

Welcome to

# Værktøjer til beskyttelse af internettrafik

Beskyt dig selv

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**Jacob Appelbaum** @j0c0r

Transparency and accountability are required properties of legitimate democratic institutions. "Anti-secrecy" rhetoric is hilariously tired.



In a democracy we need the citizens with freedom that can act without constant surveillance

Democracy requires that we can actively select which personal data to give up and to whom

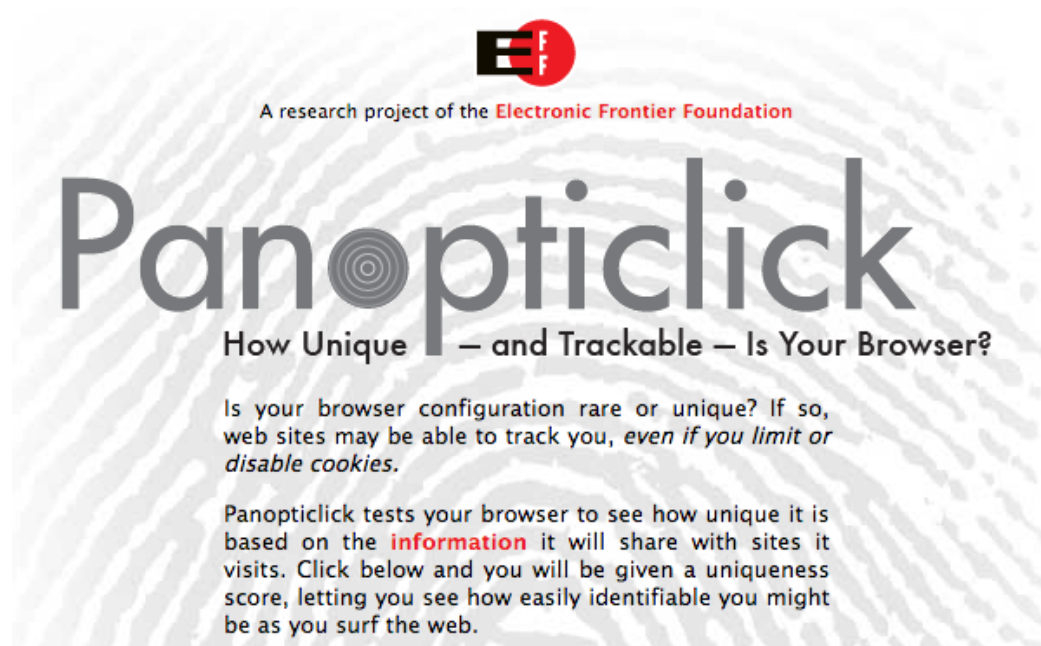
Cryptography is peaceful protest against blanket surveillance

# Why think of security?



Privacy is necessary for an open society in the electronic age. Privacy is not secrecy. A private matter is something one doesn't want the whole world to know, but a secret matter is something one doesn't want anybody to know. Privacy is the power to selectively reveal oneself to the world. A Cypherpunk's Manifesto by Eric Hughes, 1993

Copied from <https://cryptoparty.org/wiki/CryptoParty>



Vi bruger allesammen browsere, email klienter og andre programmer

Mange programmer er nemme at genkende og mange sender i klartekst - uden kryptering

Source: <https://panopticlick.eff.org/>

Browser Characteristic	bits of identifying information	one in x browsers have this value	value
User Agent	13.65	12853.36	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/33.0.1750.146 Safari/537.36
HTTP_ACCEPT Headers	21.91+	3945981	text/html, */* gzip, deflate, sdch en-US,en;q=0.8,cs;q=0.6,da;q=0.4
Browser Plugin Details	21.91+	3945981	<p>Plugin 0: Default Browser Helper; Provides information about the default web browser; Default Browser.plugin; (Provides information about the default web browser; application/apple-default-browser; ). Plugin 1: Google Talk Plugin Video Accelerator; Google Talk Plugin Video Accelerator version:0.1.44.29; nptpo3dauto.plugin; (Google Talk Plugin Video Accelerator Type; application/vnd.gtpo3d.auto; ). Plugin 2: Google Talk Plugin Video Renderer; Version 5.1.7.17873; o1dbrowser.plugin; (Google Talk Plugin Video Renderer; application/o1d; o1d). Plugin 3: Google Talk Plugin; Version 5.1.7.17873; googletalkbrowser.plugin; (Google voice and video chat; application/googletalk; googletalk). Plugin 4: Juniper Networks Safari Extensions; Juniper Networks Safari Extensions; net.juniper.DSSafariExtensions.plugin; (Juniper Networks Extension Type; application/x-net-juniper-dssafariextensions; ). Plugin 5: Native Client; ; ppGoogleNaClPluginChrome.plugin; (Native Client Executable; application/x-nacl; ) (Portable Native Client Executable; application/x-pnacl; ). Plugin 6: QuickTime Plug-in 7.7.3; The QuickTime Plugin allows you to view a wide variety of multimedia content in web pages. For more information, visit the &lt;A HREF=http://www.apple.com/quicktime&gt;QuickTime&lt;/A&gt; Web site.; QuickTime Plugin.plugin; (3GPP media; audio/3gpp; 3gp,3gpp) (Video For Windows (AVI); video/x-msvideo; avi,vfw) (uLaw/AU audio; audio/basic; au,snd,ulw) (AIFF audio; audio/aiff; aiff,aif,aifc,cdda) (MPEG media; video/mpeg; mpeg,mpg,m1s,m1v,m1a,m75,m15,mp2,mpm,mpv,mpa) (QuickTime Movie; video/quicktime; mov,qt,mov,qt,mqv) (SDP stream descriptor; application/x-sdp; sdp) (MP3 audio; audio/x-mpeg3; mp3,swa) (AMR audio; audio/amr; amr) (QUALCOMM PureVoice audio; audio/vnd.qcelp; qcelp) (MP3 audio; audio/x-mp3; mp3,swa) (AC3 audio; audio/ac3; ac3) (AAC audio; audio/aac; aac,adts) (3GPP2 media; video/3gpp2; 3g2,3gp2) (SDP stream descriptor; application/sdp; sdp) (MPEG media; video/x-mpeg; mpeg,mpg,m1s,m1v,m1a,m75,m15,mp2,mpm,mpv,mpa) (Video For Windows (AVI); video/msvideo; avi,vfw) (RTSP stream descriptor; application/x-rtsp; rtsp,rtts) (MPEG audio; audio/x-mpeg; mpeg,mpg,m1s,m1a,mp2,mpm,mpa,m2a,mp3,swa) (AAC audio book; audio/x-m4b; m4b) (AMC media; application/x-mpeg; amc) (MPEG audio; audio/mpeg; mpeg,mpg,m1s,m1a,mp2,mpm,mpa,m2a,mp3,swa) (AAC audio (protected); audio/x-m4p; m4p) (Video For Windows (AVI); video/avi; avi,vfw) (MPEG-4 media; video/mp4; mp4) (GSM audio; audio/x-gsm; gsm) (AAC audio; audio/x-aac; aac,adts) (MP3 audio; audio/mp3; mp3,swa) (AAC audio; audio/x-m4a; m4a) (3GPP media; video/3gpp; 3gp,3gpp) (WAVE audio; audio/wav; wav,bwf) (MPEG-4 media; audio/mp4; mp4) (CAF audio; audio/x-caf; caf) (SD video; video/sd-video; sdv) (AIFF audio; audio/x-aiff; aiff,aif,aifc,cdda) (WAVE audio; audio/x-wav; wav,bwf) (Video (protected); video/x-m4v; m4v) (AC3 audio; audio/x-ac3; ac3) (MP3 audio; audio/mpeg3; mp3,swa) (3GPP2 media; audio/3gpp2; 3g2,3gp2). Plugin 7: Shockwave Flash; Shockwave Flash 12.0 r0; Flash Player.plugin; (Shockwave Flash; application/x-shockwave-flash; swf) (FutureSplash Player; application/futuresplash; spl). Plugin 8: Shockwave Flash; Shockwave Flash 12.0 r0; PepperFlashPlayer.plugin; (Shockwave Flash; application/x-shockwave-flash; swf) (FutureSplash Player; application/futuresplash; spl). Plugin 9: Unity Player; Unity Web Player version 4.2.0f4. (c) 2013 Unity Technologies ApS. All rights reserved.; Unity Web Player.plugin; (Unity Player; application/vnd.unity; unity3d). Plugin 10: Widevine Content Decryption Module; Enables Widevine licenses for playback of HTML audio/video content.; widevinecdmadapter.plugin; (Widevine Content Decryption Module; application/x-ppapi-widevine-cdm; ). Plugin 11: Wolfram Mathematica; Wolfram Mathematica Plug-in for Netscape Browsers; Mathematica.plugin; (Computable Document Format; application/vnd.wolfram.cdf.text; cdf) (Wolfram Mathematica Notebook; application/vnd.wolfram.mathematica; nb) (Computable Document Format; application/vnd.wolfram.cdf; cdf) (Wolfram Mathematica Notebook; application/mathematica; nb, nbp) (Wolfram Mathematica Player Notebook; application/vnd.wolfram.player; nbp).</p>

## Panopticlick Chrome plugins

Browser Characteristic	bits of identifying information	one in x browsers have this value	value
User Agent	12.56	6033.68	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_2) AppleWebKit/537.74.9 (KHTML, like Gecko) Version/7.0.2 Safari/537.74.9
HTTP_ACCEPT Headers	3.81	14	text/html, */* gzip, deflate en-us
Browser Plugin Details	21.91+	3946029	<p>Plugin 0: Citrix Online Web Deployment Plugin 1.0.0.94; Plugin that detects installed Citrix Online products (visit www.citrixonline.com).; CitrixOnlineWebDeploymentPlugin.plugin; (Citrix Online Application Detector; application/x-col-application-detector; ). Plugin 1: Default Browser Helper; Provides information about the default web browser; Default Browser.plugin; (Provides information about the default web browser; application/apple-default-browser; ). Plugin 2: F5 SSL VPN Plugin; F5 Network Access plugin, Ver. 7090.2013.0502.1; F5 SSL VPN Plugin.plugin; (F5 Network Access plugin; application/x-f5-sslvpn; xvpn). Plugin 3: Garmin Communicator Plug-in Version 4.0.4.0; Garmin Communicator Plug-in Version 4.0.4.0; GarminGpsControl.plugin; (Garmin GPS Control; application/vnd-garmin.mygarmin; mygarmin). Plugin 4: Google Talk Plugin Video Accelerator; Google Talk Plugin Video Accelerator version:0.1.44.29; npgtpo3dautoplug.plugin; (Google Talk Plugin Video Accelerator Type; application/vnd.gtpo3d.auto; ). Plugin 5: Google Talk Plugin Video Renderer; Version 5.1.7.17873; o1dbrowserplug.plugin; (Google Talk Plugin Video Renderer; application/o1d; o1d). Plugin 6: Google Talk Plugin; Version 5.1.7.17873; googletalkbrowserplug.plugin; (Google voice and video chat; application/googletalk; googletalk). Plugin 7: Java Applet Plug-in; Displays Java applet content, or a placeholder if Java is not installed.; JavaAppletPlugin.plugin; (Java applet; application/x-java-applet; version=1.4; ) (Java applet; application/x-java-applet; version=1.2.1; ) (Java applet; application/x-java-applet; java6x=2.2.51; ) (Java applet; application/x-java-applet; version=1.2.2; ) (Java applet; application/x-java-applet; version=1.3; ) (Java applet; application/x-java-vm; ) (Java applet; application/x-java-applet; deploy=10.51.2; ) (Java applet; application/x-java-applet; version=1.1.1; ) (Java applet; application/x-java-vm-npruntime; ) (Java applet; application/x-java-applet; version=1.2; ) (Java applet; application/x-java-applet; version=1.7; ) (Java applet; application/x-java-applet; version=1.4.1; ) (Java applet; application/x-java-applet; version=1.1.2; ) (Basic Java Applets; application/x-java-applet; javaapplet) (Java applet; application/x-java-applet; version=1.1; ) (Java applet; application/x-java-applet; version=1.1.3; ) (Java applet; application/x-java-applet; version=1.6; ) (Java applet; application/x-java-applet; version=1.4.2; ) (Java applet; application/x-java-applet; version=1.3.1; ) (Java applet; application/x-java-applet; version=1.5; ) (Java applet; application/x-java-applet;jpi-version=1.7.0_51; ). Plugin 8: Juniper Networks Safari Extensions; Juniper Networks Safari Extensions; net.juniper.DSSafariExtensions.plugin; (Juniper Networks Extension Type; application/x-net-juniper-dssafar_extensions; ). Plugin 9: QuickTime Plug-in 7.7.3; The QuickTime Plugin allows you to view a wide variety of multimedia content in web pages. For more information, visit the &lt;A HREF=http://www.apple.com/quicktime&gt;QuickTime&lt;/A&gt; Web site.; QuickTime Plugin.plugin; (Video For Windows (AVI); video/x-msvideo; avi,vfw) (MP3 audio; audio/mp3; mp3.swa) (MP3 audio; audio/mpeg3; mp3.swa) (3GPP2 media; video/3gpp2; 3g2,3gp2) (CAF audio; audio/x-caf; caf) (MPEG audio; audio/mpeg; mpeg.mpg,m1s,m1a,mp2,mpm,mpa,m2a,mp3.swa) (QuickTime Movie; video/quicktime; mov,qt,mov,qt,mqv) (MP3 audio; audio/x-mpeg3; mp3.swa) (MPEG-4 media; video/mp4; mp4) (SDP stream descriptor; application/x-sdp; sdp) (WAVE audio; audio/wav; wav,bwf) (Video For Windows (AVI); video/avi; avi,vfw) (AC3 audio; audio/x-ac3; ac3) (MPEG-4 media; audio/mp4; mp4) (Video (protected); video/x-m4v; m4v) (WAVE audio; audio/x-wav; wav,bwf) (SDP stream descriptor; application/sdp; sdp) (AIFF audio; audio/x-aiff; aiff,aif,aifc,cdda) (MPEG media; video/x-mpeg; mpeg.mpg,m1s,m1v,m1a,m75,m15,mp2,mpm,mpv,mpa) (3GPP media; video/3gpp; 3gp,3gpp) (Video For Windows (AVI); video/msvideo; avi,vfw) (MPEG audio; audio/x-mpeg; mpeg.mpg,m1s,m1a,mp2,mpm,mpa,m2a,mp3.swa) (QUALCOMM PureVoice audio; audio/vnd.qcelp; qcp) (MP3 audio; audio/x-mp3; mp3.swa) (RTSP stream descriptor; application/x-rtsp; rtsp,rtsp) (AMR audio; audio/amr; amr) (SD video; video/sd-video; sdv) (AIFF audio; audio/aiff; aiff,aif,aifc,cdda) (MPEG media; video/mpeg; mpeg.mpg,m1s,m1v,m1a,m75,m15,mp2,mpm,mpv,mpa) (3GPP2 media; audio/3gpp2; 3g2,3gp2) (AAC audio; audio/aac; aac,adts) (AC3 audio; audio/ac3; ac3) (AAC audio book; audio/x-m4b; m4b) (AAC audio (protected); audio/x-m4p; m4p) (GSM audio; audio/x-gsm; gsm) (AMC media; application/x-mpeg; amc) (AAC audio; audio/x-aac; aac,adts) (uLaw/AU audio; audio/basic; au,snd.ulw) (AAC audio; audio/x-m4a; m4a) (3GPP media; audio/3gpp; 3gp,3gpp). Plugin 10: Shockwave Flash; Shockwave Flash 12.0 r0; Flash Player.plugin; (Shockwave Flash; application/x-shockwave-flash; swf) (FutureSplash Player; application/futuresplash; spl). Plugin 11: Silverlight Plug-In; 5.1.20913.0; Silverlight.plugin; (Microsoft Silverlight; application/x-silverlight; xaml) (Microsoft Silverlight; application/x-silverlight-2; xaml). Plugin 12: Unity Player; Unity Web Player version 4.2.014. (c) 2013 Unity Technologies ApS. All rights reserved.; Unity Web Player.plugin; (Unity Player; application/vnd.unity; unity3d). Plugin 13: WebEx64 General Plugin Container; WebEx64 General Plugin Container Version 205; WebEx64.plugin; (gpc; application/webx-gpc-plugin64; ). Plugin 14: WebKit built-in PDF; ; (Portable Document Format; application/pdf; pdf) (Portable Document Format; text/pdf; pdf) (PostScript; application/postscript; ps). Plugin 15: WebKit built-in PDF; ; (Portable Document Format; application/pdf; pdf) (Portable Document Format; text/pdf; pdf) (PostScript; application/postscript; ps). Plugin 16: Wolfram Mathematica; Wolfram Mathematica Plug-in for Netscape Browsers; Mathematica.plugin; (Wolfram Mathematica Notebook; application/vnd.wolfram.mathematica; nb) (Computable Document Format; application/vnd.wolfram.cdf.text; cdf) (Wolfram Mathematica Notebook; application/mathematica; nb,nbp) (Computable Document Format; application/vnd.wolfram.cdf; cdf) (Wolfram Mathematica Player Notebook; application/vnd.wolfram.player; nbp).</p>

## Panopticlick Safari plugins - **Garmin plugins!**

Derudover cookies

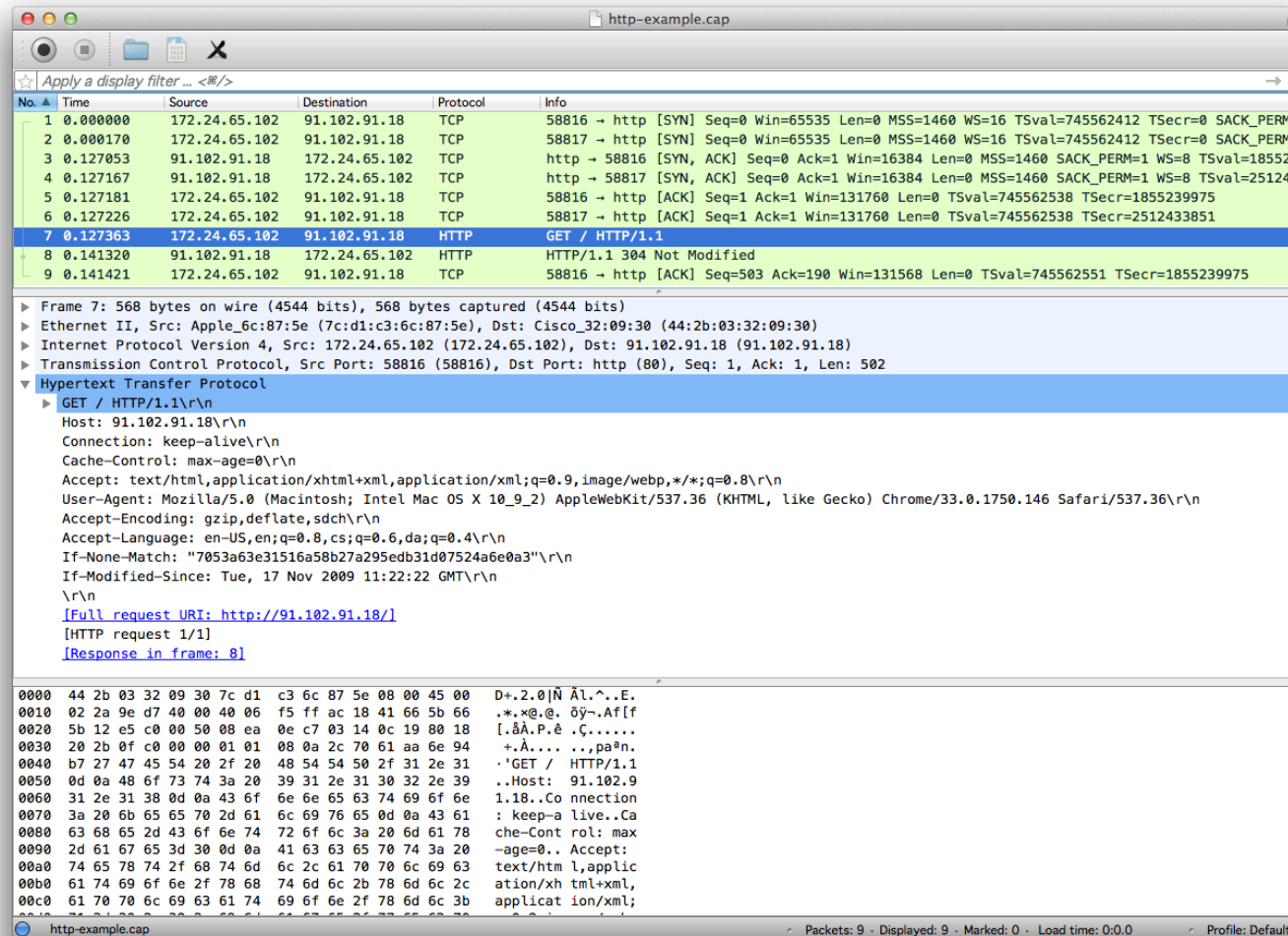
IP-adressen du kommer fra og andre parametre fra TCP/IP - kan ofte validere/bestemme OS

Har du IPv6

Tidspunkterne for login

Skrivestil





Anyone in the network path can sniff this!





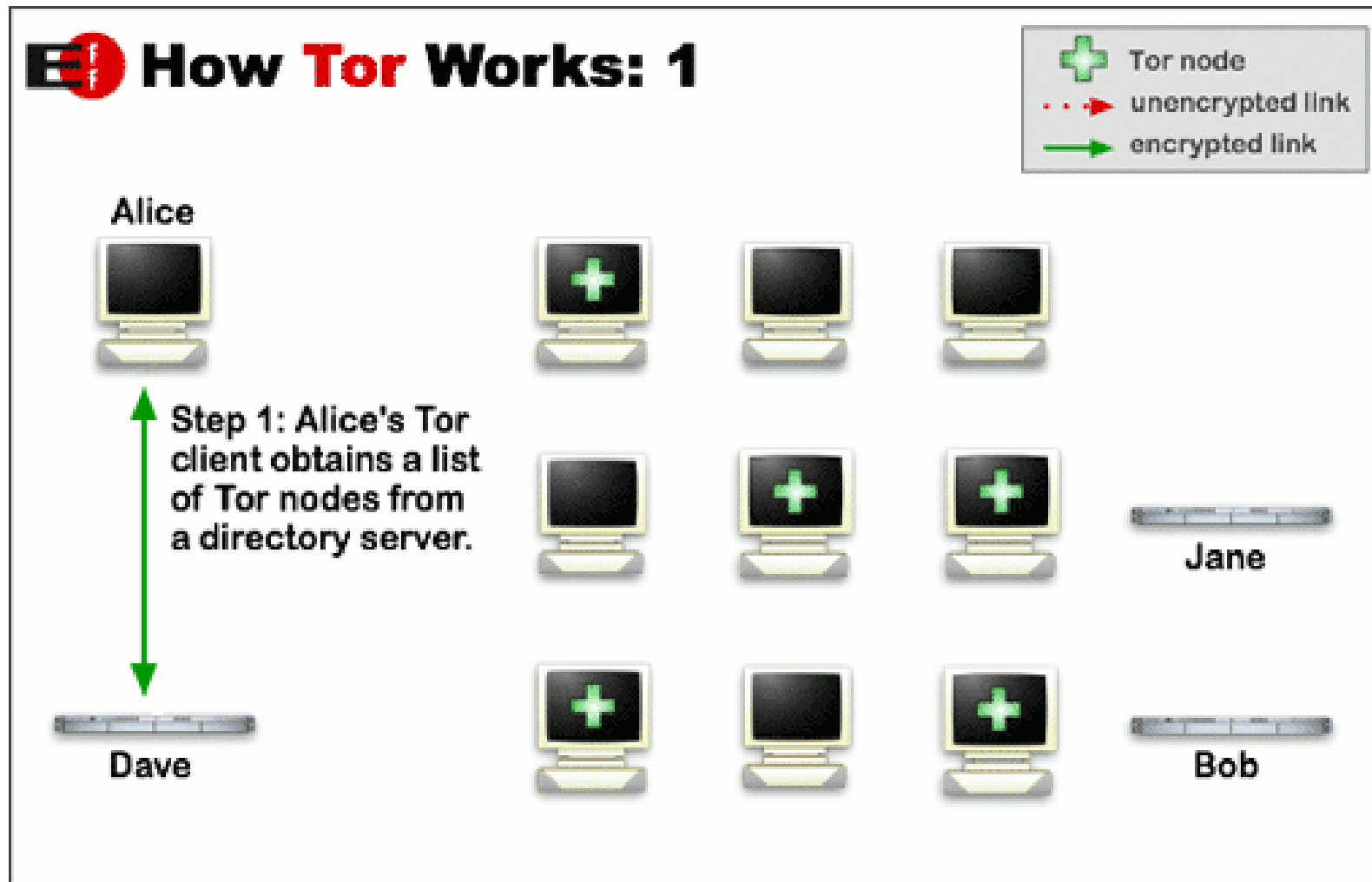
**Anonymity Online**  
Protect your privacy. Defend yourself against network surveillance and traffic analysis.

 **Download Tor** 

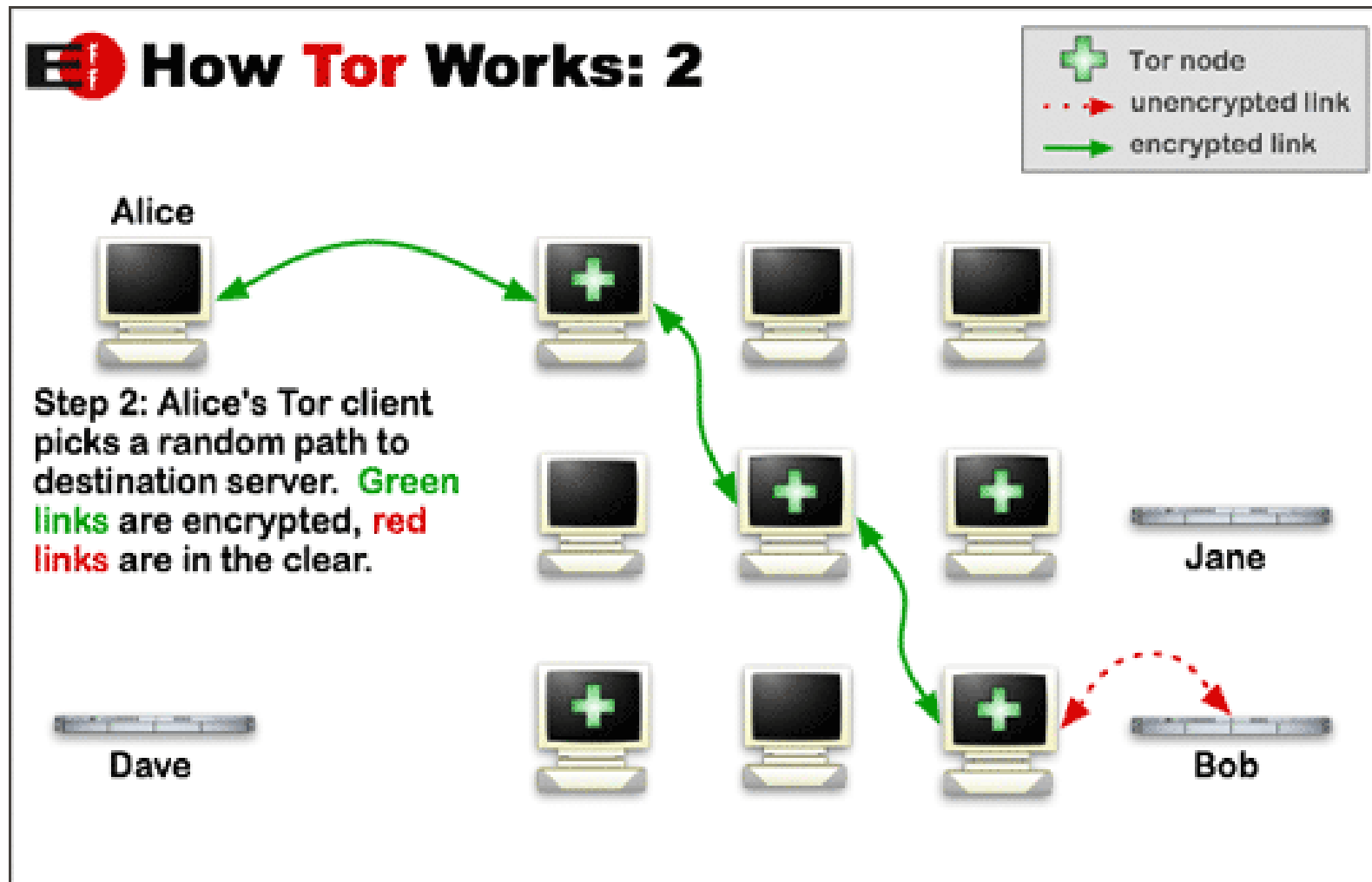
- ➔ Tor prevents anyone from learning your location or browsing habits.
- ➔ Tor is for web browsers, instant messaging clients, remote logins, and more.
- ➔ Tor is free and open source for Windows, Mac, Linux/Unix, and Android

<https://www.torproject.org/>

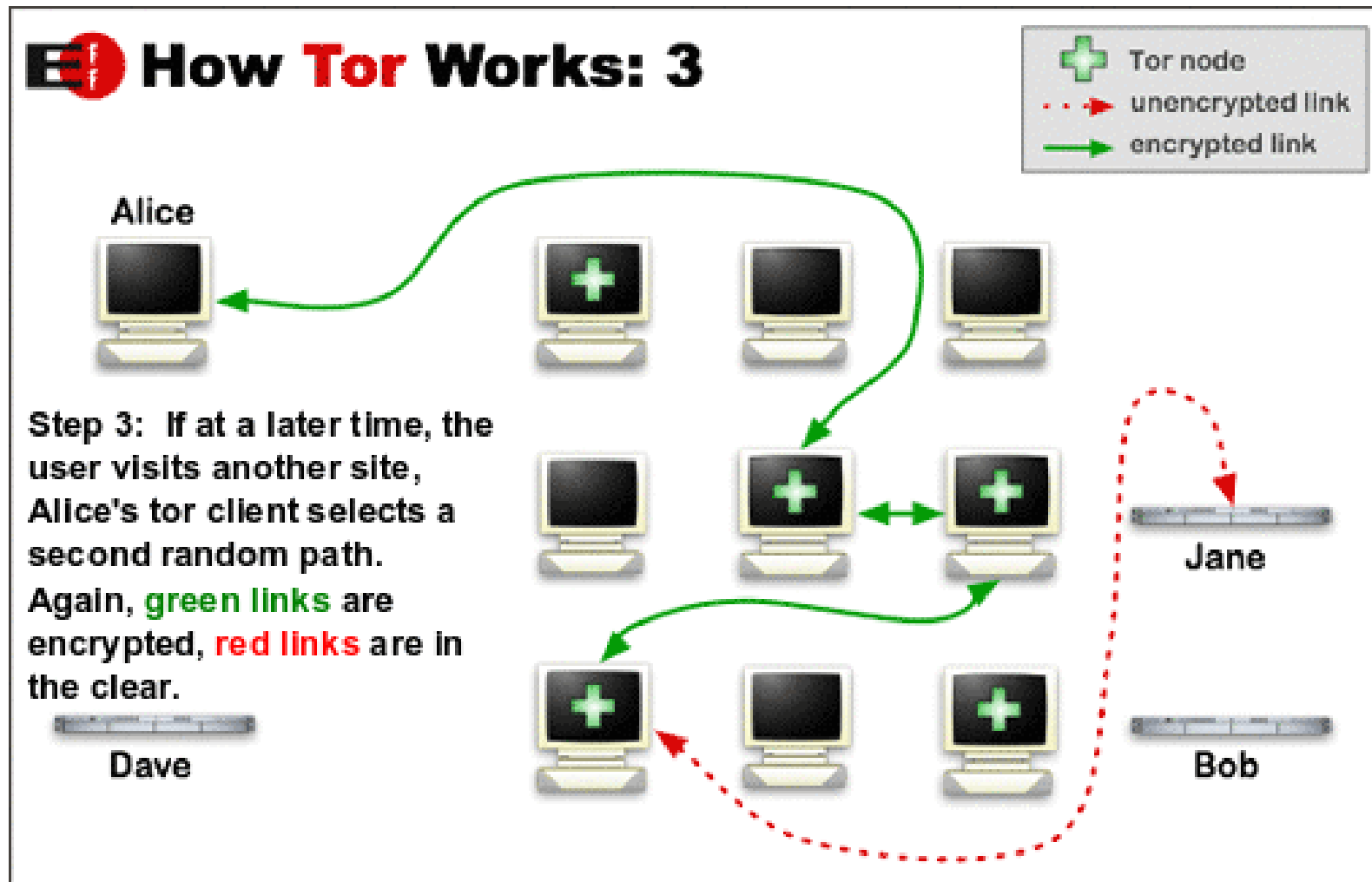
Der findes alternativer, men Tor er mest kendt



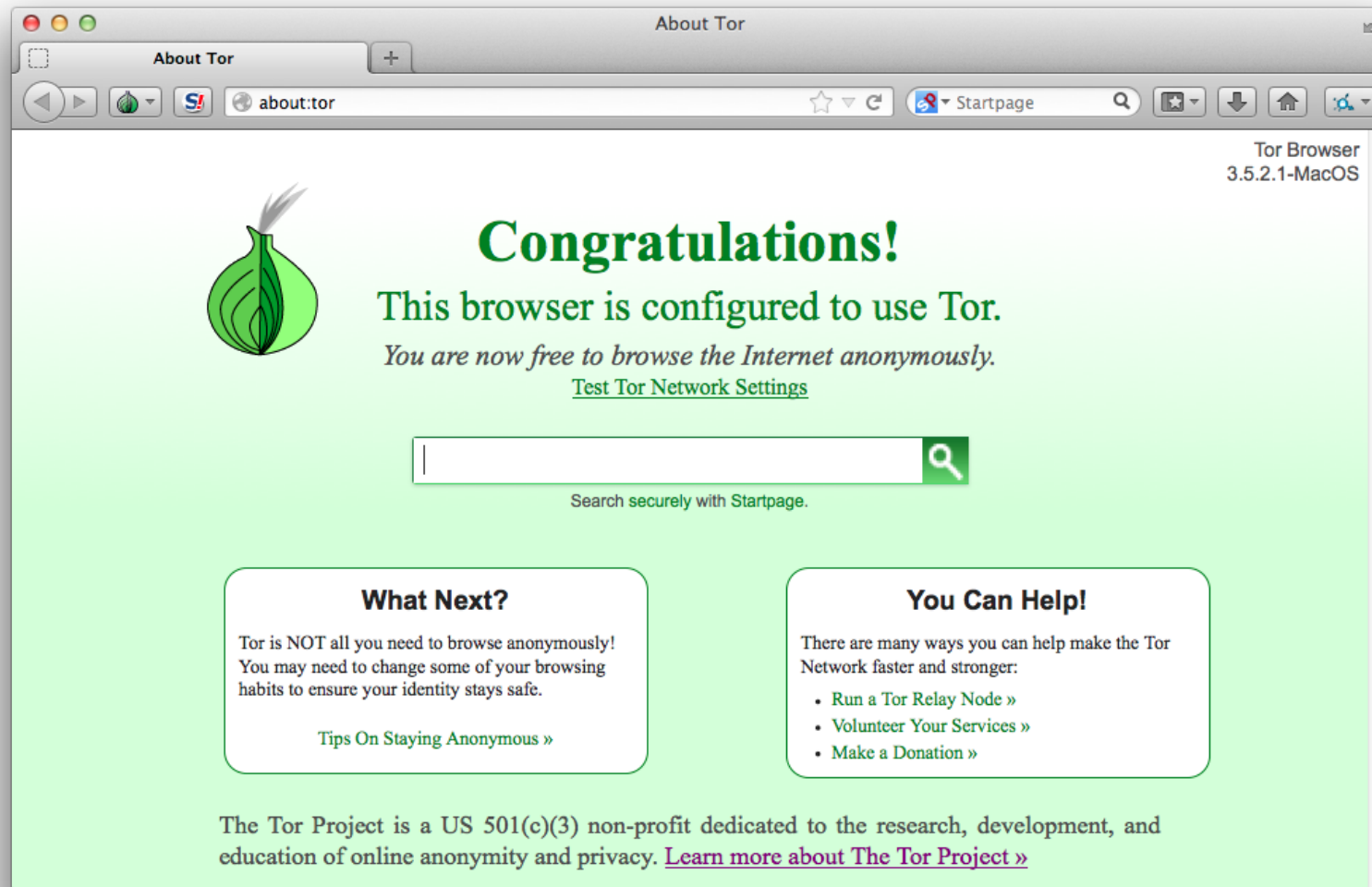
pictures from <https://www.torproject.org/about/overview.html.en>



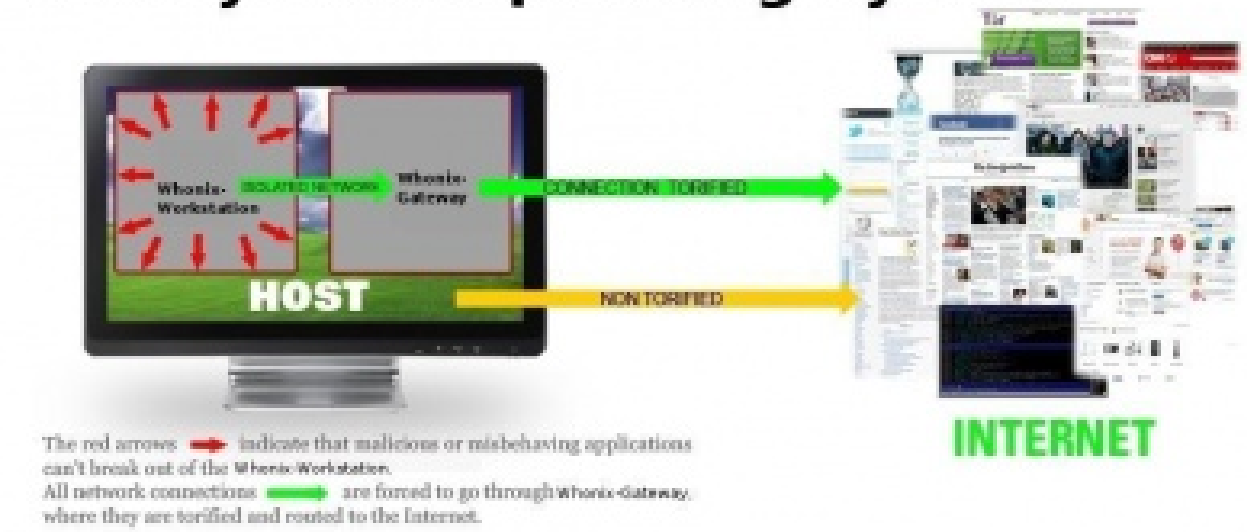
pictures from <https://www.torproject.org/about/overview.html.en>



pictures from <https://www.torproject.org/about/overview.html.en>



## Whonix Anonymous Operating System



Whonix is an operating system focused on anonymity, privacy and security. It's based on the Tor anonymity network[5], Debian GNU/Linux[6] and security by isolation. DNS leaks are impossible, and not even malware with root privileges can find out the user's real IP. <https://www.whonix.org/>

Torbrowser er godt, Whonix giver lidt ekstra sikkerhed



**Orbot:**  
**Proxy With Tor**



**Orweb:**  
**Private Web Browser**



**ChatSecure:**  
**Private and Secure Messaging**



**ObscuraCam:**  
**The Privacy Camera**



**Ostel:**  
**Encrypted Phone Calls**



**CSipSimple:**  
**Encrypted Voice Over IP (VOIP)**



**K-9 and APG:**  
**Encrypted E-mail**



**KeySync:**  
**Syncing Trusted Identities**



**TextSecure:**  
**Short Messaging Service (SMS)**



**Pixelknot:**  
**Hidden Messages**

Dont forget your mobile platforms <https://guardianproject.info/>



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`http://www.solidonetworks.com`

I er altid velkomne til at sende spørgsmål på e-mail

