

ISTAC Tor Overview

Andrew Lewman
andrew@torproject.org

November 3, 2010



The Tor Project, Inc.

501(c)(3) non-profit organization dedicated to the research and development of technologies for online anonymity and privacy



What is Tor?

- online anonymity software and network

What is Tor?

- online anonymity software and network
- open source, freely available (3-clause BSD license)

What is Tor?

- online anonymity software and network
- open source, freely available (3-clause BSD license)
- active research environment:
Rice, UMN, NSF, NRL, Drexel, Waterloo, Cambridge UK, Bamberg Germany, Boston Univ, Harvard, MIT, RPI, Georgia Tech

What is Tor?

- online anonymity software and network
- open source, freely available (3-clause BSD license)
- active research environment:
Rice, UMN, NSF, NRL, Drexel, Waterloo, Cambridge UK, Bamberg Germany, Boston Univ, Harvard, MIT, RPI, Georgia Tech
- increasingly diverse toolset:
Tor, Torbutton, Tor Browser Bundle, TA(I)LS LiveCD, Tor Weather, Tor auto-responder, Secure Updater, Orbot, Torora, Tor Check, Arm, Nymble, Tor Control, Tor Wall, TorVM

estimated 500,000 daily users



Iran Protests: Twitter, the Medium of the Movement

By LEV GROSSMAN Wednesday, Jun. 17, 2009

Related

Photos



Behind the Scenes
with Mousavi

Stories

- In Iran, Rival Regime Factions Play a High-Stakes Game of Chicken
- Latest Tweets on Fallout from Iran's



Share

The U.S. State Department doesn't usually take an interest in the maintenance schedules of dotcom start-ups. But over the weekend, officials there reached out to Twitter and asked them to delay a network upgrade that was scheduled for Monday night. The reason? To protect the interests of

Twitter in USA: Bad.

FBI Raids Queens Home in G20 Protest Twitter Crackdown



AP Photo/Matt Rourke

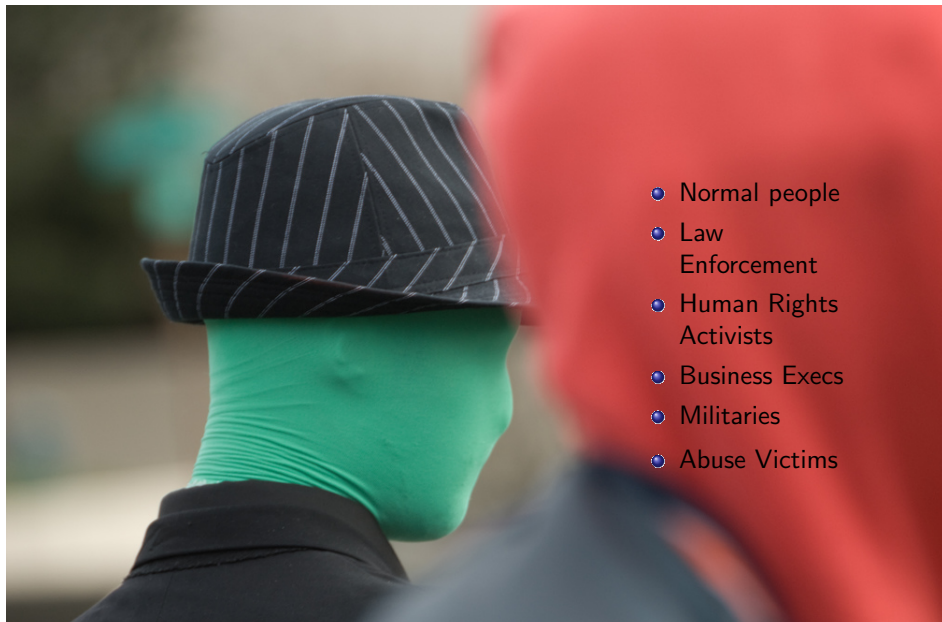
That's right, a Twitter crackdown. A lawyer for Jackson Heights social worker Elliot Madison, 41, says that the feds searched his client's house for 16 hours on Thursday after Madison was arrested on September 24th at a Pittsburgh hotel room with another man. What were they up to? Sitting at laptops sending Twitter messages advising G20 demonstrators about riot police activity in the streets. And yet *real* Twitter threats like Lindsay Lohan and Courtney Love remain at large.

Madison, a self-described anarchist, was in Pittsburgh volunteering for the Tin Can Comms Collective, a group that uses Twitter to send mass text messages during protests describing events observed on the streets or over police scanners; stuff like "SWAT teams rolling down 5th Ave." Tin Can was active during the St. Paul RNC protests, and the authorities are now on to them. Madison was charged with hindering apprehension or prosecution, criminal use of a communication facility and possession of instruments

of crime; he's currently out on bail.

from <http://gothamist.com/2009/10/05/fbi-raids-queens-home-in-g20-protes.php>

Who uses Tor?



- Normal people
- Law Enforcement
- Human Rights Activists
- Business Execs
- Militaries
- Abuse Victims

Tor hides communication patterns by relaying data through volunteer servers

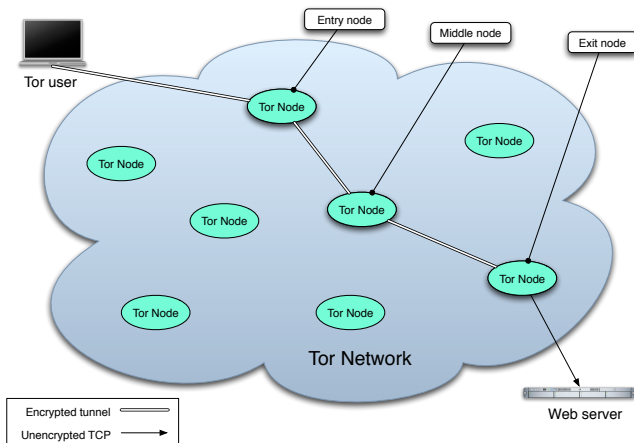


Diagram: Robert Watson



View Tor Network



Refresh



Zoom In



Zoom Out




























Zoom To Fit



Help



Close

	Server
	whistlersmother
	tutzing
	desync
	chaoscomputercl...
	charlesbabbage
	freetux4ever
	Tonga
	madrid2
	jalopy
	croeso
	bettyboop
	myrnaloy
	tormentor
	b4tz
	tor26
	lefkada
	k0w
	mytornodefig
	communicator
	BostonUCompSci
	anonymousbalserrc
	dizum
	pcpoint
	terpion
	cweiske
	sasquatch
	adeia
	inap1



Connection	Status
so19charsimax,sasquatch,bellerophon...	Open
h760662,desync,1df060248c02d8	Open
Webdust,MARSolutions,FoeBuD2	Closed
▼ gtisc,spoon,recursion	Closed
209.237.230.67:80	Retry...
209.237.230.67:80	Retry...

gtisc (Online)

Location: US

IP Address: 199.77.130.14

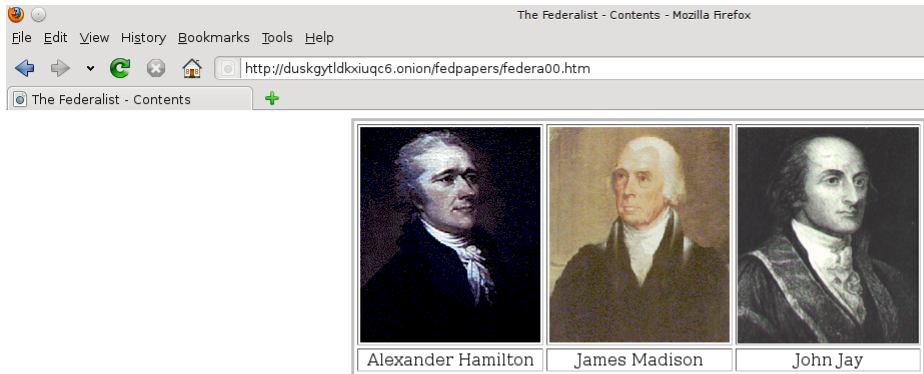
Platform: Tor 0.1.1.23 on Linux i686

Bandwidth: 1211 KB/s

Uptime: 18 hours 26 mins 16 secs

- Measuring metrics anonymously
- NSF grant to find out
- Metrics portal:
<https://metrics.torproject.org/>

Tor hidden services allow privacy enhanced hosting of services



The Federalist

The text of this version is primarily taken from the first collected 1788 "McLean edition", but spelling and punctuation some glaring errors -- mainly printer's lapses -- have been corrected. The main heads have also been taken from the original edition, except where the head was something like "The Same Subject Continued" we have repeated the previous head so that each document can better stand alone. We have been guided by the excellent edition by Jacob E. Cooke, 1964. The footnotes are those of the authors, except where the original edition used a variety of special typographical symbols.

Operating Systems leak info like a sieve



- Applications, network stacks, plugins, oh my....

Operating Systems leak info like a sieve



- Applications, network stacks, plugins, oh my.... some call this "sharing"

Operating Systems leak info like a sieve



- Applications, network stacks, plugins, oh my.... some call this "sharing"
- Did you know Microsoft Word and OpenOffice Writer are browsers?

Operating Systems leak info like a sieve



- Applications, network stacks, plugins, oh my.... some call this "sharing"
- Did you know Microsoft Word and OpenOffice Writer are browsers?
- <http://www.decloak.net/> is a fine test

- Entirely new set of challenges for something designed to know where you are
- Orbot: Tor on Android.
<http://openideals.com/2009/10/22/orbot-proxy/>
- iphone, maemo/meego, symbian, etc
- Tor on Windows CE, <http://www.gsmk.de> as an example.
- Guardian Project, <https://guardianproject.info/>

Ten things to look for in a circumvention tool

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

Article originally prepared for the March 2010 “Index on Censorship”, then adapted for the July 2010 “China Rights Forum”.

Summary of Ten things...

- Has a diverse set of users

Summary of Ten things...

- Has a diverse set of users
- Works in your country

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy
- Has an open design

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy
- Has an open design
- Has a decentralized architecture

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy
- Has an open design
- Has a decentralized architecture
- Keeps you safe from websites too

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy
- Has an open design
- Has a decentralized architecture
- Keeps you safe from websites too
- Doesn't promise to magically encrypt the entire Internet

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy
- Has an open design
- Has a decentralized architecture
- Keeps you safe from websites too
- Doesn't promise to magically encrypt the entire Internet
- Provides consistently good latency and throughput

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy
- Has an open design
- Has a decentralized architecture
- Keeps you safe from websites too
- Doesn't promise to magically encrypt the entire Internet
- Provides consistently good latency and throughput
- Makes it easy to get the software and updates

Summary of Ten things...

- Has a diverse set of users
- Works in your country
- Has a sustainable network and software development strategy
- Has an open design
- Has a decentralized architecture
- Keeps you safe from websites too
- Doesn't promise to magically encrypt the entire Internet
- Provides consistently good latency and throughput
- Makes it easy to get the software and updates
- Doesn't promote itself as a circumvention tool

Next steps

Visit <https://www.torproject.org/> for more information, links, and ideas.

Credits & Thanks

- who uses tor?

<http://www.flickr.com/photos/mattw/2336507468/siz>, Matt Westervelt, CC-BY-SA.

- danger!, <http://flickr.com/photos/hmvh/58185411/sizes/o/>, hmvh, CC-BY-SA.

- 500k, <http://www.flickr.com/photos/lukaskracic/334850378/sizes/l/>, Luka Skracic, used with permission.