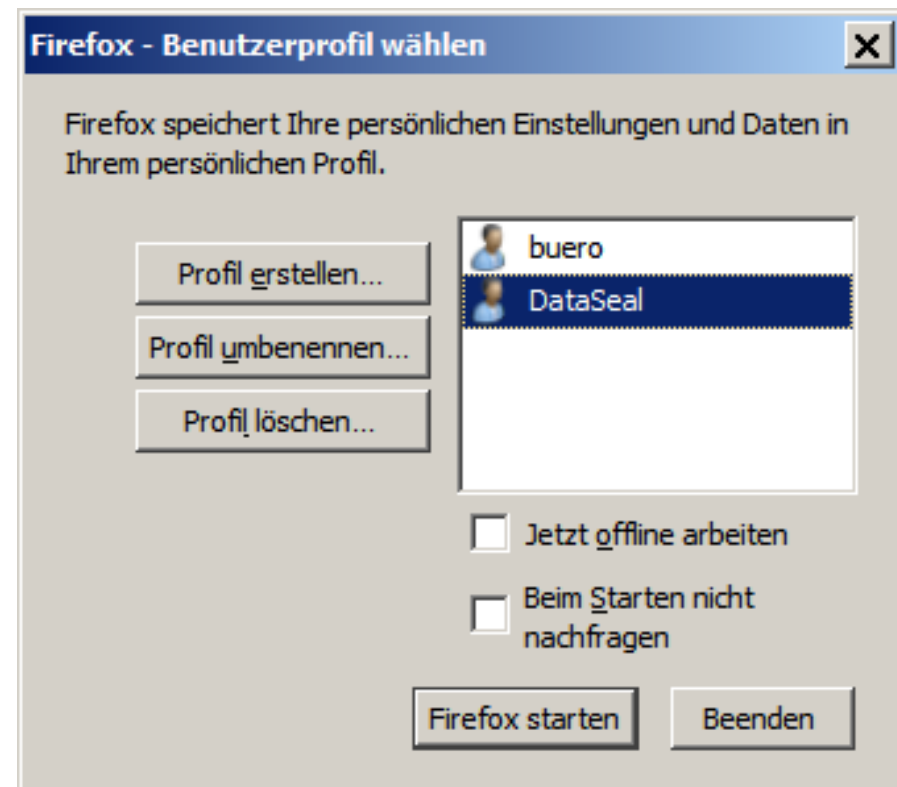
C:\Users\USER\AppData\Roaming\Mozilla\Firefox\Profiles

Linux: Open terminal,
run “firefox -p”

/home/USER/.mozilla/firefox

OS X: open terminal

/Applications/Firefox.app/
Contents/MacOS/firefox-bin
--profilemanager



Cookies

(+) Small textfiles to identify the browser during login sessions, e. g. online banking (e. g. 1st party cookie from banksite.com)

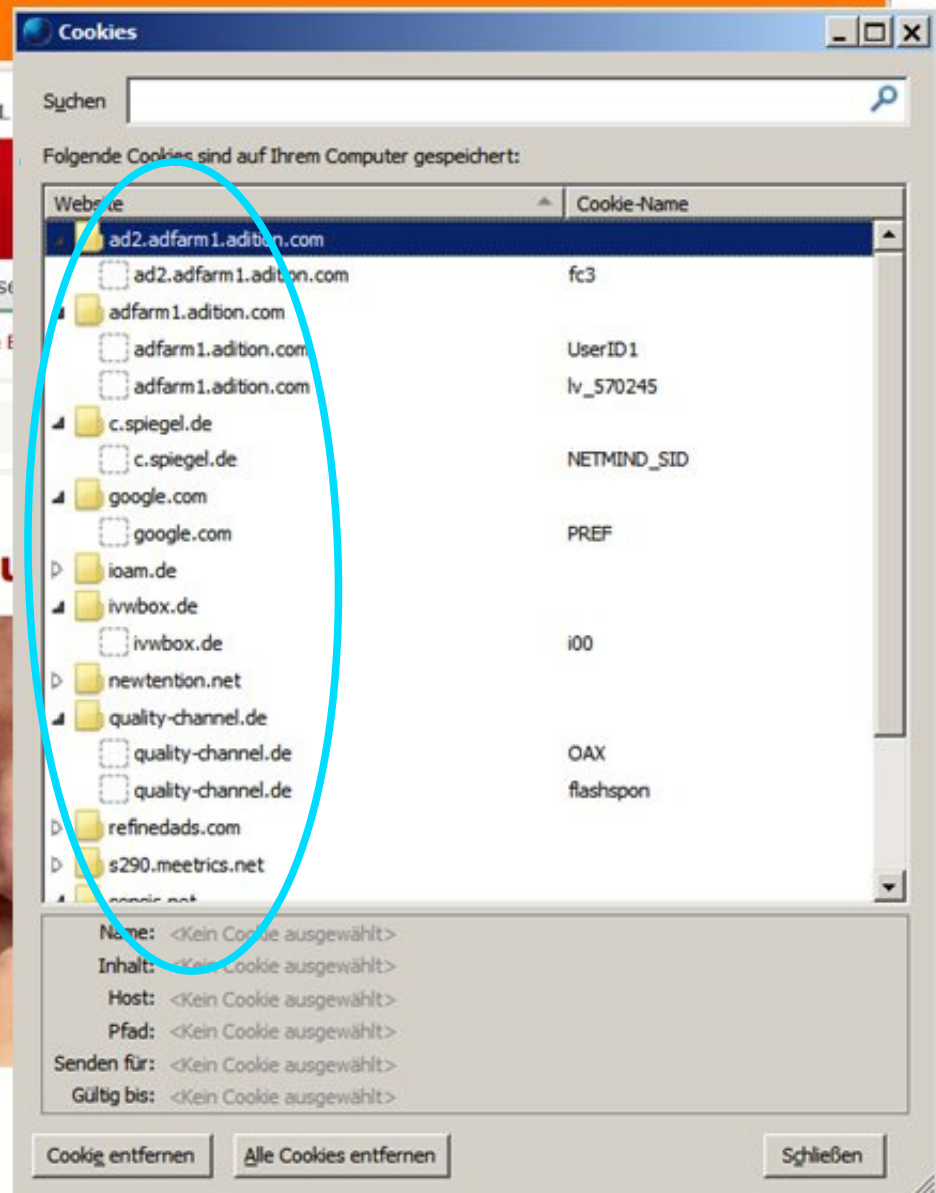
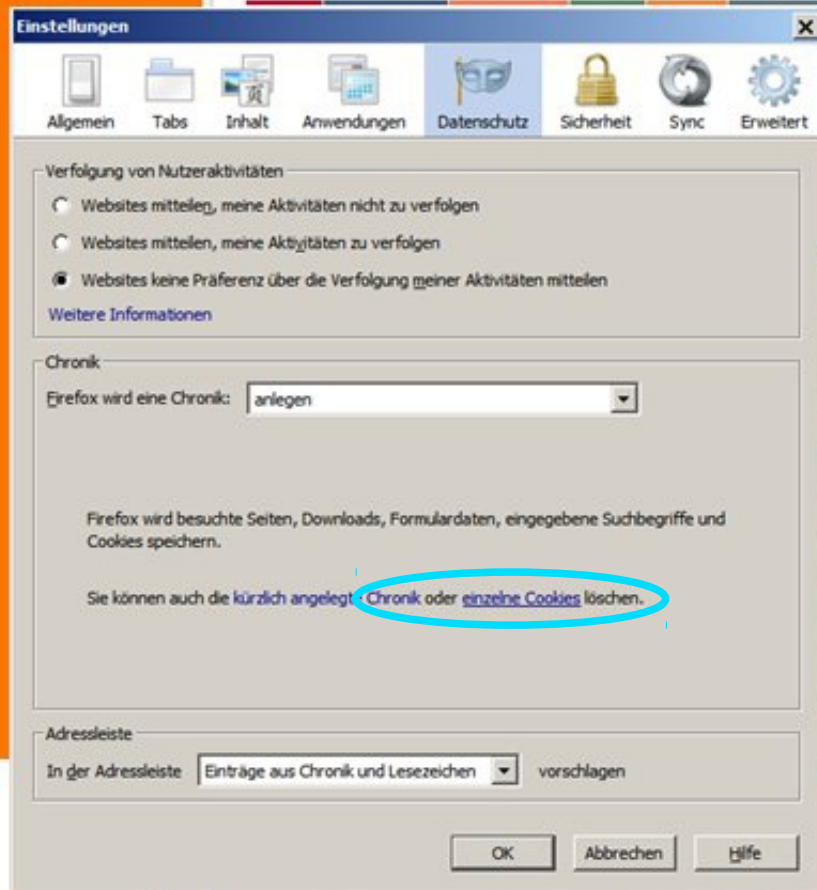
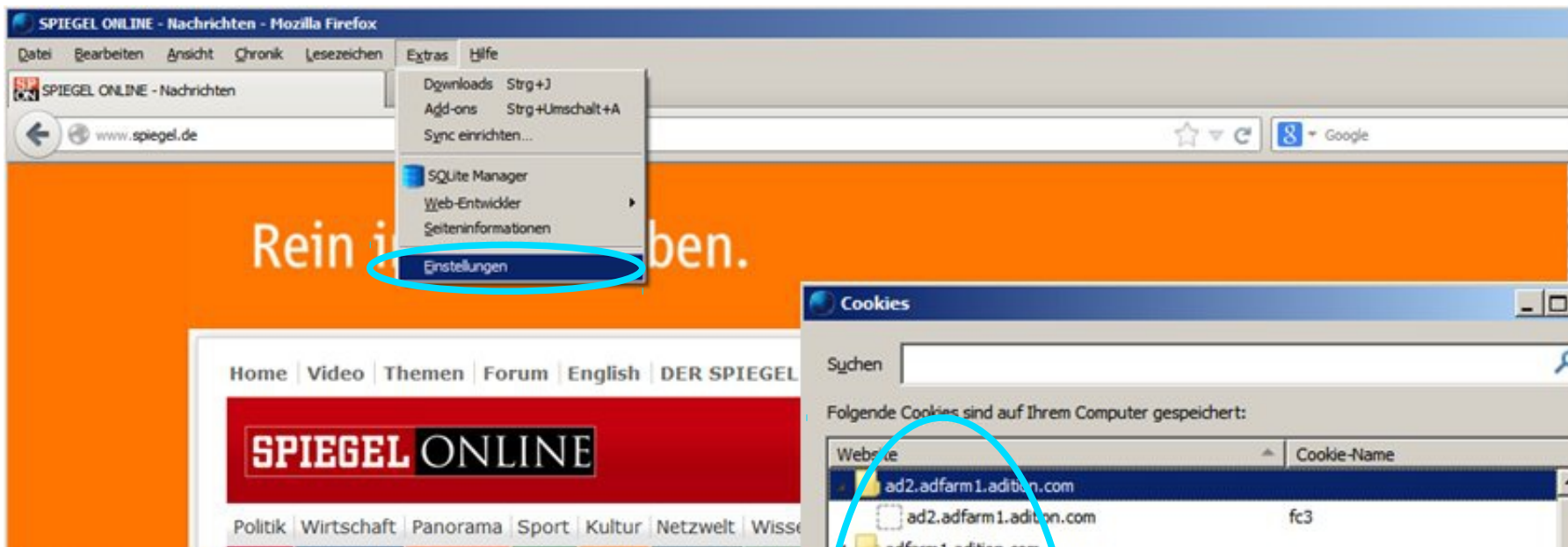
(-) Misuse for tracking, especially 3rd party cookies (almost everything else).

=> Google cookies used by NSA for identification purposes

Soltani A., 2013-12-10

NSA uses Google cookies to pinpoint targets for hacking

<http://www.washingtonpost.com/blogs/the-switch/wp/2013/12/10/nsa-us>

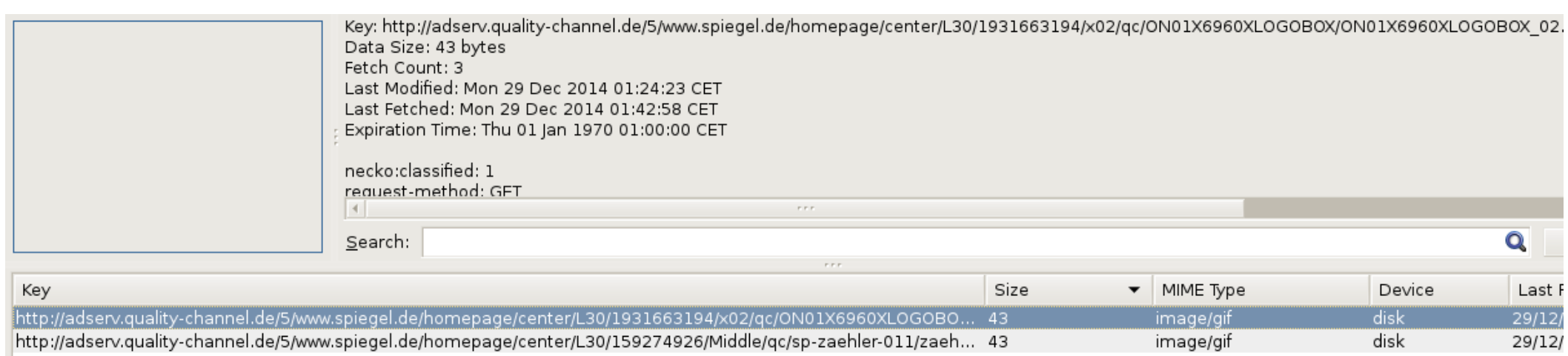


Graphic files in the hard disk cache

(+) Local storage of big pictures, reduction of used bandwidth (in times of modem and ISDN)

(-) Misuse for tracking, storage of individual, invisible tracking pixels

AddOn CacheViewer



The screenshot displays the AddOn CacheViewer application. On the left, there is a large, empty rectangular area representing the cache content. To its right, a text box provides details for the selected item:

Key: http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/1931663194/x02/qc/ON01X6960XLOGOBX/ON01X6960XLOGOBX_02...
Data Size: 43 bytes
Fetch Count: 3
Last Modified: Mon 29 Dec 2014 01:24:23 CET
Last Fetched: Mon 29 Dec 2014 01:42:58 CET
Expiration Time: Thu 01 Jan 1970 01:00:00 CET

Below this, the following information is displayed:

necko:classified: 1
request-method: GET

A search bar is located below the text box, with the label "Search:" and a magnifying glass icon.

At the bottom, a table lists the cached files:

Key	Size	MIME Type	Device	Last F
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/1931663194/x02/qc/ON01X6960XLOGOBX/ON01X6960XLOGOBX_02...	43	image/gif	disk	29/12/
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/159274926/Middle/qc/sp-zaehler-011/zaeh...	43	image/gif	disk	29/12/

Flash Cookies

Stored via Flash Plugin

<http://samy.pl/evercookie>

paths:

Linux

~/.macromedia/Flash_Player/#SharedObjects

~/.macromedia/Flash_Player/macromedia.com/support/flashplayer/sys

Mac

~/Library/Preferences/Macromedia/Flash Player/#SharedObjects

~/Library/Preferences/Macromedia/Flash Player/macromedia.com/support/flashplayer/sys

Windows

%APPDATA%\Macromedia\Flash Player\#SharedObjects

%APPDATA%\Macromedia\Flash Player\macromedia.com\support\flashplayer\sys

Device Fingerprinting

Combination of multiple characteristics of browser, OS and hardware components

→ Probability for 2nd machine with identical dataset (“fingerprint”) = 0

Mandatory data via http protocol

<http://www.xav.com/env.pl>

JavaScript (JS): Optional sending of additional data

(+) . Animations

- . Interactive content (drag&drop, appearing calendars on mouseclick)

(-) . UserAgent (additional to http!)

- . details operating system
- . list plugins (Flash, Java ...)
- . activation of plugins

<https://amiunique.org>

<http://browserspy.dk>

http://browserspy.dk/useragent.php
http://browserspy.dk/browser.php

UserAgent from header	Mozilla/5.0 (X11; Linux i686; rv:26.0) Gecko/20100101 Firefox/26.0
User Agent from JavaScript	Mozilla/5.0 (X11; Linux i686; rv:26.0) Gecko/20100101 Firefox/26.0
Browser string	Mozilla/Netscape 6.x
Operating System	Linux/Unix
Browser name	Yes - version firefox
Browser version	Yes - version 26

navigator.userAgent	Mozilla/5.0 (X11; Linux i686; rv:26.0) Gecko/20100101 Firefox/26.0 . More info...
navigator.oscpu	Linux i686 . More info...
navigator.platform	Linux i686
navigator.securityPolicy	Property is not supported! navigator.securityPolicy is not a string. It's a undefined . More info...
navigator.onLine	true . More info...
Info browser.name	firefox
Info browser.version	26.0

http://jsfiddle.net/ln9cd/4 , IP instead of proxy

Edit fiddle - JSFiddle - Mozilla Firefox

http://jsfiddle.net/ln9cd/4/

JSFIDDLE

Run Update Fork TidyUp JSHint Collaboration Share Login/Sign up

Frameworks & Extensions

No-Library (pure JS)

No wrap - in <head>

Fiddle Options

External Resources 1

Languages

Ajax Requests

Legal, Credits and Links

HTML

```
1 <body onload="go()">
2 <div id="container">
3   <p>The script on this page will attempt to
4     find your local ip addresses, using HTML5 WebRTC,
5     and then use that info to probe for other live
6     hosts on your lan(s).</p>
7   <p>As provided it should work with Chrome and
8     Firefox on Windows and OS X. Chromium on Linux
9     does not work, Firefox reportedly does.</p>
```

CSS

```
1 body {
2   font-family: 'Open Sans', Helvetica, Arial,
3   FreeSans;
4   font-size: 12pt;
5   color: #666;
6   margin-top: 40px;
7   text-align: center;
8 }
9 #container {
```

JavaScript

```
1 function TaskController(numConcurrent, onDone) {
2   this.numConcurrent = numConcurrent;
3   this.onDone = onDone || function() {};
4   this.pending = 0;
5   this.queued = [];
6   this.checkTimer = -1;
7 }
8
9 TaskController.prototype.deferCheck = function() {
10  if (this.checkTimer != -1) return;
11  this.checkTimer = setTimeout(function() {
12    this.checkTimer = -1;
13    this.check();
14  }).bind(this), 0);
15 };
16
17 TaskController.prototype.check = function() {
18  if (this.pending < 1 && this.queued.length == 0)
19    return this.onDone();
20  while (this.pending < this.numConcurrent &&
21    this.queued.length > 0) {
22    try {
23      this.pending += 1;
24      setTimeout(function(task) {
25        task(function() {
26          this.pending -= 1;
27          this.deferCheck();
28        }).bind(this));
29      }.bind(this, this.queued.shift()), 0);
30    }
31  }
32 }
```

Result

The script on this page will attempt to find your local ip addresses, using HTML5 WebRTC and then use that info to probe for other live hosts on your lan(s).

As provided it should work with Chrome and Firefox on Windows and OS X. Chromium on Linux does not work, Firefox reportedly does.

See this post [http://.../security] for a discussion of the consequences of this exploitation.

Note that reloading the page tends to cause a lot of false positives.

Your local ips appear to be [redacted].108.48

Other boxes on the page will take some time to load.

Context Menu:

- About NoScript 2.6.8.1...
- Options...
- Allow Scripts Globally (dangerous)
- Allow all this page
- Temporarily allow all this page
- Blocked Objects
- Recently blocked sites
- Untrusted
- Allow togetherjs.com
- Temporarily allow togetherjs.com
- Allow google-analytics.com
- Temporarily allow google-analytics.com
- Allow pingdom.net
- Temporarily allow pingdom.net
- Forbid jshell.net
- Forbid jsfiddle.net

Keyboard shortcuts

Steth (session) buero

Plugins (Ctrl+Shift+A), example from office PC, Win 7, MS Office 2010

 Add-ons suchen

 Erweiterungen

 Erscheinungsbild

 Plugins

 Dienste

**Adobe Acrobat 10.1.8.24**
Adobe PDF Plug-In For Firefox and Netscape 10... [Mehr](#)

**Google Update 1.3.22.3**
Google Update [Mehr](#)

**Java Deployment Toolkit 7.0.450.18 ist bekannt dafür, Sicherheitsprobleme zu haben. Verwenden Sie das Plugin mit Vorsicht.** [Weitere Informationen](#)

**Java Deployment Toolkit 7.0.450.18 10.45.2.18**
NPRuntime Script Plug-in Library for Java(TM) D... [Mehr](#)

**Java(TM) Platform SE 7 U45 10.45.2.18**
Next Generation Java Plug-in 10.45.2 for Mozilla... [Mehr](#)

**Microsoft Office 2010 14.0.4761.1000**
The plug-in allows you to open and edit files usin... [Mehr](#)

**Microsoft Office 2010 14.0.4730.1010**
Office Authorization plug-in for NPAPI browsers [Mehr](#)

**Shockwave for Director 12.0.2.122**
Adobe Shockwave for Director Netscape plug-in,... [Mehr](#)

**Silverlight Plug-In 5.1.20913.0**
5.1.20913.0 [Mehr](#)

*Here w/o
Flash !*

Flash: Installed fonts of OS, and order of the fonts list

System Fonts	21.83+	3715497	esint10, Gentium Book Basic, Mm, FreeMono, Droid Sans, Century Schoolbook L, Gentium, Fohm Rb, STIXSizeTwoSym, Apeewcp, GentiumAlt, DejaVu Sans Mono, Droid Sans Mono, STIXSizeThreeSym, STIXIntegralsUpSm, OpenSymbol, Fzlzkesnn Bqguor, URW Palladio L, Zalurzjl, FreeSerif, rsfs10, STIXNonUnicode, URW Gothic L, Dingbats, URW Chancery L, msbm10, DejaVu Sans Light, Hurpbsh Zanal, STIXGeneral, cmr10, Yyouge, DejaVu Serif Condensed, STIXVariants, Pwebhzku, cmmi10, Gjsokeete Orazn, Liberation Sans Narrow, Symbol, Liberation Mono, STIXIntegralsD, Wlon Eqcoevn Tof, Liberation Serif, DejaVu Sans Condensed, STIXIntegralsUpD, Nimbus Sans L, DejaVu Sans, Lhaa Otcn, Xouzl Ppusisulm Tvfatbjb, Aegqiad, Standard Symbols L, Nimbus Mono L, cmex10, FreeSans, STIXSizeOneSym, Nimbus Roman No9 L, DejaVu Serif, Gentium Basic, Droid Serif, Liberation Sans, eufm10, STIXSizeFourSym, wasy10, Qkl Lwqvnwt, Exgauupjo, STIXIntegralsSm, STIXIntegralsUp, cmsy10, STIXSizeFiveSym, URW Bookman L, msam10 (via Flash)
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Panopticlick

Java: OS-Details (<http://ip-check.info>)

Win7 Office PC, Java turned on

List of network interfaces (24)	Back
Software Loopback Interface 1	
WAN Miniport (SSTP)	
WAN Miniport (L2TP)	
WAN Miniport (PPTP)	
WAN Miniport (PPPOE)	
WAN Miniport (IPv6)	
WAN Miniport (Network Monitor)	
WAN Miniport (IP)	
RAS Async Adapter	
WAN Miniport (IKEv2)	
Intel(R) 82567LM-2-Gigabit-Netzwerkverbindung	
Intel(R) 82574L-Gigabit-Netzwerkverbindung	
Teredo Tunneling Pseudo-Interface	
Microsoft-ISATAP-Adapter	
Microsoft-6zu4-Adapter	
Intel(R) 82567LM-2-Gigabit-Netzwerkverbindung-Kaspersky Lab NDIS 6 Filter-0000	
Intel(R) 82567LM-2-Gigabit-Netzwerkverbindung-QoS Packet Scheduler-0000	
Intel(R) 82567LM-2-Gigabit-Netzwerkverbindung-WFP LightWeight Filter-0000	
WAN Miniport (Network Monitor)-Kaspersky Lab NDIS 6 Filter-0000	
WAN Miniport (Network Monitor)-QoS Packet Scheduler-0000	
WAN Miniport (IP)-Kaspersky Lab NDIS 6 Filter-0000	
WAN Miniport (IP)-QoS Packet Scheduler-0000	
WAN Miniport (IPv6)-Kaspersky Lab NDIS 6 Filter-0000	
WAN Miniport (IPv6)-QoS Packet Scheduler-0000	
Installed fonts (857)	
Agency FB Bold	
Agency FB Bold	

MIME types: Allocation Filetype/Plugin

<http://browserspy.dk/mimetypes.php>

Win 7 Office PC, all plugins activated

MIME Type	Suffixes
Unknown type application/x-vnd.google.update3webcontrol.3	None
Unknown type application/x-vnd.google.oneclickctrl.9	None
Java Applet application/x-java-applet	None
JavaBeans application/x-java-bean	None
Unknown type application/x-java-vm	None
Unknown type application/x-java-applet;version=1.1.1	None
Unknown type application/x-java-bean;version=1.1.1	None
Unknown type application/x-java-applet;version=1.1	None
Unknown type application/x-java-bean;version=1.1	None
Unknown type application/x-java-applet;version=1.2	None
Unknown type application/x-java-bean;version=1.2	None
Unknown type application/x-java-applet;version=1.1.3	None
Unknown type application/x-java-bean;version=1.1.3	None
Unknown type application/x-java-applet;version=1.1.2	None
Unknown type application/x-java-bean;version=1.1.2	None
Unknown type application/x-java-applet;version=1.3	None
Unknown type application/x-java-bean;version=1.3	None

Unknown type application/x-java-applet;version=1.2.2	None
Unknown type application/x-java-bean;version=1.2.2	None
Unknown type application/x-java-applet;version=1.2.1	None
Unknown type application/x-java-bean;version=1.2.1	None
Unknown type application/x-java-applet;version=1.3.1	None
Unknown type application/x-java-bean;version=1.3.1	None
Unknown type application/x-java-applet;version=1.4	None
Unknown type application/x-java-bean;version=1.4	None
Unknown type application/x-java-applet;version=1.4.1	None
Unknown type application/x-java-bean;version=1.4.2	None
Unknown type application/x-java-applet;version=1.5	None
Unknown type application/x-java-bean;version=1.5	None
Unknown type application/x-java-applet;version=1.6	None
Unknown type application/x-java-bean;version=1.6	None
Unknown type application/x-java-applet;version=1.7	None
Unknown type application/x-java-bean;version=1.7	None
Unknown type application/x-java-applet;version=1.7.0_45	None
Unknown type application/x-java-bean;version=1.7.0_45	None

Unknown type application/x-java-applet;deploy=10.45.2	None
Unknown type application/x-java-applet;javafx=2.2.45	None
npctrl application/x-silverlight	scr
Unknown type application/x-silverlight-2	None
Acrobat Portable Document Format application/pdf	pdf
Adobe PDF in XML Format application/vnd.adobe.pdfxml	pdfxml
Adobe PDF in XML Format application/vnd.adobe.x-mars	mars
Acrobat Forms Data Format application/vnd.fdf	fdf
XML Version of Acrobat Forms Data Format application/vnd.adobe.xfdf	xfdf
Acrobat XML Data Package application/vnd.adobe.xdp+xml	xdp
Adobe FormFlow99 Data File application/vnd.adobe.xfd+xml	xfd
Acrobat Portable Document Format application/pdf	pdf
Adobe PDF in XML Format application/vnd.adobe.pdfxml	pdfxml
Adobe PDF in XML Format application/vnd.adobe.x-mars	mars
Acrobat Forms Data Format application/vnd.fdf	fdf
XML Version of Acrobat Forms Data Format application/vnd.adobe.xfdf	xfdf
Acrobat XML Data Package application/vnd.adobe.xdp+xml	xdp
Adobe FormFlow99 Data File application/vnd.adobe.xfd+xml	xfd
Shockwave Movie application/x-director	dir,dxr,dcr
SharePoint Plug-in for Firefox application/x-sharepoint	None
14.0.4730.1010 application/x-msoffice14	*

Identification numbers in HTTP request-header

GET /index.php?hotlinkingNotAllowed=23199470
&auth=605886283&jsID=11835879&referrer=true HTTP/1.1

HTTP Authentication

&auth= ...

JavaScript property identifier

&jsID= ...

HTTPS session tracking

Misuse of created https session, continuous renewal during 48 h

a) Tracking via Session Resumption

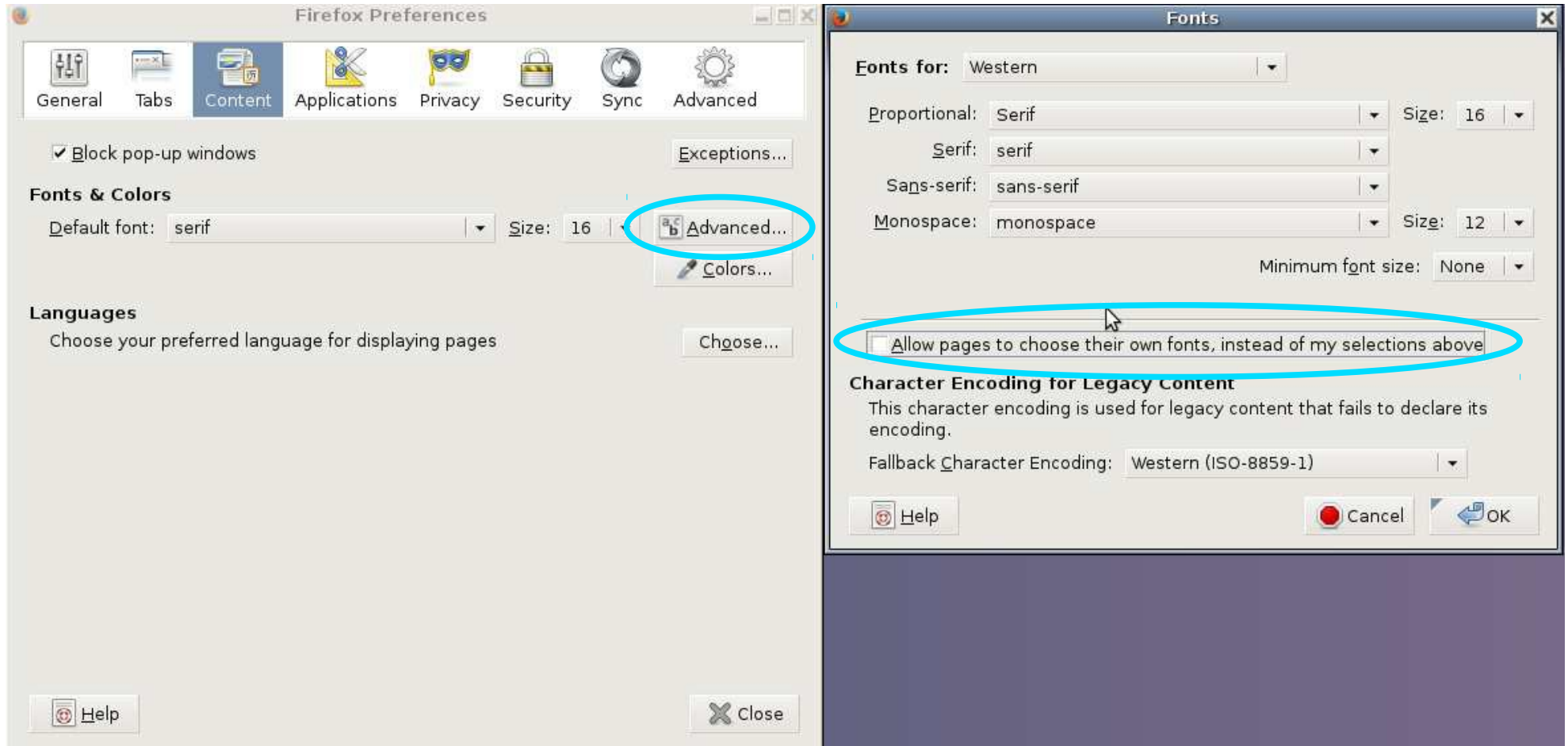
b) Tracking via SSL-Session-ID

→ Both variants actually used

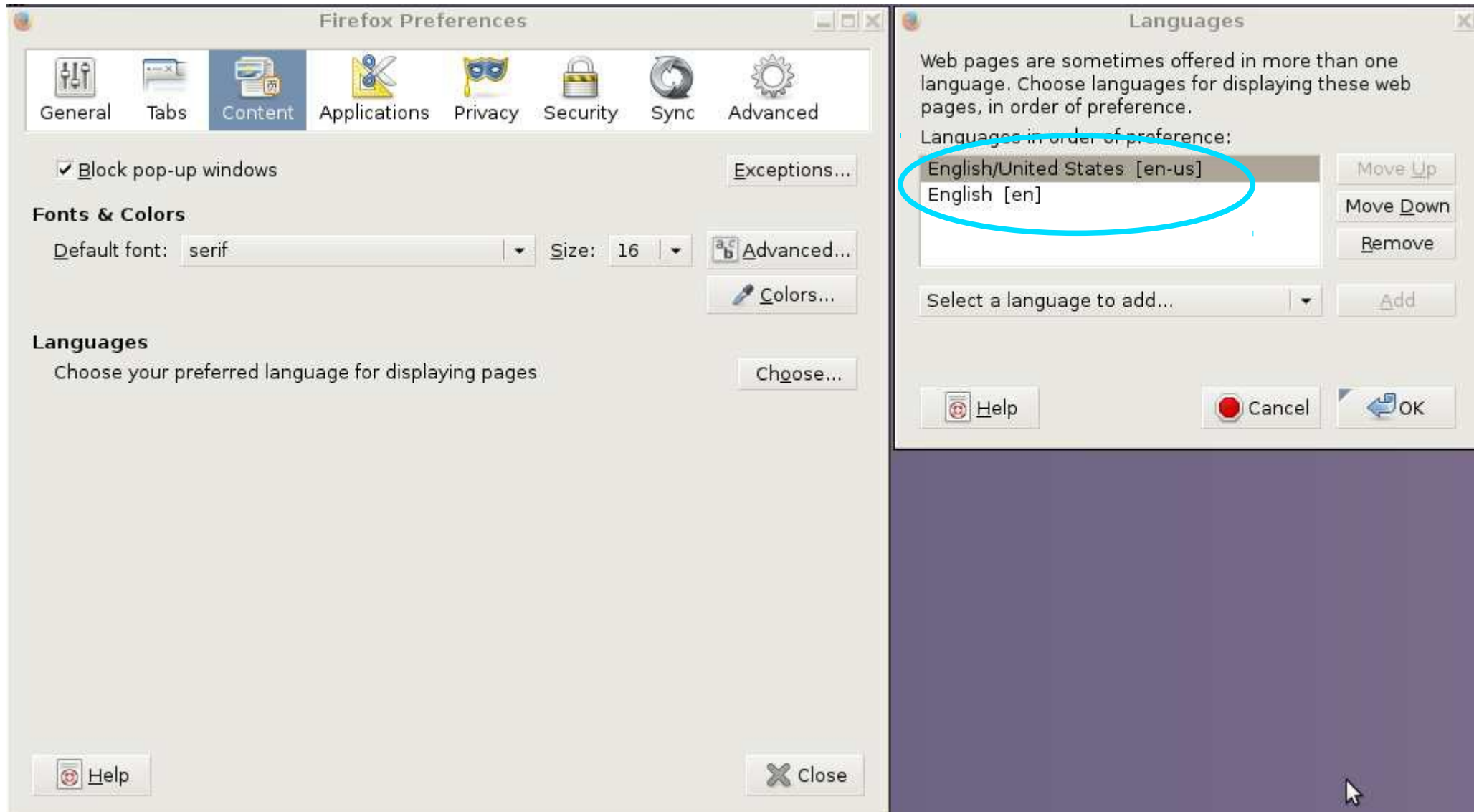
+ Tracking from CA via OCSP cookie

Countermeasures:

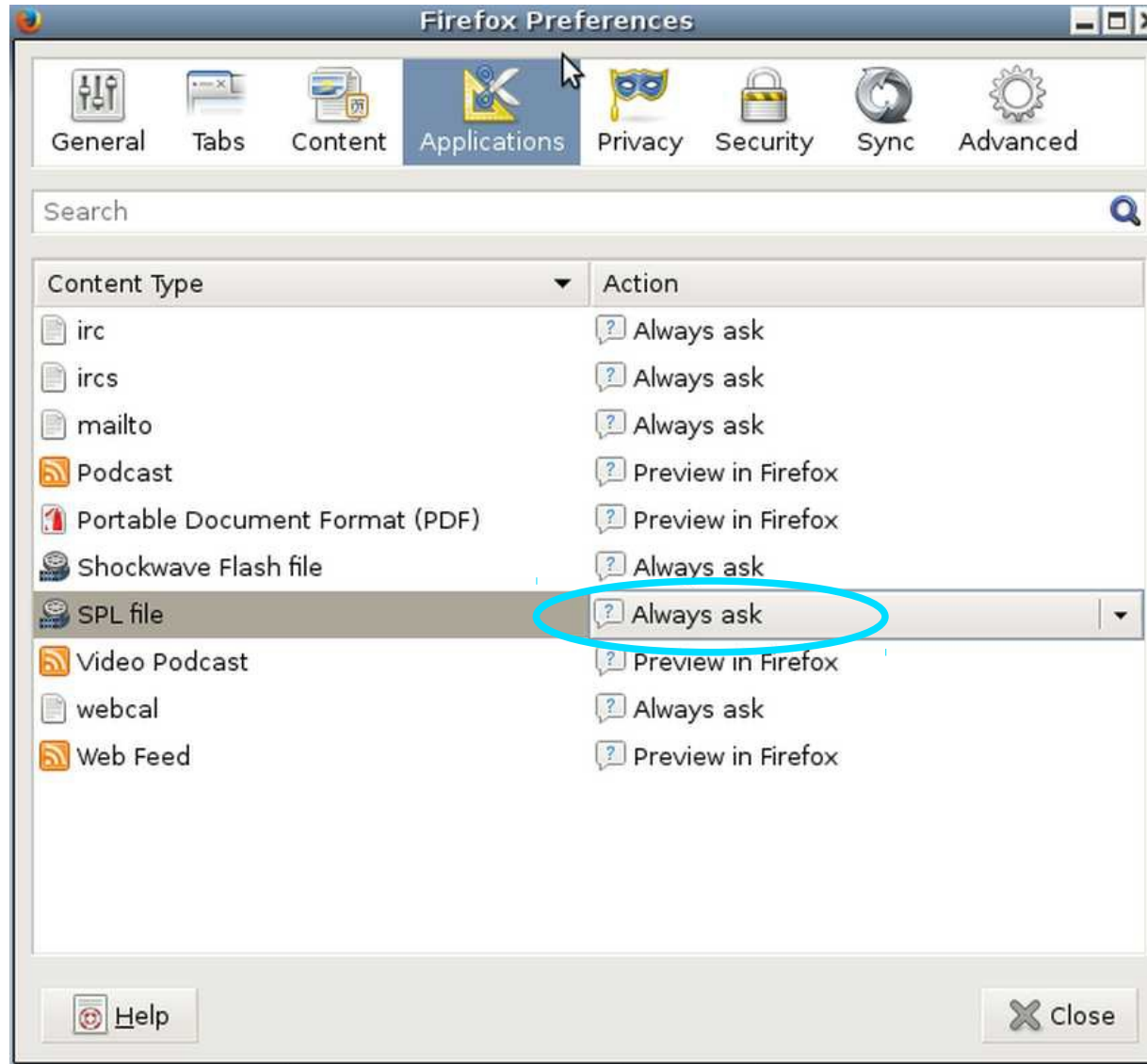
Allow only 3 local standard fonts



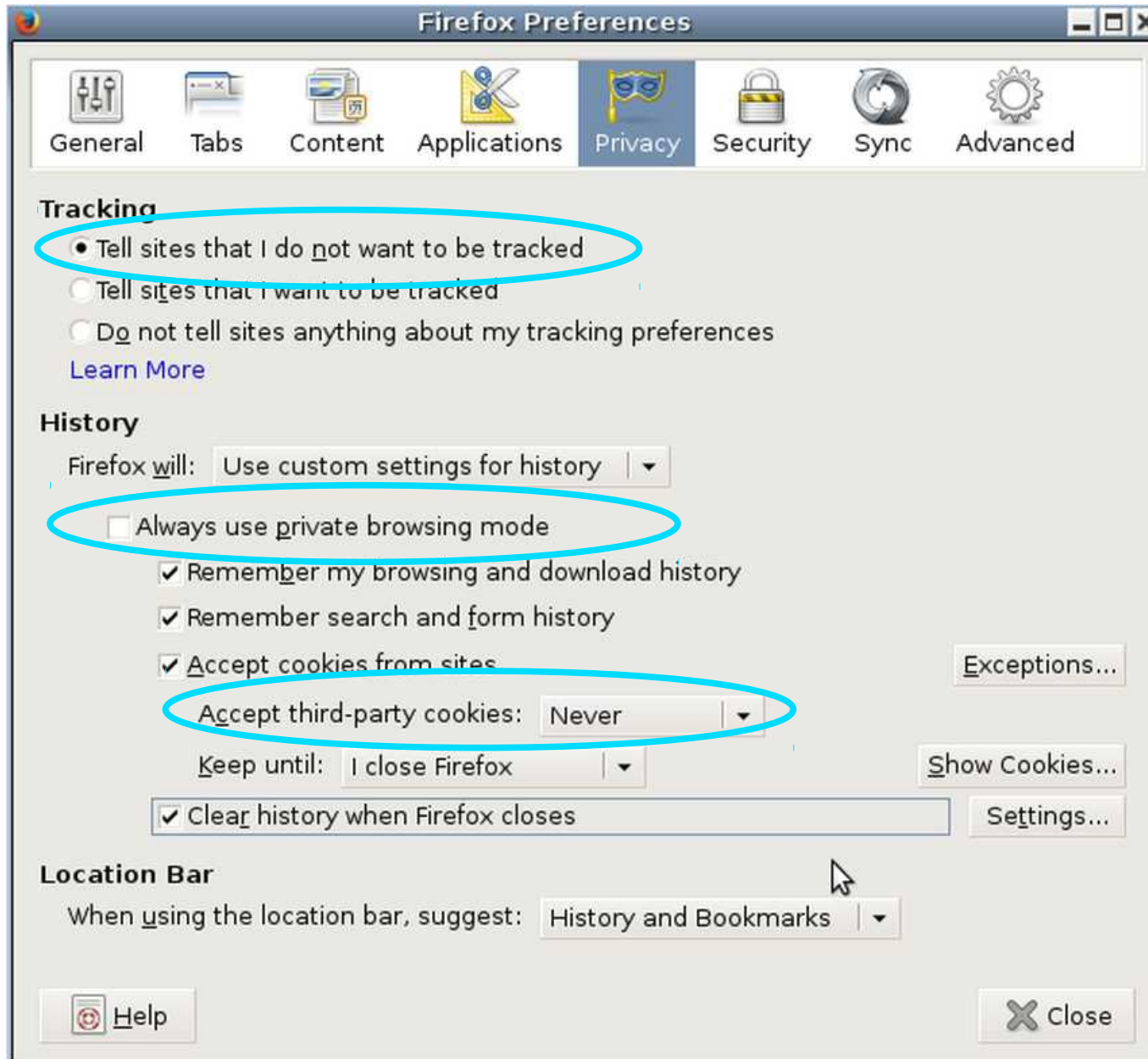
Set languages to en-us, en



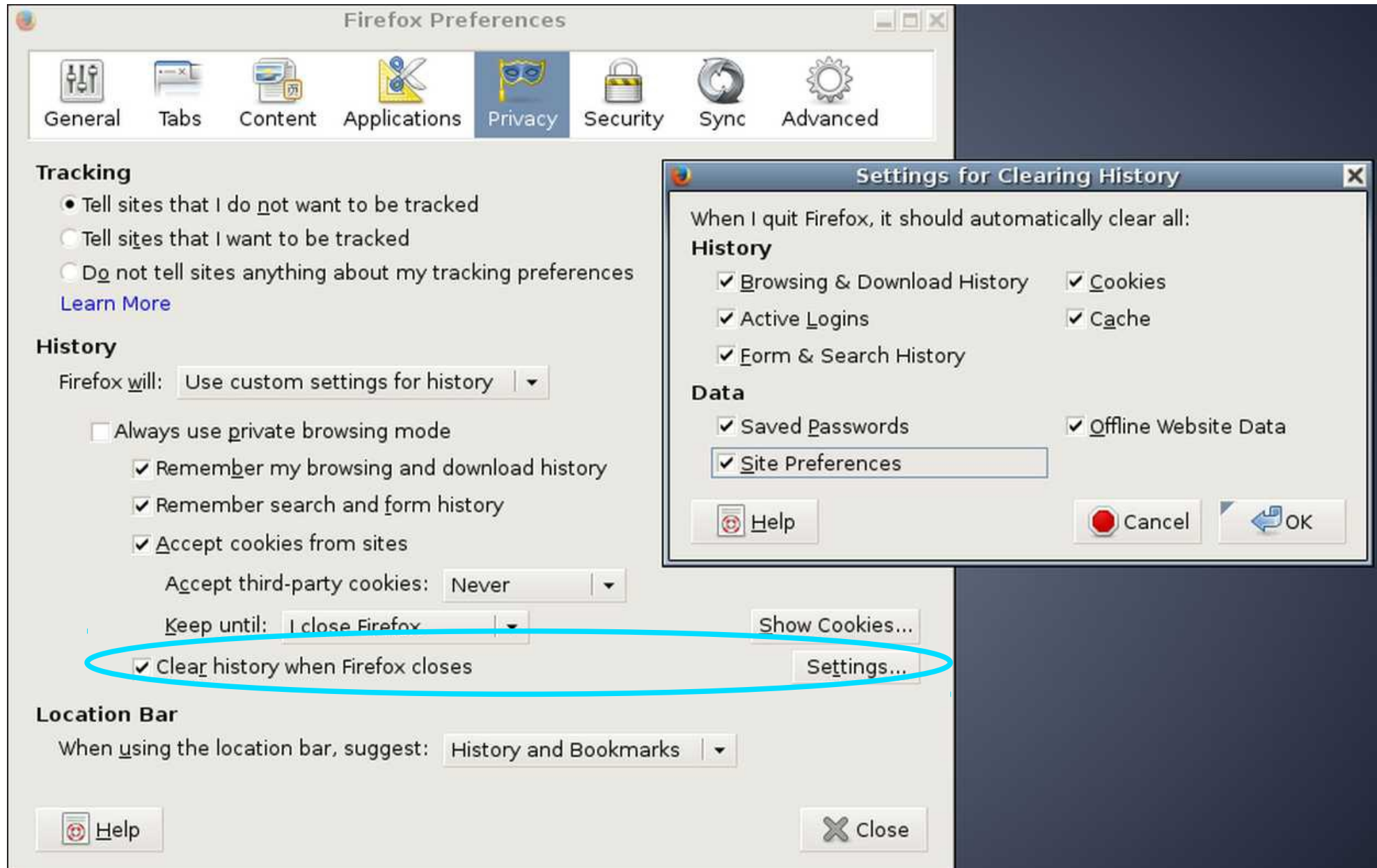
“Always ask” for external applications
→ Nothing happens w/o your permission



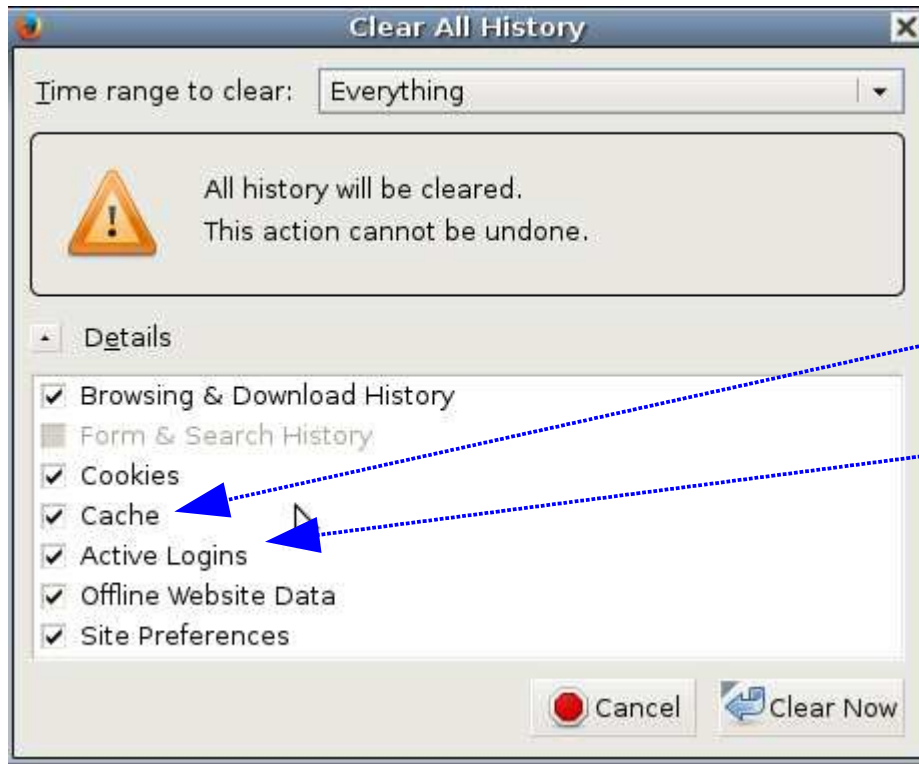
Reject 3rd party cookies, optional: private browsing, “Do not track” header



!!! Delete the browsing history every time you close Firefox !!!



Delete the history regularly during browsing: {Ctrl + Shift + Del}

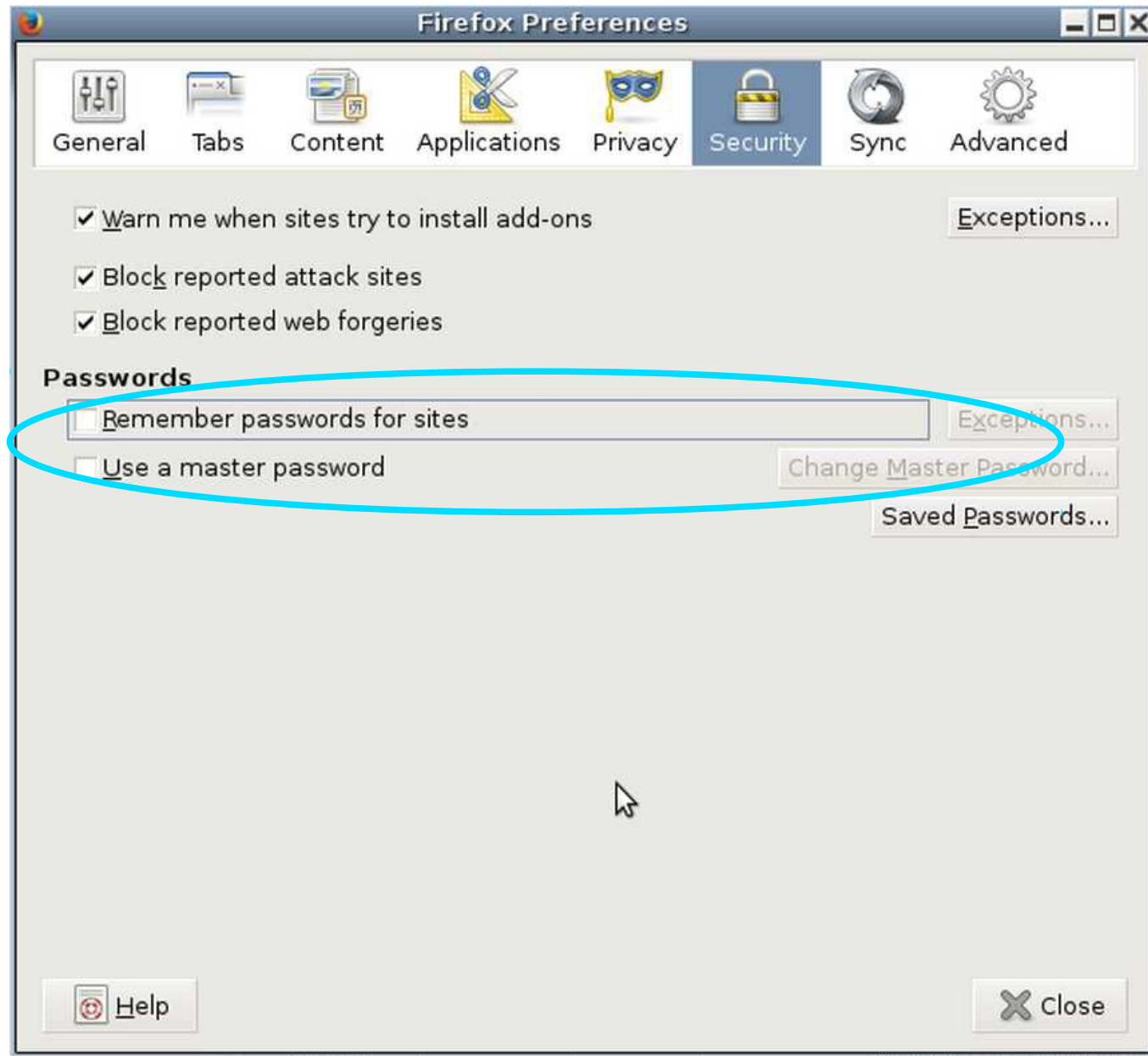


E-Tags

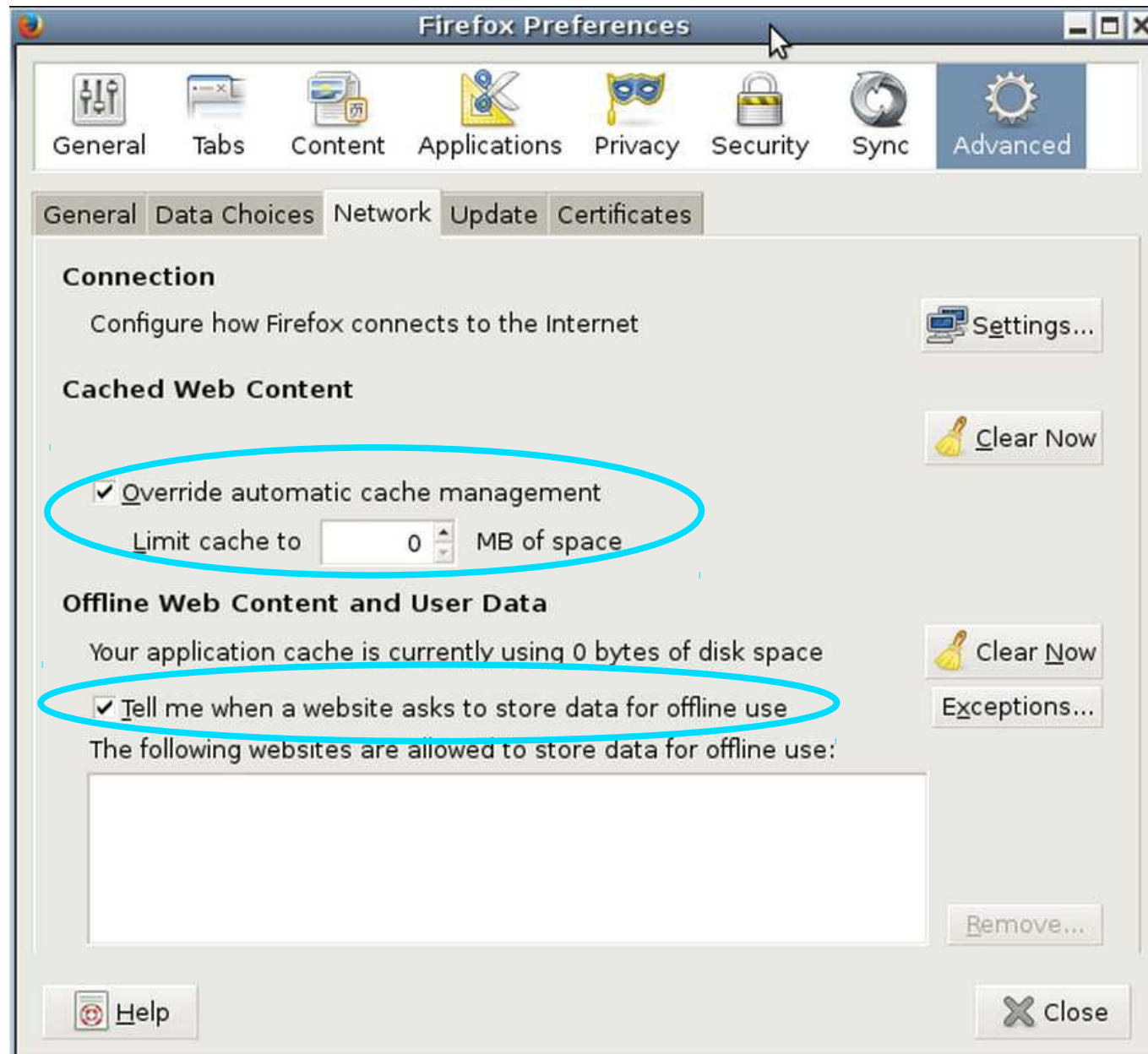
HTTP-authentication

Close tabs regularly (deletes the JS identifier)

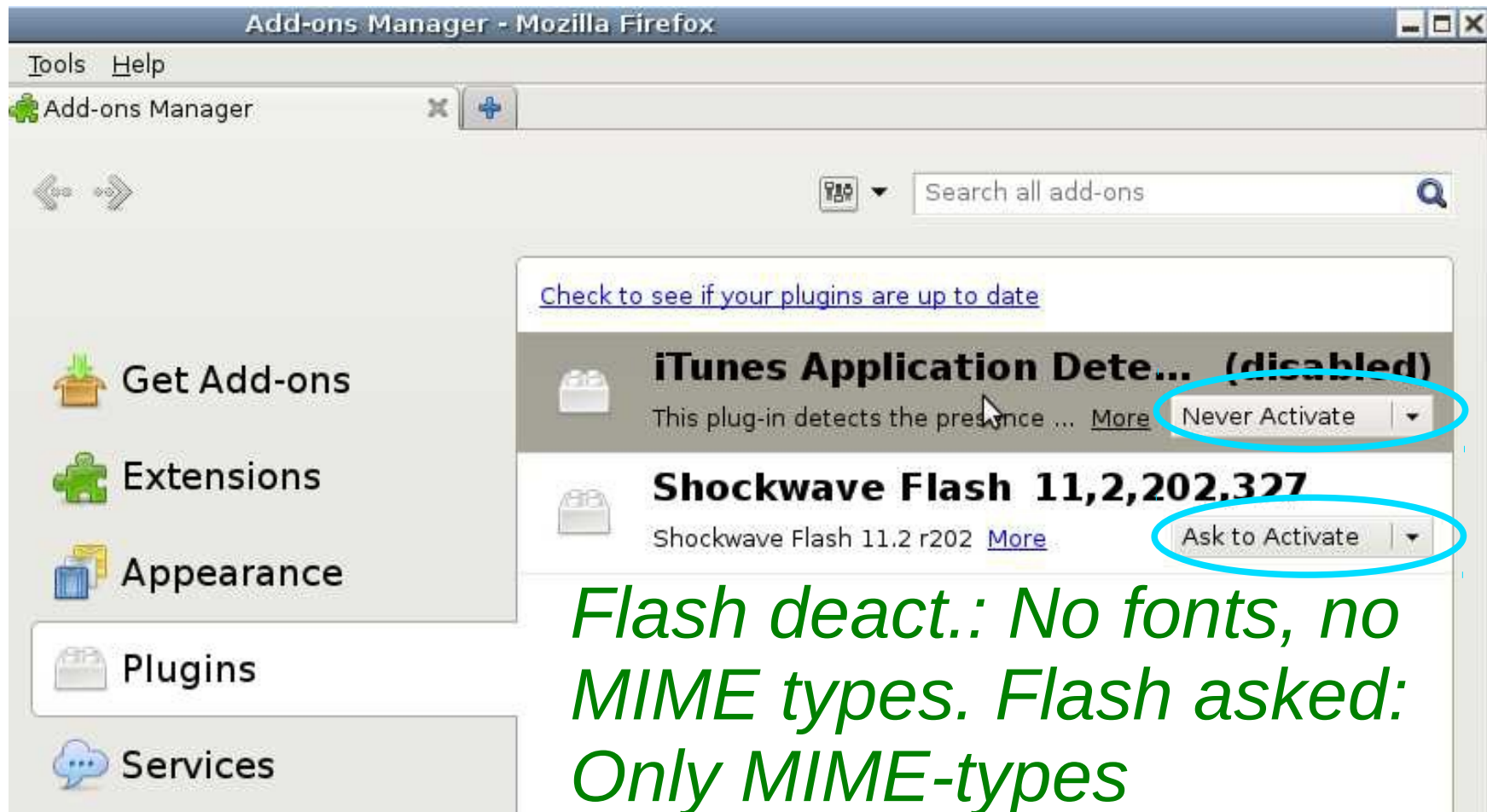
Do not save passwords in Firefox OR
use a strong Master-PW (%%&2mcR_{x`,#\$4)



Set the cache to zero, activate “Tell me ... offline use”

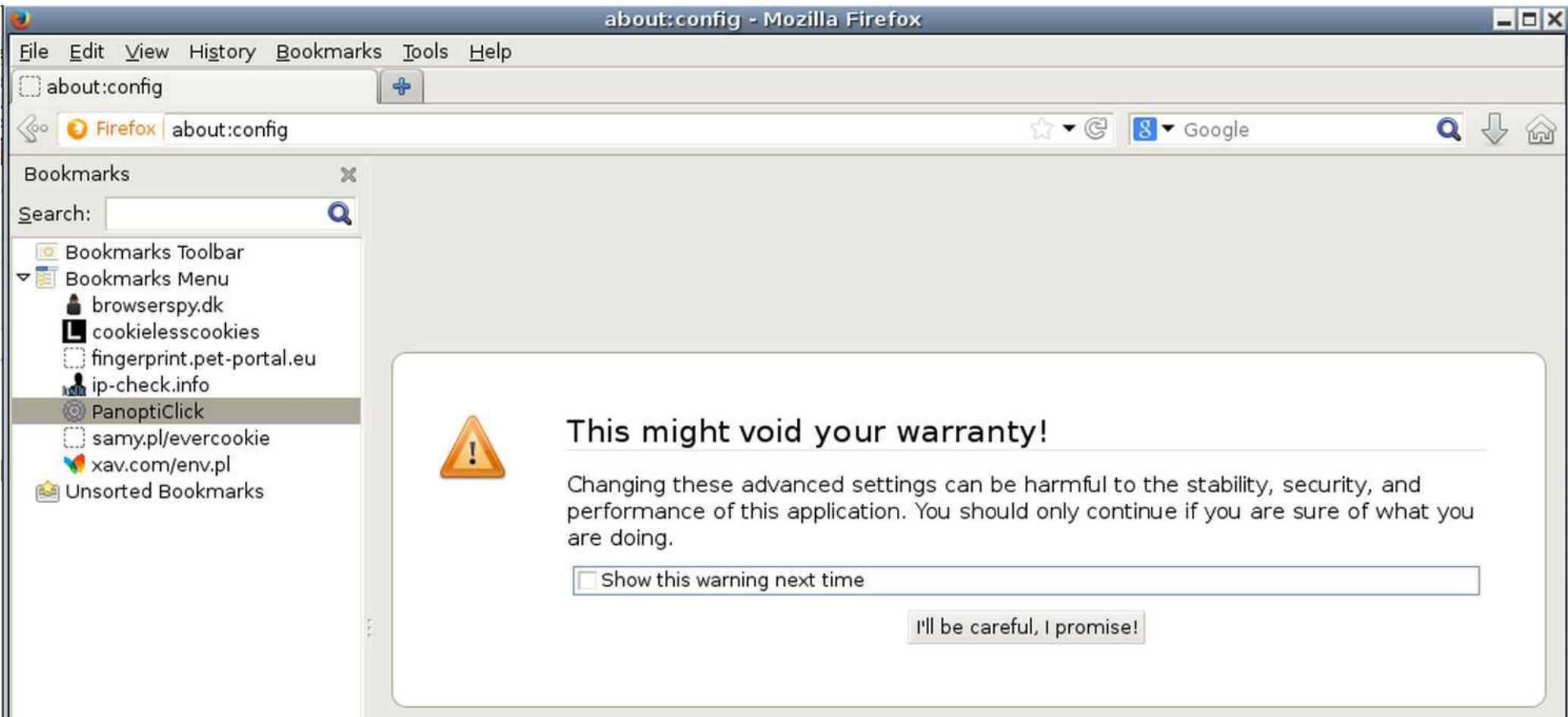


Plugins (Ctrl+Shift+A): Switch off. Activate single ones only, when you need them, e. g. for the Youtube session in the evening.

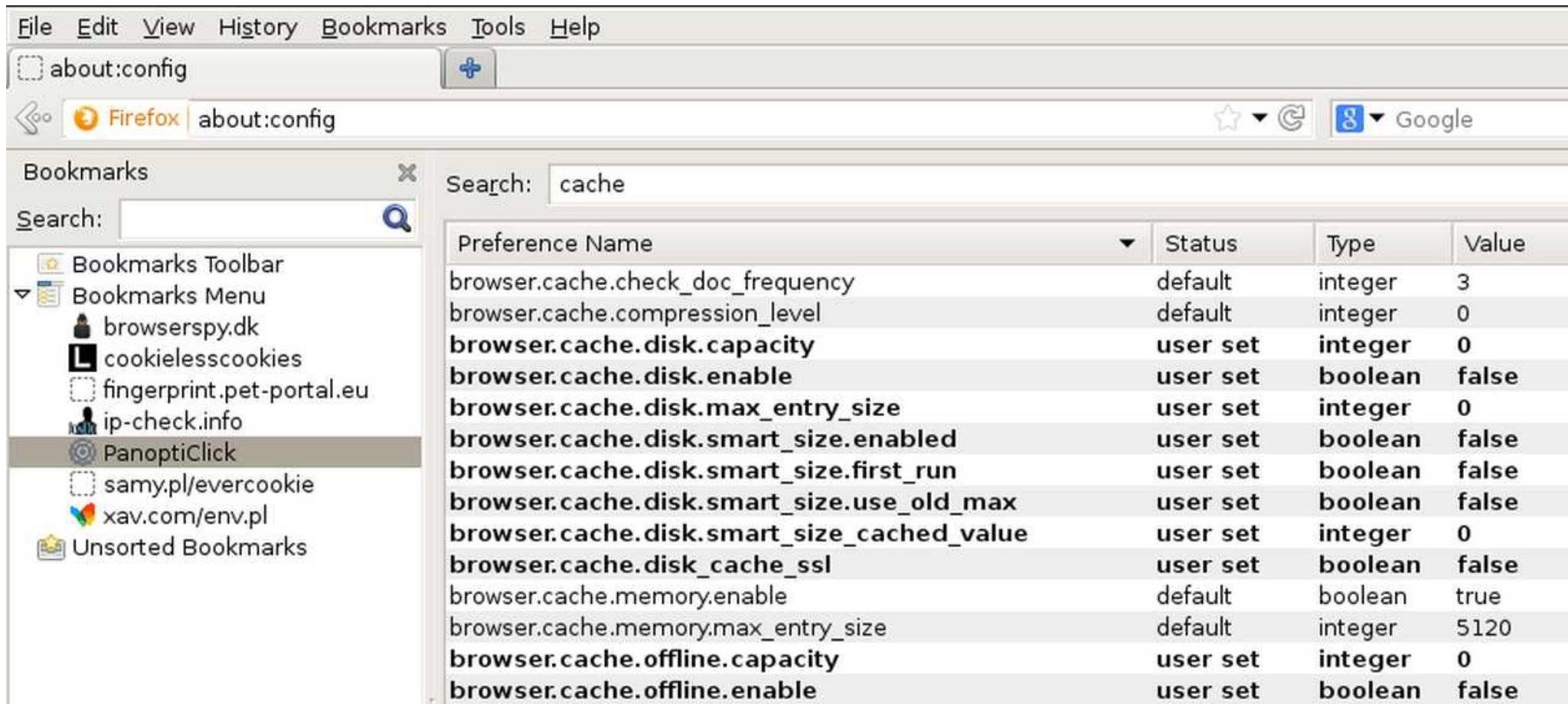


Tradeoff: Privacy vs. Comfort and usability

Advanced measures via **about:config**



Turn off the disk-cache completely



The screenshot shows the Firefox `about:config` page with a search for `cache`. The left sidebar shows the bookmarks list with `PanoptiClick` selected. The main area displays a table of preferences related to the cache.

Preference Name	Status	Type	Value
<code>browser.cache.check_doc_frequency</code>	default	integer	3
<code>browser.cache.compression_level</code>	default	integer	0
<code>browser.cache.disk.capacity</code>	user set	integer	0
<code>browser.cache.disk.enable</code>	user set	boolean	false
<code>browser.cache.disk.max_entry_size</code>	user set	integer	0
<code>browser.cache.disk.smart_size.enabled</code>	user set	boolean	false
<code>browser.cache.disk.smart_size.first_run</code>	user set	boolean	false
<code>browser.cache.disk.smart_size.use_old_max</code>	user set	boolean	false
<code>browser.cache.disk.smart_size_cached_value</code>	user set	integer	0
<code>browser.cache.disk_cache_ssl</code>	user set	boolean	false
<code>browser.cache.memory.enable</code>	default	boolean	true
<code>browser.cache.memory.max_entry_size</code>	default	integer	5120
<code>browser.cache.offline.capacity</code>	user set	integer	0
<code>browser.cache.offline.enable</code>	user set	boolean	false

Turn off DNS prefetching

network.dns.disablePrefetch : *true*
network.prefetch-next : *false*

Turn off sending of referrer

network.http.sendRefererHeader : *0*

Turn off https tracking, create, if not existing:

security.enable_tls_session_tickets : *false*
security.ssl.enable_false_start : *true*

De-Googelize you browser. Search & delete
“google”, but not in “safebrowsing” entries

In case of an exotic user agent, like
Iceweasel or SeaMonkey/Icedove:
Set standard value for actual Firefox + OS.
Do not try to cheat here, data output shall
be consistent. Create new string

general.useragent.override

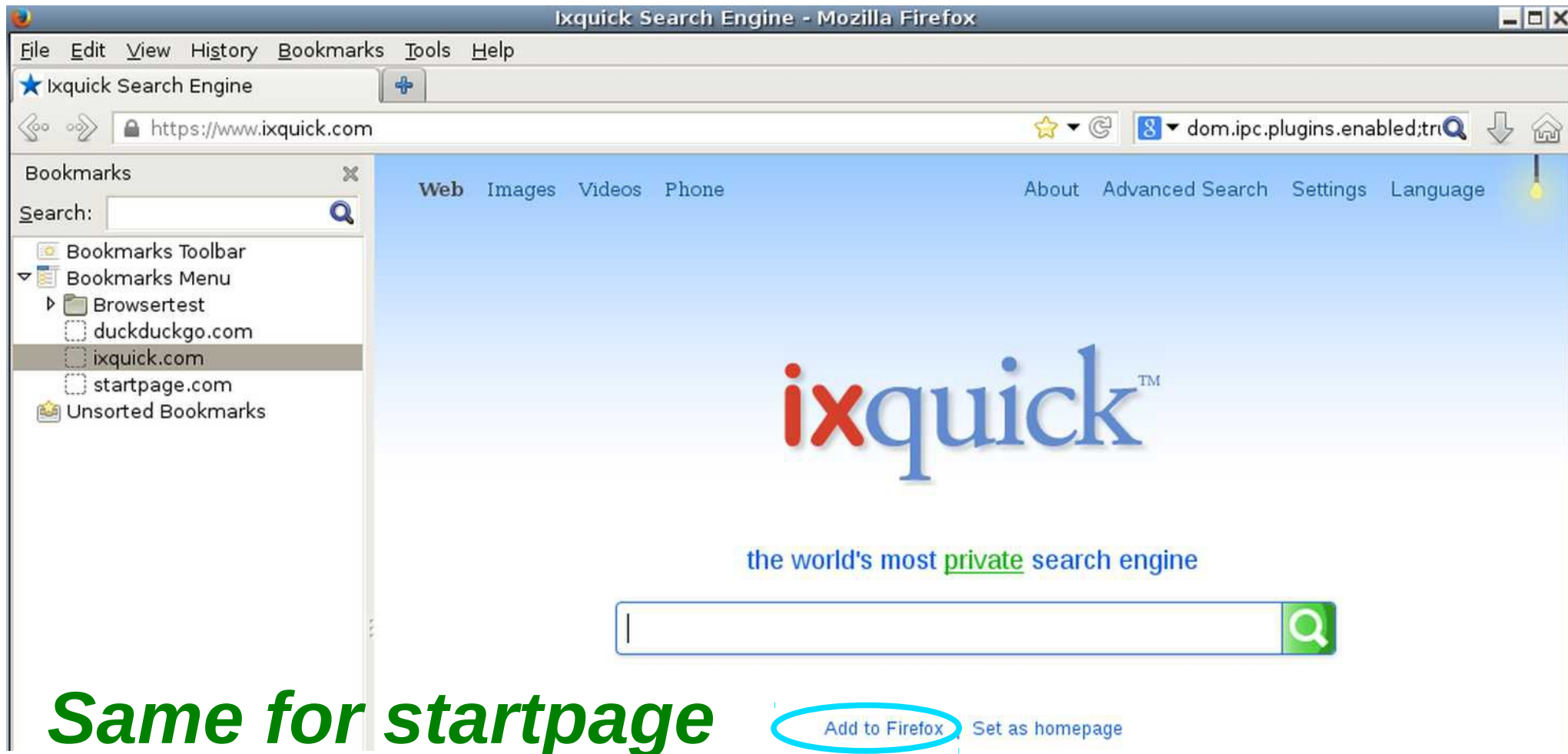
Mozilla/5.0 (X11; Linux i686; rv:34.0) Gecko/20100101 Firefox/34.0

Mozilla/5.0 (X11; Linux x86_64; rv:34.0) Gecko/20100101 Firefox/34.0

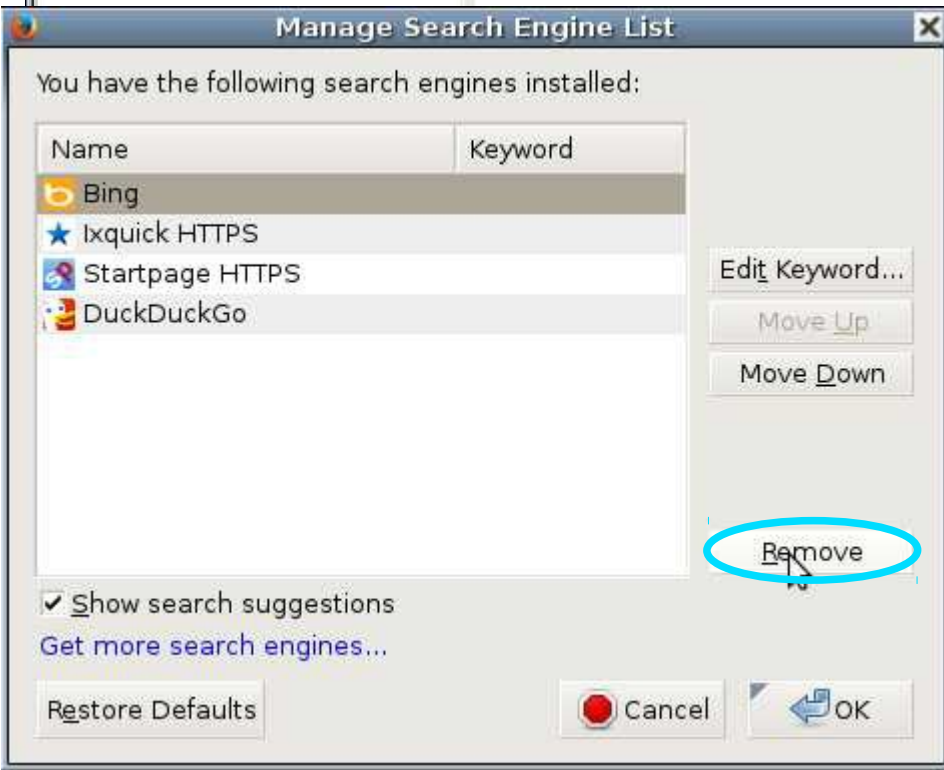
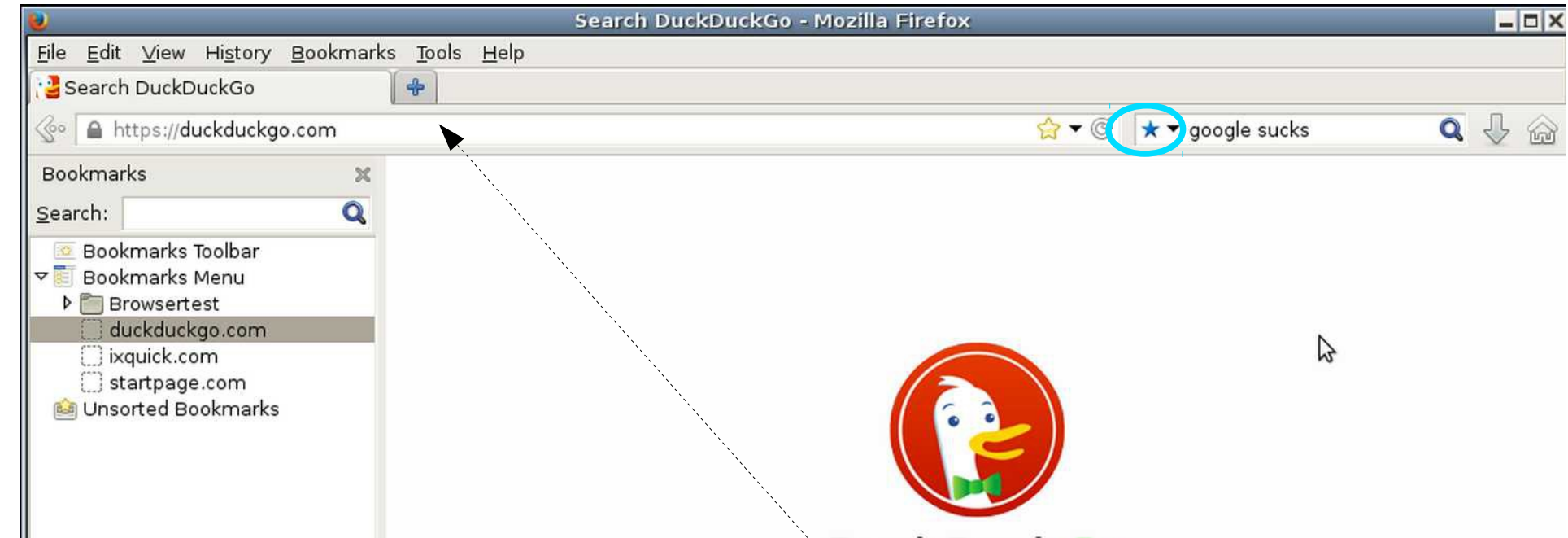
Mozilla/5.0 (Windows NT 6.1; rv:34.0) Gecko/20100101 Firefox/34.0

Mozilla/5.0 (Windows NT 6.1; WOW64; rv:34.0) Gecko/20100101 Firefox/34.0

Add some alternative search engines *... and use them !*



Same for startpage



The last added search machine becomes the standard for the address bar

Use Bleachbit regularly

Deletes all locally stored markers

<http://bleachbit.sourceforge.net>

Read the description of single entries
before use! Do not delete too much!

AddOns: Load only programs from trustworthy sources, e. g. Mozilla, EFF ...

Blocking of data from 3rd parties

1) Request Policy. Individual whitelisting of 3rd party domains, e. g. *wikimedia.org* for *wikipedia.org*, *ix.de* for *heise.de*

<https://requestpolicycontinued.github.io>

(+) very secure, w/o consent nothing is loaded

(-) less comfortable, one needs to unblock all necessary 3rd party domains

Other approach

2) AdBlock Edge. Standardized
blacklisting of undesired tracking domains
Choose your filter lists!

<https://bitbucket.org/adstomper/adblockededge>

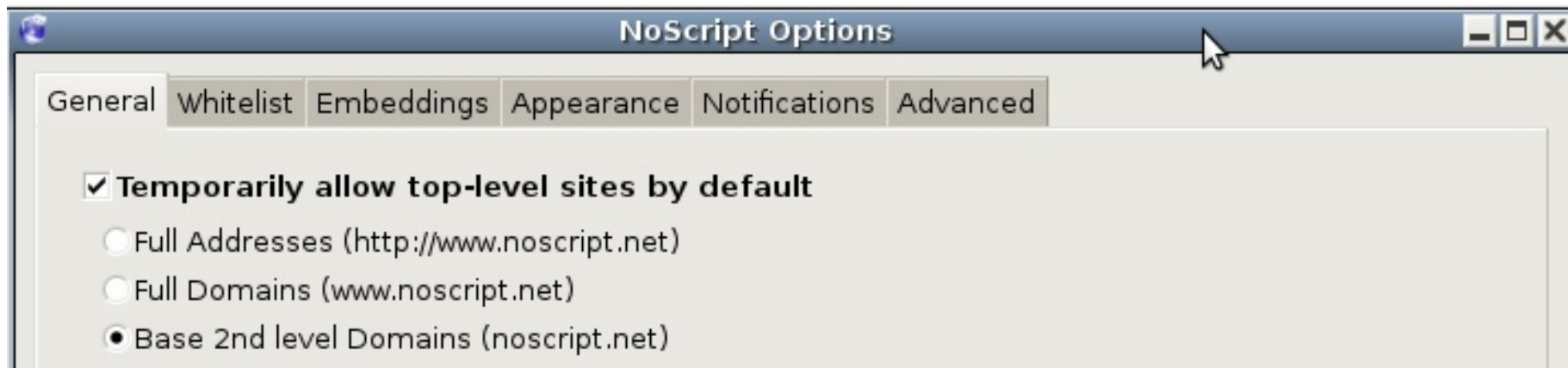
(+) Comfortable. Unnoticed blocking in background, no interaction necessary

(-) One depends on the people writing the blocking lists: Reliability and trust.

Blocking of 3rd party JS fingerprinting

NoScript

<https://noscript.net>



Delete the whitelist, turn IFRAMES off
*Further option: Block all JS by default,
individual whitelisting. **Secure**, but **annoying***

Note:

All this helps against commercial tracking
from

3rd party domains

(tracker1.com, tracker2.org, tracker3.net ...)

NOT against

tracking from 1st party domain

(actualsite.com)

Only solution for 1st party tracking:

Turn everything off! (cookies, JS, pictures ...)

HTTPS everywhere

Chooses https
by default, if
offered by the
server.



<https://www.eff.org/https-everywhere>

Other options

Block tracking domains

<https://www.eff.org/privacybadger>

<https://github.com/futpib/policeman>

Create confusion for JS fingerprinters

<https://www.dephormation.org.uk/?page=81>

Comfortable switching between multiple F'fox profiles

<https://nic-nac-project.org/~kaosmos/profileswitcher-en.html>

Individual control of referrer data

https://github.com/muzuiget/referrer_control

View tracking pixels in the cache

<http://park2.wakwak.com/~benki>

Active Cookie management

<https://addons.mozilla.org/en-US/firefox/addon/cookie-monster>

Insert random strings in fonts list

<https://www.aeyoun.com/projects/fluxfonts>

Further Tracking, not browser based

IP address (repair: VPN, Tor, JonDo)

TCP/IP stack fingerprinting (repair: VPN, Tor, JonDo)

Defeating TCP/IP Stack Fingerprinting, Smart 2000

<https://www.usenix.org/legacy/publications/library/proceedings/sec2000/smart.html>

TCP/IP Fingerprinting Methods Supported by Nmap

<http://nmap.org/book/osdetect-methods.html>

Clock Skew (individual deviation local clock),

repair: Firewall setup (block TCP Timestamp)

Stille Verfolger - Unternehmen setzen auf Nutzer-Tracking ohne Cookies,
c't 11/2014, S. 161/162,

http://www.heise.de/artikel-archiv/ct/2014/11/160_Stille-Verfolger

Remote physical device fingerprinting, Kohno 2005

<http://www.caida.org/publications/papers/2005/fingerprinting>

Individual X-UIDH Header (repair: VPN, Tor, JonDo)

Verizon Injecting Perma-Cookies to Track Mobile Customers, Hoffmann-Andrews
2014, <https://www.eff.org/deeplinks/2014/11/verizon-x-uidh>

Trackertest: 1x without, 1x with measures

<http://www.wieistmeineip.at>

<http://www.heise.de>

<http://derstandard.at>

<http://www.zalando.de>

<http://www.spiegel.de>

<http://diepresse.com>

<http://www.zeit.de>

<http://www.propublica.org>

<http://www.reddit.com>

<http://www.ebay.at>

“Visited” 3rd parties, visualisation with Lightbeam

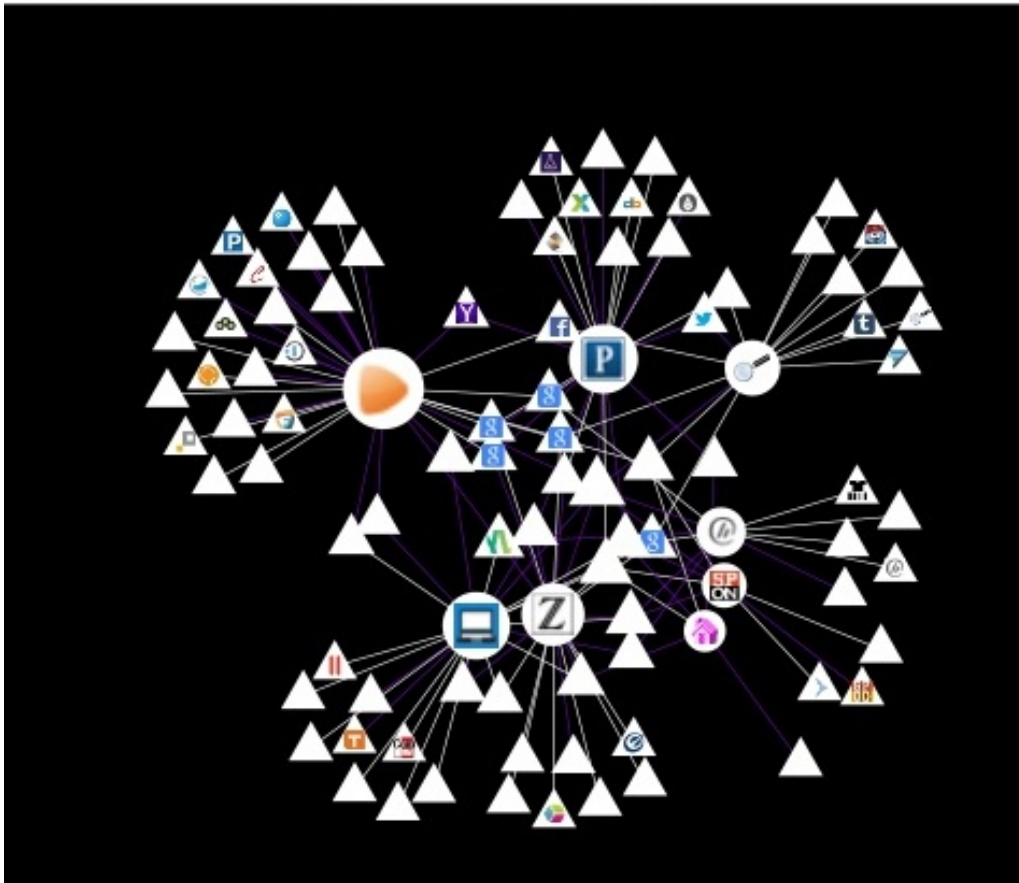
<https://www.mozilla.org/en-US/lightbeam>

W/o measures

with measures

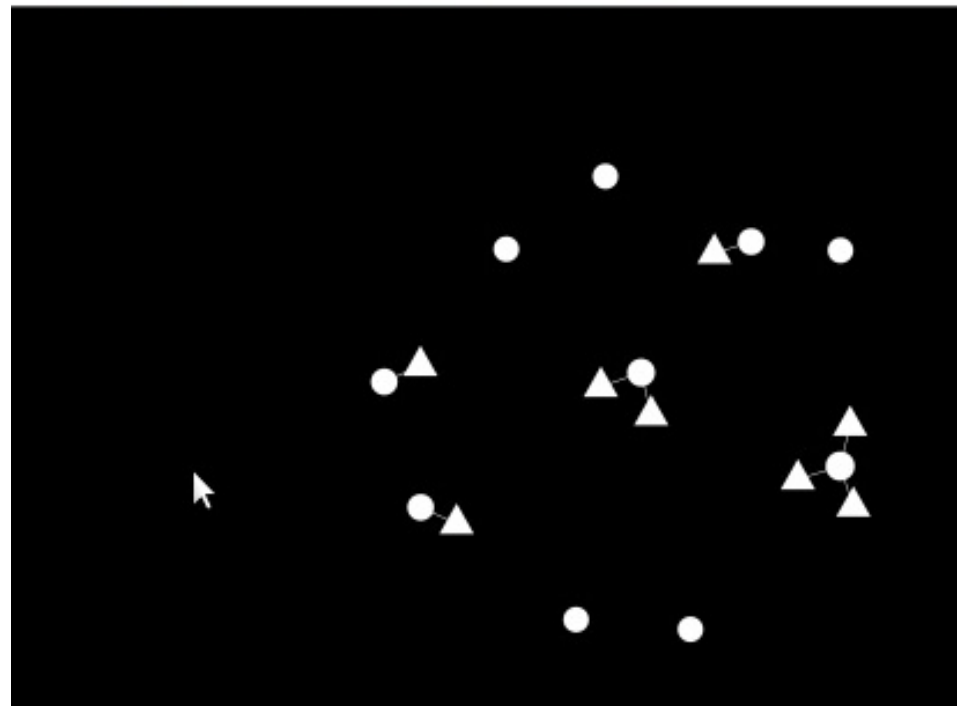
YOU HAVE VISITED
9 SITES

YOU HAVE CONNECTED WITH
136 THIRD PARTY SITES



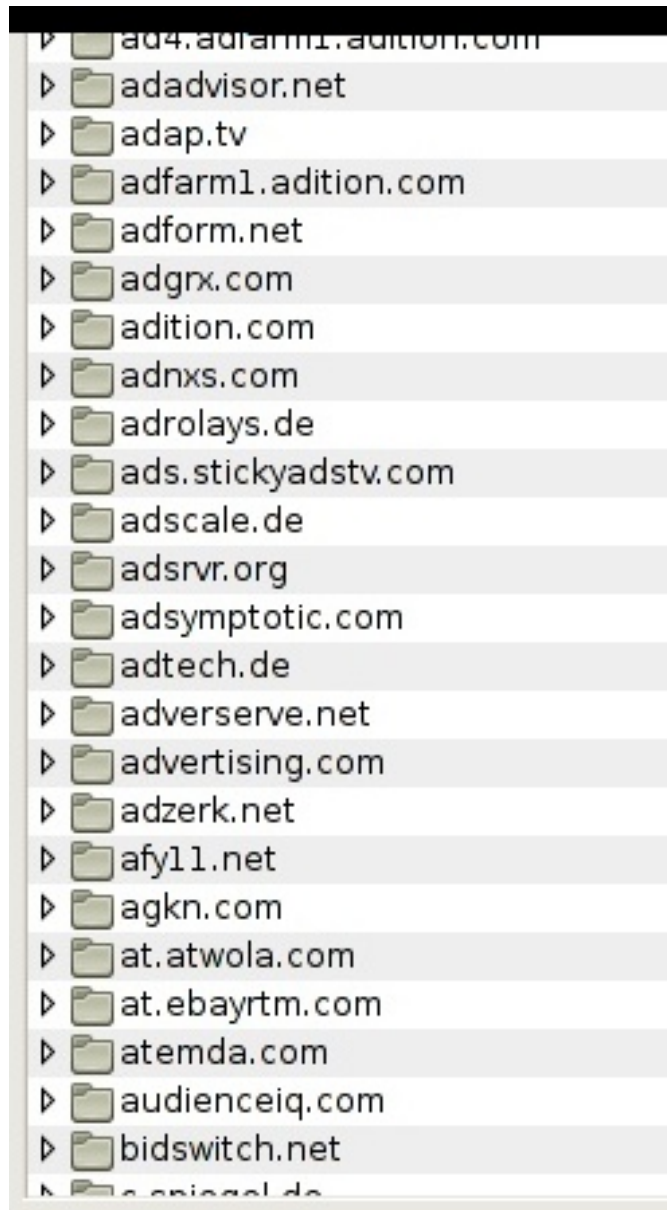
YOU HAVE VISITED
10 SITES

YOU HAVE CONNECTED WITH
8 THIRD PARTY SITES



Cookies

W/o measures



with measures



Cache

W/o measures

Key
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://s322.meetrics.net/bb-mx/submit?/rMJQH66GAlklFBTkzFtGg4BAAAAQ7...
http://adserv.quality-channel.de/RealMedia/ads/adstream_lx.ads/www.spie...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://smart.styria-digital.com/h/aip?siteid=53612&pgid=392404&fmtid=...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://d.turn.com/r/du/id/L2NzaWQvMS9tcGlkLzE4MMDM3MTM5/mpuid/69095...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://dc84.s290.meetrics.net/bb-mx/submit?/wk2MRRYFBLklFBTkzFtPfiCIDA...
http://dc84.s290.meetrics.net/bb-mx/submit?/wk2MQ1gGAlklFBTkzFeGhIDA...
http://adserv.quality-channel.de/5/www.spiegel.de/homepage/center/L30/...
http://adserv.quality-channel.de/RealMedia/ads/Creatives/qc/sp-zaehler-0...
http://ww251.smartadserver.com/track/comp.asp?keyword=A2%3D3%3BA...
https://us-u.openx.net/w/1.0/sd?id=537072980&val=CAESEOKVGWri8z7w...
http://c.spiegel.de/nm_empty.gif?url=http%3A/www.spiegel.de/&referrer=...
http://pixel.ad.mlnadvertising.com/sync.ashx?cktst=1&partner=2591&psi...
http://uk-ads.openx.net/w/1.0/ri?ts=1fHU9MXxyaWQ9NTk5ZTZjNDQtOTgxZ...
http://uk-ads.openx.net/w/1.0/ri?ts=1fHjpZD1kOGjMmEzYi1iNDNkLTQ3M2It...
http://e.nexac.com/e/xrefid.xgi?na_exid=4035113658967848417&na_pid...
http://www.spiegel.de/static/svs/pixel.gif
Memory: 264 entries 0.33/23.55 Disk: 1647 entries 20.

with measures

Key
http://derstandard.at/s/14166761-5752-D899-3643-46645A5A55D0/1/141...
http://derstandard.at/s/1477307/7813/1/14166761-5752-D899-3643-466...
http://derstandard.at/s/arb/false/false
http://derstandard.at/s/arb/false/true
http://prophet.heise.de/288689636920174/wt?p=322,www.heise.de.start...
https://track.zalando.de/789345933667438/wt?p=324,www.zalando.de%2...
http://ww251.smartadserver.com/h/aip?visit=s&pubid=23&statid=12&cki...
http://ww251.smartadserver.com/h/aip?visit=s&pubid=23&statid=12&cki...
http://ww251.smartadserver.com/h/aip?visit=v&pubid=23&statid=12&cki...
http://prophet.heise.de/288689636920174/wt?p=322,www.heise.de.start...
https://www.propublica.org/search/auth.php?callback=jQuery1820924042...
http://diepresse.com/portal/services/captcha/captchaimage.jsp
http://www.wieistmeineip.at/
http://www.zalando.de/
http://diepresse.com/
Memory: 17 entries 0.09/23.55 Disk: 0 entries 0/0

Example for JS fingerprinters, invisible tracking

http://www.propublica.org/

Don't Miss: Treatment Tracker | Tobacco Bonds | Dollars for Docs | Segregation

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Leak at Federal Reserve Reveals Confidential Bond-Buying
by Jake Bernstein
ProPublica, Today
Then-Chairman ordered an intervention previously und... which found its newsletter for b...

Now What? Failed Allergan Deal Strains Valeant
by Jesse Eisinger
ProPublica, Nov. 26, Noon

Fire War
by T... and Nov...
Edi...
Fire...
Sec...

- propublica.org als nicht vertrauenswürdig einstufen
- facebook.com als nicht vertrauenswürdig einstufen
- twitter.com als nicht vertrauenswürdig einstufen
- flashtalking.com als nicht vertrauenswürdig einstufen
- facebook.net als nicht vertrauenswürdig einstufen
- d8k88hv3sn2aj.cloudfront.net als nicht vertrauenswürdig einstufen
- googlesyndication.com als nicht vertrauenswürdig einstufen
- googleadservices.com als nicht vertrauenswürdig einstufen
- doubleclick.net als nicht vertrauenswürdig einstufen
- chartbeat.com als nicht vertrauenswürdig einstufen
- typekit.net als nicht vertrauenswürdig einstufen
- google-analytics.com als nicht vertrauenswürdig einstufen
- googletagmanager.com als nicht vertrauenswürdig einstufen
- googletagservices.com als nicht vertrauenswürdig einstufen
- tumblr.com als nicht vertrauenswürdig einstufen
- twimg.com als nicht vertrauenswürdig einstufen
- d15qhc0lu1ghnk.cloudfront.net als nicht vertrauenswürdig einstufen
- akamaihd.net als nicht vertrauenswürdig einstufen
- rbl.ms als nicht vertrauenswürdig einstufen
- rebelmouse.com als nicht vertrauenswürdig einstufen
- Skripte allgemein verbieten (empfohlen)

Further readings

Study (German): Web-Tracking-Report

<https://www.sit.fraunhofer.de/de/wtr>

Study (German): Kommerzielle digitale Überwachung im Alltag

<http://crackedlabs.org/studie-kommerzielle-ueberwachung>

Congressional Testimony: What Information Do Data Brokers Have on Consumers?

<http://www.worldprivacyforum.org/2013/12/testimony-what-information-d>

European Commission, Data Protection, Article 29 Working Party

<http://ec.europa.eu/justice/data-protection/article-29>

2012-06-07, Opinion 04/2012 on Cookie Consent Exemption

2014-04-10, Opinion 05/2014 on Anonymisation Techniques

2014-11-25, Opinion 9/2014 on the application of Directive
2002/58/EC to device fingerprinting

Cane from JonDo on browser tracking (German)

https://www.privacy-handbuch.de/handbuch_21.htm

How Microsoft and Yahoo Are Selling Politicians Access to You

<http://www.propublica.org/article/how-microsoft-and-yahoo-are-selling-politicians-access>

Everything We Know About What Data Brokers Know About You

So they don't sell information about my health?

[http://www.propublica.org/article/everything-we-know-about-what-data-brokers-know-al](http://www.propublica.org/article/everything-we-know-about-what-data-brokers-know-about-you)

Insurers Test Data Profiles to Identify Risky Clients

<http://online.wsj.com/news/articles/SB100014240527487046486045756207509980729>

Has Google Gone Too Far? Parental Status Demographic Added to AdWords

<http://www.wordstream.com/blog/ws/2014/06/20/adwords-parental-status>

German articles:

Wie Facebook-Einträge einen Kredit verhindern können

<http://www.wsj.de/nachrichten/SB10001424052702303848104579310063733795206>

EC-Datenfirma wollte zur neuen Schufa werden

<http://www.zeit.de/digital/datenschutz/2011-09/easycash-datenschutz-schufa>

Tricksen und täuschen mit System (Preisdifferenzierung im Internet)

<http://www.sueddeutsche.de/digital/preisdifferenzierung-im-internet-tricksen-und-taeuschen>

Auktion wie ein Wimpernschlag (Real Time Bidding, Preisfindung für zielgerichtete Internetwerbung)

<http://www.sueddeutsche.de/digital/internet-werbung-auktion-wie-ein-wimpernschlag-1.>

Thanks for you attention!

Have fun in the web

... and stay hiding!

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<https://privacymachine.eu>

<https://cryptoparty.at/graz>

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choruses of praise? E-Mail to

an.to_n-73 at riseup net, PGP Key-ID: 0xA2A97D7D, 4096R, 2013-12-08

0B4C DF2C CB22 5DF4 25EA F212 49D1 ABF2 A2A9 7D7D